



Best-ReMaP

Healthy Food for a Healthy Future

D5.3: REPORT ON REFORMULATION MONITORING: ANNEXES

Grant Agreement Number 951202

Anses - WP5

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Annexes

These Annexes are belonging to D5.3: REPORT ON REFORMULATION MONITORING: MONITORING IMPLEMENTATION, REFORMULATION COMPARISONS AND REFORMULATION IMPACTS ON NUTRIENT INTAKES

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Annex 1 (p.2 – p. 247): individual reports on statistical analysis of the data collected for countries from T0, in the following order:

- Bosnia and Herzegovina (p. 3 – p. 64)
- Croatia (p. 65 – p. 120)
- Ireland (p. 121 – p. 186)
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Annex 2 (p. 248 – p. 863): individual reports on statistical analysis of the data collected for countries from T1, in the following order:

- Austria (p. 249 – p. 343)
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[Annex 1: individual reports on statistical analysis of the data collected for countries from T0](#)



Best-ReMaP

Healthy Food for a Healthy Future

Bosnia and Herzegovina T0 statistics report **Republic of Srpska and Federation of Bosnia and** **Herzegovina T0 statistics report**

Grant Agreement Number 951202

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This report presents an overview of the food offer and the nutritional quality of products collected in the two parts of Bosnia and Herzegovina (Republic of Srpska and Federation of Bosnia and Herzegovina) belonging to the 5 prioritised food categories for Best-ReMaP : Breakfast cereals, Bread products, Delicatessen meats and similar, Fresh dairy products and desserts and Soft drinks.

1 Description of the food offer

1.1 Presentation of data collected

The report presents data from our first data collection (a first snapshot) related to the five prioritised food categories for Best-ReMaP: Breakfast cereals, Bread products, Delicatessen meats and similar, Fresh dairy products and desserts and Soft drinks. The total number of collected products is 1935. For each product entered in the database for Bosnia and Herzegovina, photos were taken and stored in a unique database of photos of all products. The selection of retailers (shopping centers) in which the data collection was carried out, was conducted in accordance with the instructions of the coordinator of the work package 5 and shopping centers that had the highest turnover/sales of products and the highest profit in the year preceding the research were selected. Taking into account the organization of Bosnia and Herzegovina and the jurisdiction in the Republic of Srpska and the Federation of Bosnia and Herzegovina, as well as limited time for data collection, the expert teams from the Federation of Bosnia and Herzegovina and the Republic of Srpska selected the five same largest retailers, allocated to each team categories of products that will be the subject of collection in the Republic of Srpska and in the Federation of Bosnia and Herzegovina, with the possibility of replenishing products that are not available at the same retailers in the Republic of Srpska and the Federation of Bosnia and Herzegovina. Data for all products were collected in stores. No collections were made via webscraping or product purchasing.

1.2 Food offer analysis

1.2.1 Number of products collected by category

The total number of collected products was 1935, and according to food categories, it was distributed in the following way: 180 products in the category of Bread products, 291 products in the category Breakfast cereals, 744 products in the category Delicatessen meats and similar, 247 products in the category Fresh dairy products and desserts and 473 products in the category Soft drinks.

1.2.2 Proportion of the types of brand collected by category

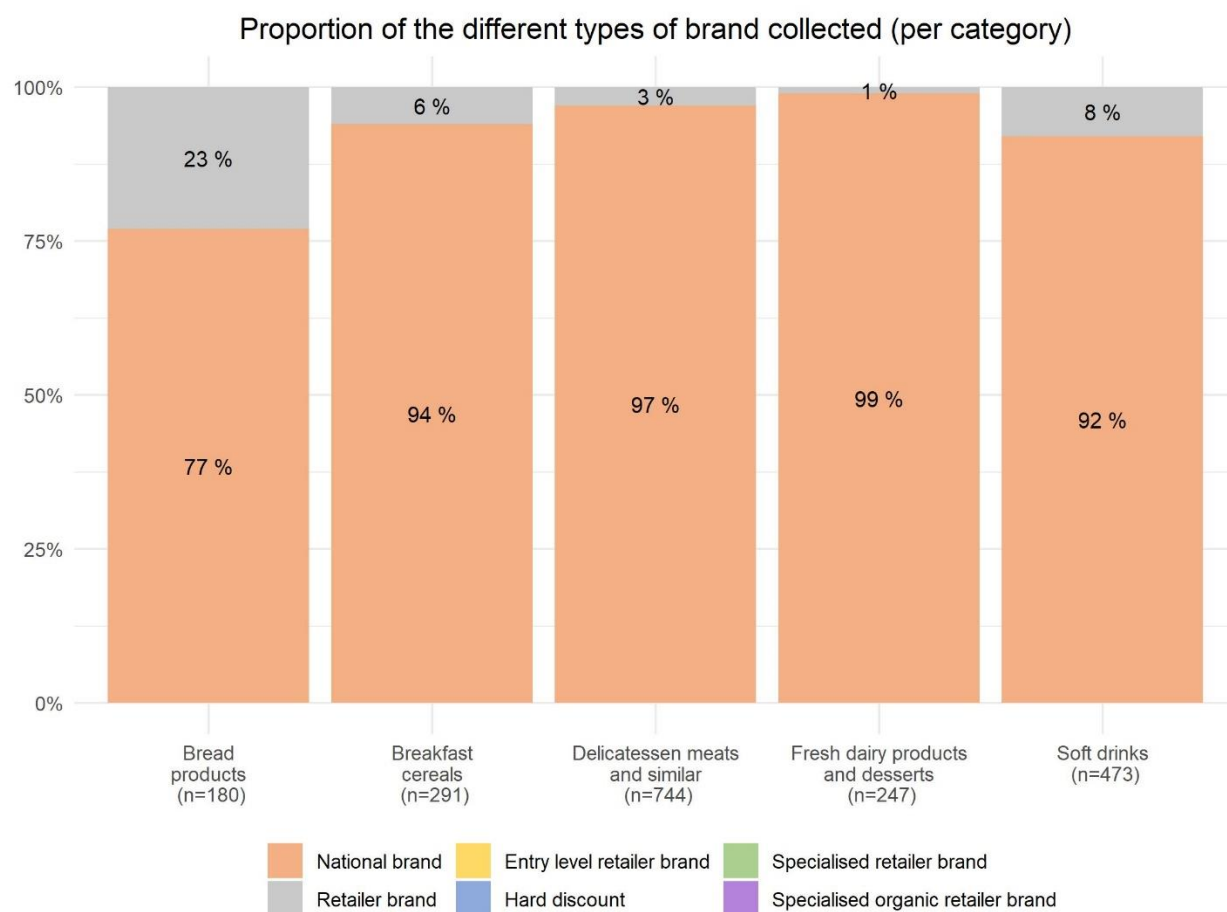


Figure 1 : Proportion of the different types of brand collected (per category)

Among the 180 products collected in the Bread products category (Figure 1):

- 77% belong to national brand (n=139)
- 23% belong to retailer brand (n=41)

Among the 291 products collected in the Breakfast cereals category (Figure 1):

- 94% belong to national brand (n=274)
- 6% belong to retailer brand (n=17)

Among the 744 products collected in the Delicatessen meats and similar category (Figure 1):

- 97% belong to national brand (n=722)
- 3% belong to retailer brand (n=22)

Among the 247 products collected in the Fresh dairy products and desserts category (Figure 1):

- 99% belong to national brand (n=245)
- 1% belong to retailer brand (n=2)

Among the 473 products collected in the Soft drinks category (Figure 1):

- 92% belong to national brand (n=435)
- 8% belong to retailer brand (n=38)

None of the products collected among all five categories belong to specialized organic retailer brand, specialized retailer brand or hard discount.

Overall, the data collected correspond mainly to national brands (between 77% to 99% depending on the category).

1.2.3 Description of the collected food offer by category

1.2.3.1 Bread products

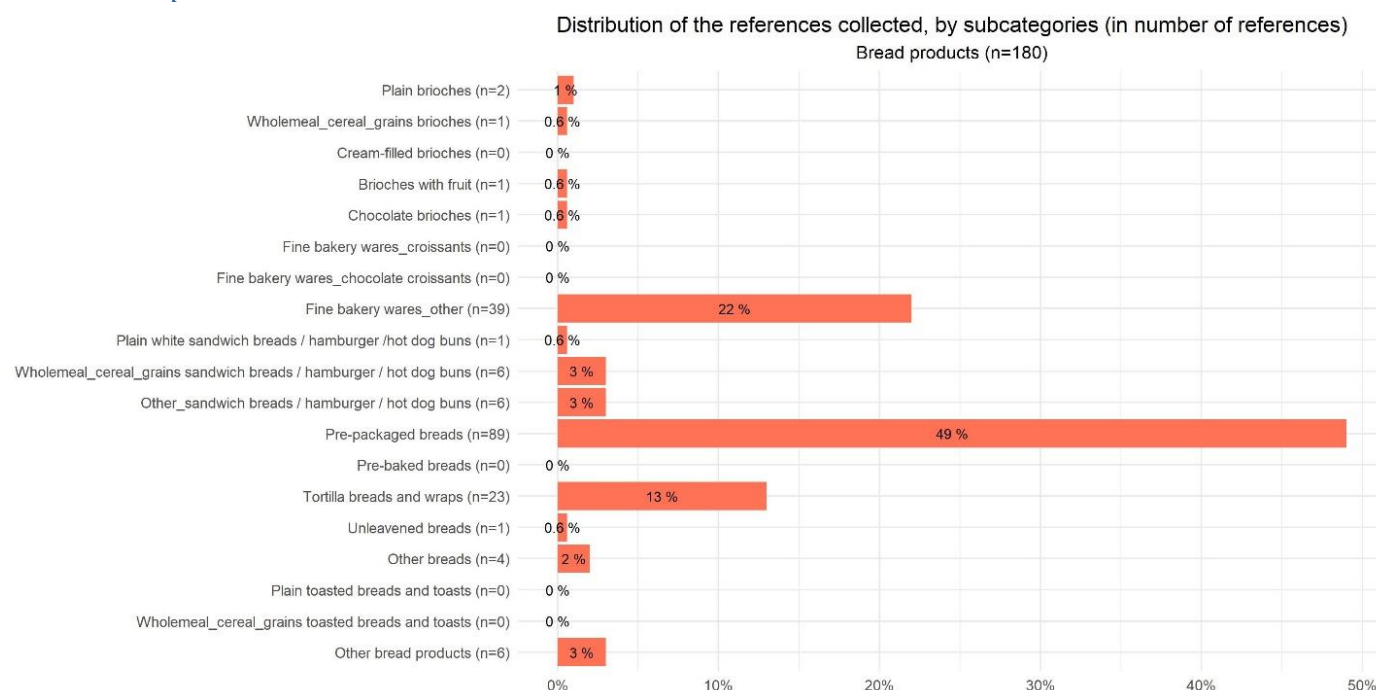


Figure 2 : Distribution of the references collected, by subcategories among bread products

Distribution, by subcategories, of products collected among Bread products (Figure 2) shows that the most represented subcategories are Pre-packaged breads (n=89, 49%), Fine bakery wares_other (n=39, 22%) and Tortilla breads and wraps (n=23, 13%).

On the contrary, the least represented subcategories are: Plain white sandwich breads/hamburger/hot dog buns (n=1, 0.6%), Brioches with fruit (n=1, 0.6%), Chocolate brioches (n=1, 0.6%), Unleavened breads (n=1, 0.6%), Plain brioches (n=2, 1%), Other breads (n=4, 2%), Wholemeal cereal grains sandwich breads/hamburger/hot dog buns (n=6, 3%), Other bread products (n=6, 3%), Other breads/hamburger/hot dog buns (n=6, 3%),

No products have been collected in the subcategories: Cream-filled brioches, Fine bakery wares_croissants, Fine bakery wares_chocolate croissants, Pre-baked breads, Plain toasted breads and toasts, Wholemeal cereal grains toasted breads and toasts.

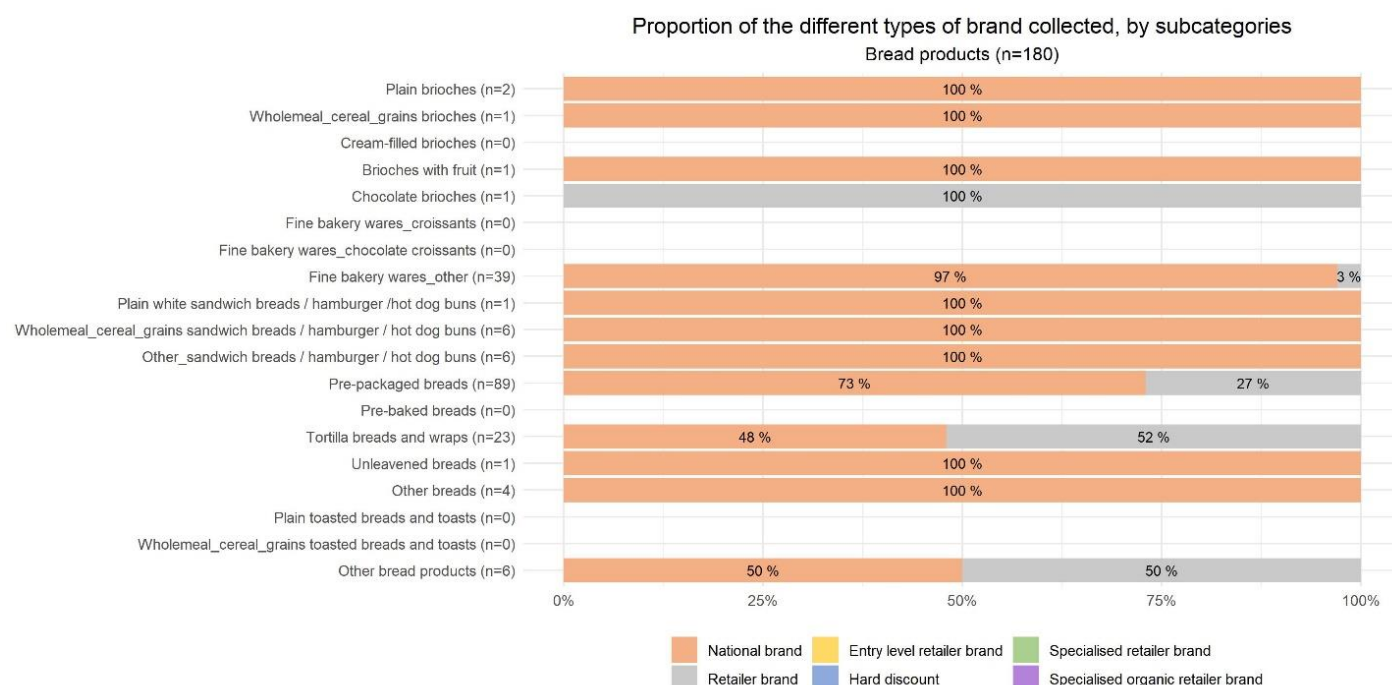


Figure 3: Proportion of the different types of brand collected, by subcategories among Bread products

Among the 180 bread products collected, the proportion of the different types of brand varies among subcategories (Figure 3):

- National brands are the most represented among all subcategories for which products have been collected (between 48% and 100% of products collected depending on the subcategory) except in Chocolate brioches (n=1).
- Retailer brands are represented in 5 out of 13 subcategories for which products have been collected (between 3% and 100% of products collected depending on the subcategory).

Entry level retailer brands, Hard discount, Specialized retailer brands and Specialized organic retailer brands are not represented in any of the subcategories of Bread products as products from these types of brand have not been collected.

1.2.3.2 Breakfast cereals

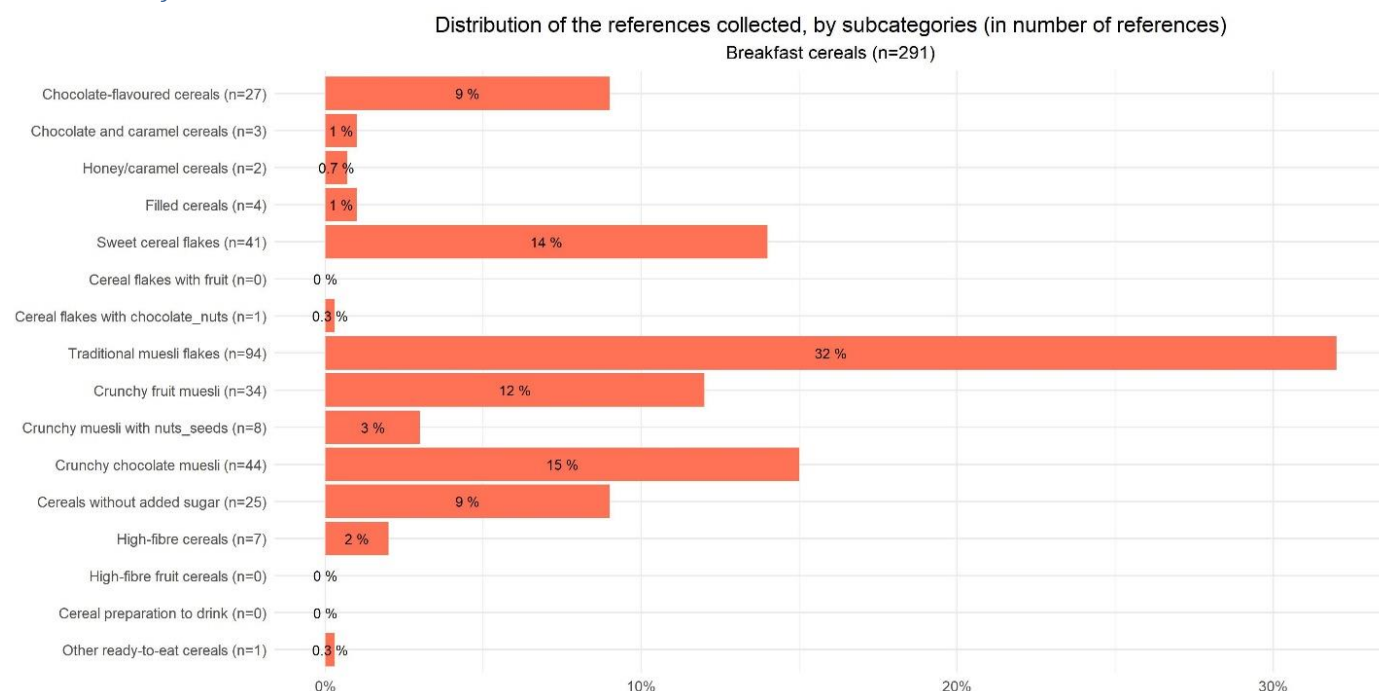


Figure 4 : Distribution of the references collected, by subcategories among Breakfast cereals

Distribution, by subcategories, of products collected among Breakfast cereals (Figure 4) shows that the most represented subcategories are Traditional muesli flakes (n=94, 32%), Crunchy chocolate muesli (n=44, 15%), Sweet cereal flakes (n=41, 14%), Crunchy fruit muesli (n=34, 12%), Cereal flakes without added sugar (n=25, 9%) and Chocolate-flavoured cereals (n=27, 9%).

On the contrary, the least represented subcategories are: Other ready-to-eat cereals (n=1, 0.3%), Cereal flakes with chocolate_nuts (n=1, 0.3%), Honey/caramel cereals (n=2, 0.7%), Filled cereals (n=4, 1%), Chocolate and caramel cereals (n=3, 1%), High-fibre cereals (n=7, 2%), Crunchy muesli with nuts_seeds (n=8, 3%).

No products have been collected in the subcategories High-fibre fruit cereals, Cereal preparation to drinks, Cereal flakes with fruit.

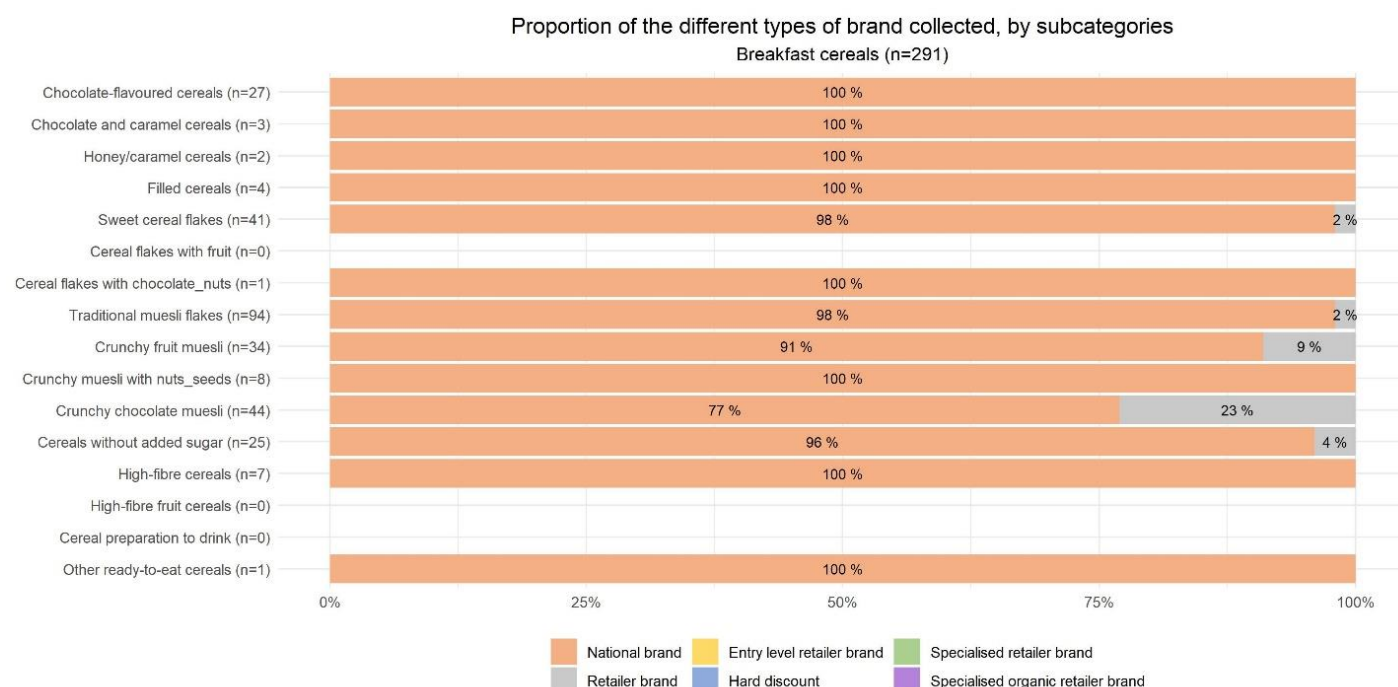


Figure 5 : Proportion of the different types of brand collected, by subcategories among Breakfast cereals

Among the 291 products collected, the proportion of the different types of brand varies among subcategories (Figure 5):

- National brands are the most represented among all subcategories for which products have been collected (between 77% and 100% of products collected depending on the subcategory)
- Retailer brands are not widely represented in this category. They are registered only in 5 out of 13 subcategories for which products have been collected and its representation ranges from 2% to 23 % of products collected depending on the subcategory.

1.2.3.3 Delicatessen meats and similar

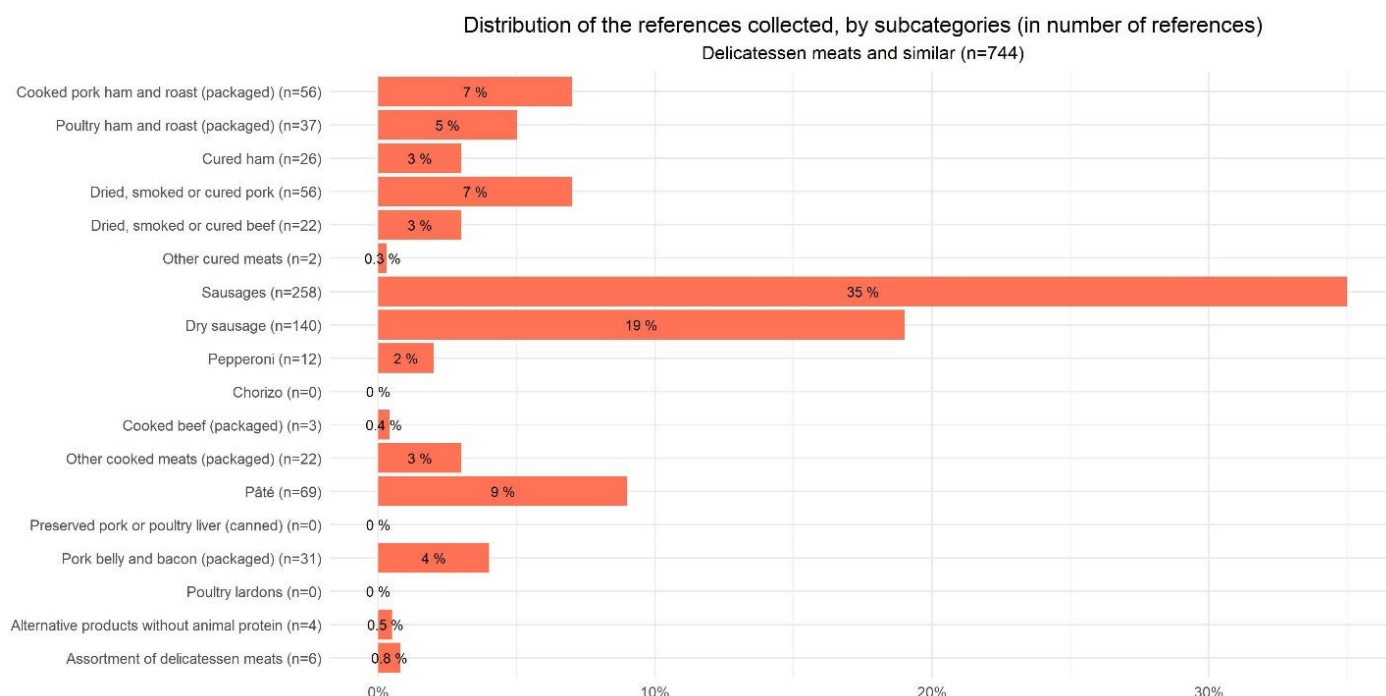


Figure 6 : Distribution of the references collected, by subcategories among Delicatessen meats and similar

Distribution, by subcategories, of products collected among Delicatessen meats and similar (Figure 6) shows that the most represented subcategories are Sausages (n=258, 35%), Dry sausage (n=140, 19%), Pâté (n=69, 9%), Cooked pork ham and roast (packaged) (n=56, 7%), Dried, smoked or cured pork (n=56, 7%).

On the contrary, the least represented subcategories are: Other cured meats (n=2, 0.3%), Cooked beef (packaged) (n=3, 0.4%), Alternative products without animal protein (n=4, 0.5%), Assortment of delicatessen meats (n=6, 0.8%), Pepperoni (n=12, 2%), Dried, smoked or cured beef (n=22, 3%), Cured ham (n=26, 3%), Poultry ham and roast (packaged) (n=37, 5%).

No products have been collected in the subcategories: Chorizo, Preserved pork or poultry liver (canned) and Poultry lardons.

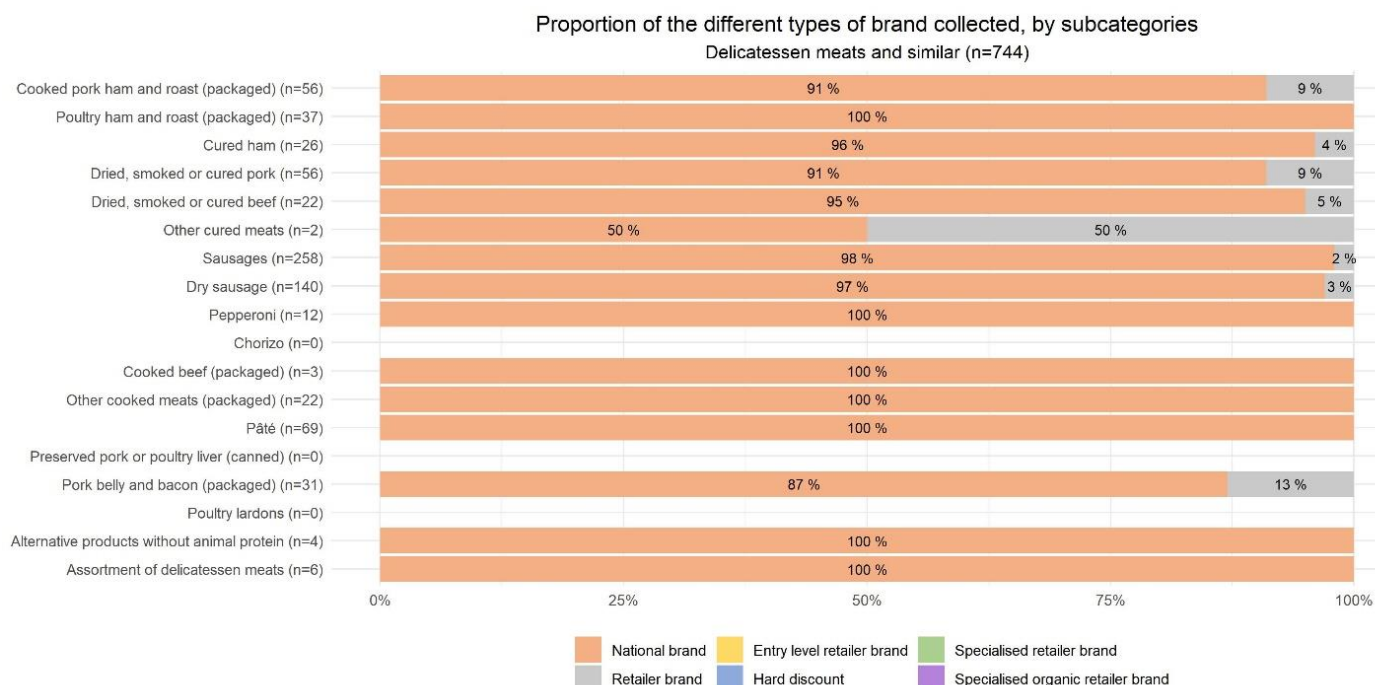


Figure 7 : Proportion of the different types of brand collected, by subcategories among Delicatessen meats and similar

Among the 744 products collected, the proportion of the different types of brand varies among subcategories (Figure 7):

- National brands are the most represented among all subcategories for which products have been collected (between 87% and 100% of products collected depending on the subcategory) except in Other cured meats (n=2), where out of a total of two registered products, one is classified as a national brand and the other as a retailer brand.
- Retailer brands are not widely represented in this category. They are registered in 8 out of 15 subcategories for which products have been collected and its representation ranges from 2 % to 50 % of products collected depending on the subcategory.

1.2.3.4 Fresh dairy products and desserts

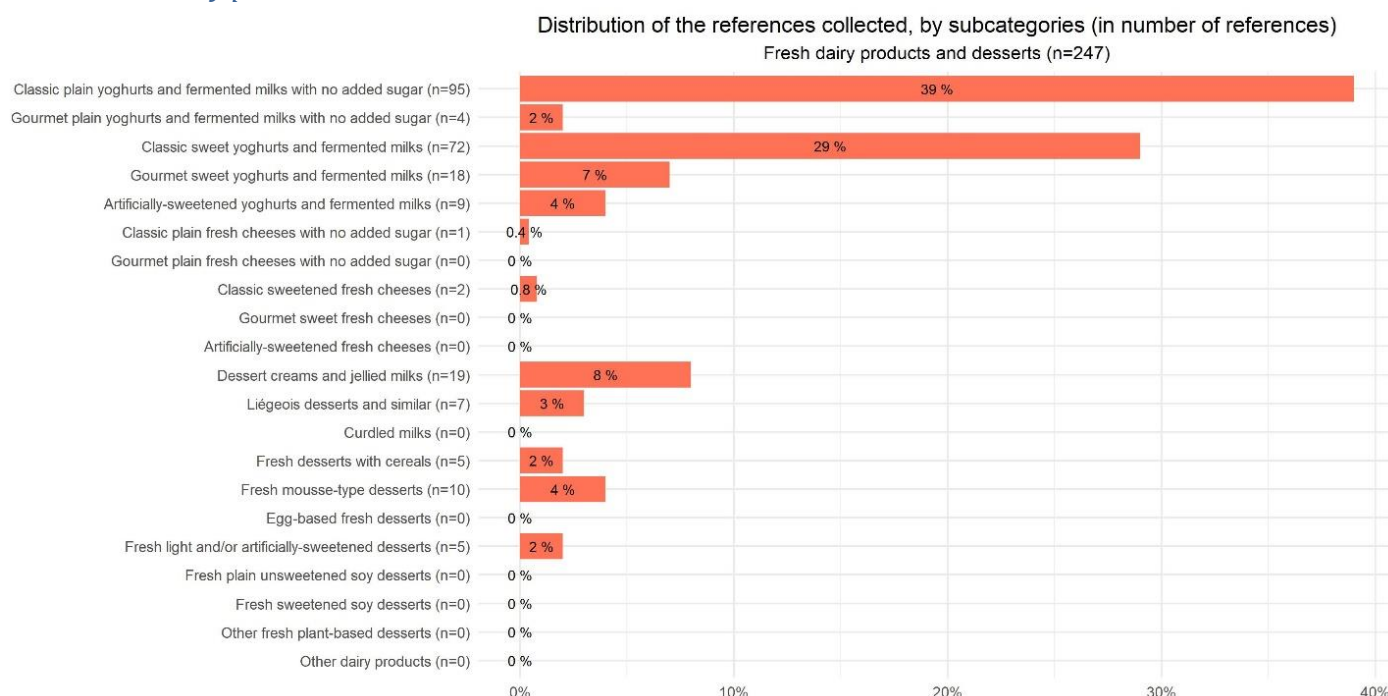


Figure 8 : Distribution of the references collected, by subcategories among fresh dairy products and desserts

Distribution, by subcategories, of products collected among Fresh dairy products and desserts (Figure 8) shows that the most represented subcategories are Classic plain yoghurts and fermented milks with no added sugar (n=95, 39%), Classic sweet yoghurts and fermented milks (n=72, 29%), Dessert creams and jellied milks (n=19, 8%).

The least represented subcategories are: Classic plain fresh cheeses with no added sugar (n=1, 0.4%), Classic sweetened fresh cheeses (n=2, 0.8%), Gourmet plain yoghurts and fermented milks with no added sugar (n=4, 2%), Fresh desserts with cereals (n=4, 2%), Fresh light and/or artificially-sweetened desserts (n=4, 2%), Liégeois desserts and similar (n=7, 3%) and Fresh mousse-type desserts (n=10, 4%).

Out of the 21 subcategories of the category Fresh dairy products and desserts, 9 subcategories were not represented in the facilities of the visited retailers: Gourmet plain fresh cheeses with no added sugar, Gourmet sweet fresh cheeses, Artificially-sweetened fresh cheeses, Curdled milks, Egg-based fresh desserts, Fresh plain unsweetened soy desserts, Fresh sweetened soy desserts, Other fresh plant-based desserts and Other dairy products.

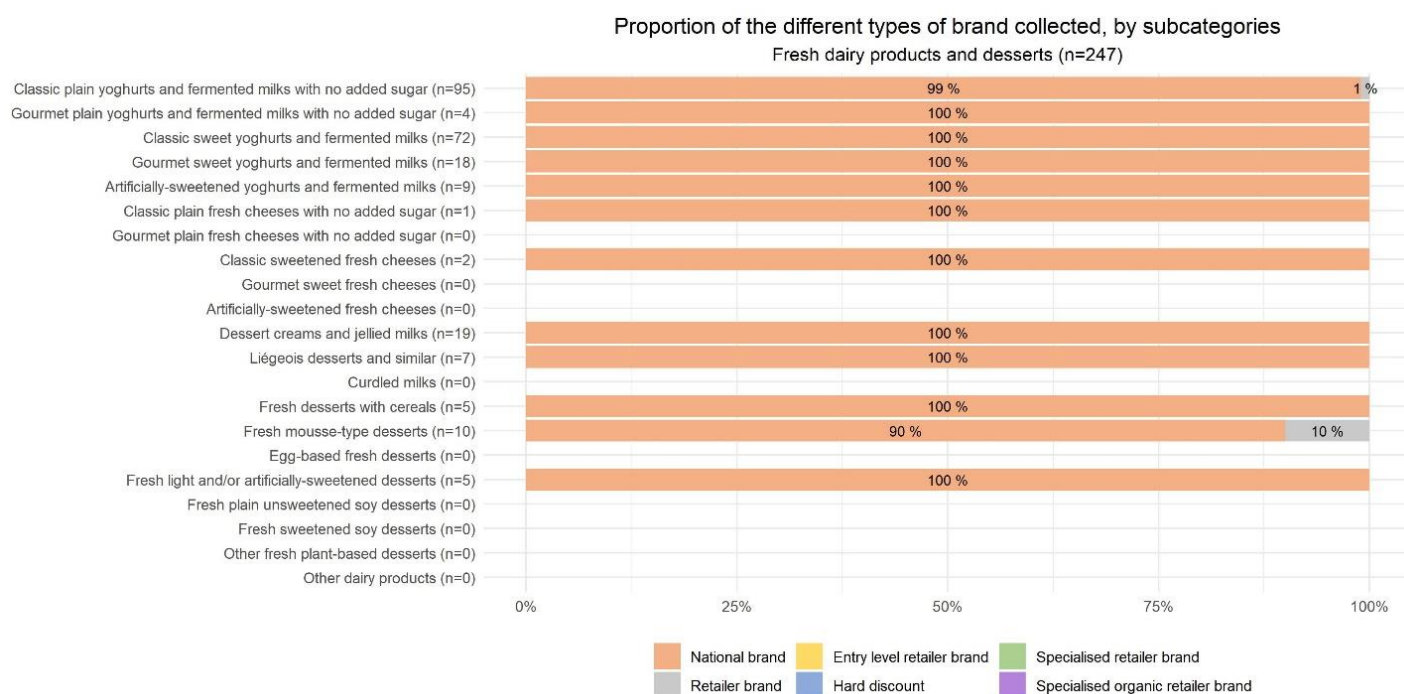


Figure 9 : Proportion of the different types of brand collected, by subcategories among fresh dairy products and desserts

Among the 247 products collected (Figure 9), National brands are the most represented among all subcategories for which products have been collected (between 90 and 100% of products collected depending on the subcategory).

1.2.3.5 Soft drinks

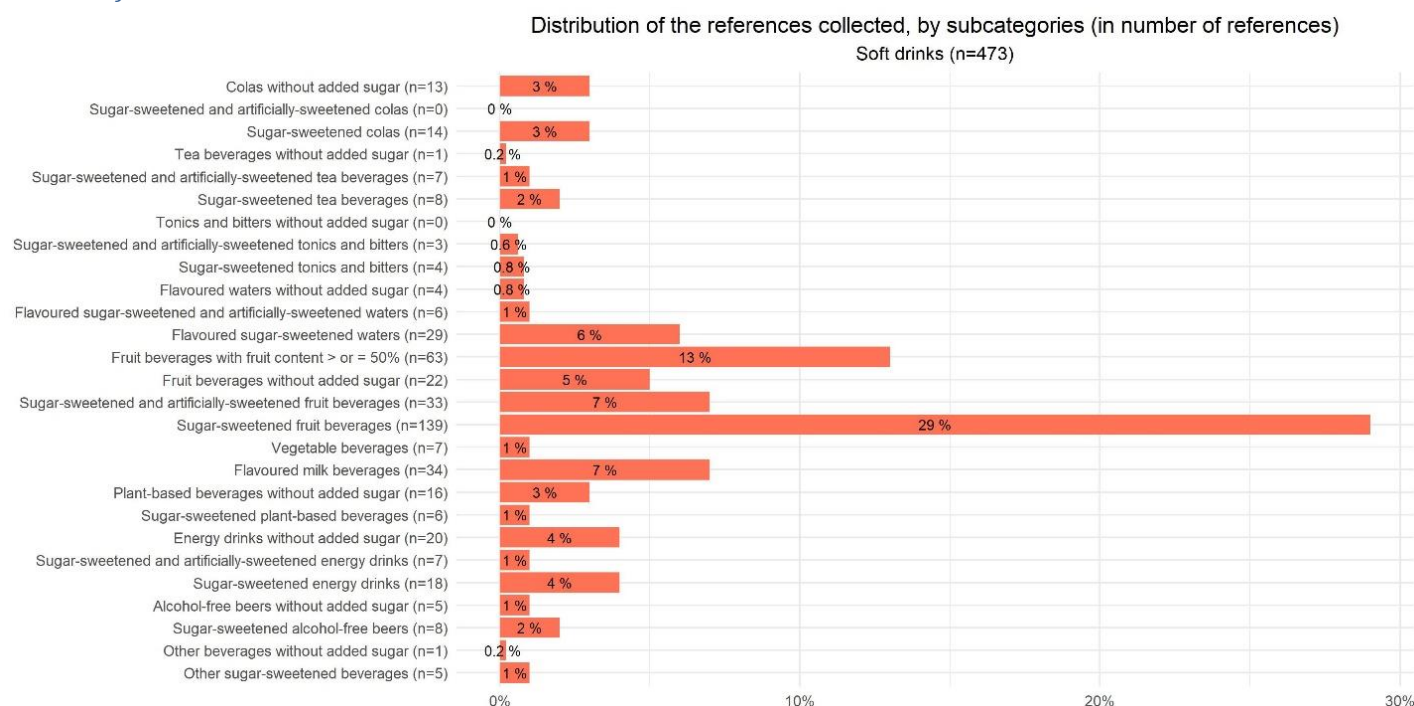


Figure 10 : Distribution of the references collected, by subcategories among Soft drinks

Distribution, by subcategories, of products collected among Soft drinks (Figure 10) shows that the most represented subcategories are Sugar sweetened fruit beverages (n=139, 29%) and Fruit beverages with fruit content > or = 50% (n=63, 13%).

The least represented subcategories are: Tea beverages without added sugar (n=1, 0,2%), Flavoured waters without added sugar (n=1, 0,2%), Other beverages without added sugar (n=1, 0,2%), Sugar-sweetened and artificially-sweetened tonics and bitters (n=3, 0,8%) and Sugar-sweetened tonics and bitters (n=4, 0,8%).

No products have been collected in the subcategories: Sugar-sweetened and artificially-sweetened colas and Tonics and bitters without added sugar.

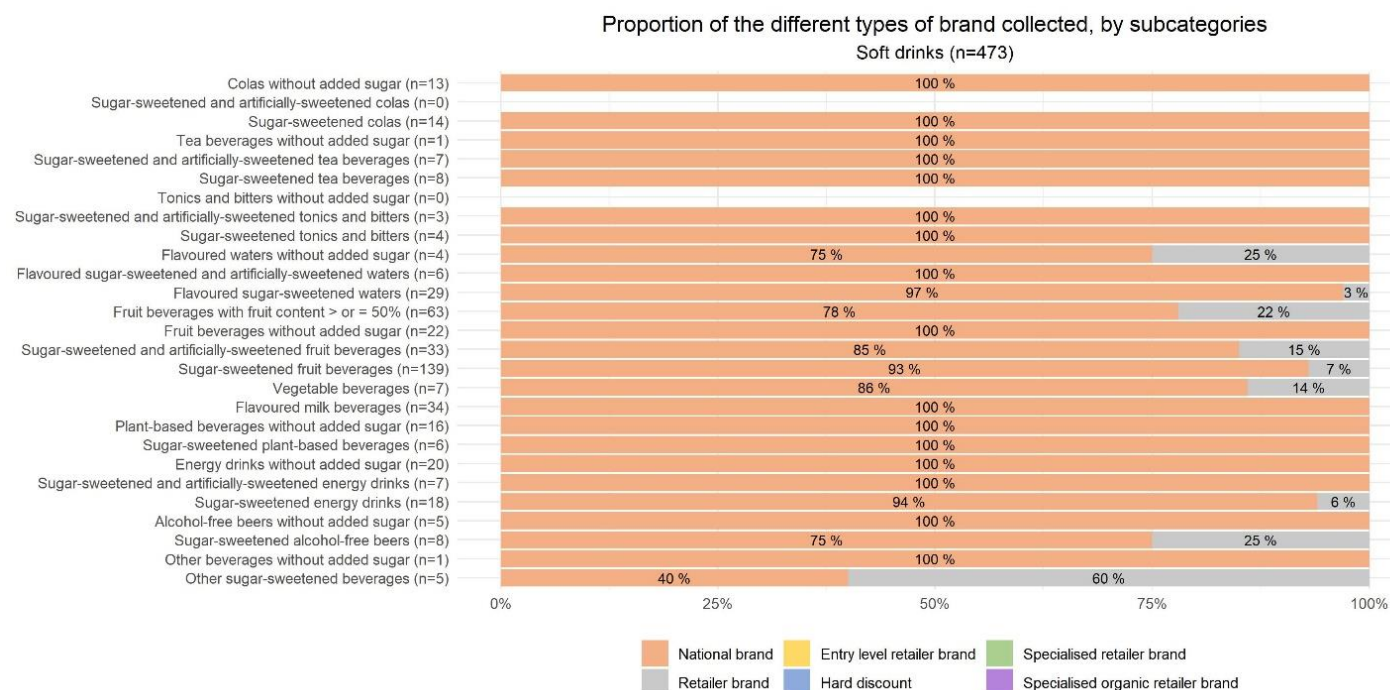


Figure 11 : Proportion of the different types of brand collected, by subcategories among Soft drinks

Among the 473 products collected in the Soft drinks category (Figure 11), national brands are the most represented among all subcategories for which products have been collected. In 16 out of 25 subcategories, an exclusively national brand is registered. In 24 out of 25 subcategories, the national brands range from 75% to 100%.

Retailer brands are also significantly present among the subcategories, accounting for 60% of products in the subcategory Other sugar-sweetened beverages (n=5) and between 3% to 25% of products in 8 out of 25 subcategories.

2 Labeling parameters

2.1 Front of pack labeling per category

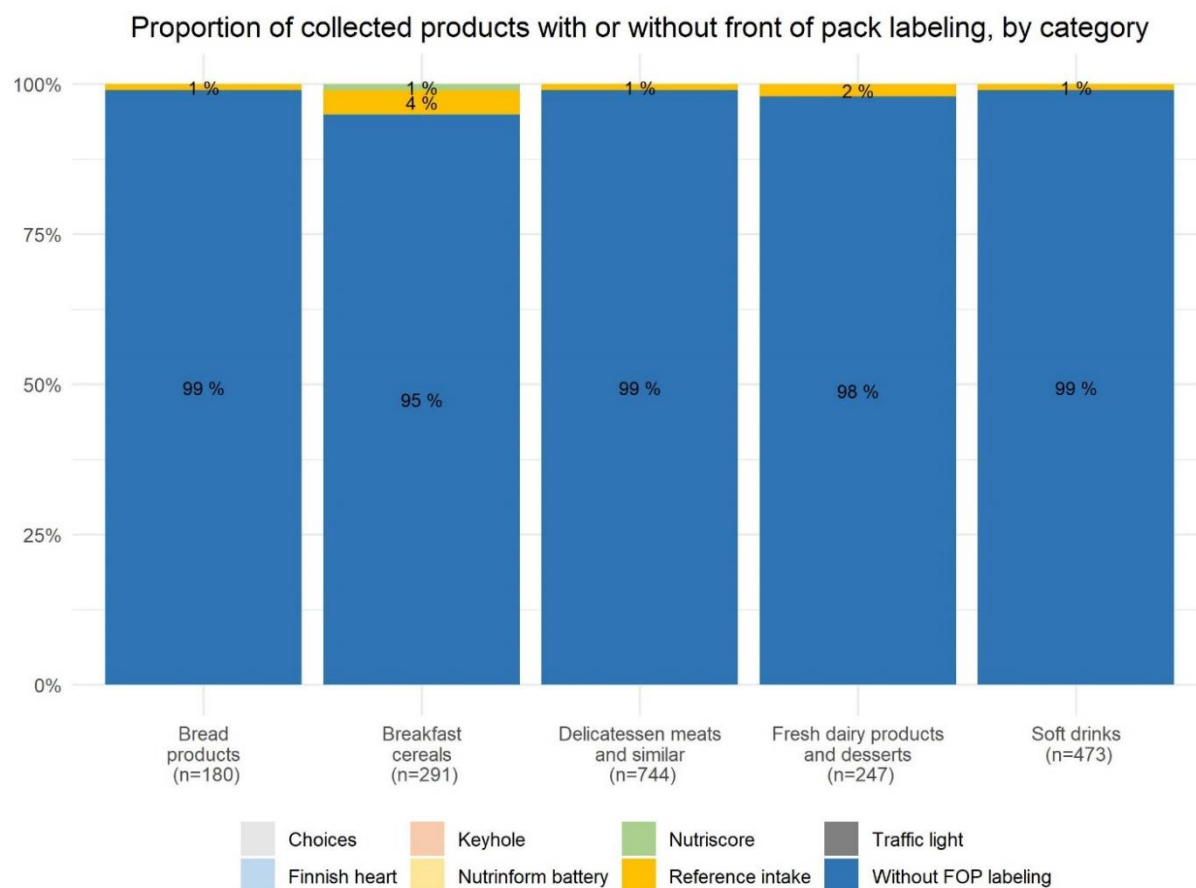


Figure 12 : Proportion of collected products with or without front of pack labeling, by category

The frequency of the appearance of a front of pack labeling was observed for each of the categories monitored (Figure 12).

Among all data collected, the majority of products do not have any front of pack labeling: from 95% for Breakfast cereales to 99% in the categories Bread products, Soft drinks and Delicatessen meats and similar.

The only front of pack labeling observed in the collected data are the Nutriscore and Reference intake, but they are also recorded in a very small percentage. The Reference intake are recorded in all subcategories in range from 1% to 4% of products, but the Nutriscore is recorded only in one subcategory (Breakfast cereales, 1% of products). No other front of pack labeling monitored during Best-ReMaP was present on the packagings of the collected products.

2.2 Quantified portion size

2.2.1 Bread products

2.2.1.1 Proportion of products with and without quantified portions by subcategory

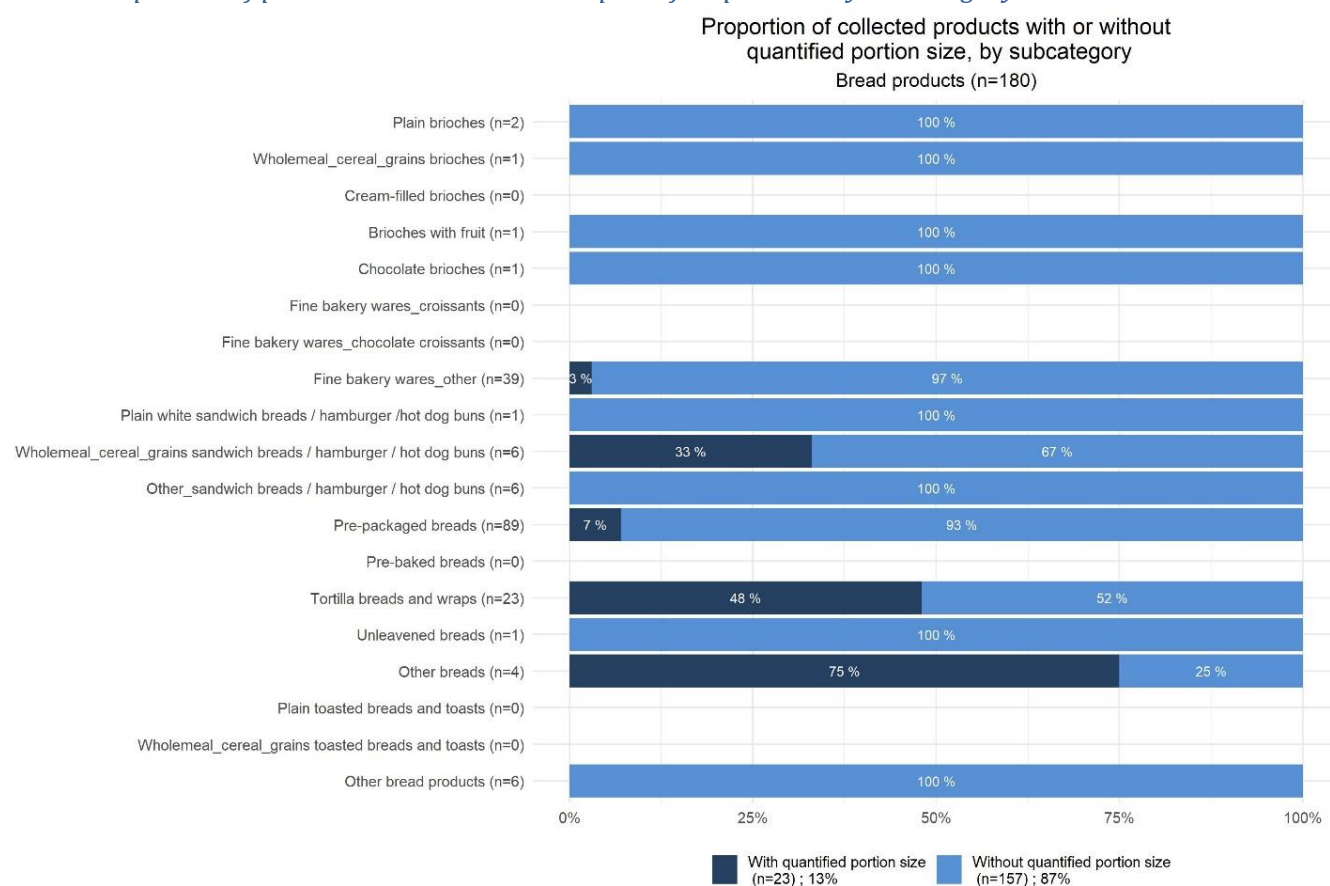


Figure 13 : Proportion of collected products with or without quantified portion size, by subcategories among Bread products

Among the 180 products collected, the majority of products do not have a quantified portion size (n= 157, 87%).

However, when breaking down by subcategory (Figure 13), it can be seen that the frequency of the presence of a quantified portion size varies according to the different subcategories, from 75% of products included in the subcategory Other breads (n=4) to 3% in the subcategory Fine bakery wares_other (n=39).

2.2.1.2 Proportion of the most represented portion sizes by category

Proportion of the five most represented portion sizes
among collected products, by category
Bread products (n=23)

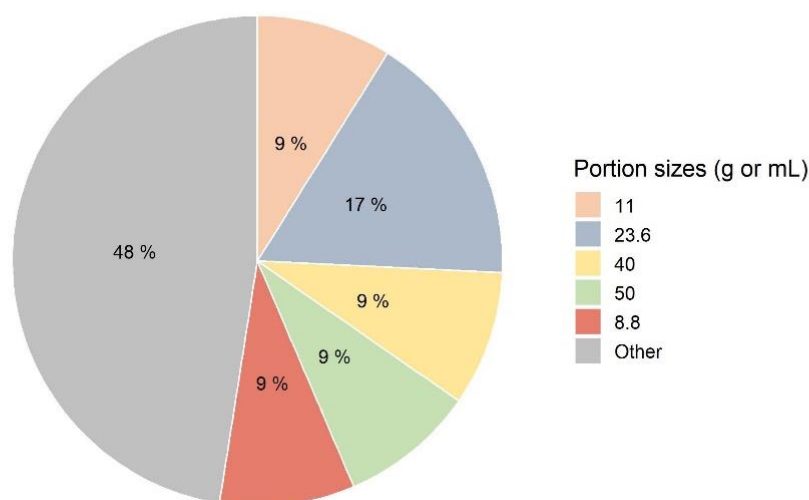


Figure 14 : Proportion of the five most represented portion sizes among collected products in the Bread products category

Among bread products with a quantified portion size indicated on their packaging (n=23, 13% of products collected in the category), the five portion sizes the most represented were highlighted in Figure 14. Within the bread products with a quantified portion size, the most frequent portion sizes is 23,6g (17%). Other quantified portion sizes were equally represented in this category: 30g (9 % of the products of the category), 28g (9% of the products), 11g and 8,8g (9 of the products). A large number of different portion sizes can be found (with low percentage of products) which explains the high proportion of the “other” class (48% of products).

2.2.2 Breakfast cereals

2.2.2.1 Proportion of products with and without quantified portions by subcategory

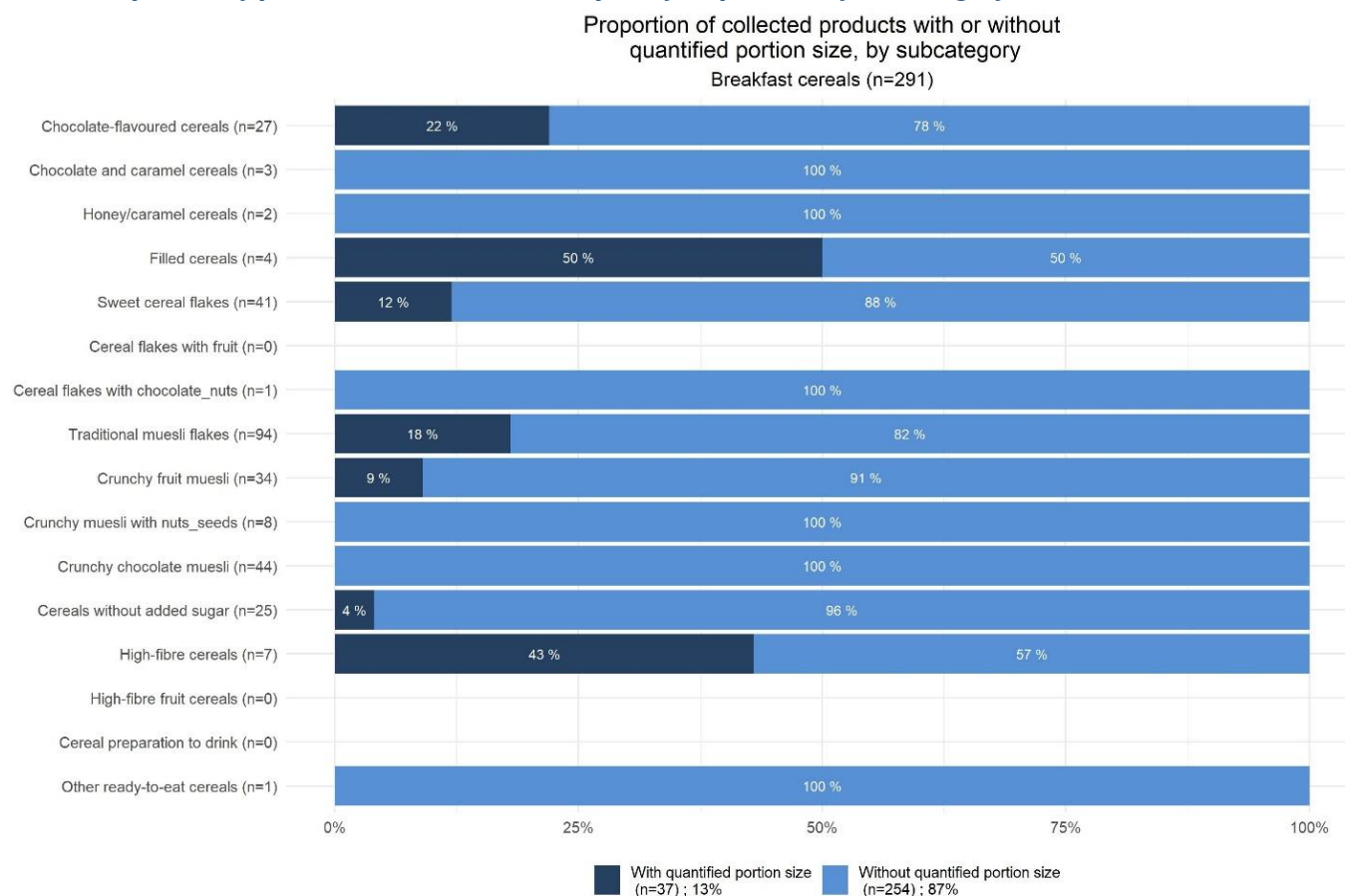


Figure 15 : Proportion of collected products with or without quantified portion size, by subcategories among Breakfast cereals

Among the 291 products collected, the majority of products do not have a quantified portion size (n= 254, 87%).

However, when breaking down by subcategory (Figure 15), it can be seen that the frequency of the presence of a quantified portion size varies among different subcategories, from 50% of products included in the subcategory Filled cereals (n=4) to 4% in the subcategory Cereals without added sugar (n=25).

2.2.2.2 Proportion of the most represented portion sizes by category

Proportion of the five most represented portion sizes
among collected products, by category
Breakfast cereals (n=37)

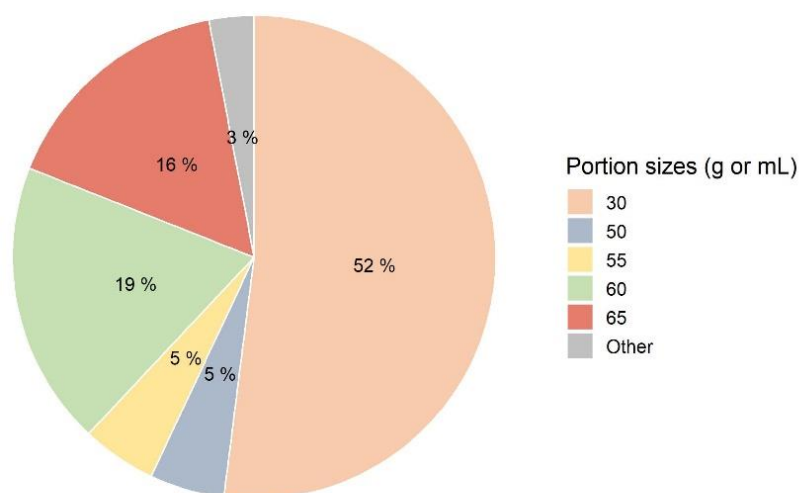


Figure 16 : Proportion of the five most represented portion sizes among collected products in the Breakfast cereals category

Among Breakfast cereals with a quantified portion size indicated on their packaging (n=37, 13% of products collected in the category), the five portion sizes the most represented were highlighted in Figure 16. Within the Breakfast cereals with a quantified portion size, the most frequent portion sizes are 30g (52%), followed by 60g (19% of the products) and 65g (16%). A very small percentage of products are observed in the “other” class (3%).

2.2.3 Delicatessen meat and similar

2.2.3.1 Proportion of products with and without quantified portions by subcategory

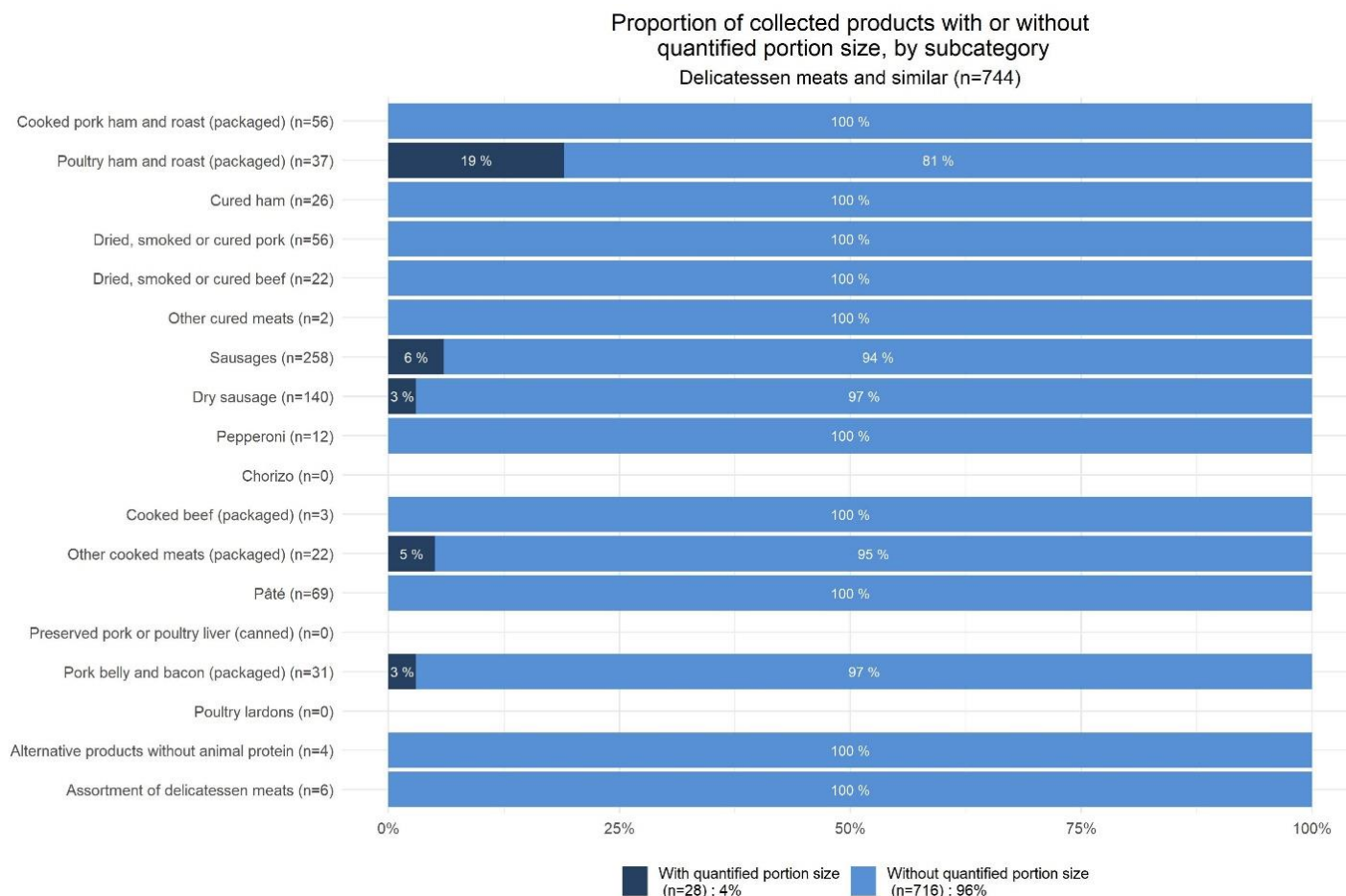


Figure 17 : Proportion of collected products with or without quantified portion size, by subcategories among Delicatessen meats and similar

Among the 744 products collected, the majority of products do not have a quantified portion size (n= 716, 96%).

When breaking down by subcategory (Figure 17), it can be seen that products with a quantified portion size (n=28, 4% of the products collected) are only present in 5 out of 15 subcategories in which products were collected. Poultry ham and roast (packaged) (n=37) is the subcategory with the highest frequency of products with a quantified portion size (19%).

2.2.3.2 Proportion of the most represented portion sizes by category

Proportion of the five most represented portion sizes
among collected products, by category

Delicatessen meats and similar (n=28)

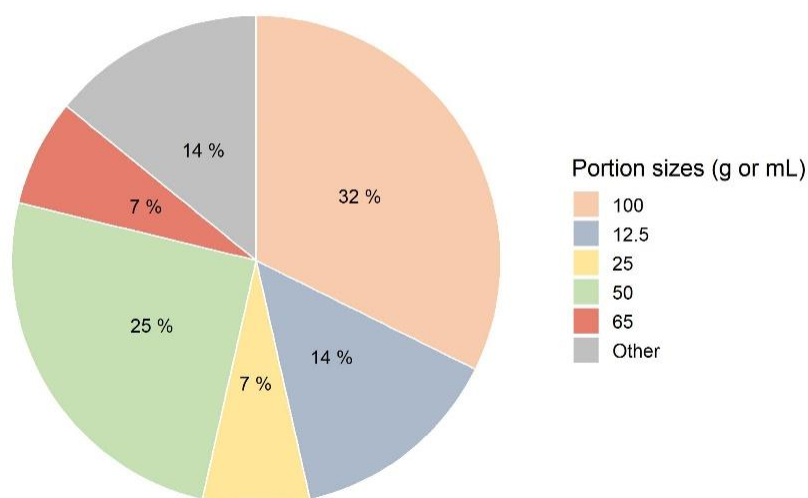


Figure 18 : Proportion of the five most represented portion sizes among collected products in the Delicatessen meats and similar category

Among Delicatessen meats and similar with a quantified portion size indicated on their packaging (n=28, 4% of products collected in the category), the five portion sizes the most represented were highlighted in Figure 18. The most frequent portion sizes are 100g (32% of the products), followed by 50g (25%) and 12,5g (14%).

2.2.4 Fresh dairy products and desserts

2.2.4.1 Proportion of products with and without quantified portions by subcategory

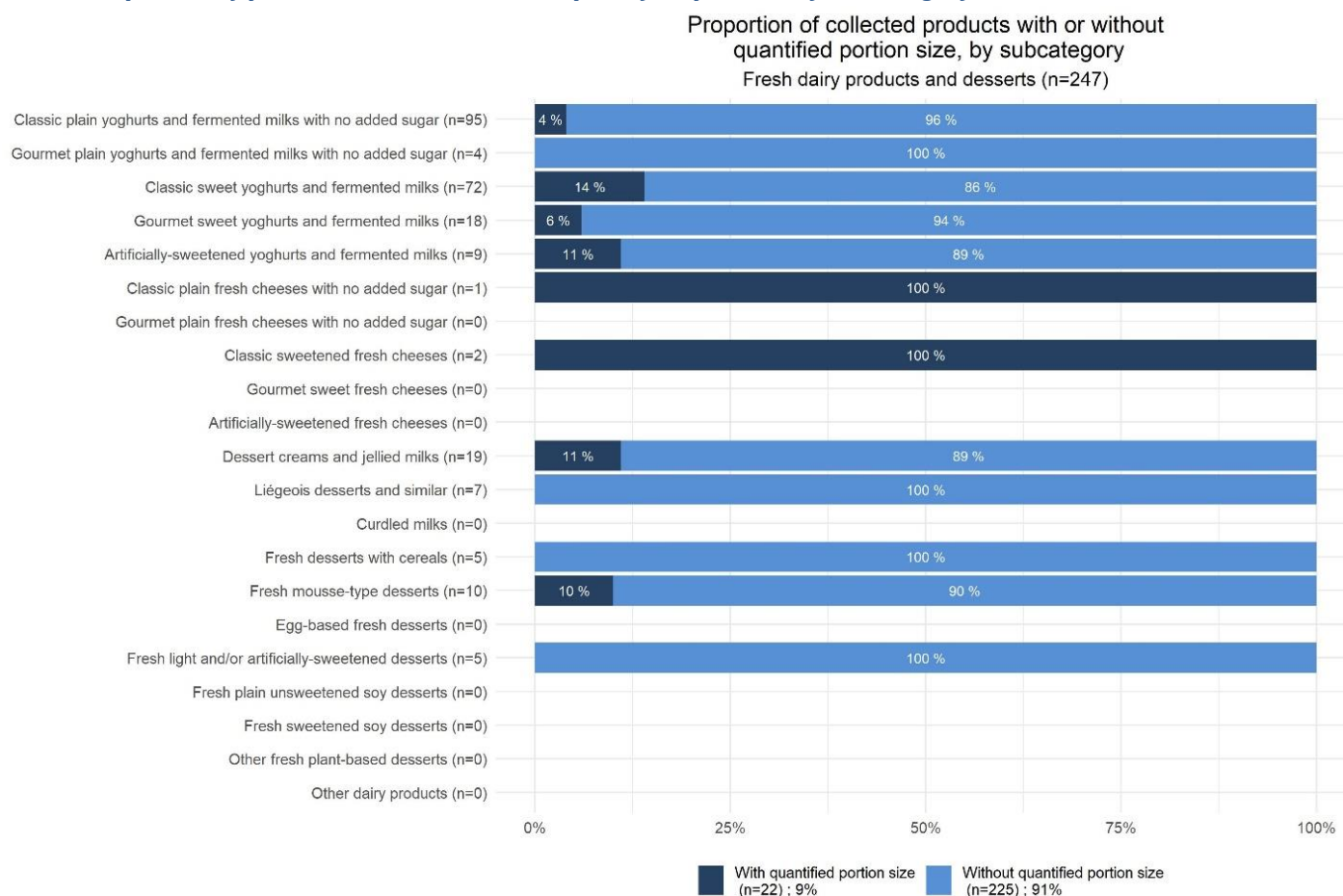


Figure 19 : Proportion of collected products with or without quantified portion size, by subcategories among Fresh dairy products and desserts

Among the 247 products collected, the majority of products do not have a quantified portion size (n= 225, 91%).

When breaking down by subcategory (Figure 19), it can be seen that products with a quantified portion size (n=22, 9% of the products collected) are present in 8 out of 12 subcategories in which products were collected. Classic plain fresh cheeses with no added sugar (n= 1, 100%). and Classic sweetened fresh cheeses (n= 2, 100%) are the subcategories in which all products have a quantified portion size.

2.2.4.2 Proportion of the most represented portion sizes by category

Proportion of the five most represented portion sizes
among collected products, by category
Fresh dairy products and desserts (n=22)

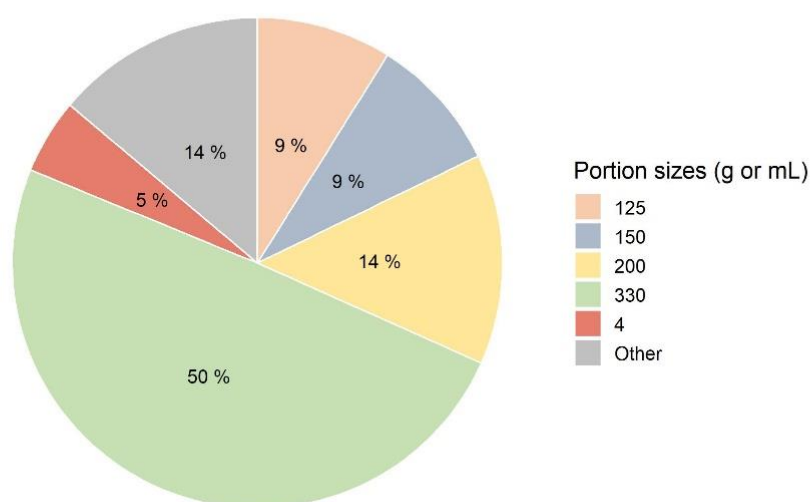


Figure 20 : Proportion of the five most represented portion sizes among collected products in the Fresh dairy products and dessert category

Among the Fresh dairy products and desserts with a quantified portion size indicated on their packaging (n=22, 9% of products collected in the category), the five portion sizes the most represented were highlighted in Figure 20. The most frequent portion sizes are 330g (50% of the products), followed by 200g (14%), 125g (9%) and 150g (9%).

2.2.5 Soft drinks

2.2.5.1 Proportion of products with and without quantified portions by subcategory

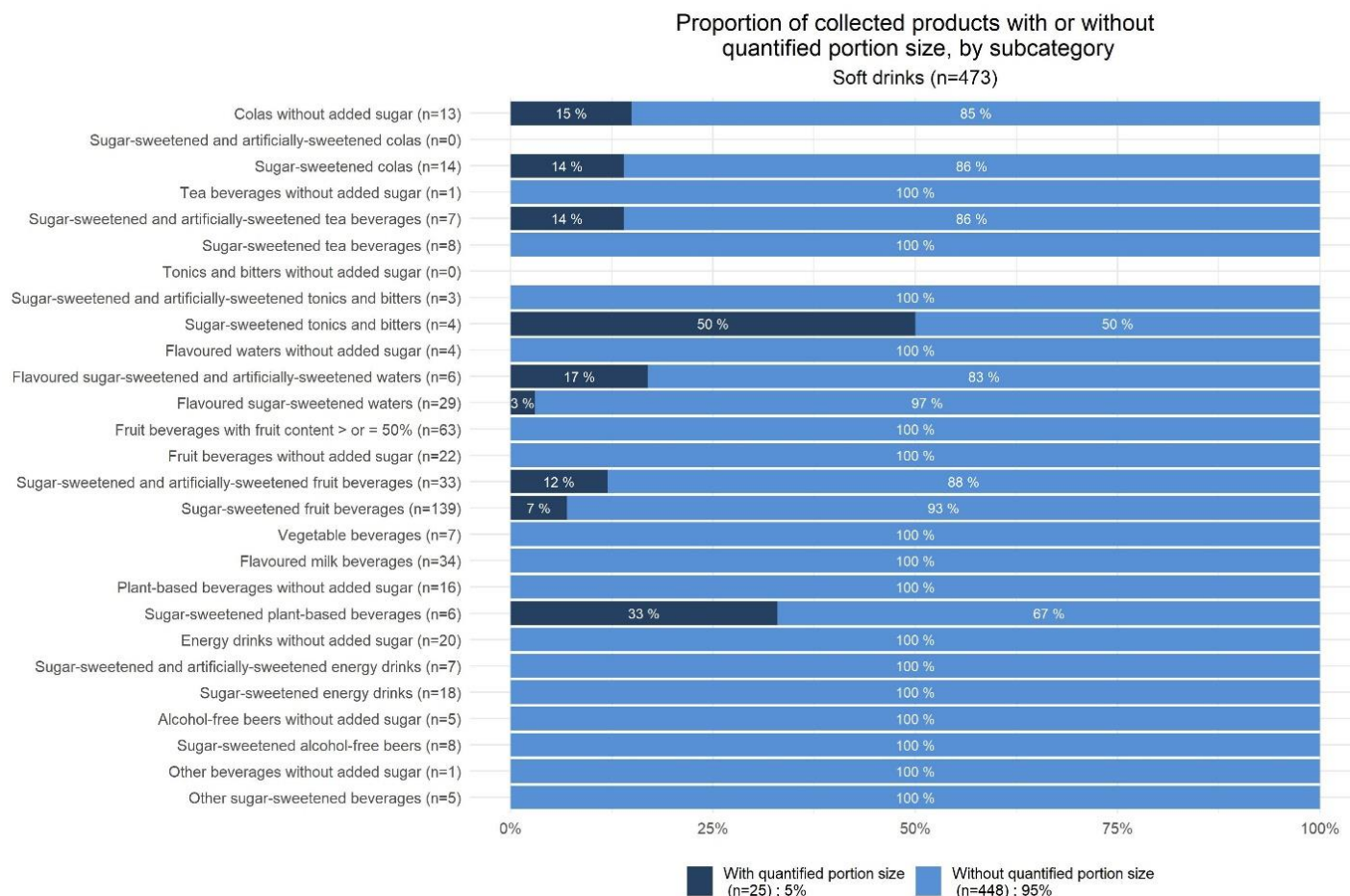


Figure 21 : Proportion of collected products with or without quantified portion size, by subcategories among Soft drinks

Among the 473 products collected, the majority of products do not have a quantified portion size (n= 448, 95%).

However, when breaking down by subcategory (Figure 21), it can be seen that the frequency of the presence of a quantified portion size varies according to the different subcategories, from 50% of products included in the subcategory Sugar-sweetened tonics and bitters (n=4) to 3% in the subcategory Flavoured sugar-sweetened waters (n=29).

2.2.5.2 Proportion of the most represented portion sizes by category

Proportion of the five most represented portion sizes
among collected products, by category

Soft drinks (n=25)

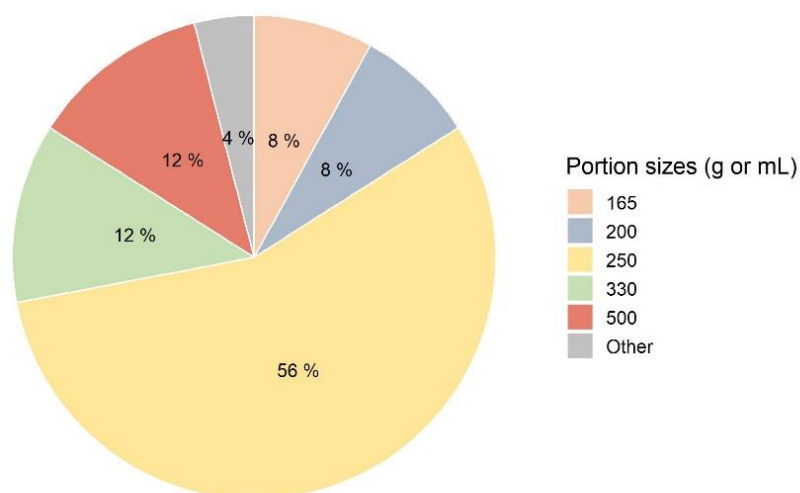


Figure 22 : Proportion of the five most represented portion sizes among collected products in the Soft drinks category

Among the Soft drinks with a quantified portion size indicated on their packaging (n=25, 5% of products collected in the category), the five portion sizes the most represented were highlighted in Figure 22. The most frequent portion sizes are 250 mL (56% of the products), followed by 330 mL (12%) and 500mL (12%).

3 Labeled nutritional values

3.1 Labeling frequency

Table 1 : Labeling frequency (%) of nutritional values by nutrients and categories

Category_name	Energy_kJ	Energy_kCal	Fat	Saturated_fat	Carbohydrates	Sugar	Protein	Salt	Fibre
Bread products (n=180)	99%	99%	99%	94%	100%	95%	99%	98%	53%
Breakfast cereals (n=291)	97%	100%	100%	91%	100%	91%	100%	89%	84%
Delicatessen meats and similar (n=744)	100%	99%	100%	95%	100%	96%	100%	98%	10%
Fresh dairy products and desserts (n=247)	100%	100%	100%	100%	100%	100%	100%	100%	16%
Soft drinks (n=473)	100%	100%	100%	99%	100%	100%	100%	100%	75%

Table 1 shows the frequency of labeling of nutritional values by nutrient and category. The majority of the products collected are nutritionally labeled according to the European regulation 1169/2011, INCO¹, but there is variability in the frequency of labeling which differs between nutrients and categories. In particular, we note that despite the regulations in place, some nutrients are not labeled, as can be seen in the Bread products category where fibre labeling is only present in half of the observed products (53%). If we look at all the categories, we still notice that in category Bread products and Breakfast cereals nutritional labeling is less present compared to the other observed categories.

Within all categories, fibre is the nutrient with the lowest frequency of labeling among the products collected: Bread products (53% of products included in the category have a labeled fibre content), Breakfast cereals (84%), Delicatessen meats and similar (10%), Fresh dairy products and desserts (16%), Soft drinks (75%). This can be explained by the fact that this labeling is not

¹ Regulation (EU) No 1169/2011 of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers, amending Regulations (EC) No 1924/2006 and (EC) No 1925/2006 of the European Parliament and of the Council, and repealing Commission Directive 87/250/EEC, Council Directive 90/496/EEC, Commission Directive 1999/10/EC, Directive 2000/13/EC of the European Parliament and of the Council, Commission Directives 2002/67/EC and 2008/5/EC and Commission Regulation (EC) No 608/2004 (Text with EEA relevance)

² Rules on providing food information to consumers, Official Gazette of BiH 68/13; Official Gazette of Republic of Srpska 9/18).

mandatory in Europe, according to INCO regulation¹ and in relation to regulations in Bosnia and Herzegovina².

3.2 Overview of the nutritional composition

3.2.1 Bread products

The nutrients considered for the Bread products category are: Fat, Saturated fat, Sugars, salt and Fibre.

3.2.1.1 Distribution of fat content by Bread products subcategories

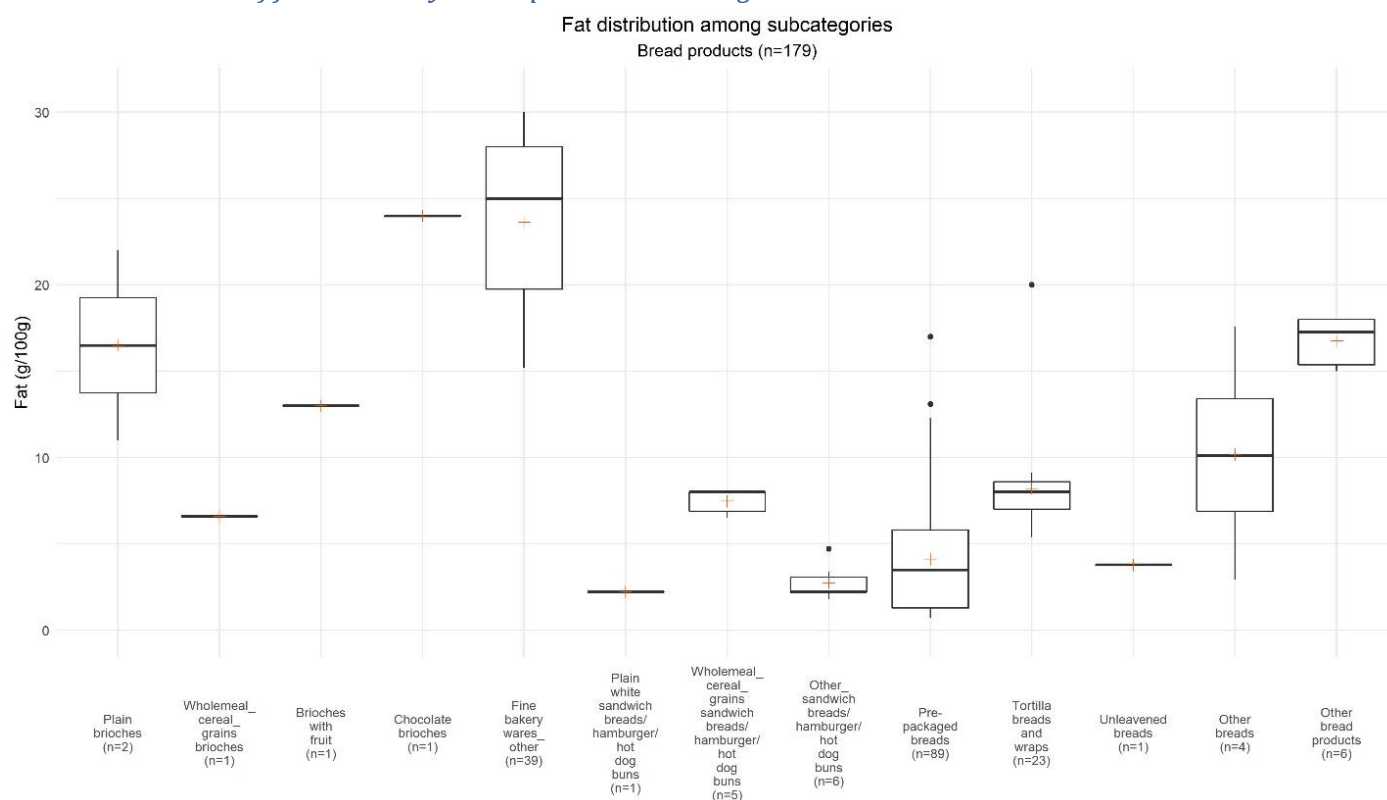


Figure 23 : Fat distribution among subcategories of Bread products

Among all subcategories of Bread products, the mean content of fat varies between 2.2g/100g (Plain white sandwich breads / hamburger / hot dog buns) and 24g/100g (Chocolate brioches).

Subcategories with the highest mean fat content are: Chocolate brioches (24g/100g), Fine bakery wares_other (23.6g/100g), Other bread products (16.8g/100g) and Plain brioches (16.5g/100g).

Subcategories with the lowest mean fat content are: Plain white sandwich breads / hamburger / hot dog buns (2.2g/100g) and Other_sandwich breads / hamburger / hot dog buns (2.8g/100g).

The fat content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable fat content are:

Pre-packaged breads (n=89), Other breads (n=4), Fine bakery wares_other (n=39), Tortilla breads and wraps (n=23).

3.2.1.2 Distribution of saturated fat content by Bread products subcategories

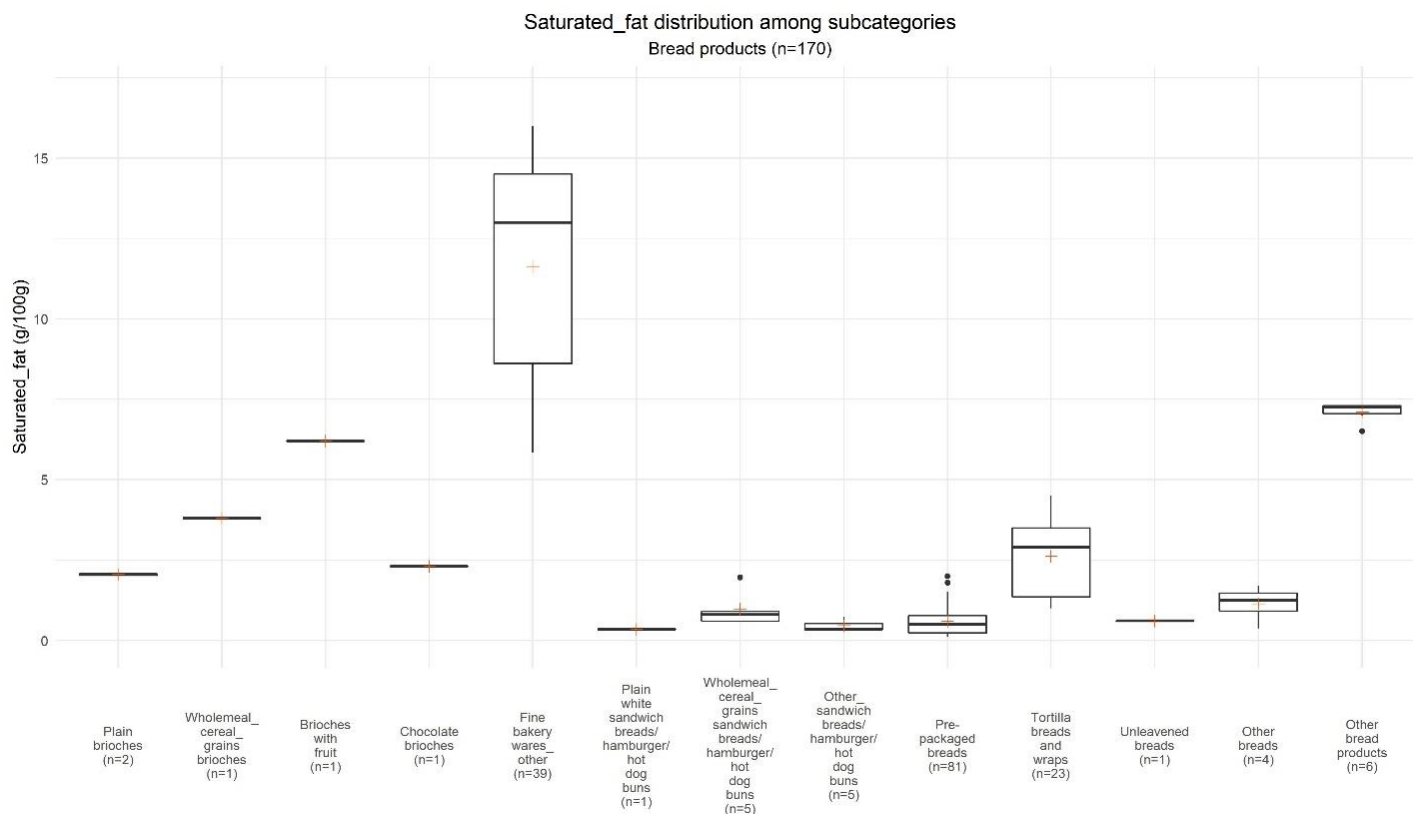


Figure 24 : Saturated fat distribution among subcategories of Bread products

The mean saturated fat content ranges from 0.3g/100g (Plain white sandwich breads / hamburger /hot dog buns) to 11.6g/100g (Fine bakery wares_other).

Variabilities in the content of saturated fat are also observed within a given subcategory. Subcategories with the greatest variability are : Pre-packaged breads (n=81), Tortilla breads and wraps (n=23). The biggest variability in saturated fat content is observed for the subcategory Fine bakery wares_other (n=39), which translates that there is room for reformulation.

3.2.1.3 Distribution of sugar content by Bread products subcategories

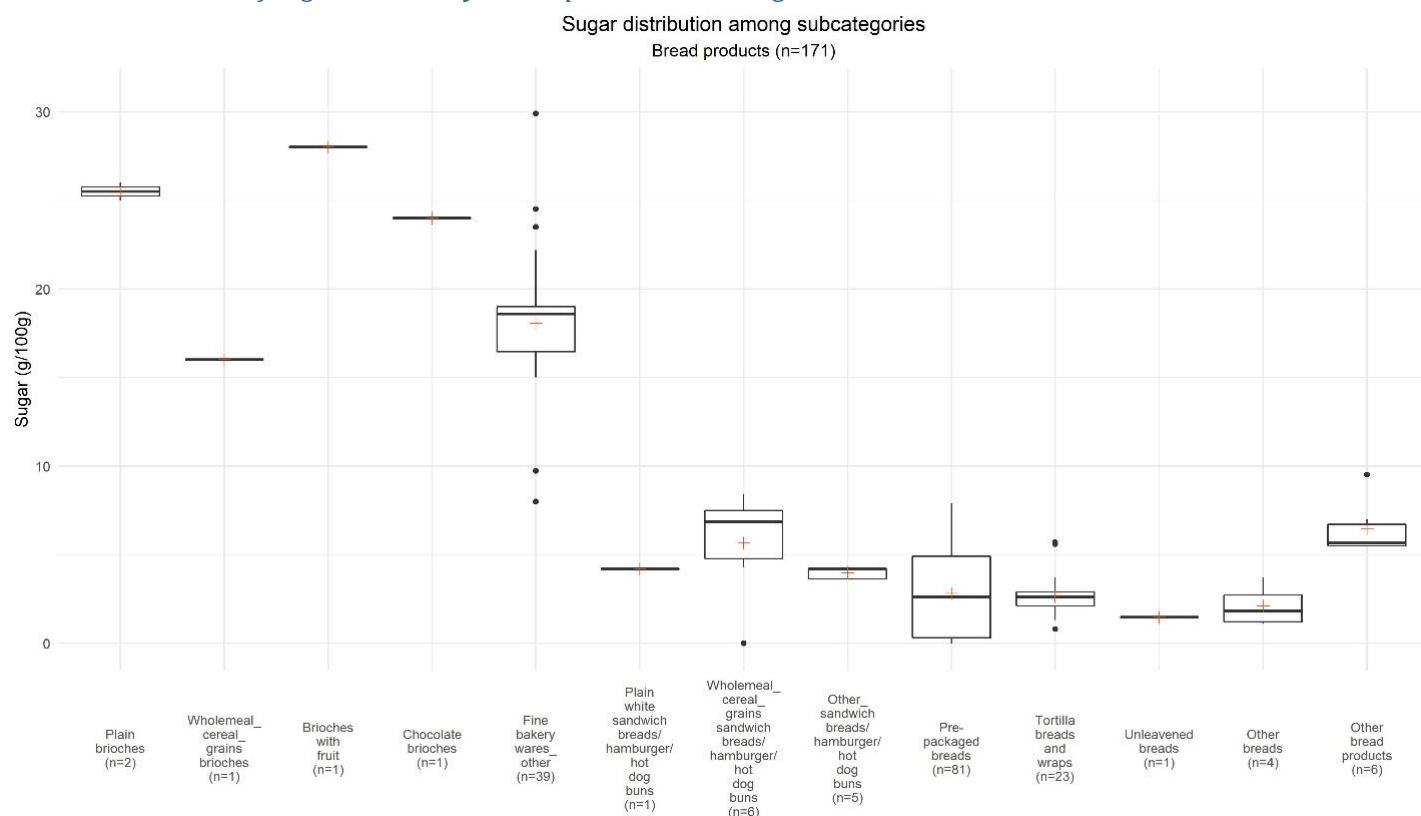


Figure 25 : Sugar distribution among subcategories of Bread products

The mean sugar content ranges from 1.5g/100g (Unleavened breads) to 28g/100g (Brioche with fruit).

Subcategories with the highest mean sugar content are: Brioche with fruit (28g/100g), Plain brioche (25.5g/100g), Chocolate brioche (24g/100g) and Fine bakery wares_other (18.1g/100g).

Subcategories with the lowest mean sugar content are: Unleavened breads (1.5g/100g), Other breads (2.1g/100g), Tortilla breads and wraps (2.6g/100g) and Pre-packaged breads (2.8g/100g).

The sugar content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable sugar content are: Fine bakery wares_other (n=39), Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns (n=6), Pre-packaged breads (n=81).

3.2.1.4 Distribution of fibre content by Bread products subcategories

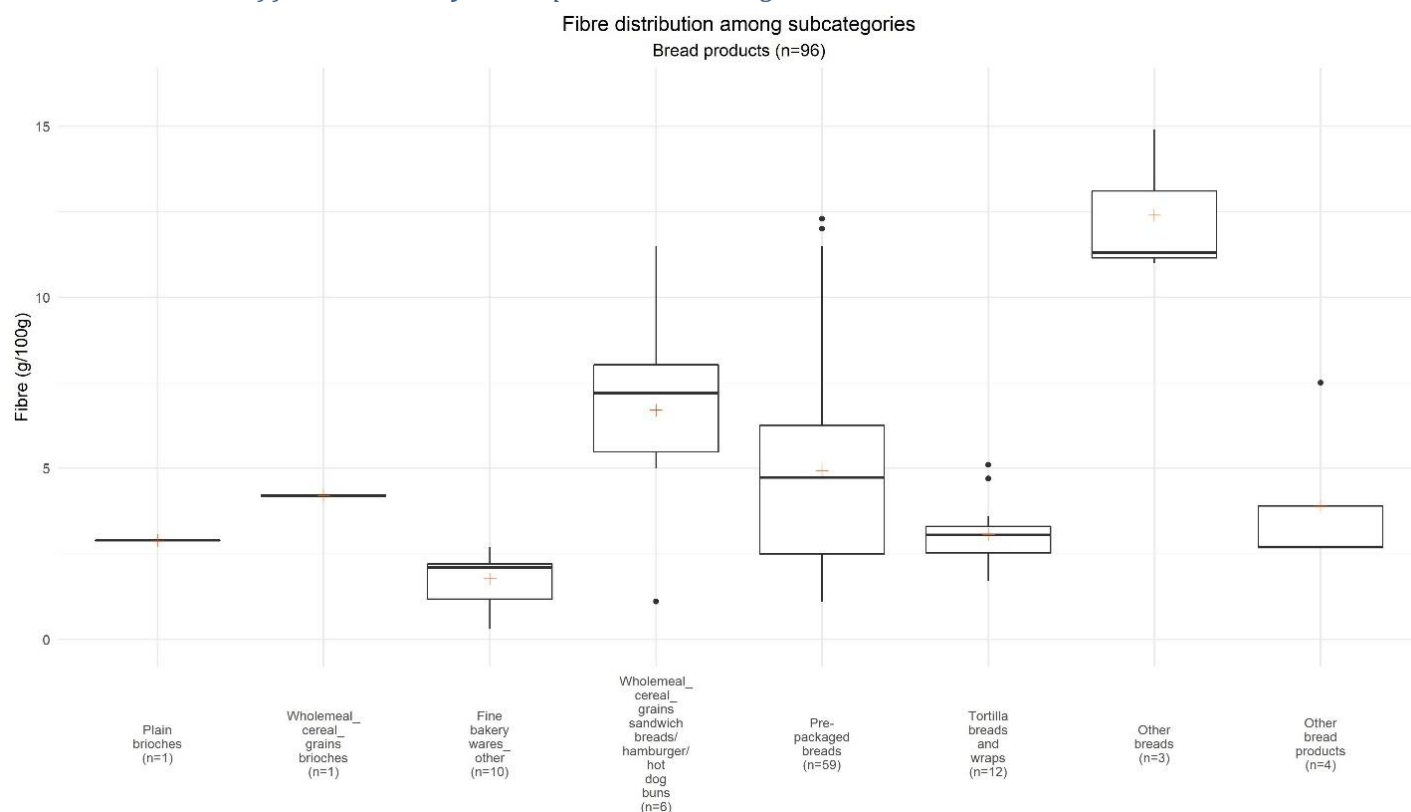


Figure 26 : Fibre distribution among subcategories of Bread products

The mean fibre content ranges from 1.8g/100g (Fine bakery wares_other) to 12.4g/100g (Other breads).

The highest mean fibre content is observed in the subcategories: Other breads (12.4g/100g) and Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns (6.7g/100g).

The lowest mean fibre content is observed in the subcategories: Fine bakery wares_others (1.8g/100g), Plain brioches (2.9g/100g) and Tortilla breads and wraps(3.1g/100g).

The fibre content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable fibre content are: Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns (n=6), Pre-packaged breads (n=59) and Other bread products (n=4).

3.2.1.5 Distribution of salt content by Bread products subcategories

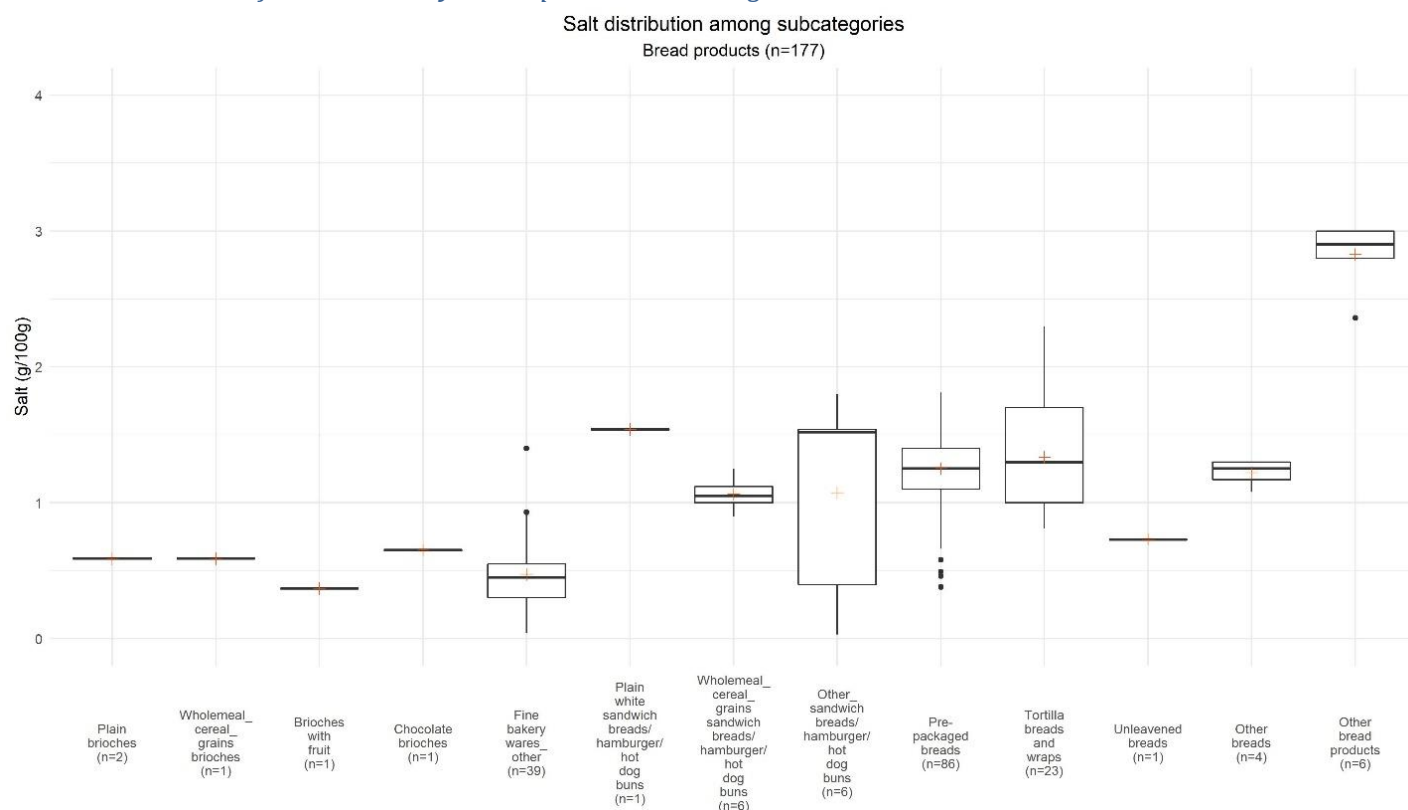


Figure 27 : Salt distribution among subcategories of Bread products

The mean salt content ranges from 0.37g/100g (Brioche with fruit) to 2.83g/100g (Other bread products).

The highest mean salt content is observed in the subcategories: Other bread products (2.83g/100g), Plain white sandwich breads / hamburger / hot dog buns (1.54g/100g) and Tortilla breads and wraps (1.34g/100g).

The lowest mean salt content is observed in the subcategories: Brioche with fruit (0.37g/100g), Fine bakery wares_other (0.47g/100g), Wholemeal_cereal_grains brioche (0.59g/100g) and Plain brioche (0.59g/100g).

The salt content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable salt content are: Other_sandwich breads / hamburger / hot dog buns (n=6), Tortilla breads and wraps (n=23), Pre-packaged breads (n=86) and Fine bakery wares_other (n=39).

3.2.2 Breakfast cereals

3.2.2.1 Distribution of fat content by Breakfast cereals subcategories

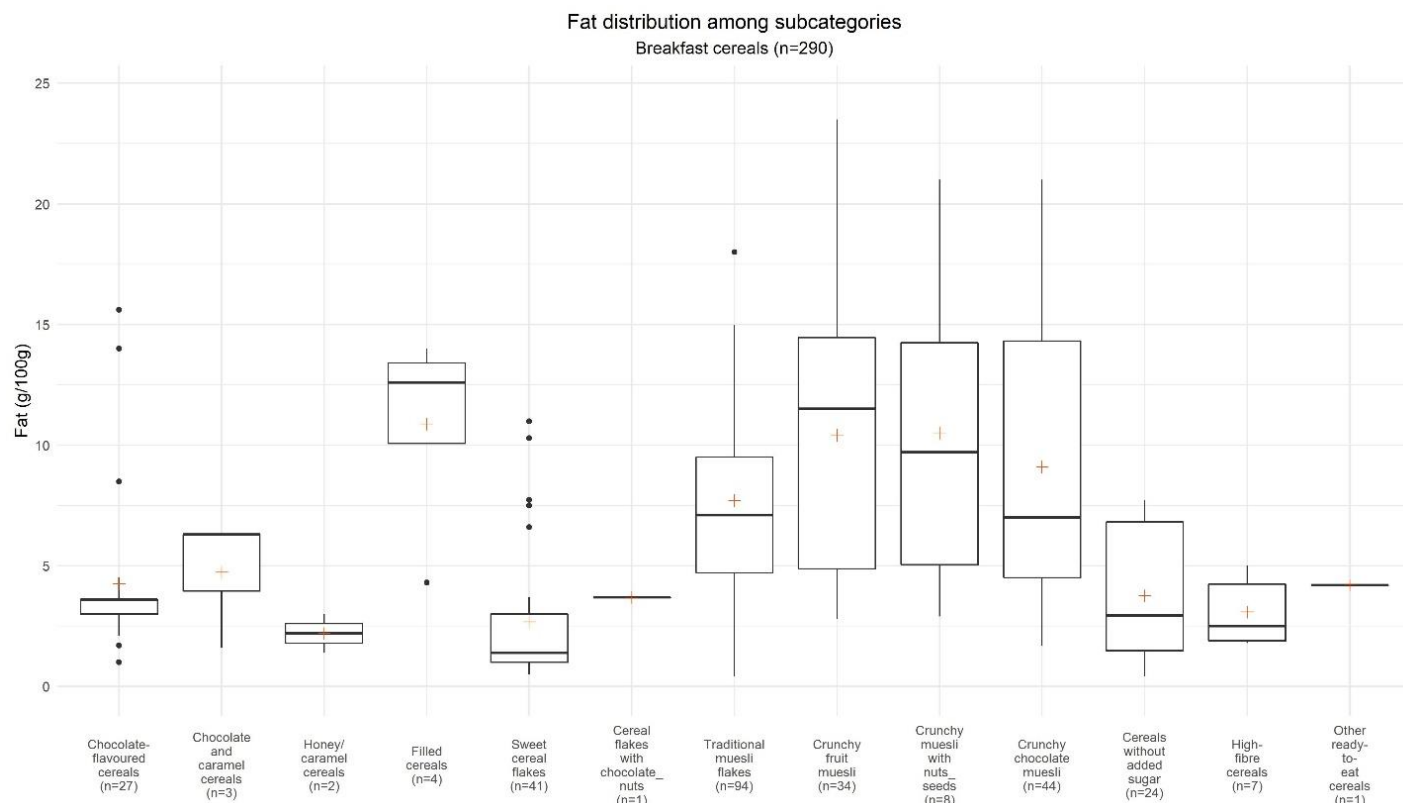


Figure 28 : Fat distribution among subcategories of Breakfast cereals

Among all subcategories of Breakfast cereals, the mean content of fat varies between 2.2g/100g (Honey/caramel cereals) and 10.9g/100g (Filled cereals).

Subcategories with the highest mean fat content are: Filled cereals (10.9g/100g), Crunchy muesli with nuts_seeds (10.5g/100g), Crunchy fruit muesli (10.4g/100g), Crunchy chocolate muesli (9.1g/100g).

Subcategories with the lowest mean fat content (between 2.2g/100g and 3.1g/100g) are Honey/caramel cereals, High-fibre cereals, Sweet cereal flakes.

The fat content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable fat content are: Traditional muesli flakes (n=94), Crunchy fruit muesli (n=34), Crunchy chocolate muesli (n=44) and Crunchy muesli with nuts_seeds (n=8).

3.2.2.2 Distribution of saturated fat content by Breakfast cereals subcategories

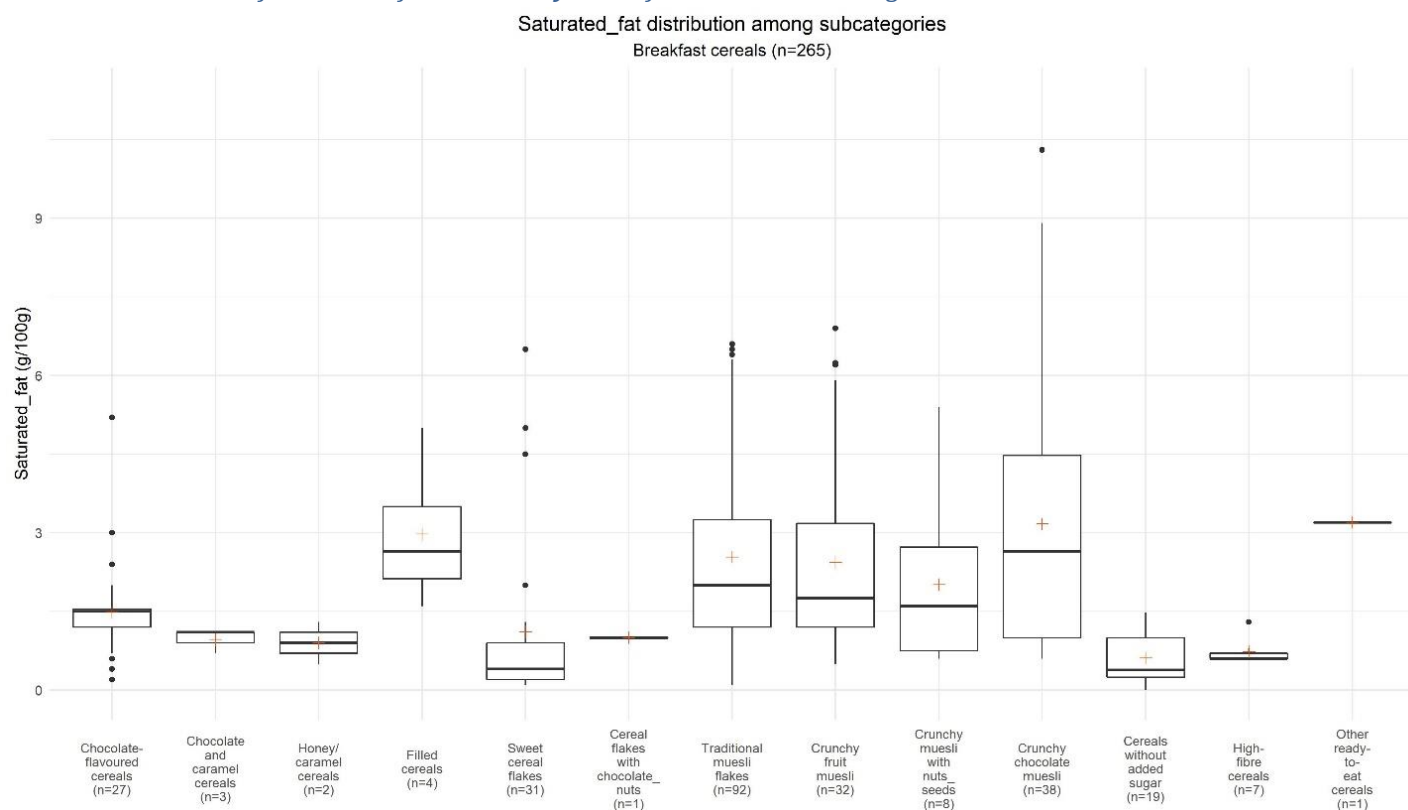


Figure 29 : Saturated fat distribution among subcategories of Breakfast cereals

The mean content of saturated fat ranges from 0.6g/100g (Cereals without added sugar) to 3.2g/100g (Crunchy chocolate muesli and Other ready-to-eat cereals).

Variability in the saturated fat content is also observed within a given subcategory. Subcategories with the greatest variability are : Sweet cereal flakes (n=31), Traditional muesli flakes (n=92), Crunchy chocolate muesli (n=38), Crunchy fruit muesli (n=32).

The biggest variability in saturated fat content is observed for the subcategories Crunchy chocolate muesli and Traditional muesli flakes, which translates that there is room for reformulation.

3.2.2.3 Distribution of sugar content by Breakfast cereals subcategories

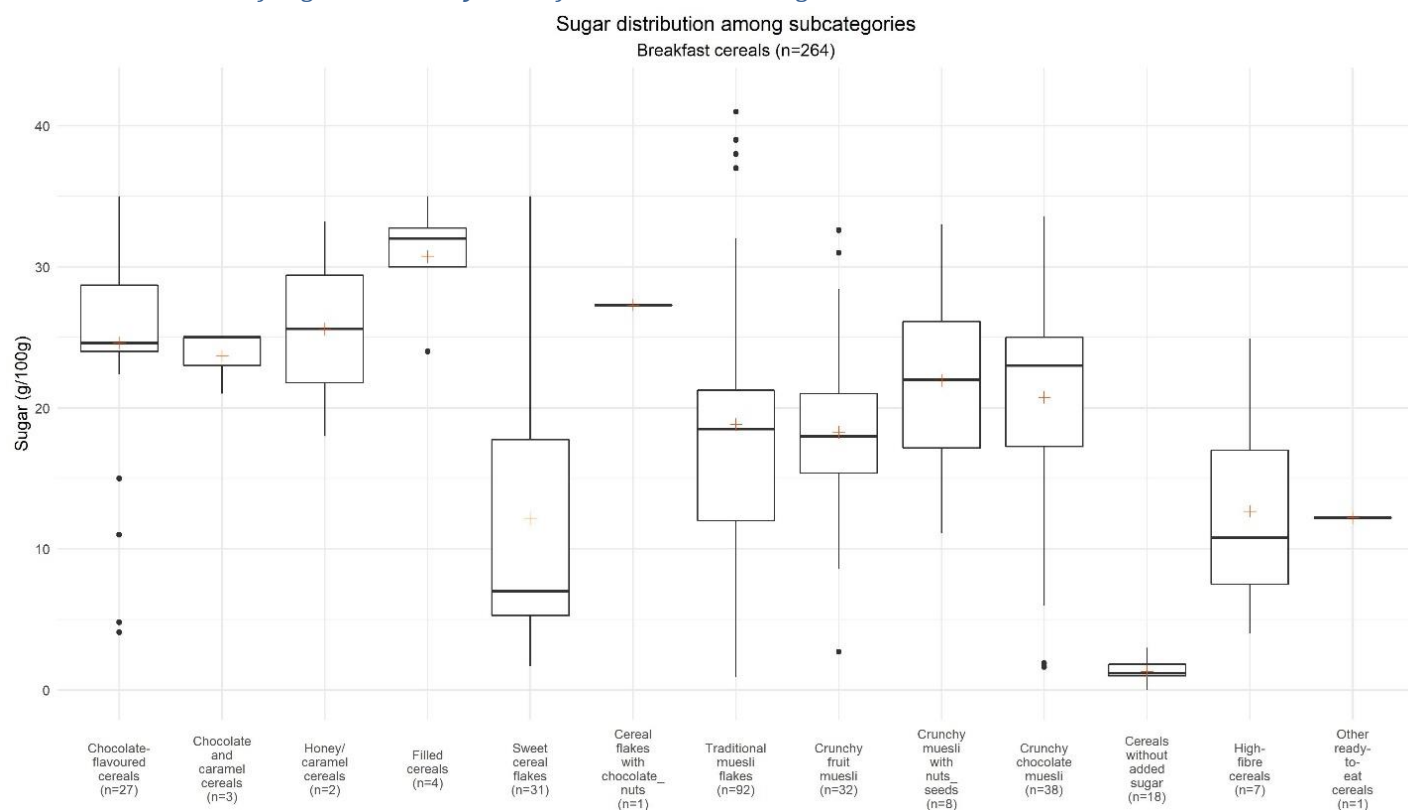


Figure 30 : Sugar distribution among subcategories of Breakfast cereals

The mean sugar content ranges from 1.3g/100g (Cereals without added sugar) to 30.8g/100g (Filled cereals).

Subcategories with the highest mean sugar content are: Filled cereals (30.8g/100g), Cereal flakes with chocolate_nuts (27.3g/100g), Honey/caramel cereals (25.6g/100g), Chocolate-flavoured cereals (24.6g/100g).

Subcategories with the lowest mean sugar content are Cereals without added sugar (1.3g/100g), Other ready-to-eat cereals (12.2g/100g), Sweet cereal flakes (12.2g/100g), High-fibre cereals (12.7g/100g).

The sugar content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable sugar content are: Traditional muesli flakes (n=92), Sweet cereal flakes (n=31), Crunchy chocolate muesli (n=38), Chocolate-flavoured cereals (n=27) and Crunchy fruit muesli (n=32).

3.2.2.4 Distribution of fibre content by Breakfast cereals subcategories

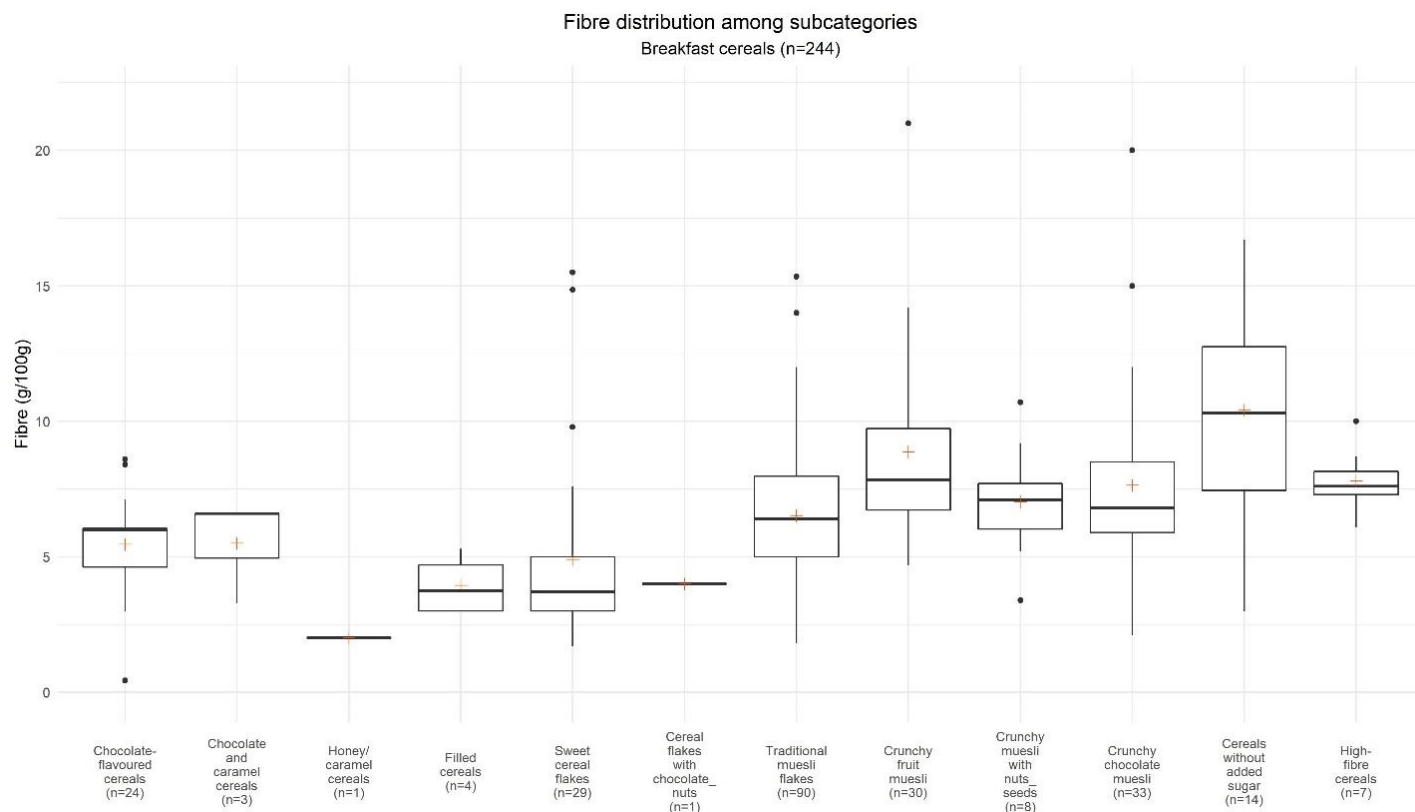


Figure 31 : Fibre distribution among subcategories of Breakfast cereals

The mean fibre content ranges from 2.0g/100g (Honey/caramel cereals) to 10.4g/100g (Cereals without added sugar).

The highest mean fibre content is observed in the subcategories: Cereals without added sugar (10.4g/100g), Crunchy fruit muesli (8.9g/100g), High-fibre cereals (7.8g/100g), Crunchy chocolate muesli (7.6g/100g), Crunchy muesli with nuts_seeds (7g/100g) and Traditional muesli flakes (6.5g/100g).

The lowest mean fibre content is observed in the subcategories: Honey/caramel cereals (2g/100g), Filled cereals (4g/100g) and Cereal flakes with chocolate_nuts (4g/100g).

The fibre content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable fibre content are: Traditional muesli flakes (n=90), Sweet cereal flakes (n=29), Crunchy chocolate muesli (n=33), Cereals without added sugar (n=14) and Crunchy fruit muesli (n=30).

3.2.2.5 Distribution of salt content by Breakfast cereals subcategories

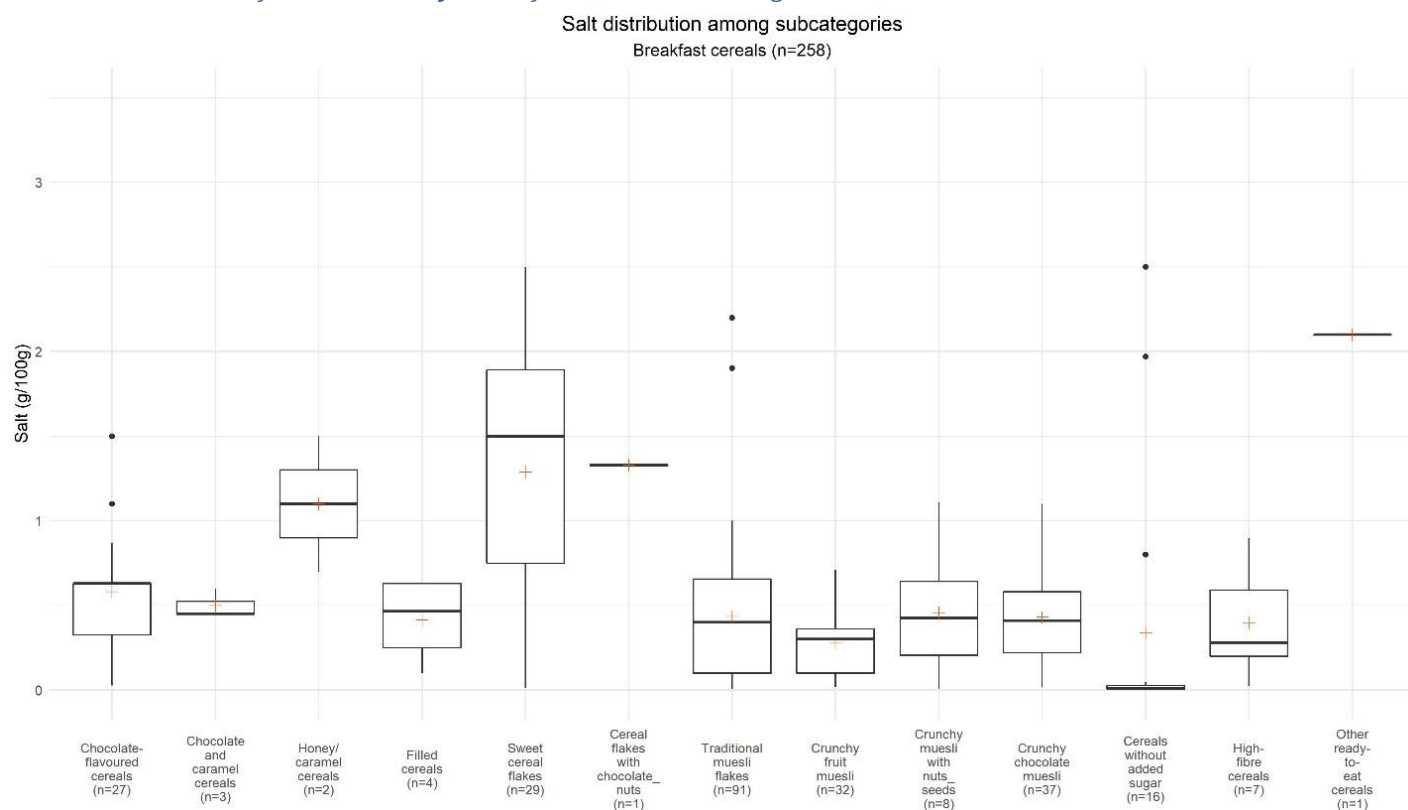


Figure 32 : Salt distribution among subcategories of Breakfast cereals

The mean salt content ranges from 0.28g/100g (Crunchy fruit muesli) to 2.1g/100g (Other ready-to-eat cereals).

The highest mean salt content is observed in the subcategories: Other ready-to-eat cereals (2.1g/100g), Cereal flakes with chocolate_nuts (1.33g/100g), Sweet cereal flakes (1.29g/100g) and Honey/caramel cereals (1.1g/100g).

The lowest mean salt content is observed in the subcategories: Crunchy fruit muesli (0.28g/100g) and Cereals without added sugar (0.34g/100g).

The salt content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable salt content are: Traditional muesli flakes (n=91), Sweet cereal flakes (n=29) and Cereals without added sugar (n=16).

3.2.3 Delicatessen meats and similar

3.2.3.1 Distribution of protein content by Delicatessen meats and similar subcategories

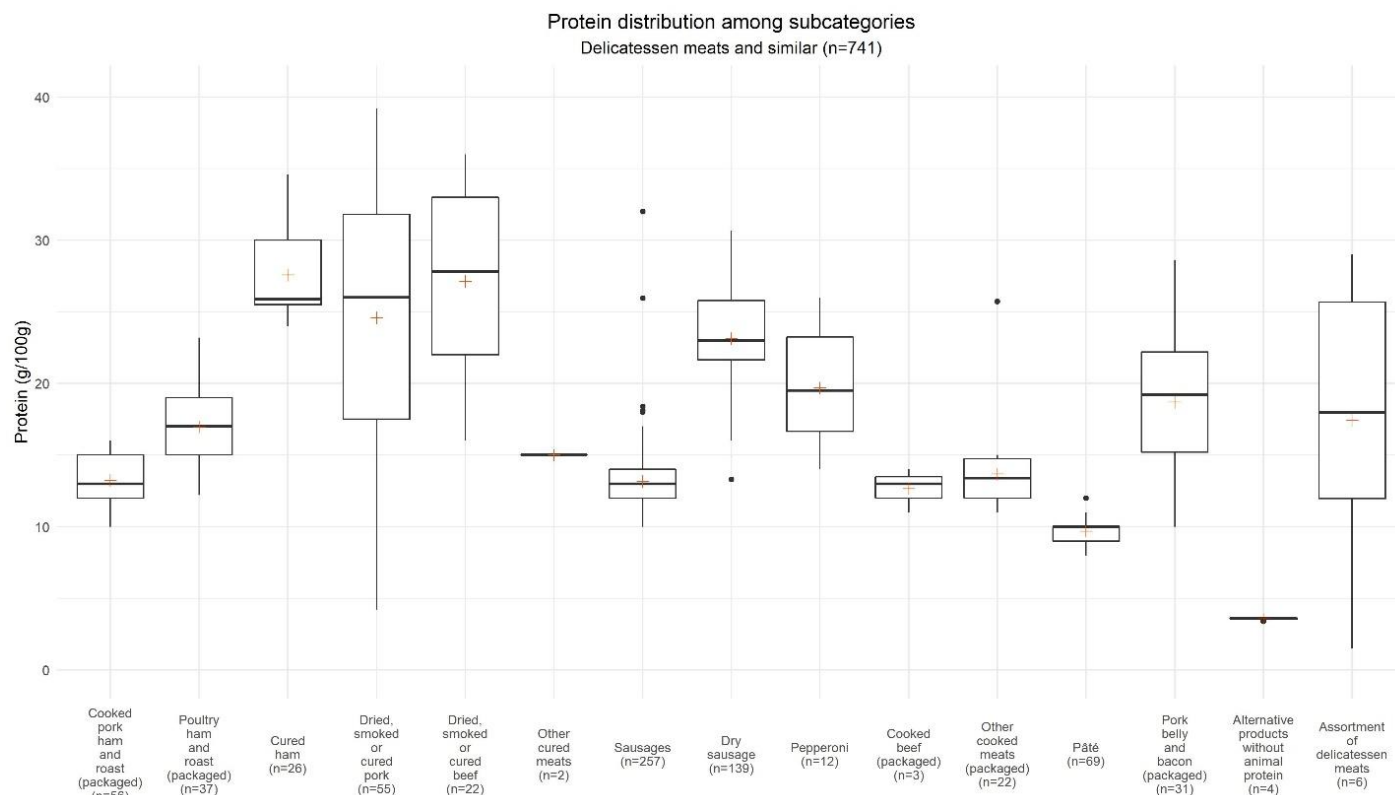


Figure 33 : Protein distribution among subcategories of Delicatessen meats and similar

Among all subcategories of Delicatessen meats and similar, the mean content of protein varies between 3,6g/100g (Alternative products without animal protein) and 27.6g/100g (Cured ham).

Subcategories with the highest mean protein content are: Cured ham (27.6g/100g), Dried, smoked or cured beef (27.1g/100g), Dried, smoked or cured pork (24.6g/100g), Dry sausage (23.1g/100g), Pepperoni (19.7/100g), Pork belly and bacon (packaged) (18.7g/100g), Assortment of delicatessen meats (17.4g/100g) and Poultry ham and roast (packaged) (17g/100g).

Subcategories with the lowest mean protein content are: Alternative products without animal protein (3.6g/100g), Pâté (9.7g/100g) and Cooked beef (packaged) (12,7g/100g).

The protein content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable protein content are: Dried, smoked or cured pork (n=55), Dried, smoked or cured beef (n=22), Sausages (n=257) and Assortment of delicatessen meats (n=6).

3.2.3.2 Distribution of fat content by Delicatessen meats and similar subcategories

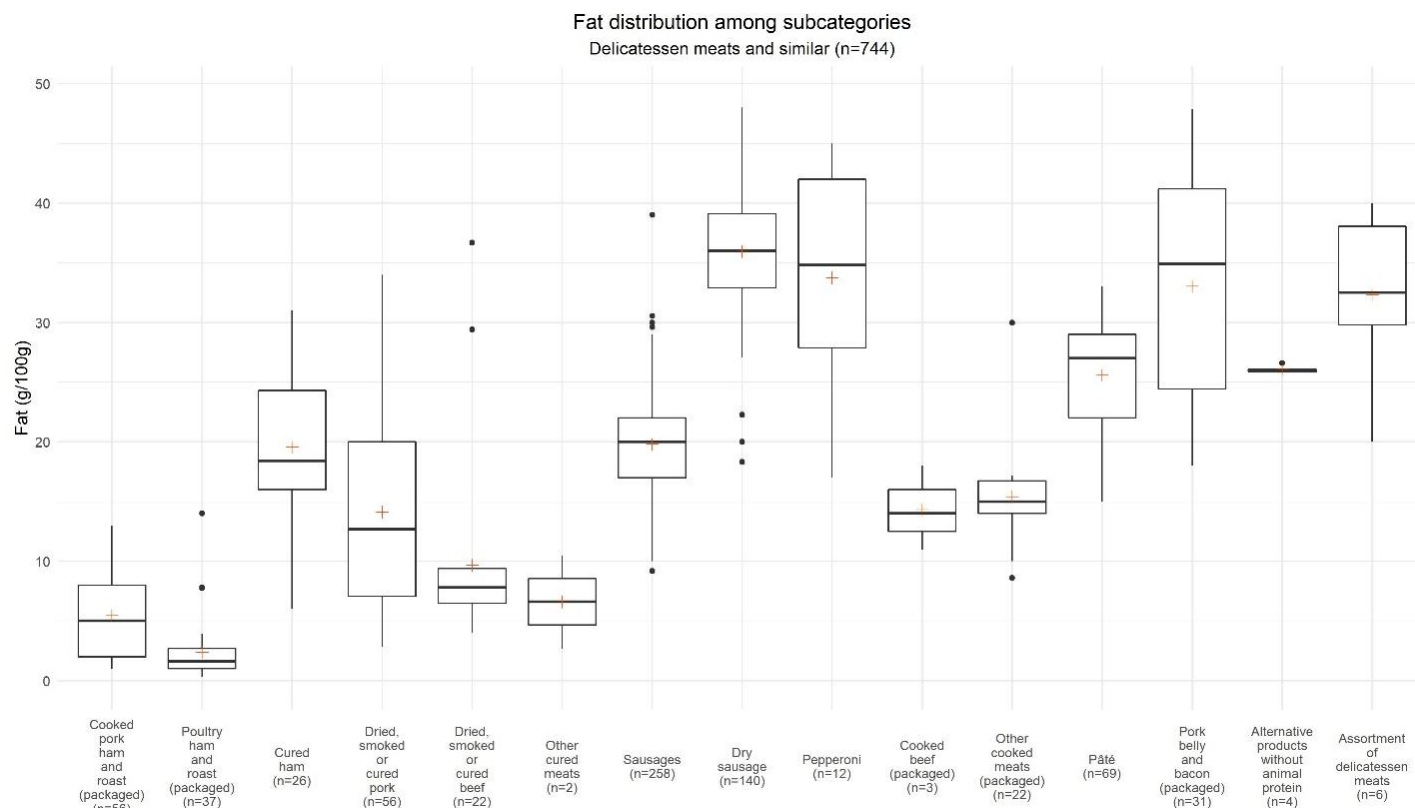


Figure 34 : Fat distribution among subcategories of Delicatessen meats and similar

Among all subcategories of Delicatessen meats and similar, the mean content of total fat varies between 2.4g/100g (Poultry ham and roast (packaged)) and 36g/100g (Dry sausage).

Subcategories with the highest mean total fat content are: Dry sausage (36g/100g), Pepperoni (33.7g/100g) Pork belly and bacon (packaged) (33.0g/100g), Assortment of delicatessen meats (32.3g/100g), Alternative products without animal protein (26.1g/100g), Pâté (25.6g/100g).

Subcategories with the lowest mean total fat content are: Poultry ham and roast (packaged) (2.4g/100g), Cooked pork ham and roast (packaged) (5.4g/100g), Other cured meats (6.6g/100g), and Dried, smoked or cured beef (9.7g/100g).

The total fat content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable total fat content are: Dried, smoked or cured pork (n=56), Dried, smoked or cured beef (n=22), Sausages (n=258), Dry sausage (n=140), Pepperoni (n=12) and Pork belly and bacon (packaged) (n=31).

3.2.3.3 Distribution of saturated fat content by Delicatessen meats and similar subcategories

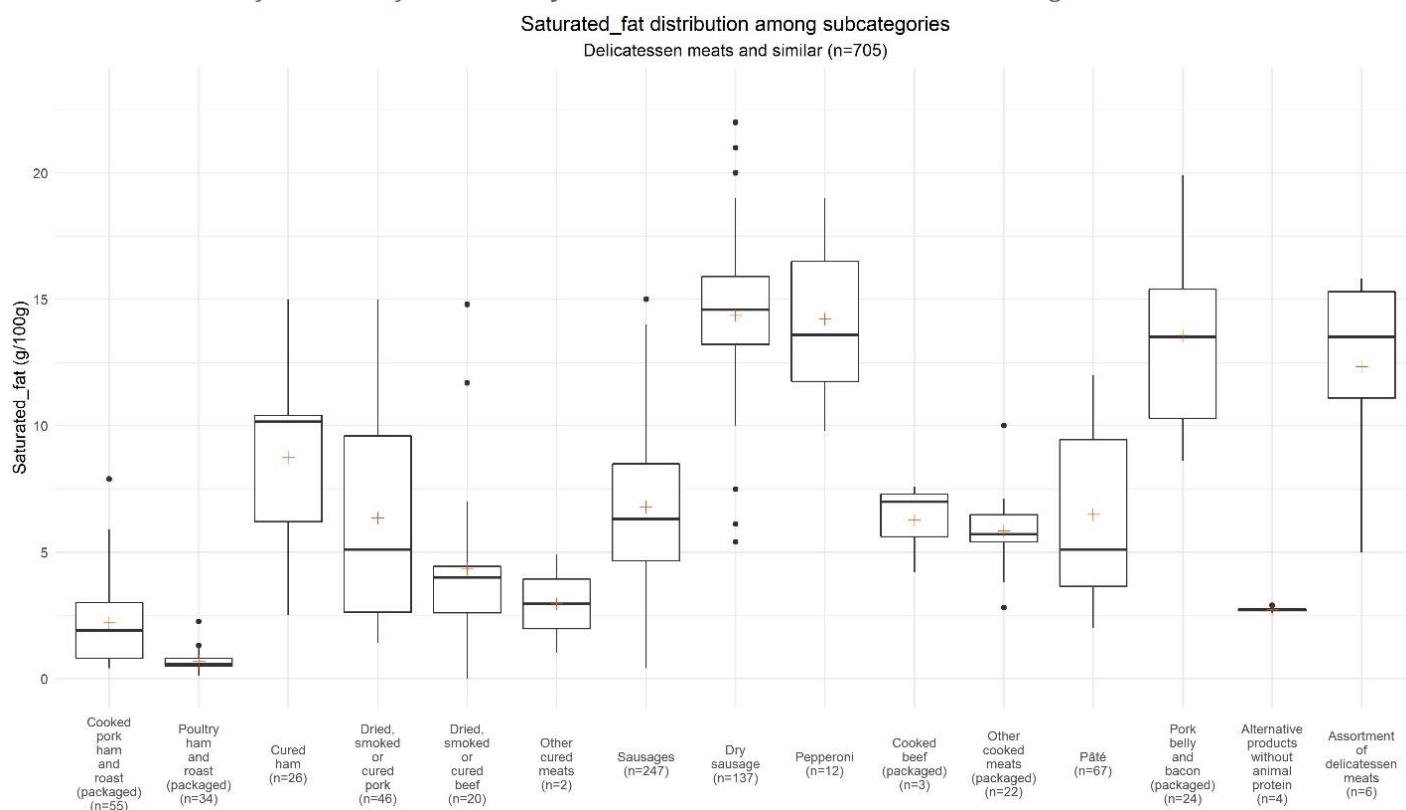


Figure 35 : Saturated fat distribution among subcategories of Delicatessen meats and similar

The mean content of saturated fat ranges from 0.7g/100g (Poultry ham and roast (packaged)) to 14.4g/100g (Dry sausage).

Subcategories with the highest mean saturated fat content are: Dry sausage (14.4g/100g), Pepperoni (14.2g/100g) Pork belly and bacon (packaged) (13.6g/100g), Assortment of delicatessen meats (12.3g/100g).

Subcategories with the lowest mean saturated fat content are: Poultry ham and roast (packaged) (0.7g/100g), Cooked pork ham and roast (packaged) (2.2g/100g), Alternative products without animal protein (2.7g/100g), Other cured meats (3g/100g).

The saturated fat content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable saturated fat content are: Dried, smoked or cured pork (n=46), Dried, smoked or cured beef (n=20), Sausages (n=247), Dry sausage (n=137), Cured ham (n=26).

3.2.3.4 Distribution of sugar content by Delicatessen meats and similar subcategories

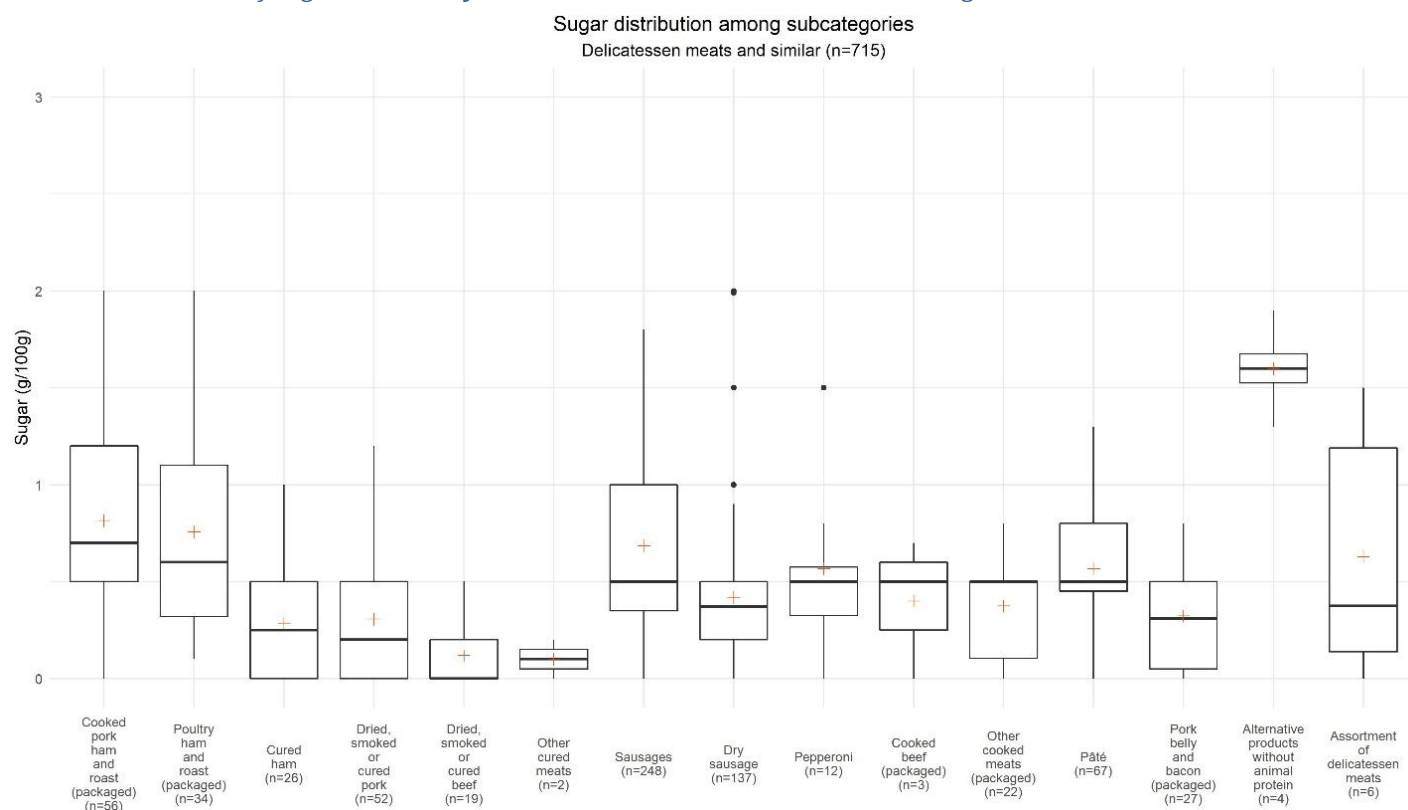


Figure 36 : Sugar distribution among subcategories of Delicatessen meats and similar

Among all subcategories of Delicatessen meats and similar, the mean content of sugar varies between 0.1g/100g (Other cured meats and Dried, smoked or cured beef) and 1.6g/100g (Alternative products without animal protein).

Subcategories with the highest mean sugar content are: Alternative products without animal protein (1.6g/100g) Poultry ham and roast (packaged) (0.8g/100g), Cooked pork ham and roast (packaged) (0.8g/100g), Sausage (0.7g/100g), Pâté, Pepperoni and Assortment of delicatessen meats (0.6g/100g).

Subcategories with the lowest mean sugar content (between 0.1g/100g and 0.4g/100g) are: Other cured meats, Dried, smoked or cured beef, Cured ham, Cooked beef (packaged), Pork belly and bacon (packaged), Other cooked meats (packaged), Dry sausage and Dried, smoked or cured pork.

The sugar content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable sugar content are: Cooked pork ham and roast (packaged) (n=56), Sausages (n=248), Dry sausage (n=137) and Poultry ham and roast (packaged) (n=34).

3.2.3.5 Distribution of salt content by Delicatessen meats and similar subcategories

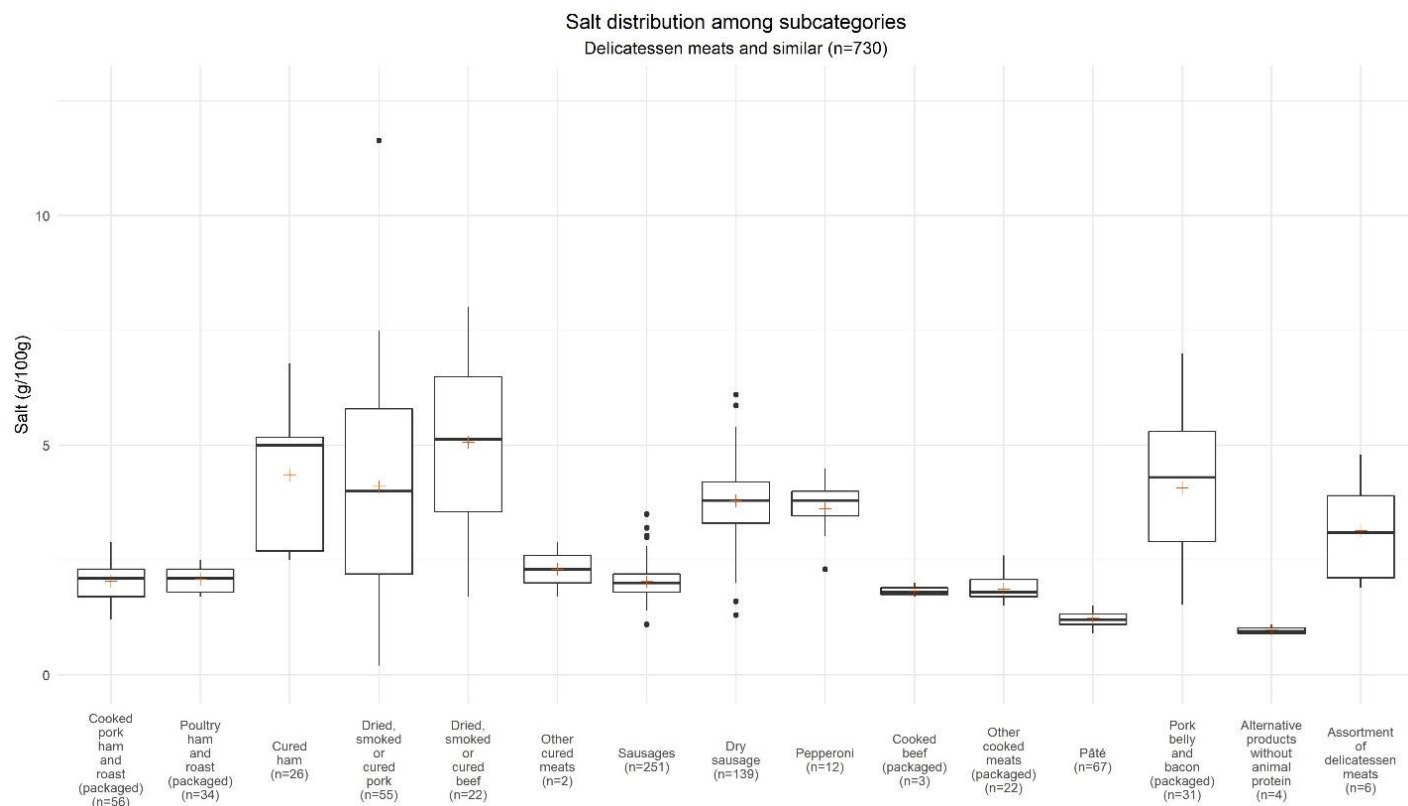


Figure 37 : Salt distribution among subcategories of Delicatessen meats and similar

The mean salt content ranges from 0.98g/100g (Alternative products without animal protein) to 5.06g/100g (Dried, smoked or cured beef).

The highest mean salt content is observed in the subcategories: Dried, smoked or cured beef (5.06g/100g), Cured ham (4.36g/100g), Dried, smoked or cured pork (4.1g/100g), Pork belly and bacon (packaged) (4.07g/100g).

The lowest mean salt content is observed in the subcategories: Alternative products without animal protein (0.98g/100g), Pâté (1.23g/100g), Cooked beef (packaged) (1.83g/100g) and Other cooked meats (packaged) (1.87g/100g).

The salt content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable salt content are: Dried, smoked or cured pork (n=55), Dried, smoked or cured beef (n=22), Pork belly and bacon (packaged) (n=31), Dry sausage (n=139) and Cured ham (n=26).

3.2.4 Fresh dairy products and desserts

3.2.4.1 Distribution of protein content by Fresh dairy products and desserts subcategories

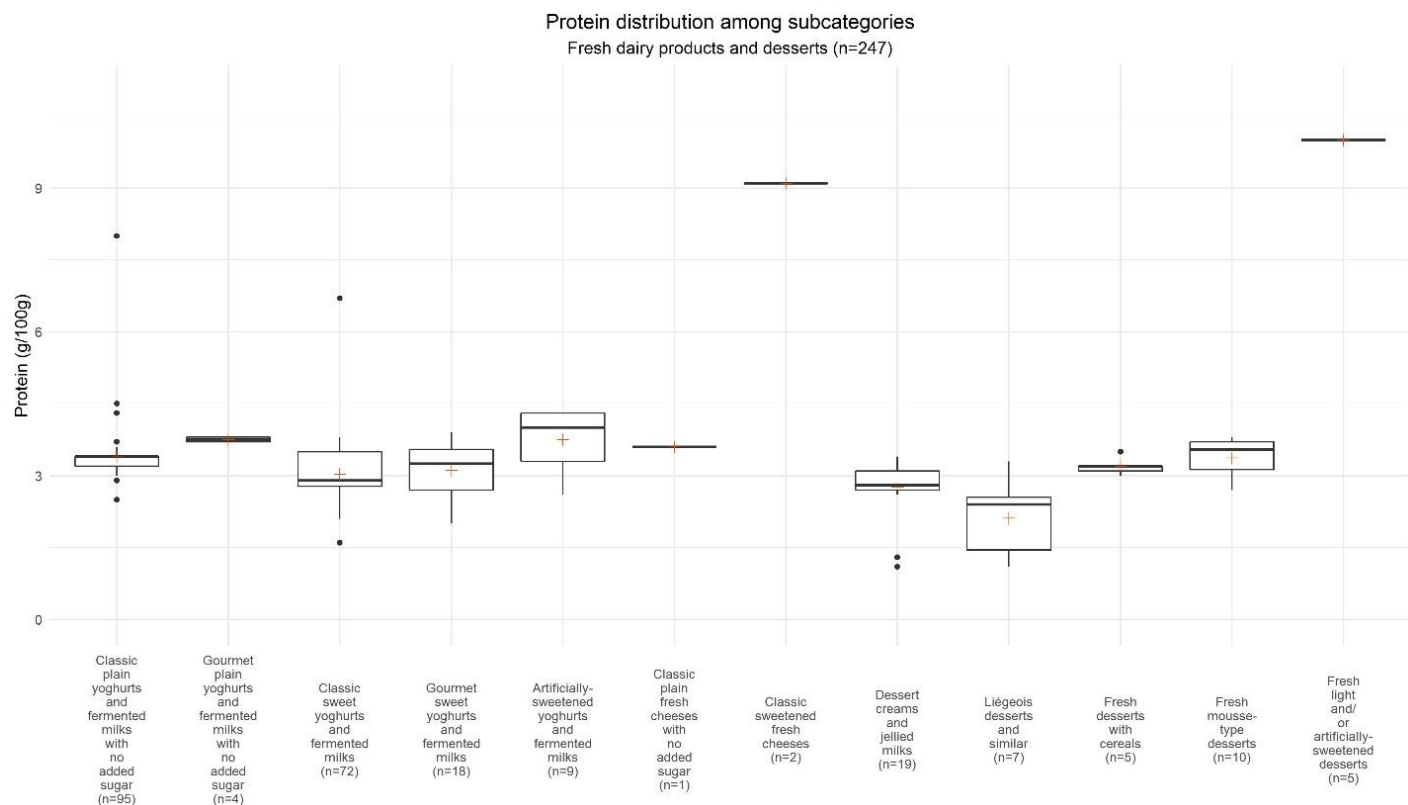


Figure 38 : Protein distribution among subcategories of Fresh dairy products and desserts

Among all subcategories of Fresh dairy products and desserts, the mean content of protein varies between 2.1g/100g (Liégeois desserts and similar) and 10g/100g (Fresh light and/or artificially-sweetened desserts).

Subcategories with the highest mean protein content are: Fresh light and/or artificially-sweetened desserts (10g/100g) and Classic sweetened fresh cheeses (9.1g/100g).

Subcategories with the lowest mean protein content (between 2.1g/100g and 3g/100g) are: Liégeois desserts and similar, Dessert creams and jellied milks, Classic sweet yoghurts and fermented milks..

The protein content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable protein content are: Classic plain yoghurts and fermented milks with no added sugar (n=95) and Classic sweet yoghurts and fermented milks (n=72).

It should be noted that the two subcategories with the greatest variability are the subcategories with the greatest number of products collected.

3.2.4.2 Distribution of fat content by Fresh dairy products and desserts subcategories

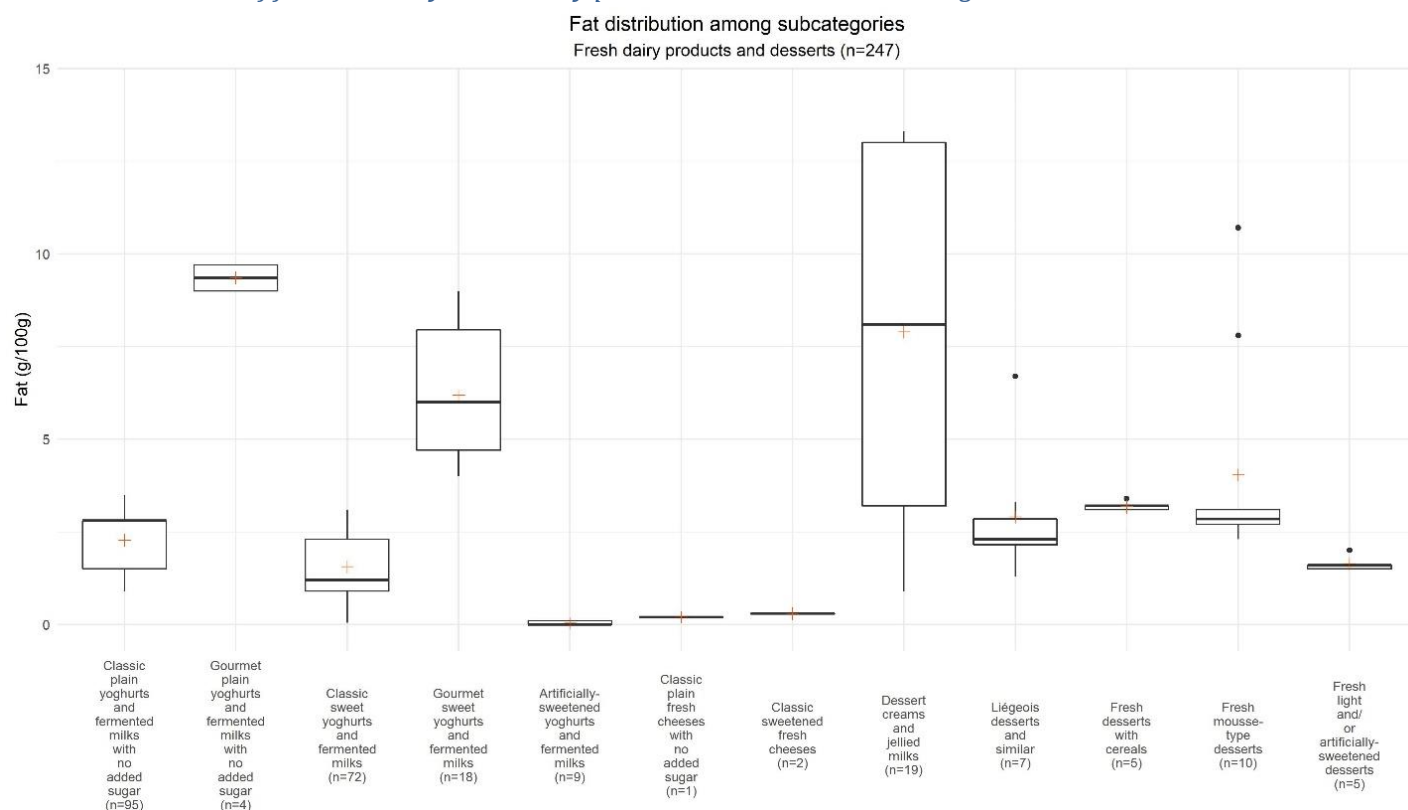


Figure 39 : Fat distribution among subcategories of Fresh dairy products and desserts

Among all subcategories of Fresh dairy products and desserts, the mean content of total fat varies between 0g/100g (Artificially-sweetened yoghurts and fermented milks) and 9.3g/100g (Gourmet plain yoghurts and fermented milks with no added sugar).

Subcategories with the highest mean total fat content are: Gourmet plain fresh cheeses with no added sugar (9.3g/100g), Dessert creams and jellied milks (7.9g/100g), Gourmet sweet yoghurts and fermented milks (6.2g/100g).

Subcategories with the lowest mean total fat content are: Artificially-sweetened yoghurts and fermented milks (0g/100g), Classic plain fresh cheeses with no added sugar (0.2g/100g), Classic sweetened fresh cheeses (0.3g/100g), Fresh light and/or artificially-sweetened desserts (1.6g/100g), Classic sweet yoghurts and fermented milks (1.6g/100g).

The total fat content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable total fat content are: Fresh mousse-type desserts (n=10) and Dessert creams and jellied milks (n=19).

3.2.4.3 Distribution of saturated fat content by Fresh dairy products and desserts subcategories

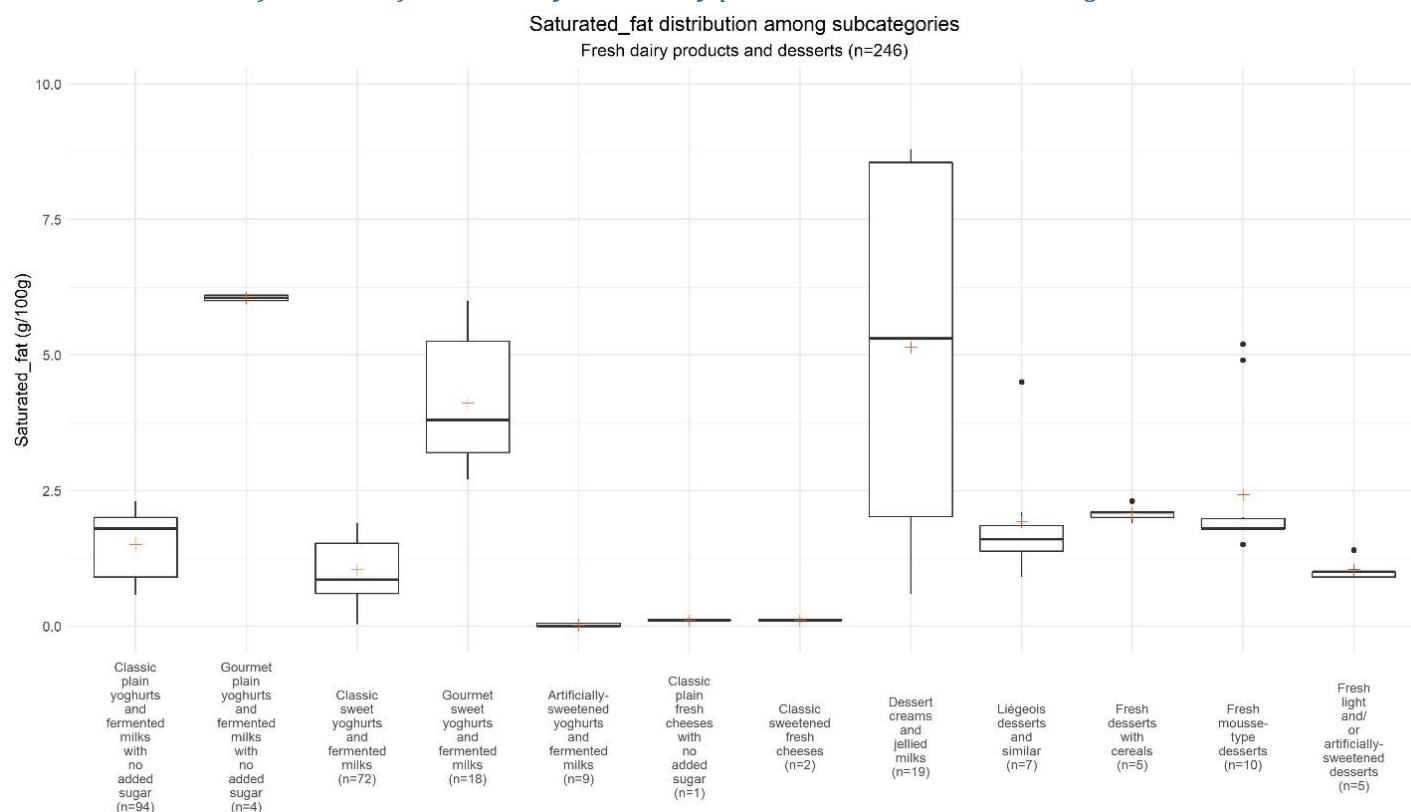


Figure 40 : Saturated fat distribution among subcategories of Fresh dairy products and desserts

The mean content of saturated fat ranges from 0g/100g (Artificially-sweetened yoghurts and fermented milks) to 6g/100g (Gourmet plain yoghurts and fermented milks with no added sugar).

Subcategories with the highest mean saturated fat content are: Gourmet plain yoghurts and fermented milks with no added sugar (6g/100g), Dessert creams and jellied milks (5.1g/100g), Gourmet sweet yoghurts and fermented milks (4.1g/100g).

Subcategories with the lowest mean saturated fat content are: Artificially-sweetened yoghurts and fermented milks (0g/100g), Classic plain fresh cheeses with no added sugar (0.1g/100g), Classic sweetened fresh cheeses (0.1g/100g), Fresh light and/or artificially-sweetened desserts (1g/100g), Classic sweet yoghurts and fermented milks (1g/100g).

The saturated fat content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable saturated fat content are: Dessert creams and jellied milks (n=19), Fresh mousse-type desserts (n=10), Liégeois desserts and similar (n=7) and Gourmet sweet yoghurts and fermented milks (n=18).

3.2.4.4 Distribution of sugar content by Fresh dairy products and desserts subcategories

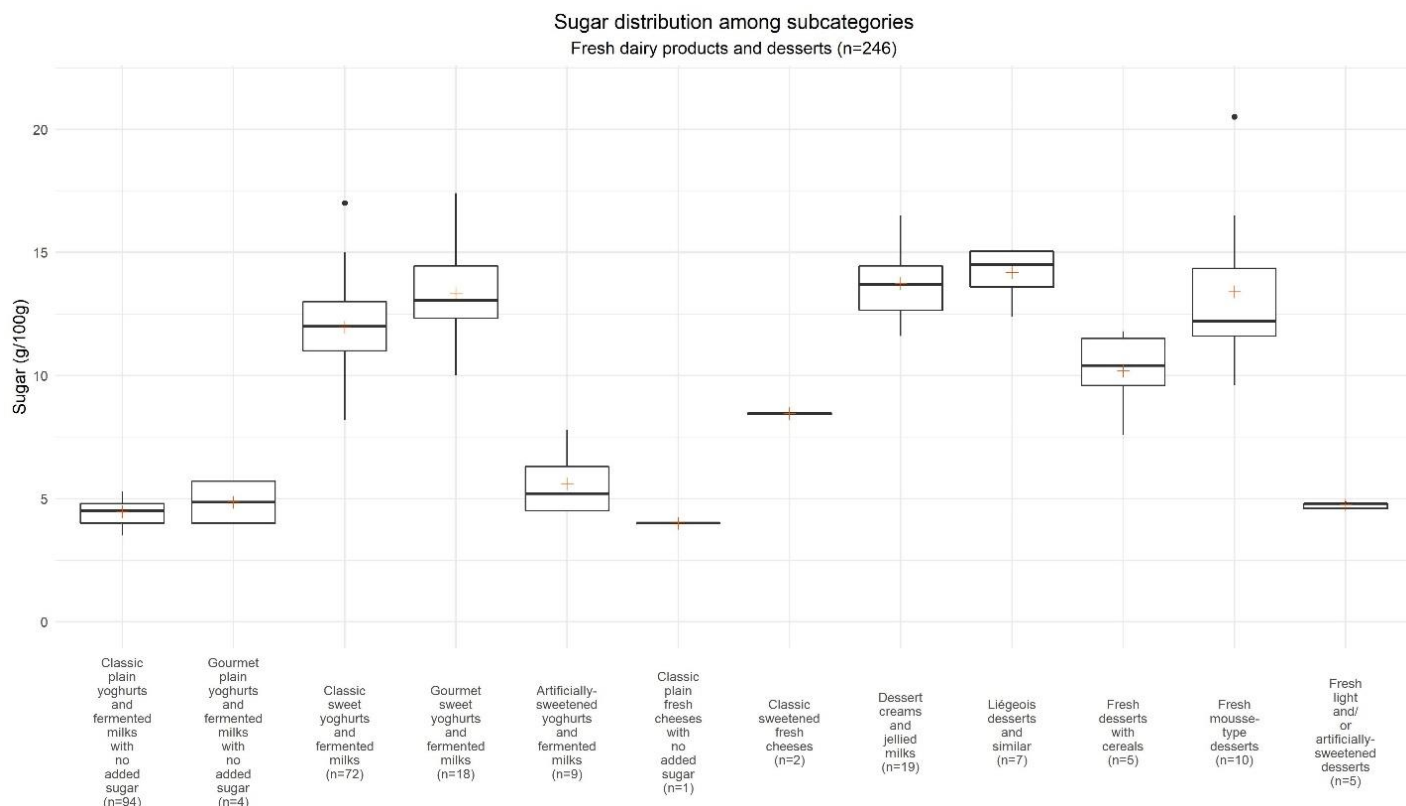


Figure 41 : Sugar distribution among subcategories of Fresh dairy products and desserts

The mean content of sugar ranges from 4g/100g (Classic plain fresh cheeses with no added sugar) to 14.2g/100g (Liégeois desserts and similar).

Subcategories with the highest mean sugar content are: Liégeois desserts and similar (14.2g/100g), Dessert creams and jellied milks (13.7g/100g), Fresh mousse-type desserts, (13.4g/100g), Gourmet sweet yoghurts and fermented milks (13.3g/100g), Classic sweet yoghurts and fermented milks (12g/100g).

Subcategories with the lowest mean sugar content are: Classic plain fresh cheeses with no added sugar (4g/100g), Classic plain yoghurts and fermented milks with no added sugar (4.5g/100g), Fresh light and/or artificially-sweetened desserts (4.7g/100g) and Gourmet plain yoghurts and fermented milks with no added sugar (4.8g/100g).

The sugar content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable sugar content are: Fresh mousse-type desserts (n=10), Classic sweet yoghurts and fermented milks (n=72 and Gourmet sweet yoghurts and fermented milks (n=18).

3.2.4.5 Distribution of fibre content by Fresh dairy products and desserts subcategories

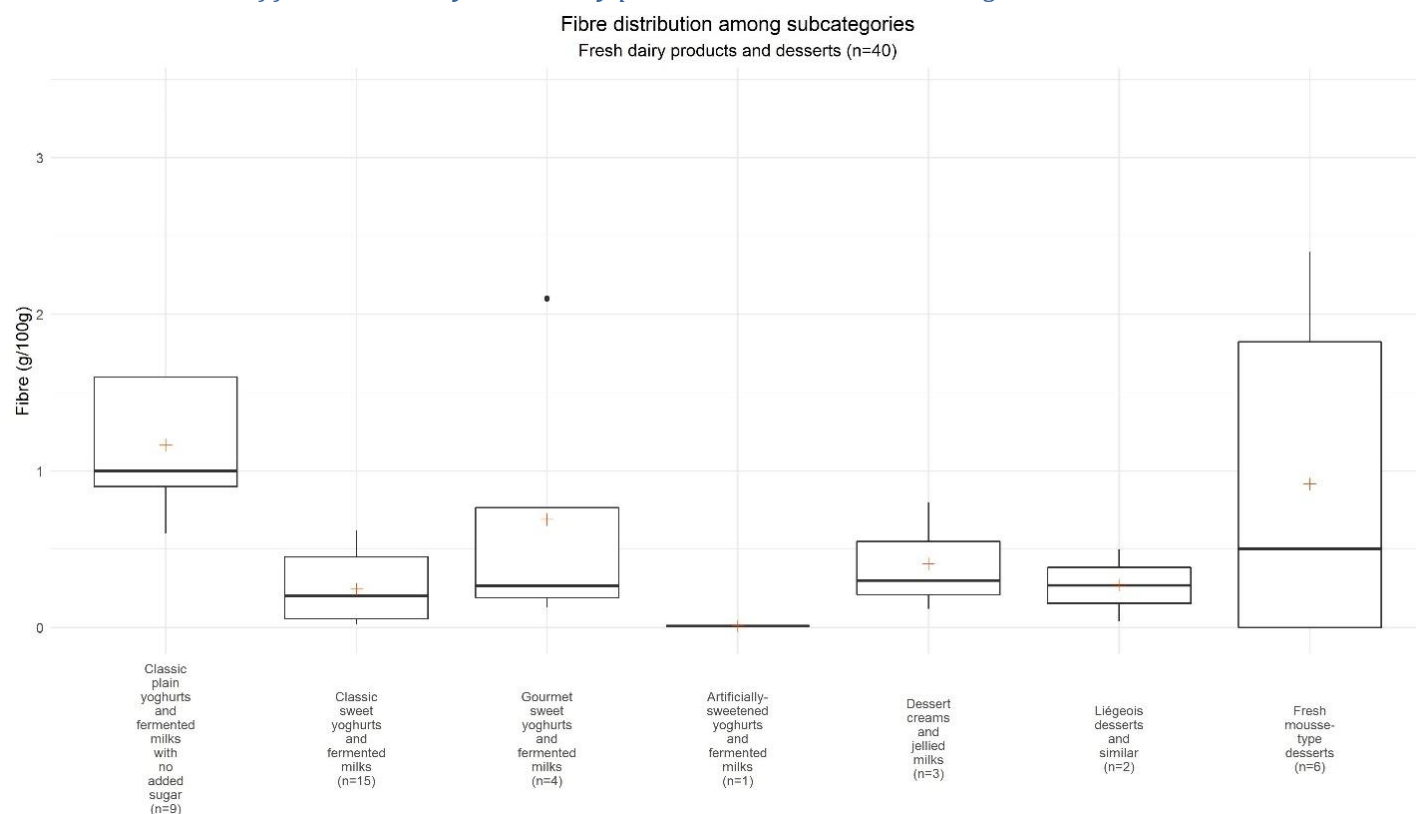


Figure 42 : Fibre distribution among subcategories of Fresh dairy products and desserts

Of the 21 subcategories in the Fresh dairy products and desserts category, there is information on fibre content for only products in 7 subcategories. Range of the fibre content in the Fresh dairy products and desserts is from 0g/100g (Artificially-sweetened yoghurts and fermented milks) to 1.2g/100g (Classic plain yoghurts and fermented milks with no added sugar).

Subcategories with the most variable fibre content are : Fresh mousse-type desserts (n=6) and Gourmet sweet yoghurts and fermented milks (n=4).

3.2.5 Soft drinks

3.2.5.1 Distribution of sugar content by Soft drinks subcategories

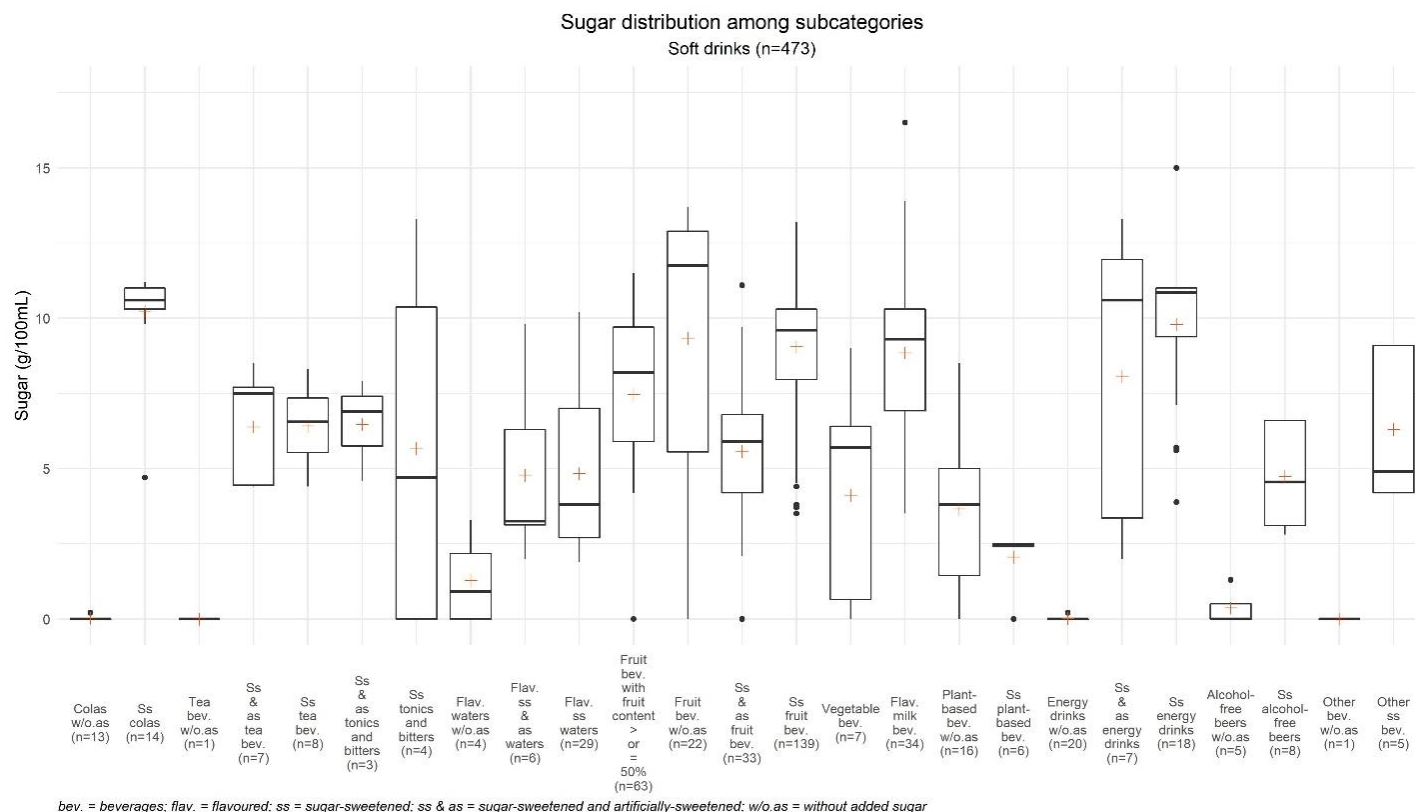


Figure 43 : Sugar distribution among subcategories of Soft drinks

The mean content of sugar ranges from 0g/100g (Colas without added sugar, Tea beverages without added sugar, Other beverages without added sugar, Energy drinks without added sugar) to 10.2g/100g (Sugar-sweetened colas).

Subcategories with the highest mean sugar content are: Sugar-sweetened colas (10.2g/100g); Sugar-sweetened energy drinks (9.8g/100g); Fruit beverages without added sugar (9.3g/100g); Sugar-sweetened fruit beverages (9g/100g); Flavoured milk beverages (8.8g/100g) and Sugar-sweetened and artificially sweetened energy drinks (8.1g/100g).

Subcategories with the lowest mean sugar content are: Colas without added sugar (0g/100g), Tea beverages without added sugar (0g/100g), Other beverages without added sugar (0g/100g), Energy drinks without added sugar (0g/100g), Alcohol-free beers without added sugar (0.4g/100g), Flavoured waters without added sugar (1.3g/100g) and Sugar-sweetened plant-based beverages (2g/100g).

The sugar content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable sugar

content are: Sugar-sweetened energy drinks (n=18), Flavoured milk beverages (n=34), Sugar-sweetened and artificially-sweetened fruit beverages (n=33), Fruit beverages without added sugar (n=22), Fruit beverages with fruit content $\geq 50\%$ (n=63), Sugar-sweetened tonics and bitters (n=4) and Sugar-sweetened and artificially-sweetened energy drinks (n=7).

3.2.5.2 Distribution of fibre content by Soft drinks subcategories

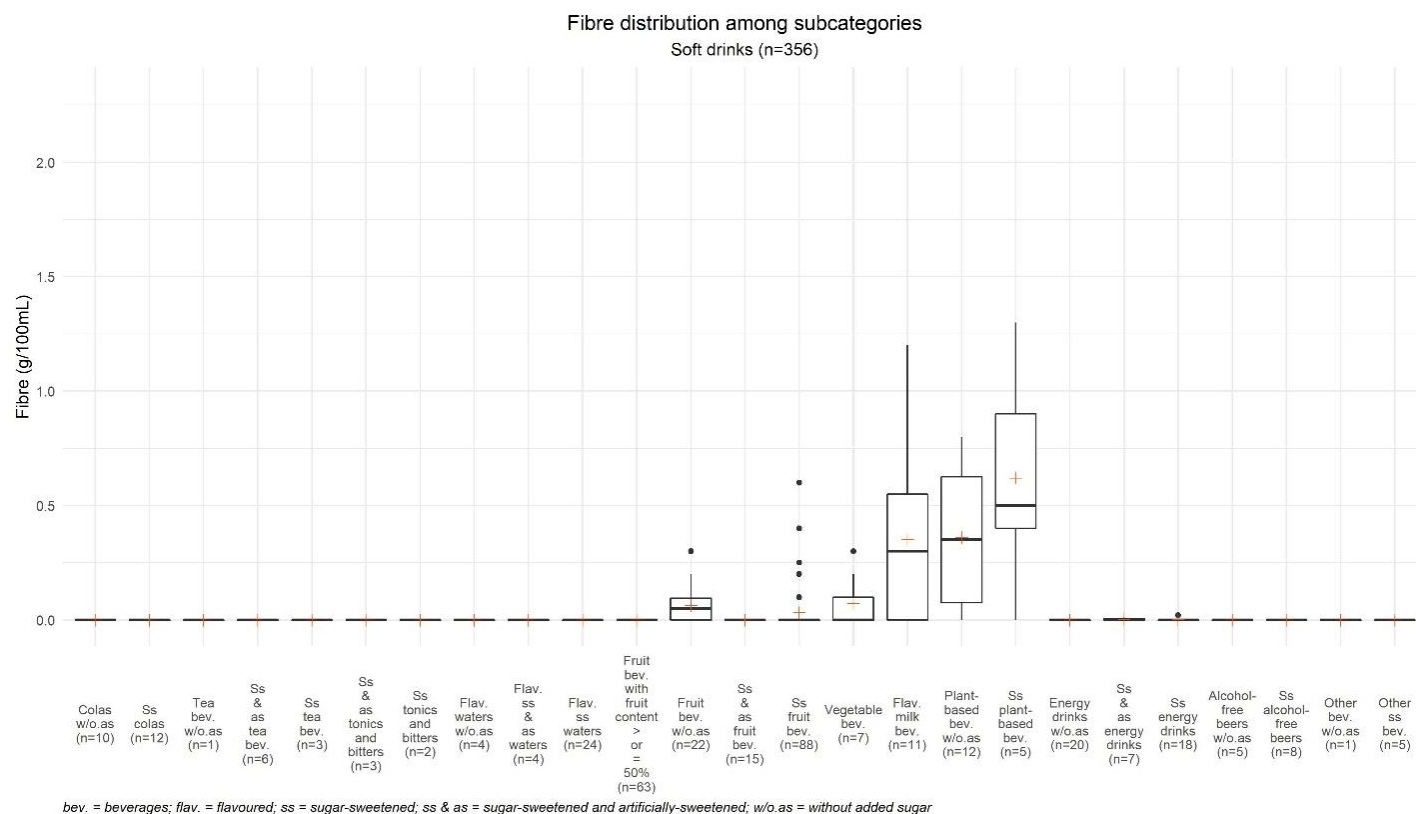


Figure 44 : Fibre distribution among subcategories of Soft drinks

The mean fibre content, among the 5 subcategories of Soft drinks for which the mean fibre content is not equal to 0g/100g, ranges from 0.1g/100g (Vegetable beverages and Fruit beverages without added sugar) to 0.6g/100g (Sugar-sweetened plant-based beverages).

The subcategories with the greatest variability in fibre content are : Sugar-sweetened plant-based beverages (n=5) and Flavoured milk beverages (n=11).

Salt distribution among subcategories
Soft drinks (n=472)

Salt (g/100mL)

Colas w/o.as (n=13) Ss colas (n=14) Tea bev. w/o.as (n=1) Ss & as tea bev. (n=7) Ss tea bev. (n=7) Ss & as tonics and bitters (n=3) Ss tonics and bitters (n=4) Flav. waters w/o.as (n=4) Flav. ss & as waters (n=6) Flav. ss waters (n=29) Fruit bev. with fruit content > 50% (n=63) Fruit bev. w/o.as (n=22) Ss & as fruit bev. (n=33) Ss fruit bev. (n=139) Vegetable bev. (n=7) Flav. milk bev. (n=34) Plant-based bev. w/o.as (n=16) Ss plant-based bev. (n=6) Energy drinks w/o.as (n=20) Ss & as energy drinks (n=7) Ss energy drinks (n=18) Alcohol-free beers w/o.as (n=5) Ss alcohol-free beers (n=8) Other bev. w/o.as (n=1) Other ss bev. (n=5)

bev. = beverages; flav. = flavoured; ss = sugar-sweetened; ss & as = sugar-sweetened and artificially-sweetened; w/o.as = without added sugar

The mean salt content ranges from 0g/100g (Sugar-sweetened and artificially-sweetened tonics and bitters, Sugar-sweetened tonics and bitters, Flavoured waters without added sugar, Energy drinks without added sugar, Sugar-sweetened and artificially-sweetened energy drinks, Alcohol-free beers without added sugar, Sugar-sweetened alcohol-free beers) to 0.12g/100g (Sugar-sweetened plant-based beverages).

The subcategories with the greatest variability in salt content are : Plant-based beverages without added sugar (n=16), Flavoured milk beverages (n=34), Sugar-sweetened energy drinks (n=18), Sugar-sweetened and artificially-sweetened fruit beverages (n=33).

3.2.5.4 Distribution of fat content by Soft drinks categories

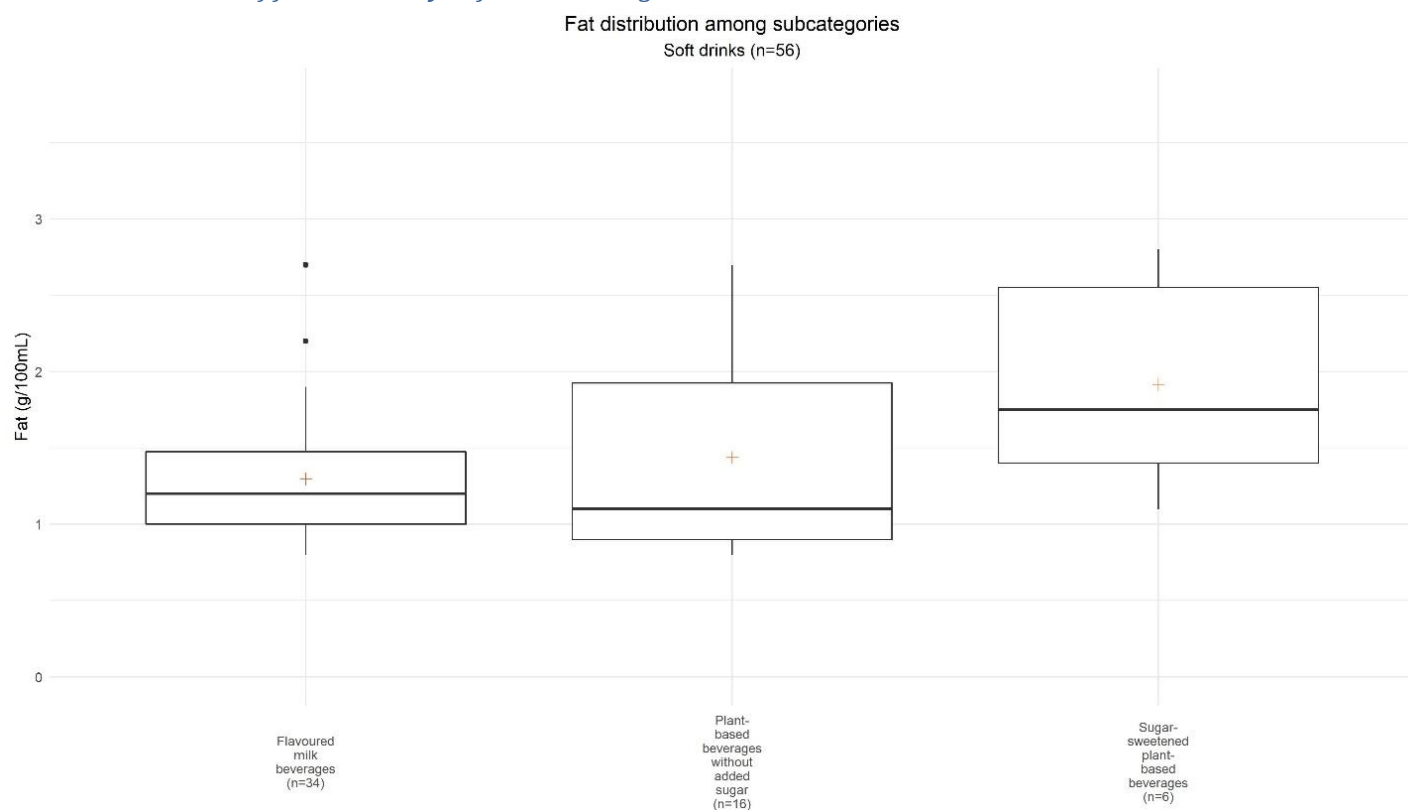


Figure 46 : Fat distribution among subcategories of Soft drinks

Among the 3 subcategories of Soft drinks investigated for fat content, the mean content of total fat is 1.3g/100g in the Flavoured milk beverages subcategory (n=34), 1.4g/100g in Plant-based beverages without added sugar (n=16) and 1.9g/100g in Sugar-sweetened plant-based beverages (n=6). The variability of fat content within the subcategory is quite similar in the 3 subcategories studied.

3.2.5.5 Distribution of saturated fat content by Soft drinks categories

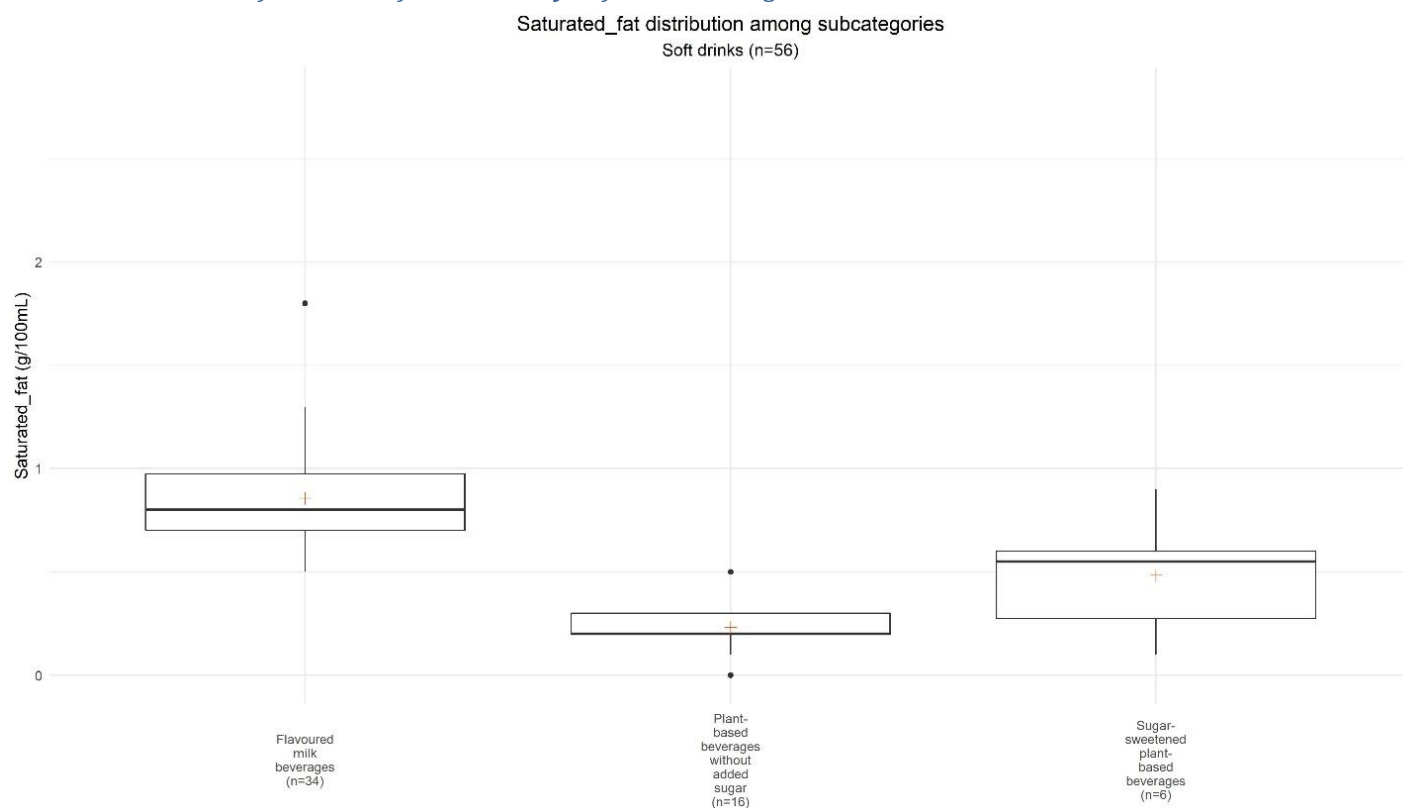


Figure 47 : Saturated fat distribution among subcategories of Soft drinks

Among the 3 subcategories of Soft drinks investigated for saturated fat content, the mean content of saturated fat is 0.2g/100g in the subcategory Plant-based beverages without added sugar (n=16), 0.5g/100g in Sugar-sweetened plant-based beverages (n=6) and 0.9g/100g in Flavoured milk beverages (n=34). Of the 3 subcategories studied, the one showing the greatest variability in saturated fat content is Flavoured milk beverages (n=34).



Best-ReMaP

Healthy Food for a Healthy Future

Croatia T0 statistics report

Grant Agreement Number 951202

Andrea Adanić Pajić and Lea Pollak - WP5

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This report presents an overview of the food offer and the nutritional quality of products collected in Croatia and belonging to the 5 prioritised food categories for Best-ReMaP : Breakfast cereals, Bread products, Delicatessen meats and similar, Fresh dairy products and desserts and Soft drinks.

1 Description of the food offer

1.1 Presentation of data collected

In Croatia this is the first snapshot of data collection. Total number of collected products in five categories is 897.

Retailers where products were collected are: Lidl, Plodine, Konzum and Interspar. In Plodine we collected the retailer brands and in Lidl, Konzum and Interspar both retailer and national brands. According to information from *The Croatian Chamber of Economy* these four supermarkets cover about 70% of market share.

Since the agreements with the retailers did not go as we expected, we could not go into the stores and list the requested data from the products, most of the information about the products had to be collected from web shops.

In Croatia retailers didn't see what's their benefit from letting us to spend so much time at the shops taking pictures of their products.

After several attempts we turned to web scrapping.

1.2 Food offer analysis

1.2.1 Number of products collected by category

We collected 105 bread products, 285 breakfast cereals products, 81 delicatessen meats and similar, 63 fresh dairy products and desserts and 272 soft drinks.

1.2.2 Proportion of the types of brand collected by category

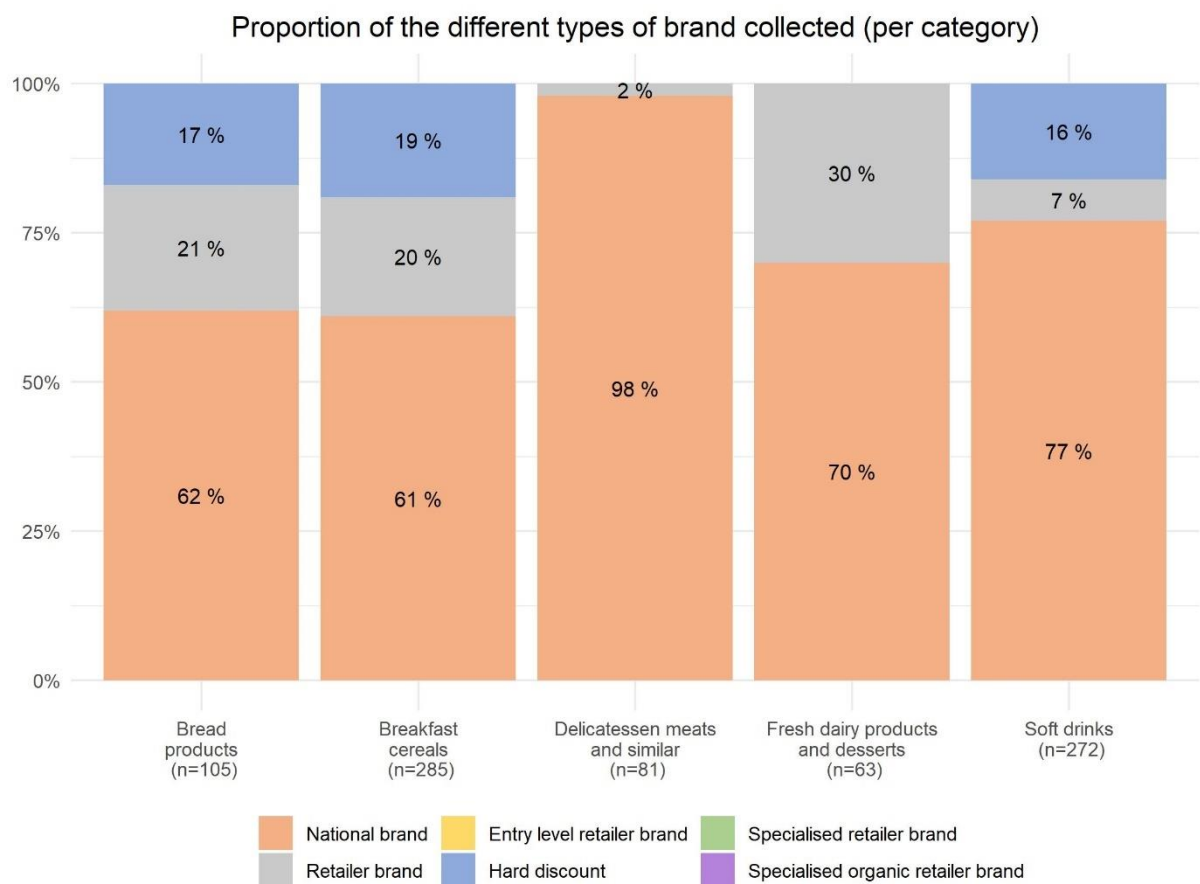


Figure 1 : Proportion of the different types of brand collected (per category)

Among the 105 products collected in the Bread products category (Figure 1):

- 62% belong to national brand (n=65)
- 21% belong to retailer brand (n=22)
- 17% belong to hard discount brand (n=18)

Among the 285 products collected in the Breakfast cereals category (Figure 1):

- 61% belong to national brand (n=174)
- 20% belong to retailer brand (n=57)
- 19% belong to hard discount brand (n=54)

Among the 81 products collected in the Delicatessen meats and similar category (Figure 1):

- 98% belong to national brand (n=79)
- 2% belong to retailer brand (n=2)

Among the 63 products collected in the Fresh dairy products and desserts category (Figure 1):

- 70% belong to national brand (n=44)
- 30% belong to retailer brand (n=19)

Among the 272 products collected in the Soft drinks category (Figure 1):

- 77% belong to national brand (n=209)
- 7% belong to retailer brand (n=19)
- 16% belong to hard discount brand (n=44)

None of the products collected among all five categories belong to specialized retailer brand or specialized organic retailer brand.

Overall, the data collected correspond mainly to national brands (between 61% to 98% depending on the category).

1.2.3 Description of the collected food offer by category

1.2.3.1 Bread products

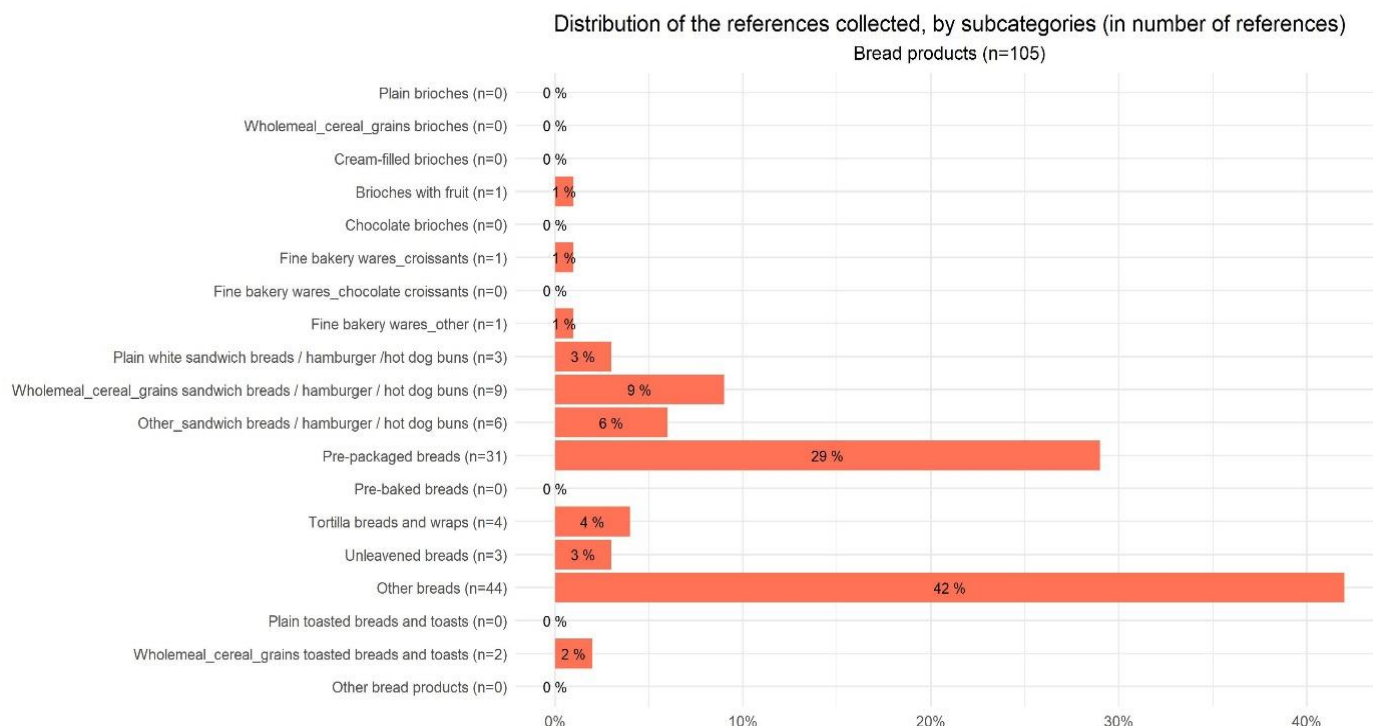


Figure 2 : Distribution of the references collected, by subcategories among bread products

Distribution, by subcategories, of products collected among Bread products (Figure 2) shows that the most represented subcategories are Other breads (n=44, 42%), Pre-packaged breads (n=31, 29%), Wholemeal cereal grains sandwich breads/hamburger/hot dog buns (n=9, 9%).

On the contrary, the least represented subcategories are: Brioches with fruit (n=1, 1%), Fine bakery wares_croissants (n=1, 1%), Fine bakery wares_other (n=1, 1%), Unleavened breads (n=3, 3%), Plain white sandwich breads/hamburger/hot dog buns (n=3, 3%). No products have been collected in the subcategories: Pre-baked breads, Plain toasted breads and toasts, Fine bakery wares_chocolate croissants, Wholemeal_cereal_grains brioches, Other bread products, Plain brioches, Chocolate brioches, Cream-filled brioches.

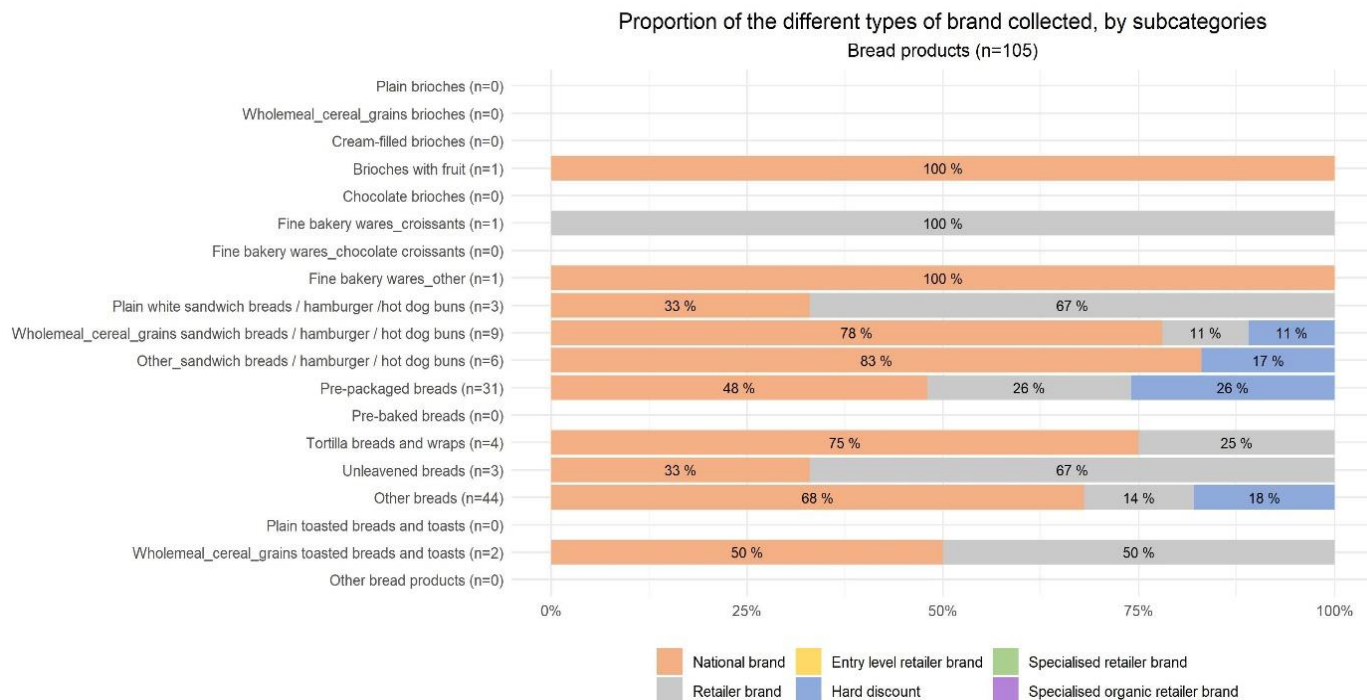


Figure 3: Proportion of the different types of brand collected, by subcategories among Bread products

Among the 105 products collected, the proportion of the different types of brand are variable among subcategories (Figure 3):

- National brands are the most represented among all subcategories for which products have been collected (between 33% and 100% of products collected depending on the subcategory)
- Retailer brands are also largely represented in the subcategories for which products have been collected (between 11% and 100% of products collected in 8 out of 11 subcategories for which product have been collected).
- Entry level retailer brands are not represented
- Hard discount is represented in 4 out of 11 subcategories for which products have been collected.

1.2.3.2 Breakfast cereals

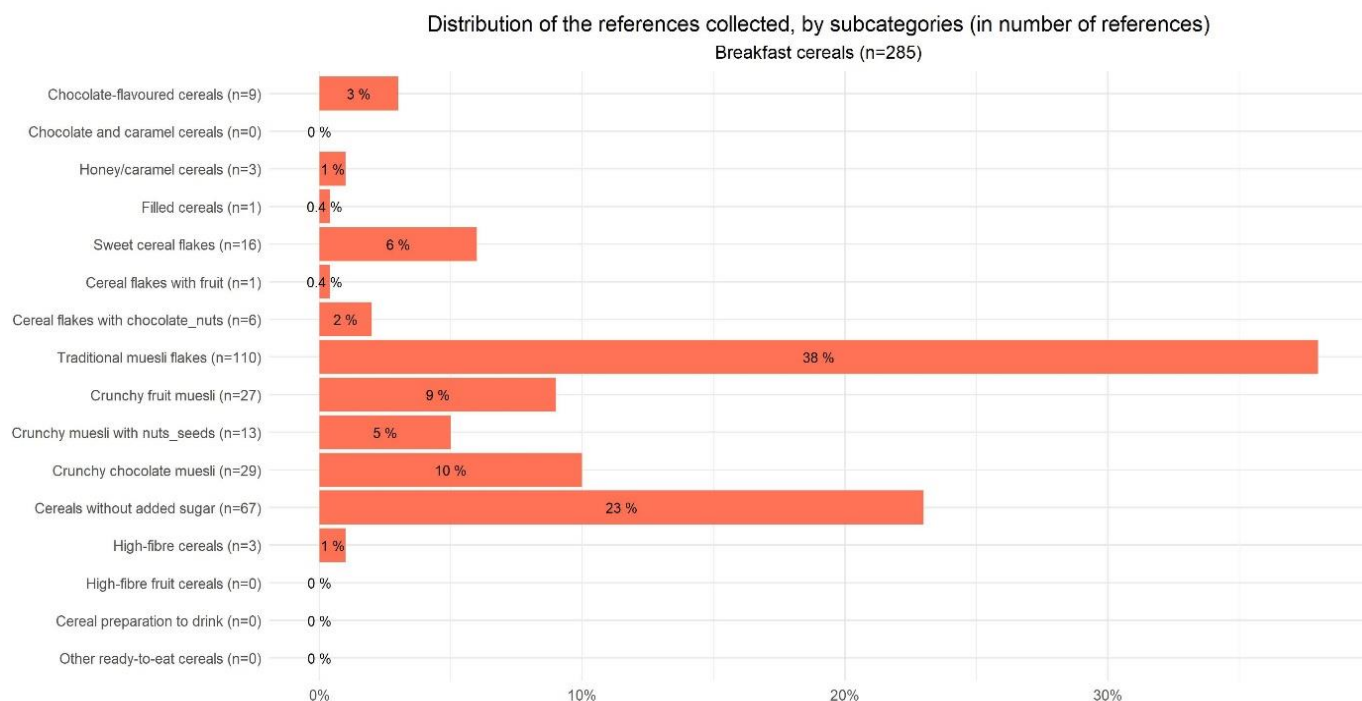


Figure 4 : Distribution of the references collected, by subcategories among Breakfast cereals

Distribution, by subcategories, of products collected among Breakfast cereals (n=285) (Figure 4) shows that the most represented subcategories are Traditional muesli flakes (n=110, 38%), Cereals without added sugar (n=67, 23%), Crunchy chocolate muesli (n=29, 10%).

On the contrary, the least represented subcategories among collected products are: Filled cereals (n=1, 0,4%), Cereal flakes with fruit (n=1, 0,4%), Honey/caramel cereals (n=3, 1%) and High-fibre cereals (n=3, 1%). No products have been collected in the subcategories: Chocolate and caramel cereals, Cereal preparation to drink, and High-fibre fruit cereals and Other ready-to-eat cereals.

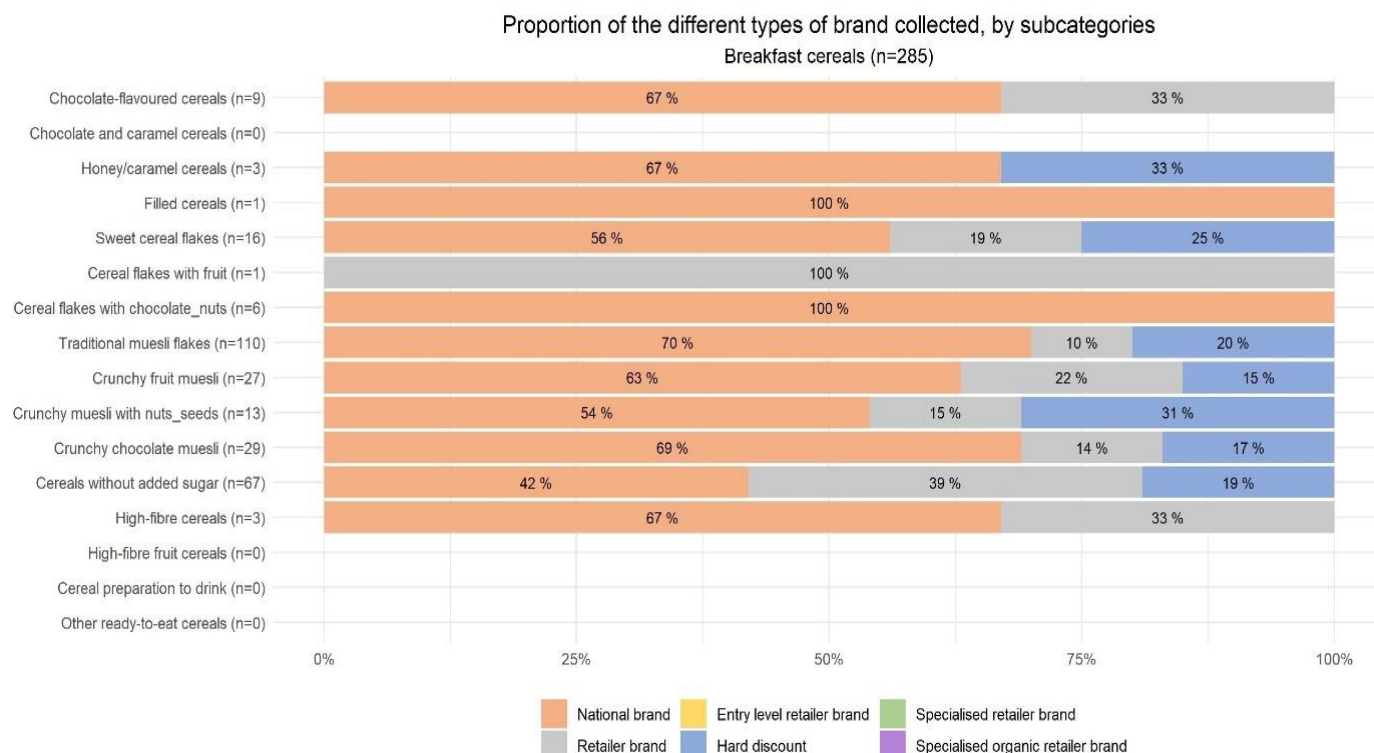


Figure 5 : Proportion of the different types of brand collected, by subcategories among Breakfast cereals

Among the 285 products collected, the proportion of the different types of brand are variable among subcategories (Figure 5):

- National brands are the most represented among all subcategories for which products have been collected (between 42% and 100% of products collected depending on the subcategory).
- Retailer brands represent between 10% and 100% of products collected in 9 out of 12 subcategories for which products have been collected.
- Hard discount represents between 15% and 33% of products collected in 7 out of 12 subcategories for which products have been collected.

1.2.3.3 Delicatessen meats and similar

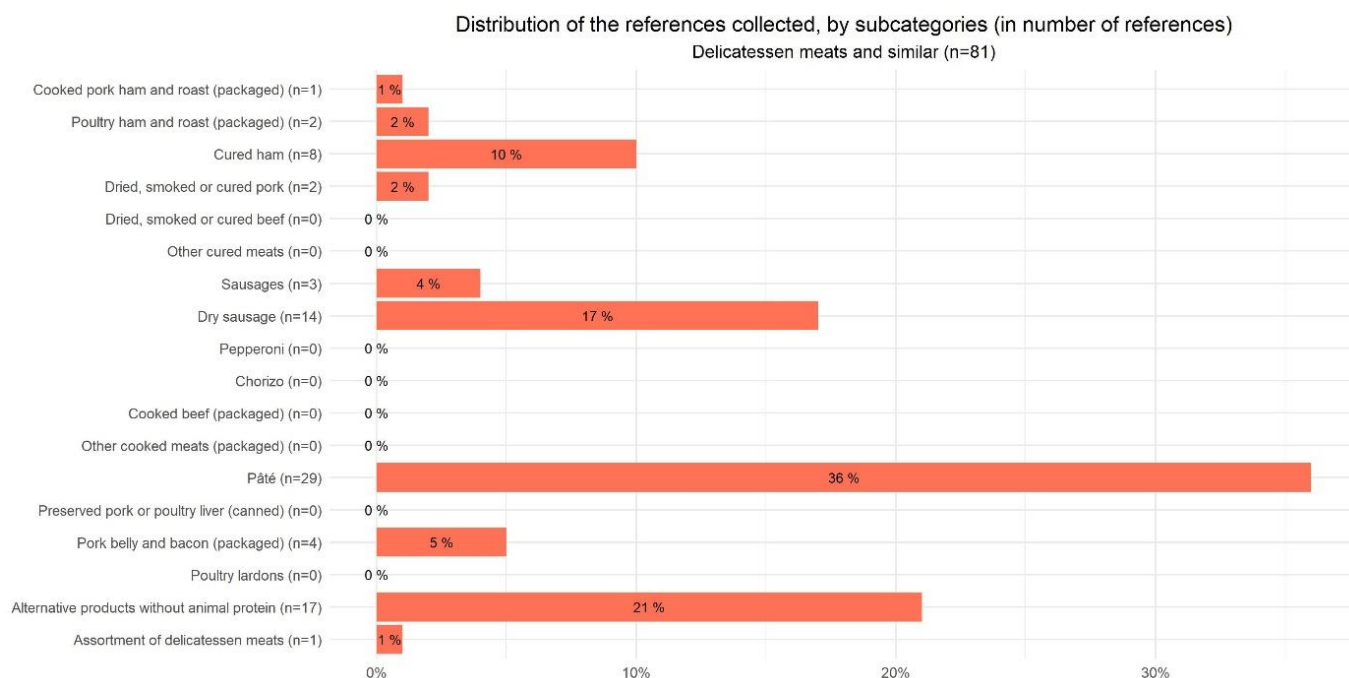


Figure 6 Distribution of the references collected, by subcategories among Delicatessen meats and similar

Distribution, by subcategories, of products collected among Delicatessen meats and similar (Figure 6) shows that the most represented subcategories are Pâté (n=29, 36%), Alternative products without animal protein (n=17, 21%), Dry sausage (n=14, 17%), Cured ham (n=8, 10%).

On the contrary, no products have been collected in the subcategories: Dried, smoked or cured beef, Other cured meats, Pepperoni, Chorizo, Cooked beef (packaged), Other cooked meats (packaged), Preserved pork or poultry liver (canned), Poultry lardons.

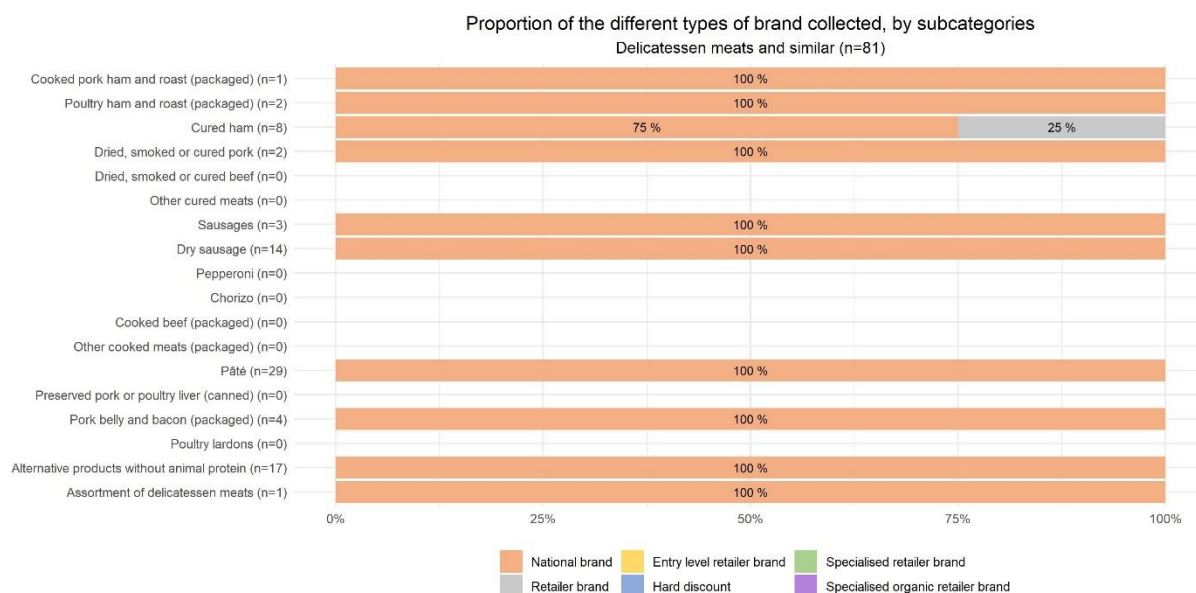


Figure 7 : Proportion of the different types of brand collected, by subcategories among Delicatessen meats and similar

Among the 81 products collected, the proportion of the different types of brands are variable among subcategories (Figure 7):

- National brands are the most represented among all subcategories for which products have been collected (between 75% and 100% of products collected depending on the subcategory)
- Retailer brands are represented in a single subcategory: Cured ham (n=8) of products collected.

1.2.3.4 Fresh dairy products and desserts

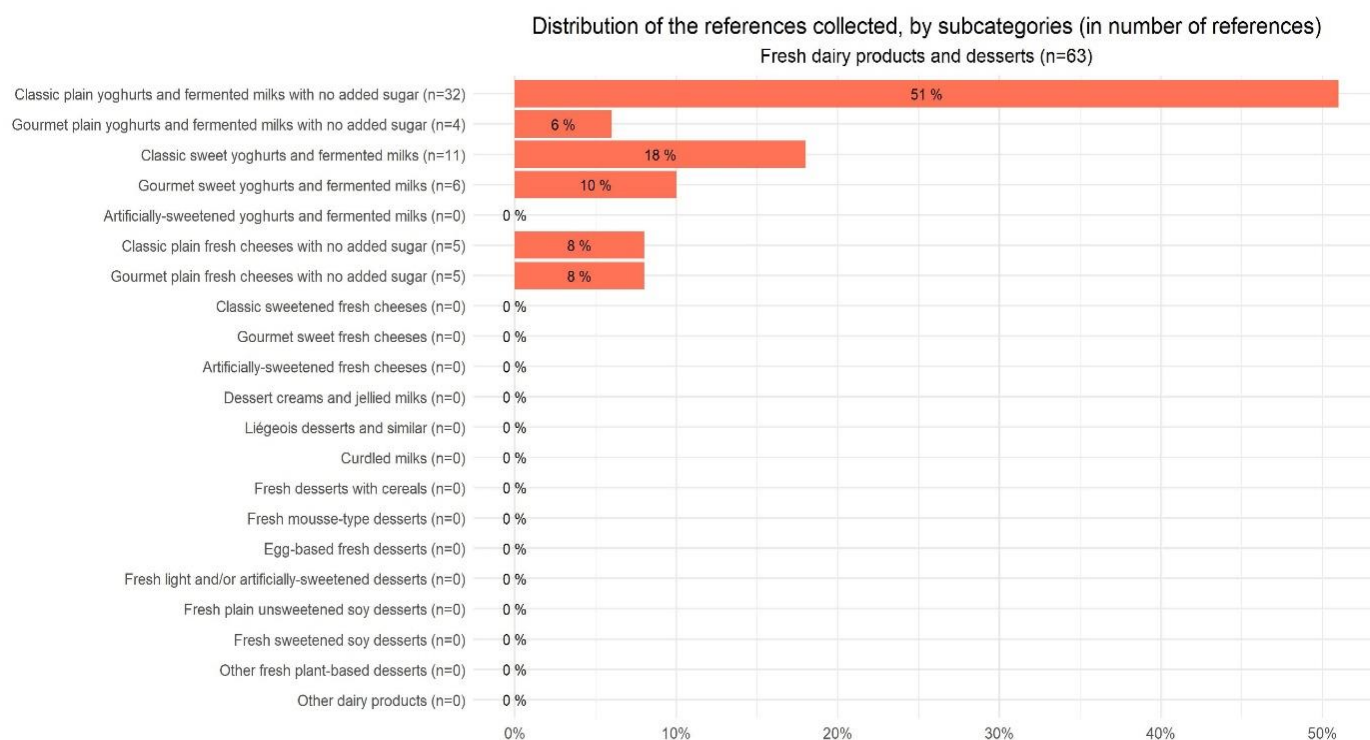


Figure 8 : Distribution of the references collected, by subcategories among fresh dairy products and desserts

Distribution by subcategories shows that, products collected among Fresh dairy products and desserts (Figure 8) are represented among the subcategories: Classic plain yoghurts and fermented milks with no added sugar (n=32, 51%), Classic sweet yoghurts and fermented milks (n=11, 18%), Gourmet sweet yoghurts and fermented milks (n=6, 10%), Classic plain fresh cheeses with no added sugar (n=5, 8%), Gourmet plain fresh cheeses with no added sugar (n=5, 8%) and Gourmet plain yoghurts and fermented milks with no added sugar (n=4, 6%).

No products have been collected in the other sub-categories of the category Fresh dairy products and desserts.

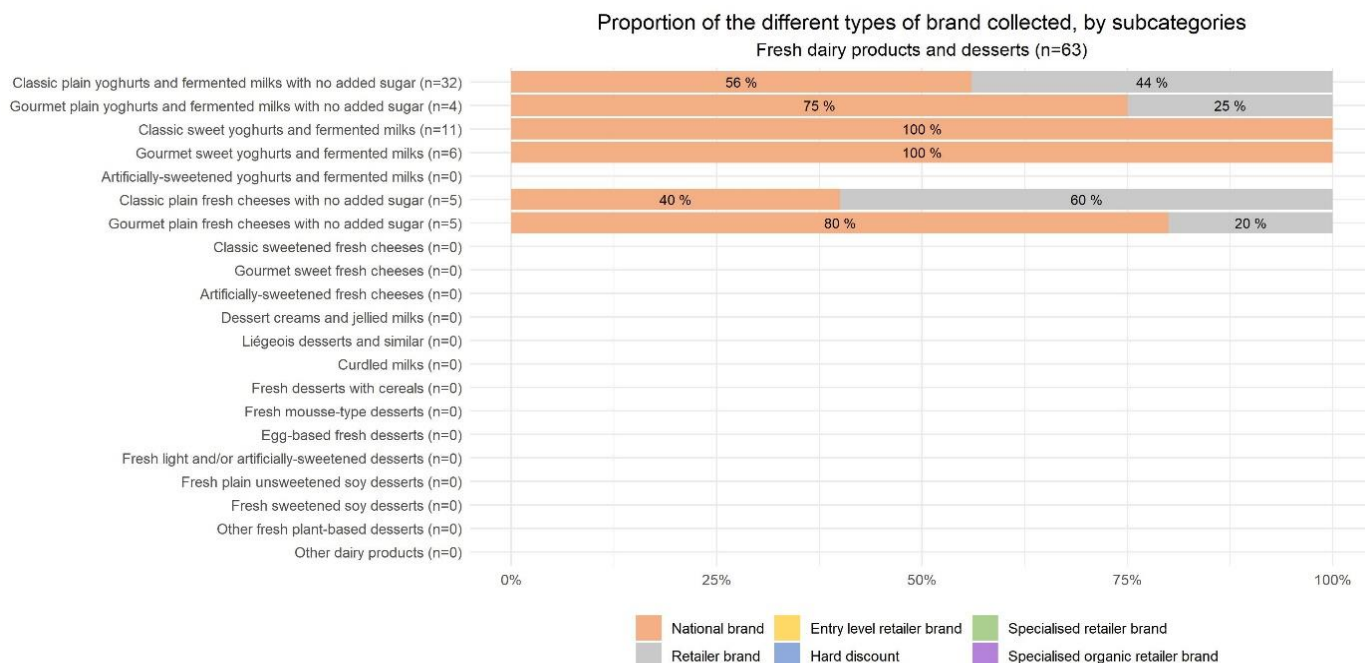


Figure 9 : Proportion of the different types of brand collected, by subcategories among fresh dairy products and desserts

Among the 63 products collected, the proportion of the different types of brands are variable among subcategories (Figure 9):

- National brands are the most represented among all subcategories for which products have been collected (between 40% and 100% of products collected depending on the subcategory).
- Retailer brands represent between 20% and 60% of products collected in 4 out of 6 subcategories for which products have been collected.

1.2.3.5 Soft drinks

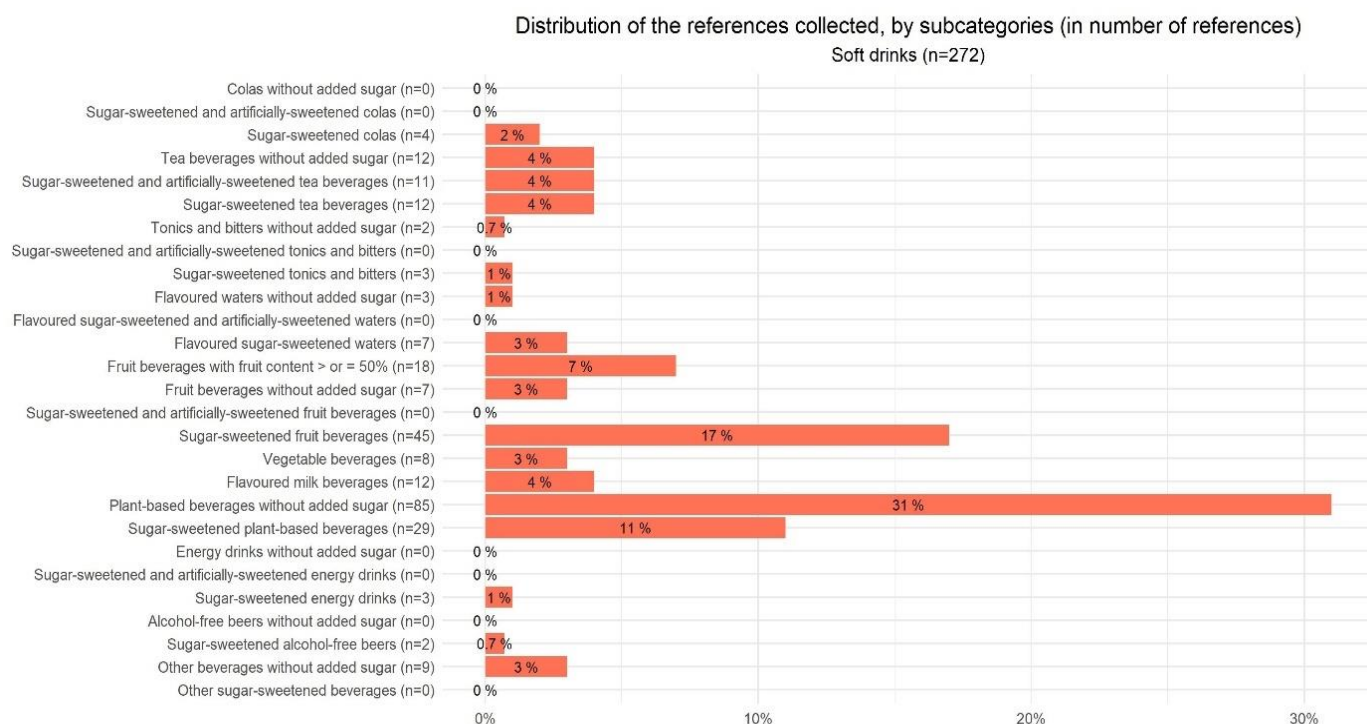


Figure 10 : Distribution of the references collected, by subcategories among Soft drinks

Distribution, by subcategories, of products collected among soft drinks (Figure 10) shows that the most represented subcategories are Plant-based beverages without added sugar (n=85, 31%), Sugar sweetened fruit beverages (n=45, 17%), Sugar-sweetened plant-based beverages (n=29, 11%), Fruit beverages with fruit content > or =50% (n=18, 7%).

No products have been collected in the subcategories: Energy drinks without added sugar, Alcohol-free beers without added sugar, Sugar-sweetened and artificially-sweetened energy drinks, Colas without added sugar, Sugar-sweetened and artificially-sweetened colas, Sugar-sweetened and artificially-sweetened tonics and bitters, Flavoured sugar-sweetened and artificially-sweetened waters, Sugar-sweetened and artificially-sweetened fruit beverages, Other sugar-sweetened beverages.

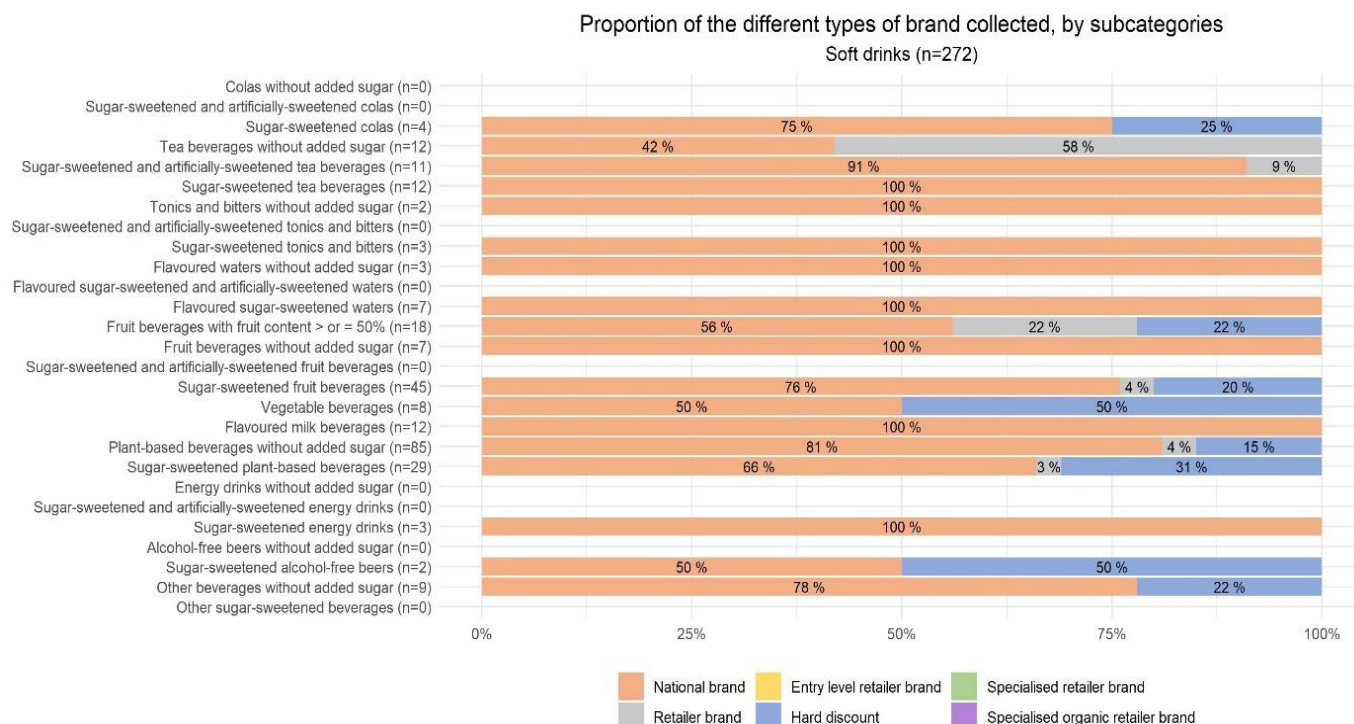


Figure 11 : Proportion of the different types of brand collected, by subcategories among Soft drinks

Among the 272 products collected, the proportion of the different types of brand are variable among subcategories (Figure 11):

- National brands are the most represented type of brand among all subcategories for which products have been collected (between 42% and 100% of products collected depending on the subcategory).
- Retailer brands represent between 3% and 58% of products collected in 6 out of 18 subcategories for which products have been collected.
- Hard discount represents between 15% and 50% of products collected in 8 out of 18 subcategories for which products have been collected.

2 Labeling parameters

2.1 Front of pack labeling per category

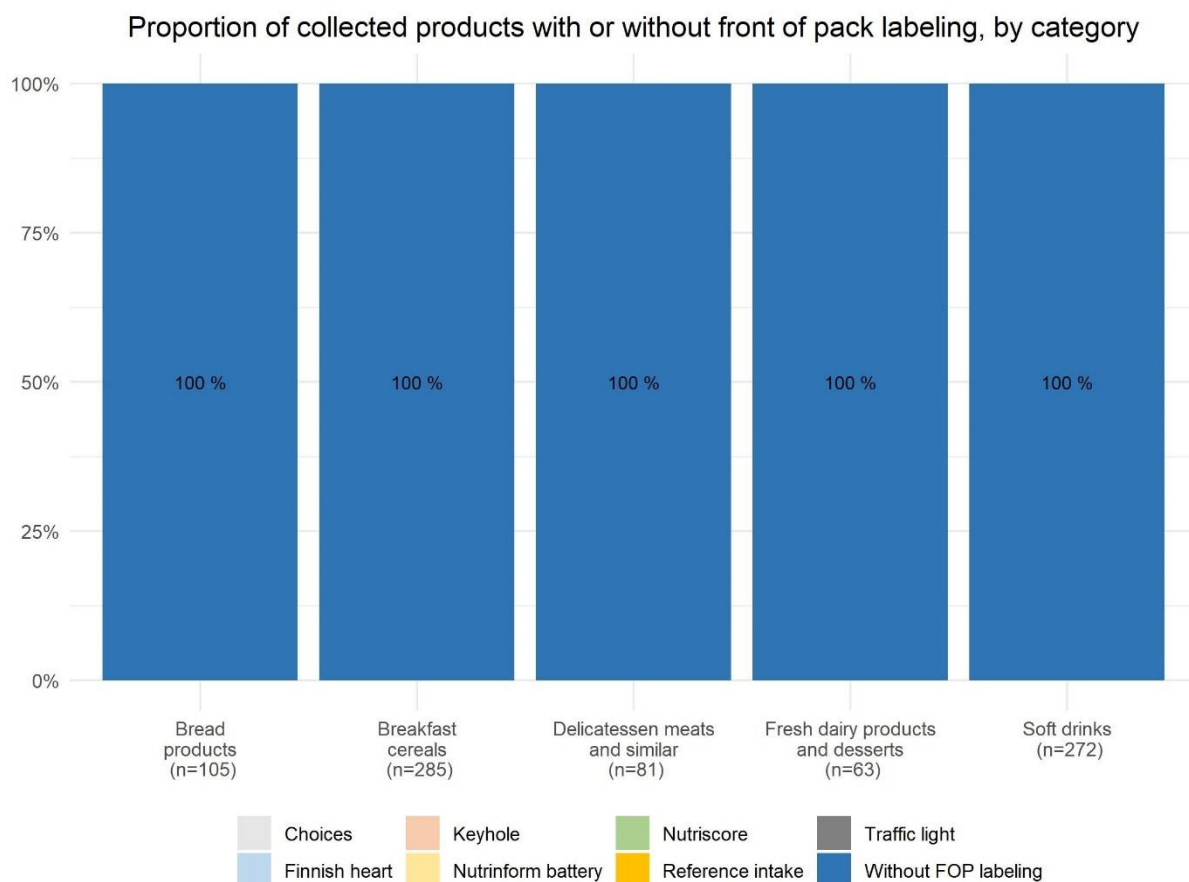


Figure 12 : Proportion of collected products with or without front of pack labeling, by category

The frequency of the appearance of a front of pack labeling was observed for each of the categories monitored (Figure 12).

Among all data collected, 100% of collected products are without front of pack labeling. In Croatia only „Živjeti zdravo, *Healthy living*” logo is allowed as Front of pack labeling, but no product with this kind of front of pack labeling have been collected. (<https://zivjetizdravo.eu/category/jamstveni-zig/>)

2.2 Quantified portion size

2.2.1 Bread products

2.2.1.1 Proportion of products with and without quantified portions by subcategory

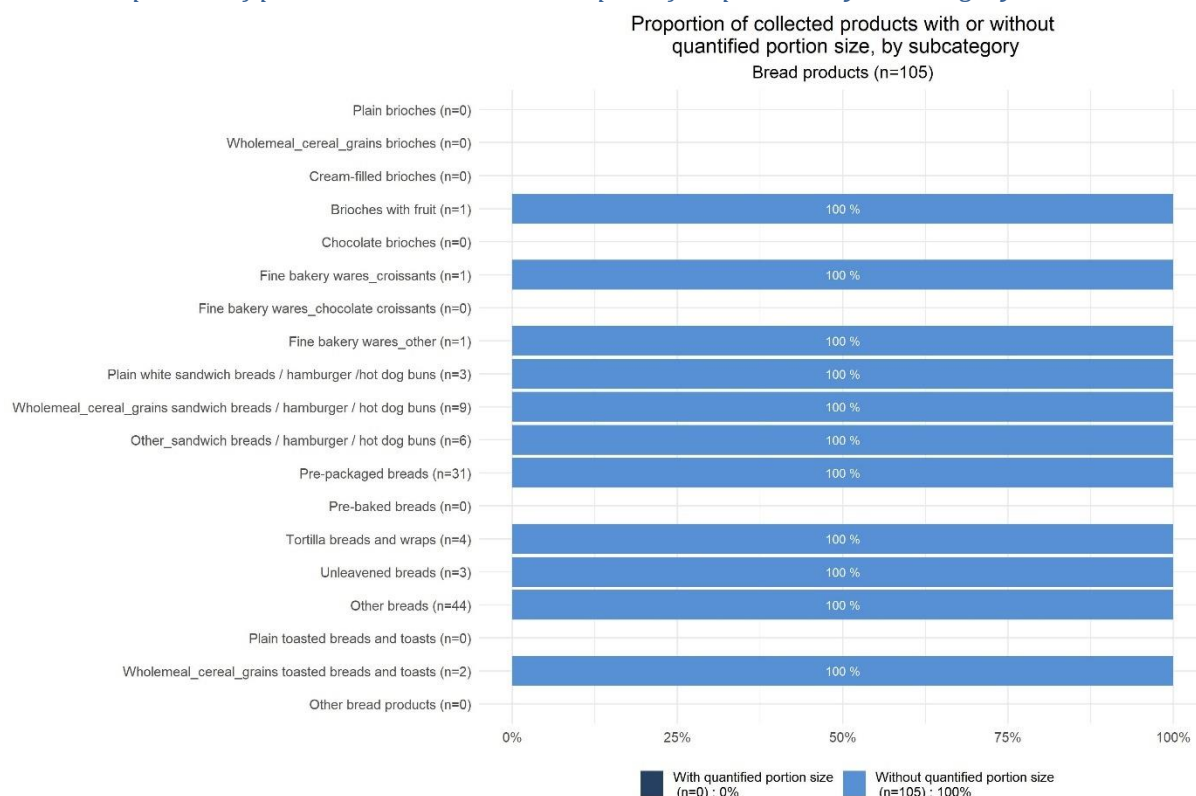


Figure 13 : Proportion of collected products with or without quantified portion size, by subcategories among Bread products

Among the 105 products collected, all the products do not have a quantified portion size (n=105, 100% of the products without quantified portion size) (Figure 13)

2.2.1.2 Proportion of the most represented portion sizes by category

100% of the products collected for this category do not have a portion size.

2.2.2 Breakfast cereals

2.2.2.1 Proportion of products with and without quantified portions by subcategory

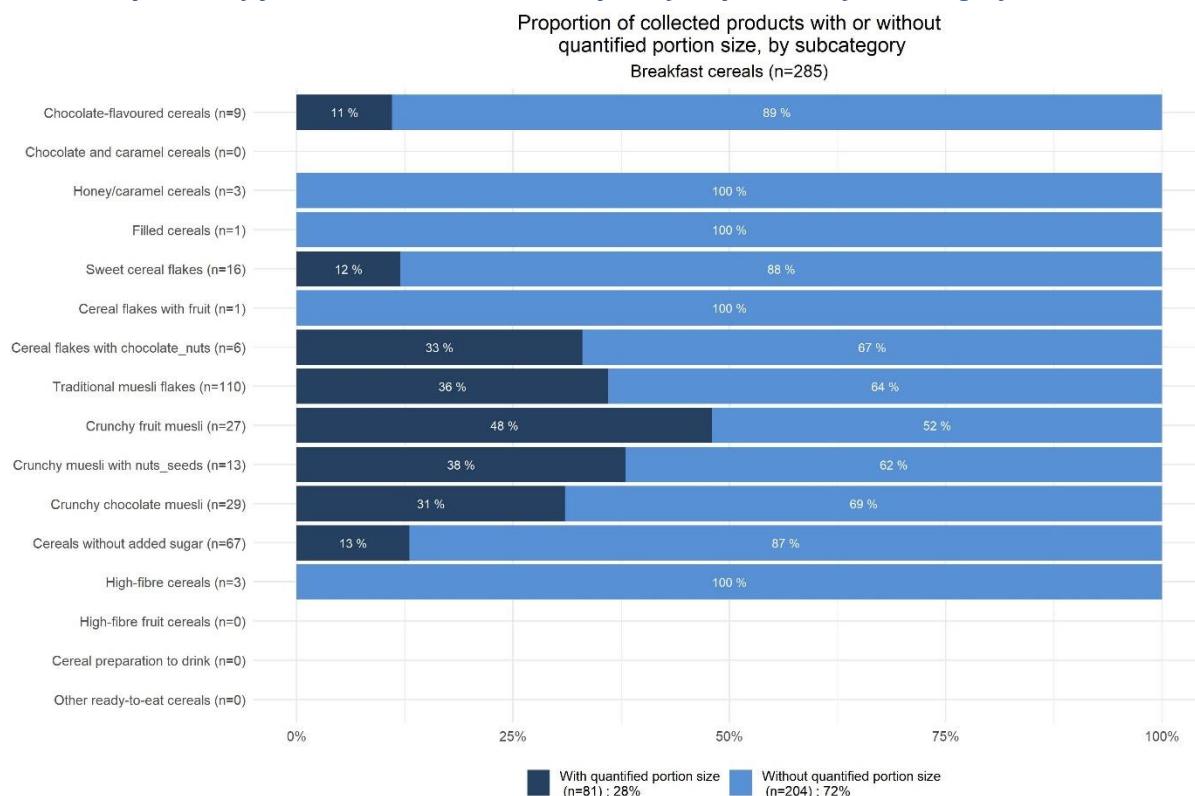


Figure 14 : Proportion of collected products with or without quantified portion size, by subcategories among Breakfast cereals

Among the 285 products collected in the Breakfast cereals category, the majority of products do not have a quantified portion size (n=204, 72%).

The frequency of the presence of a quantified portion size varies according to the different subcategories : 11% of products have quantified portion size in the Chocolate-flavoured cereals subcategory (n=9), 12% in the subcategory Sweet cereal flakes (n=16), 33% in the Cereal flakes with chocolate_nuts (n=6), 36% in the Traditional muesli flakes (n=110), 48% in the Crunchy fruit muesli (n=27), 38% in the Crunchy muesli with nuts_seeds (n=13), 31% in the Crunchy chocolate muesli (n=29) and 13% in the Cereals without added sugar subcategory (n=67) (Figure 14).

2.2.2.2 Proportion of the most represented portion sizes by category

Proportion of the five most represented portion sizes
among collected products, by category

Breakfast cereals (n=81)

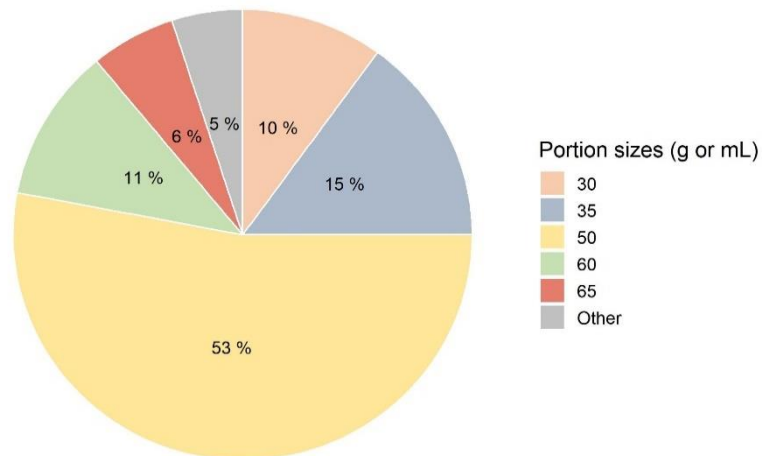


Figure 15 : Proportion of the five most represented portion sizes among collected products in the Breakfast cereals category

Among Breakfast cereals with a quantified portion size indicated on their packaging (n=81), 53% of products highlight a portion size of 50 g, 15% have a portion size of 35 g, 11% have a portion size of 60 g, 10% have a portion size of 30 g and 6% have a portion size of 65 g. (Figure 15)

2.2.3 Delicatessen meat and similar

2.2.3.1 Proportion of products with and without quantified portions by subcategory

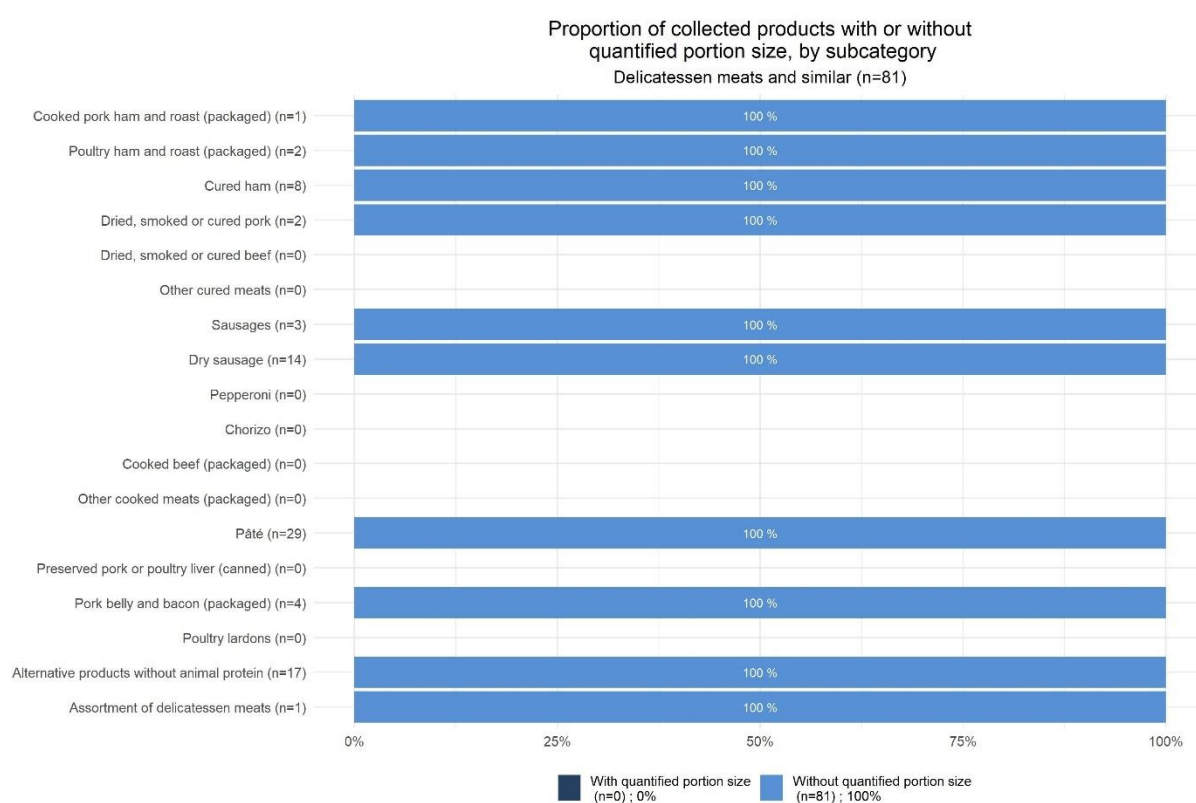


Figure 16 : Proportion of collected products with or without quantified portion size, by subcategories among Delicatessen meats and similar

Among the 81 products collected in the Delicatessen meats and similar category, all the products do not have a quantified portion size (Figure 16).

2.2.3.2 Proportion of the most represented portion sizes by category

100% of the products collected for this category do not have a portion size.

2.2.4 Fresh dairy products and desserts

2.2.4.1 Proportion of products with and without quantified portions by subcategory

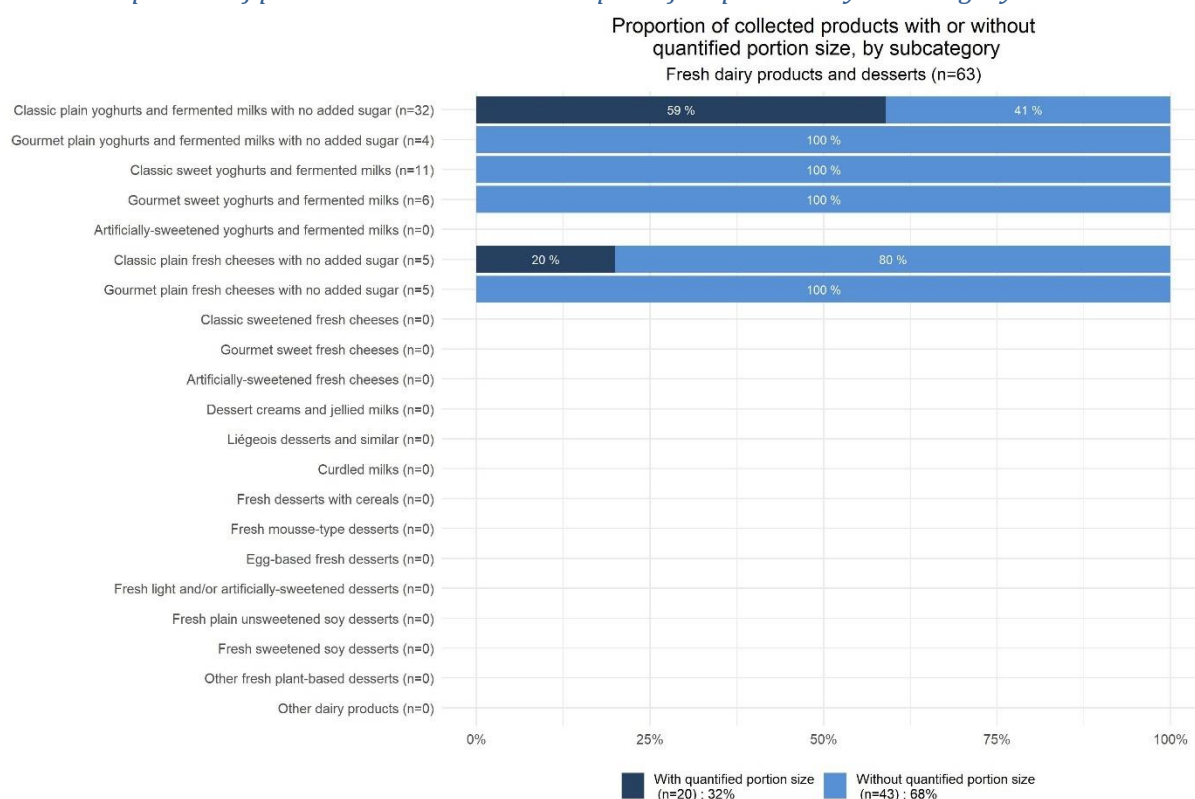


Figure 17 : Proportion of collected products with or without quantified portion size, by subcategories among Fresh dairy products and desserts

Among the 63 products collected in the Fresh dairy products and desserts category, 32% of products have a portion size (n=20) and 68% do not have (n=43).

59% of products have a quantified portion size in the subcategory Classic plain yoghurts and fermented milks with no added sugar (n=32), and 20% of products have a quantified portion size in the subcategory Classic plain fresh cheeses with no added sugar (n=5). (Figure 17)

2.2.4.2 Proportion of the most represented portion sizes by category

Proportion of the five most represented portion sizes
among collected products, by category
Fresh dairy products and desserts (n=20)

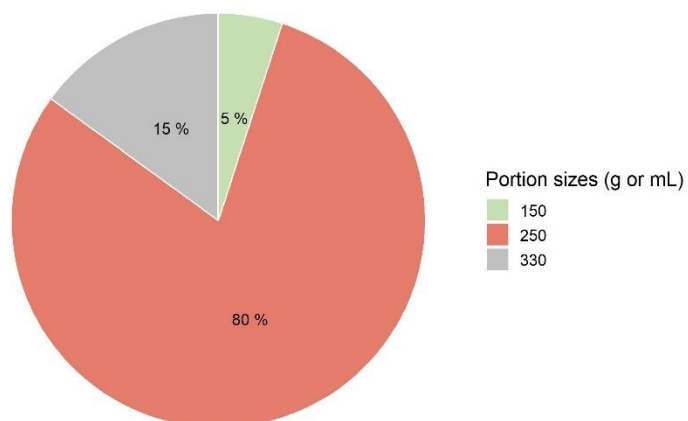


Figure 18 : Proportion of the five most represented portion sizes among collected products in the Fresh dairy products and dessert category

Among Fresh dairy products and desserts with a quantified portion size indicated on their packaging (n=20), 80% of products have a portion size of 250 g, 15% have a portion size of 330 g, 5% have a portion size 150 g. (Figure 18)

2.2.5 Soft drinks

2.2.5.1 Proportion of products with and without quantified portions by subcategory

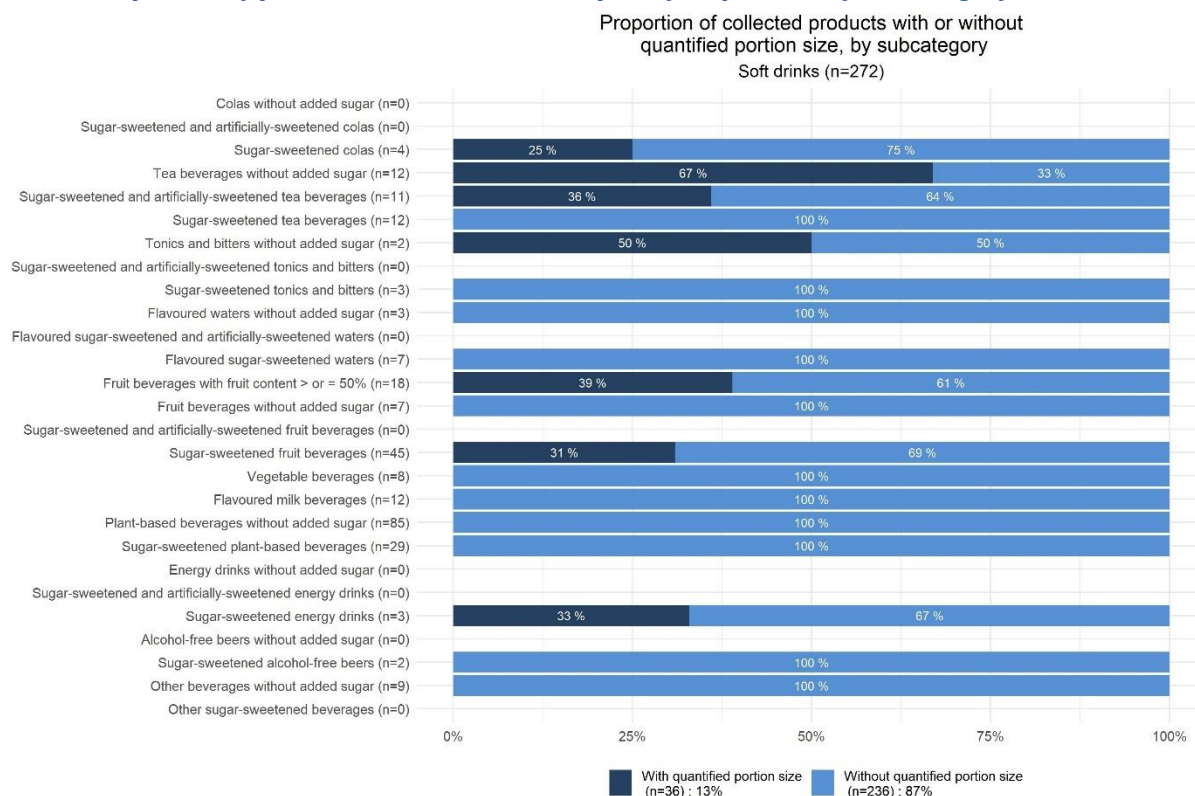


Figure 19 : Proportion of collected products with or without quantified portion size, by subcategories among Soft drinks

Among the 272 products collected in the Soft drinks category, 13% of products have a portion size (n=36) and 87% do not have (n=236).

67% of products have a quantified portion size in the subcategory Tea beverages without added sugar (n=12), 50% of products have a quantified portion size in the subcategory Tonics and bitters without added sugar (n=2) and 39% of products have a quantified portion size in the subcategory Fruit beverages with fruit content > of = 50% (n=18). (Figure 19)

2.2.5.2 Proportion of the most represented portion sizes by category

Proportion of the five most represented portion sizes
among collected products, by category
Soft drinks (n=36)

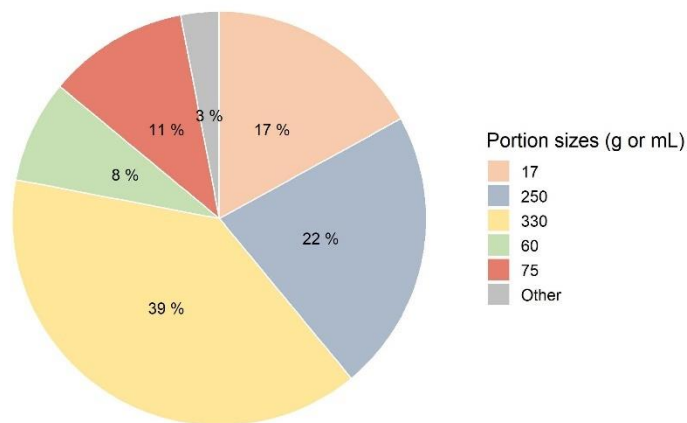


Figure 20 : Proportion of the five most represented portion sizes among collected products in the Soft drinks category

Among Soft drinks with a quantified portion size indicated on their packaging (n=36), 39% products have a portion size of 330 mL, 22% have a portion size of 250 mL, 17% have a portion size of 17 mL, 11% have a portion size of 75 mL (Figure 20).

3 Labeled nutritional values

3.1 Labeling frequency

Table 1 : Labeling frequency (%) of nutritional values by nutrients and categories

Category_name	Energy_kJ	Energy_kCal	Fat	Saturated_fat	Carbohydrates	Sugar	Protein	Salt	Fibre
Bread products (n=105)	99%	99%	99%	99%	99%	99%	99%	99%	58%
Breakfast cereals (n=285)	100%	100%	100%	100%	100%	100%	100%	100%	72%
Delicatessen meats and similar (n=81)	100%	100%	100%	100%	100%	100%	100%	100%	9%
Fresh dairy products and desserts (n=63)	100%	100%	100%	100%	100%	100%	100%	100%	14%
Soft drinks (n=272)	100%	100%	99%	99%	100%	100%	99%	100%	19%

Table 1 shows the frequency of labeling of nutritional values by nutrient and category. The majority of the products collected are nutritionally labeled according to the European regulation 1169/2011, INCO¹, but there is variability in the frequency of labeling which differs between nutrients and categories. In particular, we note that despite the regulations in place, some nutrients are not labeled, as it can be seen in the Bread products category where the frequency of labeling of nutritional values is 99% for all nutrients except for fibre (58%) and in the Soft drinks category where the frequency of labeling of nutritional values is 99% for fat, saturated fat and protein and 19% for fibre.

Within all categories, fibre is the nutrient with the lowest frequency of labeling among the products collected: Bread products (58% of products included in the category have a labeled fibre content), Breakfast cereals (72%), Delicatessen meats and similar (9%), Fresh dairy products and desserts (14%), Soft drinks (19%). This can be explained by the fact that this labeling is not mandatory in Europe, according to INCO regulation¹.

¹ Regulation (EU) No 1169/2011 of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers, amending Regulations (EC) No 1924/2006 and (EC) No 1925/2006 of the European Parliament and of the Council, and repealing Commission Directive 87/250/EEC, Council Directive 90/496/EEC, Commission Directive 1999/10/EC, Directive 2000/13/EC of the European Parliament and of the Council, Commission Directives 2002/67/EC and 2008/5/EC and Commission Regulation (EC) No 608/2004 (Text with EEA relevance)

3.2 Overview of the nutritional composition

3.2.1 Bread products

The nutrients considered for the Bread products category are : Fat, Saturated fat, Sugars, salt and Fibre.

3.2.1.1 Distribution of fat content by Bread products subcategories

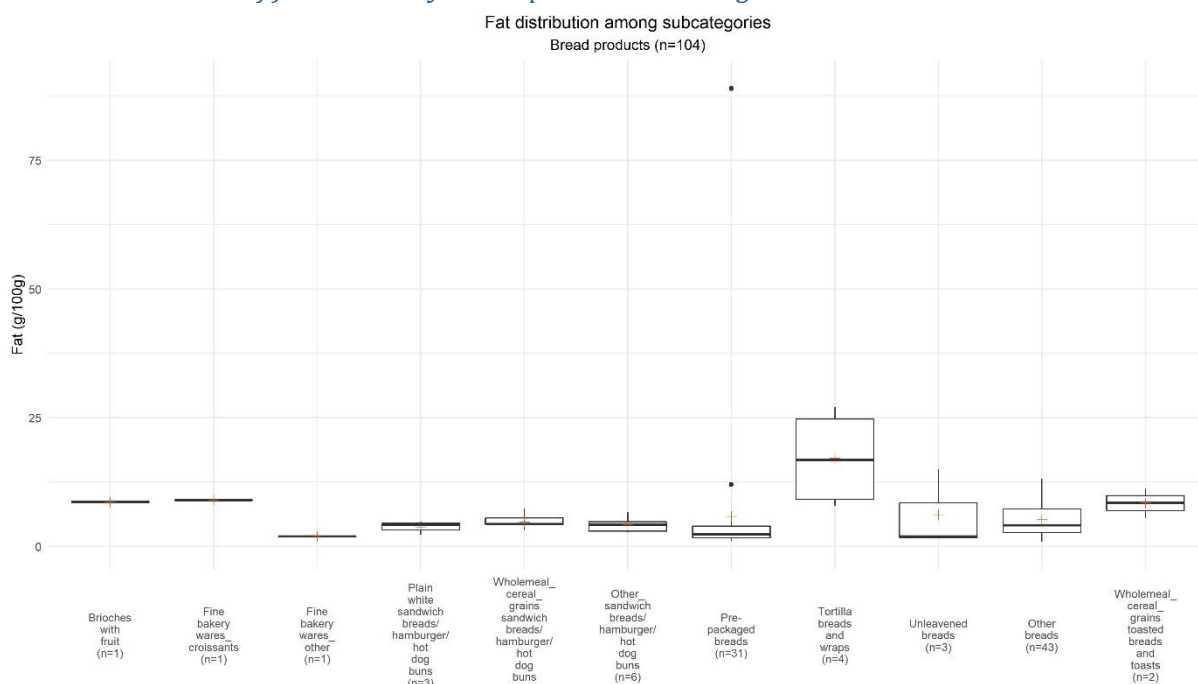


Figure 21 : Fat distribution among subcategories of Bread products

Subcategory with the highest mean fat content is: Tortilla breads and wraps (17,1g/100g).

Subcategories with the lowest mean fat content (between 1g/100g and 5g/100g) are: Fine bakery wares_other (1,9g/100g), Plain white sandwich breads/hamburger/hot dog buns (3,7g/100g), Other sandwich breads/hamburger/hot dog buns (4,8g/100g) Wholemeal cereals_grains_sandwich breads/hamburger/hot dog buns (4,7g/100g). (Figure 21)

The fat content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable fat content are: Pre-packaged breads (n=31) and Tortilla breads and wraps (n=4). Because Croatia in general had a big problem with collecting products in the shops, the final number of collected products in the category Bread products is low and the results here should be taken with caution.

3.2.1.2 Distribution of saturated fat content by Bread products subcategories

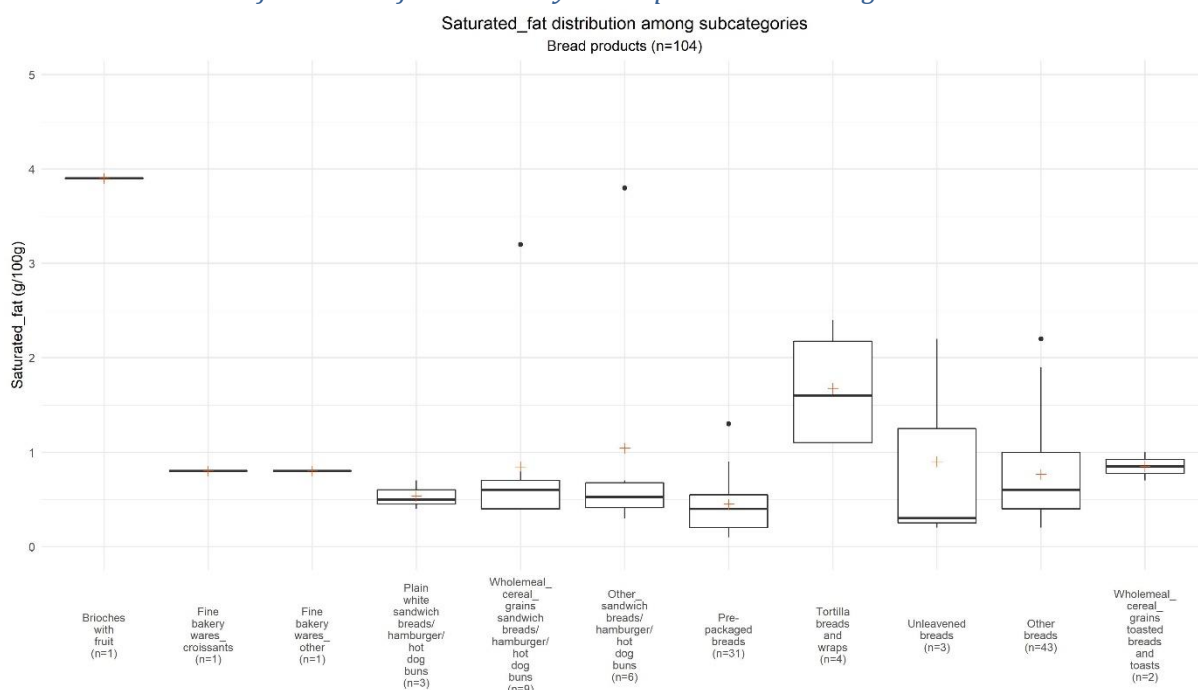


Figure 22 : Saturated fat distribution among subcategories of Bread products

Among all subcategories of Bread products, the mean content of saturated fat varies between 0,4g/100g (Pre-packaged breads, n=31) and 3,9g/100g (Brioche with fruit, n=1).

Subcategories with the highest mean saturated fat content are: Brioche with fruit (3,9g/100g), Tortilla breads and wraps (1,7g/100g), Other sandwich breads/hamburger/hot dog buns (1g/100g).

Subcategories with the lowest mean saturated fat content are: Pre-packaged breads (0,4g/100g) and Plain white sandwich breads/hamburger/hot dog buns (0,5g/100g). (Figure 22)

The saturated fat content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable saturated fat content are: Other_sandwich breads / hamburger / hot dog buns (n=6), Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns (n=9), Other breads (n=43), Unleavened breads (n=3).

3.2.1.3 Distribution of sugar content by Bread products subcategories

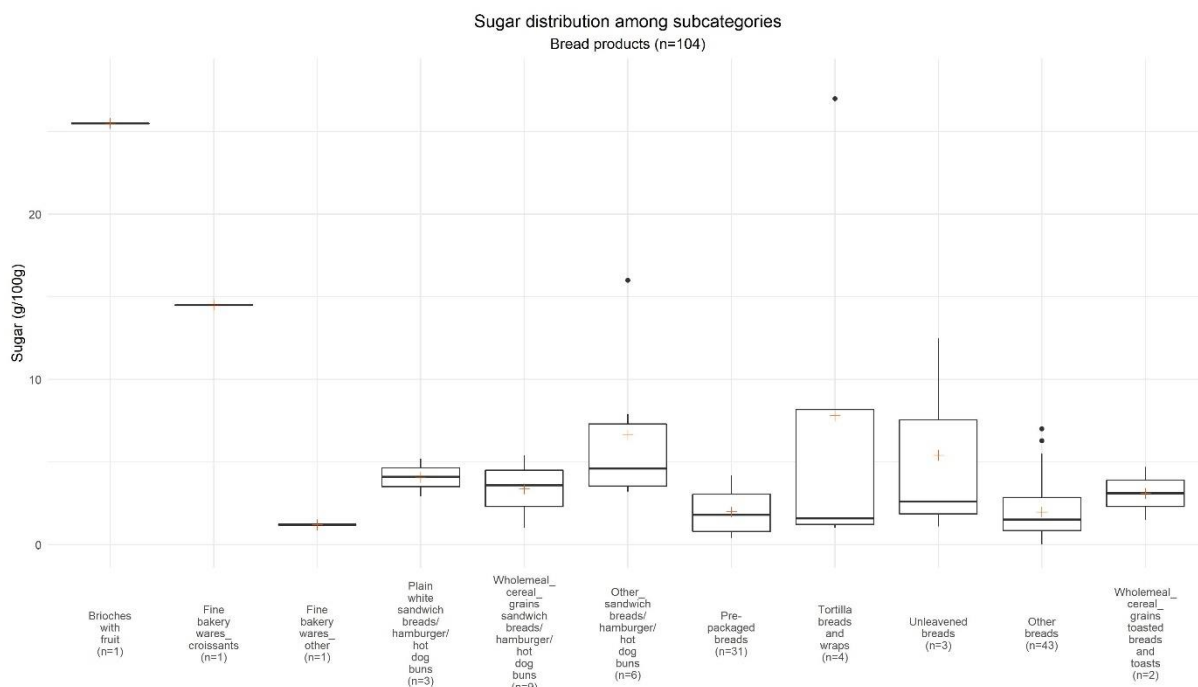


Figure 23 : Sugar distribution among subcategories of Bread products

Among all subcategories of Bread products, the mean content of sugar varies between 1,2g/100g (Fine bakery wares_other, n=1) and 25,5g/100g (Brioche with fruit, n=1).

Subcategories with the highest mean sugar content are: Brioche with fruit with a mean sugar content of 25,5g/100g (but, only one product have been collected in this subcategory) and Fine bakery_croissants (14,6g/100g, n=1). Subcategories with the lowest mean sugar content are: Fine bakery wares_other (1,2g/100g, n=1), Pre-packaged breads (2g/100g, n=31) and Other breads (2g/100g, n=43). (Figure 23)

The sugar content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable sugar content are: Tortilla breads and wraps (n=4), Other_sandwich breads / hamburger / hot dog buns (n=6), Other breads (n=43), Unleavened breads (n=3).

3.2.1.4 Distribution of fibre content by Bread products subcategories

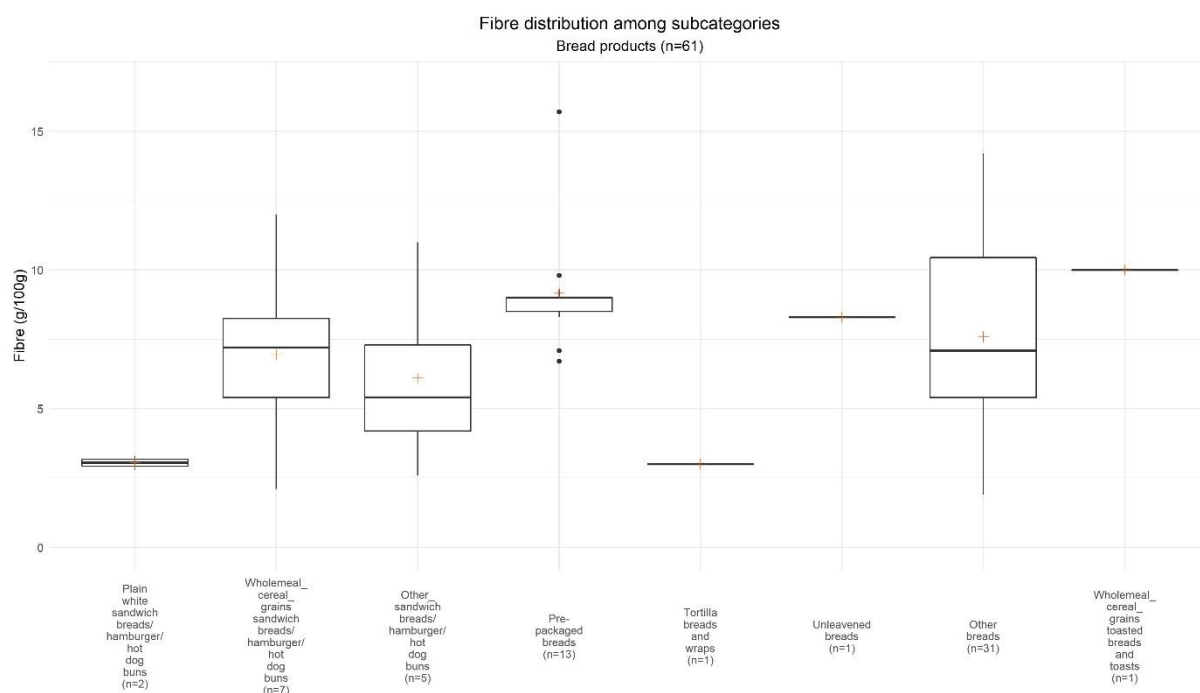


Figure 24 : Fibre distribution among subcategories of Bread products

Among all subcategories of Bread products, the mean content of fibre varies between 3g/100g and 10g/100g.

Subcategories with the highest mean of fibre content are, Wholemeal_cereal_grains toasted breads and toasts (10g/100g, n=1). The next subcategory with highest mean fibre content is Pre-packaged breads (9g/100g). The content of fibre in the subcategory Pre-packaged breads is relatively high for this kind of products, that are not wholemeal products, because producers add fibers in their products to prevent cardio-vascular diseases and sometimes in order to extend shelf life.

The subcategories with the lowest mean fibre content are Plain white sandwich bread/hamburger/hot dog buns (3g/100g) and Tortilla breads and wraps (3g/100g). (Figure 24)

The fibre content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable sugar content are: Other breads (n=31), Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns (n=7), Pre-packaged breads (n=13) and Other_sandwich breads / hamburger / hot dog buns (n=5).

3.2.1.5 Distribution of salt content by Bread products subcategories

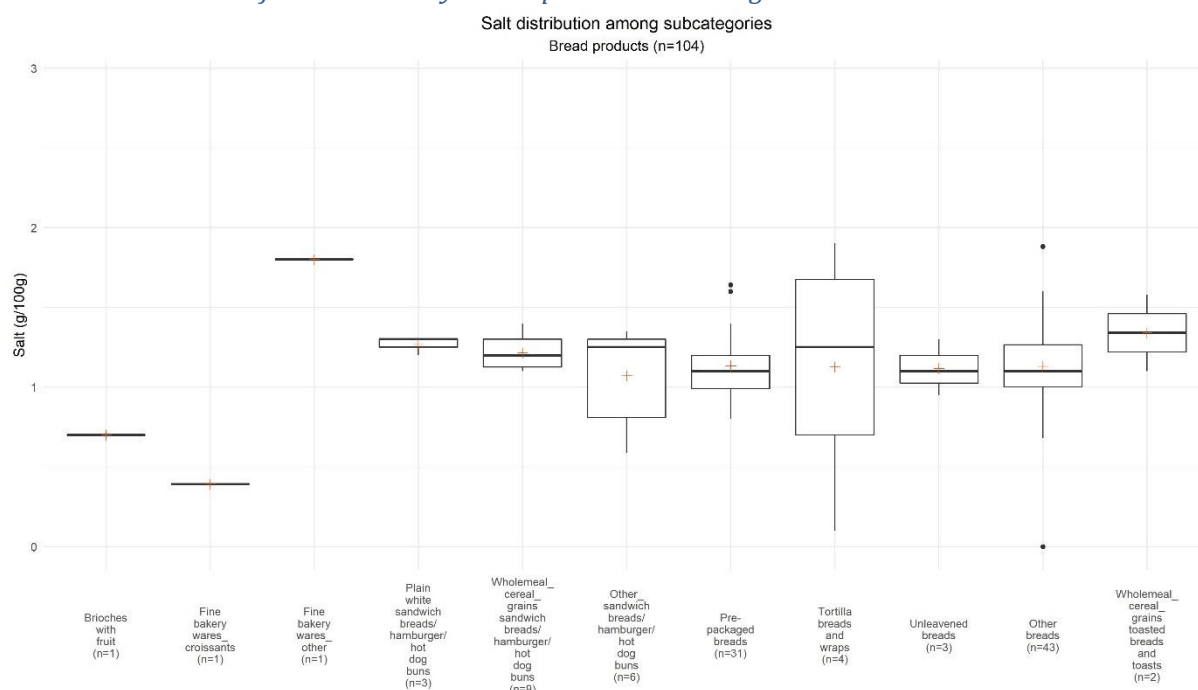


Figure 25 : Salt distribution among subcategories of Bread products

Among all subcategories of Bread products, the mean content of salt varies between 0,39g/100g and 1,8g/100g.

Subcategory with the highest mean content of salt is Fine bakery wares_other (1,8/100g, n=1). The range between 1,1g/100g and 1,3g/100g is the one with the most subcategories: Plain white sandwich bread/hamburger/hot dog buns (1,27g/100g, n=3), Pre-packaged breads (1,13g/100g, n=31), Tortilla breads and wraps (1,12g/100g, n=4), Unleavened breads (1,1g/100g, n=3), Other breads (1,13g/100g, n=43) and Wholemeal cereal grains sandwich breads/hamburger/hot dog buns (1,21g/100g, n=9). (Figure 25)

The subcategory with the lower mean content of salt is Fine bakery wares_croissants (0,39g/100g, n=1).

The salt content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategories containing products with the most variable salt content are: Tortilla breads and wraps (n=4), Pre-packaged breads (n=31), Other breads (n=43) and Other_sandwich breads / hamburger / hot dog buns (n=6).

3.2.2 Breakfast cereals

3.2.2.1 Distribution of fat content by Breakfast cereals subcategories

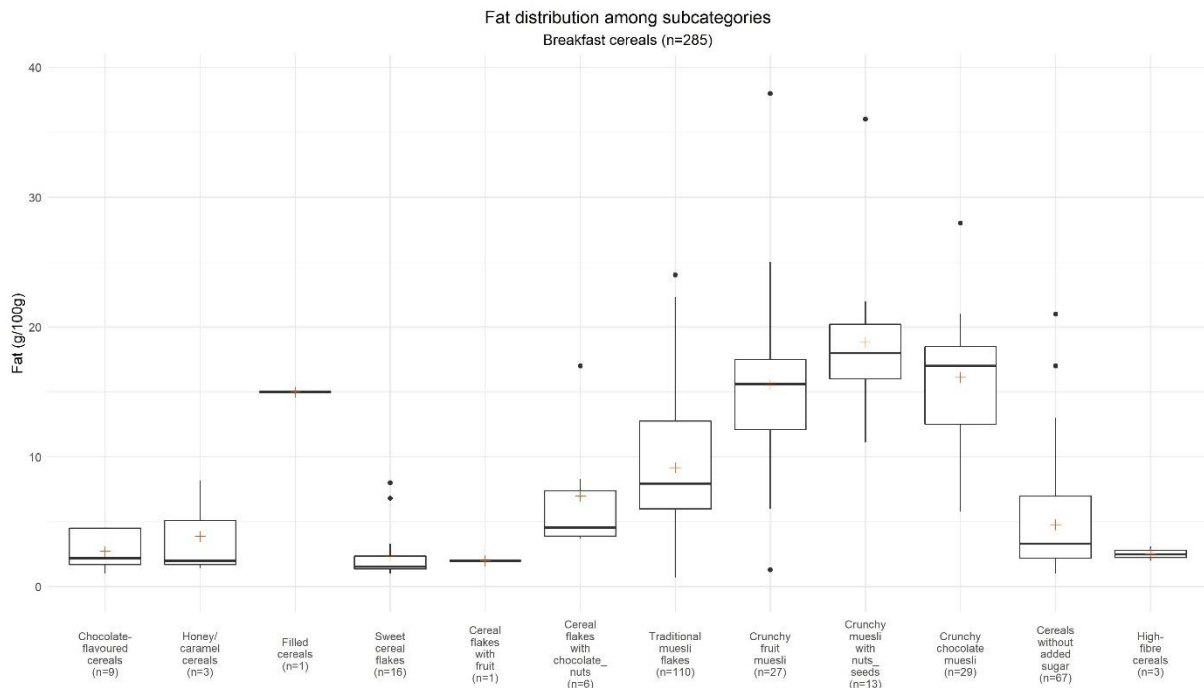


Figure 26 : Fat distribution among subcategories of Breakfast cereals

Among all subcategories of Breakfast cereals, the mean content of fat varies between 2g/100g (Cereal flakes with fruit, n=1) and 18,8g/100g (Crunchy muesli with nuts_seeds).

Subcategories with the highest mean fat content are: Crunchy muesli with nuts_seeds (18,8g/100 g), Crunchy chocolate muesli (16,1g/100g), Crunchy fruit muesli (15,6g/100g) and Filled cereals (15g/100g).

Subcategories with the lowest mean fat content (between 2g/100g and 3g/100g) are: Chocolate-flavoured cereals, Sweet cereals flakes, Cereal flakes with fruit and High fibre cereals. (Figure 26)

The fat content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategories containing products with the most variable fat content are: Crunchy fruit muesli (n=27), Crunchy muesli with nuts_seeds (n=13), Traditional muesli flakes (n=110) and Crunchy chocolate muesli (n=29).

3.2.2.2 Distribution of saturated fat content Breakfast cereals subcategories

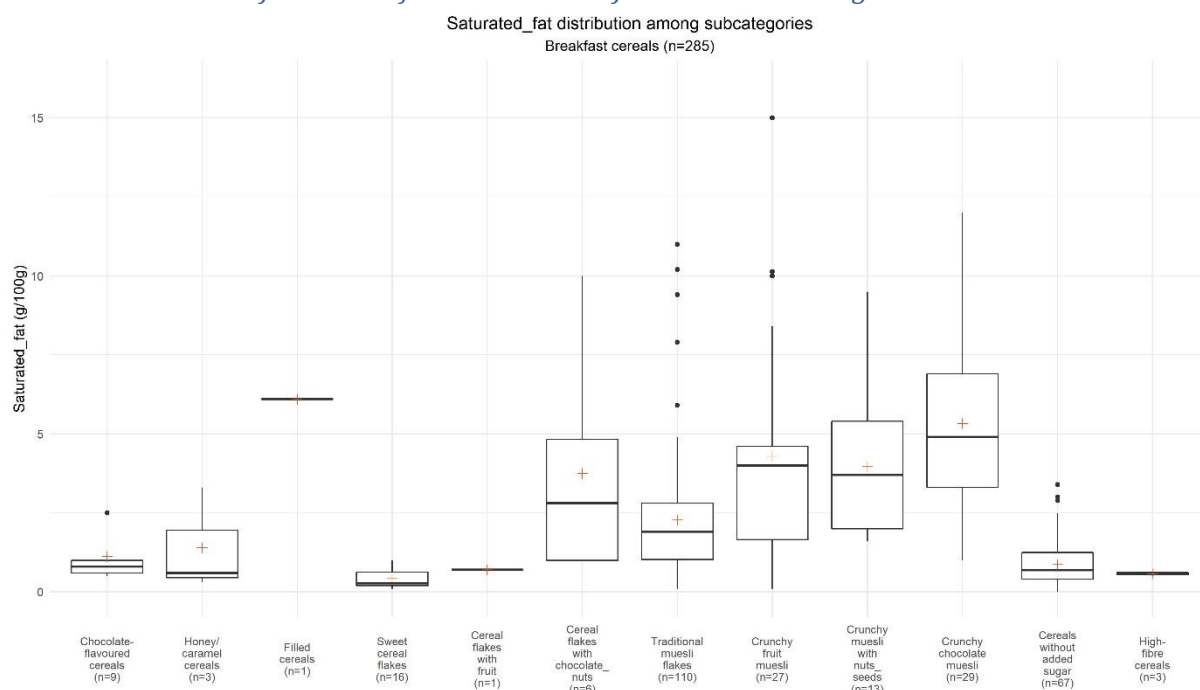


Figure 27 : Saturated fat distribution among subcategories of Breakfast cereals

Among all subcategories of Breakfast cereals, the mean content of saturated fat varies between 0,4g/100g (Sweet cereal flakes, n=16) and 6,1g/100g (Filled cereals, n=1).

Subcategories with the highest mean saturated fat content are: Filled cereals (6,1g/100g) and Crunchy chocolate muesli (5,3g/100 g).

Subcategories with the lowest mean saturated fat content (between 0,5g/100g and 1g/100g) are: High-fibre cereals, Sweet cereal flakes, Cereal flakes with fruit and Cereals without added sugar. (Figure 27)

The saturated fat content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategories containing products with the most variable saturated fat content are: Traditional muesli flakes (n= 110), Crunchy fruit muesli (n=27), Crunchy muesli with nuts_seeds (n=13), Crunchy chocolate muesli (n=29), Cereal flakes with chocolate_nuts (n=6).

3.2.2.3 Distribution of sugar content by Breakfast cereals subcategories

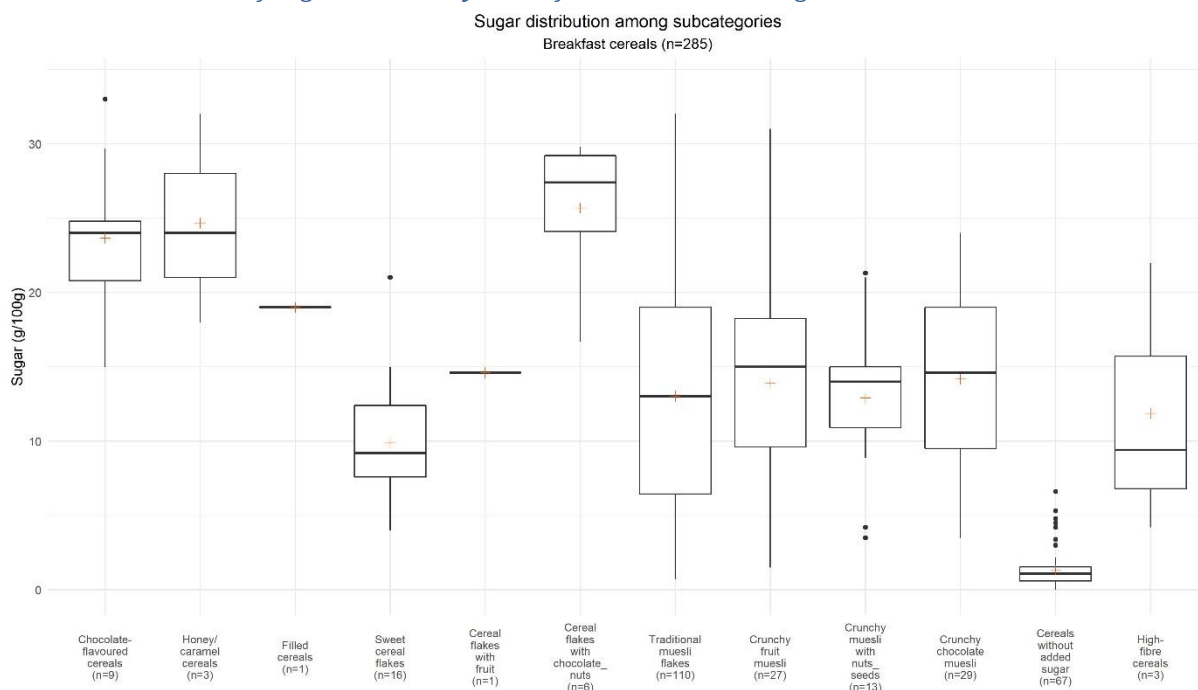


Figure 28 : Sugar distribution among subcategories of Breakfast cereals

Among all subcategories of Breakfast cereals, the mean content of sugar varies between 1,4g/100g (Cereals without added sugar, n=67) and 25,7g/100g (Cereal flakes with chocolate_nuts, n=6).

Subcategories with the highest mean sugar content are: Honey caramel cereals (24,7g/100g), Cereals flakes with chocolate_nuts (25,7g/100g), Chocolate-flavoured cereals (23,7g) and Filled cereals (19g/100g).

Subcategory with the lowest mean sugar content (1,4g/100g) is: Cereals without added sugar (n=67). (Figure 28)

The sugar content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategories containing products with the most variable sugar content are: Traditional muesli flakes (n= 110), Crunchy fruit muesli (n=27), Crunchy chocolate muesli (n=29).

3.2.2.4 Distribution of fibre content by Breakfast cereals subcategories

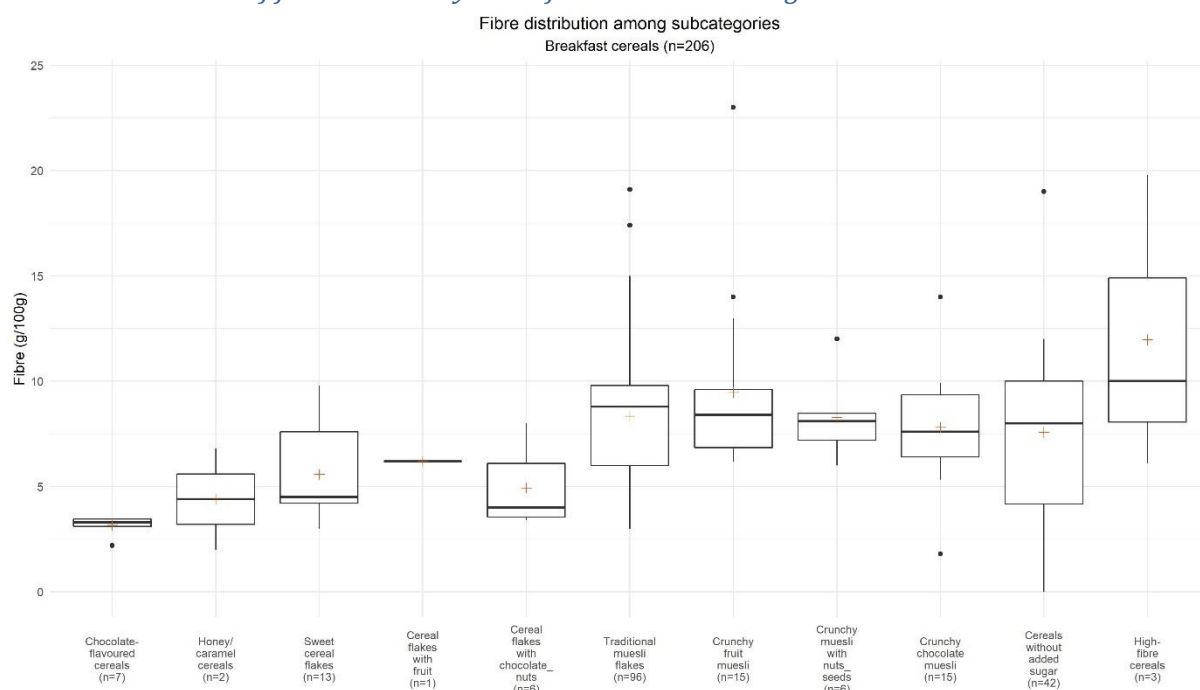


Figure 29 : Fibre distribution among subcategories of Breakfast cereals

Among all subcategories of Breakfast cereals, the mean content of fibre varies between 3,2g/100g and 12g/100g.

Subcategories with the highest mean fibre content are: High-fibre cereals (12g/100g, n=3), Crunchy fruit muesli (9,5g/100g, n=15), Crunchy muesli with nuts and seeds (8,3g/100g, n=6) and Traditional muesli flakes (8,3g/100g, n=96).

The subcategory with the lowest mean fibre content is Chocolate-flavoured cereals (3,2g/100g). (Figure 29)

The fibre content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategories containing products with the most variable fibre content are: Traditional muesli flakes (n= 96), Crunchy fruit muesli (n=15), Crunchy chocolate muesli (n=15), Cereals without added sugar (n=42) and High-fibre cereals (n=3).

3.2.2.5 Distribution of salt content by Breakfast cereals subcategories

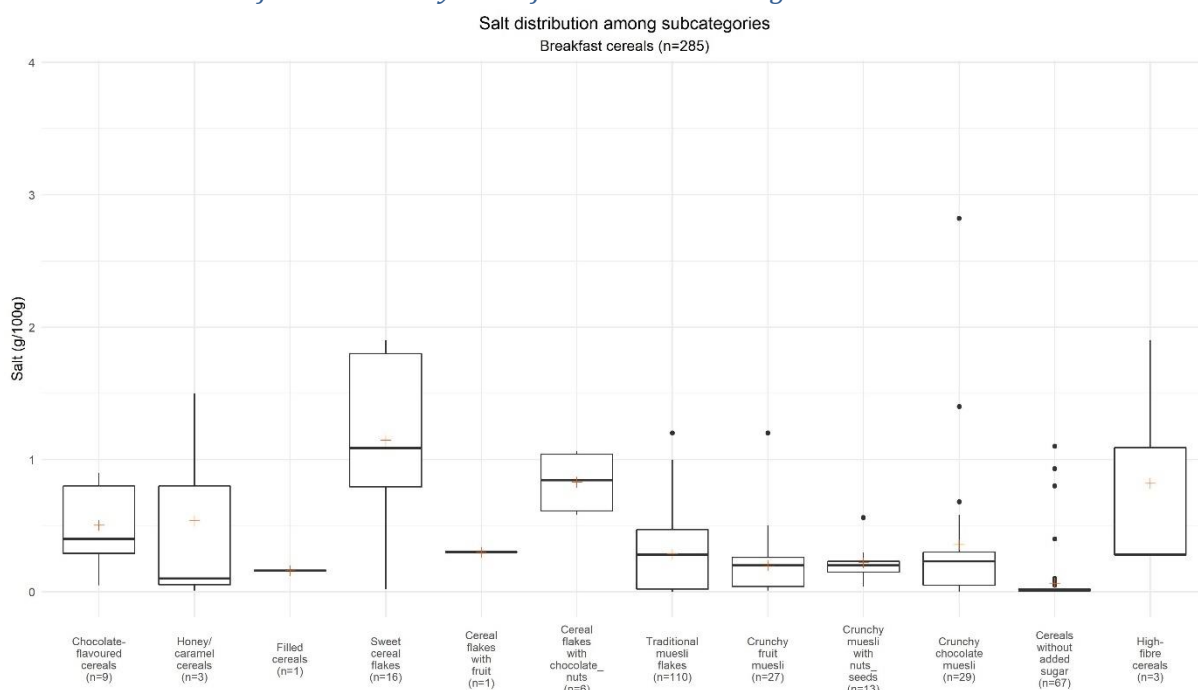


Figure 30 : Salt distribution among subcategories of Breakfast cereals

Among all subcategories of Breakfast cereals, the mean content of salt varies between 0,06g/100g and 1,15g/100g.

Subcategory with the highest mean content of salt content is Sweet cereals flakes (1,15 g/100g). Subcategories with the lowest mean content of salt are: Cereals without added sugar (0,06g/100g), Crunchy fruit muesli (0,2g/100g) and Filled cereals (0,16g/100g). (Figure 30)

The salt content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategories containing products with the most variable salt content are: Crunchy chocolate muesli (n=29), Honey/caramel cereals (n=3), Sweet cereal flakes (n=16) and High-fibre cereals (n=3).

3.2.3 Delicatessen meats and similar

3.2.3.1 Distribution of protein content by Delicatessen meats and similar subcategories

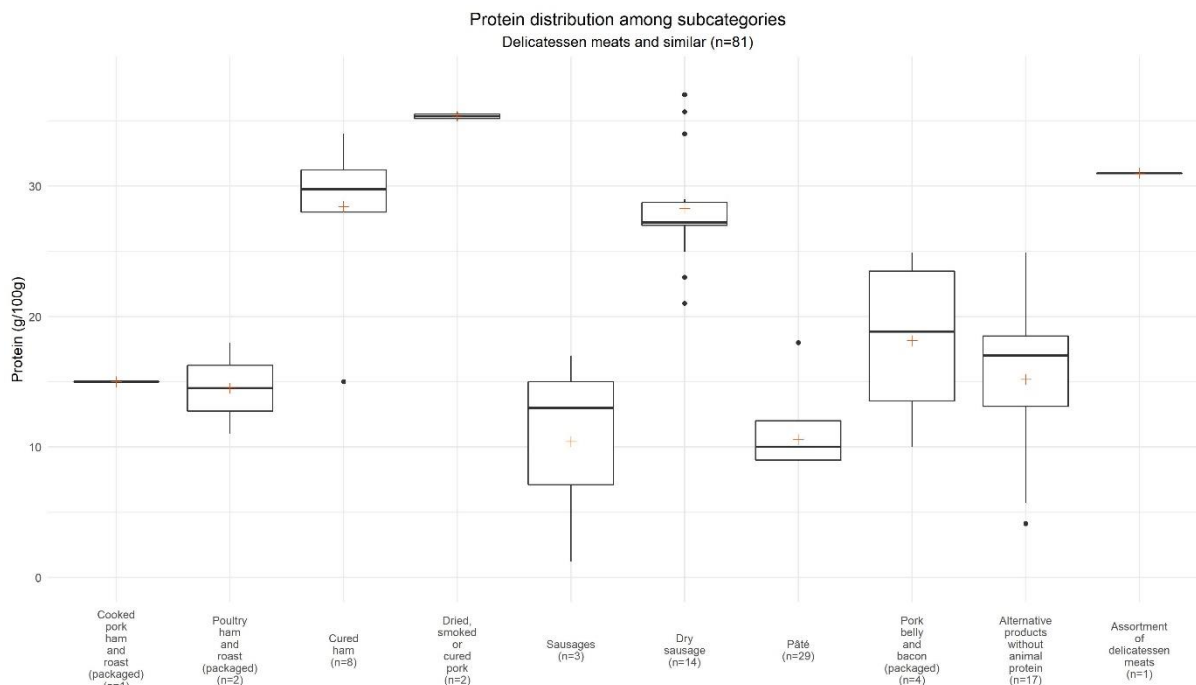


Figure 31 : Protein distribution among subcategories of Delicatessen meats and similar

Among all subcategories of Delicatessen meats and similar, the mean content of protein varies between 10,4g/100g and 35,4g/100g.

Subcategory with the highest mean content of protein content is Dried, smoked, or cured pork (35,4g/100g, n=2). Cured ham has mean content of protein 28,4g/100g (n=8), Dry sausage 28g/100g (n=14) and Pork belly and bacon (packaged) 18,1g/100g (n=4).

Subcategory with the lowest mean protein content in this category is Sausages (10,4g/100g, n=3)). (Figure 31)

The protein content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategories containing products with the most variable protein content are: Alternative products without animal protein (n=17), Sausages (n=3), Cured ham (n=8), Dry sausage (n=14) and Pork belly and bacon (packaged) (n=4).

3.2.3.2 Distribution of fat content by Delicatessen meats and similar subcategories

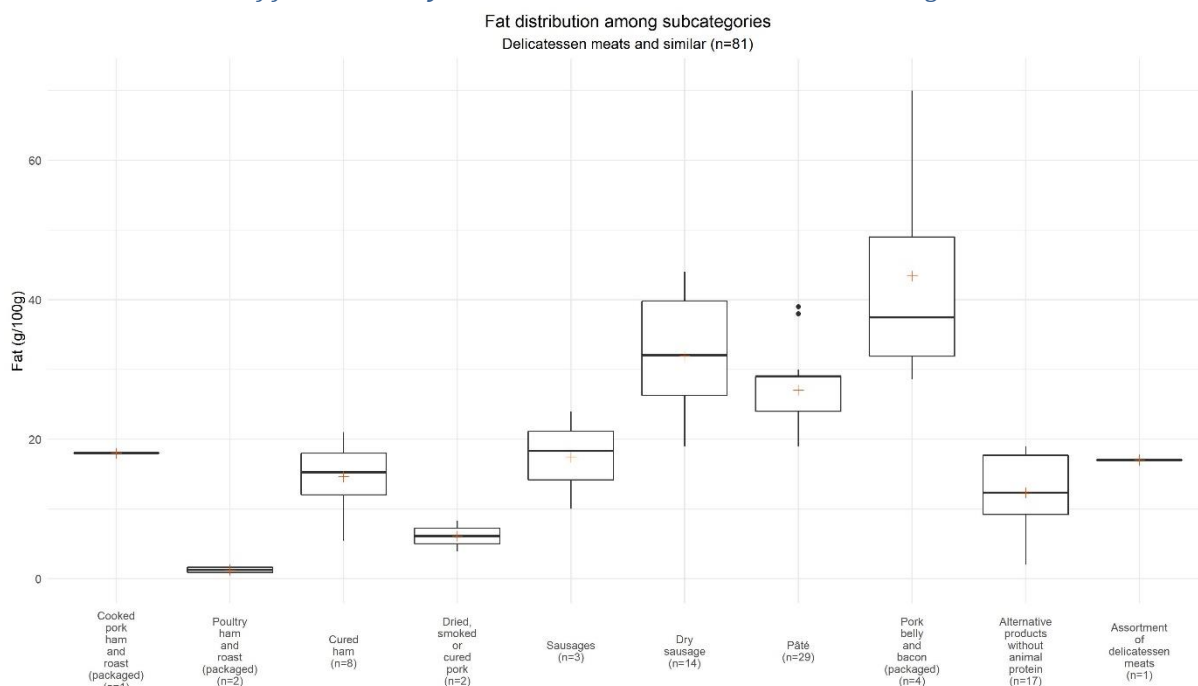


Figure 32 : Fat distribution among subcategories of Delicatessen meats and similar

Among all subcategories of Delicatessen meats and similar, the mean content of fat varies between 1,2g/100g and 43,4g/100g.

Subcategory with the highest mean content of fat is Pork belly and bacon (packaged) (43,4g/100g, n=4). Dry sausages have a mean content of fat of 31,9g/100g (n=14) and Pâté 27g/100g (n=29).

Subcategory with the lowest mean content of fat is Poultry ham and roast (packaged) (1,2g/100g). (Figure 32)

The fat content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategories containing products with the most variable fat content are: Dry sausage (n=14), Pâté (n=29), Pork belly and bacon (packaged) (n=4).

3.2.3.3 Distribution of saturated fat content by Delicatessen meats and similar subcategories

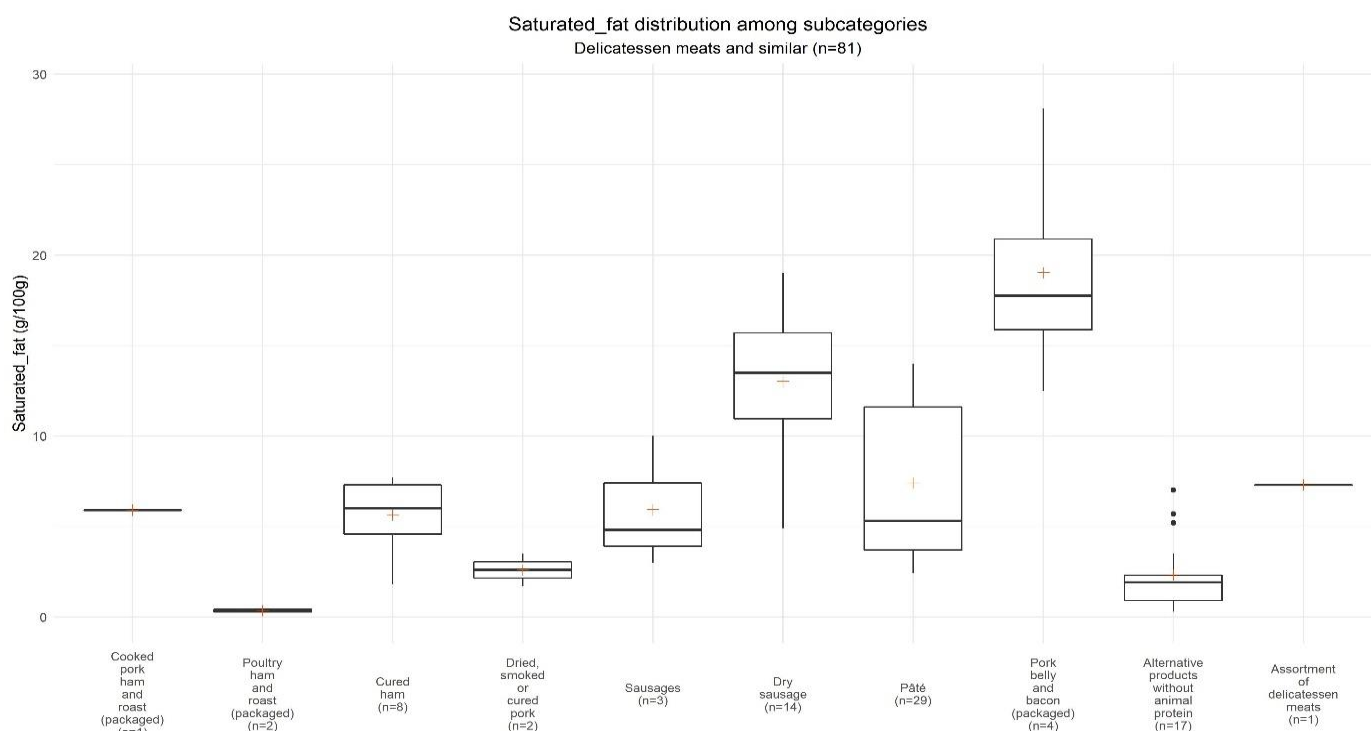


Figure 33 : Saturated fat distribution among subcategories of Delicatessen meats and similar

Among all subcategories of Delicatessen meats and similar, the mean content of saturated fat varies between 0,3g/100g and 19g/100g.

Subcategory with the highest mean content of saturated fat is Pork belly and bacon (packaged) (19g/100g, n=4). Also, the subcategory Dry sausage have a high mean content of saturated fat (13g/100g, n=14).

Subcategories with the lowest mean content of saturated fat are Poultry ham and roast (packaged) (0,3g/100g), Alternative products without animal protein (2,3g/100g) and Dried, smoked, or cured pork (2,6 g/100g). (Figure 33)

The saturated fat content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategories containing products with the most variable saturated fat content are: Dry sausage (n= 14), Pâté (n=29), Pork belly and bacon (packaged) (n=4).

3.2.3.4 Distribution of sugar content by Delicatessen meats and similar subcategories

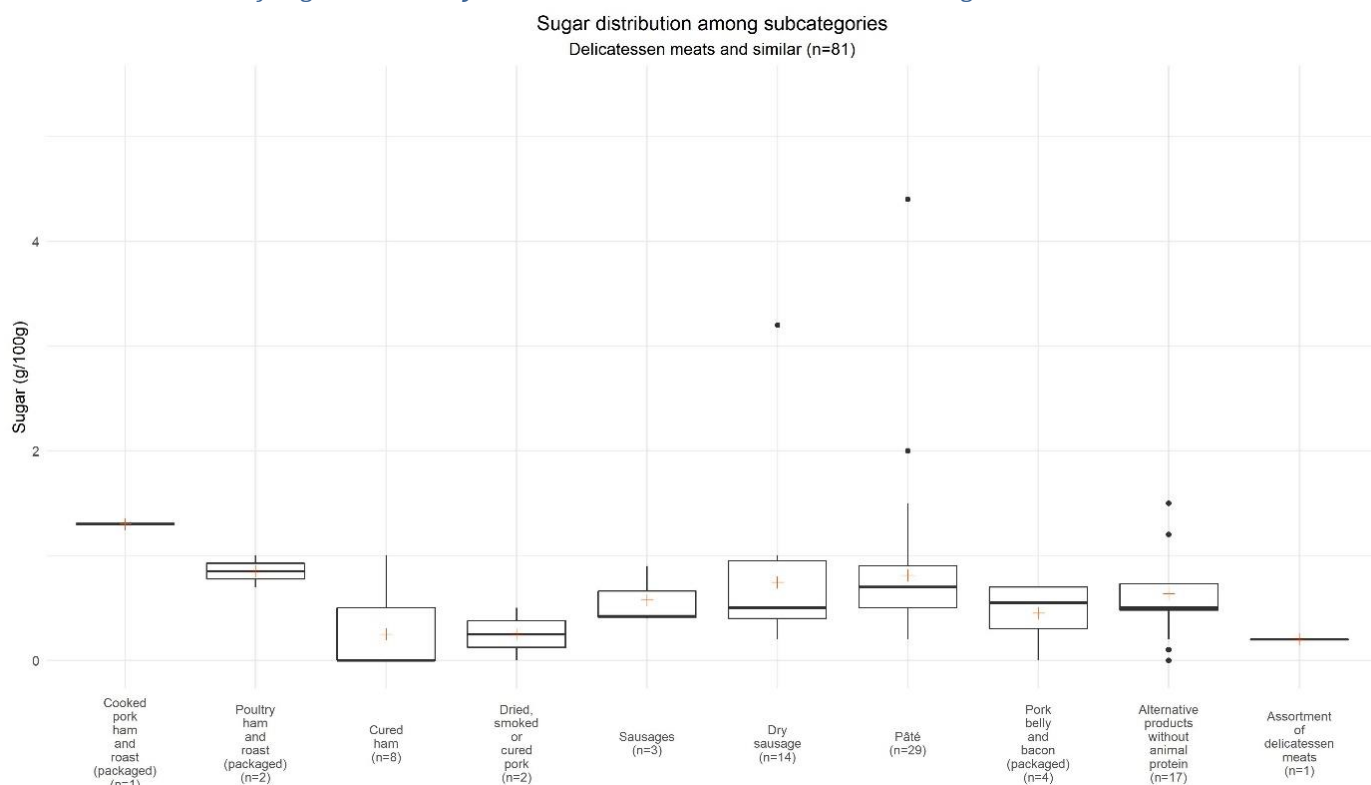


Figure 34 : Sugar distribution among subcategories of Delicatessen meats and similar

Among all subcategories of Delicatessen meats and similar, the mean content of sugar varies between 0,2g/100g and 1,3g/100g. (Figure 34)

As expected, all subcategories of Delicatessen meats and similar have low mean content of sugar.

The sugar content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategories containing products with the most variable sugar content are: Dry sausage (n= 14), Pâté (n=29).

3.2.3.5 Distribution of salt content by Delicatessen meats and similar subcategories

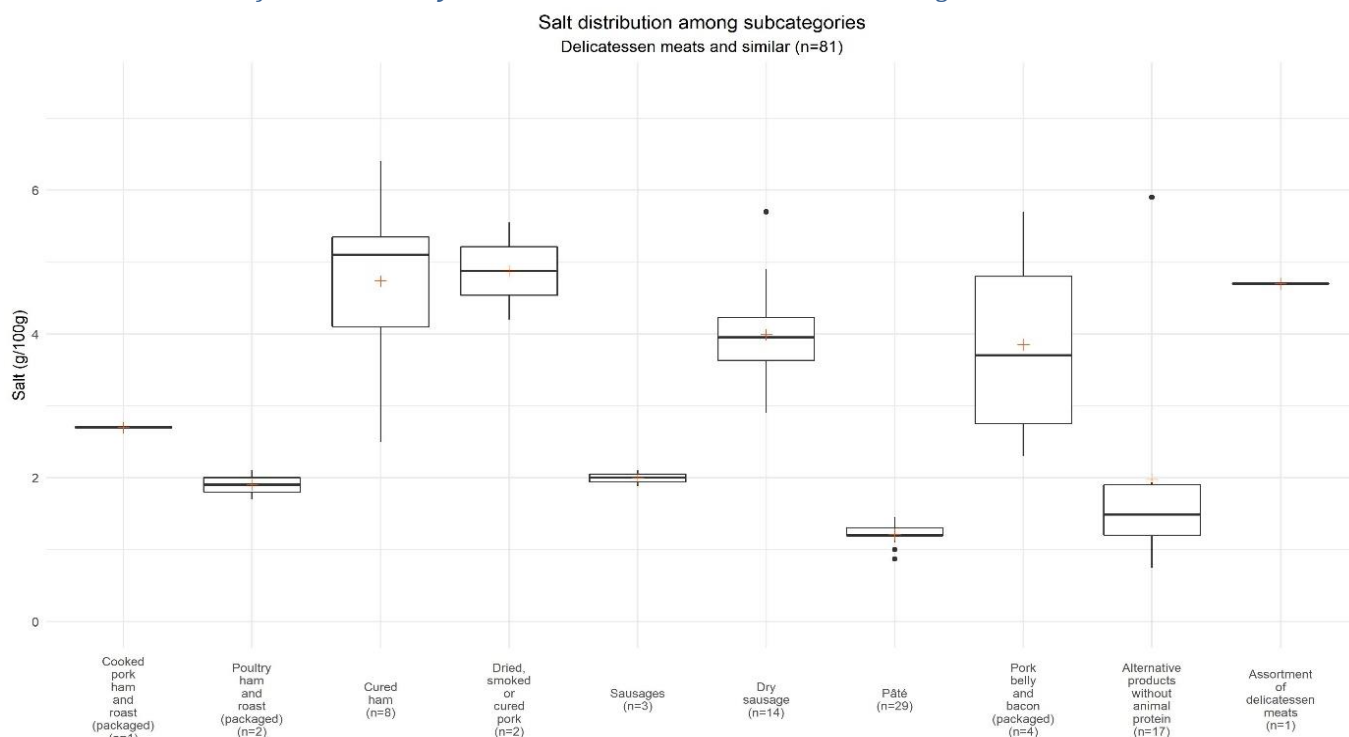


Figure 35 : Salt distribution among subcategories of Delicatessen meats and similar

Among all subcategories of Delicatessen meats and similar, the mean content of salt varies between 1,21g/100g and 4,88g/100g.

Subcategory with the highest mean content of salt is Dried, smoked or cured pork (4,88g/100g, n=2). Also, high mean content of salt is found in the subcategories: Cured ham (4,74g/100g, n=8), Assortment of delicatessen meats (4,7g/100g, n=1), Dry sausage (3,99g/100g, n=14) and Pork belly and bacon (packaged) (3,85g/100g). (Figure 35)

Subcategory with the lowest mean content of salt is Pâté (1,21g/100g, n=29).

The salt content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategories containing products with the most variable salt content are: Alternative products without animal protein (n=17), Cured ham (n=8), Pork belly and bacon (packaged) (n=4) and Dry sausage (n=14).

3.2.4 Fresh dairy products and desserts

3.2.4.1 Distribution of protein content by Fresh dairy products and desserts subcategories

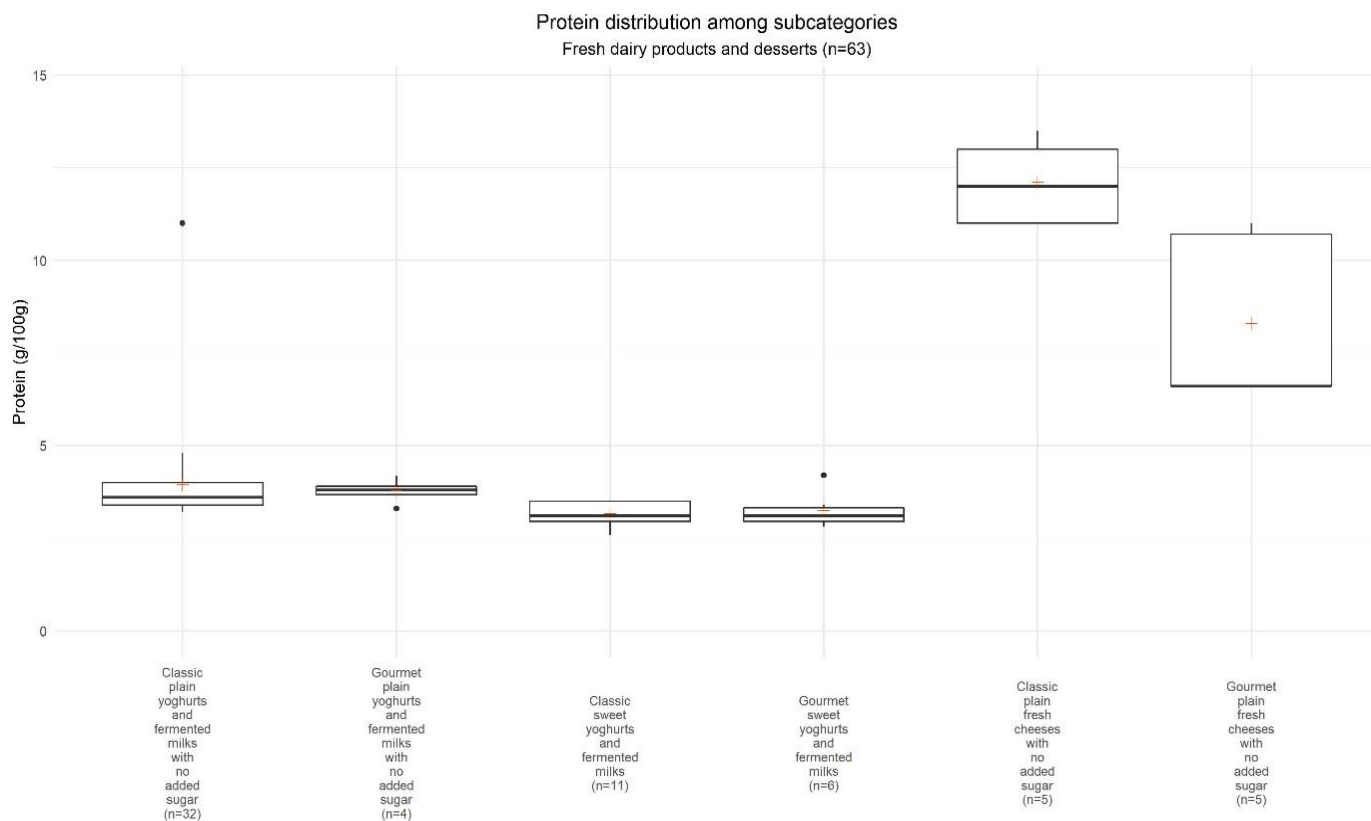


Figure 36 : Protein distribution among subcategories of Fresh dairy products and desserts

Among all subcategories of Fresh dairy products and desserts, the mean content of protein varies between 3,2g/100g and 12,1g/100g.

Subcategory with the highest mean content of protein is Classic plain fresh cheeses with no added sugar (12,1g/100g, n=5). Also, Gourmet plain fresh cheeses with no added sugar has high amount of protein (the mean content is 8,3g/100g). (Figure 36)

Classic plain yoghurts and fermented milks with no added sugar, Gourmet plain yoghurt and fermented milks with no added sugar, Classic sweet yoghurt and fermented milks and Gourmet sweet yogurts and fermented milk have a mean content of protein < 4g/100g.

The protein content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategories containing product with the most variable protein content are: Gourmet plain fresh cheeses with no added sugar (n=5) and Classic plain yoghurts and fermented milks with no added sugar (n=32).

3.2.4.2 Distribution of fat content by Fresh dairy products and desserts subcategories

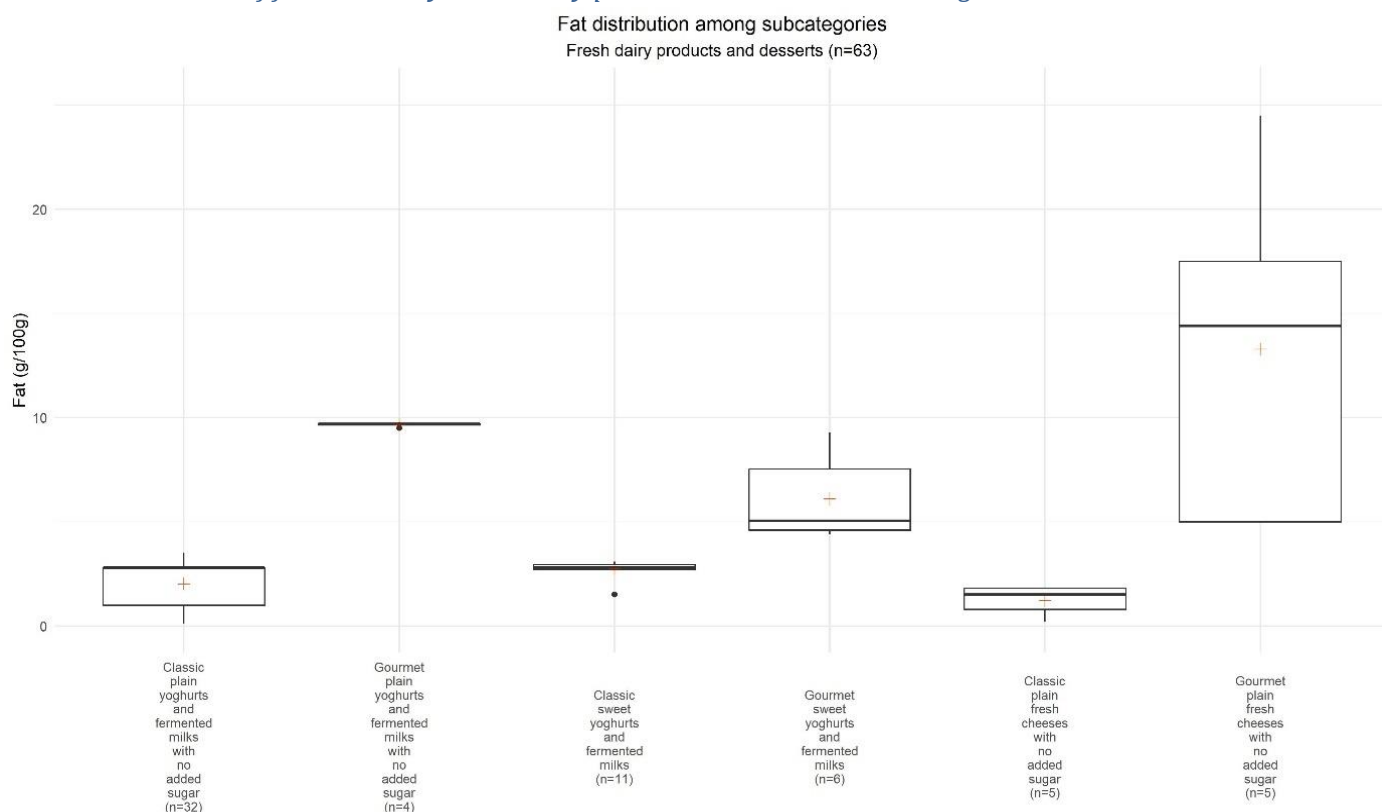


Figure 37 : Fat distribution among subcategories of Fresh dairy products and desserts

Among all subcategories of Fresh dairy products and desserts, the mean content of fat varies between 1,2g/100g and 13,3g/100g.

Subcategory with the highest mean content of fat is Gourmet plain fresh cheeses with no added sugar (13,3g/100g, n=5). Gourmet plain yoghurts and fermented milks with no added sugar has also a high mean content of fat (9,7g/100g).

Classic sweet yoghurts and fermented milks, Classic plain yoghurts and fermented milks with no added sugar and Classic plain fresh cheeses with no added sugar have a mean content of fat <3g/100g. (Figure 37)

The fat content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategories containing products with the most variable fat content are: Gourmet plain fresh cheeses with no added sugar (n=5) and Gourmet sweet yoghurts and fermented milks (n=6).

3.2.4.3 Distribution of saturated fat content by Fresh dairy products and desserts subcategories

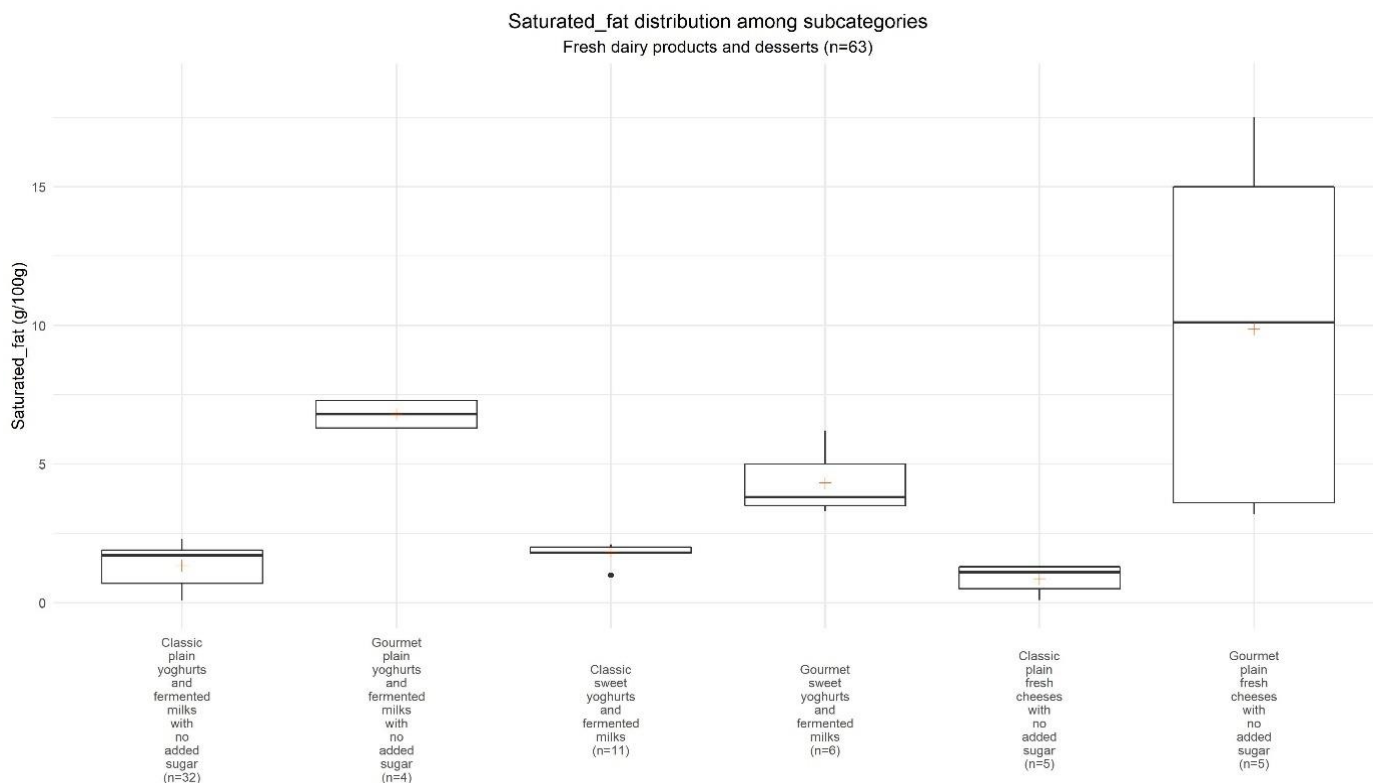


Figure 38 : Saturated fat distribution among subcategories of Fresh dairy products and desserts

Among all subcategories of Fresh dairy products and desserts, the mean content of saturated fat varies between 0,9g/100g and 9,9g/100g.

Subcategory with the highest mean content of saturated fat is Gourmet plain fresh cheeses with no added sugar (9,9g/100g, n=5) and the lowest mean content of saturated fat is found in the subcategory Classic plain fresh cheeses with no added sugar (0,9g/100g, n=5)). (Figure 38)

The saturated fat content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategory containing products with the most variable saturated fat content is: Gourmet plain fresh cheeses with no added sugar (n=5).

3.2.4.4 Distribution of sugar content by Fresh dairy products and desserts subcategories

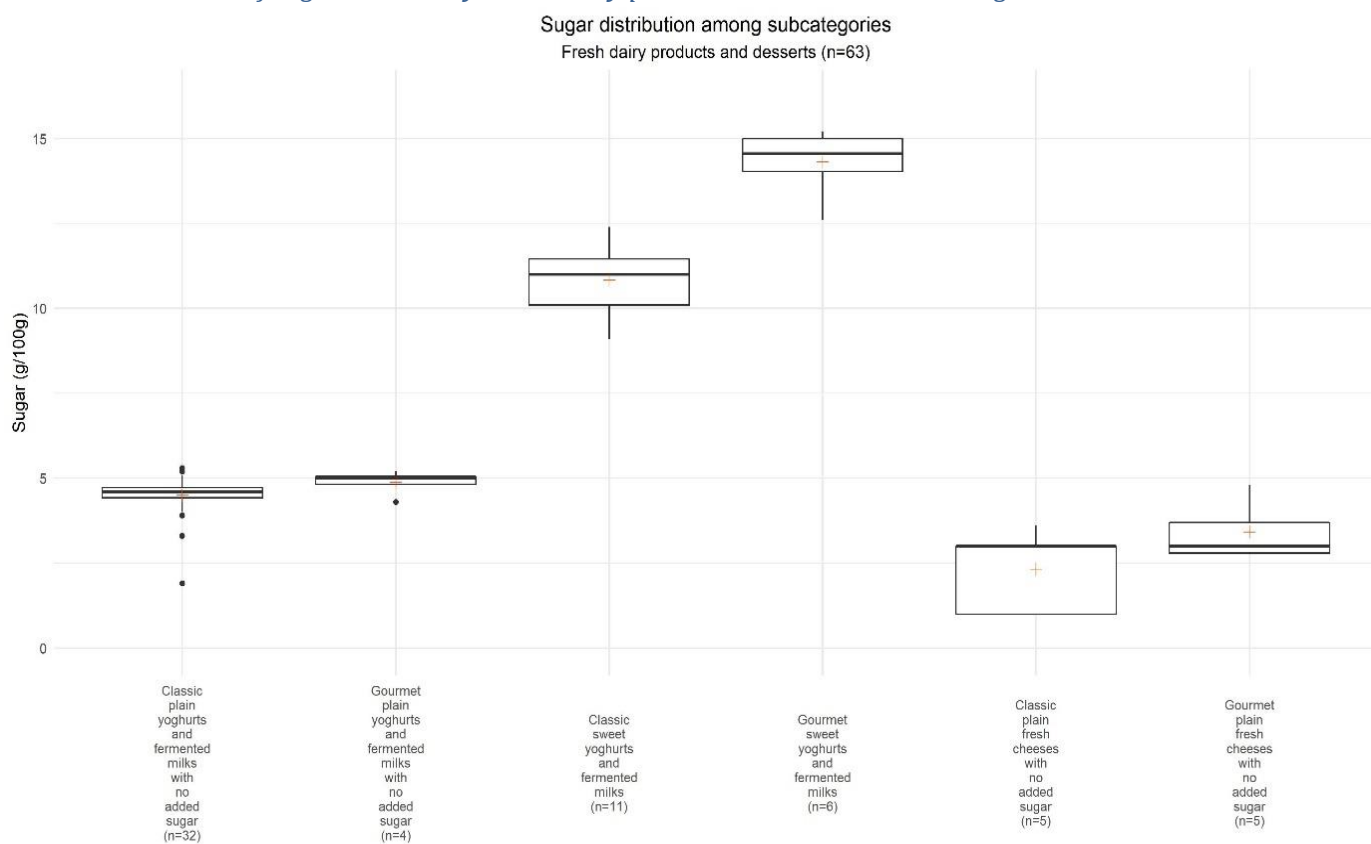


Figure 39 : Sugar distribution among subcategories of Fresh dairy products and desserts

Among all subcategories of Fresh dairy products and desserts, the mean content of sugar varies between 2,3g/100g and 14,3g/100g.

Subcategory with the highest mean content of sugar is Gourmet sweet yoghurt and fermented milks (14,3g/100g, n=6), Classic sweet yoghurts and fermented milks has a mean content of sugar of 10,8g/100g (n=11). (Figure 39)

Subcategory with the lowest mean content of sugar is Classic plain fresh cheeses with no added sugar (2,3g/100g, n=5).

The sugar content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategories containing products with the most variable sugar content are: Classic plain yoghurts and fermented milks with no added sugar (n=32) and Classic sweet yoghurts and fermented milks (n=11).

3.2.4.5 Distribution of fibre content by Fresh dairy products and desserts subcategories

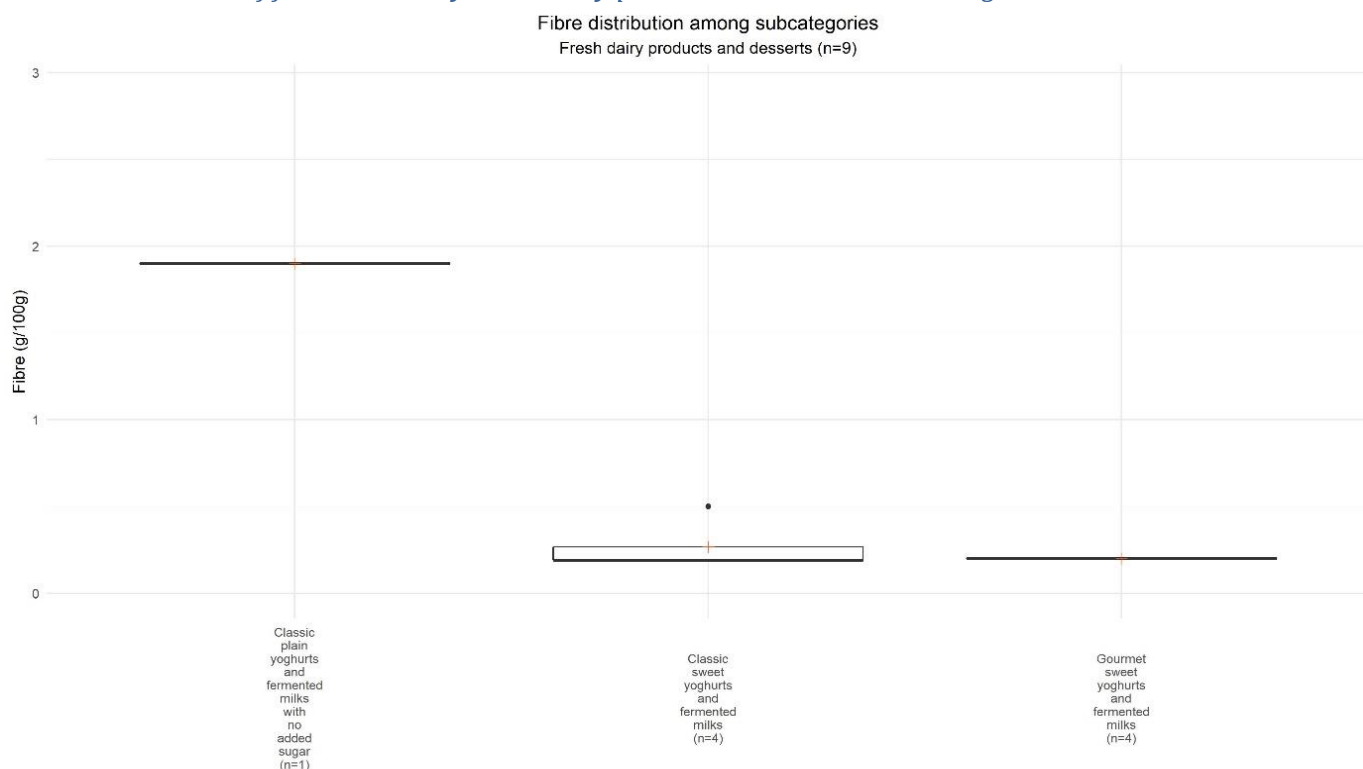


Figure 40 : Fibre distribution among subcategories of Fresh dairy products and desserts

Among all subcategories of Fresh dairy products and desserts, the mean content of fibre varies between 0,2g/100g and 1,9g/100g.

Subcategory with the highest mean content of fibre is Classic plain yoghurt and fermented milks with no added sugar (1,9g/100g, n=1). Subcategory with the lowest mean content of fibre is Gourmet sweet yoghurts and fermented milks (0,2g/100g, n=4). (Figure 40)

As declaring fibre content is not mandatory, there are not much information about fibre content in this category.

The fibre content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategory containing product with the most variable fibre content is: Classic sweet yoghurts and fermented milks (n=4).

3.2.5 Soft drinks

3.2.5.1 Distribution of sugar content by Soft drinks subcategories

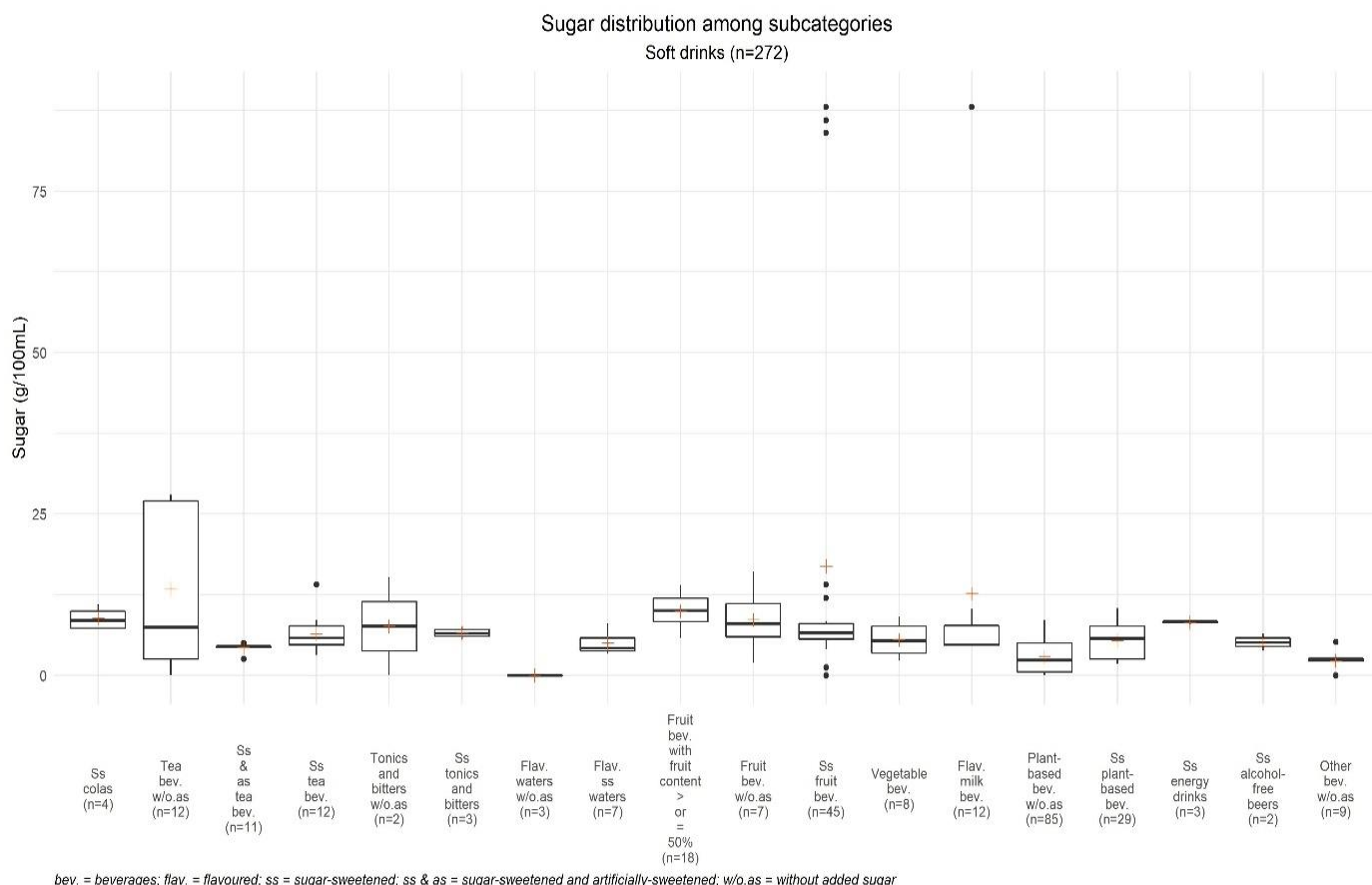


Figure 41 : Sugar distribution among subcategories of Soft drinks

Among all subcategories of Soft drinks the mean content of sugar varies between 0g/100g and 16,9g/100g.

Subcategory with the highest mean content of sugar is Sugar-sweetened fruit beverages (16,9g/100g, n=45).. Other categories also have high mean sugar contents are: Tea beverages without added sugar (13,4g/100g, n=12), Flavoured milk beverages (12,6g/100g, n=12), Fruit beverages with fruit content > or = 50% (9,9g/100g, n=18). Subcategory with the lowest mean content of sugar is Flavoured waters without added sugar (0g/100g, n=3). (Figure 41)

The sugar content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategories containing products with the most variable sugar content are: Tea beverages without added sugar (n=12), Sugar-sweetened fruit beverages (n=45) and Flavoured milk beverages (n=12).

3.2.5.2 Distribution of fibre content by Soft drinks subcategories

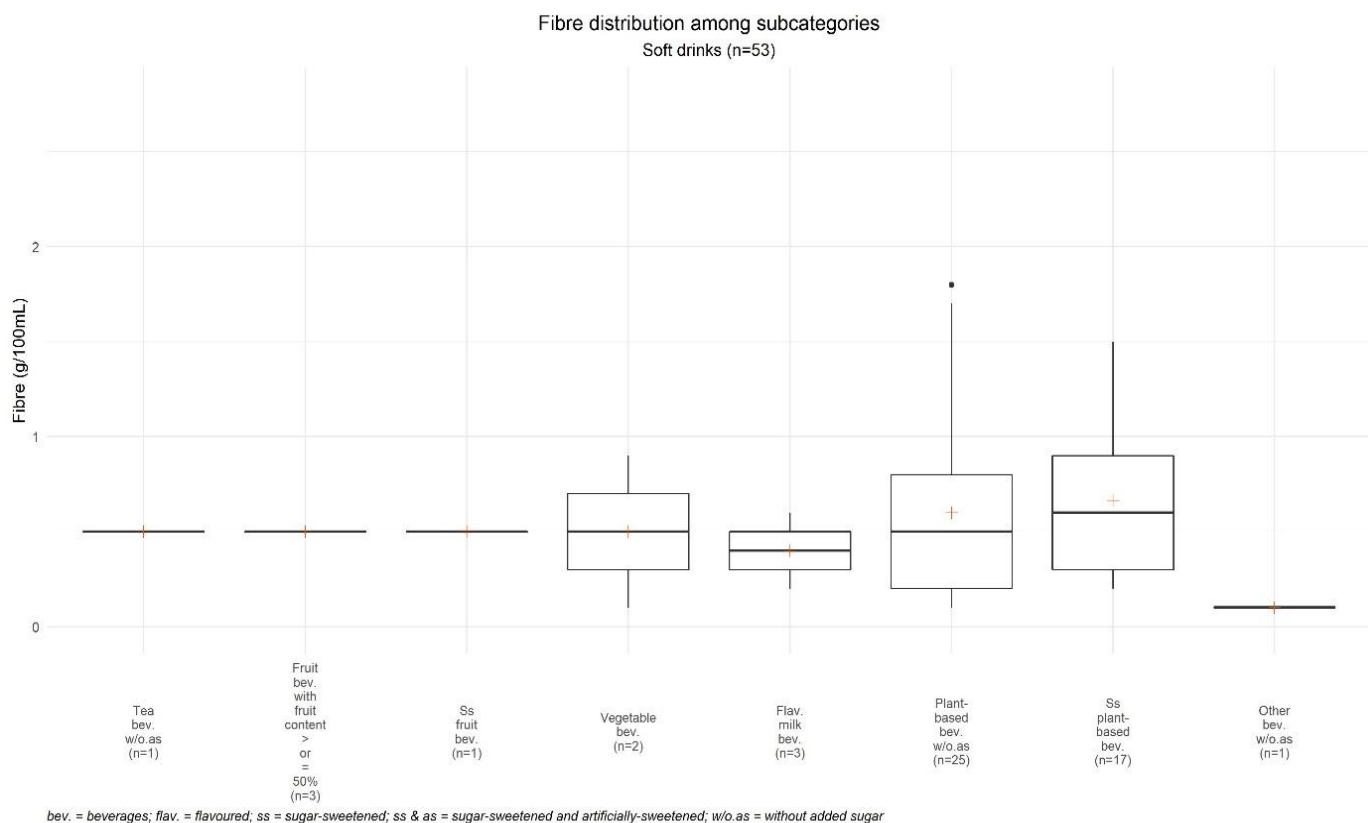


Figure 42 : Fibre distribution among subcategories of Soft drinks

Among all subcategories of Soft drinks, the mean content of fibre varies between 0,1g/100g and 0,7g/100g. All subcategories have low mean content of fibres (<1g/100g). (Figure 42)

As declaring fibre content is not mandatory, there are no much information about fibre content in this category.

The fibre content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategories containing products with the most variable fibre content are: Sugar-sweetened plant-based beverages (n=17) and Plant-based beverages without added sugar (n=25).

3.2.5.3 Distribution of salt content by Soft drinks subcategories

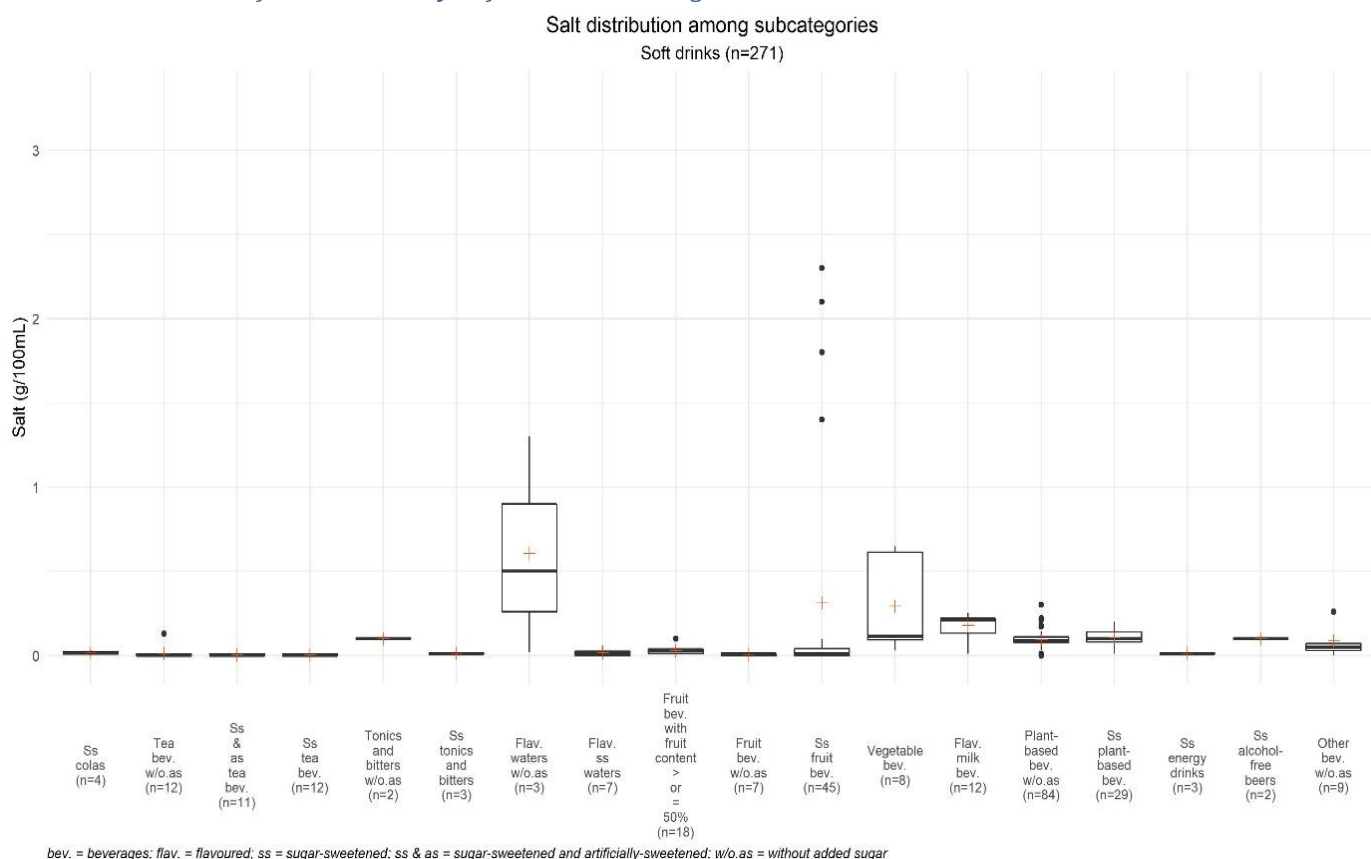


Figure 43 : Salt distribution among subcategories of Soft drinks

Among all subcategories of Soft drinks, the mean content of salt varies between 0g/100g (traces) and 0,61g/100g.

The subcategory with the highest amount of mean salt is Flavoured waters without added sugar (0,61g/100g, n=3). (Figure 43)

The salt content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategories containing products with the most variable salt content are: Sugar-sweetened fruit beverages (n=45) and Flavoured waters without added sugar (n=3).

3.2.5.4 Distribution of fat content among flavoured milk and plant-based beverages subcategories

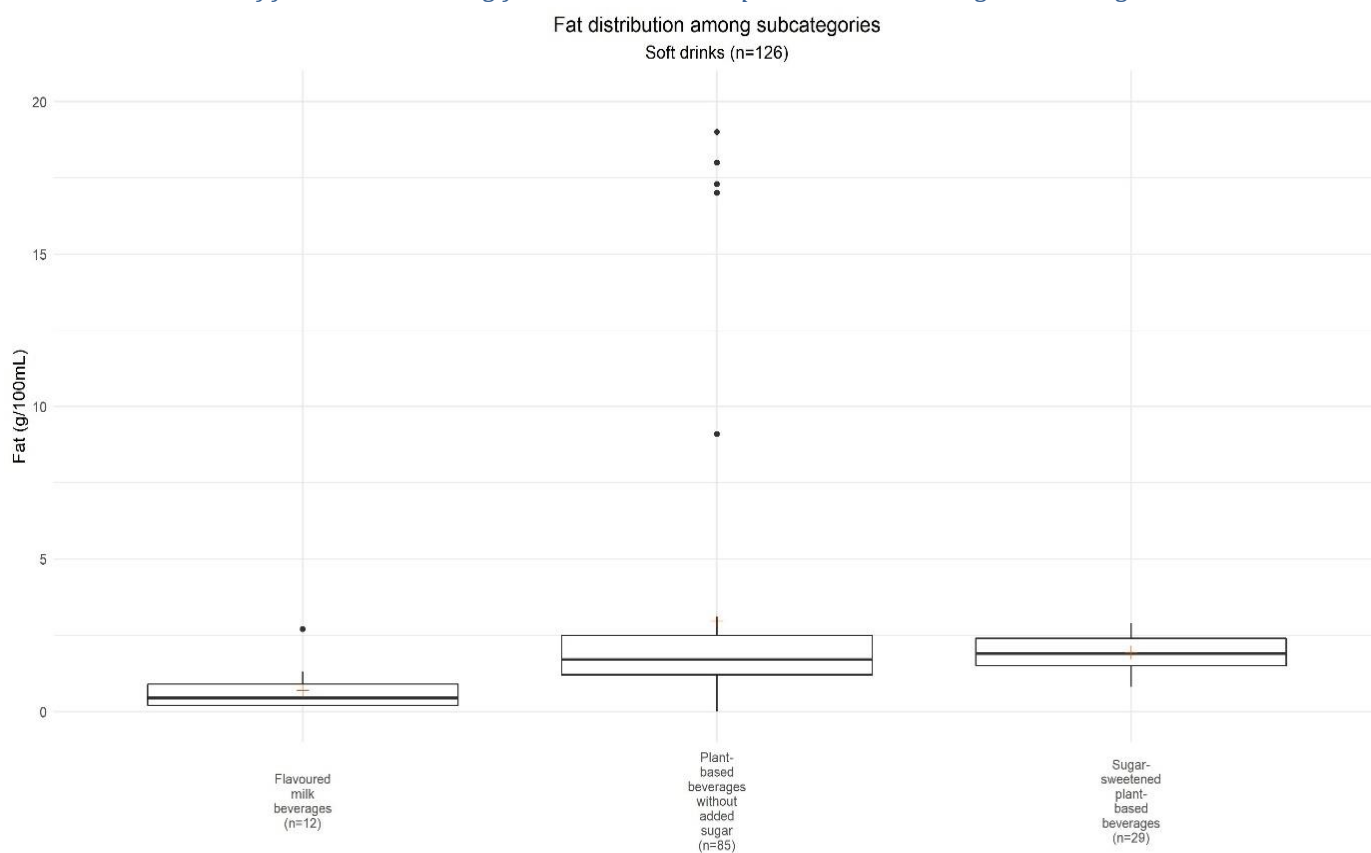


Figure 44 : Fat distribution among subcategories of Soft drinks

Among flavoured milk beverages and Plant-based beverages subcategories, the mean content of fat varies between 0,9g/100g (Flavoured milk beverages, n=12) and 3g/100g (Plant-based beverages without added sugar, n=85). (Figure 44)

The fat content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategory containing products with the most variable fat content is: Plant-based beverages without added sugar (n=85).

3.2.5.5 Distribution of saturated fat content among flavoured milk and plant-based beverages subcategories

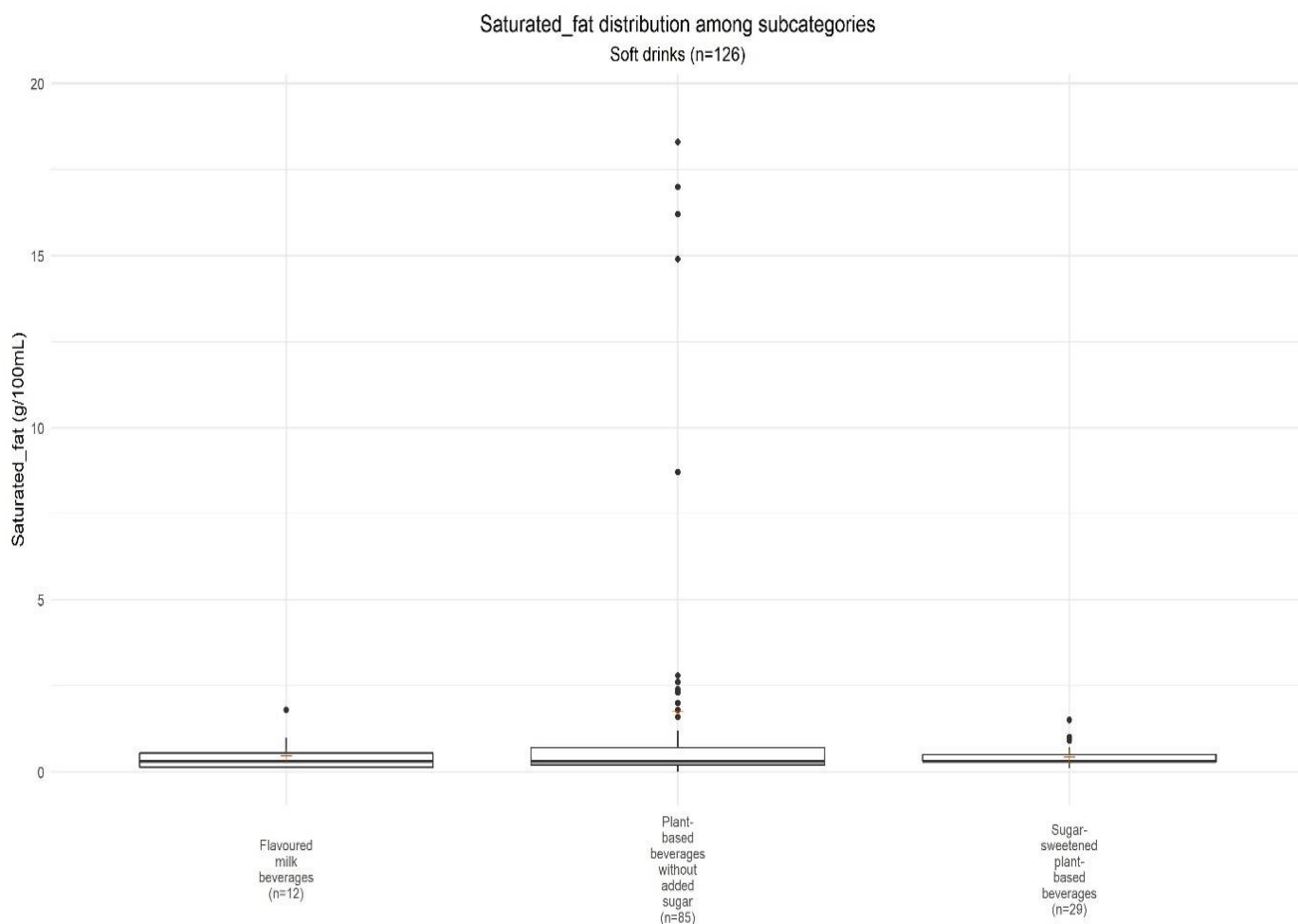


Figure 45 : Saturated fat distribution among subcategories of Soft drinks

Among Flavoured milk beverages and Plant-based beverages, the mean content of saturated fat varies between 0,4g/100g (Sugar-sweetened plant-based beverages, n=29) and 1,7g/100g (Plant-based beverages without added sugar, n=85). (Figure 45)

The saturated fat content varies among subcategories but also within a given subcategory, translating room for reformulation.

The subcategory containing products with the most variable saturated fat content is: Plant-based beverages without added sugar (n=85).



Best-ReMaP

Healthy Food for a Healthy Future

Ireland T0 statistics report V1

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FSAI – WP5

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1 Description of the food offer

1.1 Presentation of data collected

Ireland participated in the Best-ReMaP first snapshot of T0 data collection in 2021 and collected the following food categories: Breakfast cereals, Bread products, Delicatessen meats and similar products, Fresh dairy products and desserts and Soft drinks. In addition, Ireland collected data on Baby food.

Ireland had pre-existing data on breakfast cereals (2016-2017), yogurts (2016-2017) (part of the fresh dairy products and desserts category), and foods targeting infants (0-12months) and young children (12-36 months) (2017). For the purpose of this report only statistical description of the food categories collected for the first time (T0) will be included (Bread products, Delicatessen meats and Similar products, Fresh dairy products and desserts and Soft drinks). Note that details of the food offer collected for the Breakfast cereals category (type of brand, portion size, nutritional values...) is therefore not included in this report.

Between June 2021 and November 2021, n=3471 (n=3114 excluding baby foods) products were collected in four Irish supermarkets including Tesco Ireland, SuperValu, Lidl and Aldi. Detailed market shares of collected products were not purchased, however according to Kantar (2022) these 4 supermarkets represent 68.8% of market share (Kantar, 2022). National and retailer brand food products were collected in all retailers. All pre-packaged labelled food products (100%) available on shelves in the supermarkets on days of data collection for the priority food categories (Breakfast cereals (10.6% n=367), Bread products (15.49%, n=538), Delicatessen meats and similar products (20.33%, n=706), Fresh dairy products and desserts (20.54%, n=713), Soft drinks (22.76%, n=790)) plus additional food category Baby food (10.28%, n=357) were collected (photographs of products packaging were taken in stores). Although Baby food category was not part of the priority food categories for the Best-ReMaP project it was collected as extra data and will be included in the T+1 report.

1.2 Food offer analysis

1.2.1 Number of products collected by category

The total number of products presented in this report is 3100, of which 524 Bread products, 367 Breakfast cereals, 706 Delicatessen meats and similar, 713 Fresh dairy products and desserts and 790 Soft drinks.

1.2.2 Proportion of the types of brand collected by category

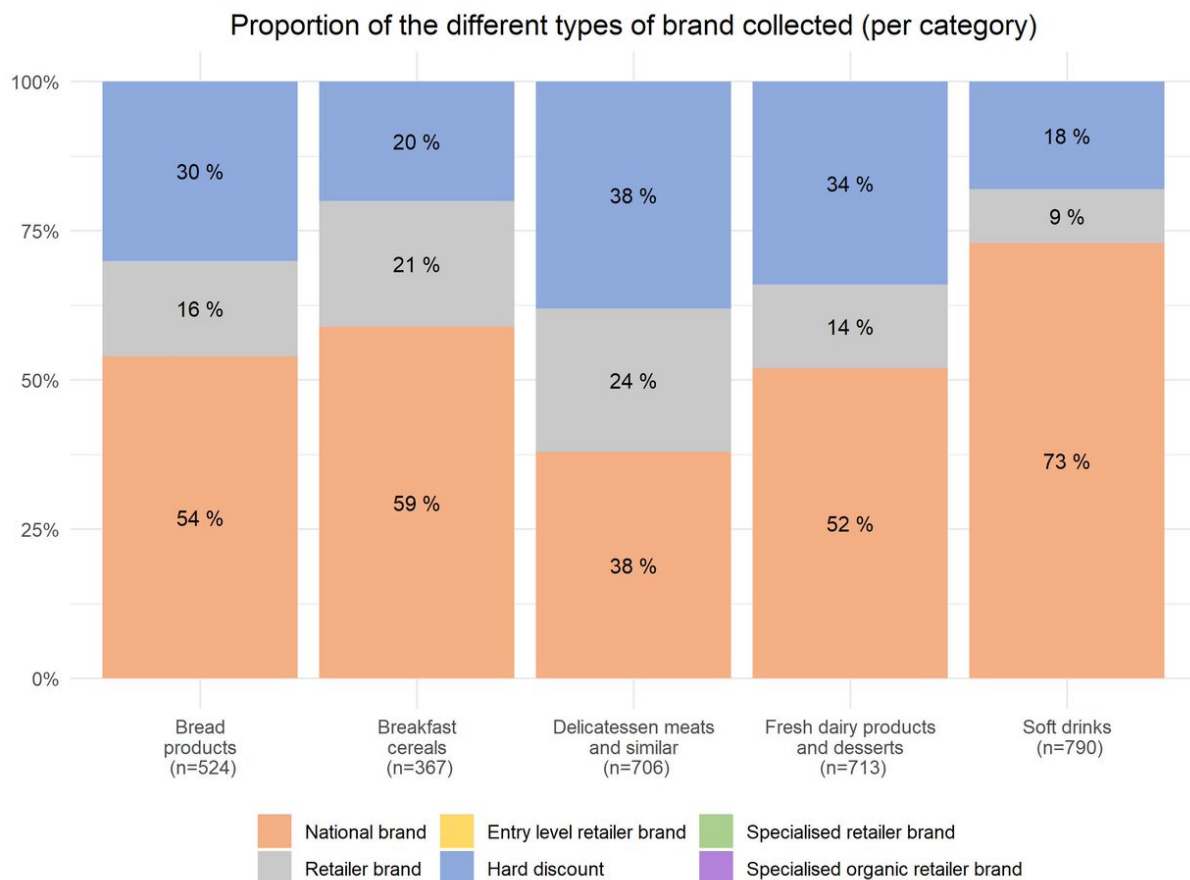


Figure 1 : Proportion of the different types of brands collected (per category)

Among the 524 products collected in the Bread products category (Figure 1):

- 54% belong to national brand (n= 284)
- 16% belong to retailer brand (n= 83)
- 30% belong to hard discount brand (n= 157)

Among the 367 products collected in the Breakfast cereals category (Figure 1):

- 59% belong to national brand (n=216)
- 21% belong to retailer brand (n=77)
- 20% belong to hard discount brand (n=74)

Among the 706 products collected in the Delicatessen meats and similar category (Figure 1):

- 38% belong to national brand (n=265)
- 24% belong to retailer brand (n=171)
- 38% belong to hard discount brand (n=270)

Among the 713 products collected in the Fresh dairy products and desserts category (Figure 1):

- 52% belong to national brand (n=373)
- 14% belong to retailer brand (n=100)
- 34% belong to hard discount brand (n=240)

Among the 790 products collected in the Soft drinks category (Figure 1):

- 73% belong to national brand (n=571)
- 9% belong to retailer brand (n=75)
- 18% belong to hard discount brand (n=144)

None of the products collected during Best-ReMaP among all five categories belong to entry level retailer brand, specialized retailer brand or specialized organic retailer brand.

The proportion of products collected in national, retailer and hard discount brand varied between different food categories. For example, the majority of soft drinks accounted for national brand type products (73%), where food category delicatessen meats and similar was split nearly evenly between the three types of brands represented.

1.2.3 Description of the collected food offer by category

1.2.3.1 Bread products

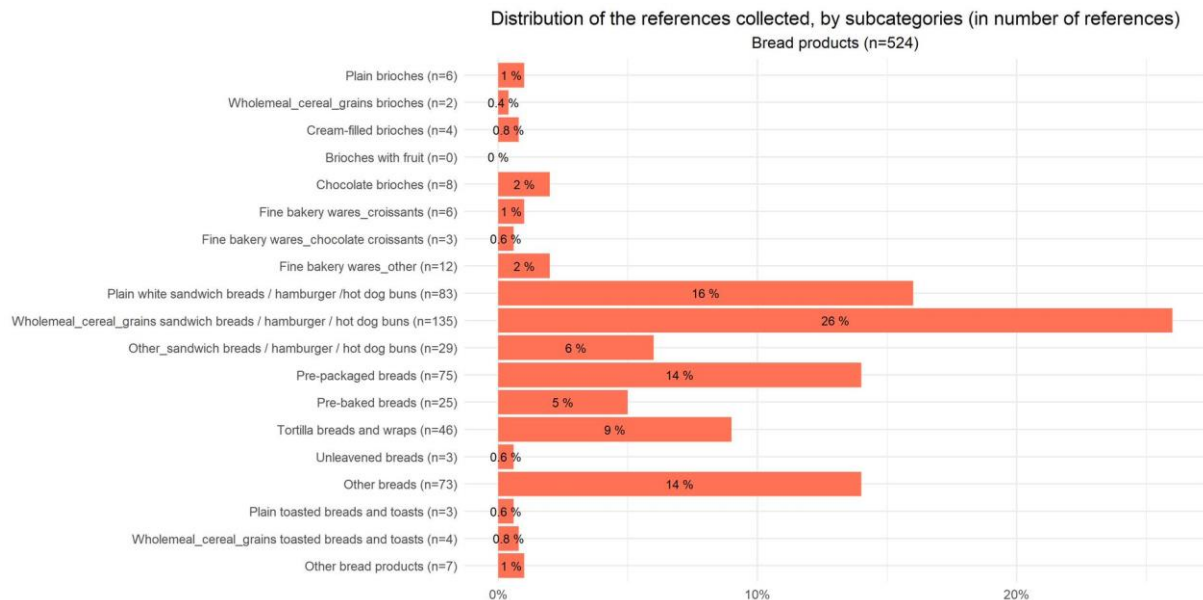


Figure 2 : Distribution of the references collected, by subcategories among Bread products

Distribution by subcategories of products collected among Bread products (Figure 2) shows that Wholemeal_cereal_grains sandwich breads/hamburger/hot dog buns (n=135, 26%) and Plain white sandwich breads/hamburger/hot dog buns (n=83, 16%) are the most frequent type of breads.

On the contrary, the least represented subcategories are: Wholemeal_cereal_grains brioches (n=2, 0.4%), Fine bakery wares_chocolate croissants (n=3, 0.6%), Plain toasted breads and toasts (n=3, 0.6%), Unleavened breads (n=3, 0.6%), Cream-filled brioches (n=4, 0.8%), Wholemeal_cereal_grains toasted breads and toasts (n=4, 0.8%), Fine bakery wares_croissant (n=6, 1%), Plain brioches (n=6, 1%), Other bread products (n=7, 1%), and Chocolate brioches (n=8, 2%).

No products are available in Brioches with fruit product subcategory as these types of products were not available on the Irish market during the data collection.

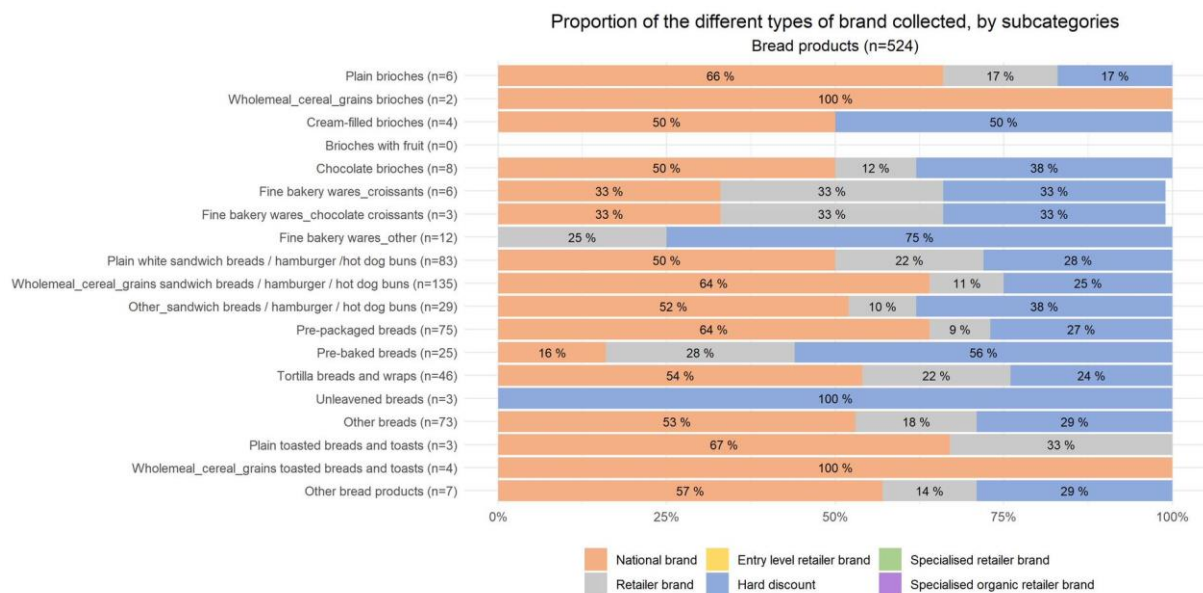


Figure 3: Proportion of the different types of brand collected, by subcategories among Bread products

Among the 524 products collected, the proportion of the different types of brands are variable among subcategories (Figure 3).

- National brands are the most represented among most subcategories (between 0 and 100% of products collected depending on the subcategory).
- Retailer brands are less represented (between 0% and 33% of products collected in 18 out of 19 subcategories).
- Hard discount are the second most represented (available in 15 out of 19 subcategories, between 0% and 100% depending on the subcategory).

1.2.3.3 Delicatessen meats and similar

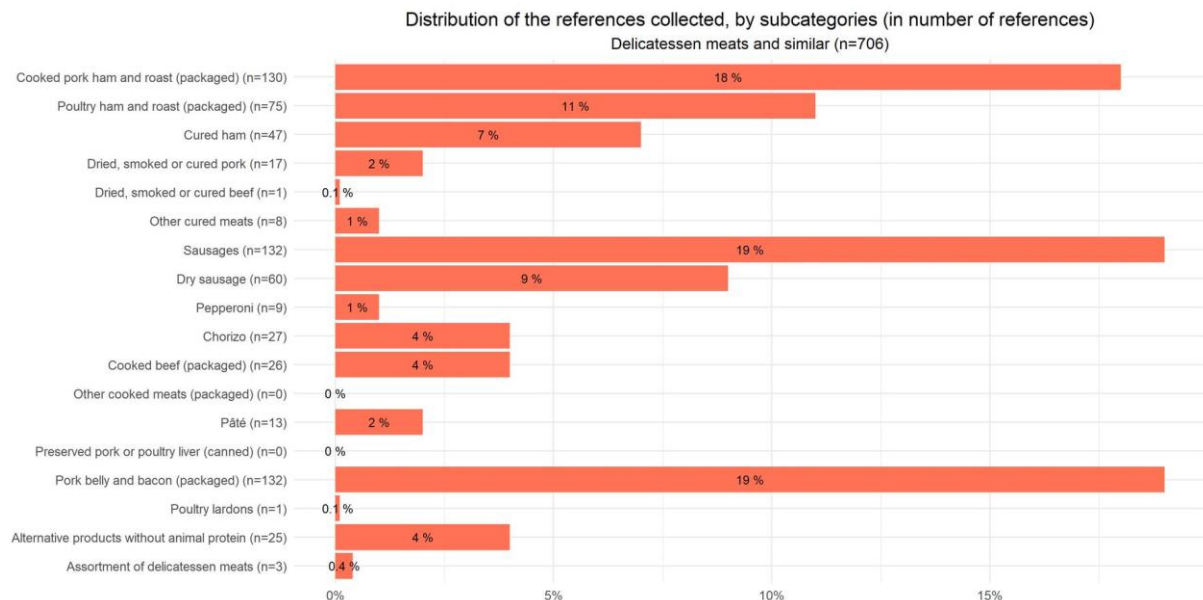


Figure 4: Distribution of the references collected, by subcategories among delicatessen meats and similar

The distribution of delicatessen meats and similar products are mainly predominant among the four subcategories including Cooked pork ham and roast (packaged) (n=130, 18%), Sausages (n=132, 19%), Pork belly and bacon (packaged) (n=132, 19%) and Poultry ham and roast (packaged) (n=75, 11%) (Figure 4).

Subcategories with small numbers of products include Dried, smoked or cured beef (n=1, 0.1%), Poultry lardons (n=1, 0.1%), Assortment of delicatessen meats (n=3, 0.4%), Other cured meats (n=8, 1%), Pepperoni (n=9, 1%), Pate (n=13, 2%), Dried smoked or cured pork (n=17, 2%), Alternative products without animal protein (n=25, 4%), Cooked beef (packaged) (n=26, 4%), Chorizo (n=27, 4%), Cured ham (n=47, 7%), and Dry sausage (n=60, 9%).

No products are available in Preserved pork or poultry liver (canned) and Other cooked meats (packaged) subcategories.

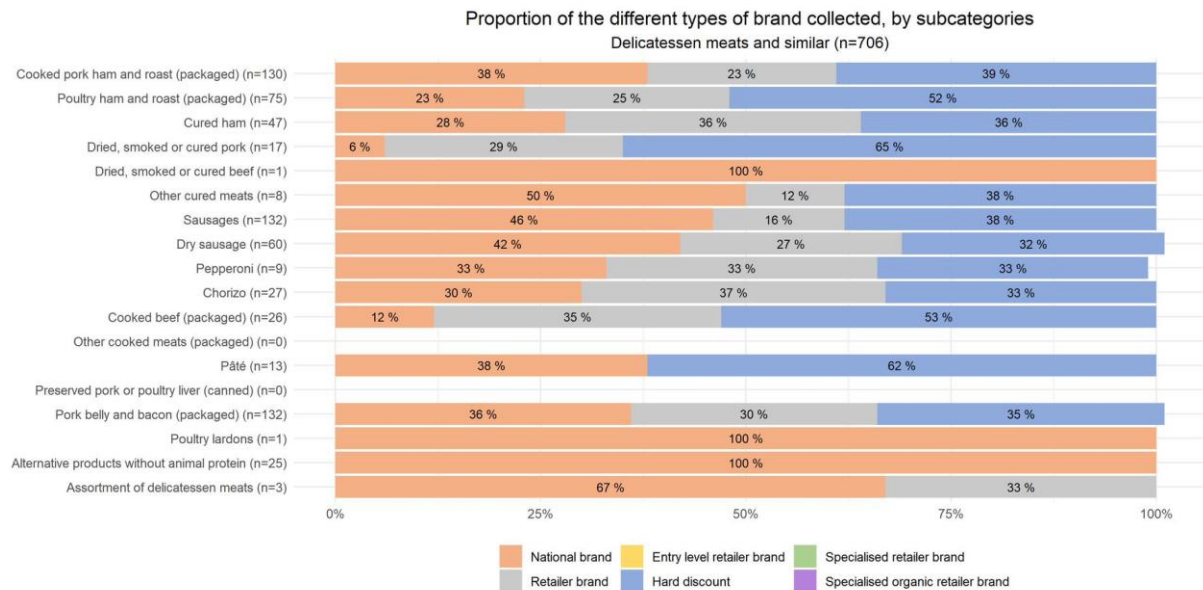


Figure 5: Proportion of the different types of brand collected, by subcategories among Delicatessen meats and similar

The proportion of type of brands varied between the subcategories for Delicatessen meats and similar products (Figure 5).

- National brands are the most represented among all the following sub-categories: Dried, smoked or cured beef (100%), Alternative products without animal protein (100%), Poultry lardons (100%), Assortment of delicatessen meats (67%), Other cured meats (50%), Sausages (46%), Dry sausage (42%), Cooked pork ham and roast (packaged) (38%) and Pork belly and bacon (packaged) (36%).
- The subcategories with the highest proportion of retailer brands include Chorizo (37%), Cured ham (36%) and Cooked beef (packaged) (35%).
- The sub-categories in which hard discount brands are most represented are: Dried, smoked or cured pork (65%), Pate (62%), Cooked beef packaged (53%), Poultry ham and roast (packaged) (52%), Cooked pork ham and roast (packaged) (39%).

1.2.3.4 Fresh dairy products and desserts

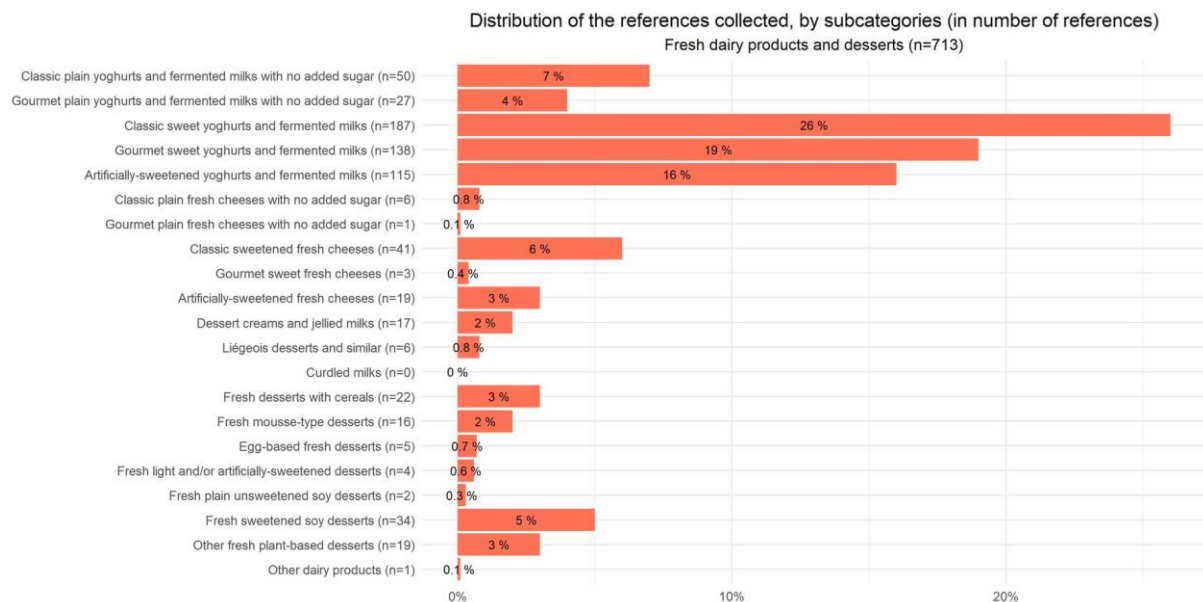


Figure 6: Distribution of the references collected, by subcategories among Fresh dairy products and desserts

The distribution of the Fresh dairy products and desserts varied between subcategories with the majority of the products in the subcategories: Classic sweet yoghurts and fermented milks (n=187, 26%), Gourmet sweet yoghurts and fermented milks (n=138, 19%), Artificially-sweetened yoghurts and fermented milks (n=115, 16%) (Figure 6).

- The remaining subcategories present a smaller number of products including Classic plain yoghurts and fermented milks with no added sugar (n=50, 7%), Classic sweetened fresh cheeses (n=41, 6%) and Fresh sweetened soy desserts (n=34, 5%).
- The least number of products representing 5% or less of the Fresh dairy products and desserts category include Gourmet plain fresh cheeses with no added sugar (n=1, 0.1%), Other dairy products (n=1, 0.1%), Fresh plain unsweetened soy desserts (n=2, 0.3%), Gourmet sweet fresh cheeses (n=3, 0.4%), Fresh light and/or artificially-sweetened desserts (n=4, 0.6%), Egg-based fresh desserts (n=5, 0.7%), Liégeois desserts and similar (n=6, 0.8%), Classic plain fresh cheeses with no added sugar (n=6, 0.8%), Fresh mousse-type desserts (n=16, 2%), Dessert creams and jellied milks (n=17, 2%), Artificially-sweetened fresh cheeses (n=19, 3%), Fresh desserts with cereals (n=22, 3%), Other fresh plant-based desserts (n=19, 3%), Gourmet plain yoghurts and fermented milks with no added sugar (n=27, 4%).
- No products are represented in Curdled milks subcategory.

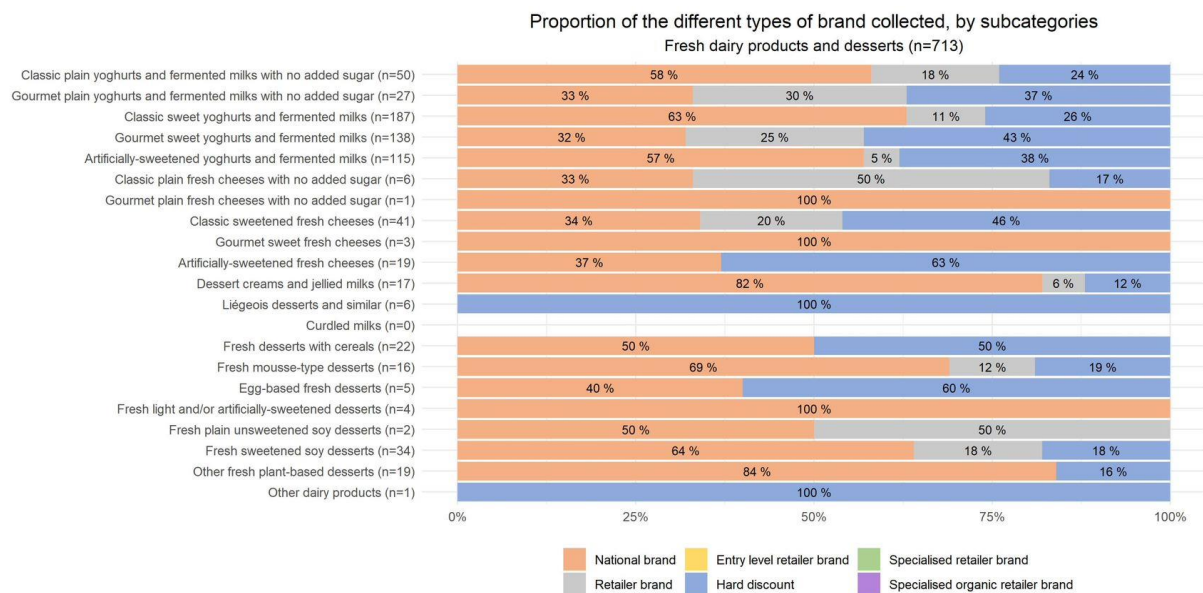


Figure 7: Proportion of the different types of brand collected, by subcategories among fresh dairy products and desserts

The majority of products collected in the Fresh dairy products and desserts category belong either to national or to hard discount brand (Figure 7).

- National brands are predominant in the following subcategories: Gourmet plain fresh cheeses with no added sugar (100%), Gourmet sweet fresh cheeses (100%), Fresh light and/or artificially sweetened desserts (100%), Other fresh plant-based desserts (84%), Dessert creams and jellied milks (82%), Fresh mousse-type desserts (69%), Fresh sweetened soy desserts (64%), Classic sweet yoghurts and fermented milks (63%), Classic plain yoghurts and fermented milks with no added sugar (58%), Artificially-sweetened yoghurts and fermented milks (57%). For all categories the number of products included is small (less than 30), with the exception of Classic sweet yoghurts and fermented milks (n=187), Gourmet sweet yoghurts and fermented milks (n=138), Artificially-sweetened yoghurts and fermented milks (n=115), Classic plain yoghurts and fermented milks with no added sugar (n=50), Classic sweetened fresh cheeses (n=41).
- Hard discount brands are prevalent in the subcategories including Other dairy products (100%), Liégeois desserts and similar (100%), Artificially-sweetened fresh cheeses (63%), Egg-based fresh desserts (60%), Classic sweetened fresh cheeses (46%), Fresh desserts with cereals (50%), Gourmet sweet yoghurts and fermented milks (43%) and Artificially-sweetened yoghurts and fermented milks (38%). For all categories the number of products included is small (between 1 and 22), except for Classic sweetened fresh cheeses (46%, n=41), Gourmet sweet yoghurts and fermented milks (43%, n=138), Artificially-sweetened yoghurts and fermented milks (38%, n=115), Classic sweet yoghurts and fermented milks (37%, n=187), Classic plain yoghurts and fermented milks with no added sugar (24%, n=50).
- Retailer brands are less represented with a smaller number of products in the subcategories of the Fresh dairy products and desserts, including Gourmet plain yoghurts and fermented milks with no added sugar (30%), Gourmet sweet yoghurts

and fermented milks (25%), Classic plain fresh cheeses with no added sugar (20%), Classic sweetened fresh cheeses (20%), Classic plain yoghurt with fermented milks and no added sugar (18%), Fresh sweetened soy desserts (18%), Fresh mousse-type desserts (12%), Classic sweet yoghurts and fermented milks (11%), Dessert creams and jellied milks (6%) and Artificially-sweetened yoghurts and fermented milks (5%).

1.2.3.5 Soft drinks

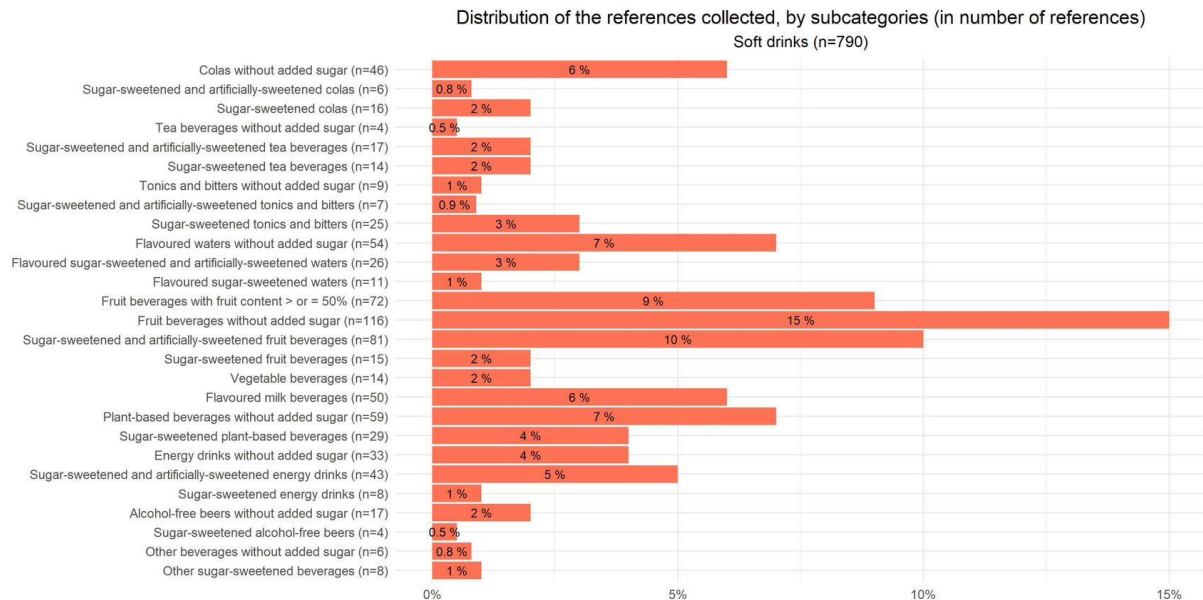


Figure 8: Distribution of the references collected, by subcategories among Soft drinks

Figure 8 shows the distribution of the subcategories in the Soft drinks category.

- The most represented subcategories are Fruit beverages without added sugar (n=116, 15%), Sugar-sweetened and artificially-sweetened fruit beverages (n=81, 10%), Fruit beverages with fruit content > or = 50% (n=72, 9%), Flavoured waters without added sugar (n=54, 7%), and Plant based beverages without added sugar (n=59, 7%).
- The least represented and accounting for less than 1% of Soft drinks are Tea beverages without added sugar (n=4, 0.5%), Sugar-sweetened alcohol-free beers (n=4, 0.5%), Sugar-sweetened and artificially-sweetened colas (n=6, 0.8%), Other beverages without added sugar (n=6, 0.8%), and Sugar-sweetened and artificially-sweetened tonics and bitters (n=7, 0.9%).

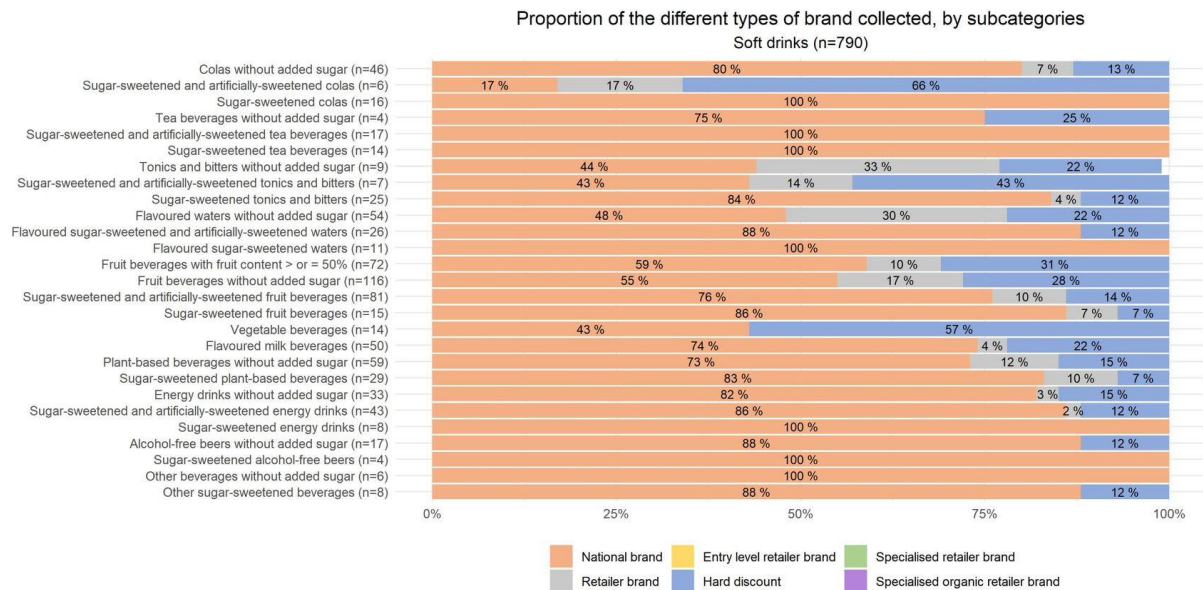


Figure 9: Proportion of the different types of brand collected, by subcategories among Soft drinks

The majority of the products collected among all subcategories belong to national brand (between 17% and 100% of products from National brand per category), except for Vegetable beverages and Sugar-sweetened and Artificially-sweetened colas for which the proportion of hard discount products is higher (respectively 57% and 66% of products from hard discount brand) (Figure 9).

2 Labelling parameters

2.1 Front of pack labelling per category

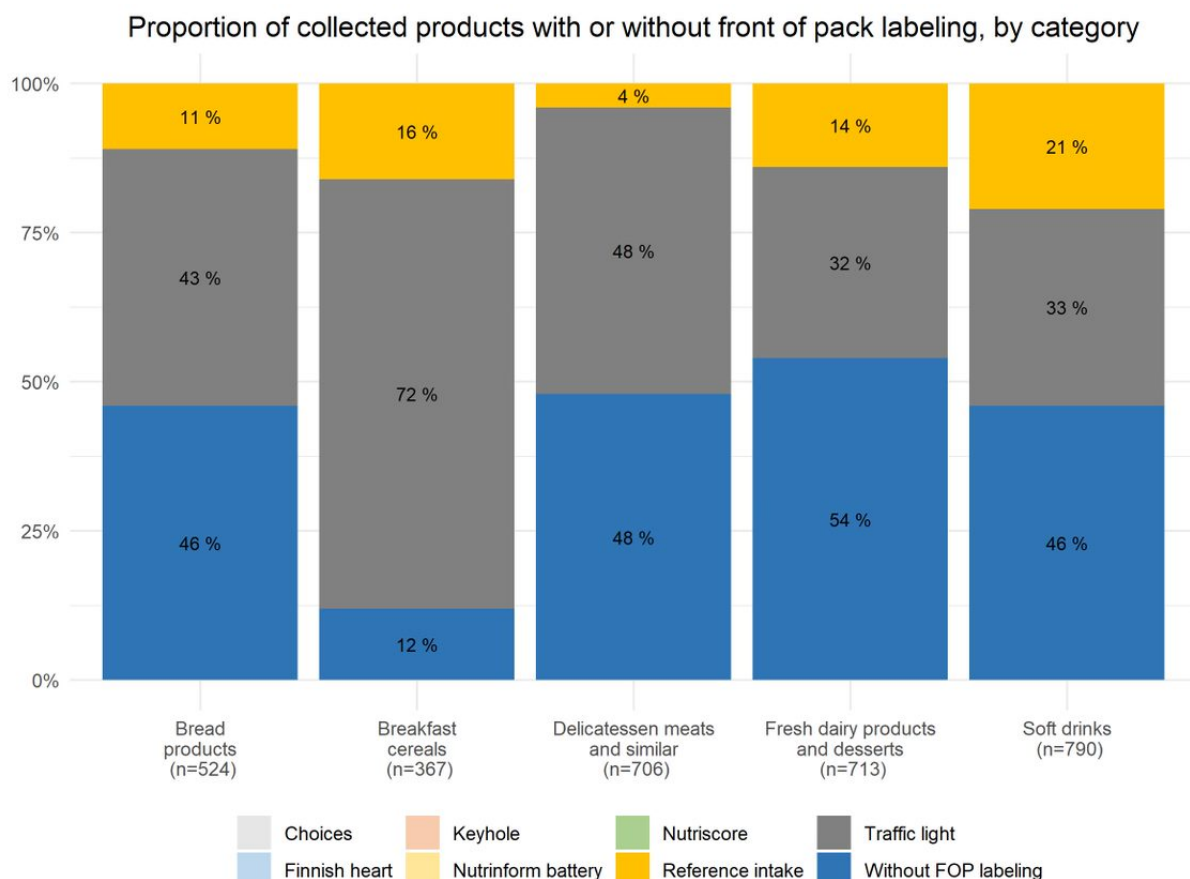


Figure 10: Proportion of collected products with or without front of pack labelling, by category

The frequency of the appearance of a front of pack labelling is observed for each of the categories monitored (Figure 10).

- A large proportion of products do not have FOP labelling, ranging between 12% (n=44) of products in the Breakfast cereals category (n=367) and 54% (n=385) products in the Fresh dairy products and desserts category (n=713).
- All categories contain products with Traffic light labelling. It's predominant in Breakfast cereals category (72%), and its use ranges from 32 - 48% of products in the remaining four food categories.
- Reference intake labelling is also present in the 5 categories, from 4% in Delicatessen meats and to 21% in Soft drinks.

- No other front of pack labelling is present on the packaging of the products collected during Best-ReMaP data collection.

2.2 Quantified portion size

2.2.1 Bread products

2.2.1.1 Proportion of products with and without quantified portions by subcategory

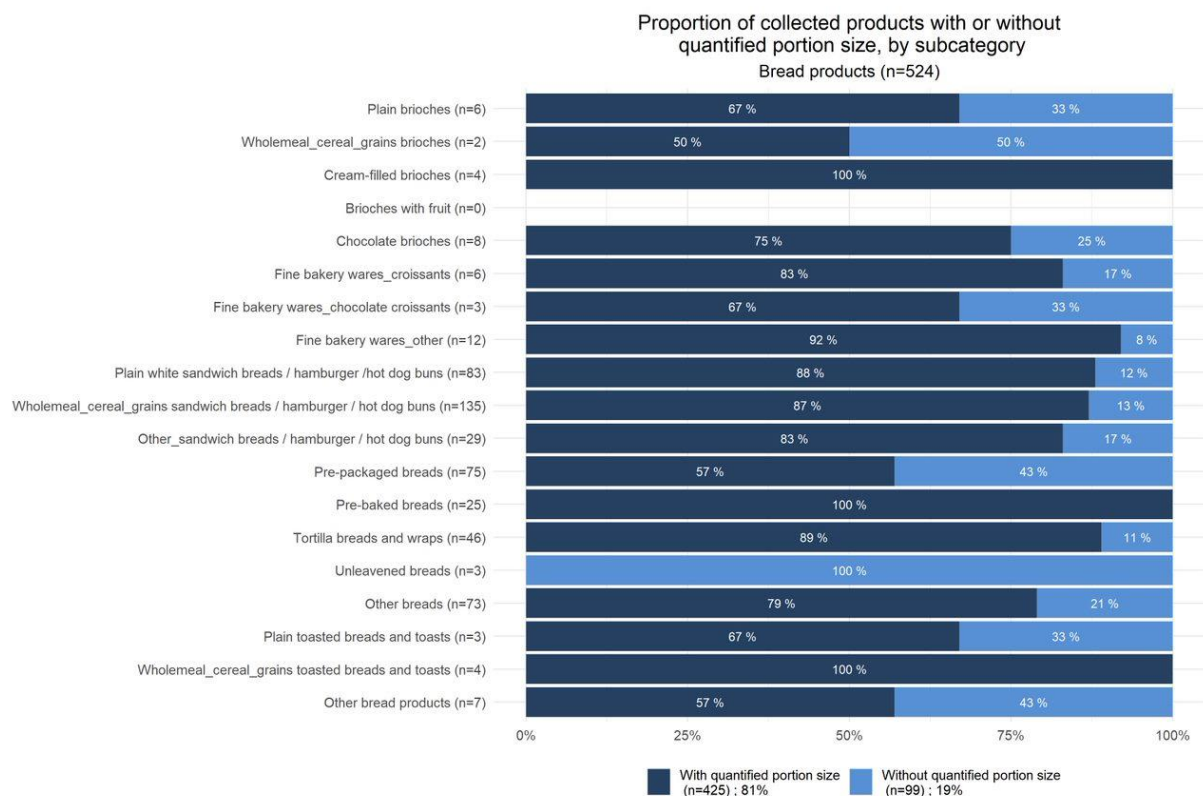


Figure 11: Proportion of collected products with or without quantified portion size, by subcategories among Bread products

Among the 524 products collected, 81% (n=425) of products have a quantified portion size (Figure 11).

- The majority of products in most subcategories collected have quantified portion size.
- On the contrary, all the products of the subcategory Unleavened breads (n=3) are without quantified portion size (100%).
- All products in the three sub-categories, Pre-baked breads (n=25), Cream-filled brioches (n=3) and Wholemeal_cereal_grains toasted breads and toasts (n=4) have a quantified portion size.
- Other subcategories with the proportion of products (>80%) with a quantified portion size include Fine bakery wares_other (n=12, 92%), Tortilla breads and wraps (n=46, 89%), Plain white sandwich breads / hamburger / hot dog buns (n=83, 88%), Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns (n=135, 87%), Other_sandwich breads / hamburger / hot dog buns (n=29, 83%) and Fine bakery wares_croissants (n=6, 83%).

2.2.1.2 Proportion of the most represented portion sizes by category

Proportion of the five most represented portion sizes
among collected products, by category
Bread products (n=425)

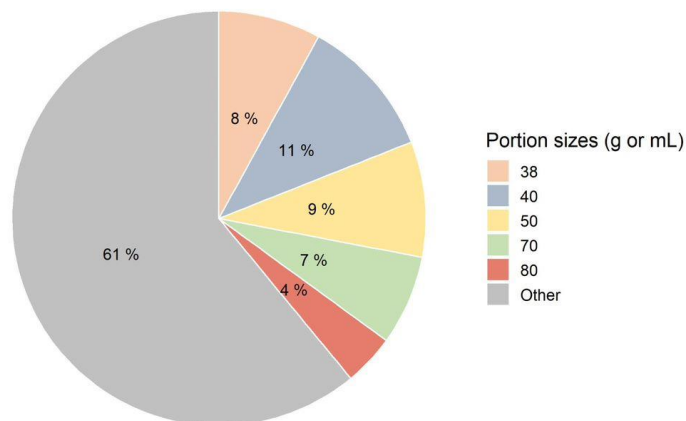


Figure 12: Proportion of the five most represented portion sizes among collected products in the Bread products category

Portion size in Bread products category varies. The five most frequent portion sizes are highlighted in Figure 12. The most frequent portion size is 40g (11%), followed by 50g (9%), 38g (8%), 70g (7%) and 80g (4%). A large proportion of products had varied portion sizes and represented the “other” category in the pie chart.

2.2.3 Delicatessen meat and similar

2.2.3.1 Proportion of products with and without quantified portions by subcategory

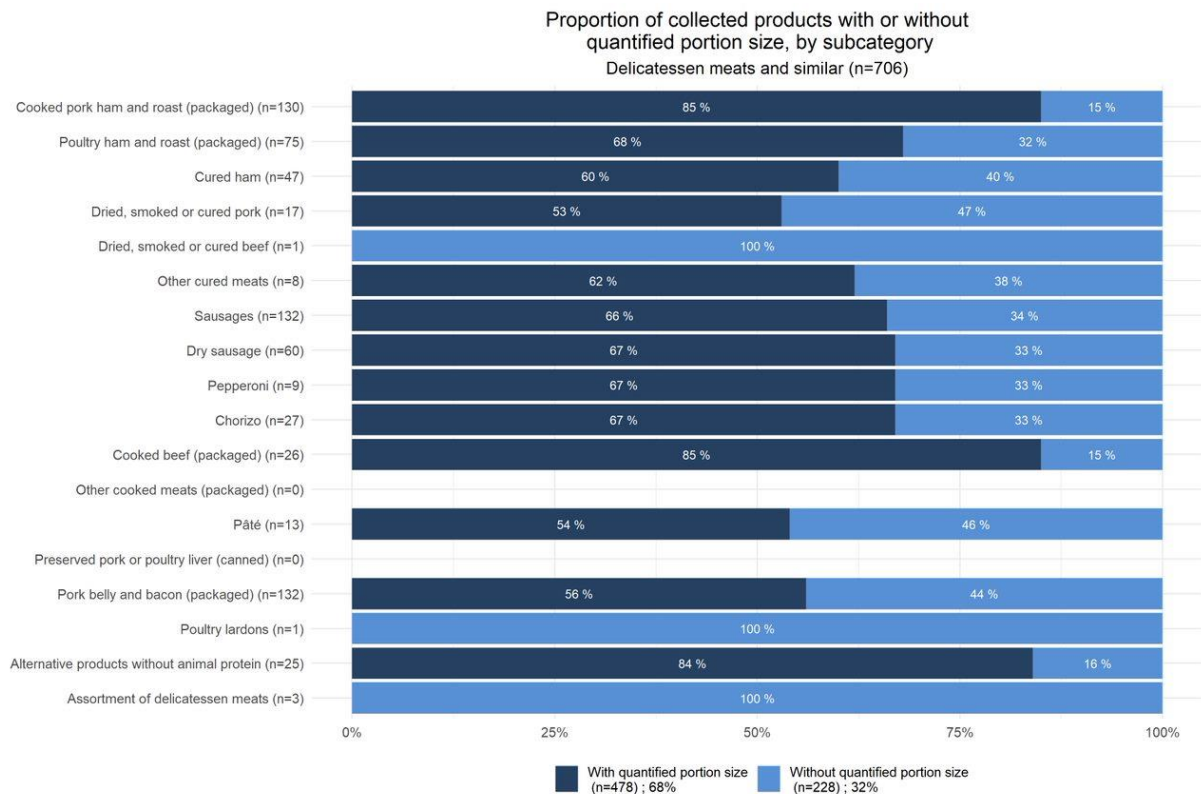


Figure 13: Proportion of collected products with or without quantified portion size, by subcategories among Delicatessen meats and similar

The majority of products in the Delicatessen meats and similar have a quantified portion size (n=478, 68%) (Figure 13).

- All products in the Assortment of delicatessen meats sub-category are without quantified portion size (100%). In addition, no products in the two subcategories, Dried, smoked or cured beef (n=1) and Poultry lardons (n=1) have a quantified portion size.
- A quantified portion size is indicated on the packaging for over 80% of products in the following subcategories: Cooked beef (packaged) (n=26, 85%), Alternative products without animal protein (n=25, 84%) and Cooked pork ham and roast (packaged) (n=130, 85%).

2.2.3.2 Proportion of the most represented portion sizes by category

Proportion of the five most represented portion sizes
among collected products, by category
Delicatessen meats and similar (n=478)

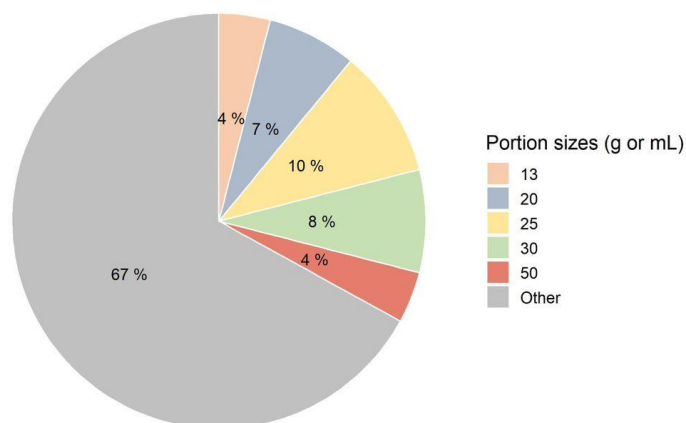


Figure 14: Proportion of the five most represented portion sizes among collected products in the Delicatessen meats and similar category

Of products with a suggested portion size in the Delicatessen meats and similar, the five portion sizes most represented varies between 13g and 50g. However, with the majority of products have an 'Other' portion size (Other=67%) due to a large variability in portion sizes in this food category (Figure 14). The most representative portion size is 25g (10%), followed by 30g (8%), 20g (7%), 13g (4%) and 50g (4%).

2.2.4 Fresh dairy products and desserts

2.2.4.1 Proportion of products with and without quantified portions by subcategory

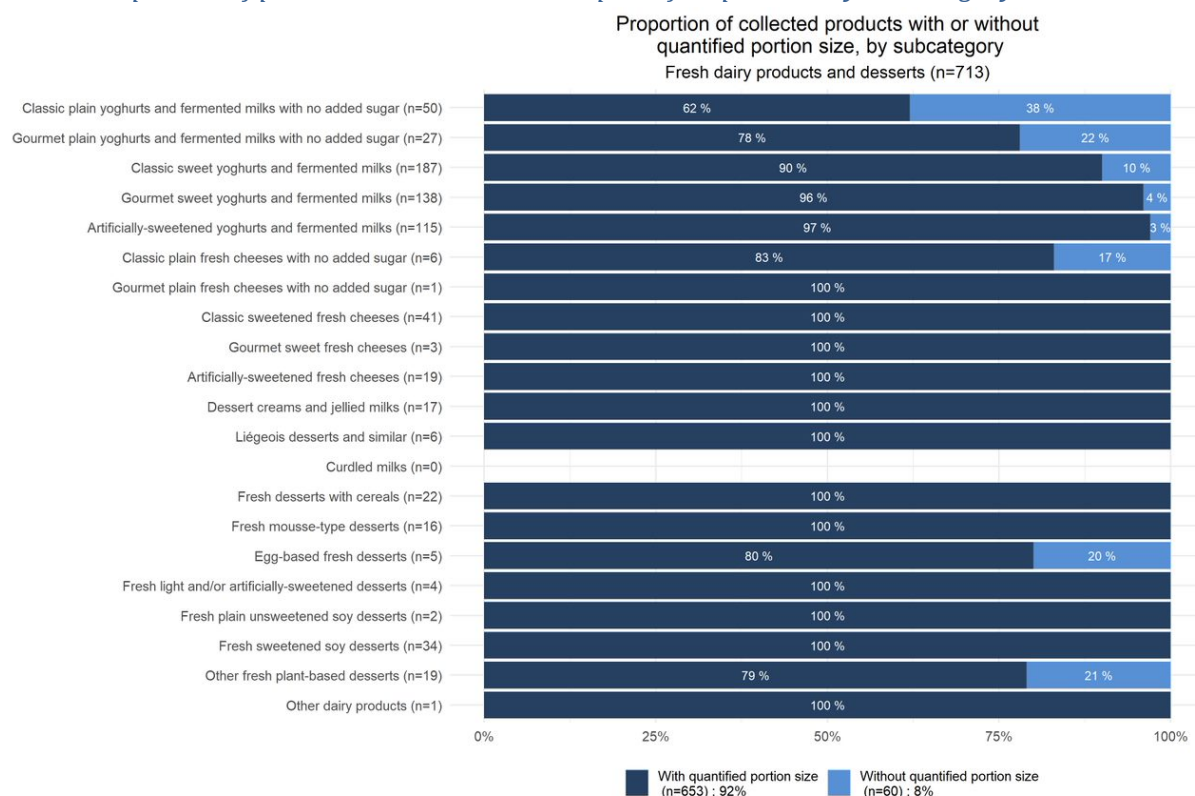


Figure 15: Proportion of collected products with or without quantified portion size, by subcategories among Fresh dairy products and desserts

The majority of products in the Fresh dairy products and desserts have a quantified portion size (n=653, 92%) (Figure 15).

- All products (100%) in the following subcategories were with quantified portion size: Gourmet plain fresh cheeses with no added sugar (n=1), Classic sweetened fresh cheeses (n=41), Gourmet sweet fresh cheeses (n=3), Artificially-sweetened fresh cheeses (n=19), Dessert creams and jellied milks (n=17), Liégeois desserts and similar (n=6), Fresh mouse-type desserts (n=16), Fresh desserts with cereals (n=22), Fresh light and/or artificially-sweetened desserts (n=4), Fresh plain unsweetened soy desserts (n=2), Fresh sweetened soy desserts (n=34) and Other dairy products (n=1).
- A small proportion of products in the following subcategories were without quantified portion size, Classic plain yoghurts and fermented milks with no added sugar (n=50, of which 38% without quantified portion size), Gourmet plain yoghurts and fermented milks with no added sugar (n=27, of which 22% without quantified portion size), Other fresh plant-based desserts (n=19, of which 21% without quantified portion size), Egg-based fresh desserts (n=5, of which 20% without quantified portion size), Classic plain fresh cheeses with no added sugar (n=6, of which 17% without quantified portion size), Classic sweet yoghurts and fermented milks (n=187, of which 10% without quantified

portion size), Gourmet sweet yoghurts and fermented milks (n=138, of which 4% without quantified portion size) and Artificially-sweetened yoghurts and fermented milks (n=115, of which 3% without quantified portion size).

2.2.4.2 Proportion of the most represented portion sizes by category

Proportion of the five most represented portion sizes
among collected products, by category
Fresh dairy products and desserts (n=653)

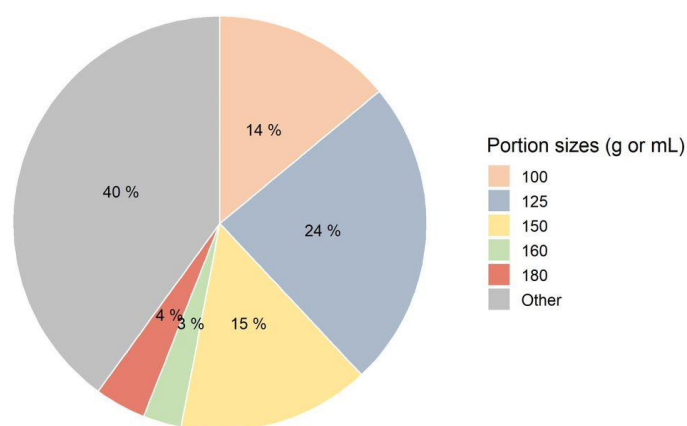


Figure 16: Proportion of the five most represented portion sizes among collected products in the Fresh dairy products and dessert category

The most common portion size in the Fresh dairy products and desserts was 125g (24%) which corresponds to the weight of a standard yoghurt pot, followed by 150g (15%), 100g (14%), 180g (4%) and 160g (3%) (Figure 16). "Other" portion size category represented 40% of products corresponding to a variation of portion sizes other than presented in the pie chart.

2.2.5 Soft drinks

2.2.5.1 Proportion of products with and without quantified portions by subcategory

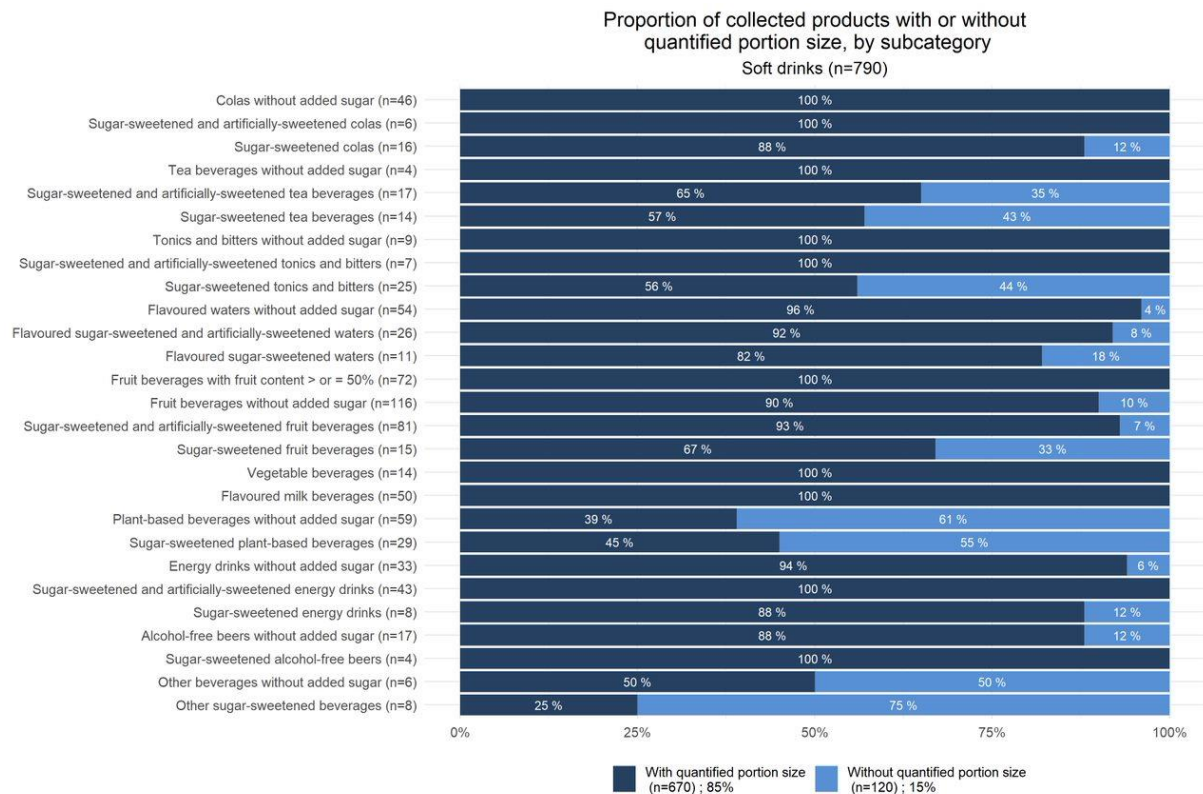


Figure 17: Proportion of collected products with or without quantified portion size, by subcategories among Soft drinks

The majority of Soft drinks had a quantified portion size (n=670, 85%) (Figure 17). The proportion of Soft drinks without quantified portion size was higher in Other sugar-sweetened beverages (75% vs 25%), Plant-based beverages without added sugar (61% vs 39%), and Sugar-sweetened plant-based beverages (55% vs 45%).

2.2.5.2 Proportion of the most represented portion sizes by category

Proportion of the five most represented portion sizes
among collected products, by category
Soft drinks (n=670)

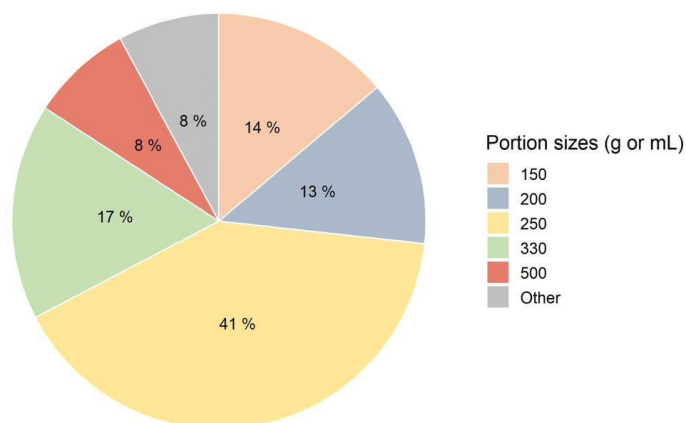


Figure 18: Proportion of the five most represented portion sizes among collected products in the Soft drinks category

Portion sizes varied in the Soft drinks category with the most predominant portion size of 250mL (41%), followed by 330mL (17%), 150mL (14%), 200mL (13%), "Other" (8%) and 500mL (8%) (Figure 18). The most common portion sizes in this category correspond to the size of a glass (250mL), cans (330ml) or individual bottles (500ml).

3 Labelled nutritional values

3.1 Labelling frequency

Table 1 : Labelling frequency (%) of nutritional values by nutrients and categories

Category_name	Energy_kJ	Energy_kCal	Fat	Saturated_fat	Carbohydrates	Sugar	Protein	Salt	Fibre
Bread products (n=524)	100%	100%	100%	100%	100%	100%	100%	100%	99%
Delicatessen meats and similar (n=706)	100%	100%	100%	100%	100%	100%	100%	100%	69%
Fresh dairy products and desserts (n=713)	99%	99%	99%	99%	99%	99%	99%	99%	66%
Soft drinks (n=790)	100%	100%	100%	100%	100%	100%	100%	100%	44%

Table 1 shows the frequency of labelling of nutritional values by nutrient and category. The majority of the products collected are nutritionally labelled according to the European regulation 1169/2011, INCO¹.

Fibre is the nutrient with the lowest frequency of labelling among the products collected: Delicatessen meats and similar (69% of products included in the category have a labelled fibre content), Fresh dairy products and desserts (66% of products included in the category have a labelled fibre content) and Soft drinks (44% of products included in the category have a labelled fibre content). This can be explained by the fact that this labelling is not mandatory in Europe, according to INCO regulation¹.

¹ Regulation (EU) No 1169/2011 of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers, amending Regulations (EC) No 1924/2006 and (EC) No 1925/2006 of the European Parliament and of the Council, and repealing Commission Directive 87/250/EEC, Council Directive 90/496/EEC, Commission Directive 1999/10/EC, Directive 2000/13/EC of the European Parliament and of the Council, Commission Directives 2002/67/EC and 2008/5/EC and Commission Regulation (EC) No 608/2004 (Text with EEA relevance)

3.2 Overview of the nutritional composition

3.2.1 Bread products

The nutrients considered for the Bread products category are: Fat, Saturated fat, Sugars, Salt and Fibre.

3.2.1.1 Distribution of fat content by Bread products subcategories

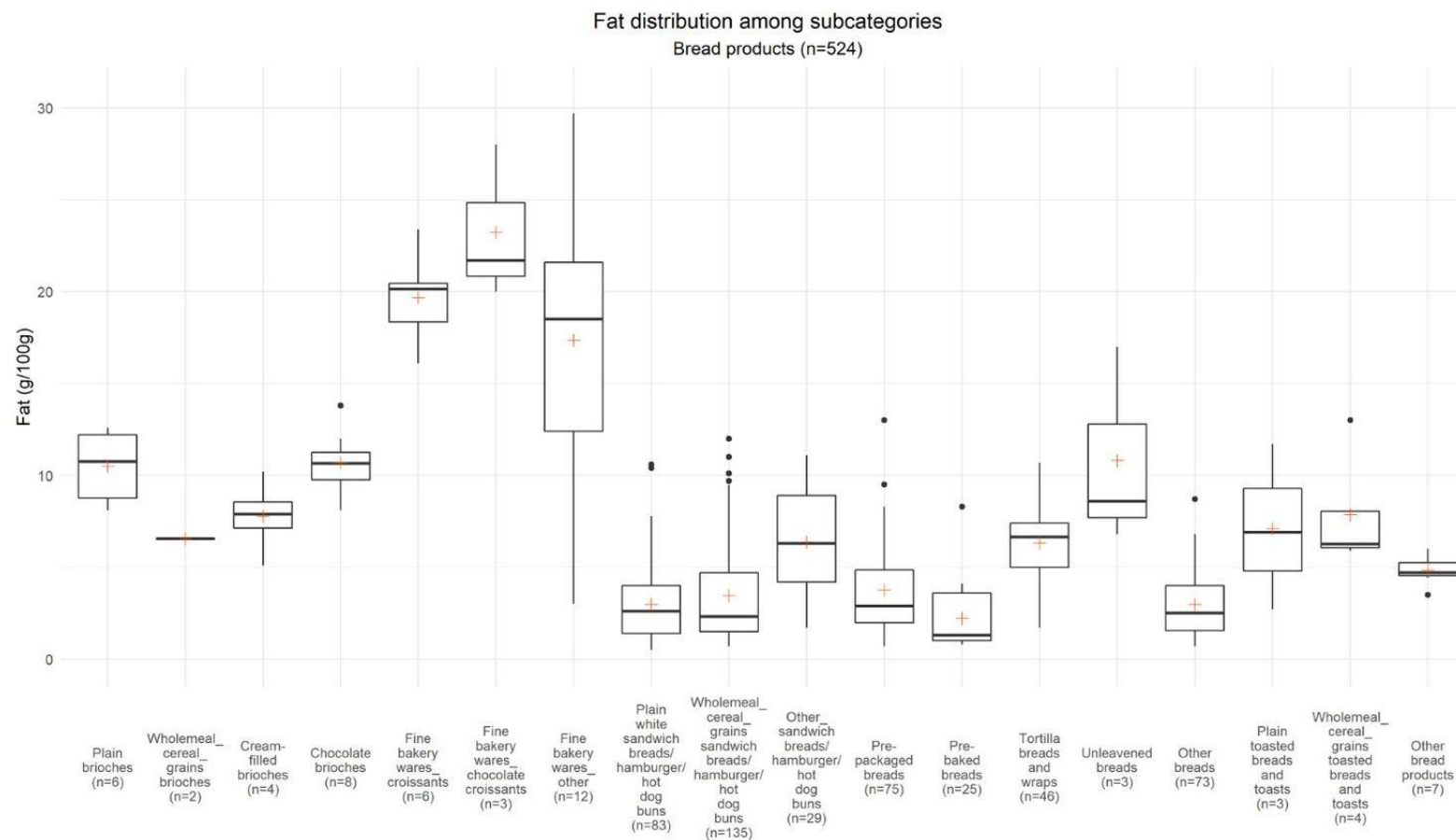


Figure 19: Fat distribution among subcategories of Bread products

Among all subcategories of Bread products, the mean content of fat varied considerably between 2.2g/100g (Pre-baked breads) and 23.2g/100g (Fine bakery wares_chocolate croissants) (Figure 19).

- Subcategories with the highest mean fat content were: Fine bakery wares_chocolate croissants (23.2g/100g), Fine bakery wares_croissants (19.7g/100g) and Fine bakery wares_other (17.4g/100g).
- Subcategories with the lowest mean fat content (between 2.2g/100g and 4.8g/100g) were: Pre-baked breads, Other breads, Plain white sandwich breads / hamburger /hot dog buns, Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns, Pre-packaged breads, and Other bread products.
- The fat content varies among subcategories but also within a given subcategory, which means there is room for reformulation. The subcategories containing products with the most variable fat content were: Fine bakery wares_other (n=12) with a minimum fat content of 3g/100g and maximum fat content of 29.7g/100g. A large variation of fat content was also observed in sub-category Unleavened breads (n=3) with a minimum fat content of 6.8g/100g and a maximum fat content of 17g/100g. The variation of fat content in these sub-categories may be explained by the variation of the types of products in each subcategory which are manufactured by different types of brands.
- Finally, the subcategories containing products with the most homogeneous fat content were: Wholemeal_cereal_grains brioche (n=2), Other bread products (n=7), Pre-baked breads (n=25), Other breads (n=73), Chocolate brioche (n=8) and Tortillas breads and wraps (n=46) with fat content variation between 0.1 and 1.9g/100g.

3.2.1.2 Distribution of saturated fat content by Bread products subcategories

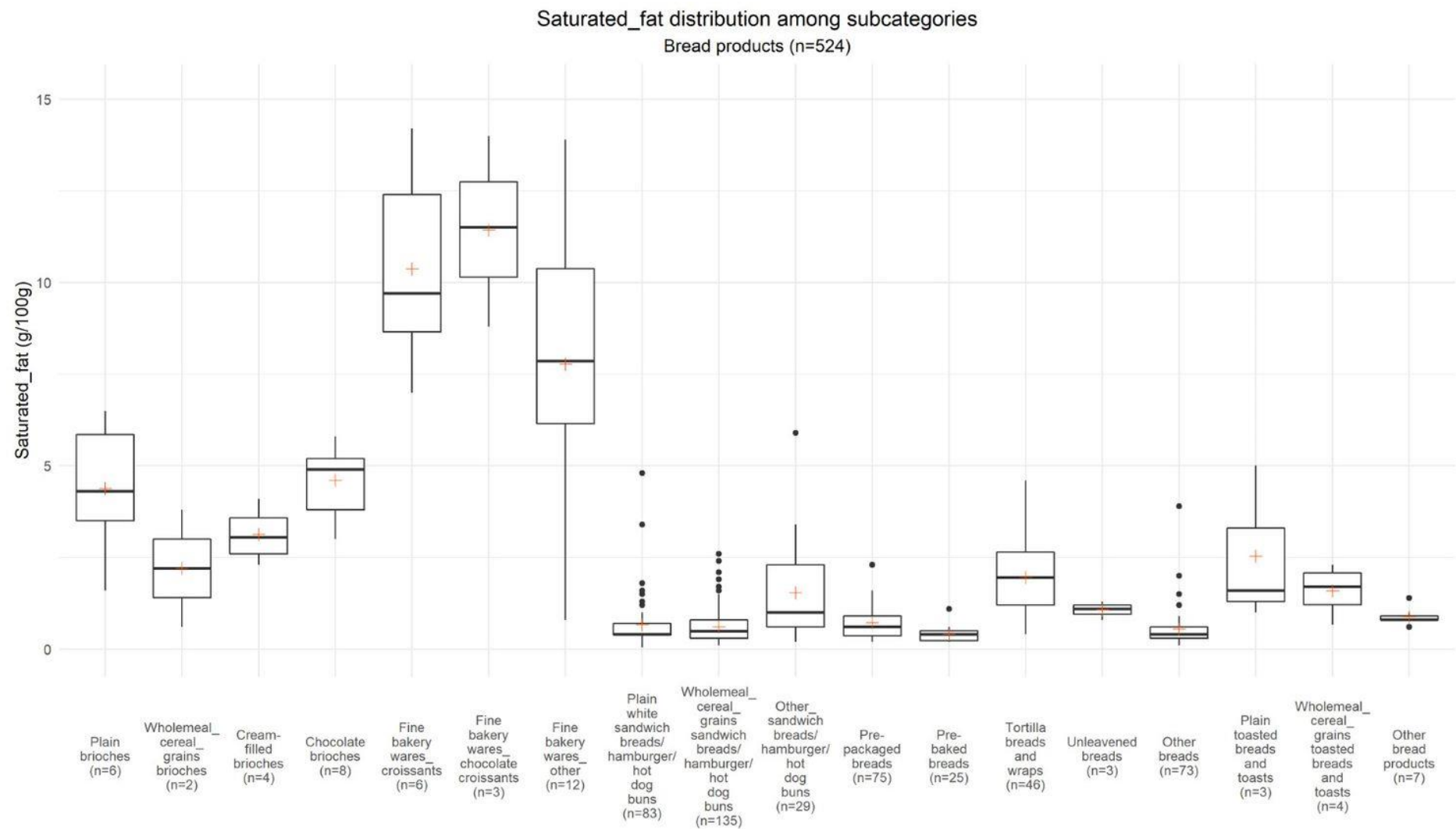


Figure 20: Saturated fat distribution among subcategories of Bread products

Mean saturated fat content varied between sub-categories from 0.4g/100g (Pre-baked breads) up to 11.4g/100g (Fine bakery wares_chocolate croissants) (Figure 20).

- Highest mean saturated fat was observed in Fine bakery wares_chocolate croissants sub-category (11.4g/100g) with a maximum saturated fat reaching 14g/100g. This may be explained by the presence of chocolate in the products. Other sub-categories demonstrating higher mean saturated fat content were Fine bakery wares_croissants (10.4g/100g) and Fine bakery wares_other (7.8g/100g).
- Lowest saturated fat content was observed in the following sub-categories: Pre-baked breads (0.4g/100g), Other breads (0.5g/100g), Plain white sandwich breads / hamburger /hot dog buns (0.6g/100g), Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns (0.6g/100g) and Pre-packaged breads (0.7g/100g).
- The content of saturated fat varied significantly in some of the sub-categories including Fine bakery wares_other (n=13) with a minimum saturated fat content of 0.8g/100g and maximum content of 13.9g/100g. Similarly saturated fat content in Fine bakery wares_croissants (n=6) varied between 7g/100g and 14.2g/100g. The variety in saturated fat content can be explained by the differences in recipe formulations within the product subcategories translating room for reformulation.

3.2.1.3 Distribution of sugar content by Bread products subcategories

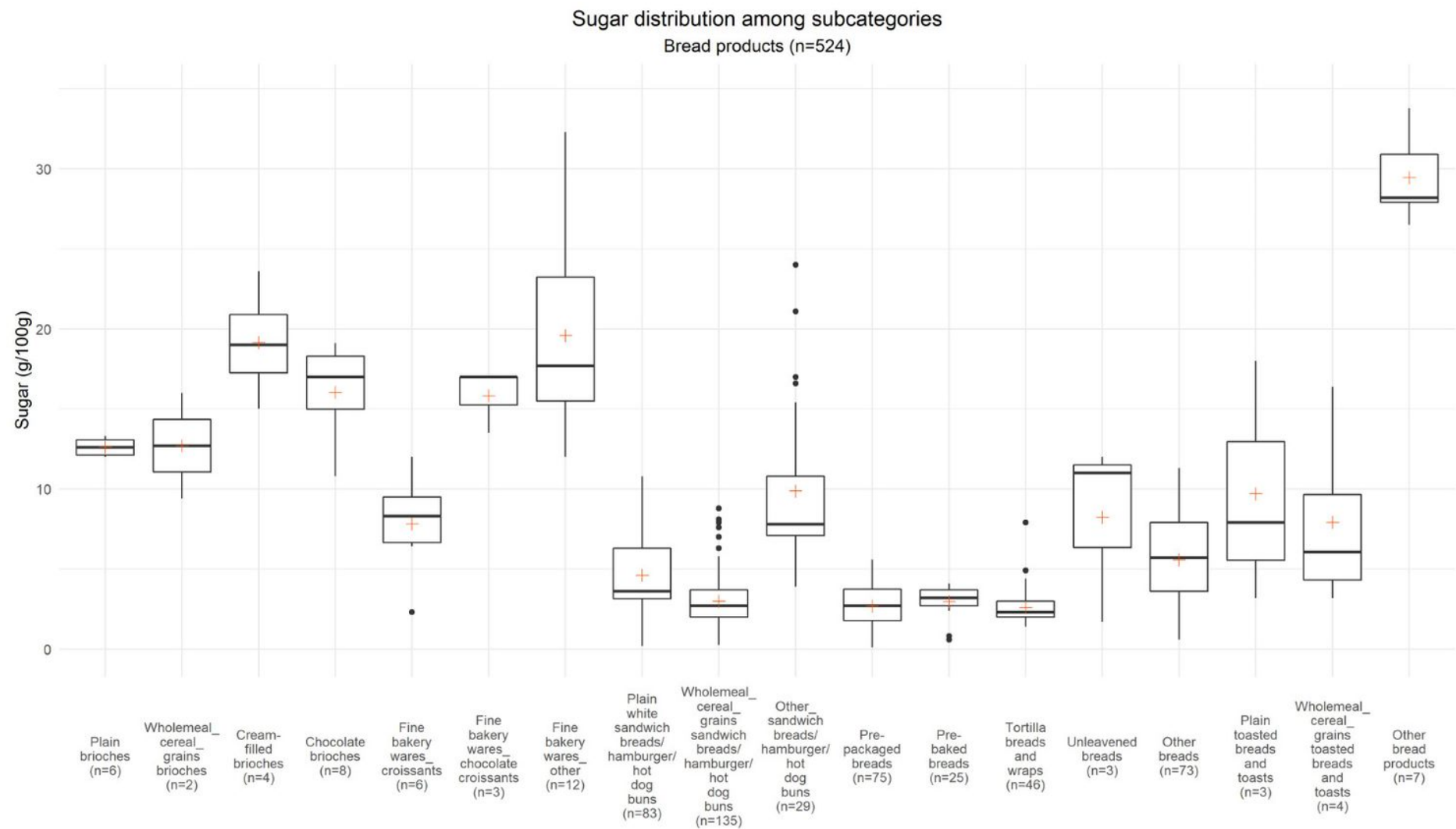


Figure 21: Sugar distribution among subcategories of Bread products

Mean sugar content varied between different subcategories with 2.6g/100g (Tortilla breads and wraps) and 29.4g/100g (Other bread products) (Figure 21).

- Mean sugar content was significantly higher in some of the subcategories including Other bread products (29.4g/100g), Fine bakery wares_other (19.6g/100g), Cream-filled brioche (19.1g/100g), Chocolate brioche (16g/100g), Fine bakery wares_chocolate croissants (15.8g/100g), Wholemeal_cereal grain brioche (12.7g/100g) and Plain brioche (12.6g/100g). The subcategories that are particularly high in sugar have potential for reformulation.
- Lowest sugar content was demonstrated in Tortilla breads and wraps (2.6g/100g), Pre-packaged breads (2.7g/100g), Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns (3g/100g), Pre-baked breads (3g/100g) and Plain white sandwich breads / hamburger /hot dog buns (4.6g/100g).
- The variation of sugar content between subcategories may be explained by the type of bread products with higher content in sweet versions and with a lower sugar content in savory or plain type products.
- A variation in sugar was observed in subcategory Fine bakery wares_other (n=12) between 12g/100g and 32.3g/100g. Similarly, sugar content varied in Other_sandwich breads / hamburger / hot dog buns (n=29) ranging between 3.9g/100g and 24g/100g. This variation can be explained by a significant range of products in these subcategories with a wide range of brands offering products with a different sugar content. A frequent source of sugar in these subcategories with larger variation is added dried fruit, which varies in quantity depending on the brand.

3.2.1.4 Distribution of fibre content by Bread products subcategories

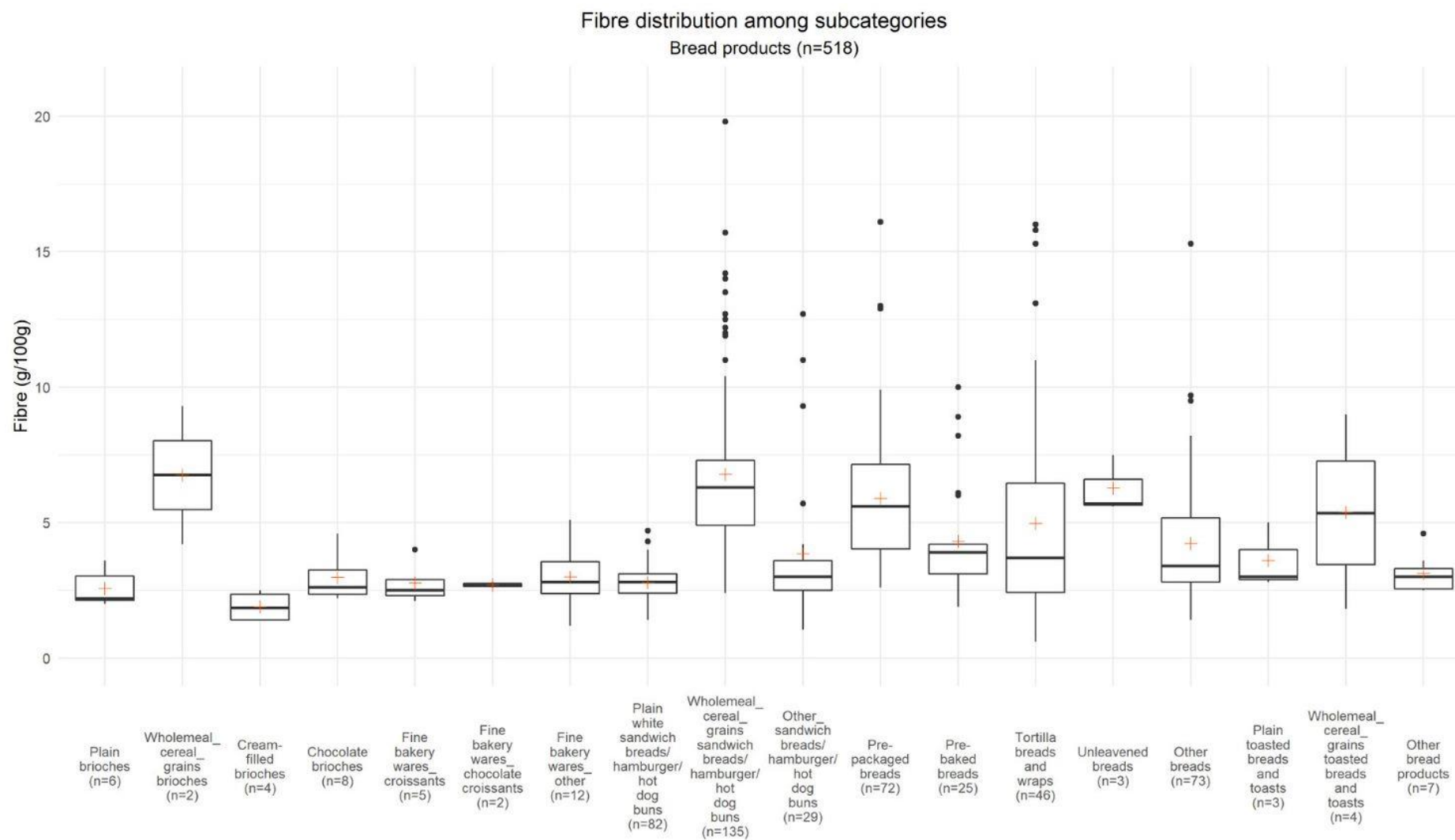


Figure 22: Fibre distribution among subcategories of Bread products

The mean fibre content varied between 1.9g/100g (Cream-filled brioches) and 6.8g/100g (Whole_cereal_grains_brioches and Wholemeal_cereal_grains_sandwich breads/ hamburger/ Hot dog buns (Figure 22).

- Three of the bread subcategories have fibre average content higher than 6g/100g (which is considered as “High fibre” as defined by Regulation (EC) No 1924/2006² with a condition of use of 6g per 100g or 3g per 100Kcal) : including Unleavened breads (n=3), mean 6.3g/100g, Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns (n=135) with the mean content of 6.8g/100g and Wholemeal_cereal_grains_brioches (n=2, 6.8g/100g).
- Products with lowest fibre content with a mean of less than 3g/100g (threshold to be considered as ‘source of fibre’ as laid out by Regulation (EC) No 1924/2006²) were the following bread categories: Cream-filled brioches (n= 4, 1.9g), Plain brioches (n= 6, 2.6g) Fine bakery wares_chocolate croissants (n= 2, 2.7g), Fine bakery wares_croissants (n= 5, 2.8g), Plain white sandwich breads/ hamburger / hot dog buns (n= 82, 2.8g).
- The highest content of fibre was demonstrated in Wholemeal_cereal_grains sandwich bread/ hamburger/ hot dog buns subcategory (19.8g/100g) and lowest fibre content was observed in Tortilla breads subcategory and wraps (0.6g/100g). The fibre content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variability include Wholemeal_cereal_grains brioches (n=2, 4.2g/100 to 9.3g/100g), Wholemeal_cereal_grains sandwich breads/ hamburger/ hot dog buns (n=135, 2.4g/100g to 19.8g/100g) and Wholemeal_cereal_grains toasted breads and toasts (n=4, 1.8g/100g to 9 g/100g). This variation can be explained by the range of products in these subcategories with a wide range of brands offering products with different formulations impacting overall fibre content.

² Regulation (EC) N° 1924/2006* of the European Parliament and of the Council on nutrition and health claims made on foods

3.2.1.5 Distribution of salt content by Bread products subcategories

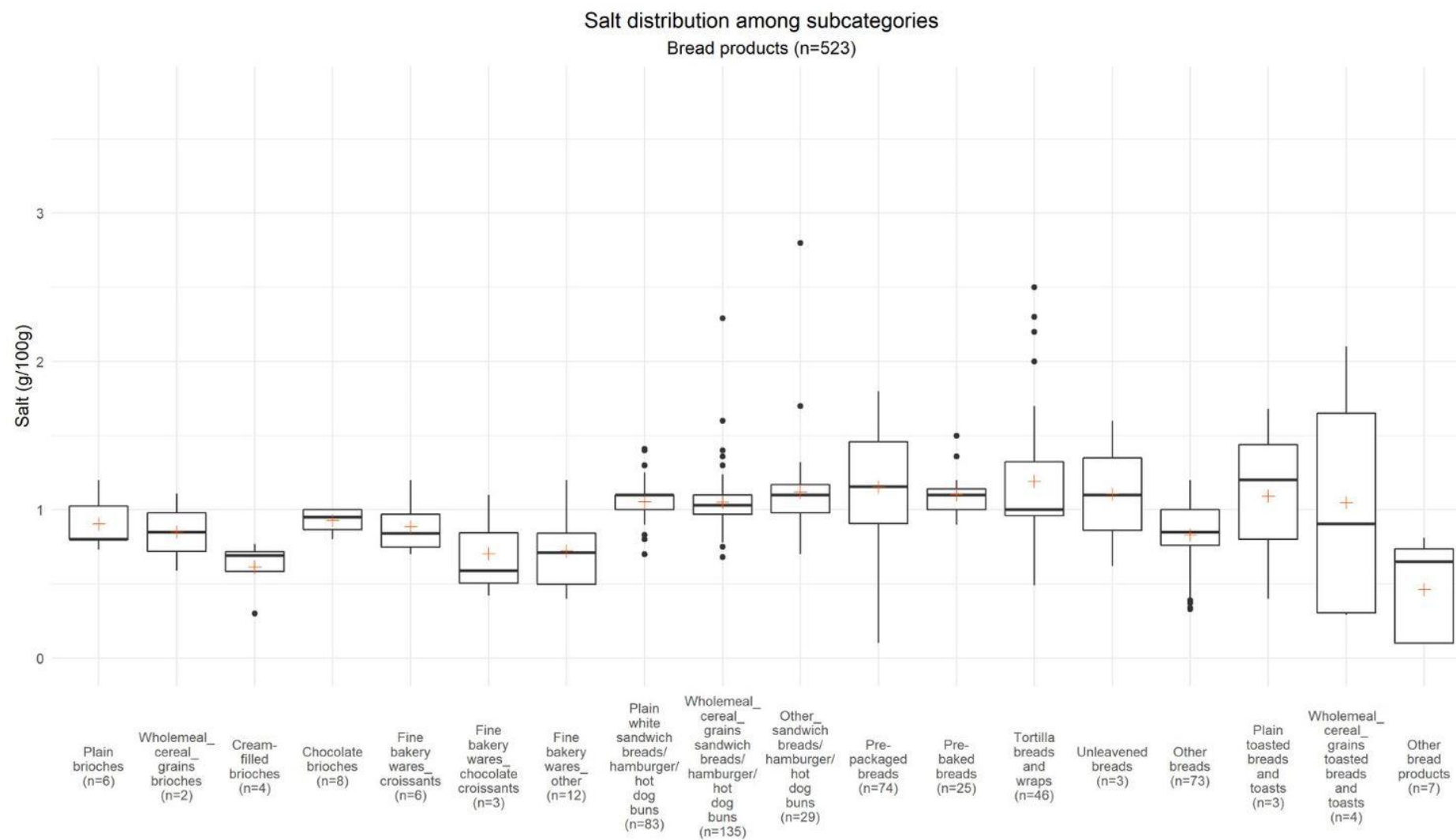


Figure 23: Salt distribution among subcategories of Bread products

Figure 23 shows the salt distribution among Bread products subcategories:

- Mean salt content varied between 0.46g/100g in Other bread products subcategory and 1.19g/100g in Tortilla breads and wraps subcategory.
- Variation was observed in subcategories Tortilla breads and wraps (0.49g/100g to 2.5 g/ 100g), Wholemeal_cereal_grains sandwich breads/ hamburger/ hot dog buns (0.68g/100g to 2.29g/100g), Plain toasted bread and toasts (0.4g/100g to 1.68g/100g), Pre-packaged bread (0.1g/ 100g to 1.8 g/100g) and Other_sandwich breads/ hamburger/ hot dog buns (0.7g/100g to 2.8 g/100g). This variation can be explained by a significant range of products in these subcategories with a wide range of brands offering products with a different salt content.
- None of the subcategories have a mean salt content which met the criteria for 'low salt' as defined by Regulation (EC) No 1924/2006³ as a salt content of 0.3g/100g or less.

³ Regulation (EC) N° 1924/2006* of the European Parliament and of the Council on nutrition and health claims made on foods

3.2.2 Delicatessen meats and similar

The nutrients considered for the delicatessen meats and similar category are: Protein, Fat, Saturated fat, Sugars and Salt.

3.2.3.1 Distribution of protein content by Delicatessen meats and similar subcategories

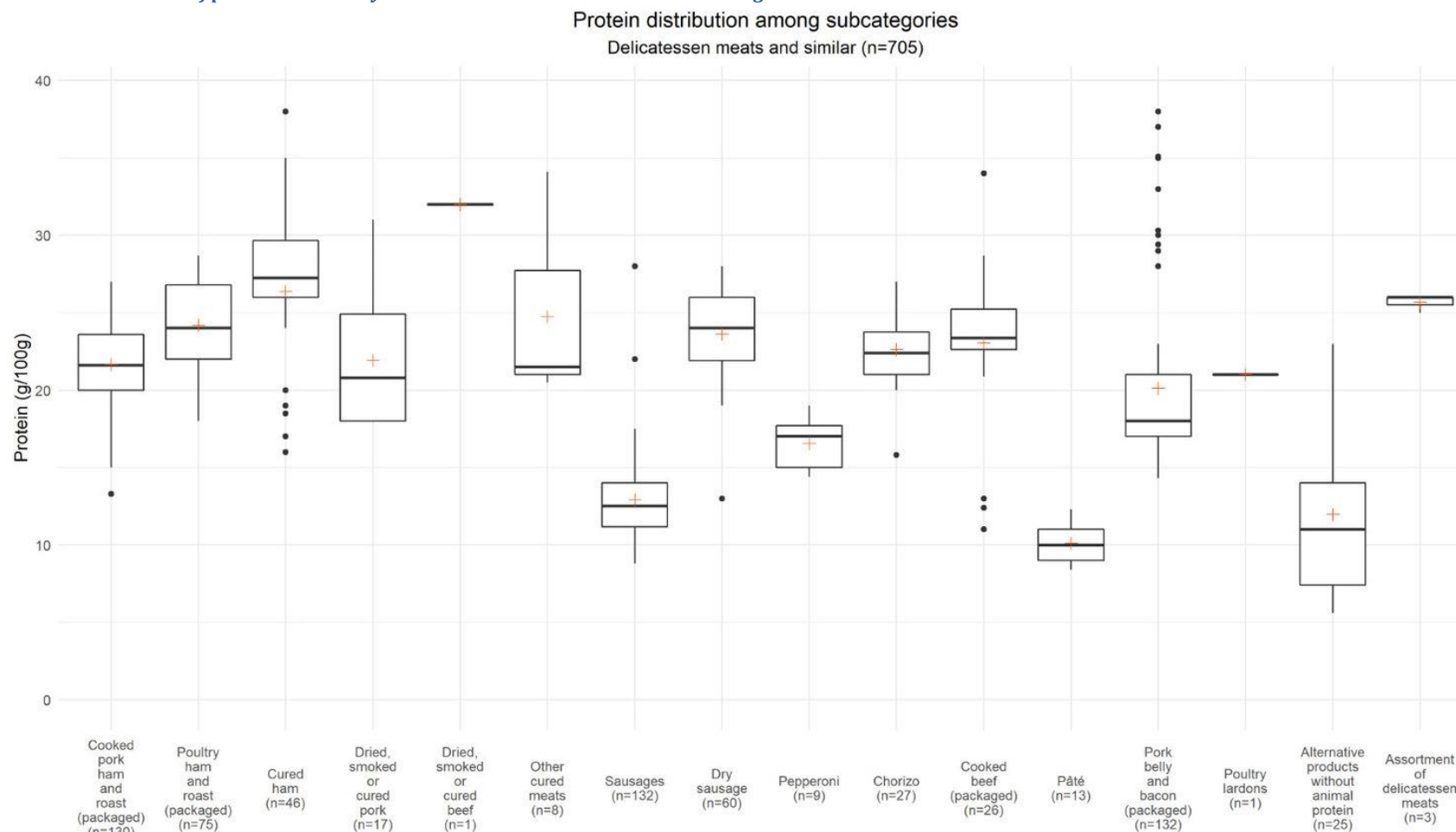


Figure 24: Protein distribution among subcategories of Delicatessen meats and similar

Mean protein content varied between subcategories of Delicatessen meats and similar, with a lowest mean protein content observed in Pâté (10.1g/100g) and a highest mean protein in Dried, smoked or cured beef (32g/100g) (Figure 24).

- Only four out of 16 subcategories had mean protein content of less than 20g/100g. These included Pâté (n=13), Alternative products without animal protein (n=25), Sausages (n=132) and Pepperoni (n=9).
- The highest mean protein per 100g was observed in Dried, smoked or cured beef (32g/100g), followed by Cured ham (26.4g/100g), Assortment of delicatessen meats (25.7g/100g), Other cured meats (24.7g/100g), Poultry ham and roast (packaged) (24.2g/100g), Dry sausage (23.6g/100g) and Cooked beef (packaged) (23g/100g).
- The protein content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable protein content are: Other cured meats (n=8, 20.5g/100g to 34.1g/100g), Pork belly and bacon (packaged) (n=132, 14.3g/100g to 38g/100g), Cooked beef (packaged) (n= 26, 11.0g/100g to 34.0g/100g), and Alternative products without animal protein (n= 25, 5.6g/100g to 23.0g/100g). This can be largely explained by the wide range of brands offering products with different cuts of meat for example, impacting overall protein content.

3.2.3.2 Distribution of fat content by Delicatessen meats and similar subcategories

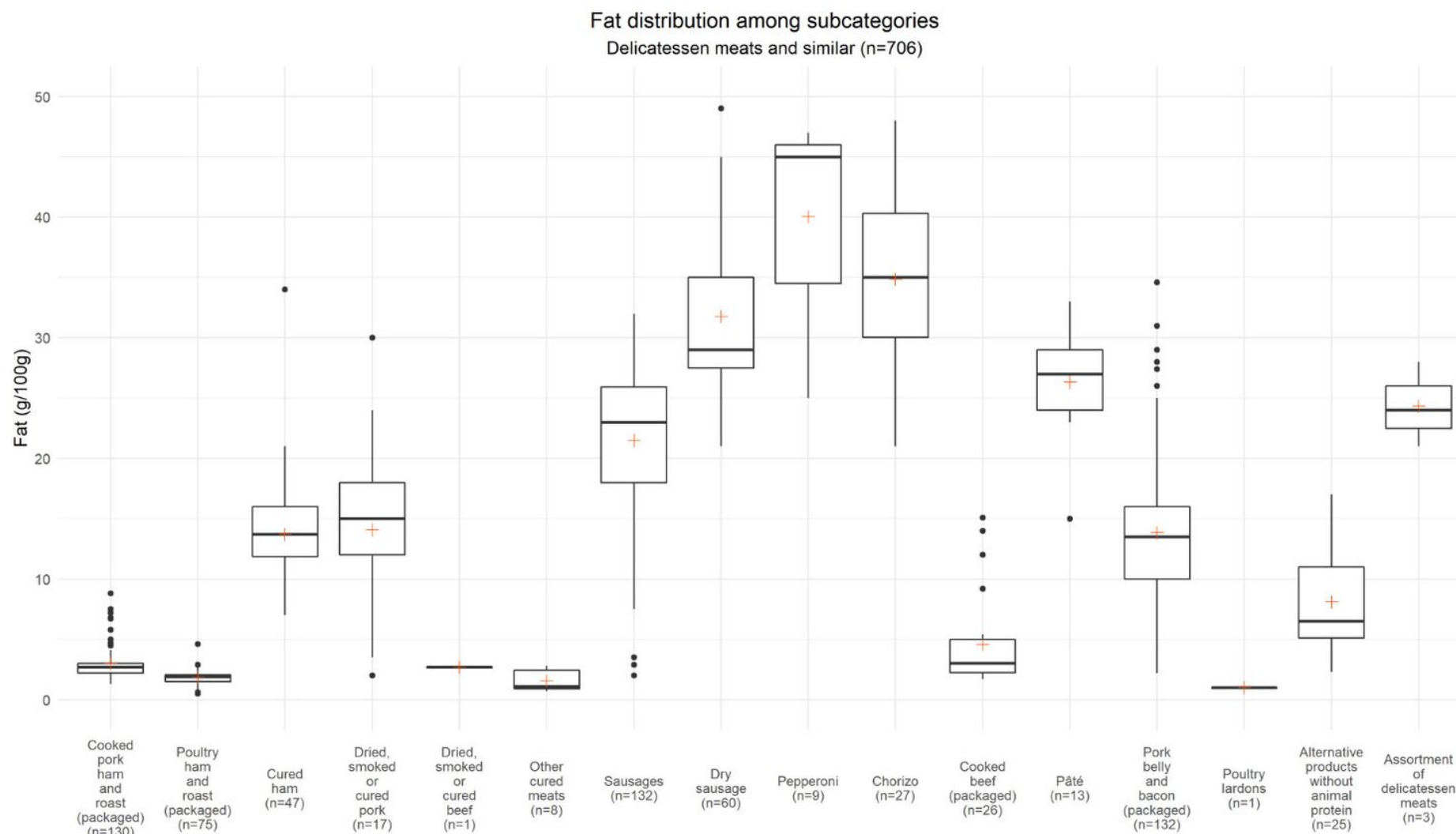


Figure 25: Fat distribution among subcategories of Delicatessen meats and similar

Figure 25 shows the fat variability among Delicatessen meats and similar category:

- Products with highest mean fat included Pepperoni (n=9), Chorizo (n=27), Dry sausage (n=60), Pâté (n=13), Assortment of delicatessen meats (n=3) and Sausages (n=132).
- Fat distribution among subcategories of Delicatessen meats and similar varied with a lowest mean of 1g/100g (Poultry lardons) and highest mean of 40g/100g (Pepperoni) (Figure 25).
- There is large variation in fat content within subcategories Dried, smoked or cured pork (2g/100g to 30g/100g), Sausages (2.0g/100g to 32.0g/100g), Pepperoni (25.0g/100g to 47.0g/100g) and Dry Sausage (21.0g/100g to 49g/100g) and Pork belly and bacon (packaged) (2.2g/100g to 34.6g/100g). These variations can be explained by a significant range of products in these subcategories with a wide range of brands offering products with a different fat content. Similarly, in subcategories Pork belly and bacon (packaged), products had variable levels of fat content throughout and differences in presence of fat rind. In subcategory Sausages, variability in fat content can be explained by use of fat reduced ingredients and using ingredients from leaner meats.

3.2.3.3 Distribution of saturated fat content by Delicatessen meats and similar subcategories

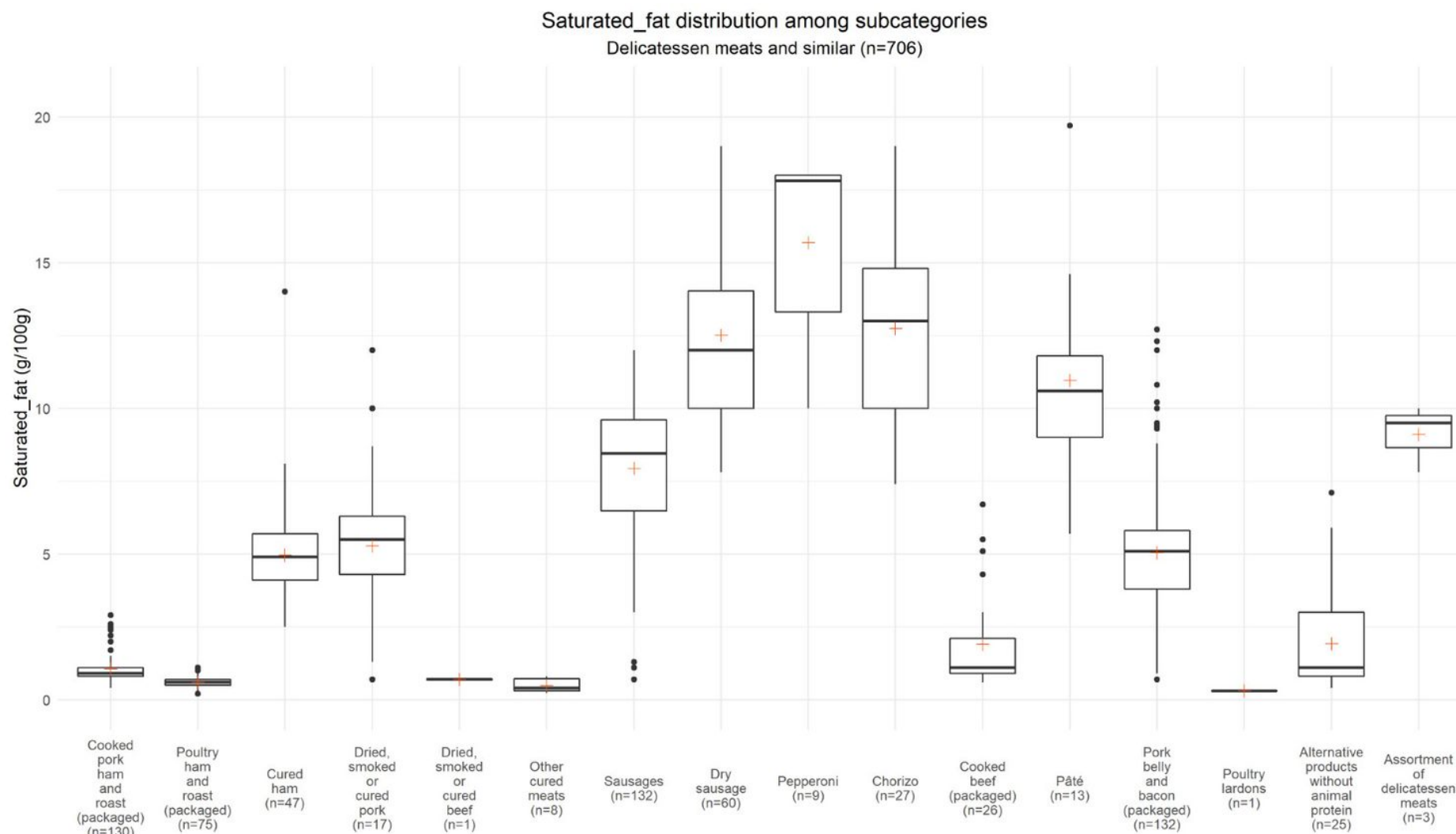


Figure 26: Saturated fat distribution among subcategories of Delicatessen meats and similar

- The mean distribution of saturated fat varied significantly among Delicatessen meats and similar products with the lowest mean of 0.3g/100g in Poultry lardons and with the highest mean of 15.7g/100g in Pepperoni, followed by 12.7g/100g in Chorizo, 12.5g/100g in Dry sausage and 11.0g/100g in Pâté (Figure 26).
- Food categories with the lowest mean saturated fat, containing less than 1g/100g of saturated fat included Poultry lardons (n=1), Other cured meats (n=8), Poultry ham and roast (packaged) (n=75) and Dried, smoked or cured beef (n=1). Considering that some of the subcategories had very low number of products it is not possible to conclude the representativeness of the saturated fat content of these food groups (Poultry lardons, Dried, smoked or cured beef).
- Variations in saturated fat can be explained by a significant range of products in these sub-categories with a wide range of brands offering products with a different fat content. Similarly, in subcategories Pork belly and bacon (packaged), products had variable levels of fat content throughout and differences in presence of fat rind. In subcategory Sausages, variability in fat content can be explained by use of fat reduced ingredients and using ingredients from leaner meats.

3.2.3.4 Distribution of sugar content by Delicatessen meats and similar subcategories

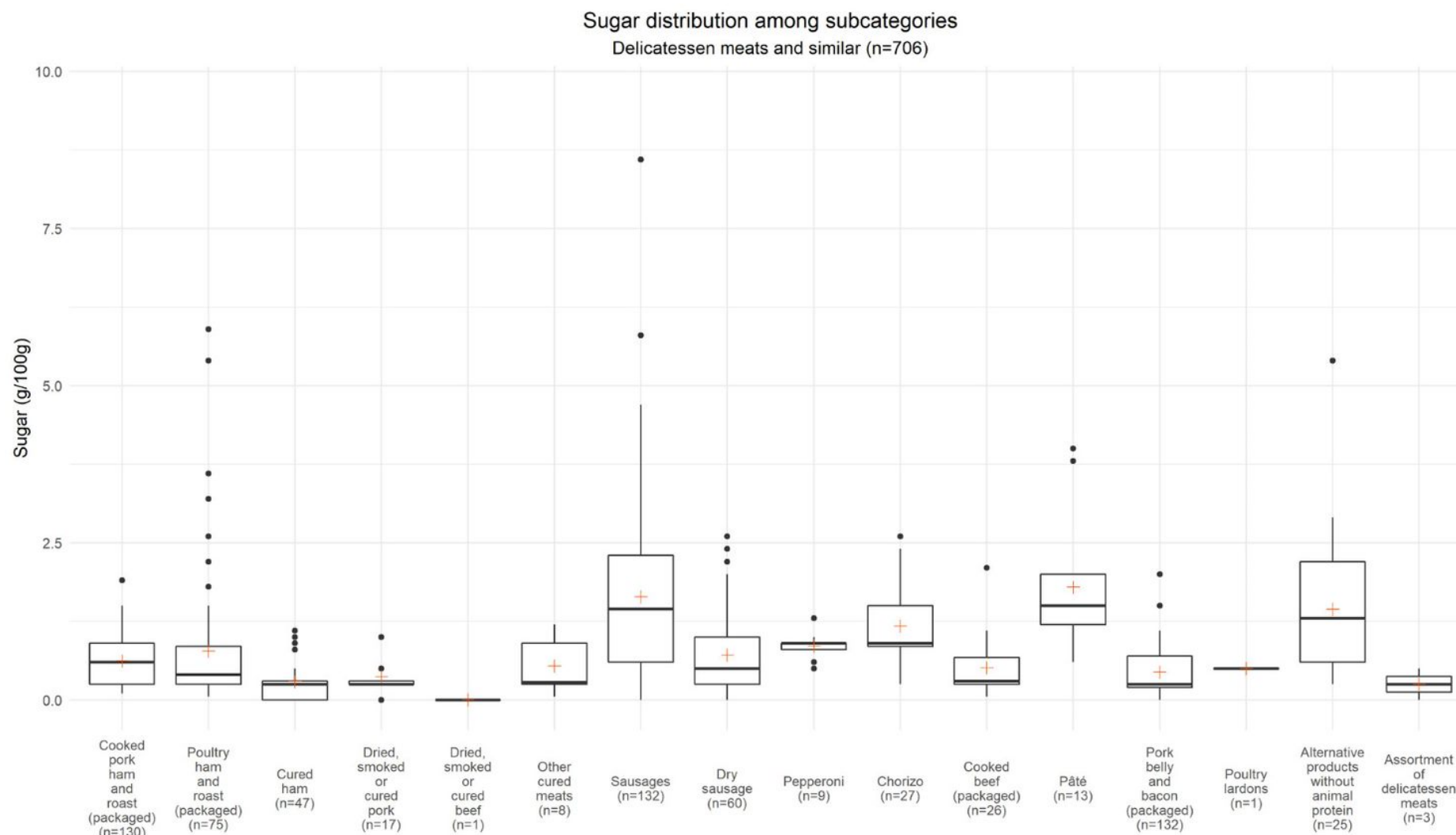


Figure 27: Sugar distribution among subcategories of Delicatessen meats and similar

Subcategories with larger variation in sugar content/100g include Sausages (0g/100g to 8.6g/100g), Pâté (0.6g/100g to 4.0g/100g, Alternative products without animal protein (0.2 g/100g to 5.4g/100g) and Poultry ham and roast (0 g/100g to 5.9g/ 100g). These variations in sugar content can be explained by the addition of ingredients which are naturally high in sugar such as the addition of fruit in some products, as well as the presence of marinades containing sugar, as well as the wide range of brands available in the subcategories (Figure 27).

For most subcategories mean sugar content was less than 1g/100g of sugar except for Pâté (n=13, 1.8g/100g), Sausages (n=132, 1.6g/100g), Alternative products without animal protein (n=25, 1.4g/100g) and Chorizo (n=271.2 g/100g).

3.2.3.5 Distribution of salt content by Delicatessen meats and similar subcategories

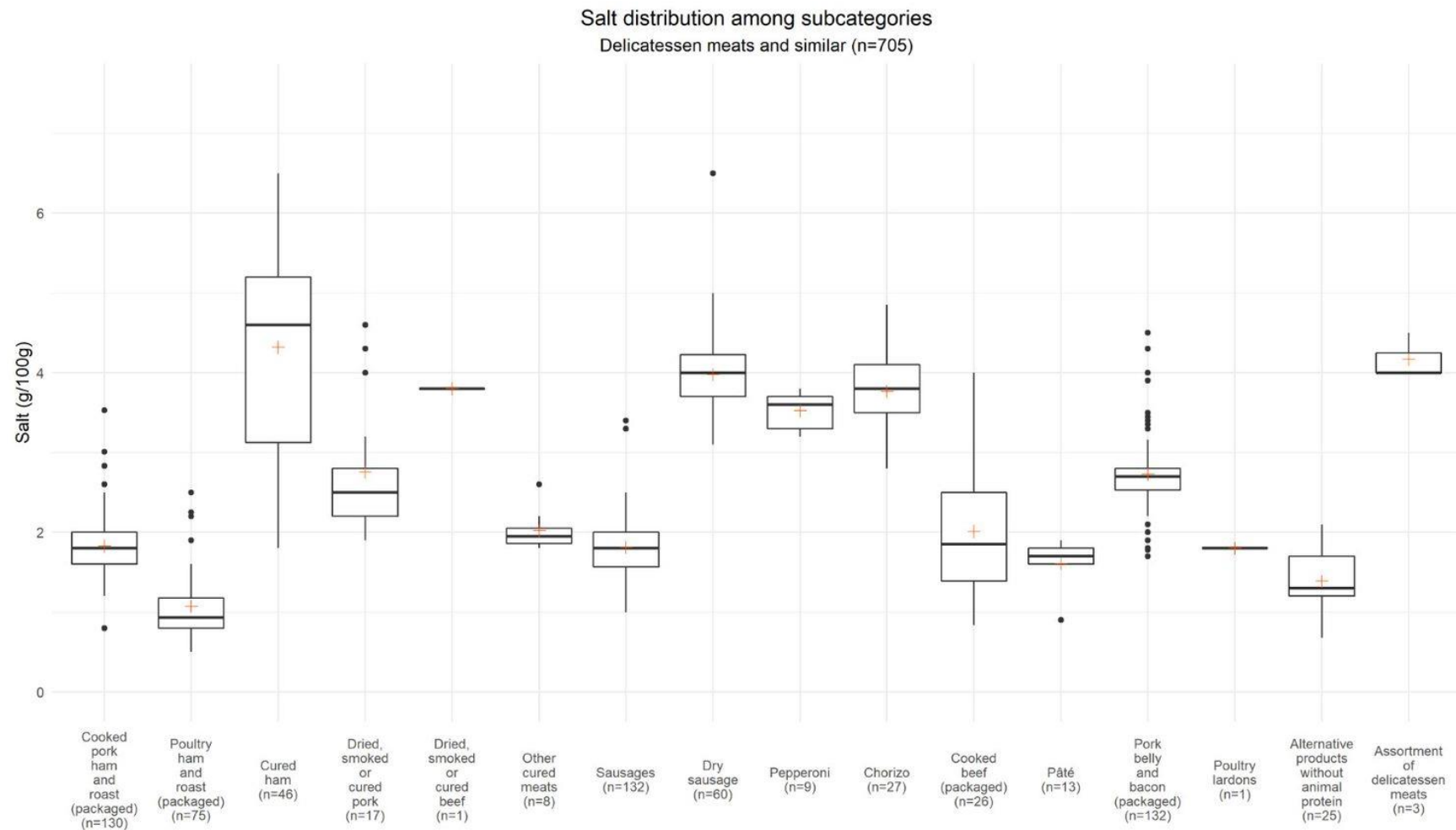


Figure 28: Salt distribution among subcategories of Delicatessen meats and similar

Mean salt distribution per 100g among subcategories of Delicatessen meats and similar varied between 1.07g (Poultry ham and roast (packaged)) and 4.32g (Cured ham) (Figure 28). There was large variability in subcategories Cured Ham (n=46, 1.8 g 100g to 6.5g/100g), Dried, smoked or cured pork (n=17, 1.9 g/100g to 4.6g/100g), and cooked beef (packaged) (n=26, 0.85g/100g to 4g/100g) reflective of the range of products and brands available in the subcategories.

This food category has important potential for salt reformulation and future research. In Ireland these types of products are consumed regularly and have been shown to be a major contributor to iron intake which is particularly important for children's diets, as recent studies show low iron dietary intake among Irish children (Scientific Committee of the Food Safety Authority of Ireland, 2020).

3.2.4 Fresh dairy products and desserts

The nutrients considered for the fresh dairy products and desserts category are: Protein, Fat, Saturated fat, Sugars and Fibre.

3.2.4.1 Distribution of protein content by Fresh dairy products and desserts subcategories

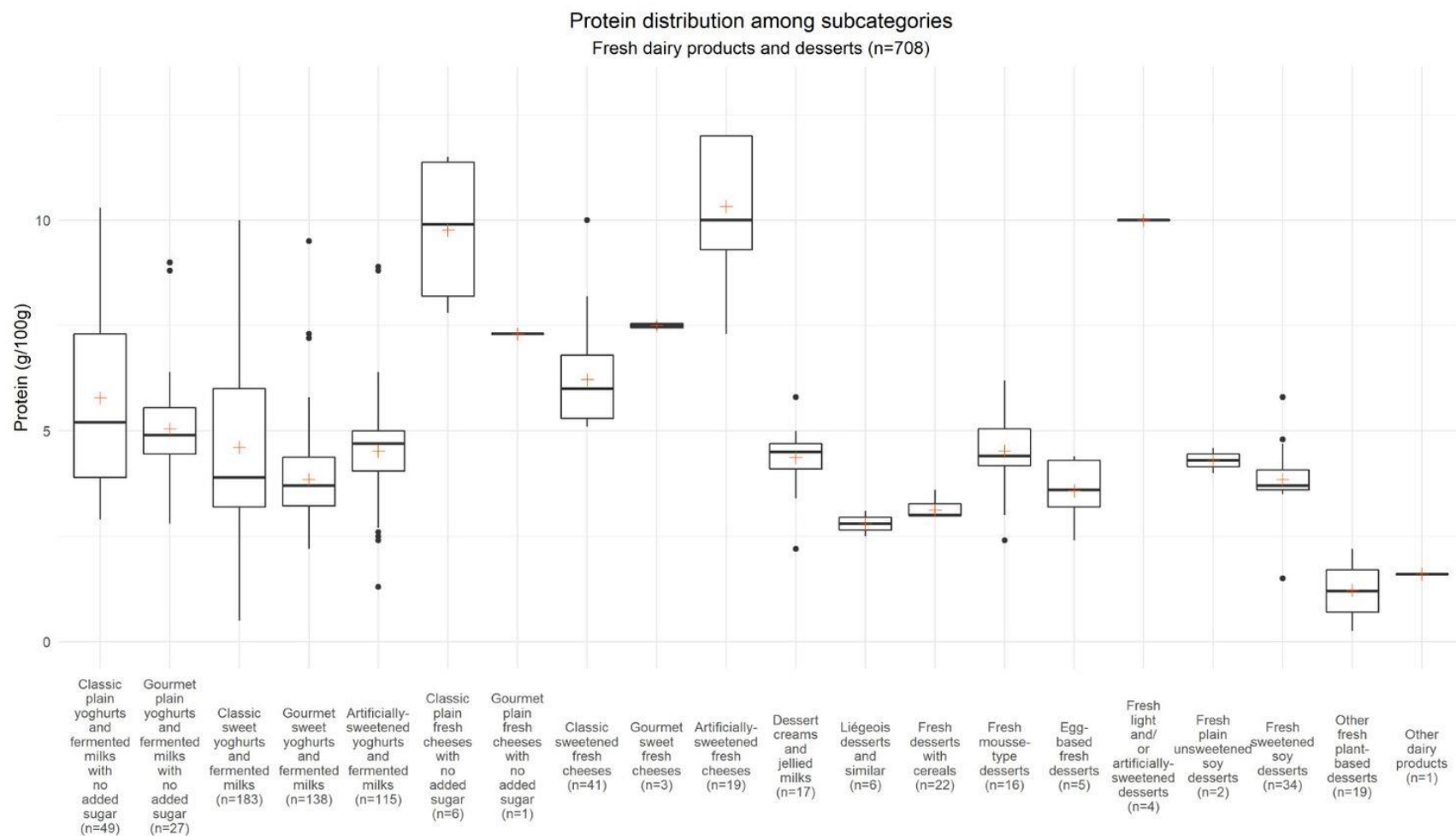


Figure 29: Protein distribution among subcategories of Fresh dairy products and desserts

- Protein content varied between subcategories among Fresh dairy products and desserts (Figure 29). The protein content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable protein content are: Classic plain yoghurts and fermented milks with no added sugar (n= 49, 2.9g/100g to 10.3g/100g), Artificially-sweetened fresh cheeses (n=19, 7.3g/100g to 12g/100g), Classic sweet yoghurts and fermented milks (n=183, 0.5 g/100g to 10 g/100g) and Classic plain fresh cheeses with no added sugar (n=6, 7.8g/100g to 11.5g/100g).
- The highest mean protein per 100g was observed in Artificially-sweetened fresh cheeses with (10.3g/100g) following by Fresh light and/or artificially sweetened desserts (10g/100g) Classic plain fresh cheeses with no added sugar (9.8g/100g), Gourmet sweet fresh cheeses (7.5g/100g), Gourmet plain fresh cheeses with no added sugar (7.3g/100g) Classic sweetened fresh cheeses (6.2g/100g), Classic plain yoghurts and fermented milks with no added sugar (5.8g/100g) and Gourmet plain yoghurts and fermented milks with no added sugar (5.0g/100g).
- The lowest mean protein per 100g (less than 5g/100g) was in Other fresh plant-based desserts (1.2g/100g), Other dairy products (1.6g/100g), Liégeois desserts and similar (2.8g/100g), Fresh desserts with cereals (3.1g/100g), Egg-based fresh desserts (3.6g/100g), Fresh sweetened soy desserts (3.8g/100g), Gourmet sweet yoghurts and fermented milks (3.8g/100g), Fresh plain unsweetened soy desserts (4.3g/100g), Dessert creams and jellied milks (4.4g/100g), Fresh mousse-type desserts (4.5g/100g), Artificially-sweetened yoghurts and fermented milks (4.5g/100g) and Classic sweet yoghurts and fermented milks (4.6g/100g).

3.2.4.2 Distribution of fat content by Fresh dairy products and desserts subcategories

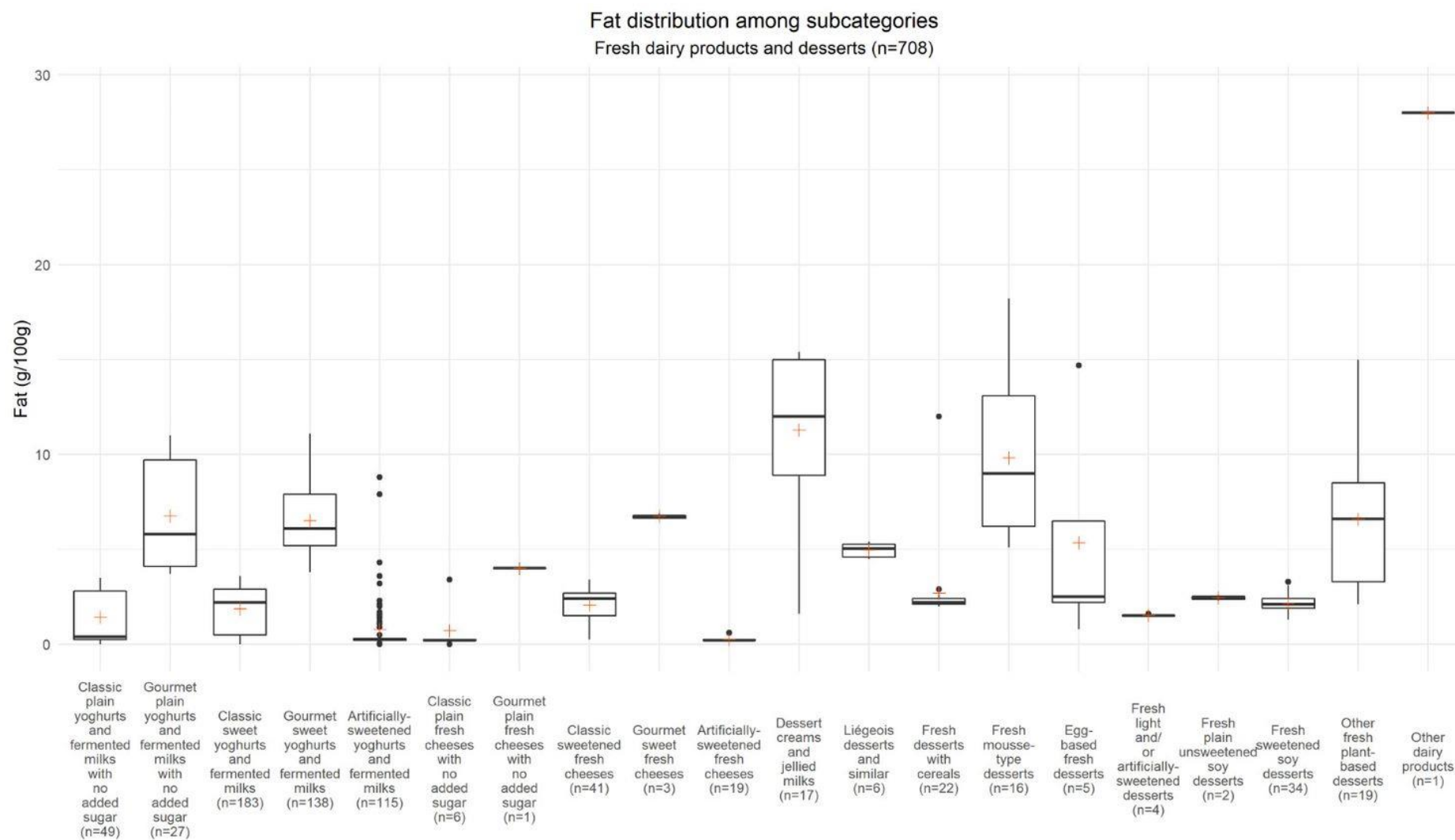


Figure 30: Fat distribution among subcategories of Fresh dairy products and desserts

The mean fat content per 100g among Fresh dairy products and desserts varied considerably with a lowest mean fat content reported at 0.2g in the Artificially-sweetened fresh cheeses subcategory (n=19) and highest mean fat content at 28g in Other dairy products subcategory (n=1) (Figure 30).

- Subcategories with the lowest mean fat content per 100g (containing less than 3g/100g) included Fresh desserts with cereals (2.7g/100g), Fresh plain unsweetened soy desserts (2.5g/100g), Fresh sweetened soy desserts (2.1g/100g), Classic sweetened fresh cheeses (2.1g/100g), Classic sweet yoghurts and fermented milks (1.9g/100g), Fresh light and/or artificially-sweetened desserts (1.5g/100g), Classic plain yoghurts and fermented milks with no added sugar (1.4g/100g), Artificially-sweetened yoghurts and fermented milks (0.8g/100g) Classic plain fresh cheeses with no added sugar (0.7g/100g), and Artificially-sweetened fresh cheeses (0.2g/100g).
- The remaining subcategories with the mean fat content higher than 3g/100g included Gourmet plain fresh cheeses with no added sugar (4.0g/100g), Liégeois desserts and similar (5.0g/100g), Egg-based fresh desserts (5.3g/100g), Gourmet sweet yoghurts and fermented milks (6.5g/100g), Gourmet plain yoghurts and fermented milks with no added sugar (6.8g/100g), Other fresh plant-based desserts (6.6g/100g), Gourmet sweet fresh cheeses (6.7g/100g), Fresh mousse-type desserts (9.8g/100g), Dessert creams and jellied milks (11.3g/100g), and Other dairy products (28g/100g).
- There is variability in fat content within subcategories Dessert creams and jellied milks (n= 17, 1.6g/100g to 15.4g/100g), Egg-based fresh desserts (n=5, 0.8g/100g to 14.7 g/100g), Fresh mousse-type desserts (n=5, 5.1g/100g to 18.2g/100g), Gourmet plain yoghurts and fermented milks with no added sugar (n=27, 3.7g/100g to 11 g/100g) and Other fresh plant-based desserts (n=19, 2.1g/100g to 15g/100g). There is potential for reformulation of these subcategories in particular which should be encouraged with the goal to reduce fat content.

3.2.4.3 Distribution of saturated fat content by Fresh dairy products and desserts subcategories

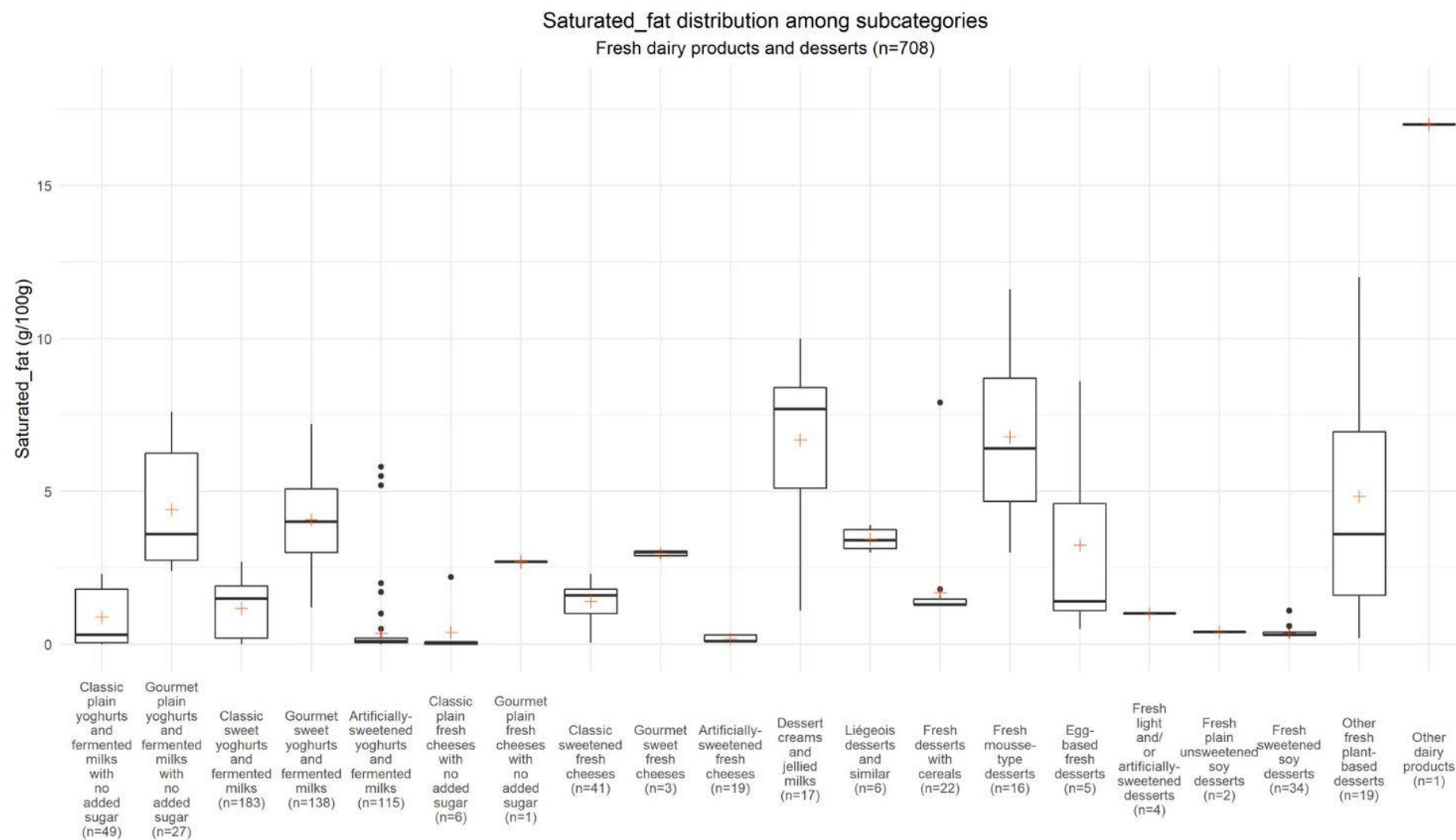


Figure 31: Saturated fat distribution among subcategories of Fresh dairy products and desserts

The mean distribution of saturated fat per 100g varied between 0.2g/100g in Artificially-sweetened fresh cheeses (n=19) and 17g/100g in Other dairy products (n=1) (Figure 31).

- The mean saturated fat content of 1.5g/100g or less included the following subcategories: Classic sweetened fresh cheeses (1.4g/100g), Classic sweet yoghurts and fermented milks (1.2g/100g), Fresh light and/or artificially-sweetened desserts (1.0g/100g), Classic plain yoghurts and fermented milks with no added sugar (0.9g/100g), Classic plain fresh cheeses with no added sugar (0.4g/100g), Artificially-sweetened yoghurts and fermented milks (0.4g/100g), Fresh plain unsweetened soy desserts (0.4g/100g), Fresh sweetened soy desserts (0.4g/100g) and Artificially-sweetened fresh cheeses (0.2g/100g).
- Other subcategories with the mean saturated fat content of more than 1.5 g/100g with particularly highest mean saturated fat content, include Other dairy products (17g/100g), Fresh mousse-type desserts (6.8g/100g), Dessert creams and jellied milks (6.7g/100g), Other fresh plant-based desserts (4.8g/100g), Gourmet plain yoghurts and fermented milks with no added sugar (4.4g/100g), Gourmet sweet yoghurts and fermented milks (4.1g/100g), Egg- based fresh desserts (3.2/100g), Gourmet plain fresh cheeses with no added sugar (2.7g/100g) and Fresh desserts with cereals (1.7g/100g).
- There is greater variability in saturated fat content within subcategories : Other fresh plant-based desserts (n= 19, 0.2g/100g to 12g/100g), Dessert creams and jellied milks (n= 17, 1.1g/100g to 10.0 g/100g), Egg-based fresh desserts (n=5, 0.5g/100g to 8.6 g/100g), Fresh mousse-type desserts (n=5, 3g/100g to 11.6g/100g), and Gourmet plain yoghurts and fermented milks with no added sugar (n=27, 2.4g/100g to 7.6g/100g). There is potential for reformulation of these subcategories which should be encouraged with the goal to reduce saturated fat content (alongside total fat content).

3.2.4.4 Distribution of sugar content by Fresh dairy products and desserts subcategories

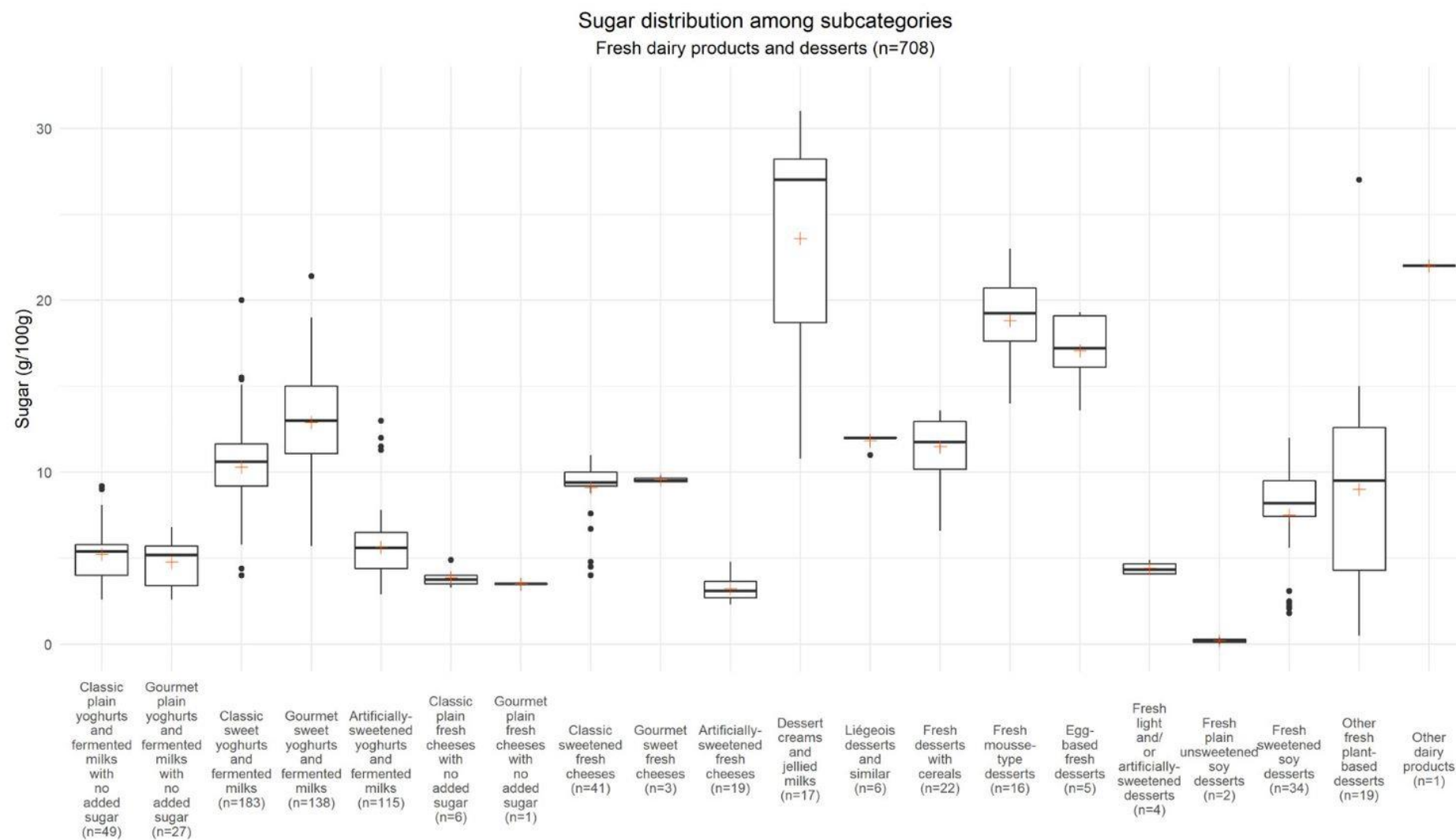


Figure 32: Sugar distribution among subcategories of Fresh dairy products and desserts

Mean sugar content among the subcategories of the Fresh dairy products and desserts varied considerably between 0.2 g/100g in Fresh plain unsweetened soy desserts (n=2) and Dessert creams and jellied milks (23.6g/100g, n=17) (Figure 32).

- Several subcategories have mean sugar content below 5g/100g including Gourmet plain yoghurts and fermented milks with no added sugar (4.8g/100g, n=27), Fresh light and/or artificially sweetened desserts (4.4g/100g, n=4), Classic plain fresh cheeses with no added sugar (3.9g/100g, n=9), Gourmet plain fresh cheeses with no added sugar (3.5g, n=1), Artificially-sweetened fresh cheeses (3.2g, n=19) and Fresh plain unsweetened soy desserts (0.2g, n=2).
- The remaining subcategories have a mean sugar of more than 5g per 100g. Some of the subcategories with the highest mean sugar included Dessert creams and jellied milks (23.6g/100g, n=17), Other dairy products (22g/100g, n=1), Fresh mousse-type desserts (18.8g/100g, n=16), Egg-based fresh desserts (17.1g/100g, n=5), Gourmet sweet yoghurts and fermented milks (12.9g/100g, n=138), Liégeois desserts and similar (11.8g/100g, n=6), Fresh desserts with cereals (11.5g/100g, n=22) and Classic sweet yoghurts and fermented milks (10.3g/100g, n=183).

There is variability in sugar content across the subcategories and within subcategories. There is large variability in subcategories Other fresh plant-based desserts (n=19, 0.5g/100g to 27 g/100g), Classic sweet yoghurts and fermented milks (n=183, 4.0g/100g to 20.0g/100g), Gourmet sweet yoghurts and fermented milks (n= 138, 5.7g/100g to 21.4 g/100g), Dessert creams and jellied milks (n=17, 10.8g/100g to 31 g/100g). This can be explained by the range of brands and formulations impacting on sugar content and translates to an opportunity for reformulation.

3.2.4.5 Distribution of fibre content by Fresh dairy products and desserts subcategories

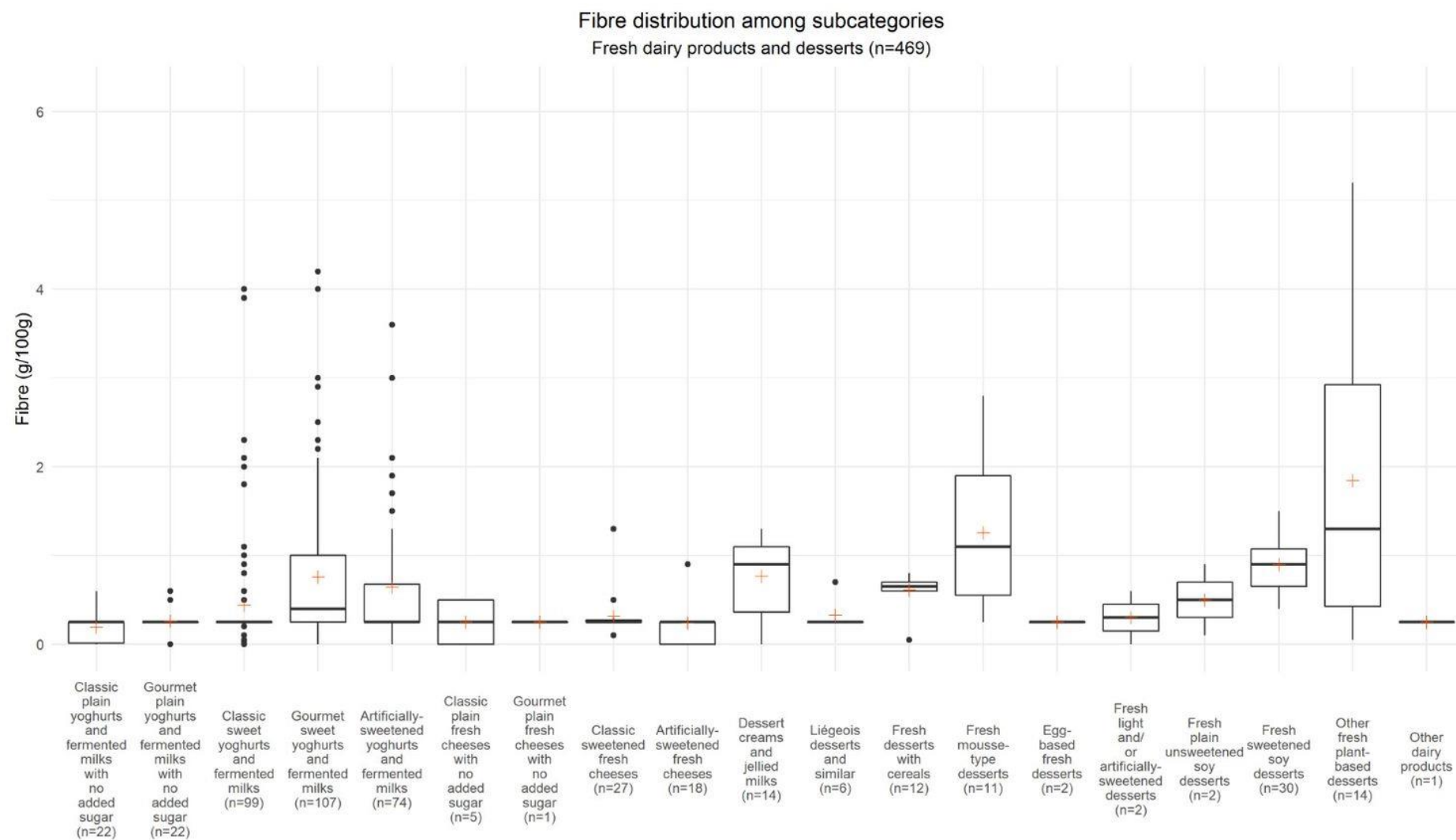


Figure 33: Fibre distribution among subcategories of Fresh dairy products and desserts

The mean fibre content among all subcategories of the Fresh dairy products and desserts was low, ranging between 0.2g/100g (Classic plain yoghurts and fermented milks with no added sugar (n=22); Classic plain fresh cheeses with no added sugar (n=5); Egg-based fresh desserts (n=2); Gourmet plain fresh cheeses with no added sugar (n=1); Artificially-sweetened fresh cheeses (n=18); Other dairy products (n=1)) and 1.8g/100g (Other fresh plant-based desserts (n=14)).

3.2.5 Soft drinks

3.2.5.1 Distribution of sugar content by Soft drinks subcategories

The nutrients considered for the Soft drinks category are: Sugar, Fibre, Salt, Fat and Saturated Fat.

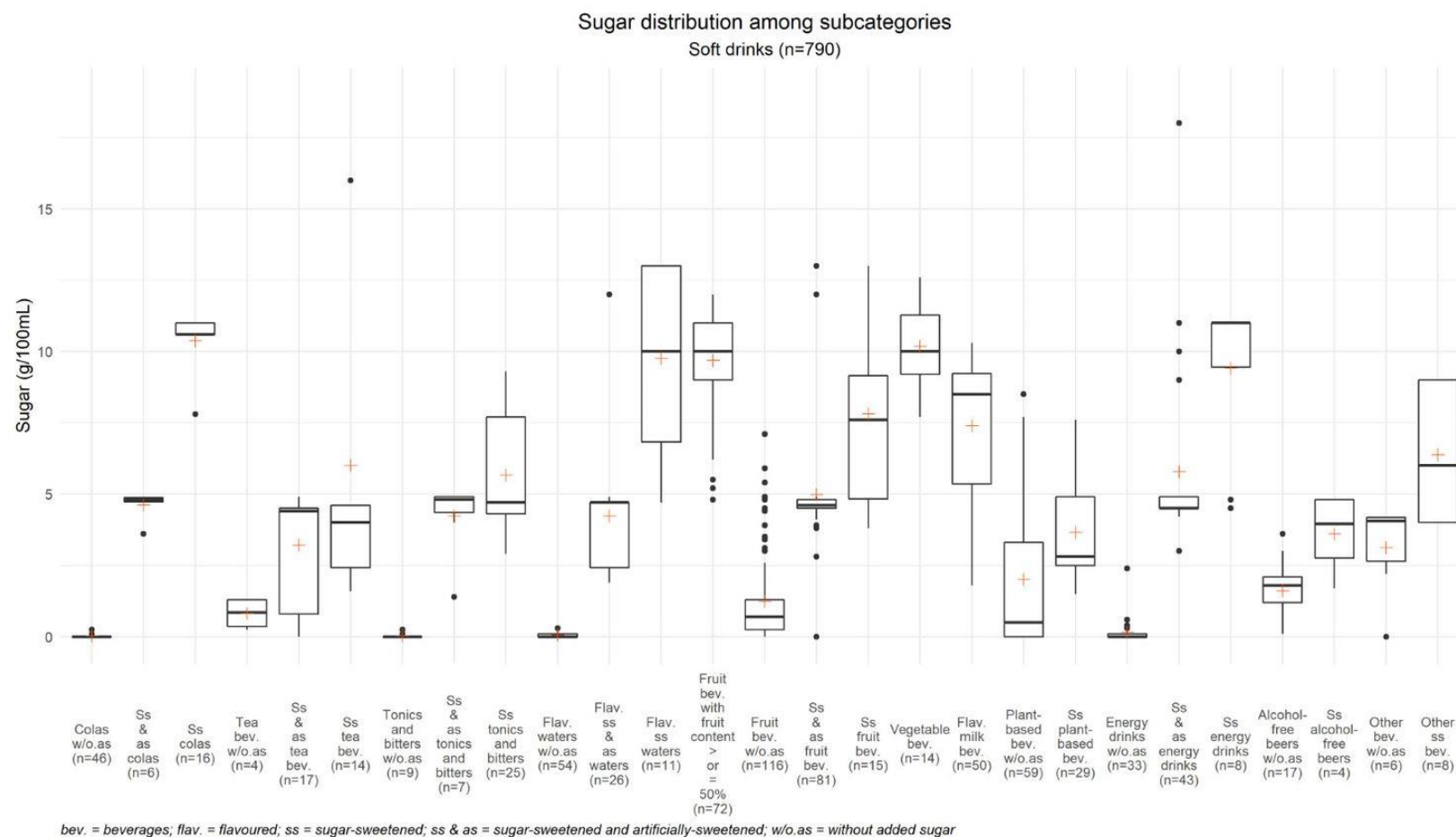


Figure 34: Sugar distribution among subcategories of Soft drinks

The distribution of mean sugar among subcategories in soft drinks varied between 0g/100mL and 10.4g/100mL (Figure 34).

- Highest mean sugar was observed in subcategories: Sugar-sweetened colas (n=16, 10.4g/100mL), Vegetable beverages (n=14, 10.2g/100g), Flavoured sugar-sweetened waters (n=11, 9.8g/100g), Fruit beverages with fruit content > or = 50% (n= 72, 9.7g/100g) and Sugar-sweetened energy drinks (n=8, 9.4g/100g). High content of sugar in the Soft drinks category highlights the importance of exploring reformulation practices to reduce sugar in this food category.
- Soft drinks with lowest mean sugar content (less than 5g/100mL) included Colas without added sugar (n=46, 0g/100mL), followed by Tonics and bitters without added sugar (n=9, 0g/100mL), Flavoured waters without added sugar (n=54, 0.1g/100mL), Energy drinks without added sugar (n=33, 0.2g/100mL), Tea beverages without added sugar (n=4, 0.8g/100mL), Fruit beverages without added sugar (n=116, 1.2g/100mL), Alcohol-free beers without added sugar (n=17, 1.6g/100mL), Plant-based beverages without added sugar (n=59, 2g/100mL), Other beverages without added sugar (n=6, 3.1 g/100mL), Sugar-sweetened and artificially-sweetened tea beverages (n=17, 3.2g/100mL), Sugar-sweetened alcohol-free beers (n=4, 3.6g/100mL), Sugar-sweetened plant-based beverages (n=29, 3.7g/100mL), Flavoured sugar-sweetened and artificially-sweetened waters (n=26, 4.2g/100mL), Sugar-sweetened and artificially-sweetened tonics and bitters (n=7, 4.2g/100mL) and Sugar-sweetened and artificially-sweetened colas (n=6, 4.6g/100mL).. Low content in these drinks possible may be explained by the use of alternative substitutes to sugar.
- A few subcategories contain less than 0.5g/100mL of sugar for all products, including Colas without added sugar, Tonics and bitters without added sugar, Energy drinks without added sugar and Flavoured waters without added sugar.

3.2.5.2 Distribution of fibre content by Soft drinks subcategories

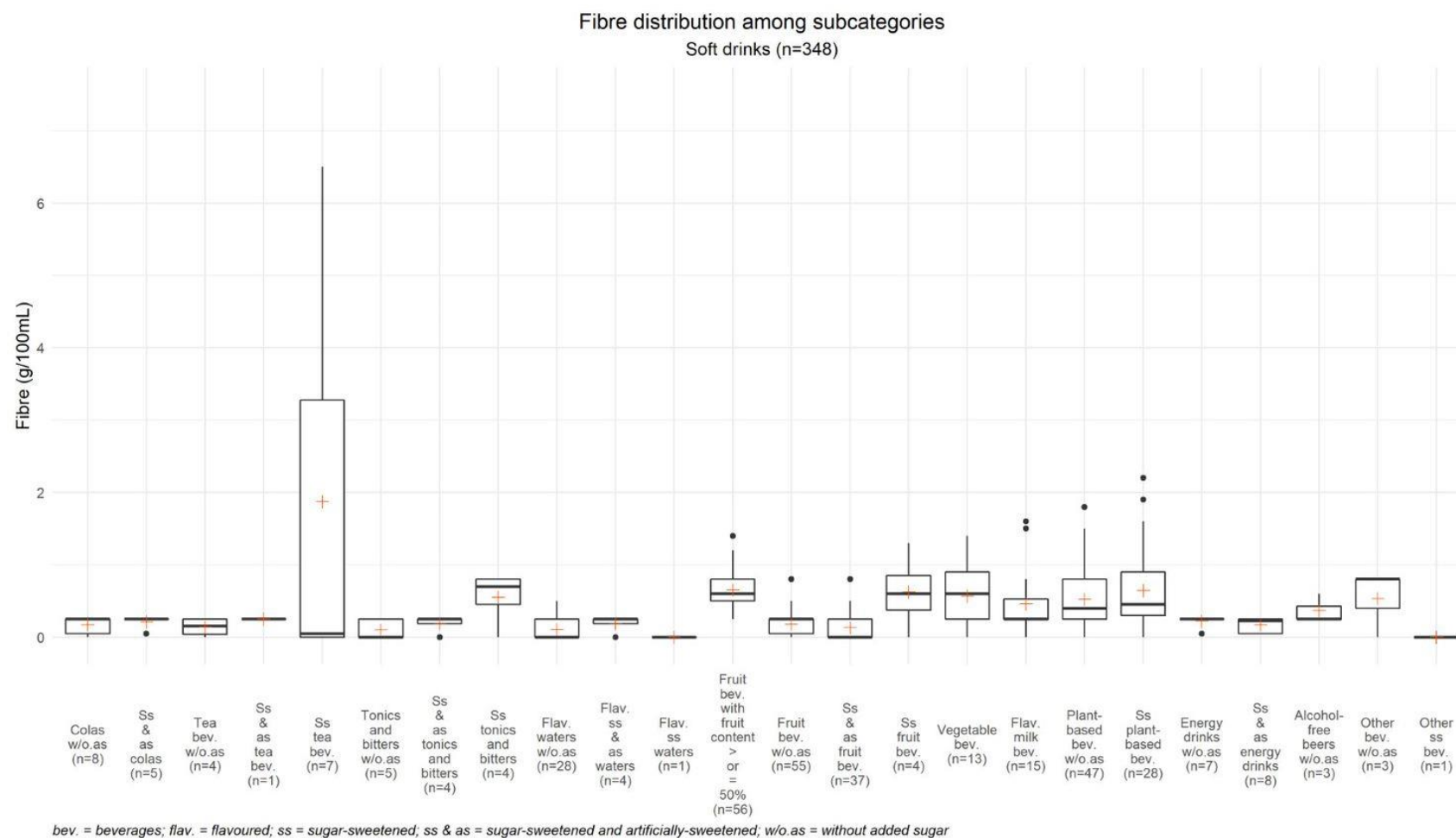


Figure 35: Fibre distribution among subcategories of Soft drinks

The mean fibre content among subcategories of Soft drinks (Figure 35) varied between 0g/100mL (Flavoured sugar-sweetened waters) and 1.9g/100mL (Sugar-sweetened tea beverages). The majority of subcategories had a mean fibre content of less than 1g/100mL.

3.2.5.3 Distribution of salt content by Soft drinks subcategories

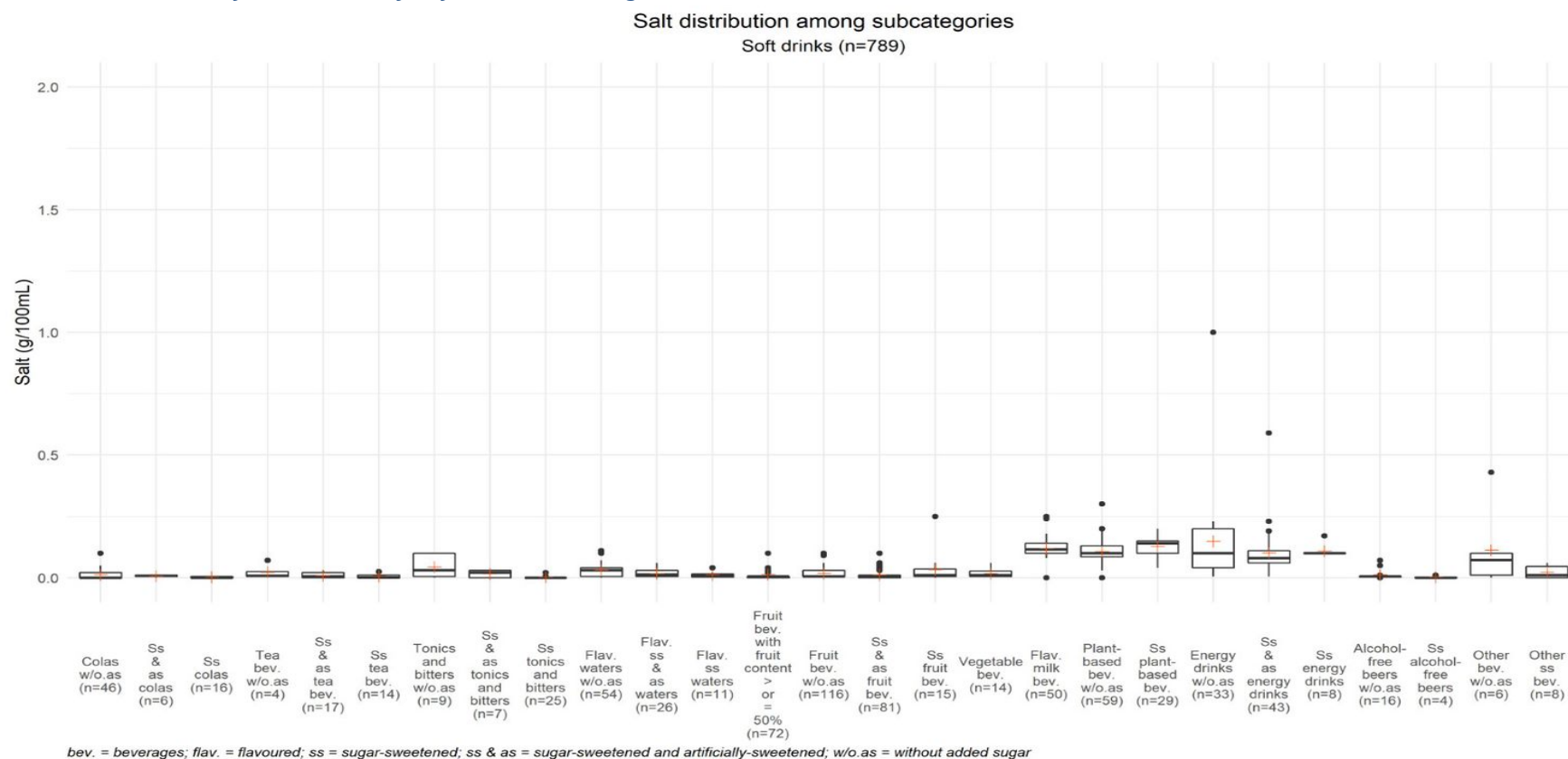


Figure 36: Salt distribution among subcategories of Soft drinks

The mean salt content among all subcategories of Soft drinks per 100mL was less than 0.5g. This may be explained by the typical composition of these types of products which do not commonly include salt as an ingredient (Figure 36).

3.2.5.4 Distribution of fat content among flavoured milk and plant-based beverages subcategories

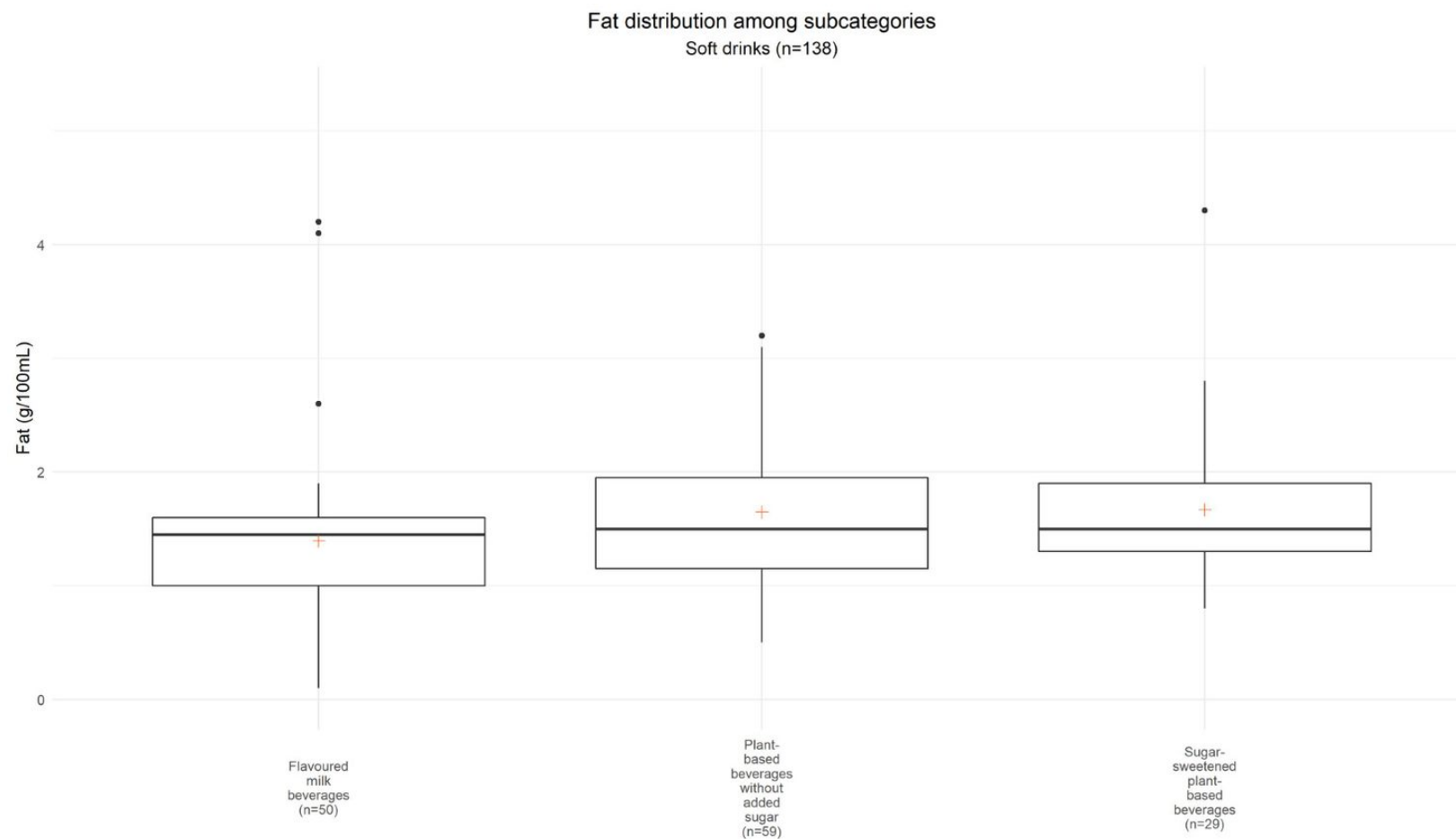


Figure 37: Fat distribution among subcategories of Soft drinks

The lowest mean fat content per 100mL among the three subcategories of the Soft drinks investigated for fat content was observed in Flavoured milk beverages (1.4g, n=50), Plant-based beverages without added sugar (1.6g, n=59), followed by Sugar-sweetened plant-based beverages (1.7g, n=29). Higher mean content of fat in these beverage subcategories may be explained by the presence of natural fats in the ingredients used to manufacture these products (Figure 37).

3.2.5.5 Distribution of saturated fat content among flavoured milk and plant-based beverages subcategories

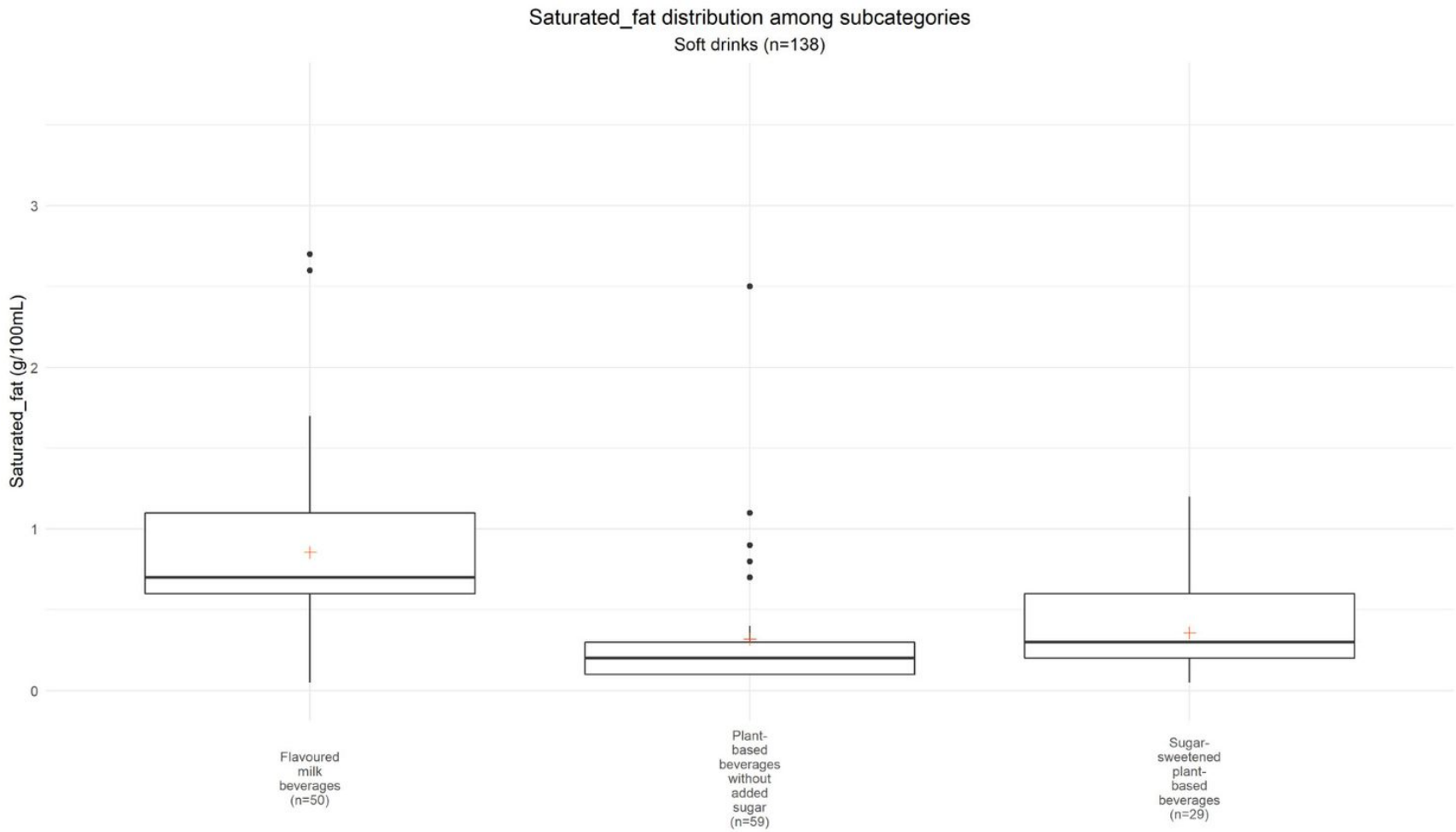


Figure 38: Saturated fat distribution among subcategories of Soft drinks

The lowest mean saturated fat content per 100mL among the three soft drinks subcategories investigated for saturated fat content was observed in Plant-based beverages without added sugar (0.3g, n=59), followed by Sugar-sweetened plant-based beverages (0.4g, n=29) and Flavoured milk beverages (0.9g, n=50) (Figure 38). Flavoured milk beverages, based on animal milk are naturally rich in saturated fat.



Best-ReMaP

Healthy Food for a Healthy Future

POLAND T0 statistics report

Grant Agreement Number 951202

Katarzyna Brukało – WP5

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This report presents an overview of the food offer and the nutritional quality of products collected in *Poland* and belonging to the 5 prioritised food categories for Best-ReMaP : Breakfast cereals, Bread products, Delicatessen meats and similar, Fresh dairy products and desserts and Soft drinks.

It should be emphasized that the slight deviations that occur in the charts result from rounding in R Programs. They should not be treated as incorrect, they do not affect the substantive value of the report.

1 Description of the food offer

1.1 Presentation of data collected

This report was prepared based on the first snapshot of data collection conducted in Poland. Data collection took place in 2021-2022. In total, after verification and removal of duplicate products, 1466 food products were included in the analysis.

Data collection was carried out in 6 retailers, that were covering above 75% of the market in 2021 (Table1).

Table 1 : Ranking of retail food chains and discount stores in Poland from 2019 to 2021.

Retailer	Estimated market share in Poland in 2021
Lidl	27.5%
Biedronka	25.31%
Auchan	9.88%
Kaufland	6.2%
Carrefour	5.15%
Aldi	1.65%

Source: Portal Statista: <https://www.statista.com/statistics/1113549/poland-retail-stores-by-format/>

Table 2 shows the number of product collected for each Best-ReMaP category by retailer. In the case of Auchan store, where the largest number of products were collected, the shopping portal was also used to collect the data, when all the necessary information was available: 56 food products (18.92% of products collected in Auchan and 3,72% of all collected products) were obtained by webscraping.

Table 2 : Number of products collected by retailer and food category

Retailers	Biedronka	Lidl	Aldi	Carrefour	Kaufland	Auchan	Total
Bread products	19	30	22	28	21	31	151
Breakfast cereals	28	26	33	32	21	37	177
Delicatessen meats and similar	78	108	84	48	57	86	461
Fresh dairy products and desserts	75	71	87	36	26	75	370
Soft drinks	63	49	44	43	48	60	307
Total	263	284	270	187	173	289	1466

1.2 Food offer analysis

1.2.1 Number of products collected by category

During T0, 1466 food products were collected.

As shown in Table 2, in each category were collected:

- Bread products – 151 products,
- Breakfast cereals – 177 products,
- Delicatessen meats and similar – 461 products,
- Fresh dairy products and desserts – 370 products,
- Soft drinks – 307 products.

1.2.2 Proportion of the types of brand collected by category

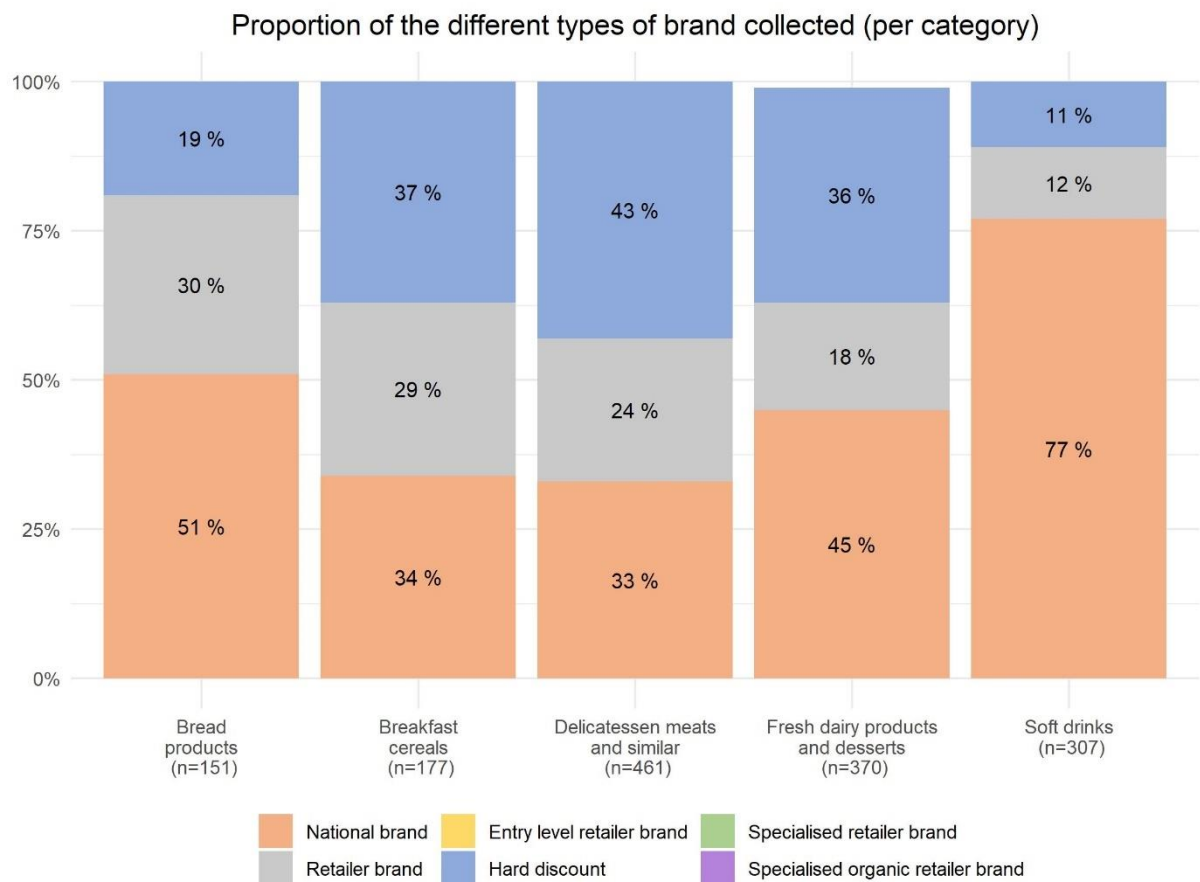


Figure 1 : Proportion of the different types of brand collected (per category)

Among the 151 products collected in the Bread products category (Figure 1):

- 51% belong to national brand (n=77)
- 30% belong to retailer brand (n=45)
- 19% belong to hard discount brand (n=29)

Among the 177 products collected in the Breakfast cereals category (Figure 1):

- 34% belong to national brand (n=60)
- 29% belong to retailer brand (n=51)
- 37% belong to hard discount brand (n=66)

Among the 461 products collected in the Delicatessen meats and similar category (Figure 1):

- 33% belong to national brand (n=152)
- 24% belong to retailer brand (n=111)
- 43% belong to hard discount brand (n=198)

Among the 370 products collected in the Fresh dairy products and desserts category (Figure 1):

- 45% belong to national brand (n=167)
- 18% belong to retailer brand (n=67)
- 36% belong to hard discount brand (n=134)

Among the 307 products collected in the Soft drinks category (Figure 1):

- 77% belong to national brand (n=236)
- 12% belong to retailer brand (n=37)
- 11% belong to hard discount brand (n=34)

None of the products collected among all five categories belong to entry level retailed brand, specialized retailer brand or specialized organic retailer brand (for the last two, these retailers were not considered explaining the lack of products).

Overall, the data collected correspond mainly to national brands for soft drinks, bread products and fresh dairy products and desserts (between 45% and 77% depending on category), and to retailer brands for bread products (30%, n=45) and breakfast cereals (29%, n=51).

1.2.3 Description of the collected food offer by category

1.2.3.1 Bread products

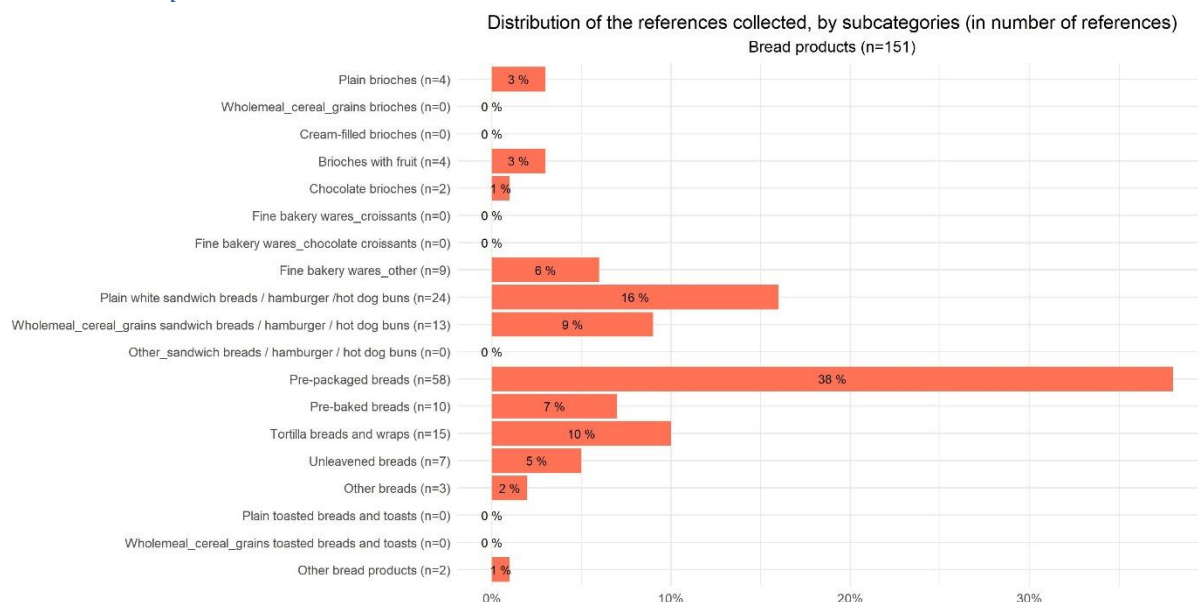


Figure 2 : Distribution of the references collected, by subcategories among bread products

Distribution, by subcategories, of products collected among Bread products (Figure 2) shows that the most represented subcategories are Pre-packaged breads (n=59, 38%), followed by Plain white sandwich breads/hamburger/hot dog buns (n=24, 16%), Tortilla breads and wraps (n=15, 10%), and Wholemeal cereal grains sandwich breads / hamburger / hot dog buns (n=13, 9%).

On the contrary, no products have been collected in the subcategories: Wholemeal cereal grains brioches, Plain toasted breads and toasts, Other sandwich breads/hamburger/hot dog buns, Cream-filled brioches, Wholemeal cereal grains brioches, Fine bakery wares croissants and Fine bakery wares chocolate croissants.

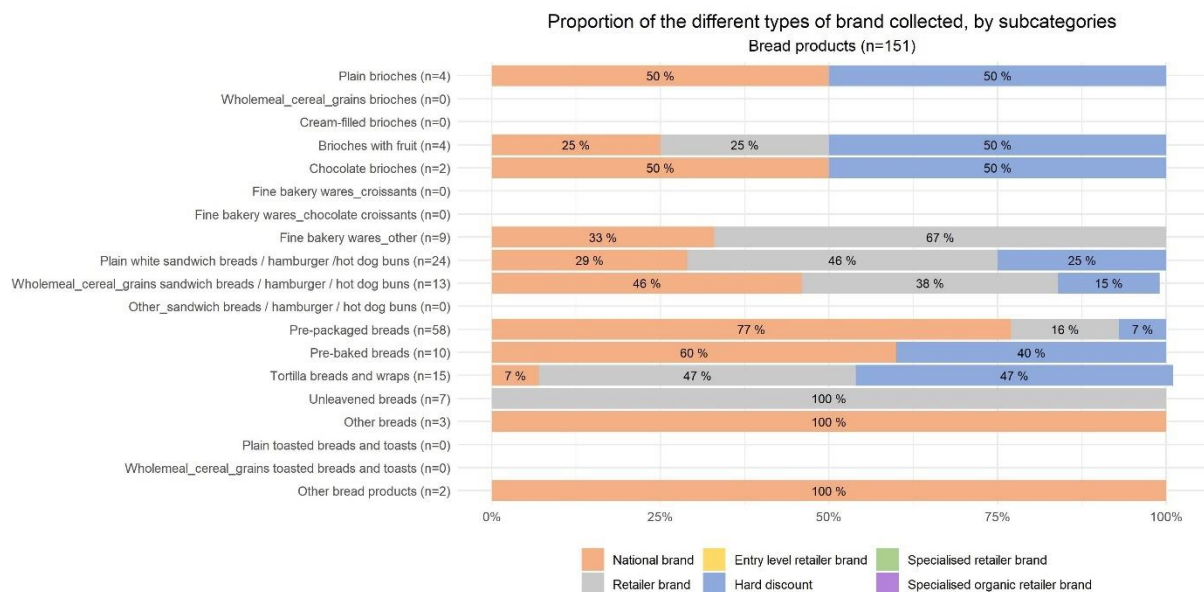


Figure 3: Proportion of the different types of brand collected, by subcategories among Bread products

Among the 151 products collected, the proportion of the different types of brand are variable among subcategories (Figure 3):

- National brands are represented in almost all the subcategories for which products have been collected (apart from Unleavened breads (n=7)) between 7% and 100% of products collected depending on the subcategory;
- Retailer brands are also largely represented (apart from: Plain brioches (n=4), Chocolate brioches (n=2), Pre-baked breads (n=10), Other breads (n=3), Other bread products (n=2)) between 16% and 100% of products collected depending on the subcategory;
- Hard discount is represented in 8 out of 12 subcategories for which products have been collected. The proportion of products from hard discount varies from 7% to 50% within the subcategories in which they are represented.

1.2.3.2 Breakfast cereals

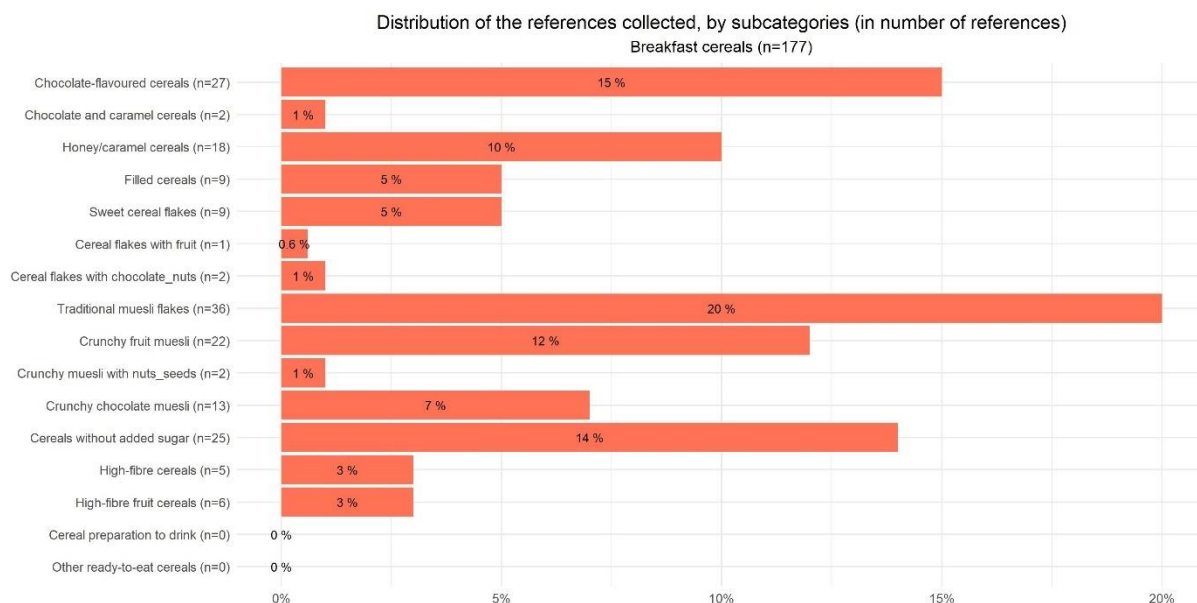


Figure 4 : Distribution of the references collected, by subcategories among Breakfast cereals

Distribution, by subcategories, of products collected among Breakfast cereals (Figure 2) shows that the most represented subcategories are Traditional muesli flakes (n=36, 20%), Chocolate-flavoured cereals (n=27, 15%) and Cereals without added sugar (n=25, 14%).

On the contrary, no products have been collected in the subcategories: Cereal preparation to drink and Other ready-to-eat cereals. The least represented subcategories are: Cereal flakes with fruit (n=1, 0.6%), chocolate and caramel cereals (n=2, 1%), Cereal flakes with chocolate nuts (n=2, 1%) and Crunchy muesli with nuts seeds (n=2, 1%).

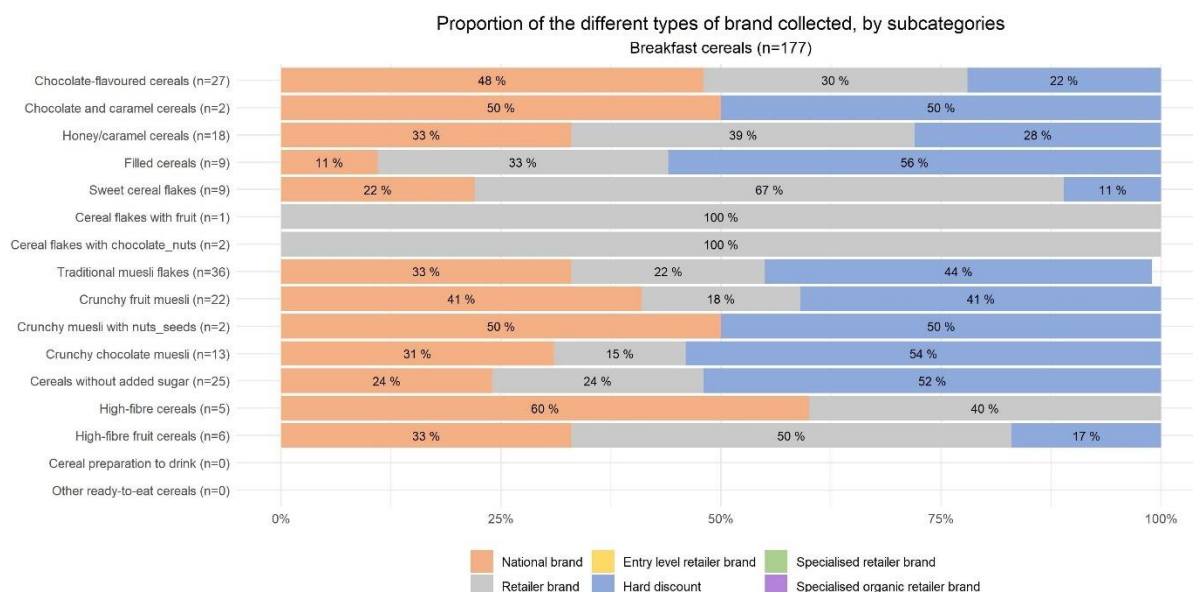


Figure 5 : Proportion of the different types of brand collected, by subcategories among Breakfast cereals

Among the 177 products collected, the proportion of the different types of brand are variable among subcategories (Figure 5):

- National brands are represented in almost all subcategories (apart from: Cereal flakes with fruit (n=1) and Cereal flakes with chocolate/nuts (n=2)) between 11% and 60% of products collected depending on the subcategory;
- Retailer brands are also largely represented (apart from: Chocolate and caramel cereals (n=2), Crunchy muesli with nuts/seeds (n=2)) between 15% and 100% of products collected depending on the subcategory;
- Hard discount is represented in 11 out of 14 subcategories for which products have been collected between 11% and 56%;

1.2.3.3 Delicatessen meats and similar

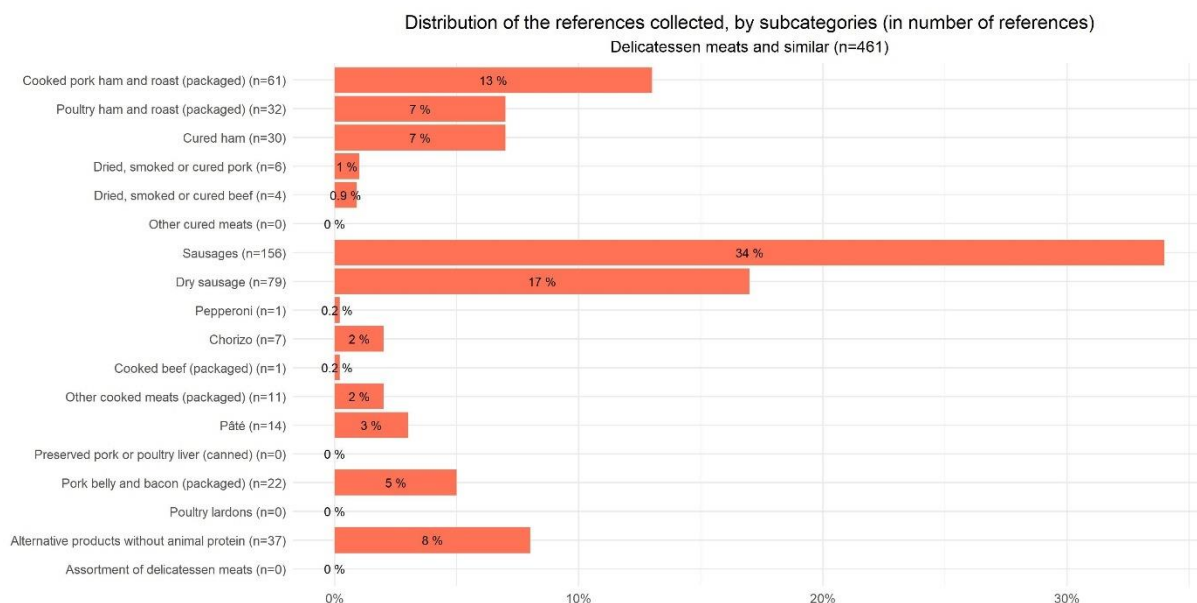


Figure 6 : Distribution of the references collected, by subcategories among Delicatessen meats and similar

Distribution, by subcategories, of products collected among Delicatessen meats and similar (Figure 6) shows that the most represented subcategories are Sausages (n=156, 34%) and Dry sausage (n=79, 17%).

On the contrary, no products have been collected in the subcategories: Other cured meats, Preserved pork or poultry liver (canned), Poultry lardons, and Assortment of delicatessen meats.

The least represented subcategories are: Pepperoni (n=1, 0.2%) and Cooked beef (packaged) (n=1, 0.2%).

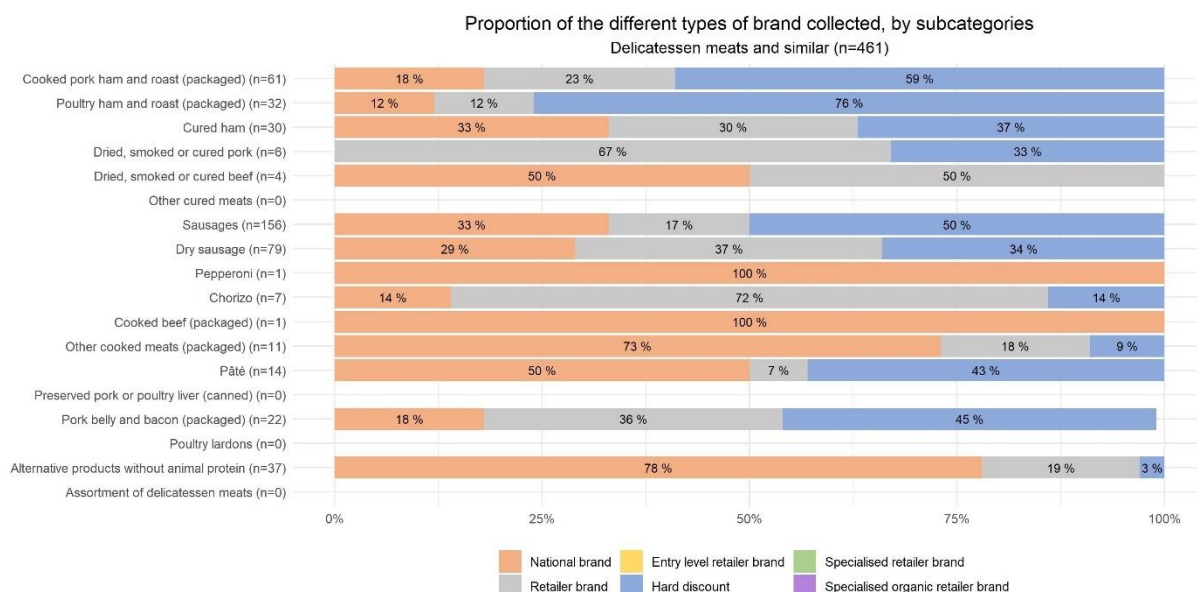


Figure 7 : Proportion of the different types of brand collected, by subcategories among Delicatessen meats and similar

Among the 461 products collected, the proportion of the different types of brand are variable among subcategories (Figure 7

- National brands are represented in almost all subcategories (apart from: Dried, smoked or cured pork (n=6)) between 12% and 100% of products collected depending on the subcategory;
- Retailer brands are also largely represented (apart from: Pepperoni (n=1) and Cooked beef (packaged) (n=1)) between 7% and 72% of products collected depending on the subcategory;
- Hard discount is represented in 11 out of 14 subcategories for which products have been collected, between 3% and 100% of products collected depending on the subcategory;

1.2.3.4 Fresh dairy products and desserts

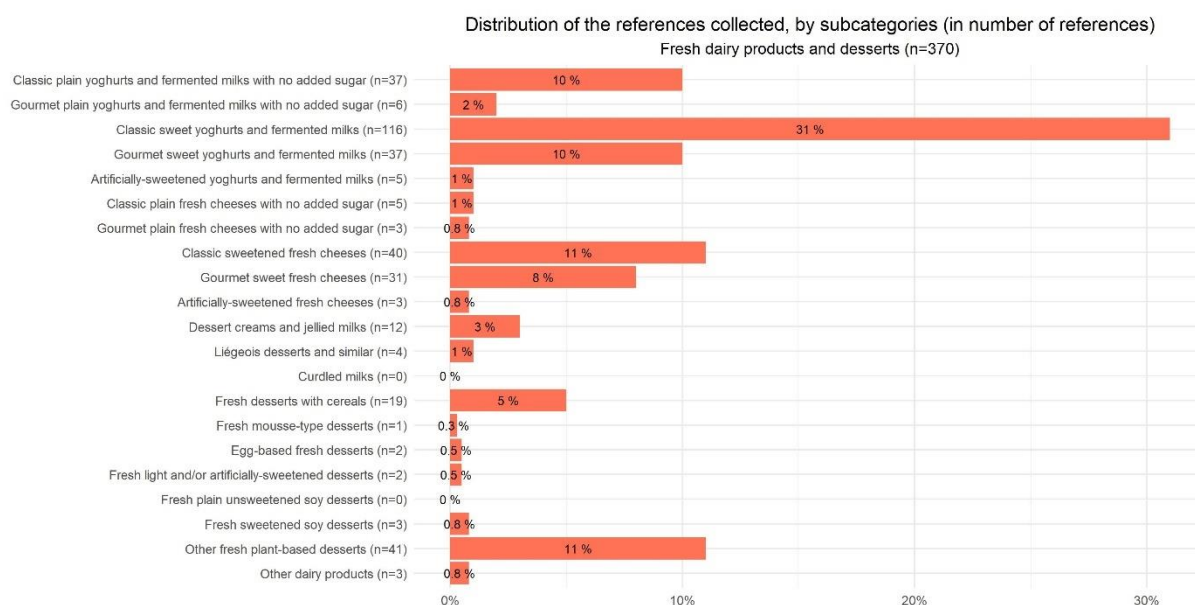


Figure 8 : Distribution of the references collected, by subcategories among fresh dairy products and desserts

Distribution, by subcategories, of products collected among Fresh dairy products and desserts (Figure 8) shows that the most represented subcategories are Classic sweet yoghurts and fermented milks (n=116, 31%) and Other fresh plant-based desserts (n=41, 11%) and Classic sweetened fresh cheeses (n=40, 11%).

On the contrary, no products have been collected in the subcategories: Curdled milks and Fresh plain unsweetened soy desserts. The least represented subcategories are: Fresh mousse-type desserts (n=1, 0.3%), Egg-based fresh desserts (n=2, 0.5%) and Fresh light and/or artificially-sweetened desserts (n=2, 0.5%).

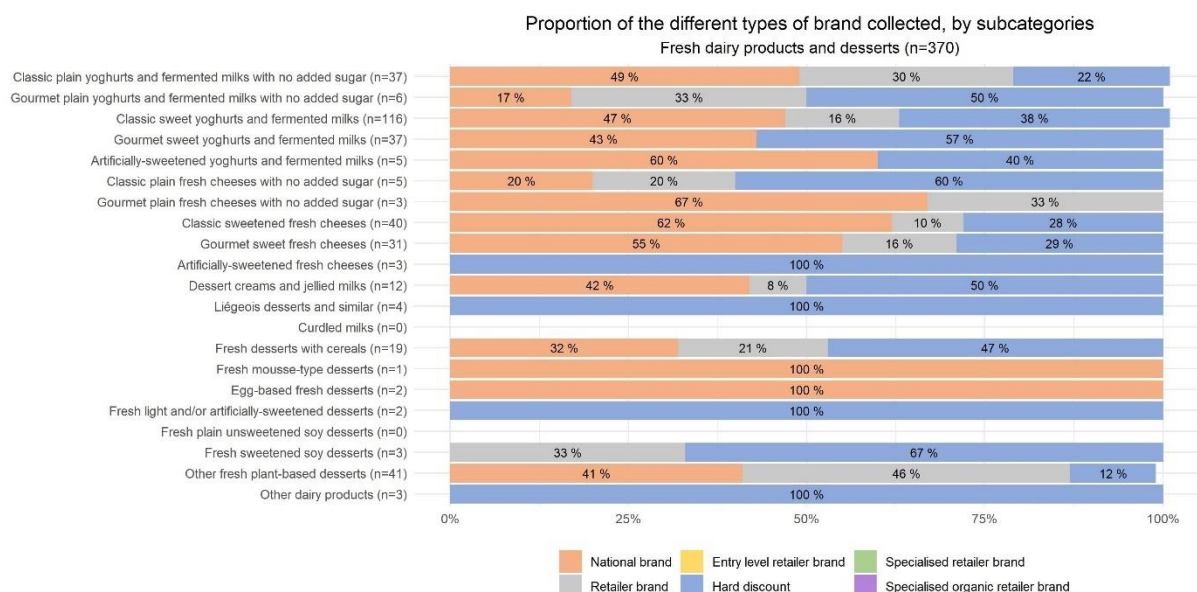


Figure 9 : Proportion of the different types of brand collected, by subcategories among fresh dairy products and desserts

Among the 370 products collected, the proportion of the different types of brand are variable among subcategories (Figure 9):

- National brands are represented in almost all subcategories for which products have been collected (apart from: Artificially-sweetened fresh cheeses (n=3), Liégeois desserts and similar (n=4), Fresh sweetened soy desserts (n=3), Fresh light and/or artificially-sweetened desserts (n=2) and Other dairy products (n=3)) between 17% and 100% of products collected depending on the subcategory;
- Retailer brands are represented in 11 out of 19 subcategories for which products have been collected, between 8% and 46% of collected products depending to subcategory;
- Hard discount is largely represented (apart from: Gourmet plain fresh cheeses with no added sugar (n=3), Fresh mousse-type desserts (n=2), Egg-based fresh desserts (n=2)) between 12% and 100% of products collected depending on the subcategory;

1.2.3.5 Soft drinks

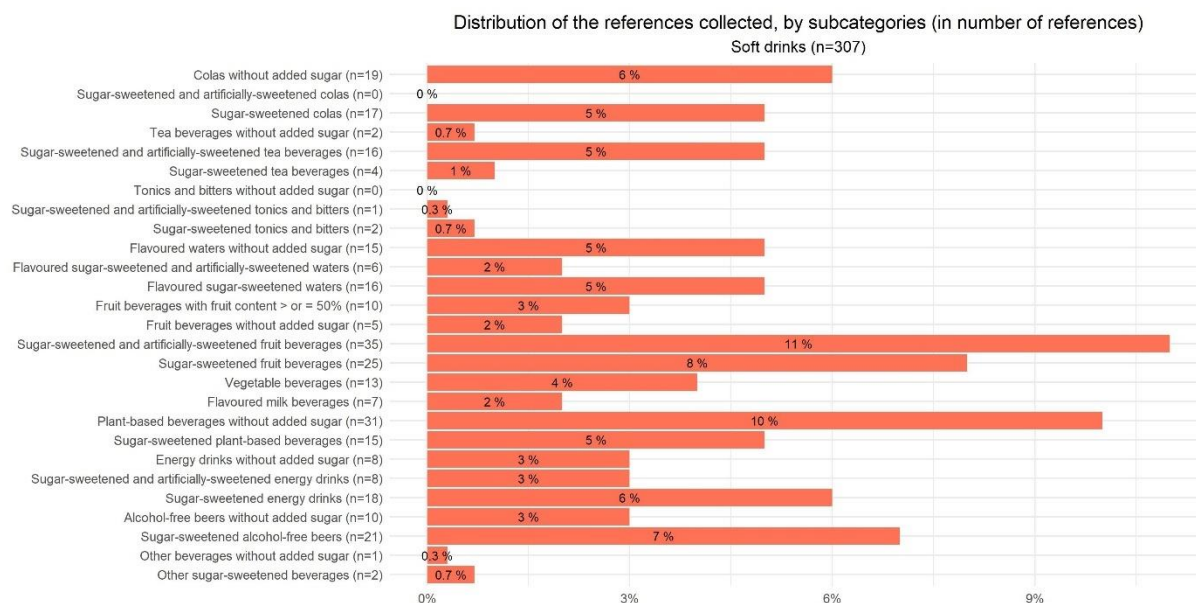


Figure 10 : Distribution of the references collected, by subcategories among Soft drinks

Distribution, by subcategories, of products collected among Soft drinks (Figure 10) shows that the most represented subcategories are Sugar-sweetened and artificially-sweetened fruit beverages (n=35, 11%) and Plant-based beverages without added sugar (n=31, 10%).

On the contrary, no products have been collected in the subcategories: Tonics and bitters without added sugar and Sugar-sweetened and artificially-sweetened colas. The least represented subcategories are: Sugar-sweetened and artificially-sweetened tonics and bitters (n=1, 0.3%) and Other beverages without added sugar (n=1, 0.3%).

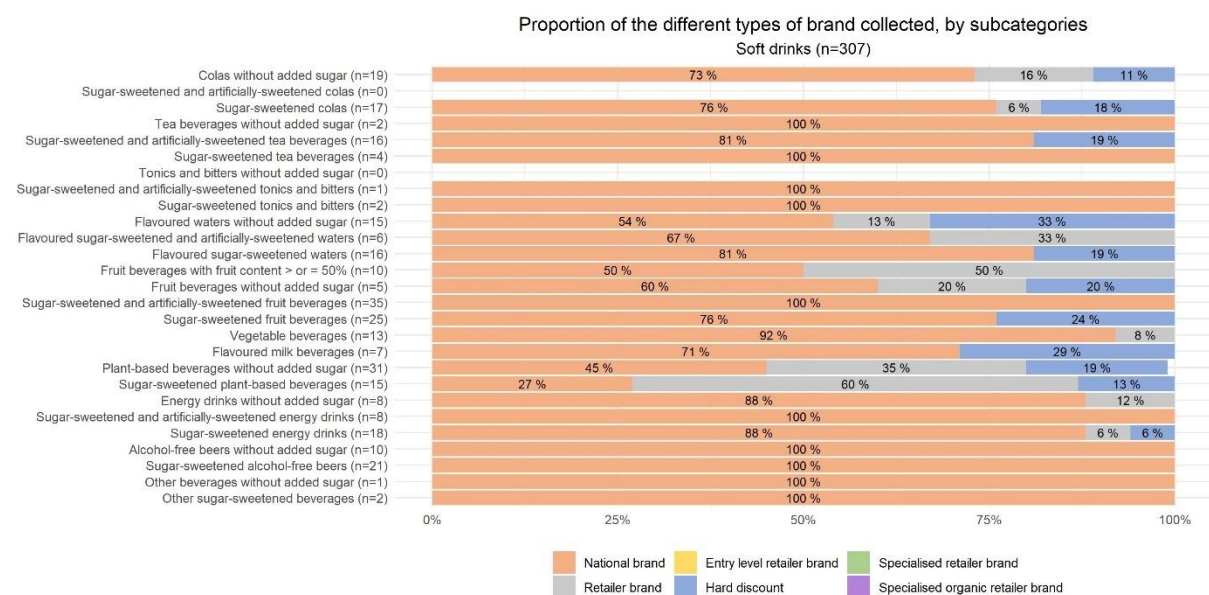


Figure 11 : Proportion of the different types of brand collected, by subcategories among Soft drinks

Among the 307 products collected, the proportion of the different types of brand are variable among subcategories (Figure 11):

- National brands are represented in all subcategories for which products have been collected, between 2% and 100% of products collected depending on the subcategory;
- Retailer brands are represented in 11 out of 25 subcategories for which products have been collected, between 6% and 60% of products collected depending of the subcategory;
- Hard discount is represented in 11 out of 25 subcategories for which products have been collected, with the distribution of products between the subcategories varying from 6% to 33%;

2 Labeling parameters

2.1 Front of pack labeling per category

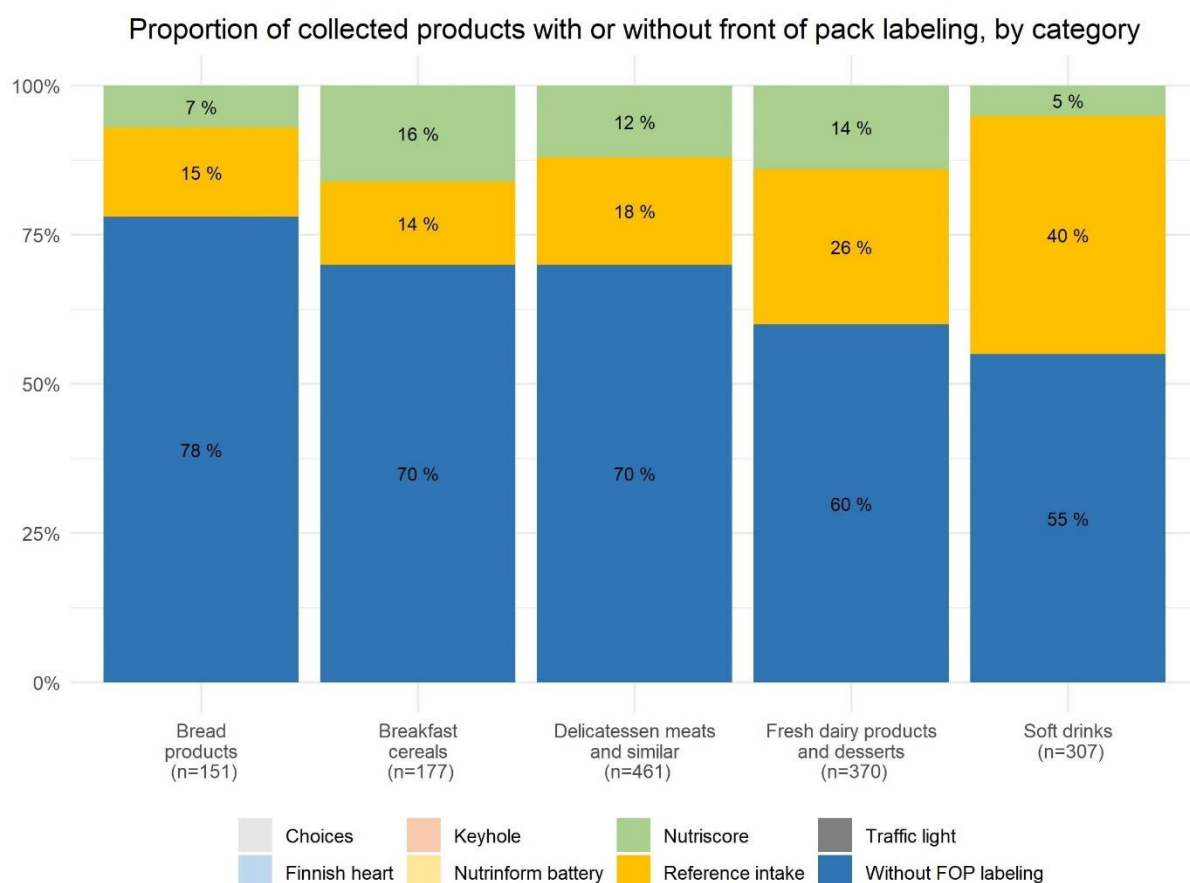


Figure 12 : Proportion of collected products with or without front of pack labeling, by category

The frequency of the appearance of a front of pack labeling was observed for each of the categories monitored (Figure 12).

Among all data collected, the majority of products do not have any front of pack labeling : from 55% for Soft drinks to 78% for Bread products.

The most common front of pack labeling is Reference intake and it is observed among all categories collected, from 14% of products among Breakfast cereals to 40% in Soft drinks category.

An other front of pack labeling observed in the collected data is the Nutriscore, which is found on 5% of collected Soft Drinks, 7% of Bread products, 12% of Delicatessen meats and similar, 14% of Fresh dairy products and desserts and 16% of Breakfast cereals.

No other front of pack labeling monitored during Best-ReMaP was present on the packages of the collected products.

2.2 Quantified portion size

2.2.1 Bread products

2.2.1.1 Proportion of products with and without quantified portions by subcategory

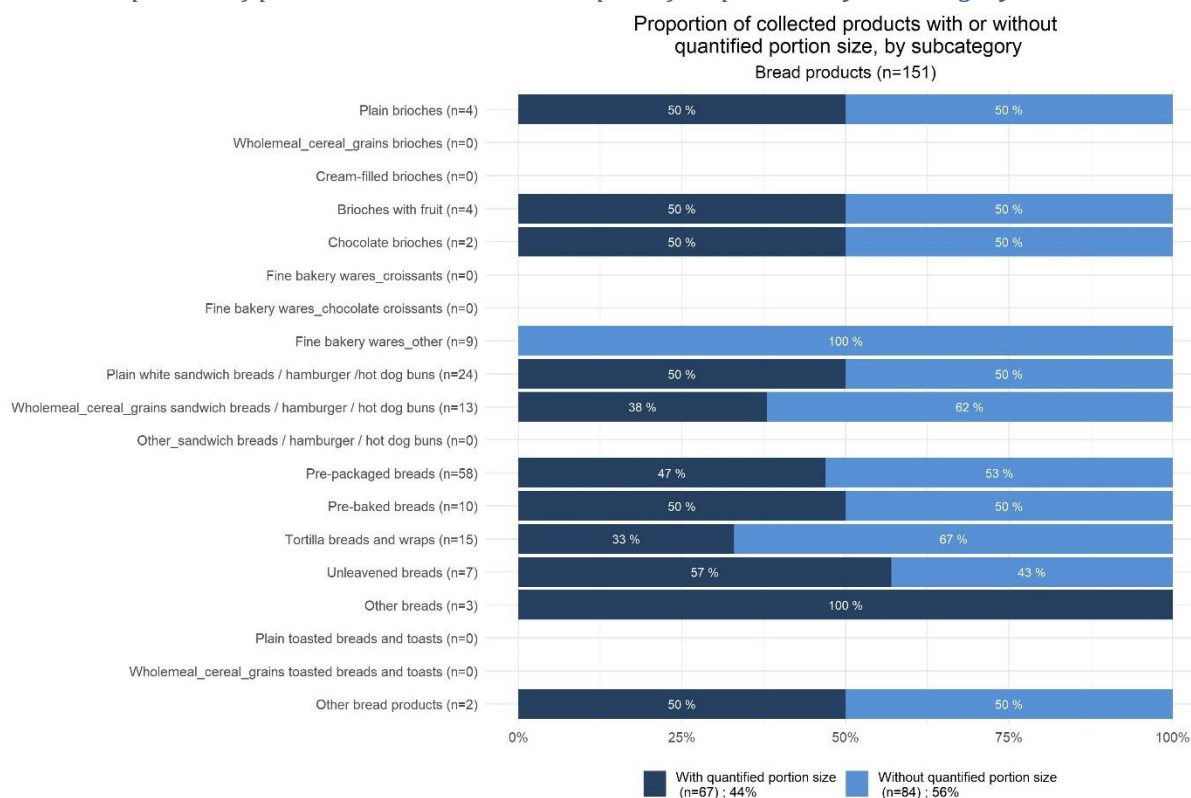


Figure 13 : Proportion of collected products with or without quantified portion size, by subcategories among Bread products

Among the 151 products collected, the majority of products do not have a quantified portion size (n= 84, 56%).

However, when breaking down by subcategory (Figure 13), it can be seen that the frequency of the presence of a quantified portion size varies according to the different subcategories, from 38% of products included in the Wholemeal cereal grains toasted breads and toasts (n=13) to 100% Other breads (n=3), but it has to be noticed that these categories contain a very low number of products.

2.2.1.2 Proportion of the most represented portion sizes by category

Proportion of the five most represented portion sizes
among collected products, by category
Bread products (n=67)

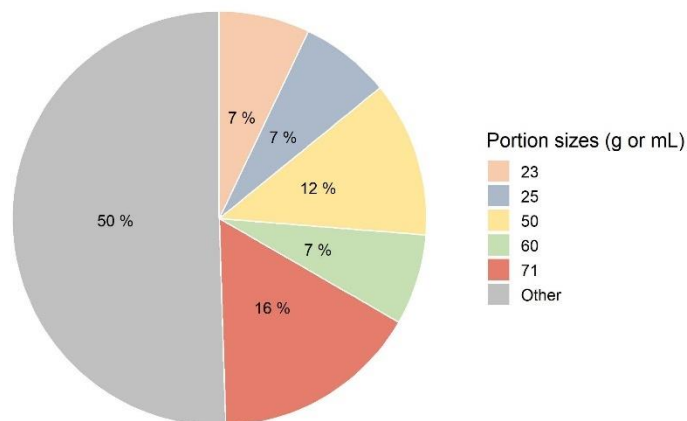


Figure 14 : Proportion of the five most represented portion sizes among collected products in the Bread products category

Among bread products with a quantified portion size indicated on their packaging (n=67, 44% of products collected in the category), the five portion sizes the most represented were highlighted in Figure 14. Within the bread products with a quantified portion size, the most frequent portion size is 71g (16% among the products of the category with a portion size), followed by 50g (12% of the products). A large number of different portion sizes can be found in the category which explains the high proportion of the “other” class (50% of products).

2.2.2 Breakfast cereals

2.2.2.1 Proportion of products with and without quantified portions by subcategory

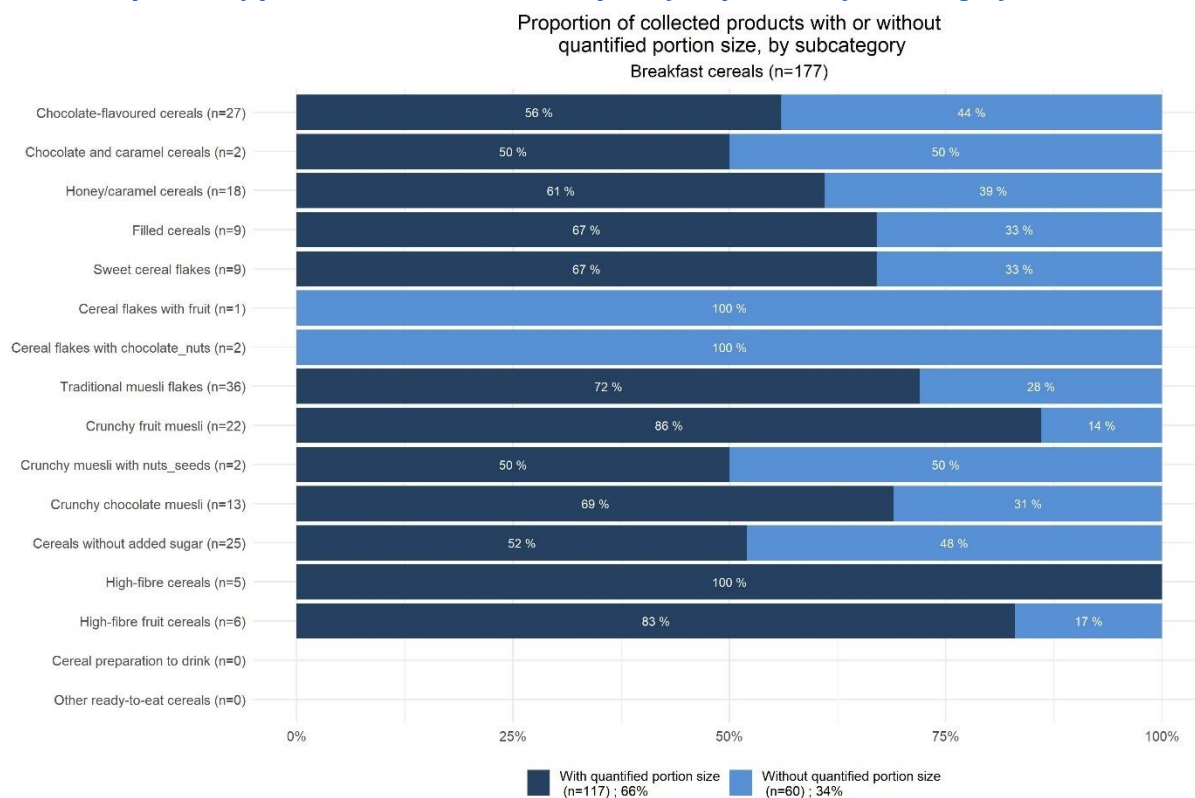


Figure 15 : Proportion of collected products with or without quantified portion size, by subcategories among Breakfast cereals

Among the 177 products collected, the majority of products have a quantified portion size (n=117, 66%).

It can be seen that the frequency of the presence of a quantified portion size varies according to the different subcategories (Figure 15), from 50% of products included in the Chocolate and caramel cereals (n=2) and Crunchy muesli with nuts/seeds (n=2) subcategories to 100% in High-fibre cereals (n=5) subcategory, but it has to be noticed that these categories contain a very low number of products.

2.2.2.2 Proportion of the most represented portion sizes by category

Proportion of the five most represented portion sizes
among collected products, by category
Breakfast cereals (n=117)

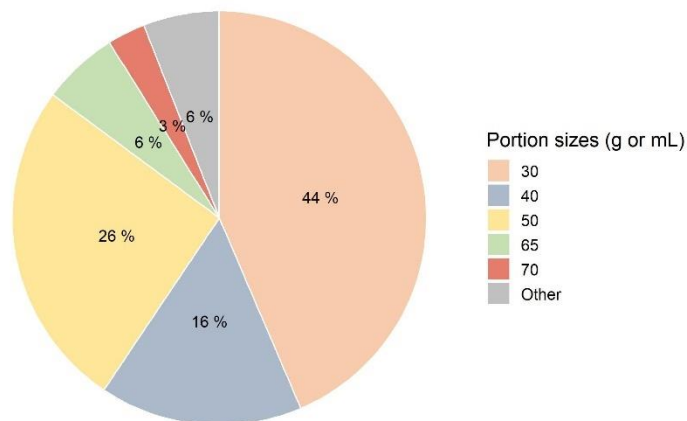


Figure 16 : Proportion of the five most represented portion sizes among collected products in the Breakfast cereals category

Among breakfast cereals with a quantified portion size indicated on their packaging (n=117, 66% of products collected in the category), the five portion sizes the most represented were highlighted in Figure 16. Within the breakfast cereals with a quantified portion size, the most frequent portion size is 30g (44% among the products of the category with a portion size), followed by 50g (26% of the products) and 40g (16% of the products).

2.2.3 Delicatessen meat and similar

2.2.3.1 Proportion of products with and without quantified portions by subcategory

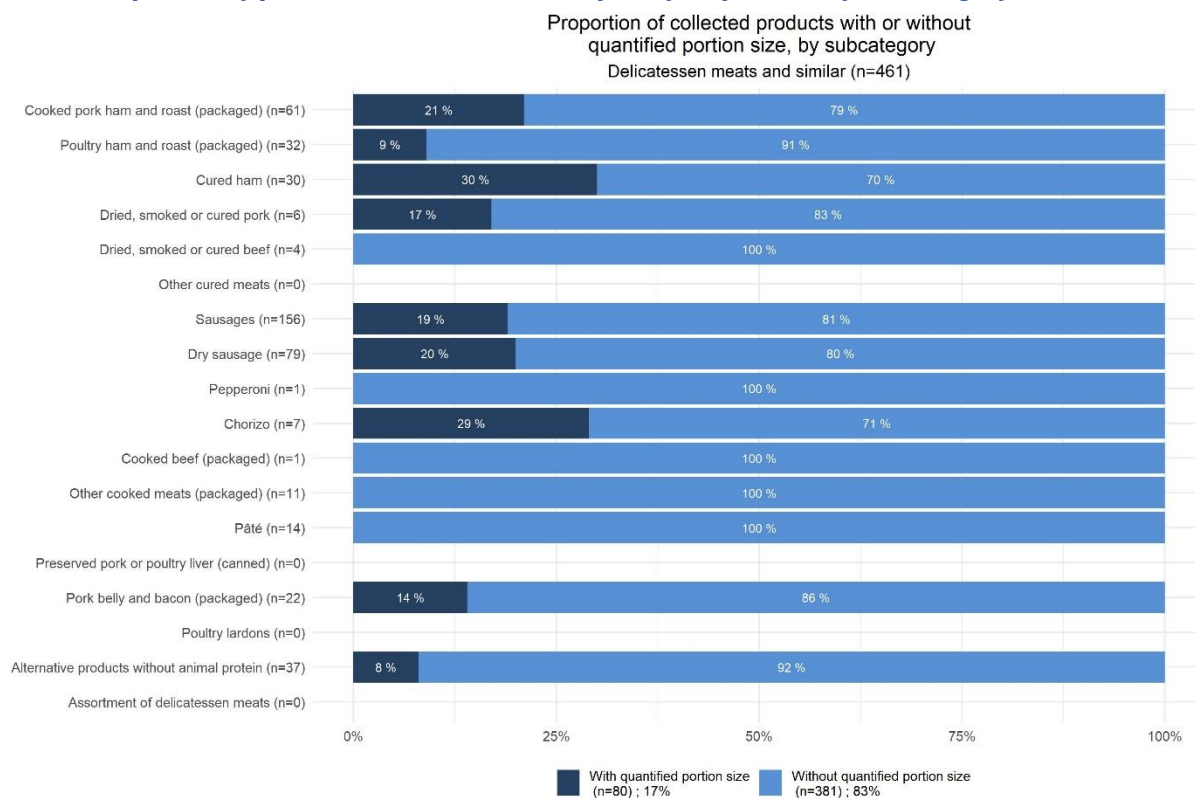


Figure 17 : Proportion of collected products with or without quantified portion size, by subcategories among Delicatessen meats and similar

Among the 461 products collected, the majority of products do not have a quantified portion size (n=381, 83% of the products without quantified portion size).

It can be seen that the frequency of the presence of a quantified portion size varies according to the different subcategories (Figure 17), from 8% of products included in Alternative products without animal protein (n=37) to 30% in Cured ham (n=30).

2.2.3.2 Proportion of the most represented portion sizes by category

Proportion of the five most represented portion sizes
among collected products, by category
Delicatessen meats and similar (n=80)

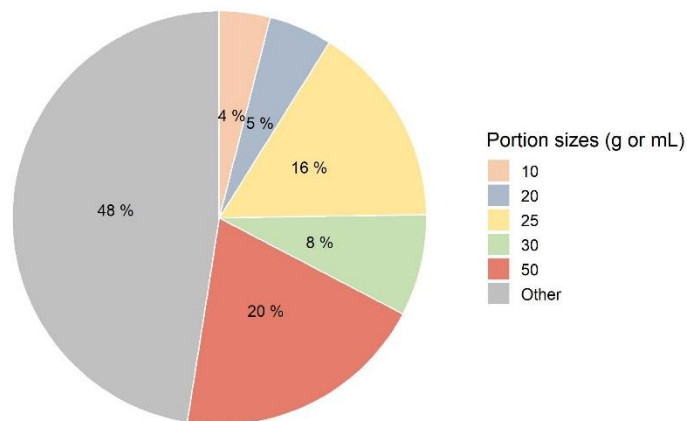


Figure 18 : Proportion of the five most represented portion sizes among collected products in the Delicatessen meats and similar category

Among Delicatessen meats and similar with a quantified portion size indicated on their packaging (n=80), 17% of products collected in the category), the five portion sizes the most represented were highlighted in Figure 18. Within the Delicatessen meats and similar with a quantified portion size, the most frequent portion size is 50g (20% among the products of the category with a portion size), followed by 25g (16% of the products). A large number of different portion sizes can be found in the category which explains the high proportion of the “other” class (48% of products).

2.2.4 Fresh dairy products and desserts

2.2.4.1 Proportion of products with and without quantified portions by subcategory

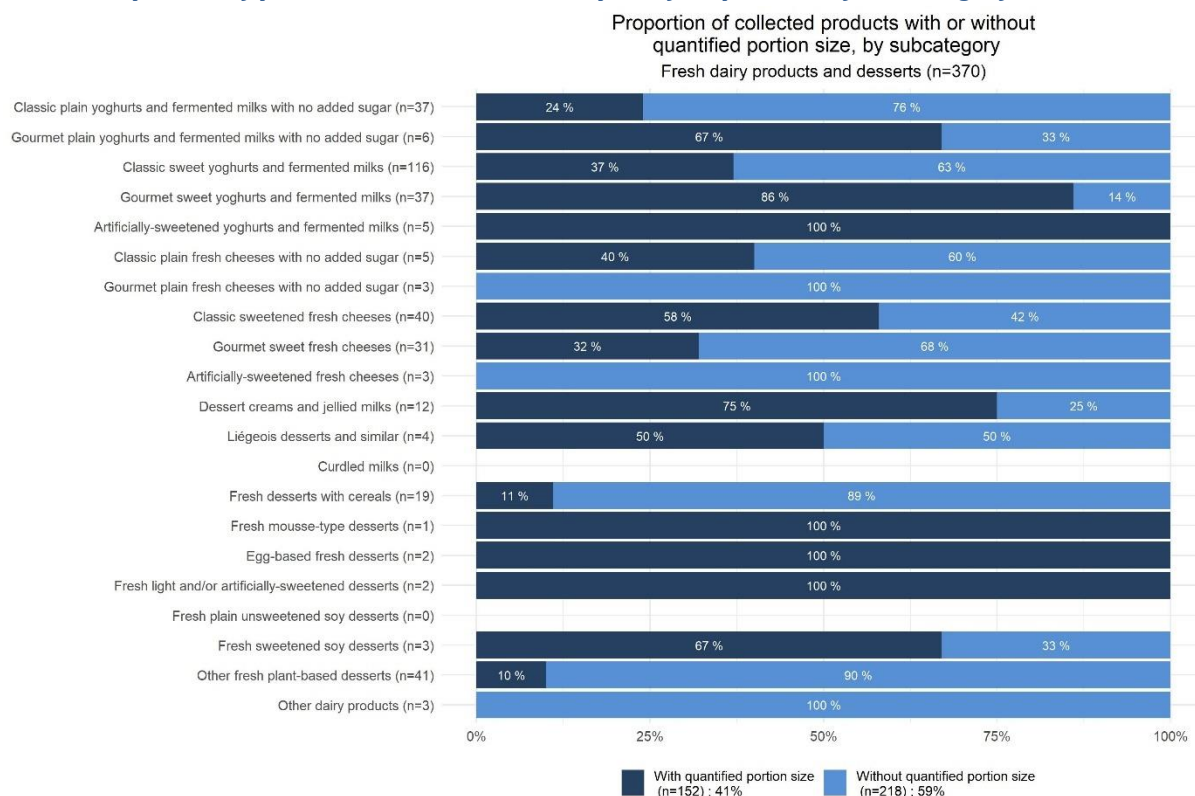


Figure 19 : Proportion of collected products with or without quantified portion size, by subcategories among Fresh dairy products and desserts

Among the 370 products collected, the majority of products do not have a quantified portion size (n=218, 59%).

It can be seen that the frequency of the presence of a quantified portion size varies according to the different subcategories (Figure 19), from 10% of products included in Other fresh plant-based desserts (n=41) to 100% in Fresh mousse-type desserts (n=1), Egg-based fresh desserts (n=2), Fresh light and/or artificially-sweetened desserts (n=2) and Artificially-sweetened yoghurts and fermented milks (n=5), but it has to be noticed that these categories contain a very low number of products.

2.2.4.2 Proportion of the most represented portion sizes by category

Proportion of the five most represented portion sizes
among collected products, by category
Fresh dairy products and desserts (n=152)

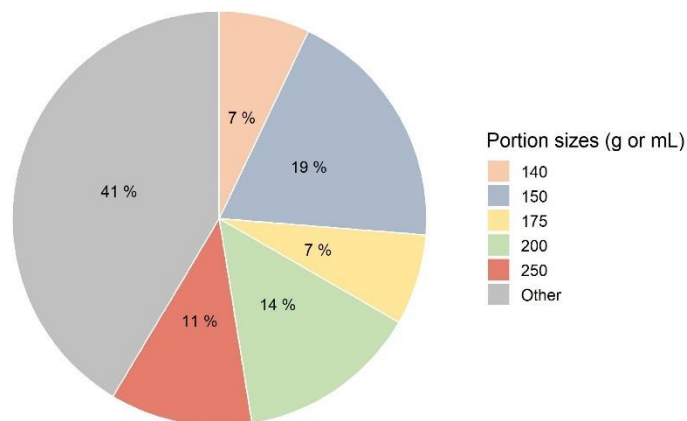


Figure 20 : Proportion of the five most represented portion sizes among collected products in the Fresh dairy products and dessert category

Among Fresh dairy products and desserts with a quantified portion size indicated on their packaging (n=152, 41% of products collected in the category), the five portion sizes the most represented were highlighted in Figure 20. Within the Fresh dairy products and desserts with a quantified portion size, the most frequent portion size is 150g (19% among the products of the category with a portion size), followed by 200g (14% of the products). A large number of different portion sizes can be found in the category which explains the high proportion of the “other” class (41% of products).

2.2.5 Soft drinks

2.2.5.1 Proportion of products with and without quantified portions by subcategory

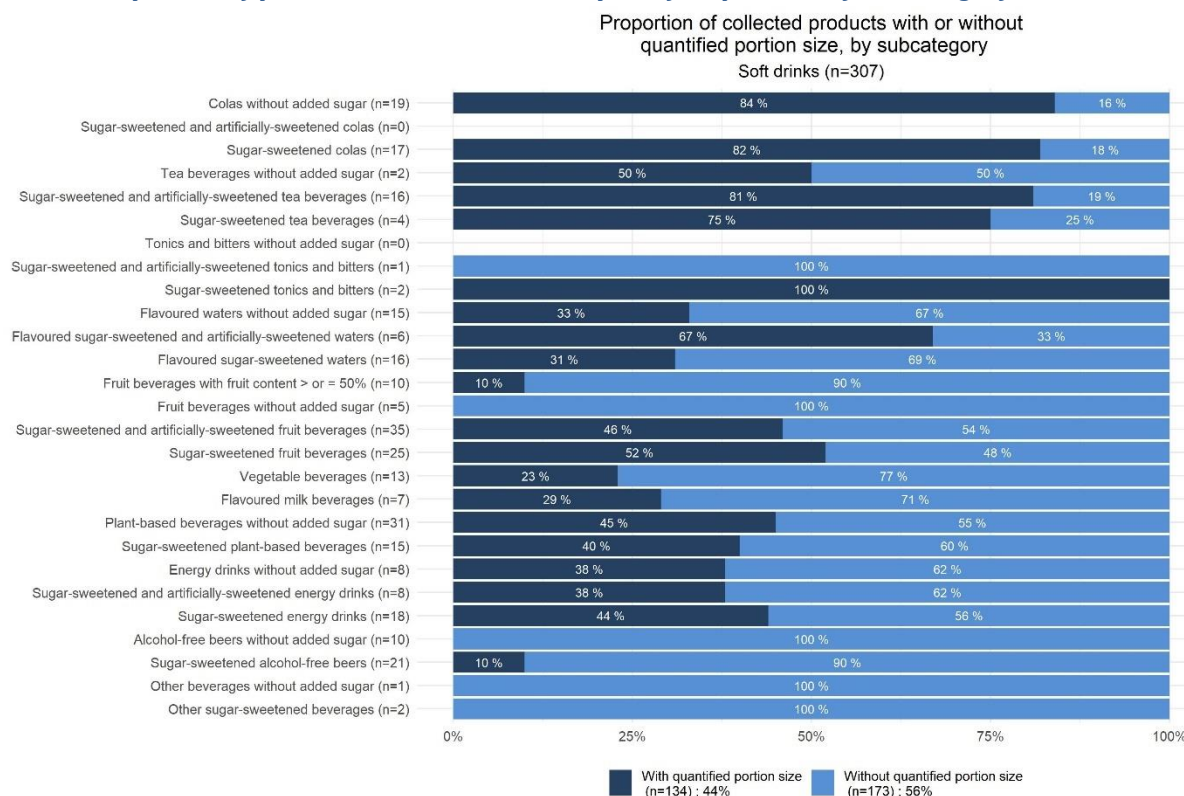


Figure 21 : Proportion of collected products with or without quantified portion size, by subcategories among Soft drinks

Among the 307 products collected, the majority of products do not have a quantified portion size (n=173, 56%).

It can be seen that the frequency of the presence of a quantified portion size varies according to the different subcategories (Figure 21), from 10% of products included in the Fruit beverages with fruit content > or = 50% (n=10) and Sugar-sweetened alcohol-free beers (n=21) to 100% in Sugar-sweetened tonics and bitters (n=2), but it has to be noticed that this category contains a very low number of products.

2.2.5.2 Proportion of the most represented portion sizes by category

Proportion of the five most represented portion sizes
among collected products, by category
Soft drinks (n=134)

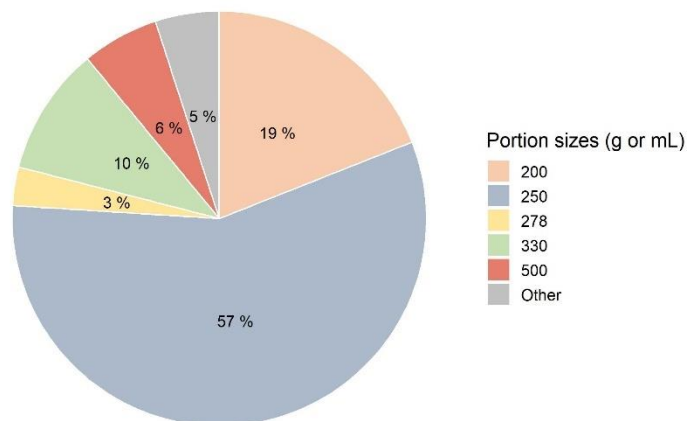


Figure 22 : Proportion of the five most represented portion sizes among collected products in the Soft drinks category

Among Soft drinks with a quantified portion size indicated on their packaging (n=134, 44% of products collected in the category), the five portion sizes the most represented were highlighted in Figure 22. Within the Soft drinks with a quantified portion size, the most frequent portion size is 250mL (57% among the products of the category with a portion size), followed by 200mL (19% of the products) and 330mL (10% of the products).

3 Labeled nutritional values

3.1 Labeling frequency

Table 3 : Labeling frequency (%) of nutritional values by nutrients and categories

Category_name	Energy_kJ	Energy_kCal	Fat	Saturated_fat	Carbohydrates	Sugar	Protein	Salt	Fibre
Bread products (n=151)	100%	100%	100%	100%	100%	100%	100%	99%	74%
Breakfast cereals (n=177)	100%	100%	100%	100%	100%	100%	100%	100%	99%
Delicatessen meats and similar (n=461)	100%	100%	100%	100%	100%	100%	100%	100%	21%
Fresh dairy products and desserts (n=370)	100%	100%	100%	100%	100%	100%	100%	100%	27%
Soft drinks (n=307)	100%	100%	100%	100%	100%	100%	100%	100%	85%

Table 3 shows the frequency of labeling of nutritional values by nutrient and category. All of the products collected are nutritionally labeled according to the European regulation 1169/2011, INCO¹. The only exception is in the Bread products category where 99% of products are labeled with salt content.

Within all categories, fibre is the nutrient with the lowest frequency of labeling among the products collected: Bread products (74% of products included in the category have a labeled fibre content), Breakfast cereals (99%), Delicatessen meats and similar (21%), Fresh dairy products and desserts (27%), Soft drinks (85%). This can be explained by the fact that this labeling is not mandatory in Europe, according to INCO regulation¹.

¹ Regulation (EU) No 1169/2011 of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers, amending Regulations (EC) No 1924/2006 and (EC) No 1925/2006 of the European Parliament and of the Council, and repealing Commission Directive 87/250/EEC, Council Directive 90/496/EEC, Commission Directive 1999/10/EC, Directive 2000/13/EC of the European Parliament and of the Council, Commission Directives 2002/67/EC and 2008/5/EC and Commission Regulation (EC) No 608/2004 (Text with EEA relevance)

3.2 Overview of the nutritional composition

3.2.1 Bread products

The nutrients considered for the Bread products category are : Fat, Saturated fat, Sugars, Salt and Fibre.

3.2.1.1 Distribution of fat content by Bread products subcategories

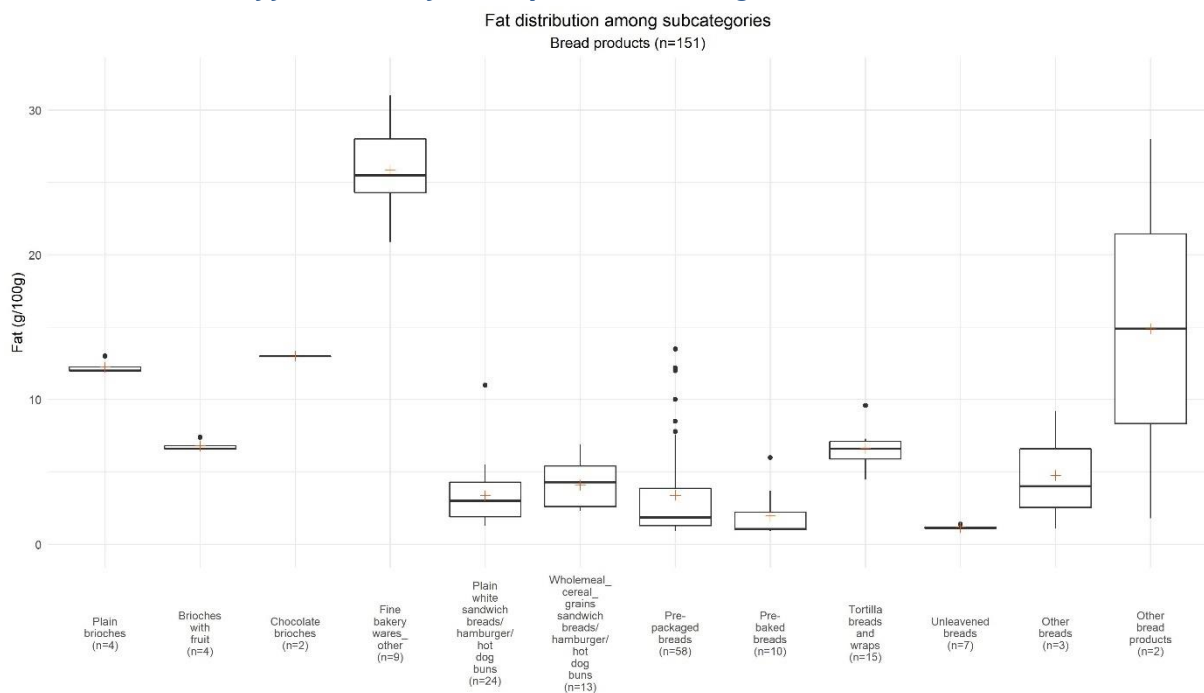


Figure 23 : Fat distribution among subcategories of Bread products

Among all subcategories of Bread products, the mean content of fat varies between 1.2g/100g (Unleavened breads) and 25.8g/100g (Fine bakery wares other) (Figure 23).

Subcategories with the highest mean fat content are (higher than 10g/100g): Fine bakery wares other (25.8g/100g), Other bread products (14.9g/100g), Chocolate brioches (13g/100g) and Plain brioches (12.2g/100g).

Subcategories with the lowest mean fat content (between 1g/100g and 3.4g/100g) are: Plain white sandwich breads / hamburger /hot dog buns, Pre-packaged breads, Pre-baked breads, Unleavened breads.

The fat content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable fat content are: Pre-packaged breads (n=58), Other breads (n=3), Other bread products (n=2) and Fine bakery wares_other (n=9). In the case of the Pre-packaged breads subcategory, there is a diversity of products in this category, which translates into differences in their composition.

Finally, the subcategories containing products with the most homogeneous fat content are: Brioches with fruit (n=4), Chocolate brioches (n=2) and Unleavened breads (n=7).

3.2.1.2 Distribution of saturated fat content by Bread products subcategories

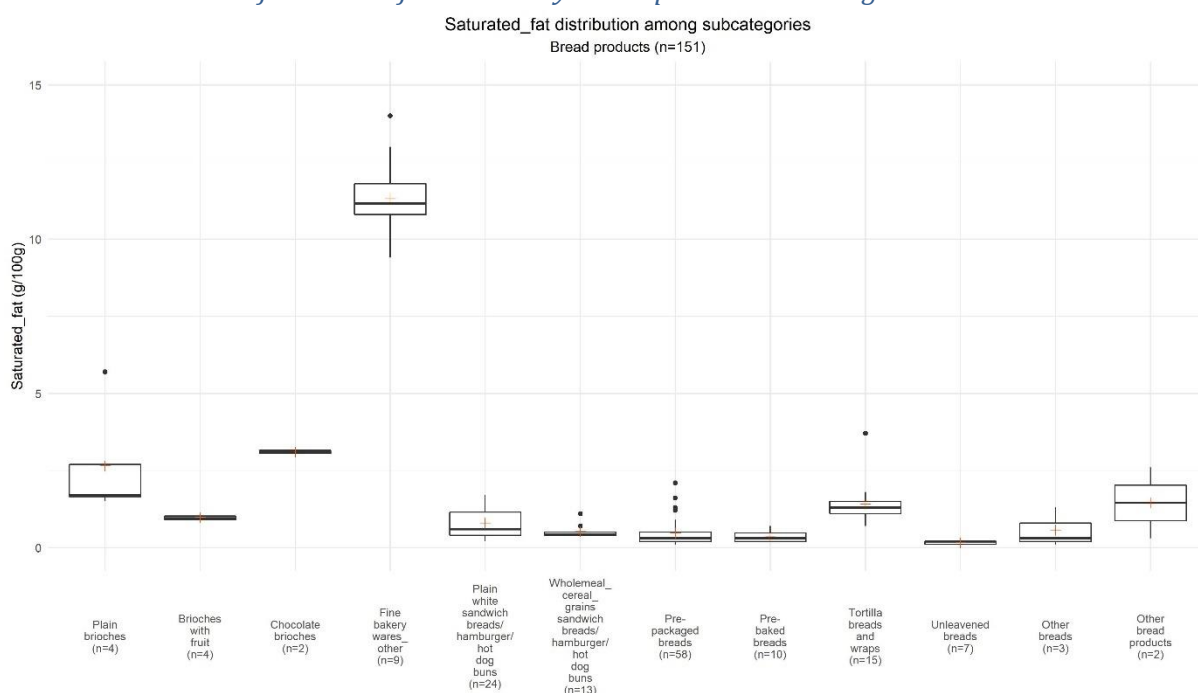


Figure 24 : Saturated fat distribution among subcategories of Bread products

Among all subcategories of Bread products, the mean content of saturated fat varies between 0.2g/100g (Unleavened breads) and 11.3g/100g (Fine bakery wares other) (Figure 24).

Subcategory with the highest mean saturated fat content is: Fine bakery wares_other (11.3g/100g). It can be noted that all the other subcategories represented have a mean saturated fat content of less than or equal to 3.1g/100g (Chocolate brioches).

Subcategories with the lowest mean saturated fat content (between 0.2g/100g and 0.5g/100g) are: Wholemeal cereal grains sandwich breads / hamburger / hot dog buns, Pre-packaged breads, Pre-baked breads, Unleavened breads.

The saturated fat content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable saturated fat content are: Plain brioches (n=4), Fine bakery wares other (n=9), Tortilla breads and wraps (n=15) and Other bread products (n=2).

Finally, the subcategories containing products with the most homogeneous saturated fat content are: Brioches with fruit (n=4), Chocolate brioches (n=2), Wholemeal cereal grains sandwich breads / hamburger / hot dog buns (n=13), Pre-baked breads (n=10) and Unleavened breads (n=7).

3.2.1.3 Distribution of sugar content by Bread products subcategories

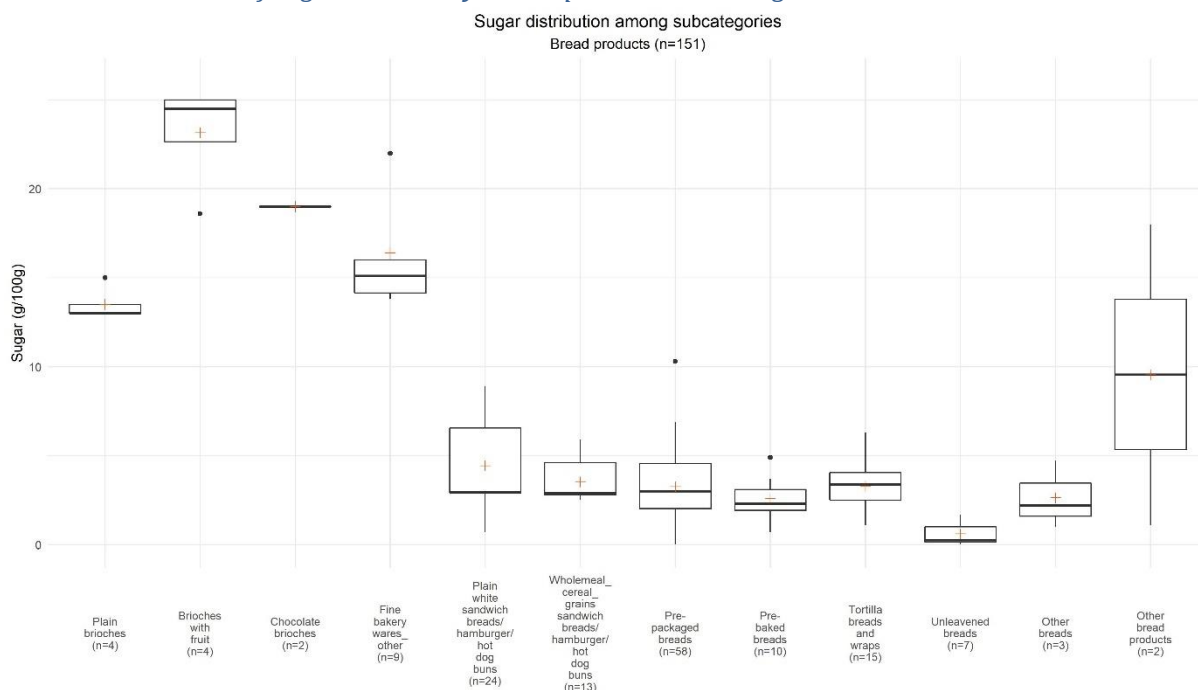


Figure 25 : Sugar distribution among subcategories of Bread products

Among all subcategories of Bread products, the mean content of sugar varies between 0.6g/100g (Unleavened breads) and 23.1g/100g (Brioche with fruit) (Figure 25).

Subcategories with the highest mean sugar content are: Brioche with fruit (23.1g/100g), Chocolate brioche (19g/100g) Fine bakery wares other (16.4g/100g) and Plain brioche (13.5g/100g).

Subcategories with the lowest mean sugar content (between 0.6g/100g and 2.6g/100g) are: Pre-baked breads, Unleavened breads, Other breads.

The sugar content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable sugar content are: Pre-packaged breads (n=58), Plain white sandwich breads/hamburger/hot dog buns (n=24), Brioche with fruit (n=4), Fine bakery wares other (n=9), Other bread products (n=2).

Finally, the subcategories containing products with the most homogeneous sugar content are: Plain brioche (n=4), Chocolate brioche (n=2), Unleavened breads (n=7).

3.2.1.4 Distribution of fibre content by Bread products subcategories

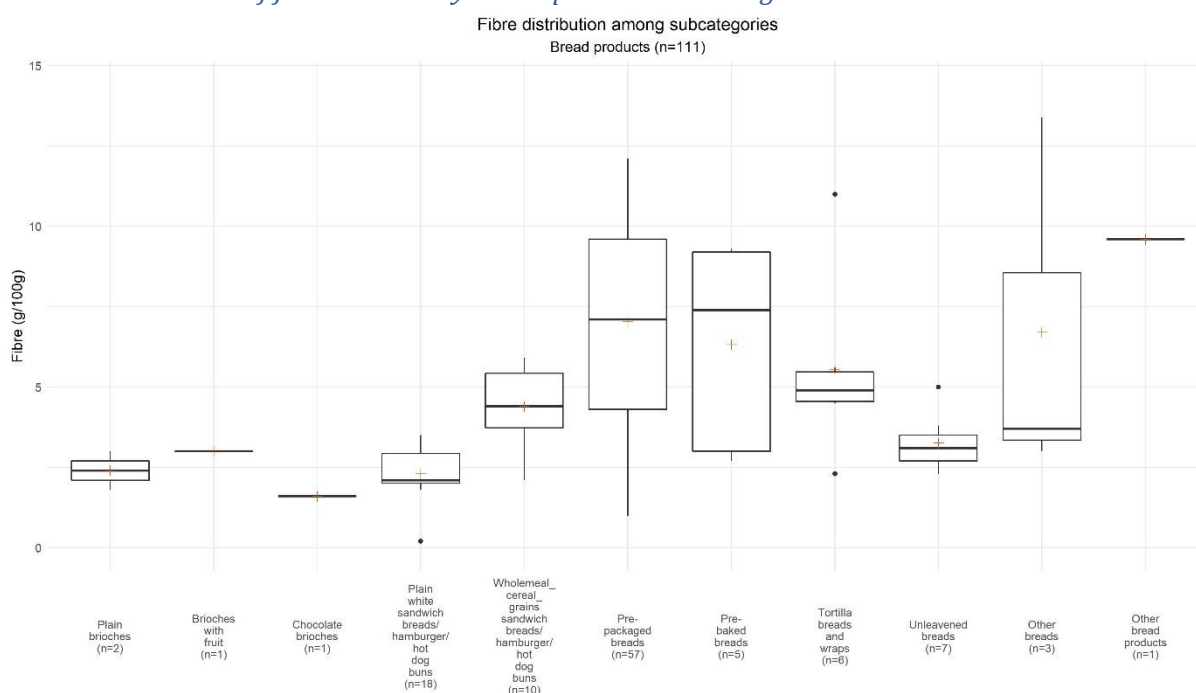


Figure 26 : Fibre distribution among subcategories of Bread products

It should be emphasized that the content of fibre was declared in only 74% of Bread products.

Among all subcategories of Bread products, the mean content of fibre varies between 1.6g/100g (Chocolate brioches) and 9.6g/100g (Other bread products) (Figure 26).

Subcategories with the highest mean fibre content are: Other bread products (9.6g/100g), Pre-packaged breads (7.0g/100g), Other breads (6.7g/100g).

Subcategories with the lowest mean fibre content (between 1.6g/100g and 2.4g/100g) are: Plain brioches, Chocolate brioches, Plain white sandwich breads / hamburger /hot dog buns.

The fibre content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable fibre content are: Pre-baked breads (n=5), Pre-packaged breads (n=57), Other breads (n=3) and Tortilla breads and wraps (n=6). The most important variability of fibre content is observed for the subcategory Pre-packaged breads, which contains quite a large number of products (n=57).

Finally, the subcategories containing products with the most homogeneous fibre content are: Plain brioches (n=2), Plain white sandwich breads / hamburger /hot dog buns (n=18), Unleavened breads (n=7). It can be noted that these subcategories do not contain a large number of products.

3.2.1.5 Distribution of salt content by Bread products subcategories

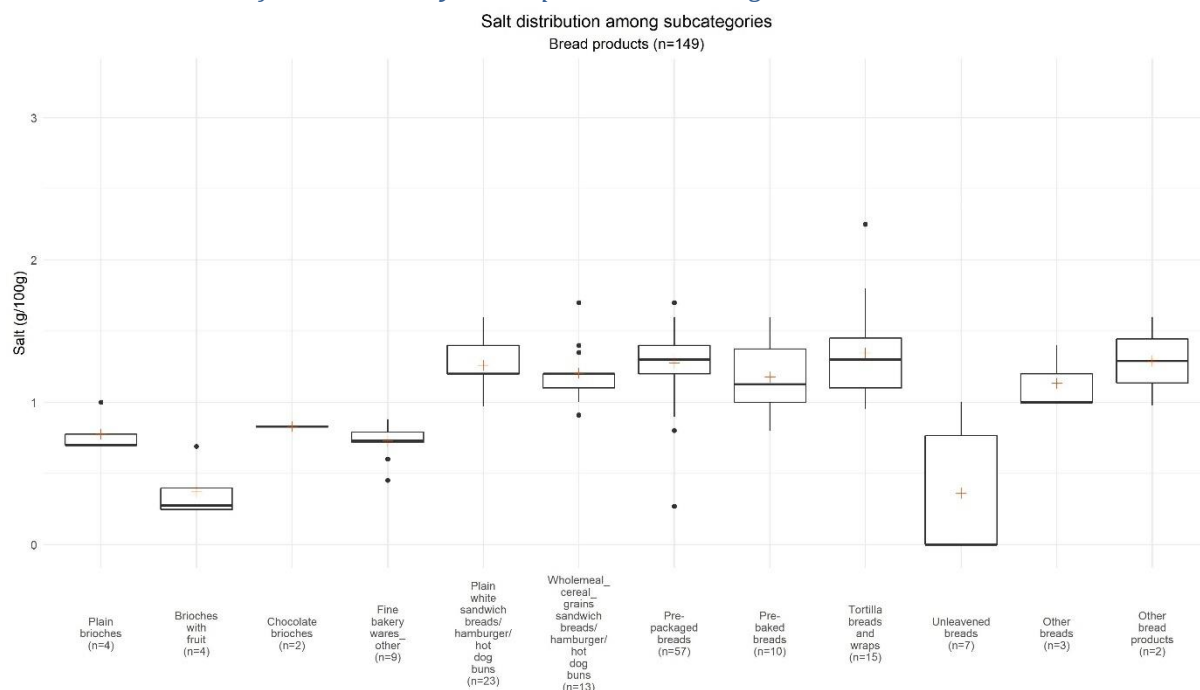


Figure 27 : Salt distribution among subcategories of Bread products

Among all subcategories of Bread products, the mean content of salt varies between 0.36g/100g (Unleavened breads) and 1.35g/100g (Tortilla breads and wraps) (Figure 27).

Subcategories with the highest mean salt content are: Tortilla breads and wraps (1.35g/100g), Other bread products (1.29g/100g), Pre-packaged breads (1.28g/100g).

Subcategories with the lowest mean salt content are: Unleavened breads (0.36g/100g) and Brioches with fruit (0.37g/100g).

The salt content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable salt content are: Unleavened breads (n=7), Tortilla breads and wraps (n=15), Pre-packaged breads (n=57).

Finally, the subcategories containing products with the most homogeneous salt content are: Fine bakery wares_other (n=9), Plain brioches (n=4), Chocolate brioches (n=2) and Other breads (n=3). However, these subcategories contain only few products (less than 10).

3.2.2 Breakfast cereals

3.2.2.1 Distribution of fat content by Breakfast cereals subcategories

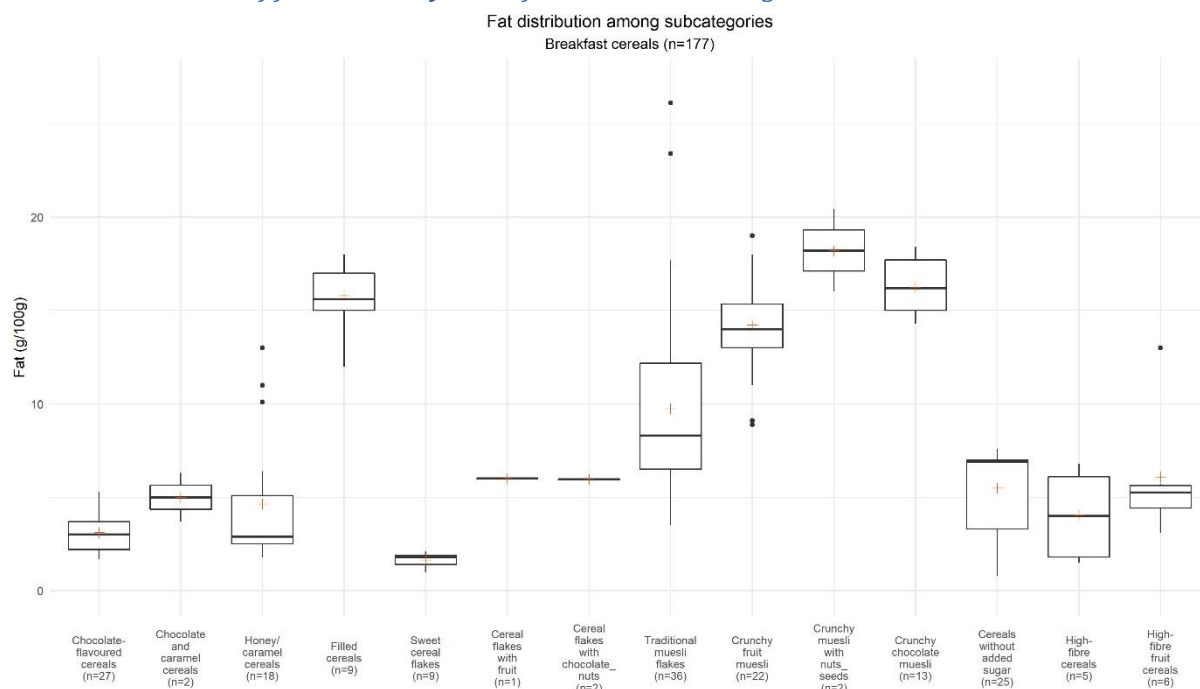


Figure 28 : Fat distribution among subcategories of Breakfast cereals

Among all subcategories of Breakfast Cereals, the mean content of fat varies between 1.6g/100g (Sweet cereal flakes) and 18.2g/100g (Crunchy muesli with nuts/seeds) (Figure 28).

Subcategories with the highest mean fat content are: Crunchy muesli with nuts/seeds (18.2g/100g), Crunchy chocolate muesli (16.2g/100g) and Filled cereals (15.8g/100g).

Subcategories with the lowest mean fat content (between 1.6g/100g and 4g/100g) are: Chocolate-flavoured cereals, Sweet cereal flakes, High-fibre cereals.

The fat content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable fat content are: Honey/caramel cereals (n=18), Traditional muesli flakes (n=36), High-fibre fruit cereals (n=6) and Crunchy fruit muesli (n=22).

Finally, the subcategories containing products with the most homogeneous fat content are: Chocolate-flavoured cereals (n=27), Sweet cereal flakes (n=9), Chocolate and caramel cereals (n=2) and Cereal flakes with chocolate/nuts (n=2). It can be noted that the last three subcategories mentioned contain very few products.

3.2.2.2 Distribution of saturated fat content Breakfast cereals subcategories

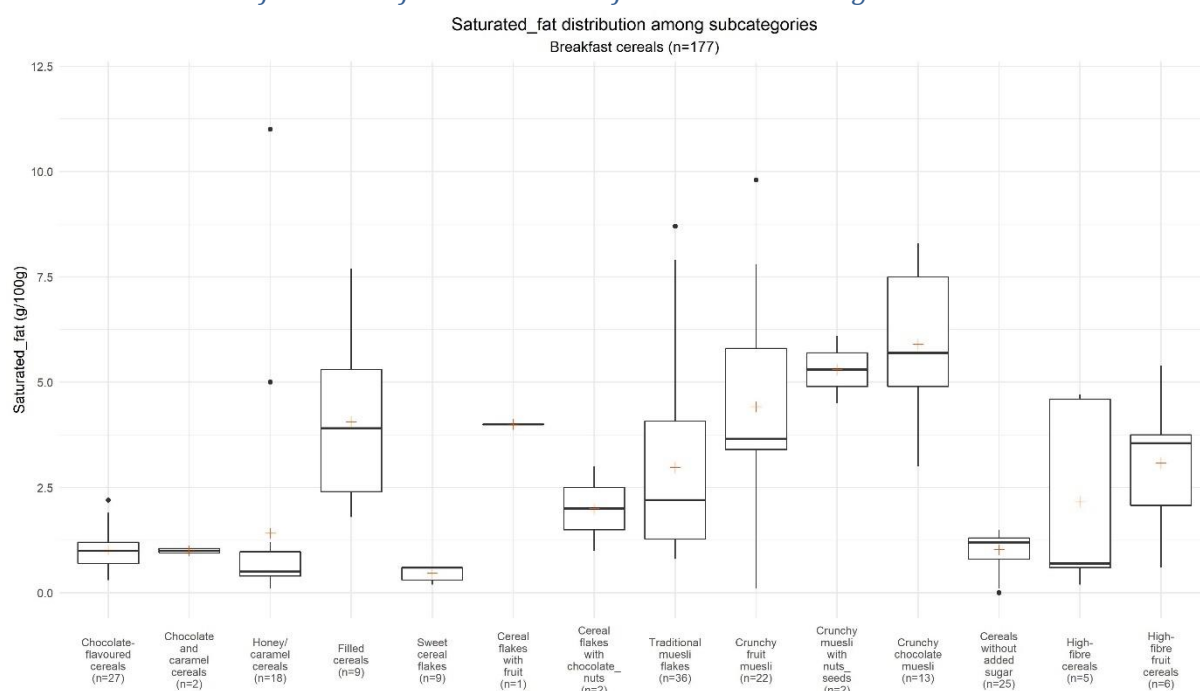


Figure 29 : Saturated fat distribution among subcategories of Breakfast cereals

Among all subcategories of Breakfast cereals, the mean content of saturated fat varies between 0.5g/100g (Sweet cereal flakes) and 5.9g/100g (Crunchy chocolate muesli) (Figure 29).

Subcategories with the highest mean saturated fat content are: Crunchy chocolate muesli (5.9g/100g), Crunchy muesli with nuts/seeds (5.3g/100g) and Crunchy fruit muesli (4.4g/100g).

Subcategories with the lowest mean saturated fat content (between 0.5g/100g and 1g/100g) are: Chocolate-flavoured cereals (n=27), Chocolate and caramel cereals (n=2), Sweet cereal flakes (n=9), Cereals without added sugar (n=25).

The saturated fat content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable saturated fat content are: Honey/caramel cereals (n=18), Traditional muesli flakes (n=36), Crunchy fruit muesli (n=22).

Finally, the subcategories containing products with the most homogeneous saturated fat content are: Chocolate and caramel cereals (n=2), Sweet cereal flakes (n=9). However, these subcategories contain only few products (less than 10).

3.2.2.3 Distribution of sugar content by Breakfast cereals subcategories

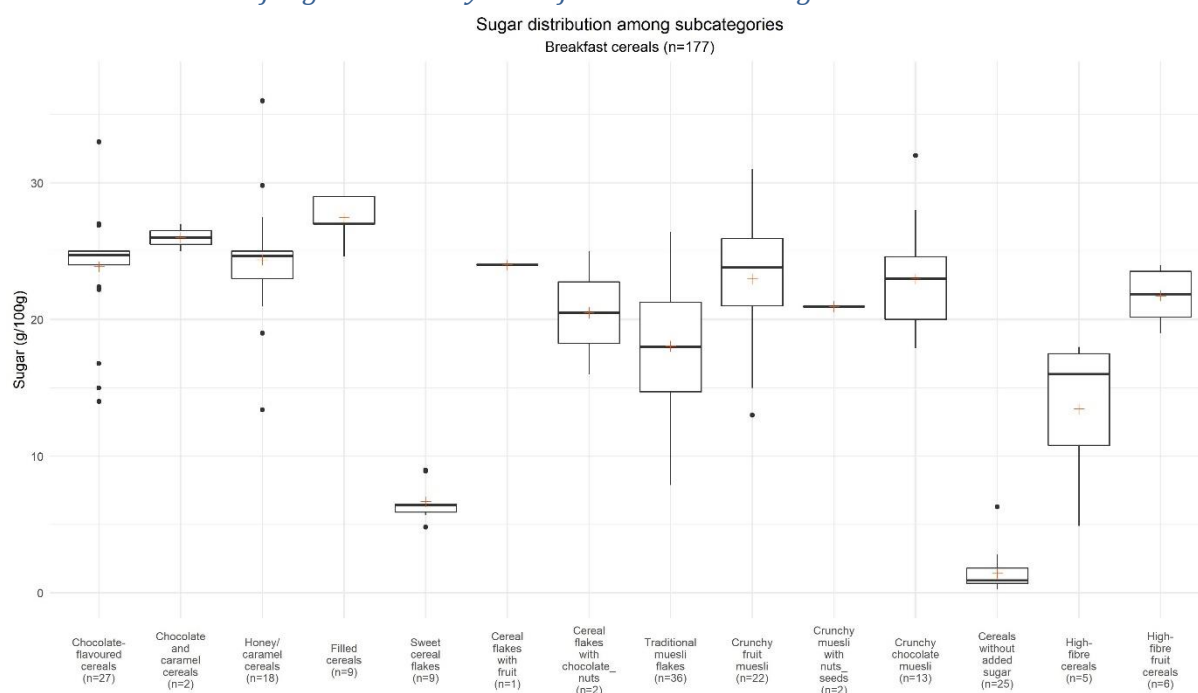


Figure 30 : Sugar distribution among subcategories of Breakfast cereals

Among all subcategories of Breakfast cereals, the mean content of sugar varies between 1.4g/100g (Cereals without added sugar) and 27.5g/100g (Filled cereals) (Figure 30).

Subcategories with the highest mean sugar content are: Filled cereals (27.5g/100g), Chocolate and caramel cereals (26g/100g), Honey/caramel cereals (24.4/100g).

Subcategories with the lowest mean sugar content (between 1.4g/100g and 6.7g/100g) are: Sweet cereal flakes and Cereals without added sugar.

The sugar content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable sugar content are: Honey/caramel cereals (n=18), Chocolate-flavoured cereals, Traditional muesli flakes (n=36) and Crunchy fruit muesli (n=22).

Finally, the subcategories containing products with the most homogeneous saturated fat content are: Chocolate and caramel cereals (n=2), and Crunchy muesli with nuts/seeds (n=2). However, these subcategories contain a very small number of products (less than five).

3.2.2.4 Distribution of fibre content by Breakfast cereals subcategories

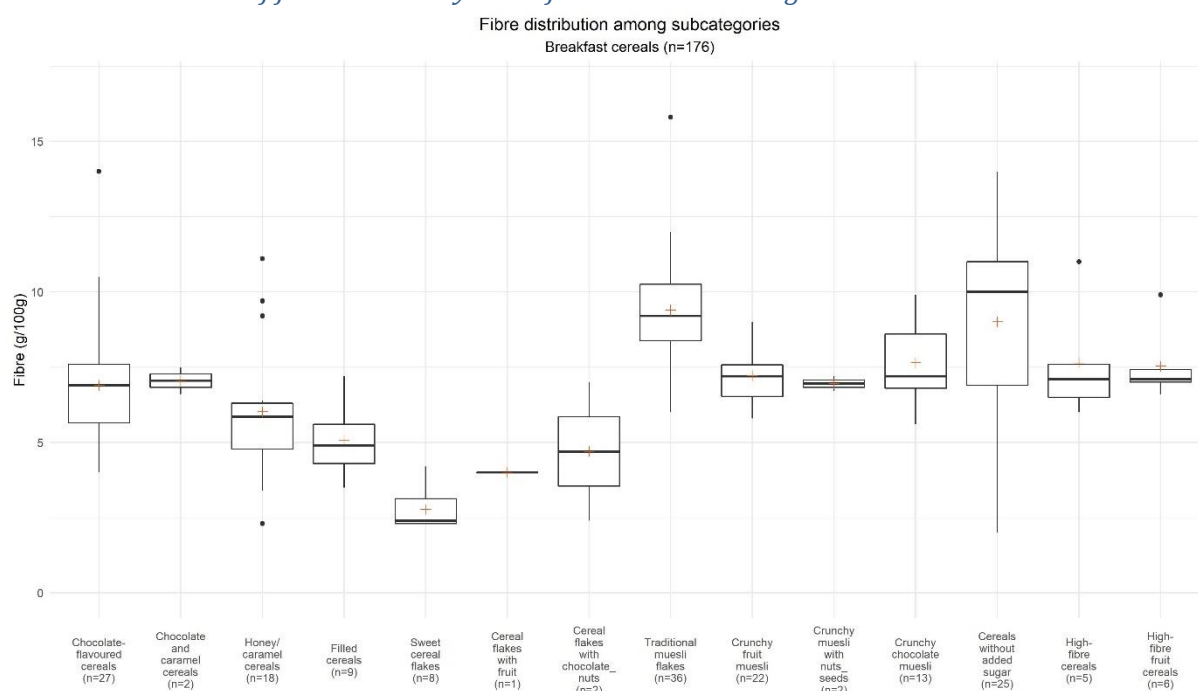


Figure 31 : Fibre distribution among subcategories of Breakfast cereals

It should be emphasized that the content of fibre was declared in 99% of Breakfast cereals.

Among all subcategories of Breakfast cereals, the mean content of fibre varies between 2.8g/100g (Sweet cereal flakes) and 9.4g/100g (Traditional muesli flakes) (Figure 31).

Subcategories with the highest mean fibre content are: Traditional muesli flakes (9.4g/100g), Cereals without added sugar (9.0g/100g), High-fibre cereals (7.6g/100g), Crunchy chocolate muesli (7.6g/100g), High-fibre fruit cereals (7.5g/100g), Crunchy fruit muesli (7.2g/100g), Chocolate and caramel cereals (7g/100g) and Crunchy muesli with nuts_seeds (7g/100g).

Subcategories with the lowest mean fibre content are Sweet cereal flake and Cereal flakes with fruit (respectively 2.8g/100g and 4g/100g).

The fibre content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable fibre content are: Cereals without added sugar (n=25), Chocolate-flavoured cereals (n=27), Traditional muesli flakes (n=36) and Honey/caramel cereals (n=18).

Finally, the subcategories containing products with the most homogeneous fibre content are: Chocolate and caramel cereals (n=2), Sweet cereal flakes (n=8), Crunchy muesli with nuts_seeds (n=2). However, these subcategories contain a small number of products.

3.2.2.5 Distribution of salt content by Breakfast cereals subcategories

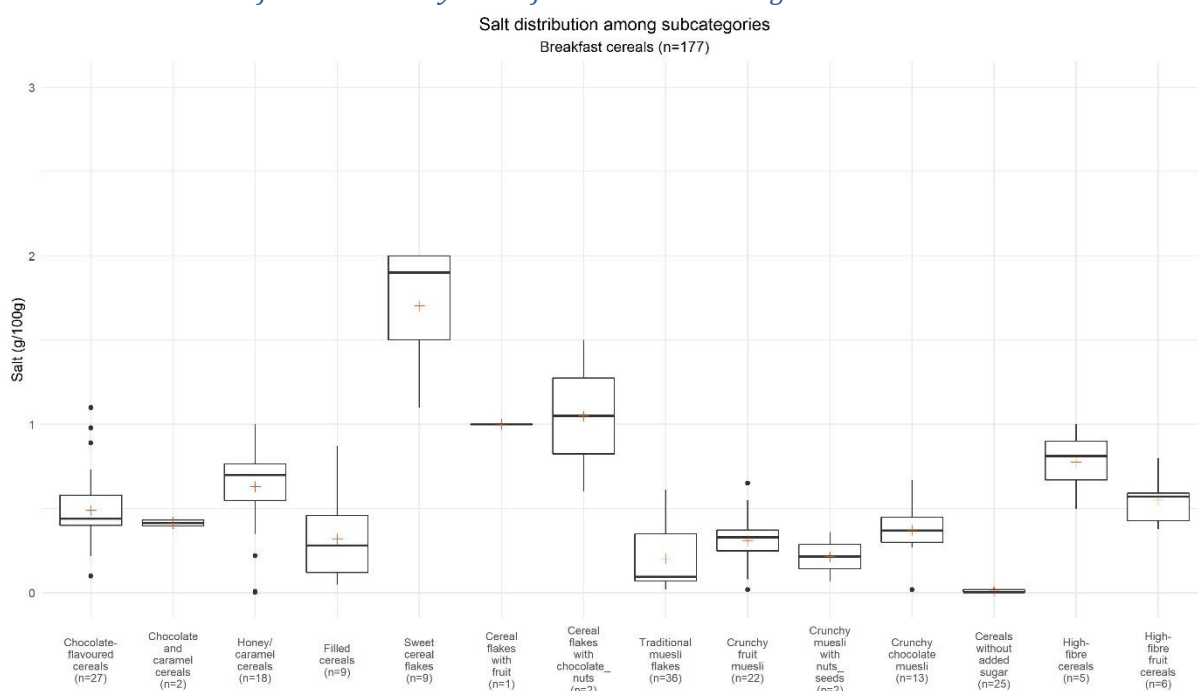


Figure 32 : Salt distribution among subcategories of Breakfast cereals

Among all subcategories of Breakfast cereals, the mean content of salt varies between 0.001g/100g (Cereals without added sugar) and 1.7g/100g (Sweet cereal flakes) (Figure 32).

Subcategories with the highest mean salt content are: Sweet cereal flakes (1.7g/100g), Cereal flakes with chocolate/nuts (1.05g/100g), Cereal flakes with fruit (1.0g/100g).

Subcategories with the lowest mean salt content (between 0.01g/100g and 0.2g/100g) are: Traditional muesli flakes and Cereals without added sugar.

The salt content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable salt content are: Honey/caramel cereals (n=18), Chocolate flavoured cereals (n=27), Sweet cereal flakes (n=9) and Cereal flakes with chocolate/nuts (n=2). Different salt content in products may result from different recipes used by producers.

Finally, the subcategories containing products with the most homogeneous salt content are: Chocolate and caramel cereals (n=2), Crunchy fruit muesli (n=22) and Cereals without added sugar (n=25).

3.2.3 Delicatessen meats and similar

3.2.3.1 Distribution of protein content by Delicatessen meats and similar subcategories

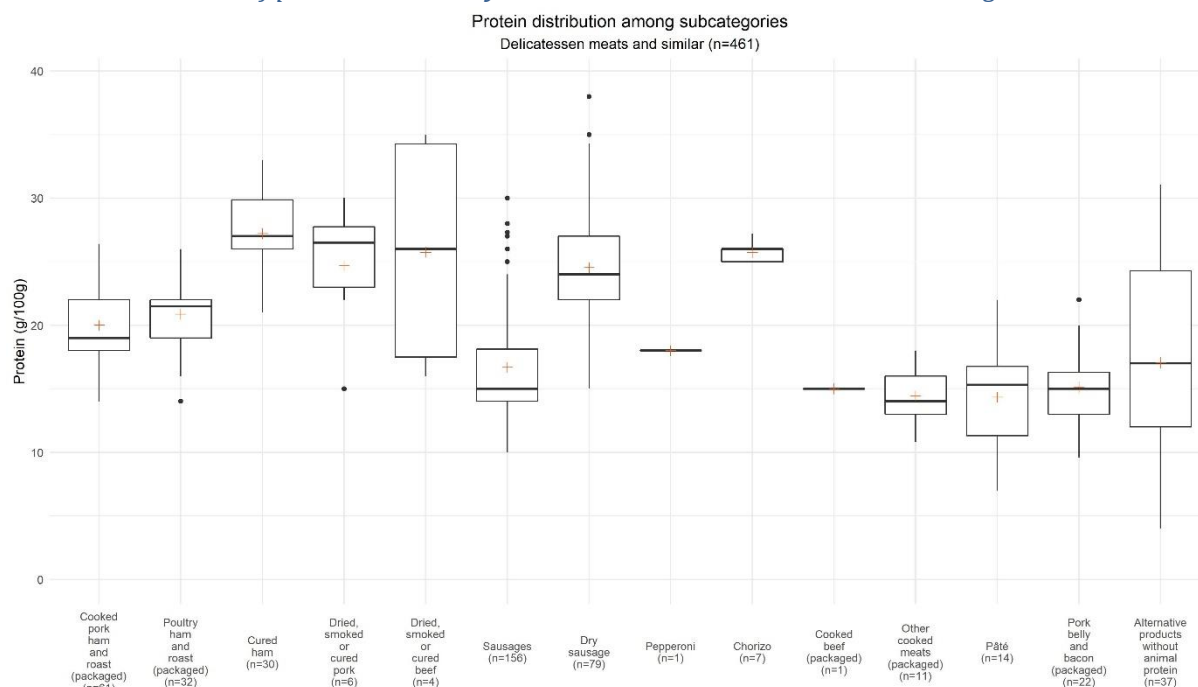


Figure 33 : Protein distribution among subcategories of Delicatessen meats and similar

Among all subcategories of Delicatessen meats and similar, the mean content of protein varies between 14.3g/100g (Pâté) and 27.2g/100g (Cured ham) (Figure 33).

Subcategories with the highest mean protein content are: Cured ham (27.2g/100g), Dried, smoked or cured beef (25.8g/100g) and Chorizo (25.7g/100g).

Subcategories with the lowest mean protein content (between 14.3g/100g and 15g/100g) are: Pâté, Other cooked meats (packaged), Cooked beef (packaged).

The protein content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable protein content are: Dried, smoked or cured pork (n=6), Dried, smoked or cured beef (n=4), Alternative products without animal protein (n=37), Dry sausage (n=79) and Sausages (n=156). In the case of Dried, smoked or cured beef or pork the number of products is relatively small. In the case of the Alternative products without animal protein, Dry sausage and Sausages the number of collected products is greater and allows for careful conclusions. Most likely, there is a diversity of ingredients in products of these subcategories, which translates into differences in their composition.

Finally, the subcategories containing products with the most homogeneous fat content are: Poultry ham and roast (packaged) (n=32), Chorizo (n=7) and Other cooked meats (packaged) (n=11).

3.2.3.2 Distribution of fat content by Delicatessen meats and similar subcategories

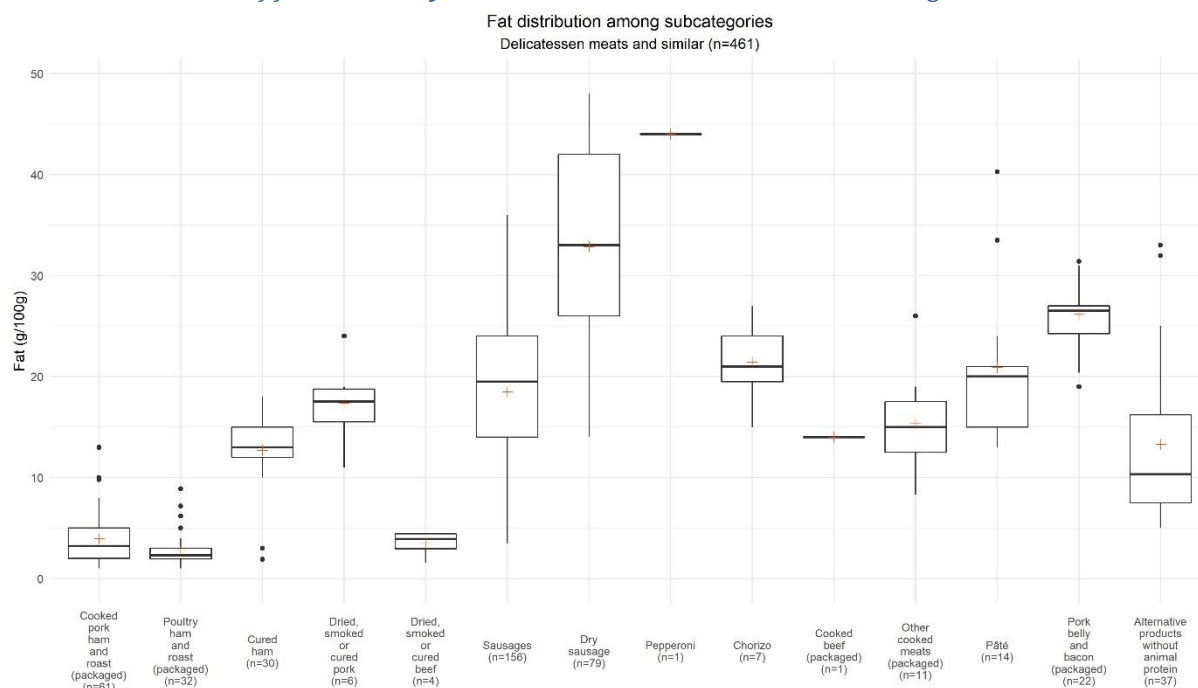


Figure 34 : Fat distribution among subcategories of Delicatessen meats and similar

Among all subcategories of Delicatessen meats and similar, the mean content of fat varies between 2.8g/100g (Poultry ham and roast (packaged)) and 44g/100g (Pepperoni) (Figure 34).

Subcategories with the highest mean fat content are: Pepperoni (44g/100g), Dry sausage (32.9g/100g) and Pork belly and bacon (packaged) (26.2g/100g).

Subcategories with the lowest mean fat content (between 2.8g/100g and 3.9g/100g) are: Cooked pork ham and roast (packaged) (n=61), Poultry ham and roast (packaged) (n=32), Dried, smoked or cured beef (n=4).

The fat content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable fat content are: Dry sausage (n=79), Sausages (n=156), Pâté (n=14) and Alternative products without animal protein (n=37). The number of collected products in each subcategory is quite high and allows for careful conclusions. Most likely, there is a diversity of products in these subcategories, which translates into differences in their composition.

Finally, the subcategories containing products with the most homogeneous fat content are: Cooked pork ham and roast (packaged) (n=61), Poultry ham and roast (packaged) (n=32) and Dried, smoked or cured beef (n=4).

3.2.3.3 Distribution of saturated fat content by Delicatessen meats and similar subcategories

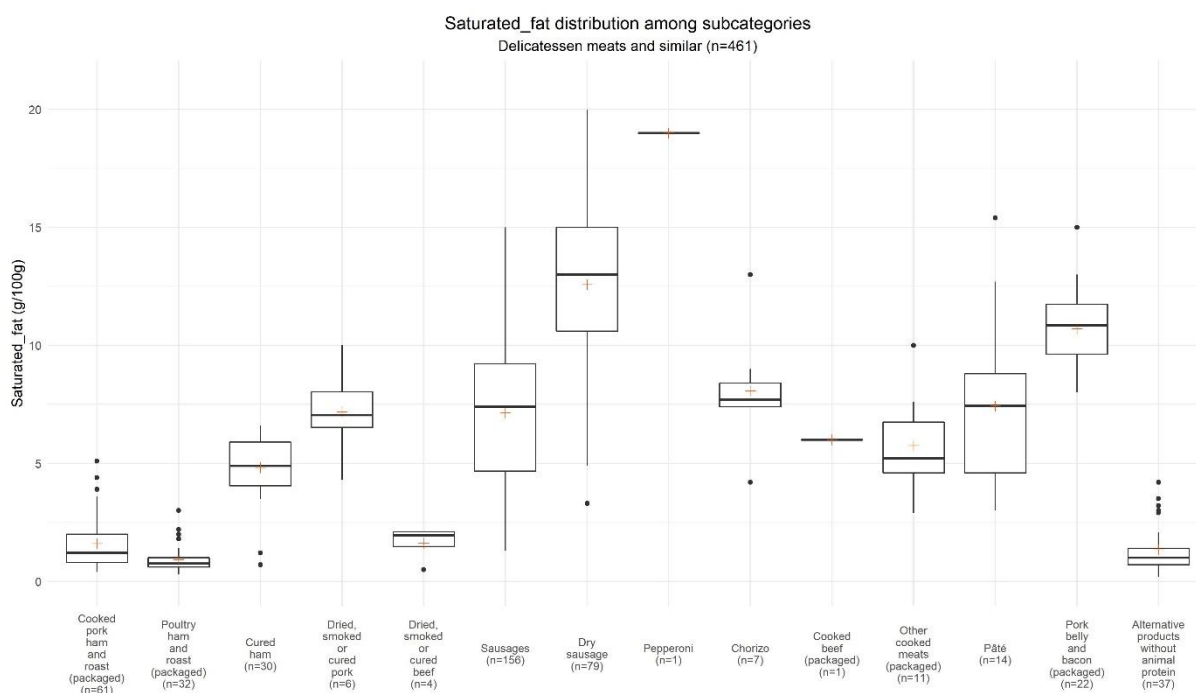


Figure 35 : Saturated fat distribution among subcategories of Delicatessen meats and similar

Among all subcategories of Delicatessen meats and similar, the mean content of saturated fat varies between 0.9g/100g (Poultry ham and roast (packaged)) and 19g/100g (Pepperoni) (Figure 35).

Subcategories with the highest mean saturated fat content are: Pepperoni (19g/100g), Dry sausage (12.6g/100g) and Pork belly and bacon (packaged) (10.7g/100g).

Subcategories with the lowest mean saturated fat content (between 0.9g/100g and 1.6g/100g) are: Poultry ham and roast (packaged), Alternative products without animal protein, Cooked pork ham and roast (packaged) and Dried, smoked or cured beef.

The saturated fat content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable saturated fat content are: Sausages (n=156), Dry sausage (n=79) and Pâté (n=14). Sausages and Dry sausages are subcategories that contain a large number of products that differ in their composition..

Finally, the subcategories containing products with the most homogeneous saturated fat content are: Cooked pork ham and roast (packaged) (n=61), Poultry ham and roast (packaged) (n=32), Dried, smoked or cured beef (n=4) and Alternative products without animal protein (n=37).

3.2.3.4 Distribution of sugar content by Delicatessen meats and similar subcategories

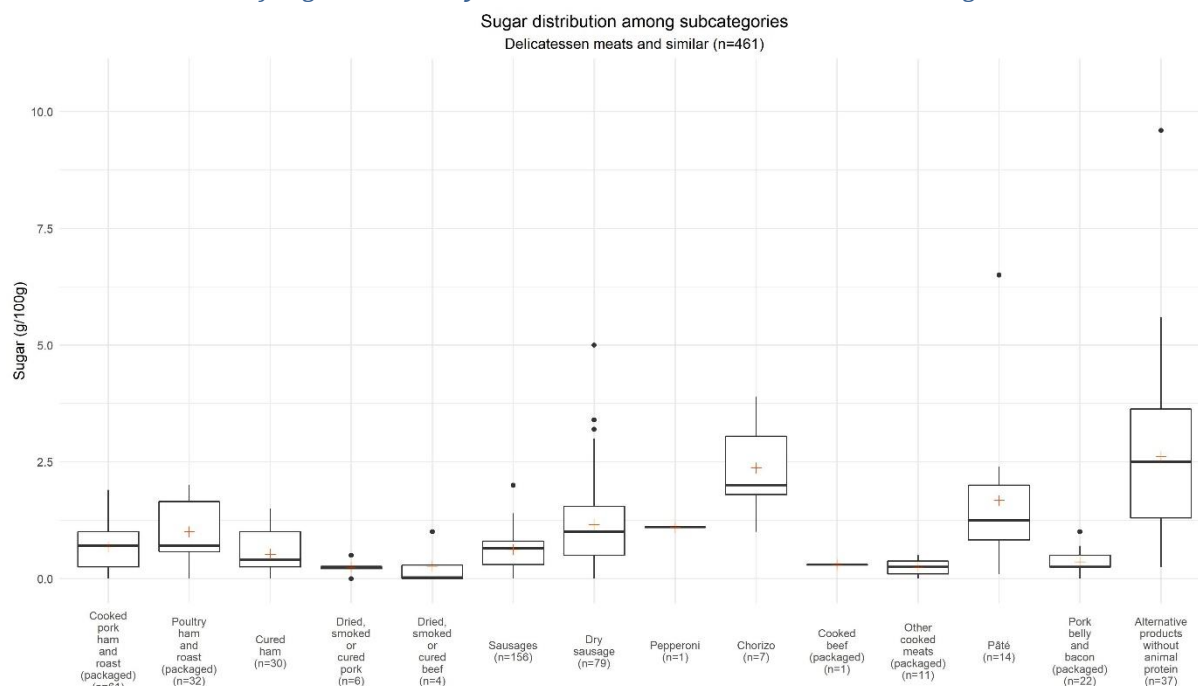


Figure 36 : Sugar distribution among subcategories of Delicatessen meats and similar

Among all subcategories of Delicatessen meats and similar, the mean content of sugar varies between 0.2g/100g (Other cooked meats (packaged) and Dried, smoked or cured pork) and 2.6g/100g (Alternative products without animal protein) (Figure 36).

Subcategories with the highest mean sugar content are: Alternative products without animal protein (2.6g/100g), Chorizo (2.4g/100g) and Pâté (1.7g/100g).

Subcategories with the lowest mean sugar content (between 0.2g/100g and 0.3g/100g) are: Dried, smoked or cured pork (n=6), Dried, smoked or cured beef (n=4), Cooked beef (packaged) (n=1), Other cooked meats (packaged) (n=11).

The sugar content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable sugar content (higher or equal than 5g/100g) are: Pâté (n=14), Alternative products without animal protein (n=37) and Dry sausage (n=79). In case of Alternative products without animal protein and Dry sausage there is a diversity of products in these subcategories, which translates into differences in their composition.

Finally, the subcategories containing products with the most homogeneous saturated fat content are: Other cooked meats (packaged) (n=11), Pork belly and bacon (packaged) (n=22), Dried, smoked or cured pork (n=6), Sausages (n=156).

3.2.3.5 Distribution of salt content by Delicatessen meats and similar subcategories

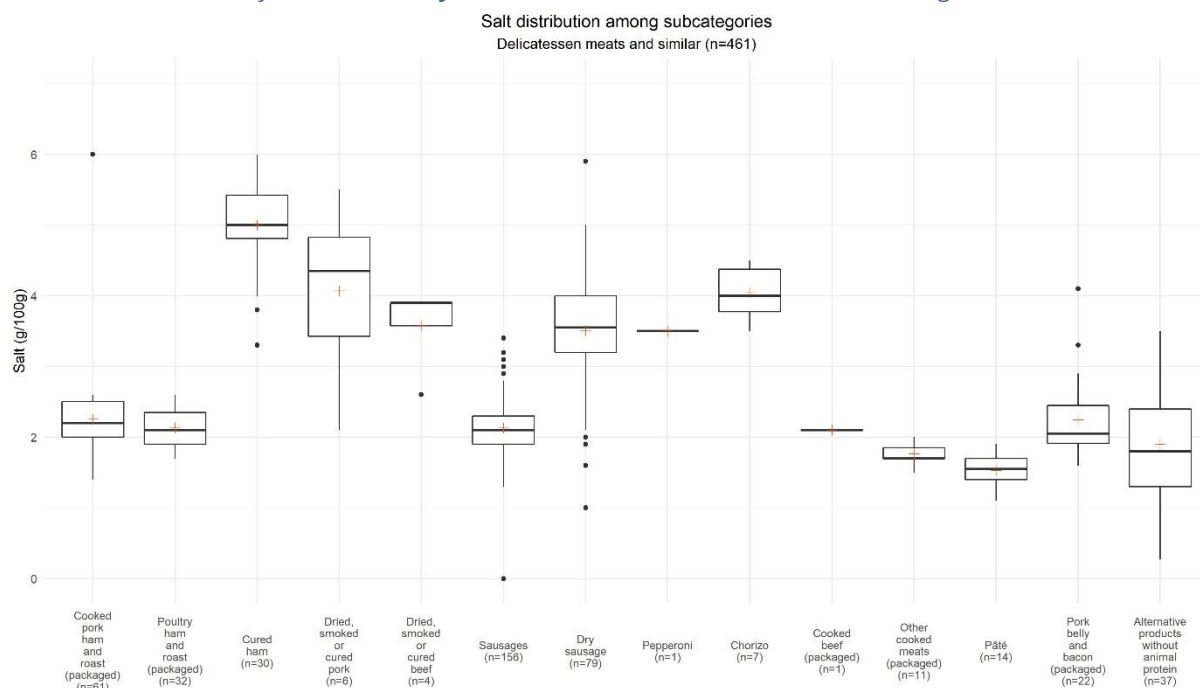


Figure 37 : Salt distribution among subcategories of Delicatessen meats and similar

Among all subcategories of Delicatessen meats and similar, the mean content of salt varies between 1.53g/100g (Pâté) and 5.0g/100g (Cured ham) (Figure 37).

Subcategories with the highest mean salt content are: Cured ham (5.0g/100g), Dried, smoked or cured pork (4.07g/100g) and Chorizo (4.04g/100g).

Subcategories with the lowest mean salt content (between 1.53g/100g and 1.9g/100g) are: Pâté (n=14), Other cooked meats (packaged) (n=11), Alternative products without animal protein (n=37).

The salt content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable salt content are: Dried, smoked or cured pork (n=6), Dry sausage (n=79), Cooked pork ham and roast (packaged) (n=61), Sausages (n=156) and Alternative products without animal protein (n=37). Different salt content in products may result from different recipes used by producers.

Finally, the subcategories containing products with the most homogeneous salt content are: Poultry ham and roast (packaged) (n=32), Pâté (n=14), Other cooked meats (packaged) (n=11).

3.2.4 Fresh dairy products and desserts

3.2.4.1 Distribution of protein content by Fresh dairy products and desserts subcategories

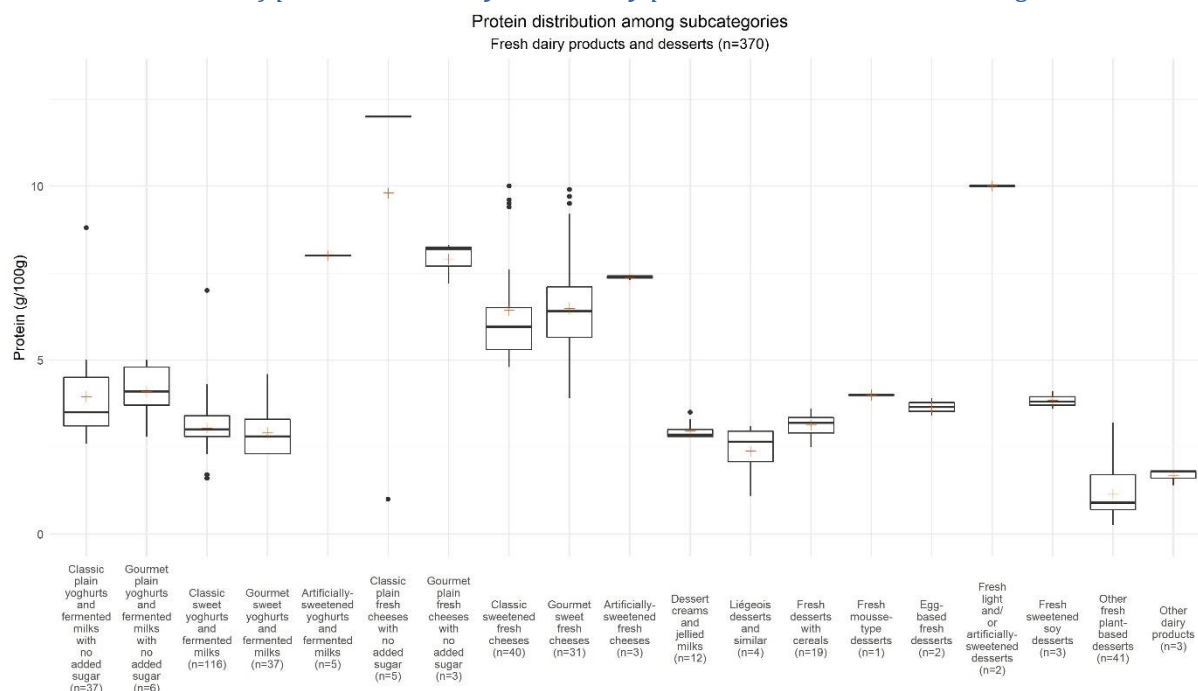


Figure 38 : Protein distribution among subcategories of Fresh dairy products and desserts

Among all subcategories of Fresh dairy products and desserts, the mean content of protein varies between 1.1g/100g (Other fresh plant-based desserts) and 10.0g/100g (Fresh light and/or artificially-sweetened desserts) (Figure 38).

Subcategories with the highest mean protein content are: Fresh light and/or artificially-sweetened desserts (10.0g/100g), Classic plain fresh cheeses with no added sugar (9.8g/100g), Artificially-sweetened yoghurts and fermented milks (8.0g/100g).

Subcategories with the lowest mean protein content (between 1.1g/100g and 2.4g/100g) are: Liégeois desserts and similar (n=4), Other fresh plant-based desserts (n=41), Other dairy products (n=3).

The protein content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable protein content are: Classic plain yoghurts and fermented milks with no added sugar (n=37), Classic plain fresh cheeses with no added sugar (n=5), Classic sweetened fresh cheeses (n=40), Gourmet sweet fresh cheeses (n=31).

Finally, the subcategories containing products with the most homogeneous fat content are: Artificially-sweetened yoghurts and fermented milks (n=5), Artificially-sweetened fresh cheeses (n=3), Dessert creams and jellied milks (n=12), Fresh light and/or artificially-sweetened desserts (n=2), Other dairy products (n=3). However, these subcategories contain a small number of products, which may explain the low variability.

3.2.4.2 Distribution of fat content by Fresh dairy products and desserts subcategories

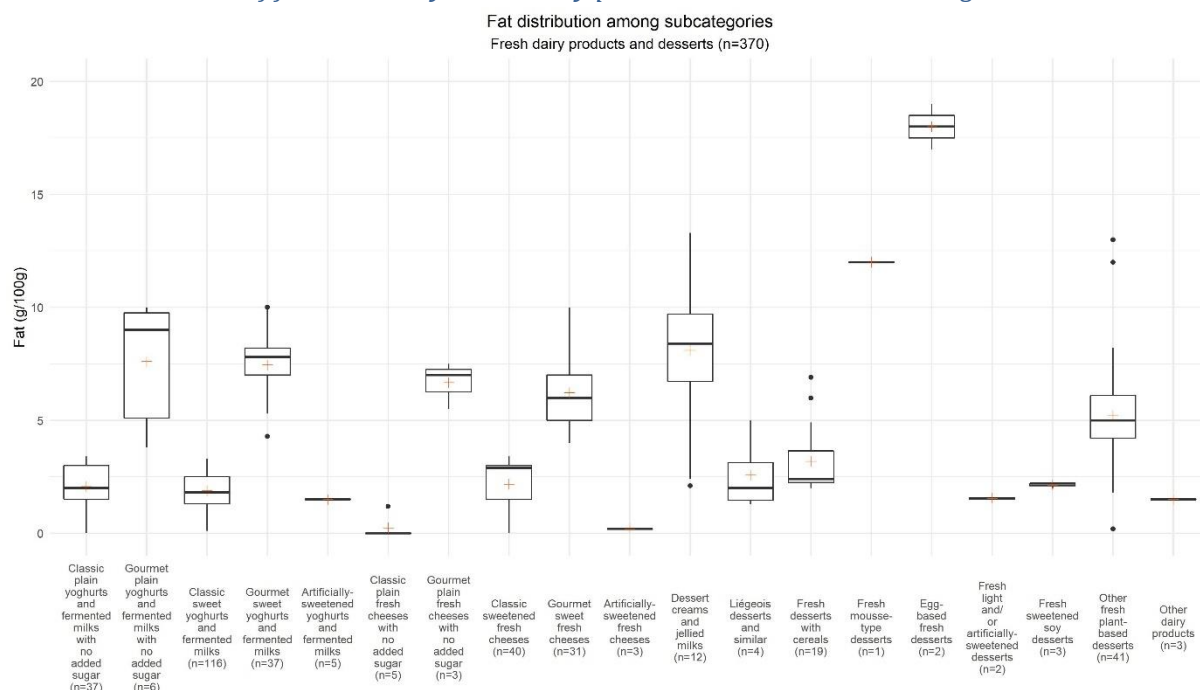


Figure 39 : Fat distribution among subcategories of Fresh dairy products and desserts

Among all subcategories of Fresh dairy products and desserts, the mean content of fat varies between 0.2g/100g (Classic plain fresh cheeses with no added sugar and Artificially-sweetened fresh cheeses) and 18g/100g (Egg-based fresh desserts) (Figure 39).

Subcategories with the highest mean fat content are: Egg-based fresh desserts (18g/100g), Fresh mousse-type desserts (12g/100g) and Dessert creams and jellied milks (8.1g/100g).

Subcategories with the lowest mean fat content (between 0.2g/100g and 1.6g/100g) are: Artificially-sweetened yoghurts and fermented milks, Classic plain fresh cheeses with no added sugar, Artificially-sweetened fresh cheeses, Fresh light and/or artificially-sweetened desserts, Other dairy products.

The fat content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable fat content are: Gourmet plain yoghurts and fermented milks with no added sugar (n=6), Dessert creams and jellied milks (n=12), Other fresh plant-based desserts (n=41).

Finally, the subcategories containing products with the most homogeneous fat content are: Artificially-sweetened yoghurts and fermented milks (n=5), Artificially-sweetened fresh cheeses (n=3), Fresh light and/or artificially-sweetened desserts (n=2), Fresh sweetened soy desserts (n=3) and Other dairy products (n=3). It can be noted that these subcategories contain very few products.

3.2.4.3 Distribution of saturated fat content by Fresh dairy products and desserts subcategories

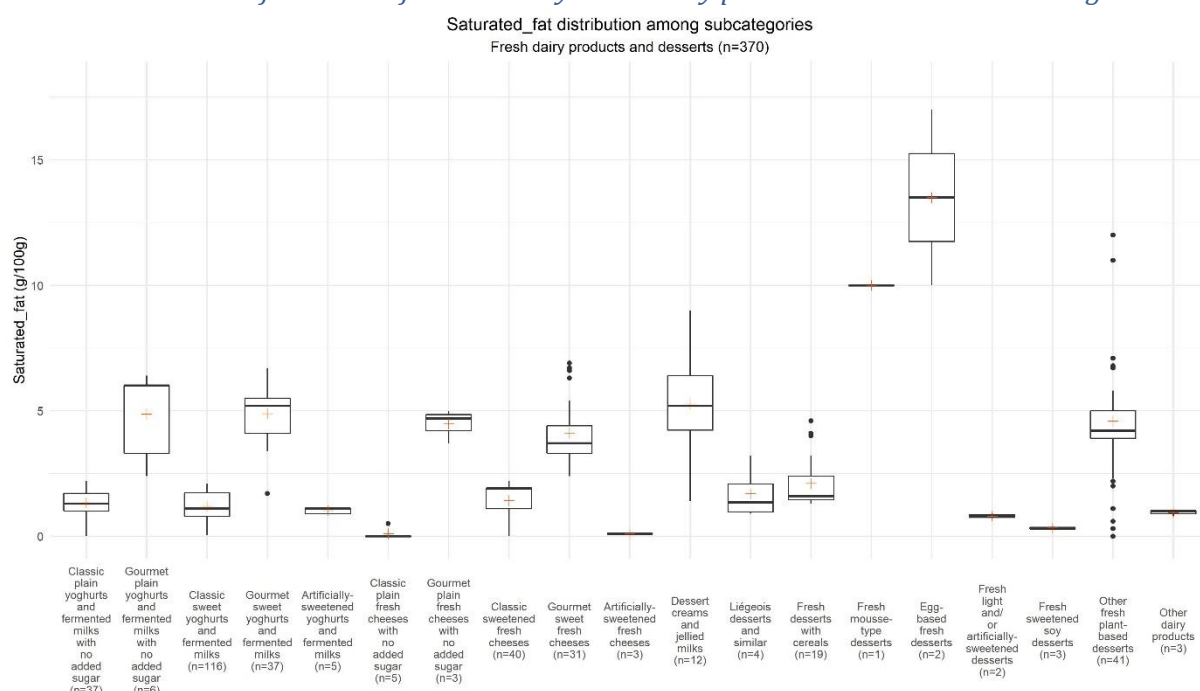


Figure 40 : Saturated fat distribution among subcategories of Fresh dairy products and desserts

Among all subcategories of Fresh dairy products and desserts, the mean content of saturated fat varies between 0.1g/100g (Classic plain fresh cheeses with no added sugar and Artificially-sweetened fresh cheeses) and 13.5g/100g (Egg-based fresh desserts) (Figure 40).

Subcategories with the highest mean saturated fat content are: Egg-based fresh desserts (13.5g/100g), Fresh mousse-type desserts (10g/100g) and Dessert creams and jellied milks (5.3g/100g).

Subcategories with the lowest mean saturated fat content (between 0.1g/100g and 0.8g/100g) are: Classic plain fresh cheeses with no added sugar (n=5), Artificially-sweetened fresh cheeses (n=3), Fresh light and/or artificially-sweetened desserts (n=2), Fresh sweetened soy desserts (n=3).

The subcategories containing products with the most variable saturated fat content are: Egg-based fresh desserts (n=2), Dessert creams and jellied milks (n=12), Other fresh plant-based desserts (n=41). In the case of the Other fresh plant-based desserts subcategory, the number of collected products is high and allows for careful conclusions. There is a diversity of products in this subcategory, which translates into differences in their composition and highlights the potential for reformulation by reducing the saturated fat content of some products.

Finally, the subcategories containing products with the most homogeneous saturated fat content are: Artificially-sweetened yoghurts and fermented milks (n=5), Artificially-sweetened fresh cheeses (n=3), Fresh light and/or artificially-sweetened desserts (n=2), Fresh sweetened soy desserts (n=3), Other dairy products (n=3). However, these subcategories contain few products.

3.2.4.4 Distribution of sugar content by Fresh dairy products and desserts subcategories

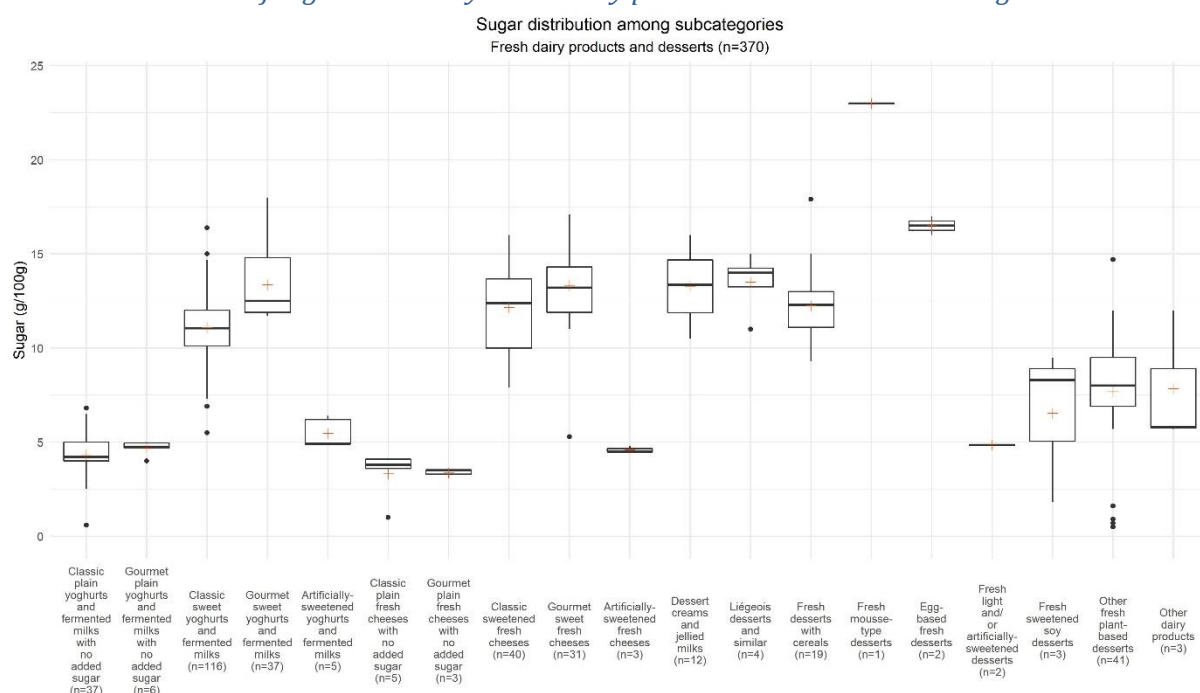


Figure 41 : Sugar distribution among subcategories of Fresh dairy products and desserts

Among all subcategories of Fresh dairy products and desserts, the mean content of sugar varies between 3.3g/100g (Classic plain fresh cheeses with no added sugar) and 23.0g/100g (Fresh mousse-type desserts) (Figure 41).

Subcategories with the highest mean sugar content are: Fresh mousse-type desserts (23.0g/100g), Egg-based fresh desserts (16.5g/100g), Liégeois desserts and similar (13.5g/100g).

Subcategories with the lowest mean sugar content (between 3.3g/100g and 4.3g/100g) are: Classic plain yoghurts and fermented milks with no added sugar, Classic plain fresh cheeses with no added sugar, Gourmet plain fresh cheeses with no added sugar.

The sugar content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable sugar content are: Fresh sweetened soy desserts (n=3), Other dairy products (n=3), Other fresh plant-based desserts (n=41), Gourmet sweet fresh cheeses (n=31), Classic sweet yoghurts and fermented milks (n=116). There is a diversity of products in these subcategories, which translates into differences in their composition.

Finally, the subcategories containing products with the most homogeneous saturated fat content are: Gourmet plain fresh cheeses with no added sugar (n=3), Artificially-sweetened fresh cheeses (n=3), Fresh light and/or artificially-sweetened desserts (n=2). However, these subcategories contain a small number of products.

3.2.4.5 Distribution of fibre content by Fresh dairy products and desserts subcategories

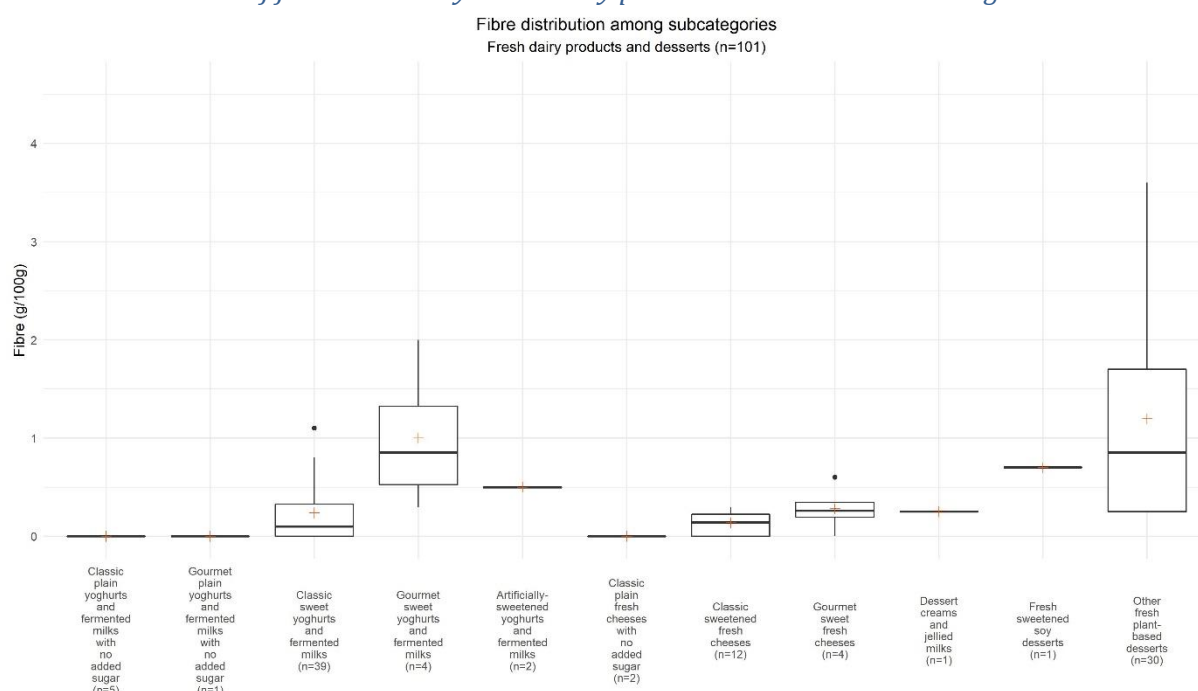


Figure 42 : Fibre distribution among subcategories of Fresh dairy products and desserts

It should be emphasized that the content of fibre was declared in only 27% of Fresh dairy products and desserts (Figure 42).

Among all subcategories of Fresh dairy products and desserts, the mean content of fibre varies between 0g/100g (Classic plain yoghurts and fermented milks with no added sugar, Gourmet plain yoghurts and fermented milks with no added sugar, Classic plain fresh cheeses with no added sugar) and 1.2g/100g (Other fresh plant-based desserts).

Subcategories with the highest mean fibre content are: Other fresh plant-based desserts (1.2g/100g), Gourmet sweet yoghurts and fermented milks (1g/100g), Fresh sweetened soy desserts (0.7g/100g).

Subcategories with the lowest mean fibre content (between 0g/100g and 0.2g/100g) are: Classic plain yoghurts and fermented milks with no added sugar (n=5), Gourmet plain yoghurts and fermented milks with no added sugar (n=1), Classic sweet yoghurts and fermented milks (n=39), Classic plain fresh cheeses with no added sugar (n=2), Classic sweetened fresh cheeses (n=12), Dessert creams and jellied milks (n=1).

The fibre content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable fibre content are: Gourmet sweet yoghurts and fermented milks (n=4), Other fresh plant-based desserts (n=30). In case of Other fresh plant-based desserts there is a diversity of products in this category, which translates into differences in their composition.

Finally, the subcategories containing products with the most homogeneous fibre content are: Classic plain yoghurts and fermented milks with no added sugar (n=5), Artificially-sweetened yoghurts and fermented milks (n=2), Classic plain fresh cheeses with no added sugar (n=2), Classic sweetened fresh cheeses (n=12).

3.2.5 Soft drinks

3.2.5.1 Distribution of sugar content by Soft drinks subcategories

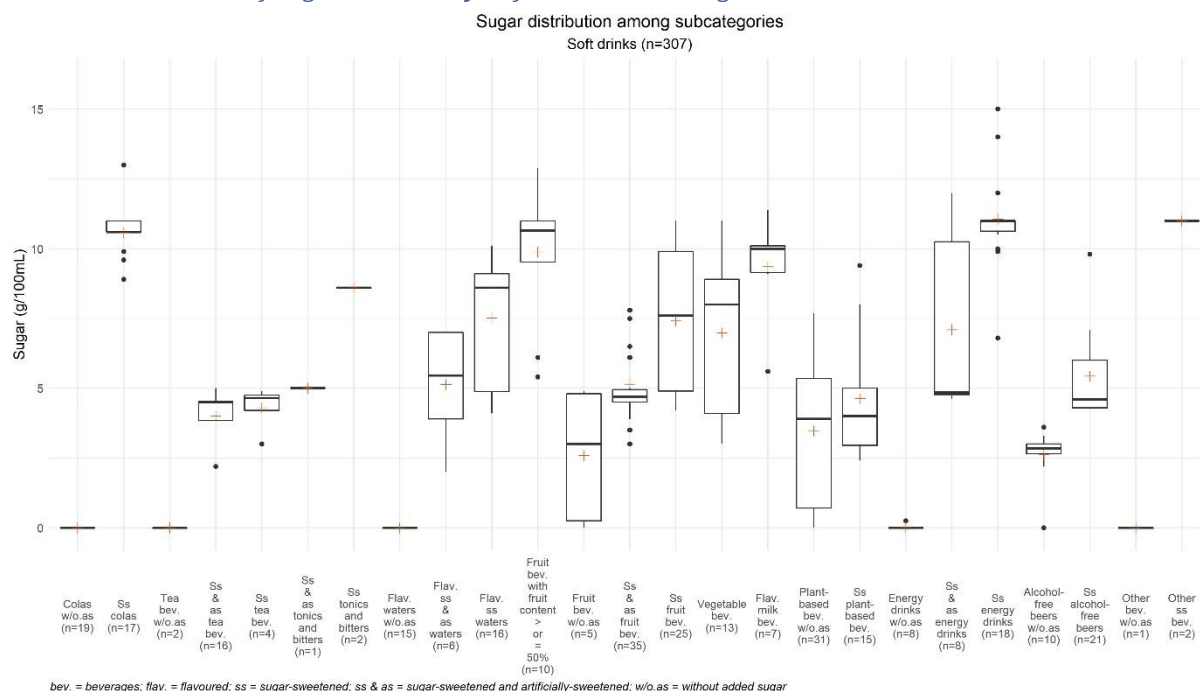


Figure 43 : Sugar distribution among subcategories of Soft drinks

Among all subcategories of Soft drinks, the mean content of sugar varies between 0g/100g (Colas without added sugar, n=19 ; Tea beverages without added sugar, n=2 ; Flavoured waters without added sugar, n=15 ; Energy drinks without added sugar, n=8 ; Other beverages without added sugar, n=1) and 11.1g/100g (Sugar-sweetened energy drinks, n=18) (Figure 43).

Subcategories with the highest mean sugar content are: Sugar-sweetened energy drinks (11.1g/100g), Other sugar-sweetened beverages (11.0g/100g), Sugar-sweetened colas (10.6g/100g).

Subcategories with the lowest mean sugar content (between 0g/100g and 2.6 g/100g) are: Colas without added sugar (n=19), Tea beverages without added sugar (n=2), Flavoured waters without added sugar (n=15), Energy drinks without added sugar (n=8), Fruit beverages without added sugar (n=5) and Alcohol-free beers without added sugar (n=10).

The sugar content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable sugar content are: Sugar-sweetened energy drinks (n=18), Vegetable beverages (n=13), Plant-based beverages without added sugar (n=31), Fruit beverages with fruit content $\geq 50\%$ (n=10), Sugar-sweetened and artificially-sweetened energy drinks (n=8).

Finally, the subcategories containing products with the most homogeneous sugar content are: Colas without added sugar (n=19), Tea beverages without added sugar (n=2), Sugar-

sweetened tonics and bitters (n=2), Flavoured waters without added sugar (n=15), Other sugar-sweetened beverages (n=2).

3.2.5.2 Distribution of fibre content by Soft drinks subcategories

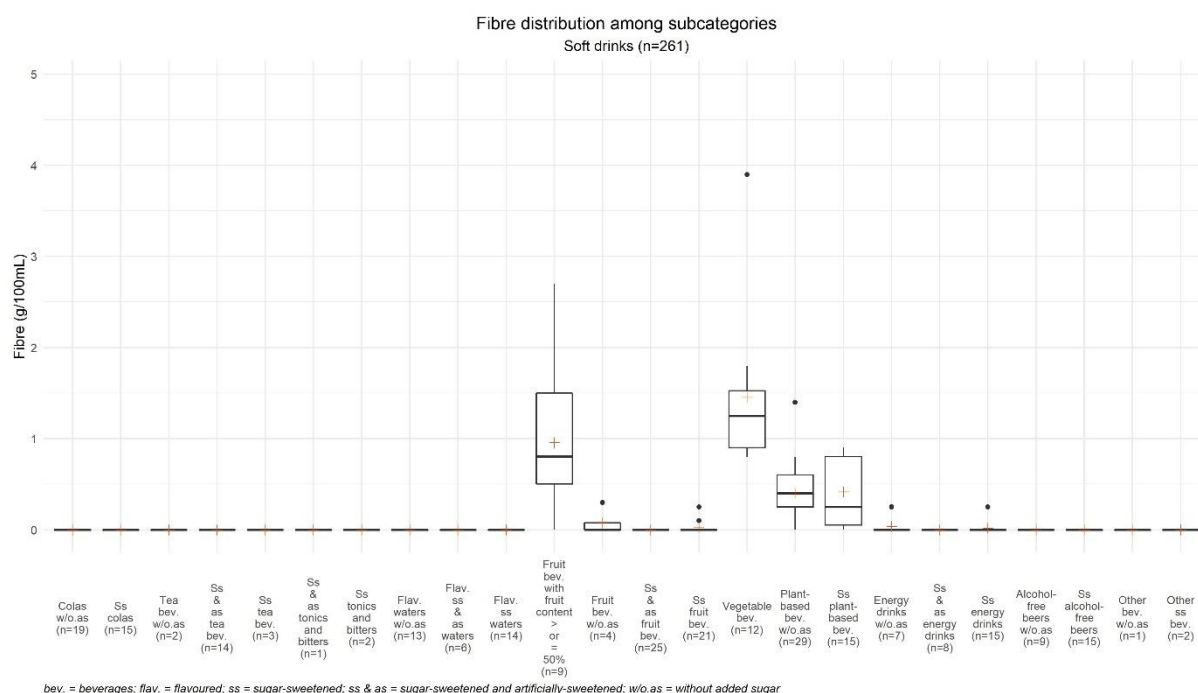


Figure 44 : Fibre distribution among subcategories of Soft drinks

It should be emphasized that the content of fibre was declared in only 87% of Soft drinks.

Among all subcategories of Soft drinks, the mean content of fibre varies between 0g/100g and 1.4g/100g (Vegetable beverages) (Figure 44).

Subcategories with the highest mean fibre content are: Fruit beverages with fruit content > or = 50% (1.0g/100g), Vegetable beverages (1.4g/100g).

Subcategories with the lowest mean fibre content (0g/100g) are: Colas without added sugar, Sugar-sweetened colas, Tea beverages without added sugar, Sugar-sweetened and artificially-sweetened tea beverages, Sugar-sweetened tea beverages, Sugar-sweetened and artificially-sweetened tonics and bitters, Sugar-sweetened tonics and bitters, Flavoured waters without added sugar, Flavoured sugar-sweetened and artificially-sweetened waters, Flavoured sugar-sweetened waters, Sugar-sweetened and artificially-sweetened fruit beverages, Sugar-sweetened fruit beverages, Energy drinks without added sugar, Sugar-sweetened and artificially-sweetened energy drinks, Sugar-sweetened energy drinks, Alcohol-free beers without added sugar, Sugar-sweetened alcohol-free beers, Other beverages without added sugar, Other sugar-sweetened beverages.

The fibre content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable fibre content are: Fruit beverages with fruit content > or = 50% (n=9), Vegetable beverages (n=12).

Finally, the subcategories containing products with the most homogeneous fibre content are: Colas without added sugar (n=19), Sugar-sweetened colas (n=15), Tea beverages without

added sugar (n=2), Sugar-sweetened and artificially-sweetened tea beverages (n=14), Sugar-sweetened tea beverages (n=3), Sugar-sweetened tonics and bitters (n=2), Flavoured waters without added sugar (n=13), Flavoured sugar-sweetened and artificially-sweetened waters (n=6), Flavoured sugar-sweetened waters (n=14), Sugar-sweetened and artificially-sweetened fruit beverages (n=25), Sugar-sweetened energy drinks (n=8), Alcohol-free beers without added sugar (n=9), Sugar-sweetened alcohol-free beers (n=15), Other sugar-sweetened beverages (n=2).

3.2.5.3 Distribution of salt content by Soft drinks subcategories

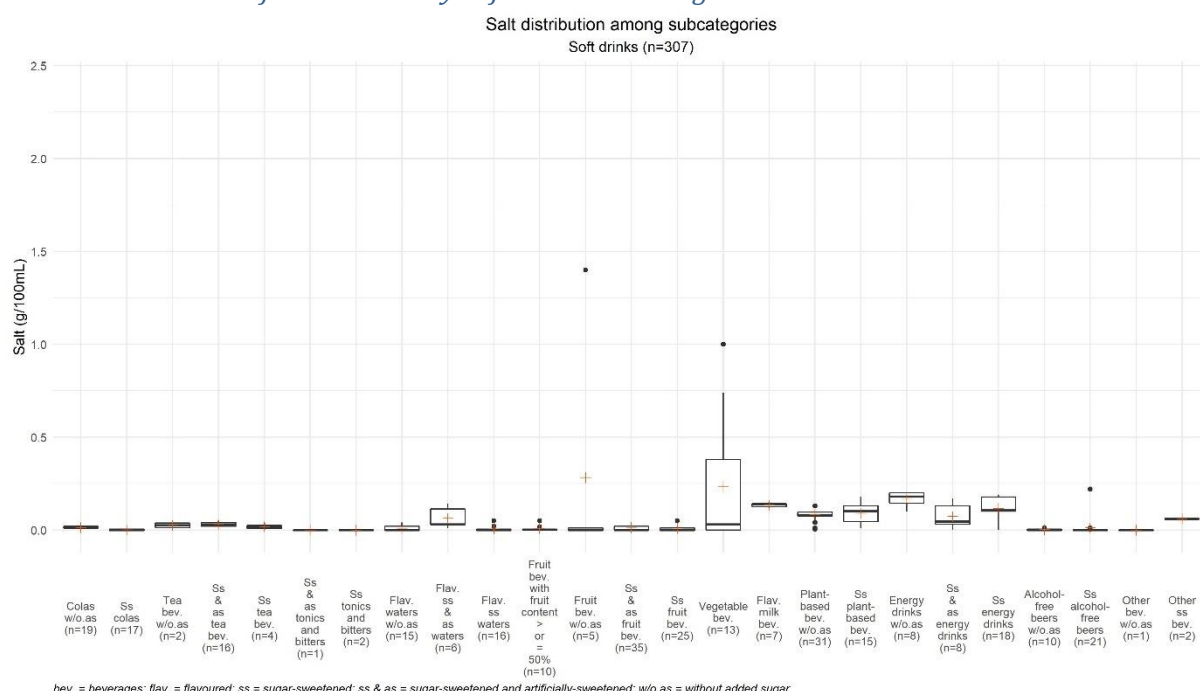


Figure 45 : Salt distribution among subcategories of Soft drinks

Among all subcategories of Soft drinks, the mean content of salt varies between 0g/100g (Sugar-sweetened colas, Sugar-sweetened and artificially-sweetened tonics and bitters, Sugar-sweetened tonics and bitters, Alcohol-free beers without added sugar, Other beverages without added sugar) and 0.28g/100g (Fruit beverages without added sugar) (Figure 45).

Subcategories with the highest mean salt content are: Fruit beverages without added sugar (0.28g/100g), Vegetable beverages (0.23g/100g) and Energy drinks without added sugar (0.16g/100g).

Subcategories with the lowest mean salt content (0g/100g) are: Sugar-sweetened colas, Sugar-sweetened and artificially-sweetened tonics and bitters, Sugar-sweetened tonics and bitters, Alcohol-free beers without added sugar, Other beverages without added sugar.

The salt content varies among subcategories but also within a given subcategory, translating room for reformulation. The subcategories containing products with the most variable salt content are: Vegetable beverages (n=13), Fruit beverages without added sugar (n=5). Different salt content in products may result from different recipes used by producers.

Finally, the subcategories containing products with the most homogeneous salt content are: Sugar-sweetened colas (n=17), Sugar-sweetened tonics and bitters (n=2), Alcohol-free beers without added sugar (n=10), Other sugar-sweetened beverages (n=2).

3.2.5.4 Distribution of fat content among flavoured milk beverages and plant-based beverages subcategories

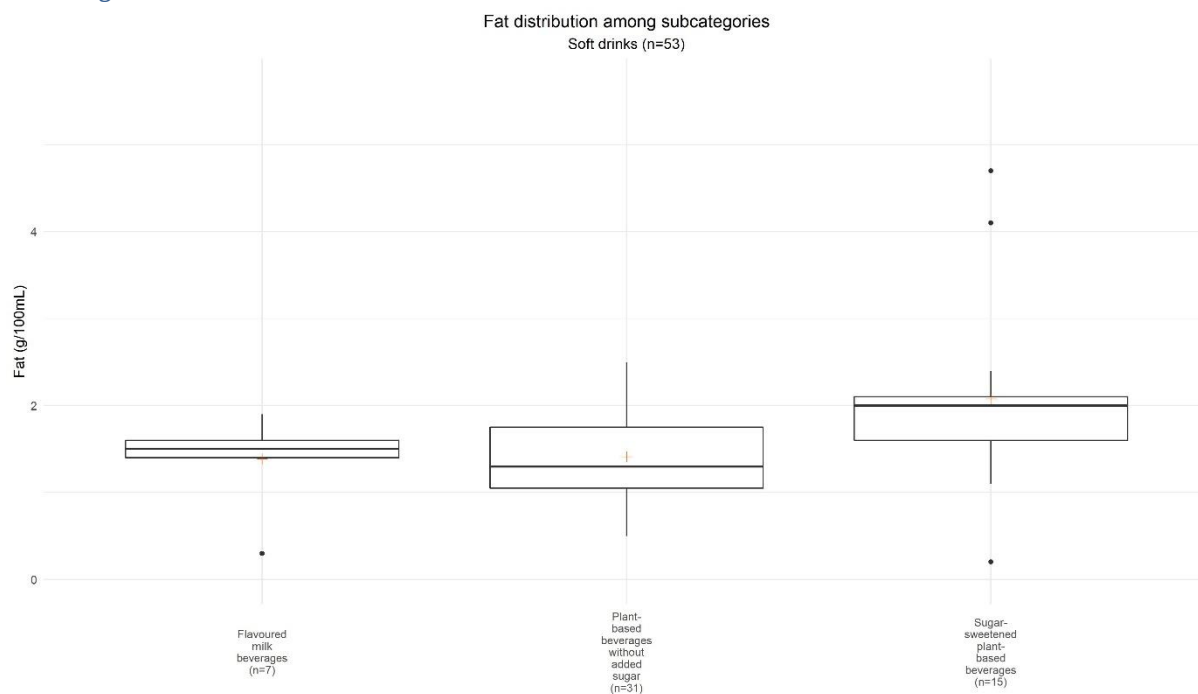


Figure 46 : Fat distribution among subcategories of Soft drinks

Among flavoured milk beverages and plant-based beverages subcategories, the mean content of fat varies between 1.4g/100g (Plant-based beverages without added sugar, n=31 ; Flavoured milk beverages, n=7) and 2.1g/100g (Sugar-sweetened plant-based beverages, n=15) (Figure 46).

Sugar-sweetened plant-based beverages contain more fat than Plant-based beverages without added sugar.

3.2.5.5 Distribution of saturated fat content among flavoured milk beverages and plant-based beverages subcategories

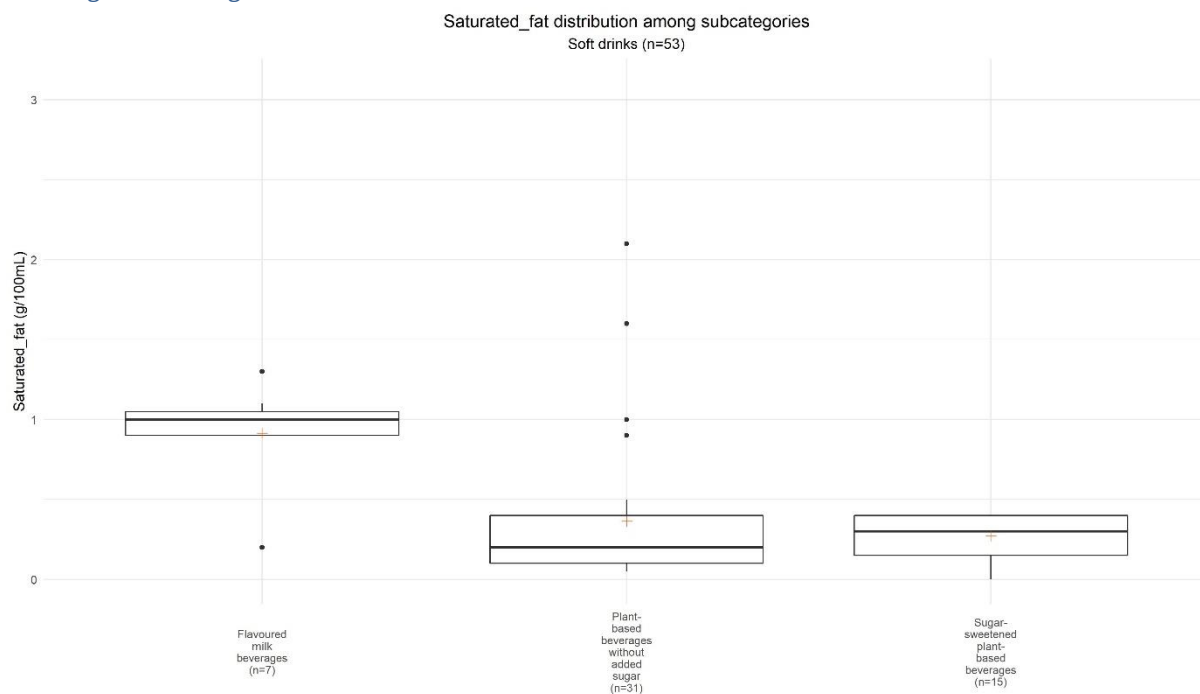


Figure 47 : Saturated fat distribution among subcategories of Soft drinks

Among Plant-based beverages subcategories, the mean content of saturated fat varies between 0.4g/100g (Plant-based beverages without added sugar, n=31) and 0.3g/100g (Sugar-sweetened plant-based beverages, n=15). Flavoured milk beverages is the subcategory with the highest mean content of saturated fat (0.9g/100g) (Figure 47).

The saturated fat content varies among subcategories translating room for reformulation. The subcategory containing products with the most variable saturated fat content is Plant-based beverages without added sugar.

Annex 2: individual reports on statistical analysis of the data collected for countries from T1



Best-ReMaP

Healthy Food for a Healthy Future

Austrian T1 statistics report

Grant Agreement Number 951202

AGES – Austrian Agency for Health and Food Safety, Department for Nutrition & Prevention,
Division Integrative Risk Assessment, Data and Statistics
WP5

25 / 05 / 2023



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1 Description of the food offer

1.1 Presentation of data collected

Pre-existing data prior to Best-ReMap data collection (T0)

For the T0 data collection, which was done between 2018 and 2021 (see Table 1 for details) we recorded product information for the categories Breakfast cereals, Delicatessen meats and similar, Fresh dairy products and desserts and Soft drinks. The pre-existing data was collected within the scope of the project “[Food in the Spotlight](#)” which contributes to the Austrian nutrient monitoring system ([AGES, 2022](#)).

Table 1 : Years of data collections

Category name	T0 data collection year	T1 data collection year
Bread products	None	2022
Breakfast cereals	2020-2021	2022
Delicatessen meats and similar	2020	2022
Fresh dairy products and desserts	2018-2019	2022
Soft drinks	2018-2019 (milk and plant-based beverages), 2020 (other soft drinks)	2022

The data recording was performed following a standardized method that was developed for the EU Joint Action on Nutrition and Physical Activity (JANPA). The methodology included taking pictures of products in retailers for which we attained permission to do so.

The retailers considered for the T0 data collection were REWE (including the retailer chains BILLA, MERKUR and PENNY), SPAR, HOFER, LIDL, Denns BioMarkt, dm drogerie markt and reformstark Matrin. Their respective market shares for the year 2019 are shown in Figure 1.

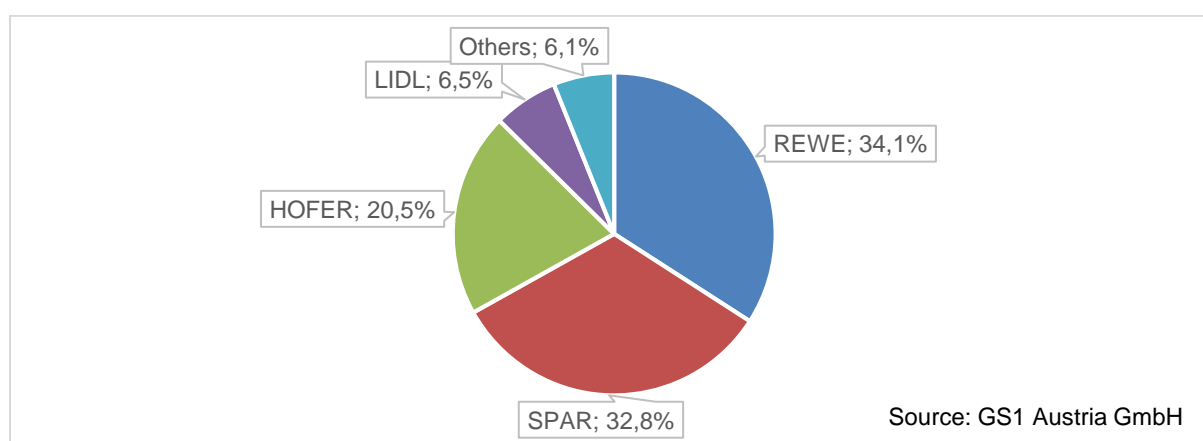


Figure 1 : Estimated market share in 2019

Data of products which could not be photographed due to them not being present in the shop or when visiting the supermarkets was not deemed feasible during the pandemic, were recorded directly from the retailer websites or websites from manufacturers. Additionally, some

product data were transferred to us directly by manufacturers through previously established data transfer agreements. The different sources of product data that were used for the T0 data collection and the respective percentages is shown in Table 2.

Table 2 : Sources of product data for T0 data collection

	Photographs in supermarkets	Data from online sources	Data from manufacturers
Breakfast cereals (n=643)	61 (9.5%)	556 (86.5%)	26 (4.0%)
Delicatessen meats and similar (n=1314)	403 (30.7%)	831 (63.2%)	80 (6.1%)
Fresh dairy products and desserts (n=901)	585 (64.9%)	287 (31.9%)	29 (3.2%)
Soft drinks (n=947)	207 (21.8%)	712 (75.2%)	28 (3.0%)

Best-ReMaP data collection (T1)

The data collection for T1, which was performed completely in March 2022, included the product categories Bread products, Breakfast cereals, Delicatessen meats and similar, Fresh dairy products and desserts and Soft drinks (see Table 1 for details). For this data collection, all product information was obtained via taking photographs in supermarkets. Permission for data recording was attained from the retailers SPAR, REWE (including the retailer chains BILLA and PENNY), HOFER and LIDL, and for which one store per retailer was visited subsequently. The market shares for the year 2021 are shown in Figure 2.

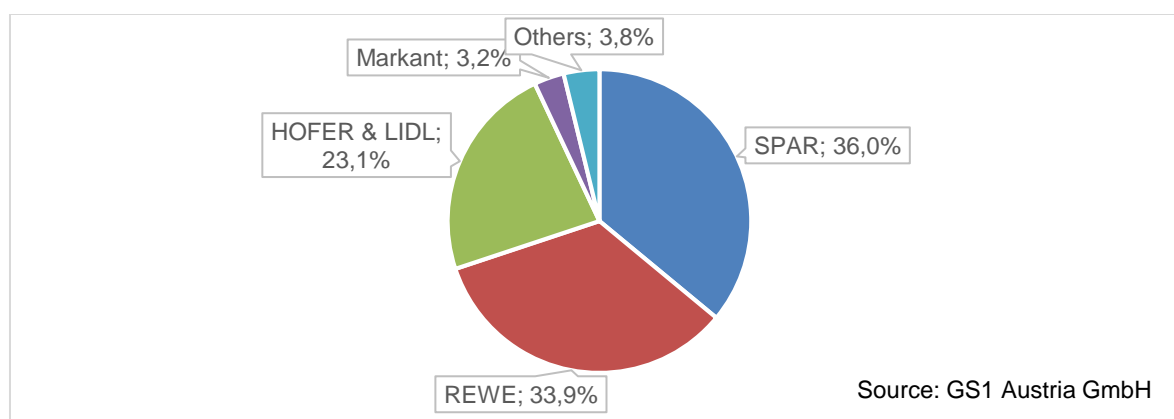


Figure 2 : Estimated market share in 2021

Markant and none of the small retailers belonging to the “Others” group were included in our T1 data collection as only the top 5 retailers in Austria, representing 93% of market share in 2021, were considered in our T1 data collection.

In comparison to the T0 data collection where our focus was to collect product data for as many products as possible, for the T1 data collection all products were recorded only for SPAR and BILLA which are the two biggest retailer chains in Austria, whereas in the hard discounters HOFER, LIDL and PENNY, only product data of retailer brands were recorded in order to avoid collecting duplicate data.

1.2 Evolution of the food offer

1.2.1 Evolution of the food offer, by category

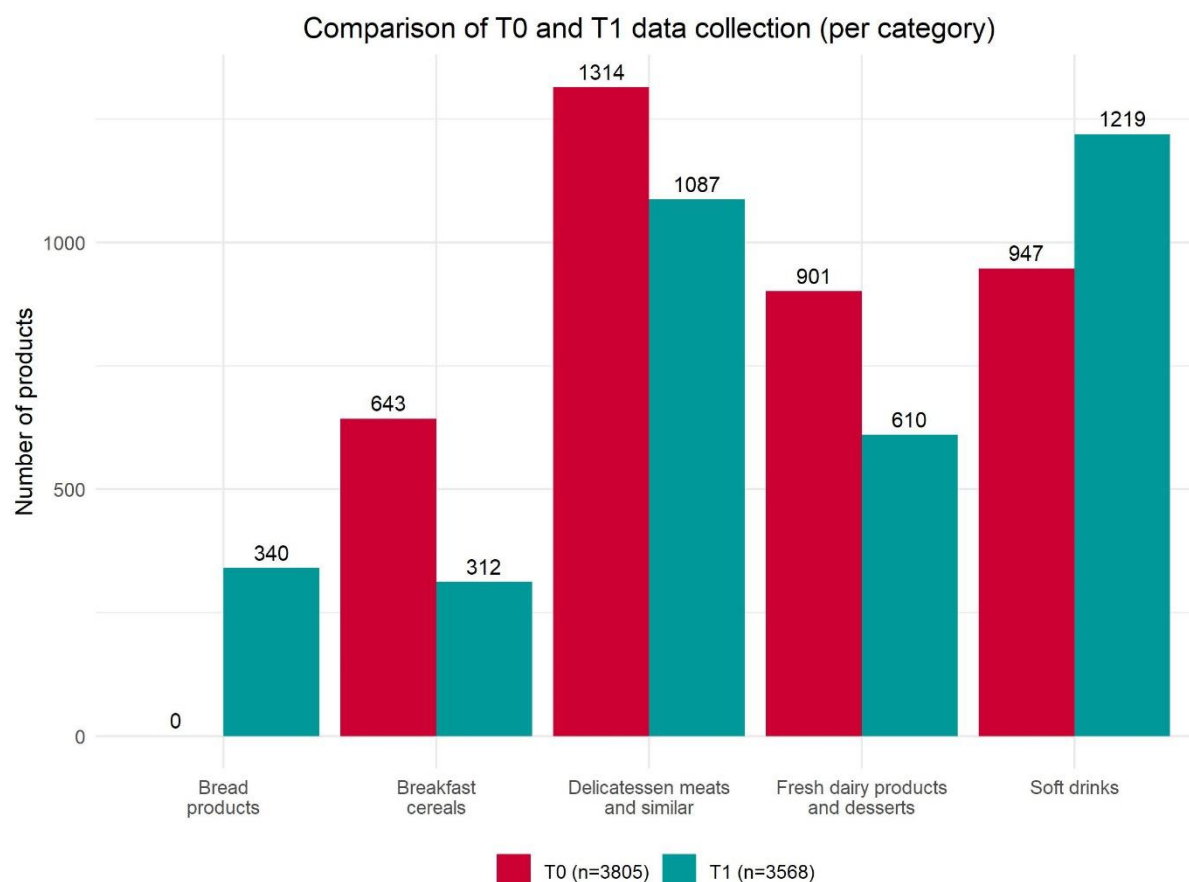


Figure 3 : Comparison of the number of references collected between pre-existing (2018-2021=T0) and Best-ReMaP (2022=T1) data collection, per category

The number of products collected at T0 is greater than the number of products collected at T1 (T0: 3805 vs. T1: 3568) for 3 out of 5 categories collected (Breakfast cereals: 643 vs. 312; Delicatessen meats and similar: 1314 vs. 1087; Fresh dairy products and desserts: 901 vs. 610). The remaining two categories are: Soft drinks, for which the number of products collected at T0 is smaller than the number of products collected at T1 (947 vs. 1219) and Bread products, for which there are no pre-existing data for comparison (Figure 3).

The number of soft drinks collected at T0 is smaller than T1 as the data for a large number of soft drink products is not available online, either due to missing product information on the websites or soft drinks available in retailer chains that do not have a website. As taking pictures was difficult during the pandemic, more soft drinks were recorded in 2022 compared to 2020.

1.2.2 Evolution of the food offer, by subcategory

1.2.2.1 Bread products

Due to a lack of pre-existing data (T0) there is no figure in the category “Bread products”.

1.2.2.2 Breakfast cereals

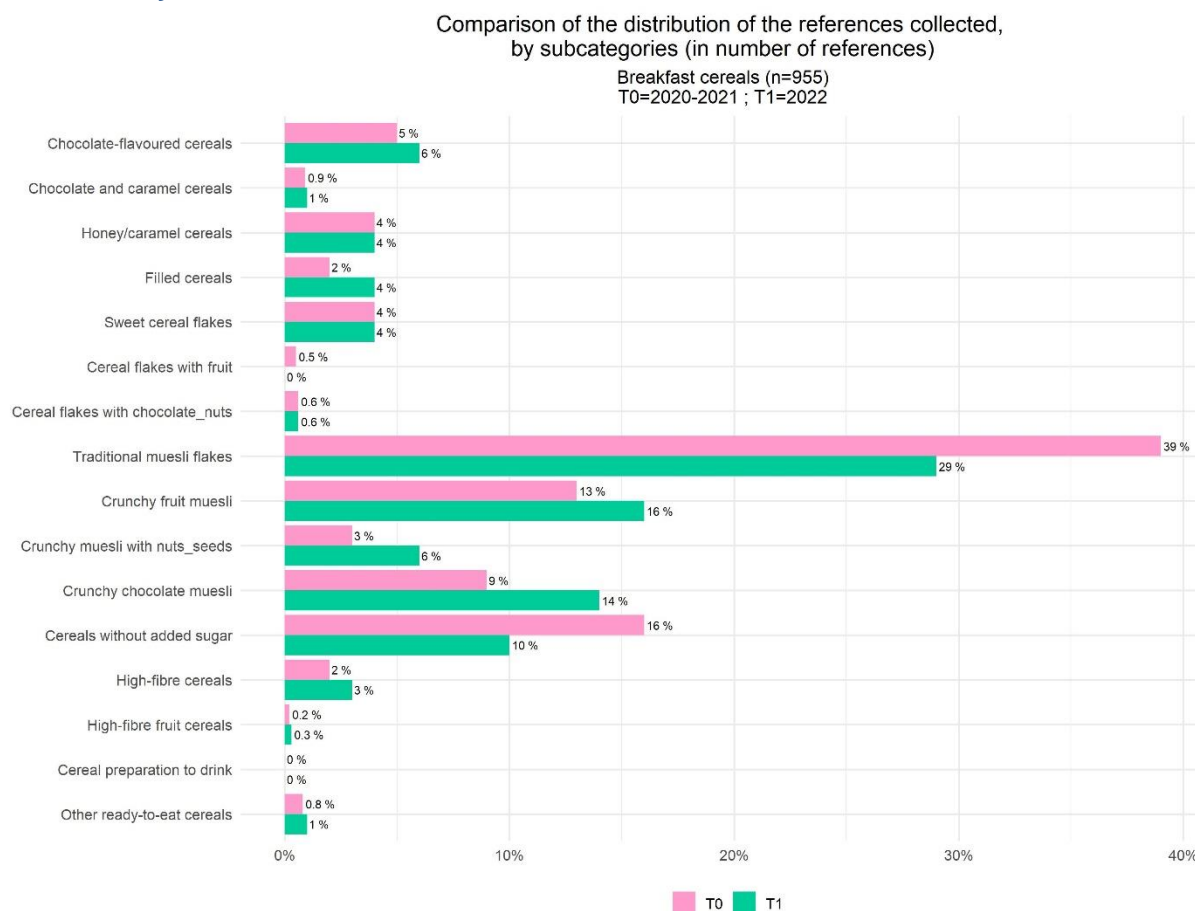


Figure 4 : Comparison of the distribution of the references collected, by subcategories (in number of references) among Breakfast cereals

Comparing the distribution of the subcategories between 2020-2021 (T0) and 2022 (T1) (Figure 4), the percentage of collected products is:

- Higher at T1 for 9 subcategories out of 16 (Chocolate-flavoured cereals, Chocolate and caramel cereals, Filled cereals, Crunchy fruit muesli, Crunchy muesli with nuts_seeds, Crunchy chocolate muesli, High-fibre cereals, High-fibre fruit cereals, Other ready-to-eat cereals)
- Higher at T0 for 3 subcategories out of 16 (Cereal flakes with fruit, Traditional muesli flakes, Cereals without added sugar),
- Identical for 4 subcategories out of 16 (Honey/caramel cereals, Sweet cereal flakes, Cereal flakes with chocolate_nuts, Cereal preparation to drink), whereas the number of products collected in the subcategory “Cereal preparation to drink” is zero at both data collections (T0 as well as at T1).

1.2.2.3 Delicatessen meats and similar

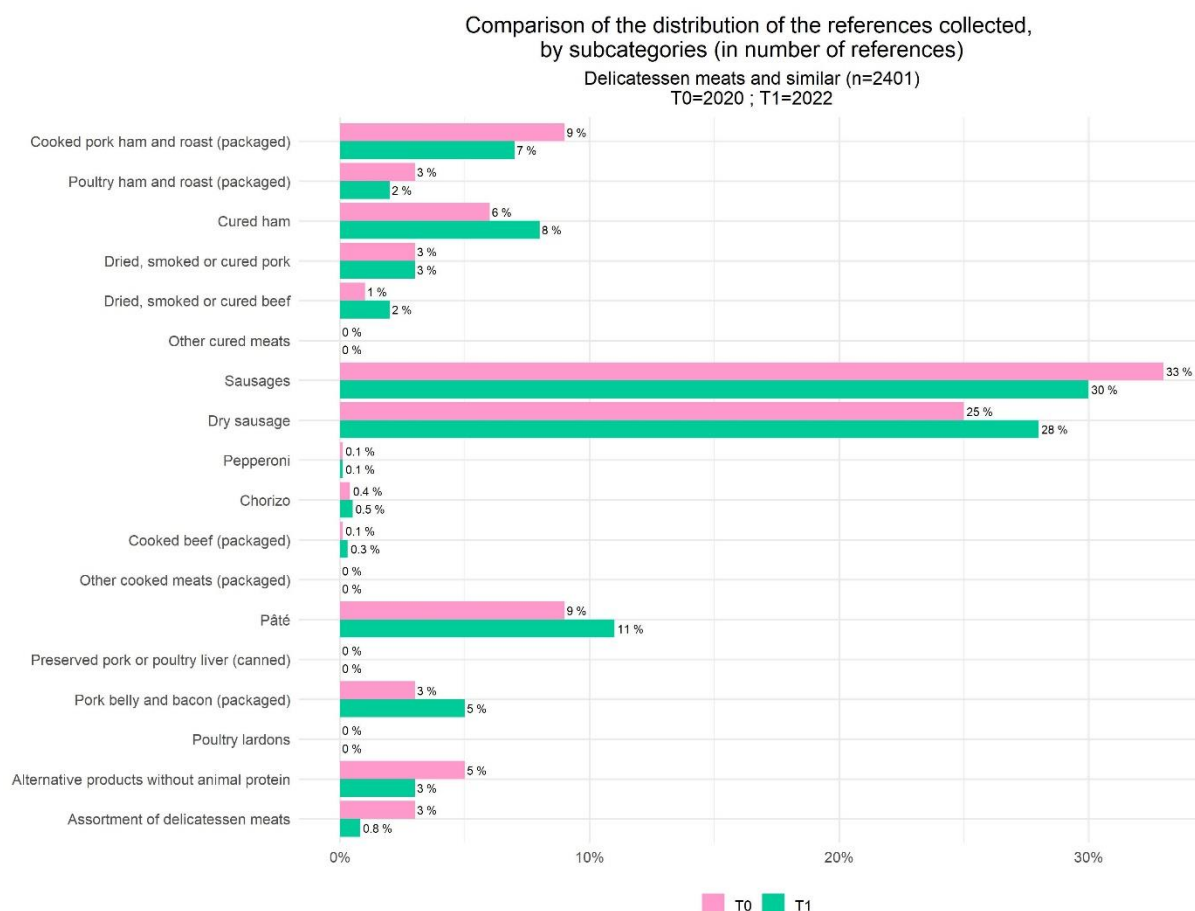


Figure 5 : Comparison of the distribution of the references collected, by subcategories (in number of references) among Delicatessen meats and similar

The comparison of product distribution between 2020 (T0) and 2022 (T1) (Figure 5) shows that the percentage of collected products is:

- Higher at T1 for 7 subcategories out of 18 (Cured ham; Dried, smoked or cured beef; Dry sausage; Chorizo; Cooked beef (packaged); Pâté; Pork belly and bacon (packaged)).
- Higher at T0 in 5 subcategories out of 18 (Cooked pork ham and roast (packaged); Poultry ham and roast (packaged); Sausages; Alternative products without animal protein; Assortment of delicatessen meats).
- Identical for 6 subcategories out of 18 (Dried, smoked or cured pork; Other cured meats; Pepperoni; Other cooked meats (packaged); Preserved pork or poultry liver (canned); Poultry lardons), with the number of products collected being zero for most subcategories (with the exception of 'Dried, smoked or cured pork' and 'Pepperoni') for both data collections (T0 as well as T1).

1.2.2.4 Fresh dairy products and desserts

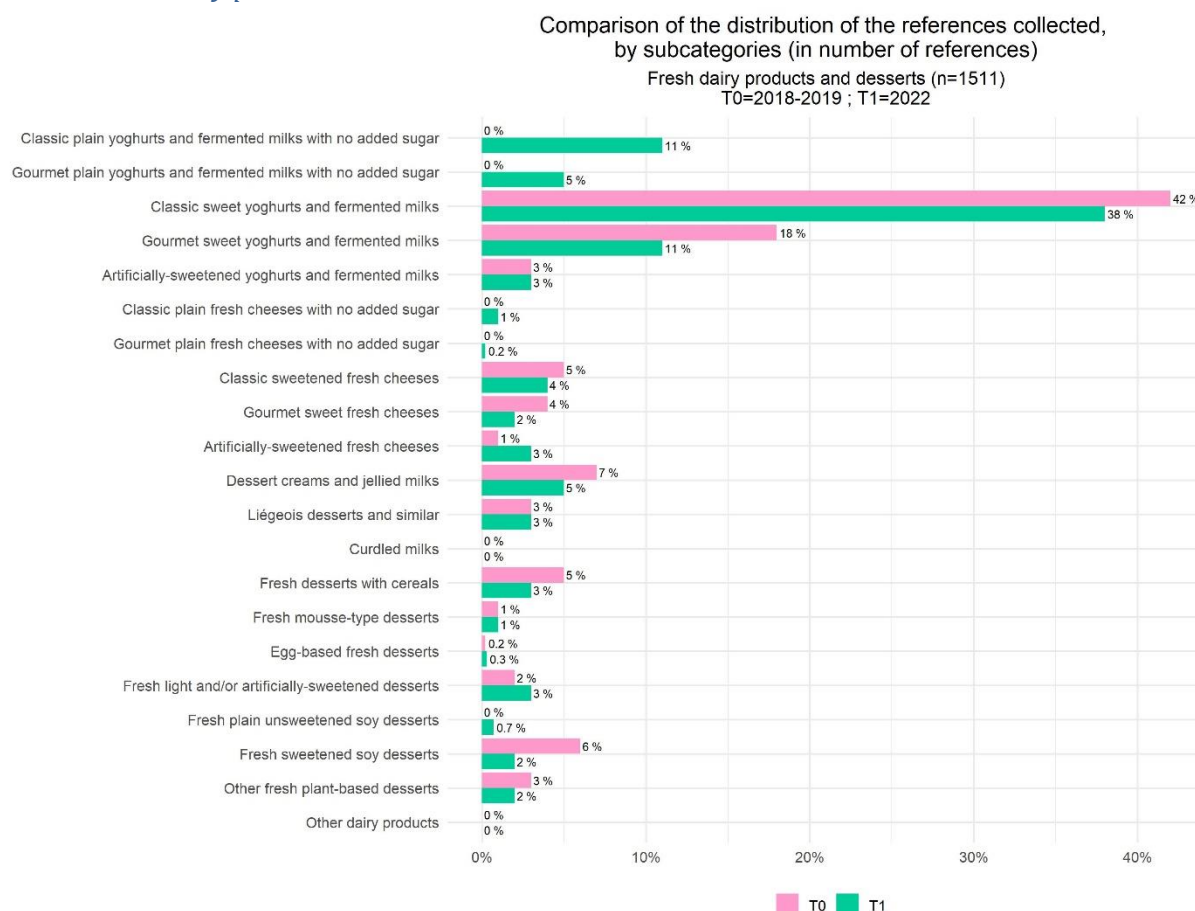


Figure 6 : Comparison of the distribution of the references collected, by subcategories (in number of references) among Fresh dairy products and desserts

The comparison of product distribution between 2018-2019 (T0) and 2022 (T1) (Figure 6) shows that the percentage of collected products is:

- Higher at T1 for 8 subcategories out of 21 (Classic plain yoghurts and fermented milks with no added sugar; Gourmet plain yoghurts and fermented milks with no added sugar; Classic plain fresh cheeses with no added sugar; Gourmet plain fresh cheeses with no added sugar; Artificially-sweetened fresh cheeses; Egg-based fresh desserts; Fresh light and/or artificially-sweetened desserts; Fresh plain unsweetened soy desserts), but it should be noted that plain products were not collected at T0.
- Higher at T0 in 8 subcategories out of 21 (Classic sweet yoghurts and fermented milks, Gourmet sweet yoghurts and fermented milks, Classic sweetened fresh cheeses, Gourmet sweet fresh cheeses, Dessert creams and jellied milks, Fresh desserts with cereals, Fresh sweetened soy desserts, Other fresh plant-based desserts).
- Identical for 5 subcategories out of 21 (Artificially-sweetened yoghurts and fermented milks, Liégeois desserts and similar, Curdled milks, Fresh mousse-type desserts, Other dairy products), with the numbers of products being zero for the subcategories 'Curdled milks' and 'Other dairy products' for both data collections (T0 as well as T1).

1.2.2.5 Soft drinks

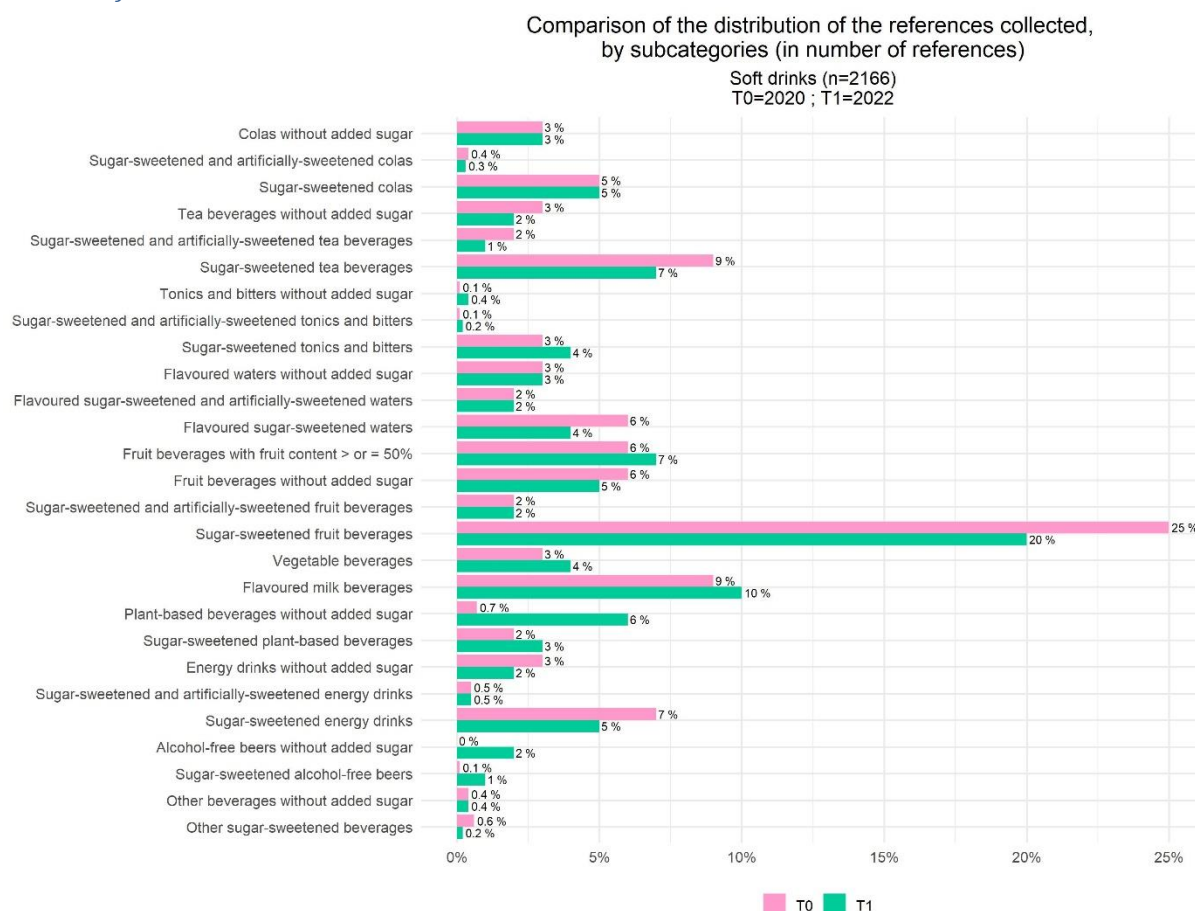


Figure 7 : Comparison of the distribution of the references collected, by subcategories (in number of references) among Soft drinks

Comparing the distribution of the subcategories between 2018-2020¹ (T0) and 2022 (T1) (Figure 7), the percentage of collected products is:

- Higher at T1 for 10 subcategories out of 27 (Tonics and bitters without added sugar, Sugar-sweetened and artificially-sweetened tonics and bitters, Sugar-sweetened tonics and bitters, Fruit beverages with fruit content > or = 50%, Vegetable beverages, Flavoured milk beverages, Plant-based beverages without added sugar, Sugar-sweetened plant-based beverages, Alcohol-free beers without added sugar, Sugar-sweetened alcohol-free beers), but it should be noted that alcohol-free beers were not collected at T0.
- Higher at T0 in 10 subcategories out of 27 (Sugar-sweetened and artificially-sweetened colas, Tea beverages without added sugar, Sugar-sweetened and artificially-sweetened tea beverages, Sugar-sweetened tea beverages, Flavoured sugar-sweetened waters, Fruit beverages without added sugar, Sugar-sweetened fruit beverages)

¹ The T0 data for the Soft drinks category was collected over the range of 2018-2019 and in 2020. This is due to the fact that in Austria the data collection for milk and plant based beverages subcategories was done together with the other fresh dairy products and desserts in the years 2018 and 2019. All other products in the Soft drinks category were collected in the year 2020. In Figure 7 only the year 2020 is displayed, but it refers to the years 2018-2020.

beverages, Energy drinks without added sugar, Sugar-sweetened energy drinks, Other sugar-sweetened beverages).

- Identical for 7 subcategories out of 27 (Colas without added sugar, Sugar-sweetened colas, Flavoured waters without added sugar, Flavoured sugar-sweetened and artificially-sweetened waters, Sugar-sweetened and artificially-sweetened fruit beverages, Sugar-sweetened and artificially-sweetened energy drinks, Other beverages without added sugar).

1.2.3 Analysis of the evolution of the food offer

1.2.3.1 Bread products

Due to a lack of pre-existing data (T0) for the category “Bread products”, there is no figure for this category.

1.2.3.2 Breakfast cereals

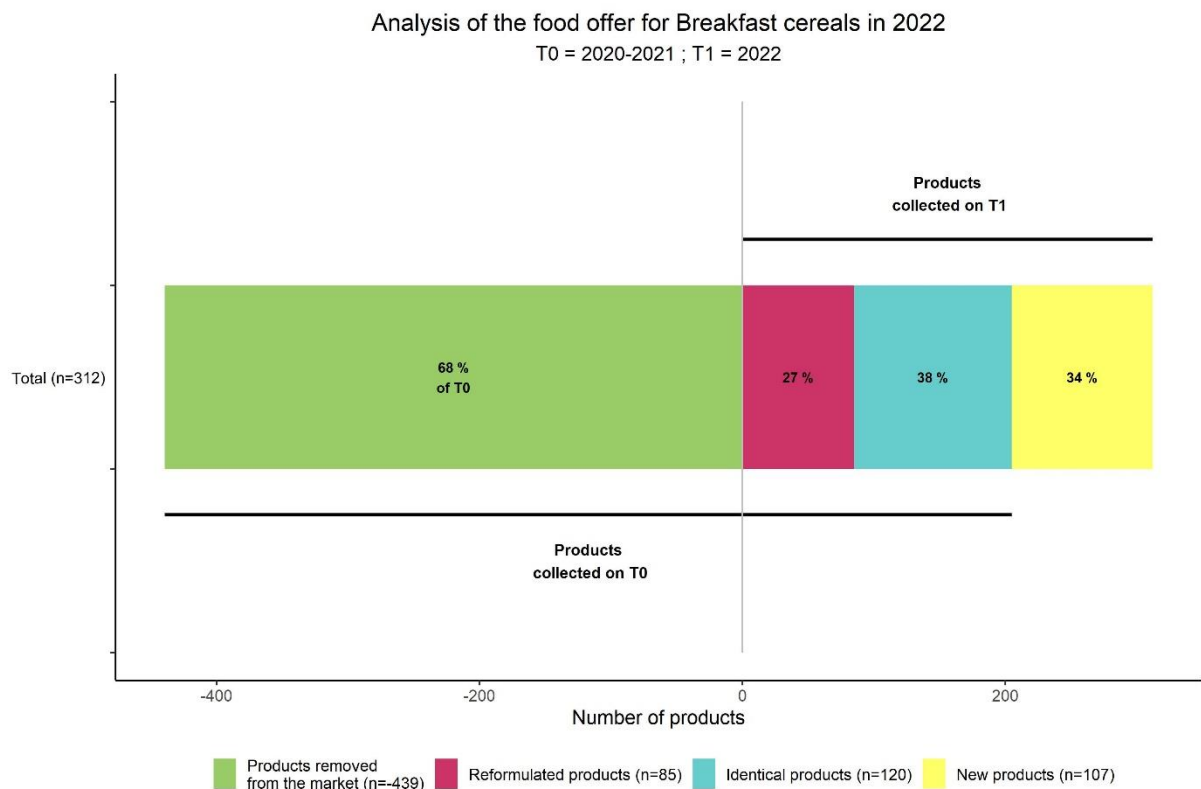


Figure 8 : Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Breakfast cereals

The comparison of data at the two times of data collections (T0 and T1) among Breakfast cereals category (Figure 8) shows that:

- Identical products represent a narrow majority of the data collected in 2022 (38% of T1 data collection).
- 34% are products added to the market in 2022 (T1), which indicates that the number of new products and identical products is nearly equal.
- 27% of products were already present in 2020-2021 (T0) but have been reformulated in 2022 (T1)
- A large number of products collected in 2020-2021 cannot be found in 2022 (T1). Not all of these products can be considered as removed from the market - the amount of products at T0 not found at T1 can be explained by differences in data collection methodology and product inclusion criteria used at T0.

1.2.3.3 Delicatessen meats and similar

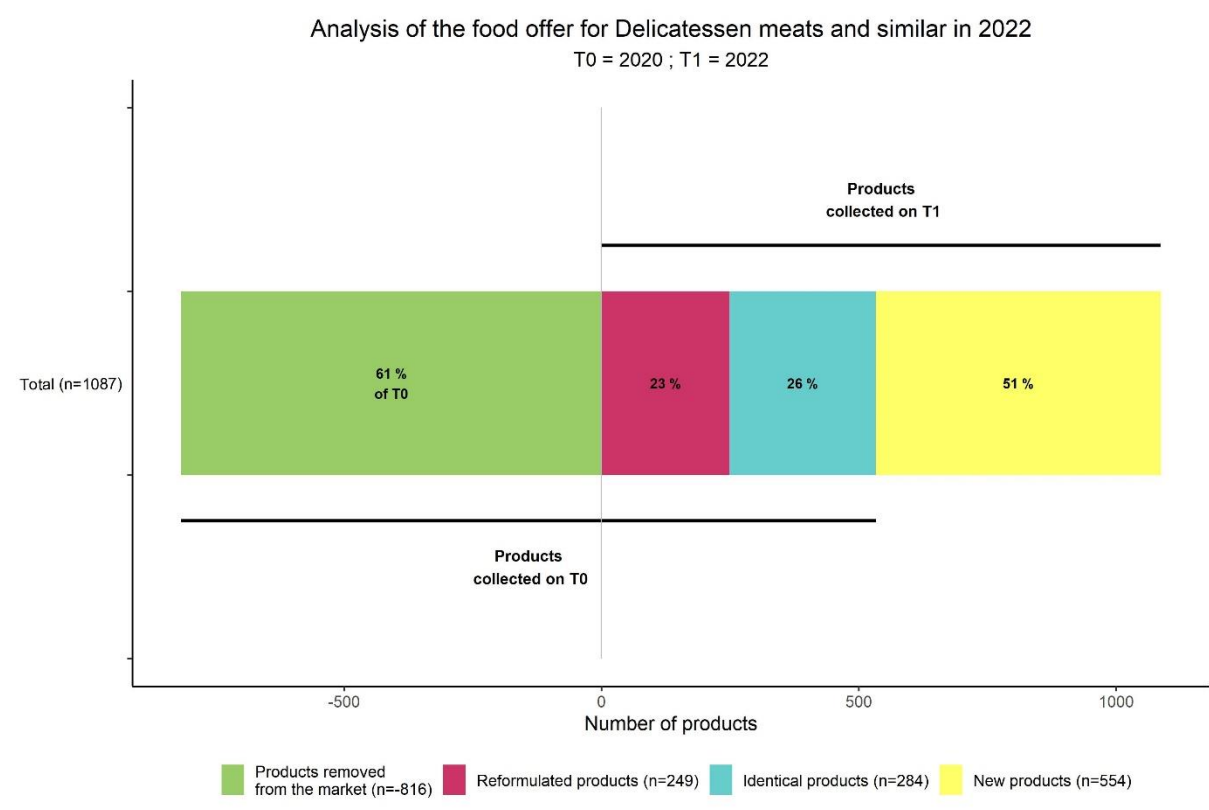


Figure 9 : Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Delicatessen meats and similar

The comparison of data collected between T0 and T1 in the Delicatessen meats and similar category (Figure 9) shows that:

- The majority of products collected in 2020 (T0) are not found in data collected in 2022 (T1), therefore are considered as removed from the market (61% of T0 data collection). However, the different numbers could also be attributed to different data collection methodologies between T0 and T1.
- Products added to the market represent another large group of the data collected in 2022 (T1) (51% of T1 data collection), reflecting a strong renewal of the offer. It may also be caused by the fact that the previous snapshot did not contain all products available on the market.
- 23% of the products were already present in 2020 (T0) but have been reformulated in 2022 (T1),
- 26% of the products were identical between the two data collections.

1.2.3.4 Fresh dairy products and desserts

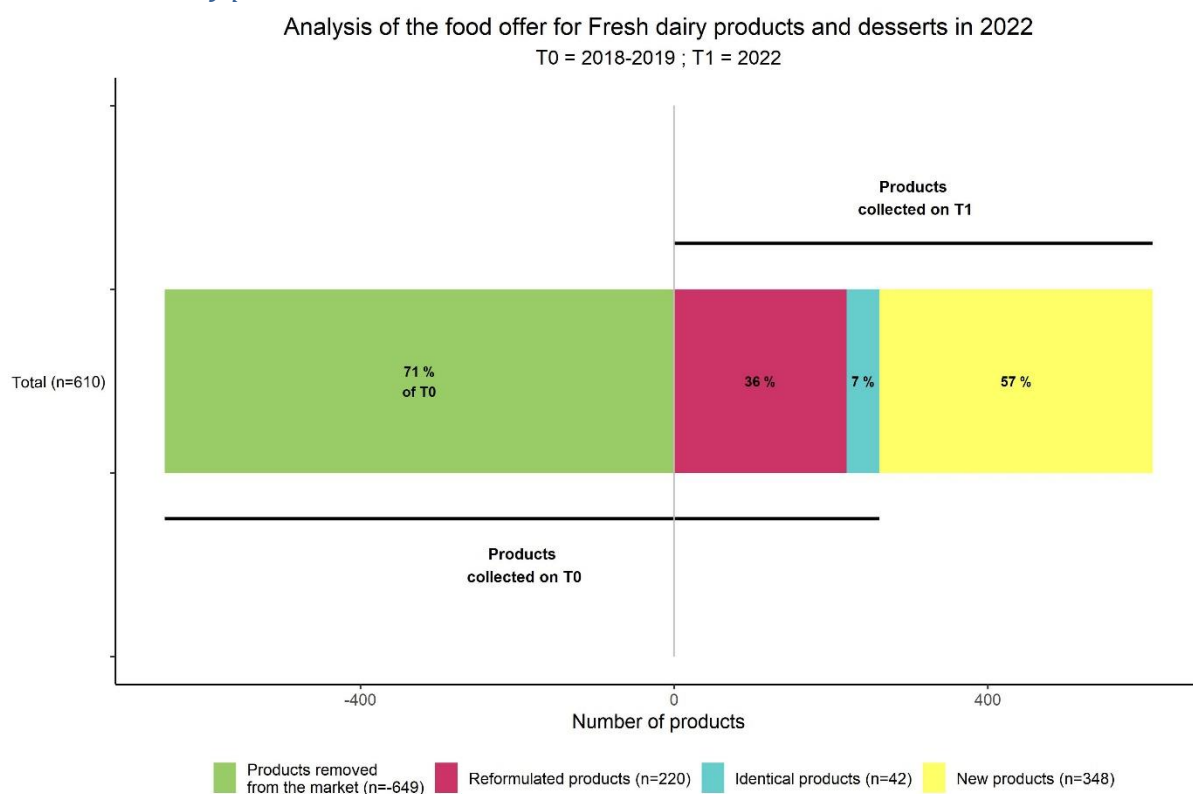


Figure 10 : Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Fresh dairy products and desserts

The comparison of data collected between T0 and T1 in the Fresh dairy products and desserts category (Figure 10) shows that:

- Products added to the market represent the majority of the data collected in 2022 (T1) (57% of T1 data collection), reflecting a strong renewal of the offer (it may also be caused by the fact that the previous snapshot did not enable to have all products available on the market).
- A majority of products collected in 2018-2019 (T0) are not found in data collected in 2022 (T1), therefore are considered as removed from the market (71% of T0 data collection). However, these could also be products that were not available at the second snapshot data collection. Another reason could be differences in data collection methodology and product inclusion criteria.
- 36% of the products were already present in 2018-2019 (T0) but have been reformulated in 2022 (T1),
- 7% of the products were identical between the two data collections.

1.2.3.5 Soft drinks

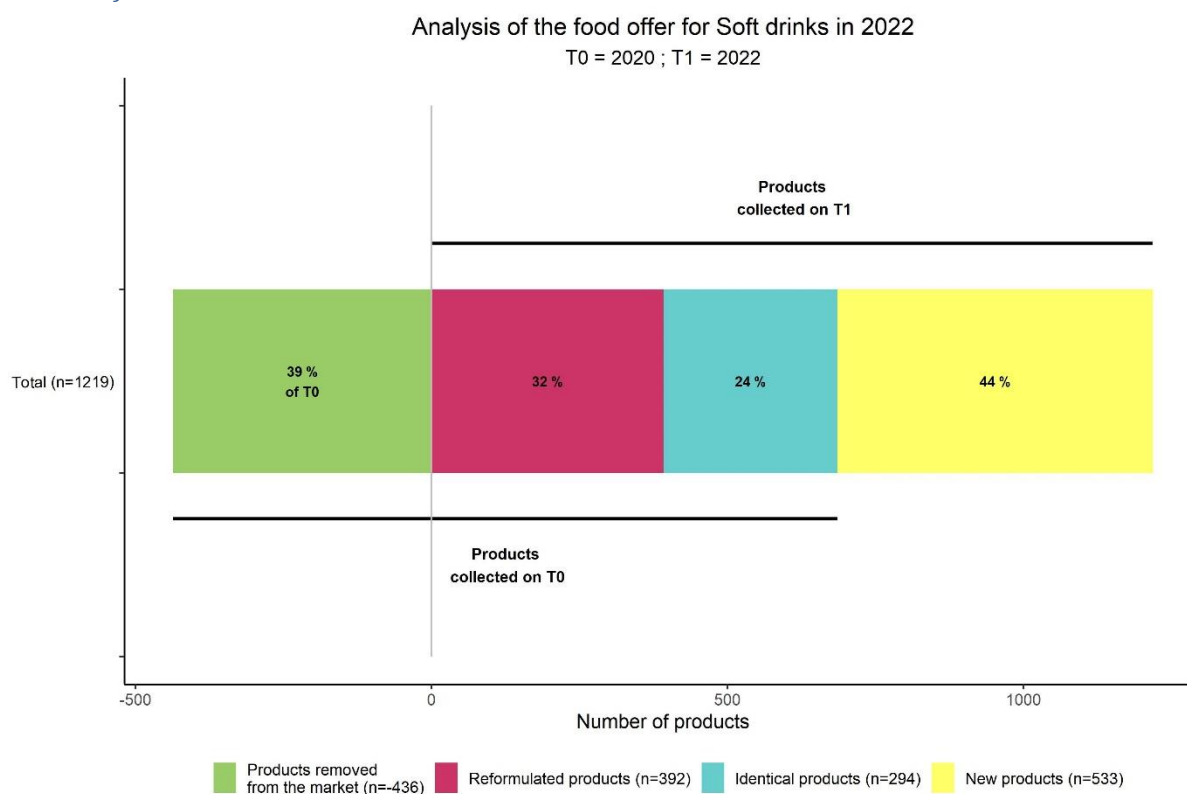


Figure 11 : Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Soft drinks

The comparison of data collected between T0 and T1 in the Soft drinks category (Figure 11) shows that:

- Products added to the market represent the majority of the data collected in 2022 (T1) (44% of T1 data collection), reflecting a strong renewal of the offer (it may also be caused by the fact that the previous snapshot did not enable to have all products available on the market or may be explained by differences in methodology and inclusion criteria used at T0 compared to T1),
- A majority of products collected in 2018-2020 (T0) are not found in data collected in 2022 (T1), therefore are considered as removed from the market (39% of T0 data collection), but it can also be products that were not available at the time of the second snapshot data collection,
- 32% of the products were already present in 2018-2020 (T0) but have been reformulated in 2022 (T1),
- 24% of the products were identical between the two data collections.

2 Analysis of labeling parameters

2.1 Front of pack labeling, state of play of T1 data, per category

It should be noted that only data collected during Best-Remap (T1) are described in this section because the presence of front of pack labeling was not always recorded in pre-existing data. Therefore, this section (2.1) will only describe 2022 (T1) data.

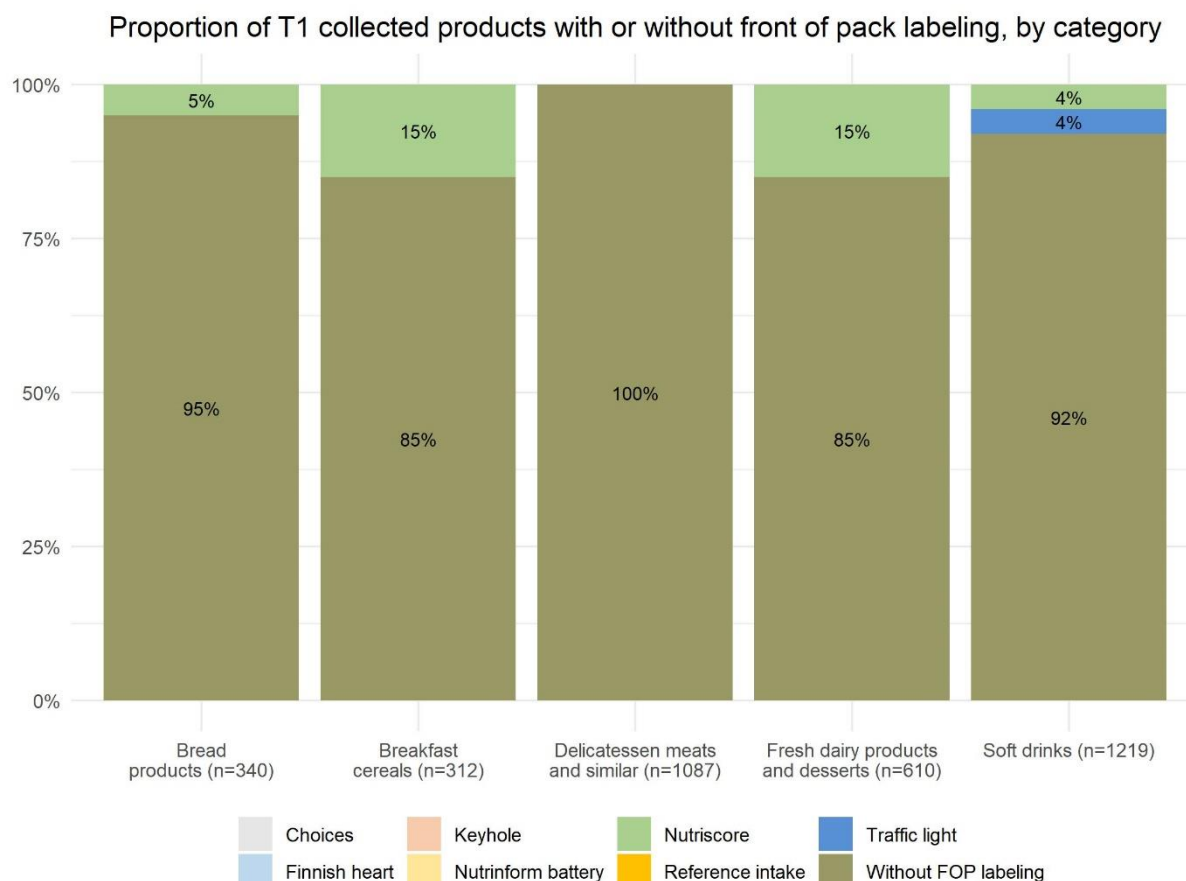


Figure 12 : Proportion of products with or without front of pack labeling, by category

Figure 12 shows the distribution of front-of-pack labeling by category across data collected in 2022 (T1). For all categories, the majority of products are without FOP labeling: 95% of Bread products, 85% of Breakfast cereals, 100% of Delicatessen meats and similar, 85 % of Fresh dairy products and desserts and 92% of Soft drinks.

In four categories out of five, the Nutriscore logo is found on the front of packages: Bread products (5% of the products); Breakfast cereals (15%); Fresh dairy products and desserts (15%) and Soft drinks (4%).

A small number of products have the Nutriform battery on the front of their packaging (4% of the Soft drinks).

2.2 Evolution of the quantified portion size

2.2.1 Evolution of the proportion of products with or without quantified portion size

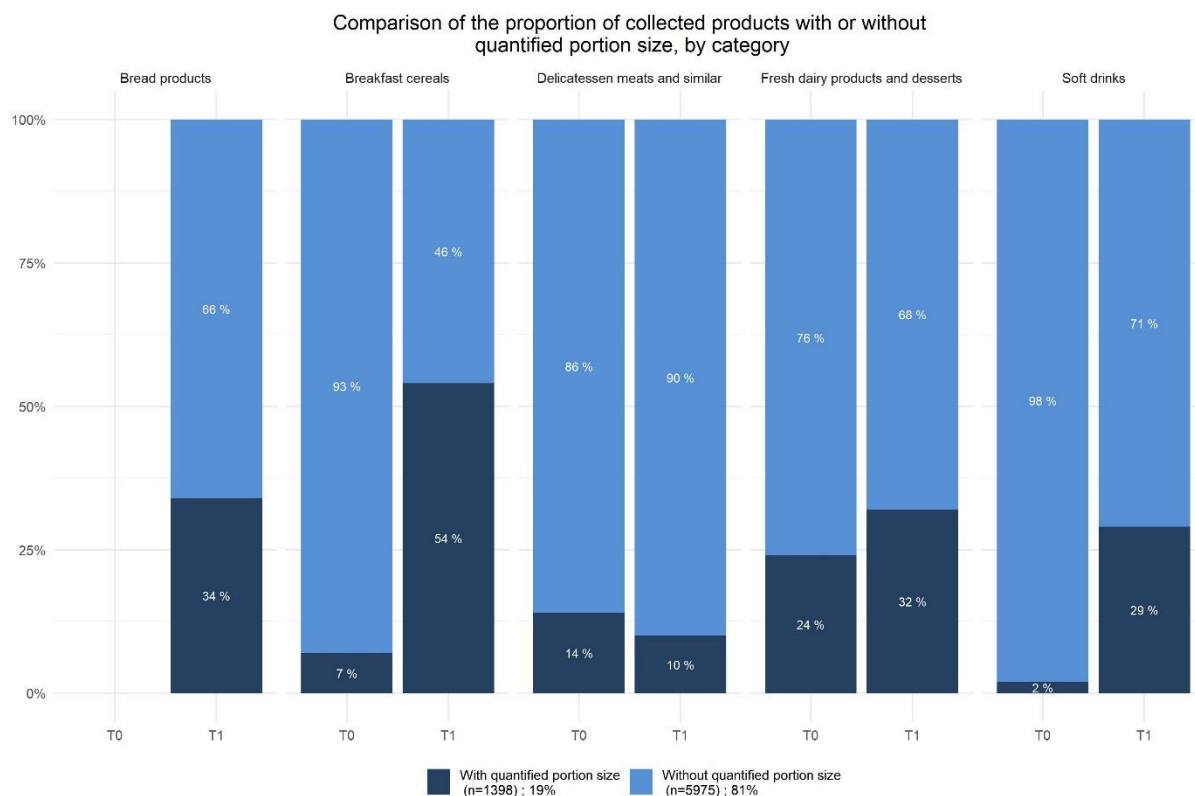


Figure 13 : Evolution of the proportion of collected products with or without quantified portion size, between T0 and T1, per category

Between 2018-2021 (T0) and 2022 (T1), the number of products with a quantified portion size (Figure 13) has increased for Breakfast cereals (7% in 2020-2021 vs. 54% in 2022), Fresh dairy products and desserts (24% in 2018-2019 vs. 32% in 2022) and Soft drinks (2% in 2018-2020 vs. 29% in 2022) and slightly decreased for Delicatessen meats and similar (14% in 2020 vs. 10% in 2022).

It should be noted that the parameter 'quantified portion size' was not collected for all products during T0, so comparisons are only partly relevant.

2.2.2 Proportion of the most represented portion sizes, per category

The study of the size of quantified labeled portion sizes at both times is an indicator of the evolution of the serving sizes indicated by the manufacturers. The evolution of this parameter can potentially influence the quantities consumed and therefore the intake of nutrients.

2.2.2.1 Bread products

Due to a lack of pre-existing data (T0) there is no figure for the category “Bread products”.

2.2.2.2 Breakfast cereals

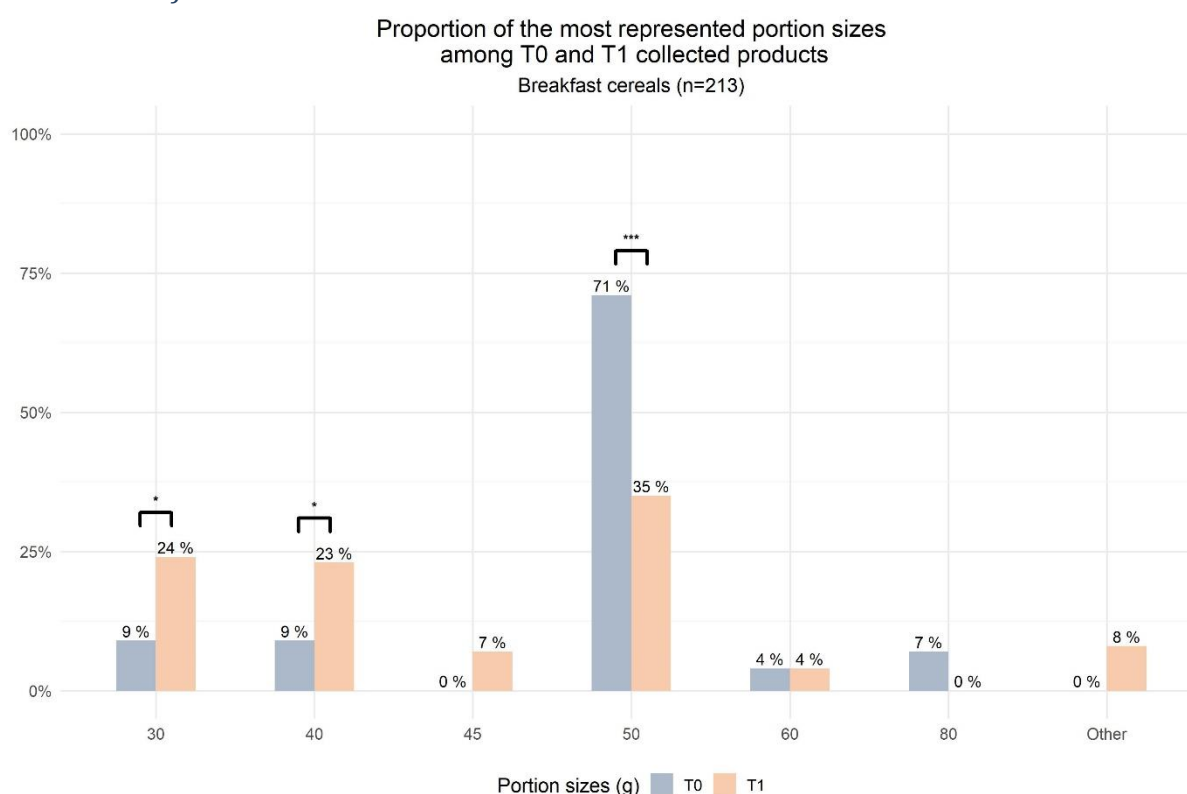


Figure 14 : Distribution of the size of the 5 most represented quantified portions in 2020-2021 (T0) and 2022 (T1) in Breakfast cereals category¹

Figure 14 depicts the most common portion sizes found in the two data collections. In 2020-2021 the most represented portion size was 50g (71%), whereas the other four most common portion sizes (30g, 40g, 60g, 80g) were represented by less than 10% respectively. In 2022 50g, 30g and 40g were the most represented portion sizes, representing more than 80% of collected products (82%).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

2.2.2.3 Delicatessen meats and similar

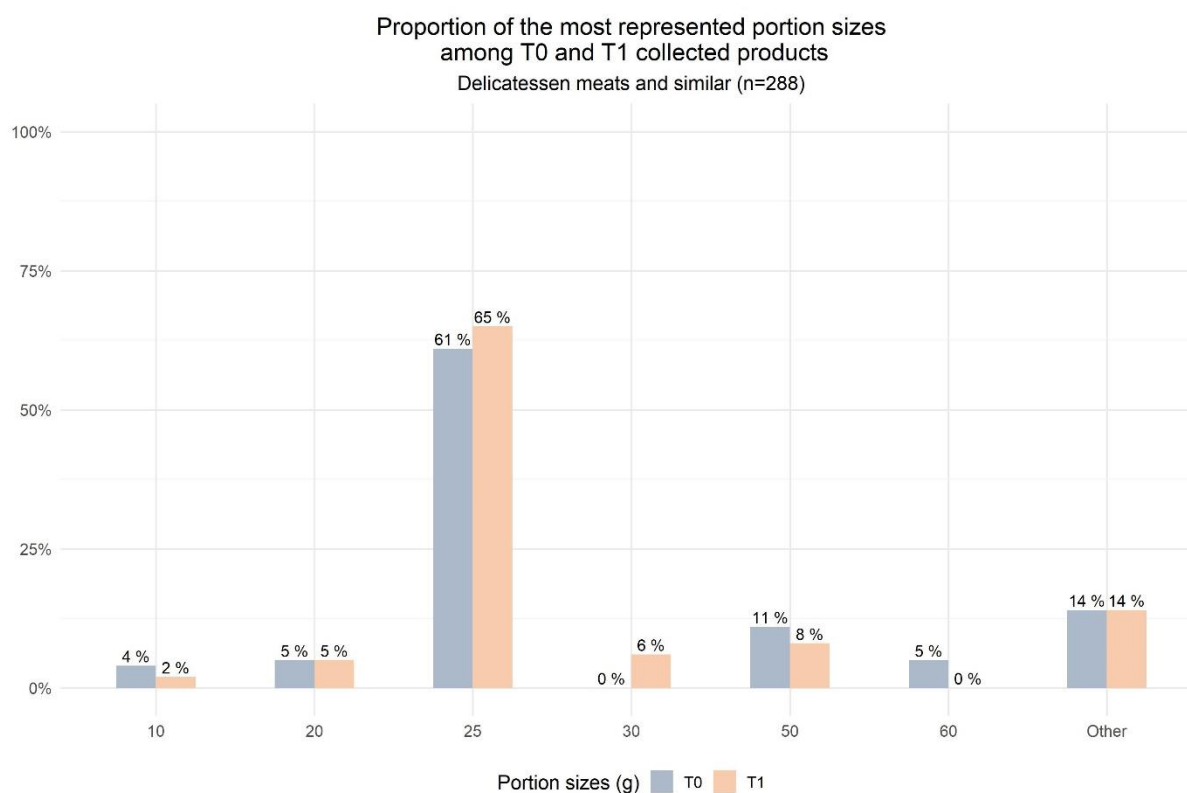


Figure 15 : Distribution of the size of the 5 most represented quantified portions in 2020 (T0) and 2022 (T1) in Delicatessen meats and similar category¹

Between 2020 and 2022, the most represented portion sizes were very similar (Figure 15). Most of the products collected in 2020 and 2022 had a portion size of 25g (61% in 2020, 65% in 2022), while the other most common portion sizes (10g, 20g, 30g, 50g and 60g) ranged between 0% and 11%. 'Other' portion sizes accounted for 14% in both 2020 and 2022.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

2.2.2.4 Fresh dairy products and desserts

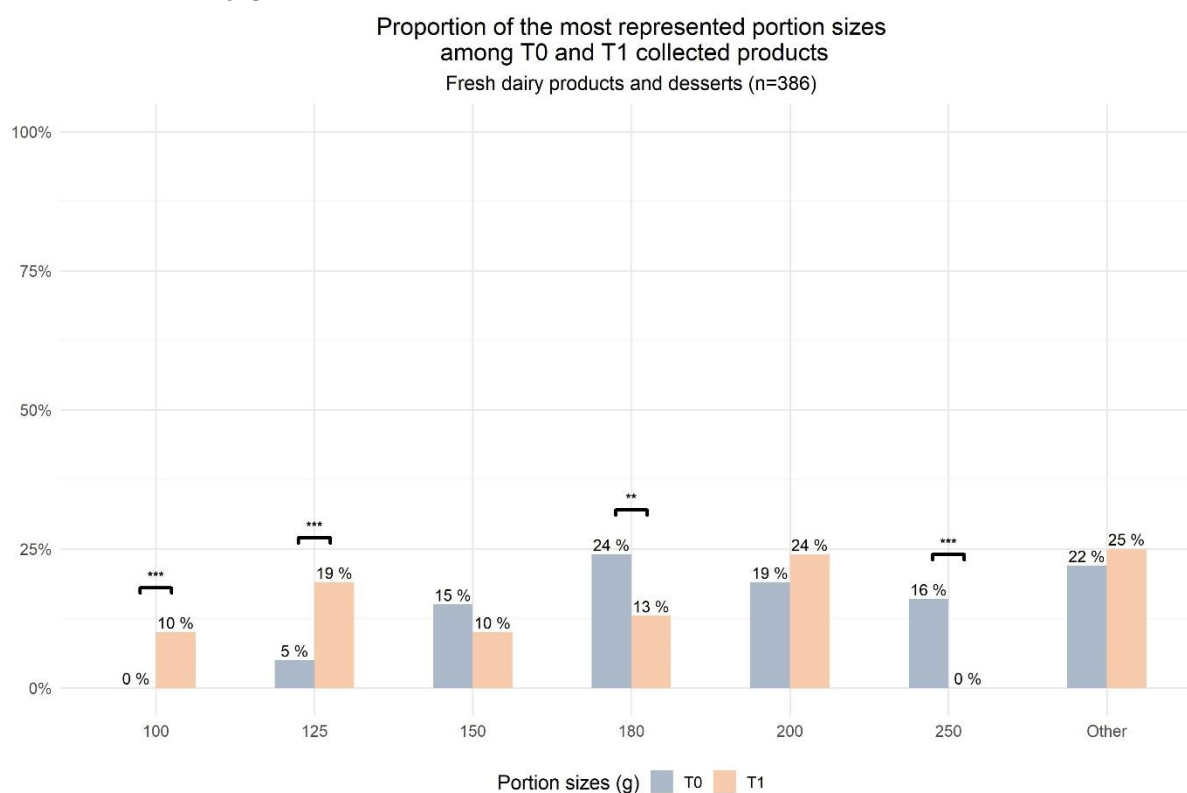


Figure 16 : Distribution of the size of the 5 most represented quantified portions in 2018-2019 (T0) and 2022 (T1) in Fresh dairy products and desserts category¹

Figure 16 shows the most common portion sizes found in the two data collections. Overall it appears that the portion sizes were smaller in 2022 (T1) than in 2018-2019 (T0). The most frequent portion sizes ranged from 100g to 200g at T1 and from 125g to 250g at T0. At T1, there were significantly more products with a portion size of 100g and 125g. Conversely, the number of products with a portion size of 180g and 250g has significantly decreased between T0 and T1.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

2.2.2.5 Soft drinks

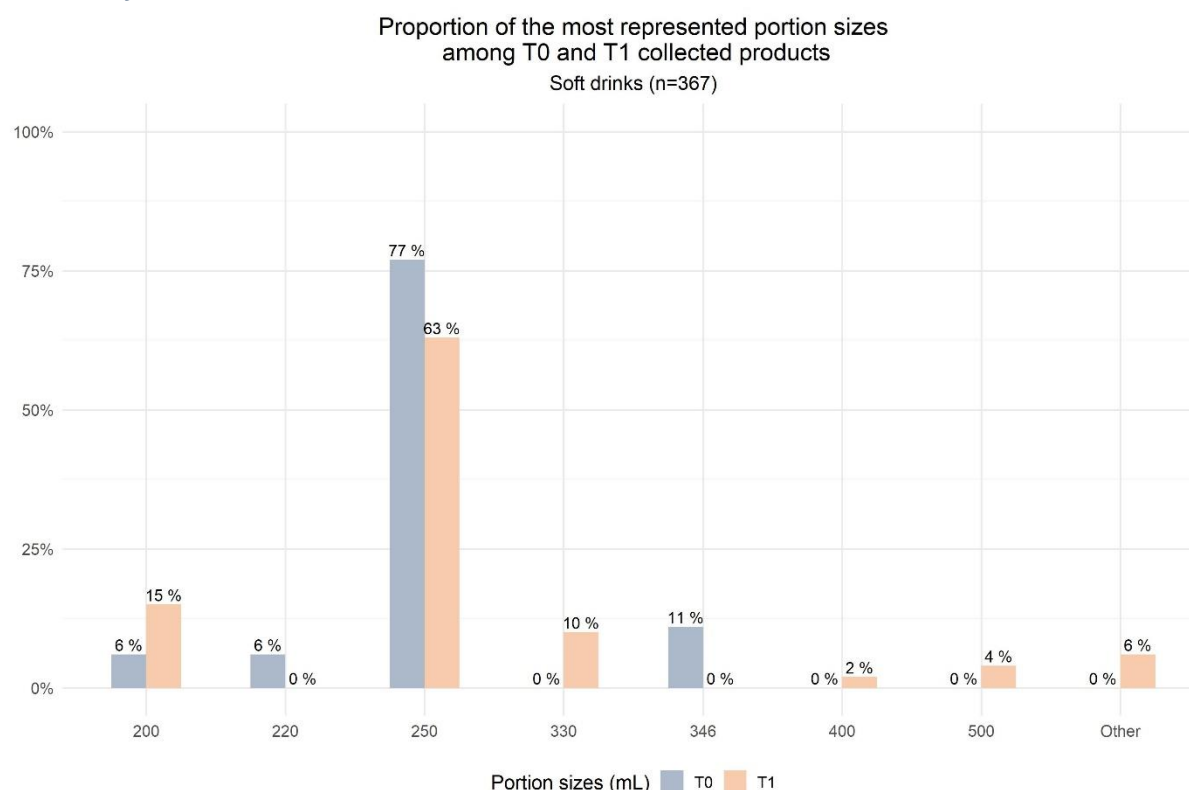


Figure 17 : Distribution of the size of the 5 most represented quantified portions in 2018-2020 (T0) and 2022 (T1) in Soft drinks¹

In Figure 17, the most common portion sizes of the two snapshots are depicted. The great majority of products showed a portion size of 250ml in both T0 and T1 (77% at T0, 63% at T1). While there were only four different portion sizes present in 2018-2019/2020 (T0) (200ml, 220ml, 250ml and 346ml), in 2022 (T1), the most common portion sizes were more diverse and ranged between 200 and 500ml.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

3 Evolution of labeled nutritional values

3.1 Evolution of the labeling frequency

The first parameter examined is the frequency of nutritional value labels on the packages. Table 3 presents the proportion of products with nutritional values labeled, divided by nutrient and food category in the two collections.

Between the two data collections (T0:2018-2021; T1:2022), the frequency of labeling remains systematic and constant for protein, fat, saturated fat, carbohydrates, sugars and salt.

For fibre, where the labeling is not mandatory, there is an increasing trend in its labeling (+3%) in the Breakfast cereals category and a decreasing trend (-11%, -5%, -2%) in the other categories in which fibre is monitored (respectively Delicatessen meats and similar; Fresh dairy products and desserts; Soft drinks).

It should be noted that the methodology for data collection was different at T1 compared to T0.

Table 3 : Evolution of the frequency of nutrient labeling among the categories

	Fat			Saturated fat			Sugar		
Category_name	T0	T1	Delta	T0	T1	Delta	T0	T1	Delta
Bread products (T0 : n=0 ; T1 : n=340)	-	100%	-	-	100%	-	-	100%	-
Breakfast cereals (T0 : n=643 ; T1 : n=312)	100%	100%	0	100%	100%	0	100%	100%	0
Delicatessen meats and similar (T0 : n=1314 ; T1 : n=1087)	100%	100%	0	100%	100%	0	100%	100%	0
Fresh dairy products and desserts (T0 : n=901 ; T1 : n=610)	100%	100%	0	100%	100%	0	100%	100%	0
Soft drinks (T0 : n=947 ; T1 : n=1219)	98% ¹⁾	100%	+2	97% ¹⁾	100%	+3	99%	100%	+1

Table 3 (continued)

	Protein			Salt			Fibre		
Category_name	T0	T1	Delta	T0	T1	Delta	T0	T1	Delta
Bread products (T0 : n=0 ; T1 : n=340)	-	100%	-	-	100%	-	-	61%	-
Breakfast cereals (T0 : n=643 ; T1 : n=312)	100%	100%	0	100%	100%	0	89%	92%	+3
Delicatessen meats and similar (T0 : n=1314 ; T1 : n=1087)	100%	100%	0	100%	100%	0	32%	21%	-11
Fresh dairy products and desserts (T0 : n=901 ; T1 : n=610)	100%	100%	0	100%	100%	0	21%	16%	-5
Soft drinks (T0 : n=947 ; T1 : n=1219)	98% ¹⁾	100%	+2	99% ¹⁾	100%	+1	23%	21%	-2

¹⁾ The missing nutritional values in the Soft drinks category at T0 are partly due to the fact that some products were labeled 'contain small amounts of ...', which were not taken into account at T0 (only at T1).

3.2 Evolution of the nutritional composition, by category

3.2.1 Bread products

Due to a lack of pre-existing data (T0) there is no figure for the category “Bread products”.

3.2.2 Breakfast cereals

The nutrients considered for the analysis of the evolution of Breakfast cereals are: Fat, Saturated fat, Sugar, Fibre and Salt.

3.2.2.1 Evolution of the fat content among the subcategories

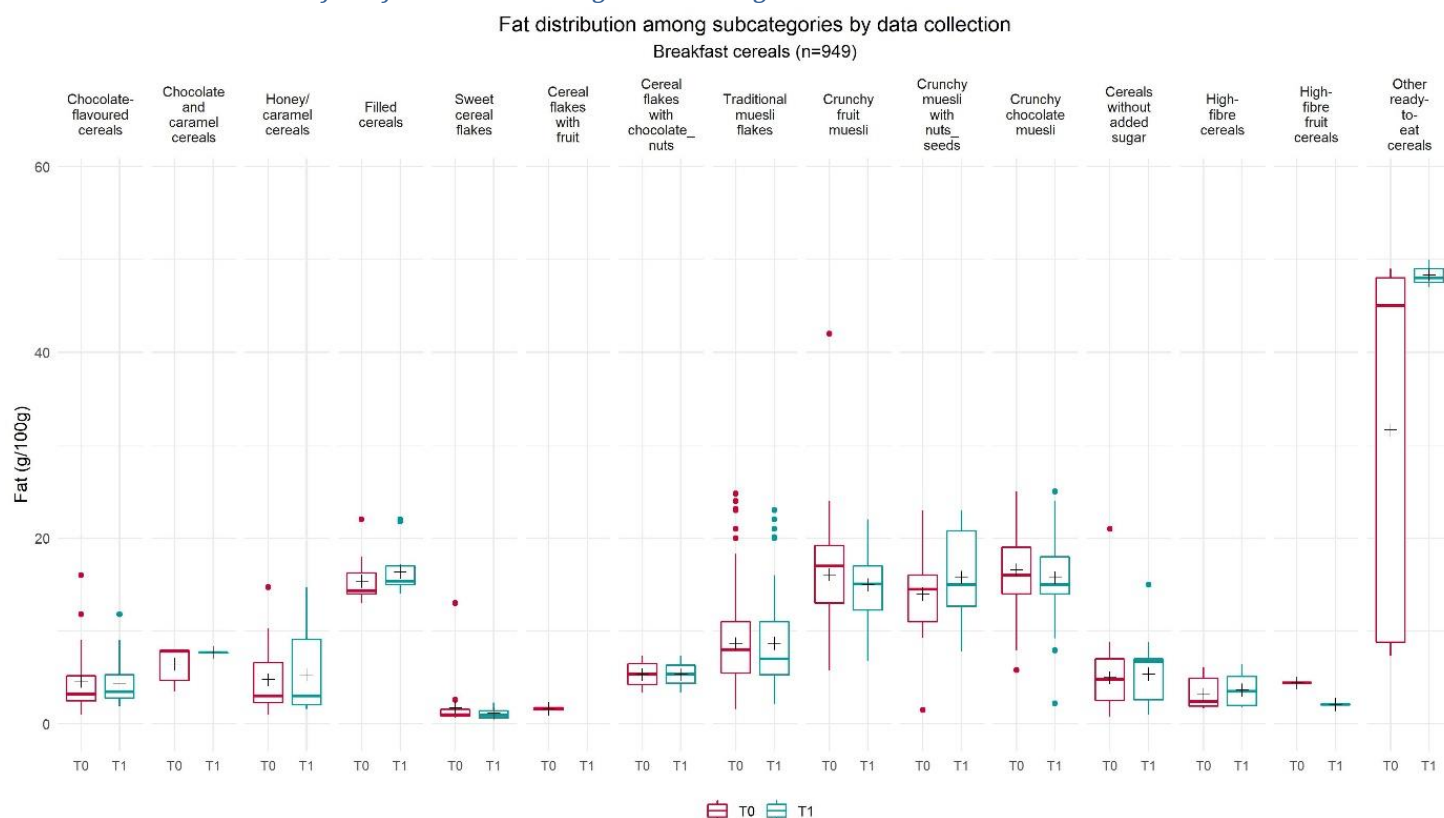


Figure 18 : Fat distribution among subcategories of Breakfast cereals¹

Figure 18 shows the fat distribution of Breakfast cereals between 2020-2021 (T0) and 2022 (T1) by subcategories. No significant decrease of the average fat content can be observed among the 15 subcategories.

The variability (range) of the fat content differs according to the subcategories. The products with the biggest variability at T0 and T1, possibly showing a potential for reformulation, are: Crunchy fruit muesli (2020-2021, n=84; 2022, n=50), Traditional muesli flakes (2020-2021, n=245; 2022, n=87), Crunchy muesli with nuts_seeds (2020-2021, n=20; 2020-2021, n=18), Cereals without added sugar (2020-2021, n=100; 2022, n=31) and Crunchy chocolate muesli (2020-2021, n=61; 2022, n=45).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

There is a considerable variability in fat content at T0 compared with T1 in the subcategories: Other ready-to-eat cereals (2020-2021, n=5; 2022, n=3), Crunchy fruit mueslis (2020-2021, n=84; 2022, n=50) or Sweet cereal flakes (2020-2021, n=23; 2022, n=14).

3.2.2.2 Evolution of the fat content for paired products

Table 4 gives an overview of the differences in the average fat content between 2020-2021 (T0) and 2022 (T1) for all products as well as for paired products.

No significant differences are observed among paired products between the two snapshots.

Table 4 : Summary of the evolution of the average fat content for Breakfast cereals, by subcategory¹

Subcategory_name	Fat					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	4.4	-0.2	-4.7%	4.6	+0.2	+5.6%
Chocolate and caramel cereals	7.7	+1.3	+19.7%	7.7	-0.1	-1.3%
Honey/caramel cereals	5.3	+0.5	+10.6%	5.1	+0.04	+0.7%
Filled cereals	16.4	+1	+6.4%	15.9	+0.3	+2.2%
Sweet cereal flakes	1.1	-0.6	-33.5%	1.2	+0.02	+2%
Cereal flakes with fruit						
Cereal flakes with chocolate_nuts	5.3	0	0%	5.3	-0.6	-9.3%
Traditional muesli flakes	8.7	+0.02	+0.2%	9	+0.3	+3.2%
Crunchy fruit muesli	15	-1.1	-6.8%	15.5	+0.08	+0.5%
Crunchy muesli with nuts_seeds	15.8	+1.8	+12.9%	16	-0.7	-4.5%
Crunchy chocolate muesli	15.8	-0.8	-5%	16.6	-0.2	-1.2%
Cereals without added sugar	5.4	+0.4	+7.8%	4.9	+0.01	+0.2%
High-fibre cereals	3.7	+0.5	+15.5%	3.4	-0.05	-1.4%
High-fibre fruit cereals	2.1	-2.3	-52.3%			
Cereal preparation to drink						
Other ready-to-eat cereals	48.3	+16.7	+52.9%	50	+2	+4.2%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.2.3 Evolution of the saturated fat content among the subcategories



Figure 19 : Saturated fat distribution among subcategories of Breakfast cereals¹

In Figure 19 the distribution of the saturated fat content of breakfast cereals between 2020-2021 (T0) and 2022 (T1) is depicted. Among all subcategories no significant differences in the saturated fat content can be observed between the two data collections.

The variability (range) of the saturated fat content differs among the subcategories. The subcategories with the highest variability at T0 and T1, possibly showing a potential for reformulation, are: Crunchy chocolate muesli (2020-2021, n=61; 2022, n=45), Traditional muesli flakes (2020-2021, n=245; 2022, n=87) and Crunchy fruit muesli (2020-2021, n=84; 2022, n=50).

The subcategory Other ready-to-eat cereals (2020-2021, n=5; 2022, n=3) shows a high variability at T0 but not at T1, which may be caused by the differences in data collection and products included.

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.2.4 Evolution of the saturated fat content for paired products

Table 5 summarizes the differences in the saturated fat content of all breakfast cereal products and paired products at T0 and T1.

For one subcategory, Traditional muesli flakes, a significant increase in the mean content of saturated fat can be observed at the level of paired products (+0.1g/100g; +4.4%). The elevated saturated fat content can be explained by an outlier, which is a paired product that has experienced major changes in composition between the two snapshots.

Table 5 : Summary of the evolution of the average saturated fat content for Breakfast cereals, by subcategory¹

Subcategory_name	Saturated fat					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	1.2	-0.2	-14.4%	1.3	+0.03	+2.5%
Chocolate and caramel cereals	1.3	+0.05	+4%	1.3	-0.05	-3.7%
Honey/caramel cereals	0.7	-0.3	-29.3%	0.7	+0.02	+2.6%
Filled cereals	3.9	+0.1	+2.7%	3.8	0	0%
Sweet cereal flakes	0.2	-0.3	-54%	0.3	-0.03	-12%
Cereal flakes with fruit						
Cereal flakes with chocolate_nuts	1	+0.2	+20%	1	0	0%
Traditional muesli flakes	2.2	+0.1	+6.4%	2.5	+0.1*	+4.4%
Crunchy fruit muesli	3.9	-0.8	-17.9%	4.4	-0.3	-7%
Crunchy muesli with nuts_seeds	2.7	+0.3	+12%	2.3	-0.4	-13.6%
Crunchy chocolate muesli	5	-0.5	-9.6%	5.3	-0.2	-3.1%
Cereals without added sugar	1	+0.08	+9.6%	0.9	+0.02	+1.7%
High-fibre cereals	0.8	-0.2	-16.7%	1	-0.05	-4.8%
High-fibre fruit cereals	0.3	0	0%			
Cereal preparation to drink						
Other ready-to-eat cereals	24	+13.7	+133%	27	+1	+3.8%

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

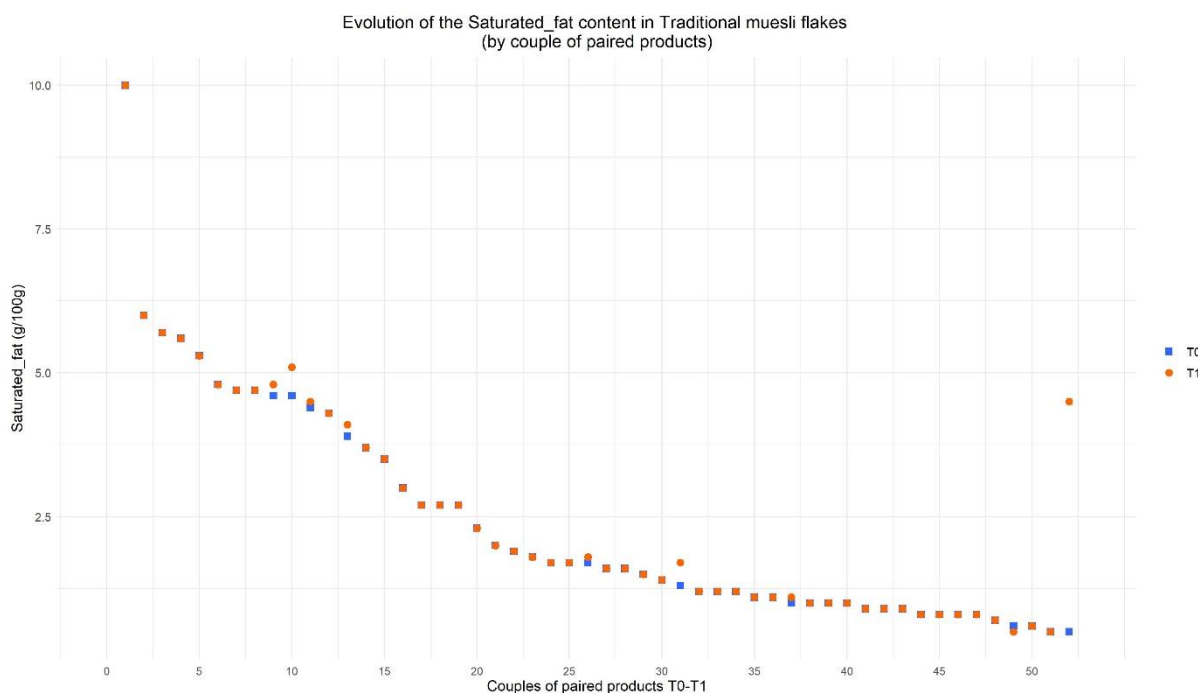


Figure 20 : Saturated fat content evolution between 2020-2021 and 2022 by couple of paired product for Traditional muesli flakes subcategory

Of the 52 couples of paired products in the subcategory Traditional muesli flakes (Figure 20), the majority (43 couples) have an equal saturated fat content at T0 and T1. Eight couples have a higher saturated fat content at T0 compared to T1. The observed increases range between +0.1g/100 g (couples 11; 26; 37) and +4g/100g (couple 52), whereby the high increase in couple 52 is due to major changes in composition between the two snapshots.

For only one paired couple a lower saturated fat content, of -0.1g/100g (couple 49), can be seen at T1 compared to T0.

It should be noted that there hasn't been any change in 2022 in the product with the highest saturated fat content in 2020-2021.

3.2.2.5 Evolution of the sugar content among the subcategories



Figure 21 : Sugar distribution among subcategories of Breakfast cereals¹

Figure 21 shows the distribution of the sugar content of Breakfast cereals between 2020-2021 (T0) and 2022 (T1) by subcategories. Among the data collected within the 15 subcategories for only one, Crunchy fruit muesli, a significant decrease in the average sugar content can be observed between the data collections (-2.4g/100g; -12.7%). This significant decrease of the sugar content at the subcategory level can partly be explained by differences in methodology and products included in the subcategory at the two snapshots.

Overall the variability (range) of the sugar content between the subcategories differs. The subcategories with the highest variability at T0 and T1, possibly showing a potential for reformulation, are: Crunchy fruit muesli (2020-2021, n=84; 2022, n=50), Traditional muesli flakes (2020-2021, n=245; 2022, n=87), Crunchy chocolate muesli (2020-2021, n=61; 2022, n=45); Crunchy muesli with nuts_seeds (2020-2021, n=20; 2022, n=18), High-fibre cereals (2020-2021, n=15; 2022, n=9) and Sweet cereal flakes (2020-2021, n=23; 2022, n=14).

Within the same subcategory the most variable sugar content between the two data collections can be observed for: Chocolate flavoured cereals (2020-2021, n=32; 2022, n=18), Crunchy fruit mueslis (2020-2021, n=84; 2022, n=50), Cereals without added sugar (2020-2021, n=100; 2022, n=31), Other ready-to-eat cereals (2020-2021, n=5; 2022, n=3) and Crunchy chocolate mueslis (2020-2021, n=61; 2022, n=45). With the exception of Crunchy chocolate muesli, all the subcategories mentioned have a lower variability at T1 compared to T0.

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.2.6 Evolution of the sugar content for paired products

Table 6 shows the differences in average sugar content for all Breakfast cereals products and paired products between the two snapshots.

For three out of the 15 subcategories, a significant decrease in the mean sugar content at the level of paired products is detected: Filled cereals (-1.2g/100g between T0 and T1; -3.9%), Crunchy fruit muesli (-0.8g/100g; -4.5%) and Crunchy chocolate muesli (-0.6g/100g; -2.8%). These significant decreases of the sugar content at the subcategory levels can possibly be linked to changes in the composition of some of the products.

Table 6 : Summary of the evolution of the average sugar content for Breakfast cereals, by subcategory ¹

Subcategory_name	Sugar					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	21.6	-0.6	-2.8%	20.7	-1.1	-5.3%
Chocolate and caramel cereals	25	-0.5	-1.9%	25	0	0%
Honey/caramel cereals	26.3	+0.8	+3%	26.1	0	0%
Filled cereals	27.3	-1.2	-4.1%	27.4	-1.2*	-3.9%
Sweet cereal flakes	8.2	+0.2	+3.1%	8.6	+0.008	+0.09%
Cereal flakes with fruit						
Cereal flakes with chocolate_nuts	27.4	+1.9	+7.8%	27.4	0	0%
Traditional muesli flakes	13.5	+0.3	+2%	15.9	-0.1	-0.8%
Crunchy fruit muesli	16.4	-2.4*	-12.7%	17	-0.8*	-4.5%
Crunchy muesli with nuts_seeds	13.4	-2.1	-13.2%	14.4	-2	-12%
Crunchy chocolate muesli	20.4	+0.04	+0.2%	21.8	-0.6**	-2.8%
Cereals without added sugar	1	-0.1	-11.7%	1	0	0%
High-fibre cereals	14.6	+0.9	+6.9%	13.4	-0.8	-5.4%
High-fibre fruit cereals	11	-6	-35.3%			
Cereal preparation to drink						
Other ready-to-eat cereals	2.9	-4	-57.8%	2.5	-0.2	-7.4%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

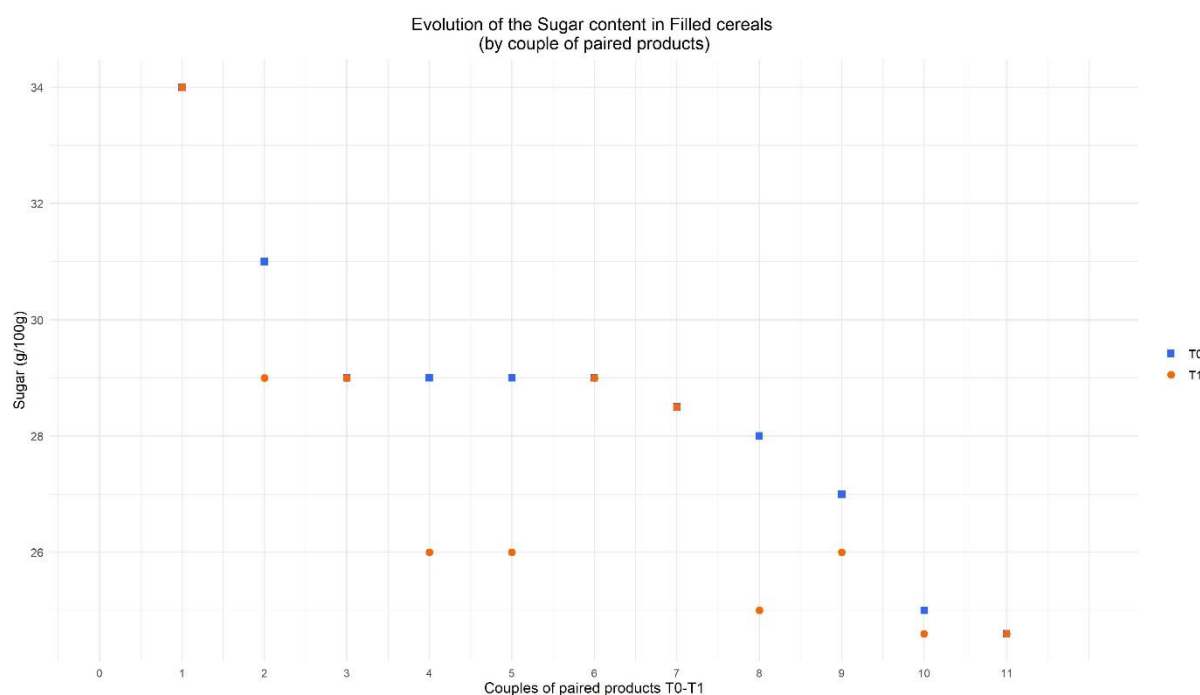


Figure 22 : Sugar content evolution between 2020-2021 and 2022 by couple of paired product for Filled cereals subcategory

Among the 11 couples of paired products of Filled cereals, five have an equal sugar content at T0 and T1, whereas six couples show a lower sugar content at the second snapshot compared to the first. The observed reductions range between -0.4g/100g (couple 10) and - 3g/100g (couples 4, 5 and 8). It should be noted that no change can be observed for the product with the highest sugar content at T0 – the value is the same at T1 (Figure 22).

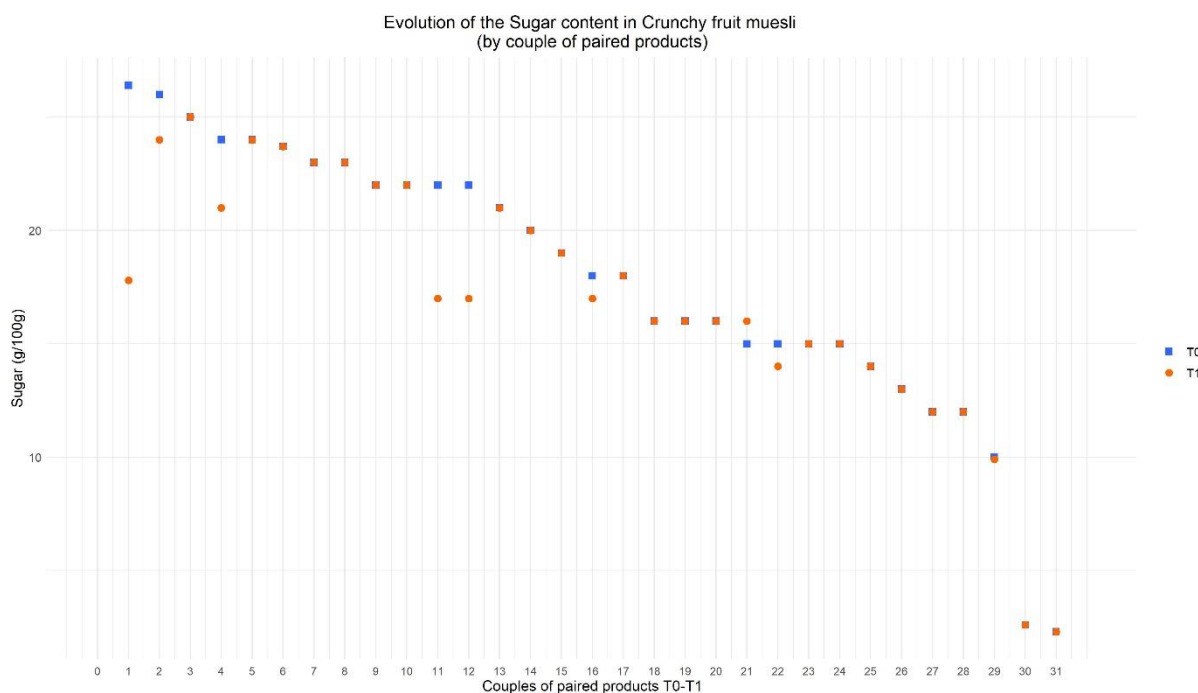


Figure 23 : Sugar content evolution between 2020-2021 and 2022 by couple of paired product for Crunchy fruit muesli subcategory

There are 31 couples of paired products for the subcategory Crunchy fruit muesli – of these, eight couples have a lower sugar content at T1 compared to T0. The observed reductions in 2022 compared to 2020-2021 range between -0.1g/100g (couple 29) and -8.6g/100g (couple 1).

22 couples show equal sugar contents in 2020-2021 and 2022, whereas one couple (21) has an increased sugar content at the second snapshot (+1g/100g) (Figure 23).

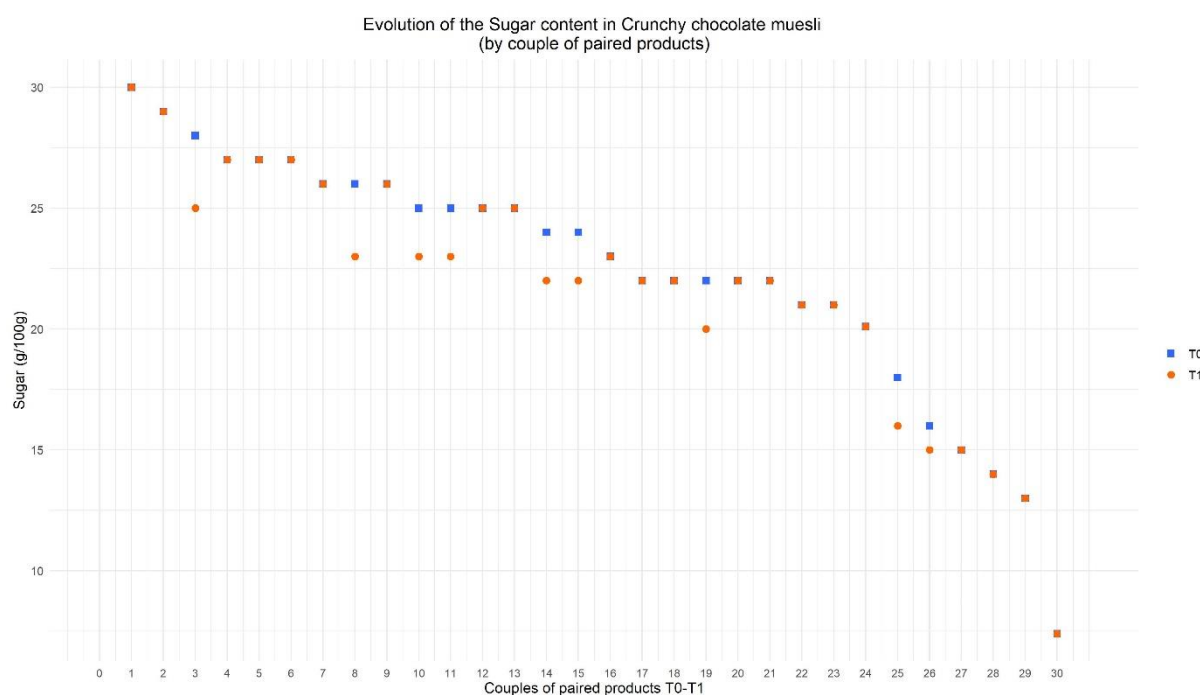


Figure 24 : Sugar content evolution between 2020-2021 and 2022 by couple of paired product for Crunchy chocolate muesli subcategory

Of the 30 couples of paired products in the subcategory Crunchy chocolate muesli, a decreased sugar content can be observed for nine paired couples at T1 compared to T0. The reductions range between -1g/100g (couple 26) and -3g/100g (couples 3, 8).

Among the other 21 couples, there are no changes of the sugar content between T0 and T1 (Figure 24).

3.2.2.7 Evolution of the fibre content among the subcategories

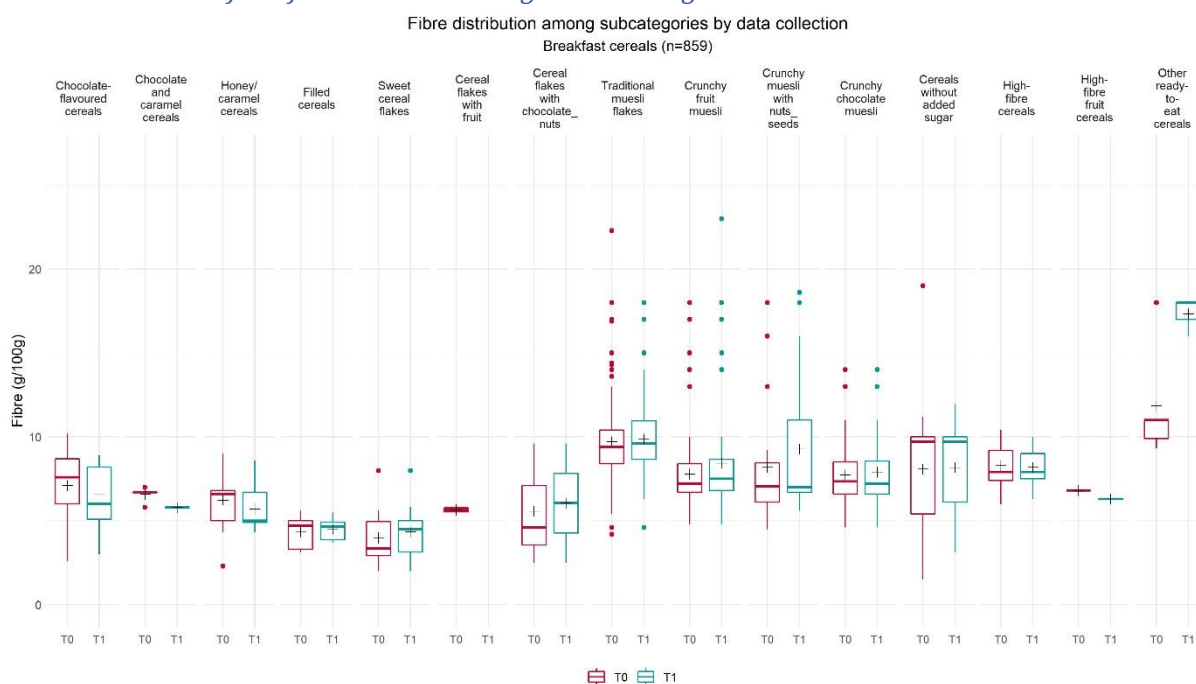


Figure 25 : Fibre distribution among subcategories of Breakfast cereals¹

In Figure 25, the fibre content distribution of the Breakfast cereals subcategories between the data collections in 2020-2021 and 2022 is depicted.

Among the 15 subcategories considered, no significant changes of the fibre contents can be observed between the two data collections. The variability (range) of the fibre content differs between the subcategories. Subcategories with the highest variability at both T0 and T1, possibly showing a potential for reformulation, are: Traditional muesli flakes (2020-2021, n=225; 2022, n=79), Crunchy fruit muesli (2020-2021, n=77; 2022, n=47), Crunchy muesli with nuts_seeds (2020-2021, n=18; 2022, n=17), Cereals without added sugar (2020-2021, n=89; 2022, n=29) and Crunchy chocolate muesli (2020-2021, n=56; 2022, n=43).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.2.8 Evolution of the fibre content for paired products

Table 7 gives an overview of the differences in average fibre content between 2020-2021 and 2022 for all products as well as for paired products.

No significant changes in the mean fibre content of paired products can be observed.

Table 7 : Summary of the evolution of the average fibre content for Breakfast cereals, by subcategory¹

Subcategory_name	Fibre					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	6.6	-0.6	-7.8%	6.6	+0.1	+1.9%
Chocolate and caramel cereals	5.8	-0.8	-11.9%	5.8	-0.5	-7.2%
Honey/caramel cereals	5.7	-0.5	-8.6%	5.9	-0.1	-2%
Filled cereals	4.5	+0.2	+3.5%	4.6	+0.1	+2.2%
Sweet cereal flakes	4.3	+0.4	+8.8%	4.3	+0.2	+5.8%
Cereal flakes with fruit						
Cereal flakes with chocolate_nuts	6	+0.5	+8.7%	6	0	0%
Traditional muesli flakes	9.9	+0.2	+1.7%	9.6	+0.4	+4.5%
Crunchy fruit muesli	8.4	+0.6	+8.2%	8.5	+0.07	+0.9%
Crunchy muesli with nuts_seeds	9.3	+1.1	+13.3%	10.1	+1.1	+12.6%
Crunchy chocolate muesli	7.9	+0.2	+2.2%	7.5	+0.06	+0.7%
Cereals without added sugar	8.2	+0.09	+1.2%	7.6	+0.3	+4.8%
High-fibre cereals	8.2	-0.1	-1.4%	8.8	+0.1	+1.5%
High-fibre fruit cereals	6.3	-0.5	-7.4%			
Cereal preparation to drink						
Other ready-to-eat cereals	17.3	+5.5	+46.4%	18	0	0%

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.2.9 Evolution of the salt content among the subcategories

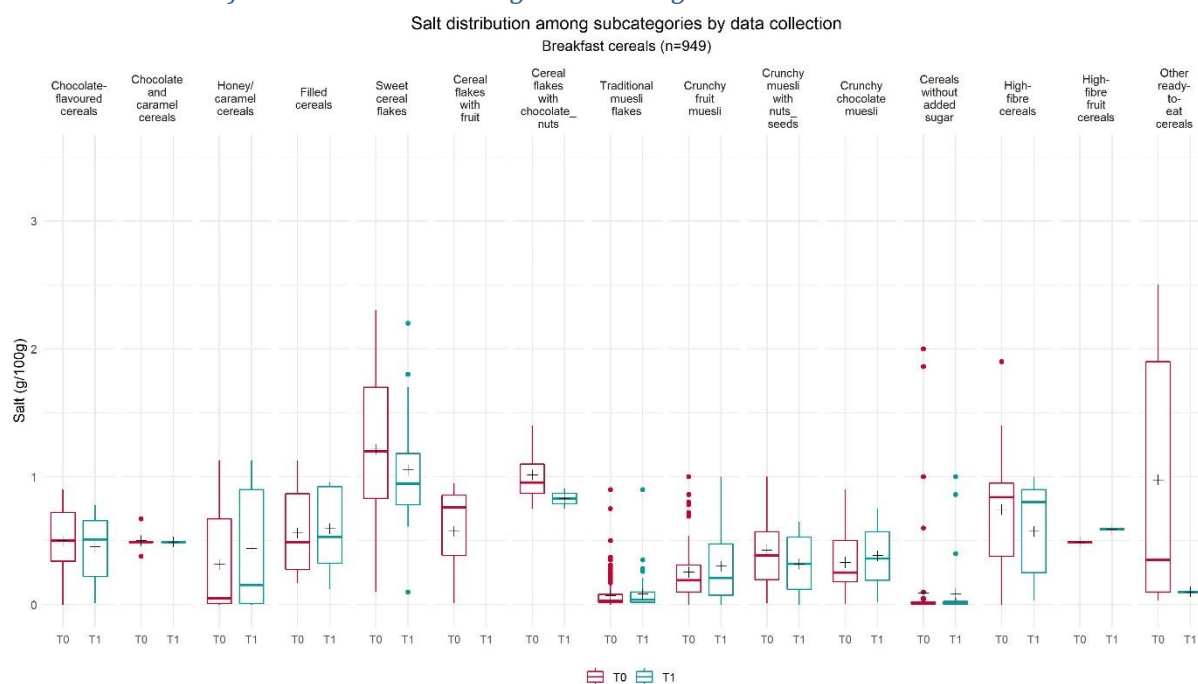


Figure 26 : Salt distribution among subcategories of Breakfast cereals¹

Figure 26 shows the distribution of salt content for the Breakfast cereals subcategories between 2020-2021 (T0) and 2022 (T1).

The salt content has not changed significantly in any of the 15 subcategories considered between the two data collections.

A variability of the salt content can be observed between the subcategories. The highest variability at both T0 and T1, possibly showing a potential for reformulation, can be seen for Sweet cereal flakes (2020-2021, n=23; 2022, n=14), High fibre cereals (2020-2021, n=15; 2022, n=9), Honey/caramel cereals (2020-2021, n=25; 2022, n=14) and Crunchy fruit muesli (2020-2021, n=84; 2022, n=50).

It has to be noted that a high variability could also be observed for Other ready-to-eat-cereals at T0 but not at T1 which can be explained by differences in methodology and products included in the two snapshots.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.2.10 Evolution of the salt content for paired products

Table 8 gives an overview of the differences in average salt content between T0 and T1 among all products as well as paired products.

In one of the 15 subcategories a significant decrease in the mean salt content have been detected, i.e. Chocolate-flavoured cereals (-0.069g/100g; -13.08%). The significant decrease of the salt content at the paired product level could possibly be explained by changes in composition in certain products, but is probably too low to be of relevance.

Table 8 : Summary of the evolution of the average salt content for Breakfast cereals, by subcategory¹

Subcategory_name	Salt					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	0.45	-0.046	-9.17%	0.46	-0.069*	-13.08%
Chocolate and caramel cereals	0.49	-0.012	-2.33%	0.49	0	0%
Honey/caramel cereals	0.44	+0.13	+40.49%	0.39	0	0%
Filled cereals	0.59	+0.034	+6.11%	0.61	-0.033	-5.07%
Sweet cereal flakes	1.05	-0.16	-13.24%	1.09	-0.009	-0.8%
Cereal flakes with fruit						
Cereal flakes with chocolate nuts	0.83	-0.18	-18.23%	0.83	0	0%
Traditional muesli flakes	0.08	+0.015	+20.99%	0.1	-0.007	-6.63%
Crunchy fruit muesli	0.3	+0.046	+17.92%	0.38	-0.014	-3.62%
Crunchy muesli with nuts_seeds	0.32	-0.11	-25.67%	0.41	-0.017	-4.05%
Crunchy chocolate muesli	0.38	+0.052	+15.79%	0.39	-0.013	-3.13%
Cereals without added sugar	0.09	-0.004	-4.81%	0.11	-0.05	-31.96%
High-fibre cereals	0.57	-0.17	-22.8%	0.54	-0.012	-2.13%
High-fibre fruit cereals	0.59	+0.1	+20.41%			
Cereal preparation to drink						
Other ready-to-eat cereals	0.1	-0.88	-89.75%	0.1	0	0%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

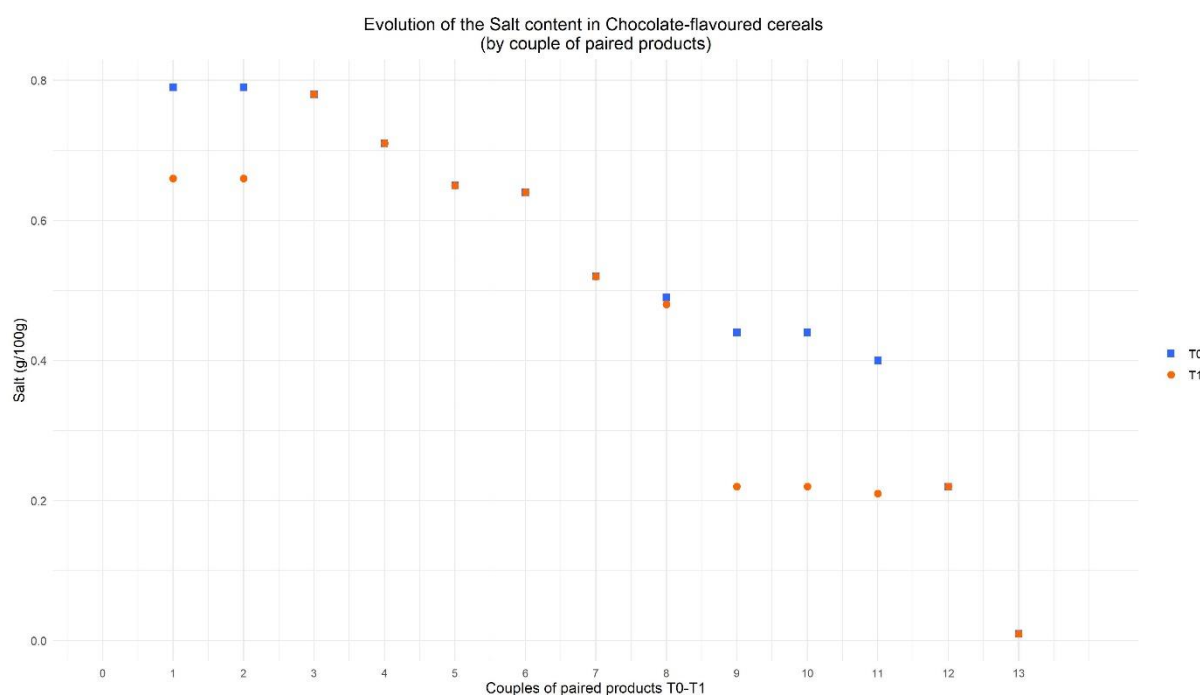


Figure 27 : Salt content evolution between 2020-2021 and 2022 by couple of paired product for Chocolate-flavoured cereals subcategory

For Chocolate-flavoured cereals, 13 couples of paired products could be detected. Among those, six had a lower salt content at T1 compared to T0. The reductions observed range between -0.01g/100g (couple 8) and -0.22g/100g (couples 9, 10).

Among the other seven couples, no changes of the salt content can be observed between the two snapshots (Figure 27).

3.2.3 Delicatessen meats and similar

The nutrients considered for the analysis of the evolution of Delicatessen meats and similar category are: Protein, Fat, Saturated fat, Sugars and Salt.

3.2.3.1 Evolution of the protein content among the subcategories

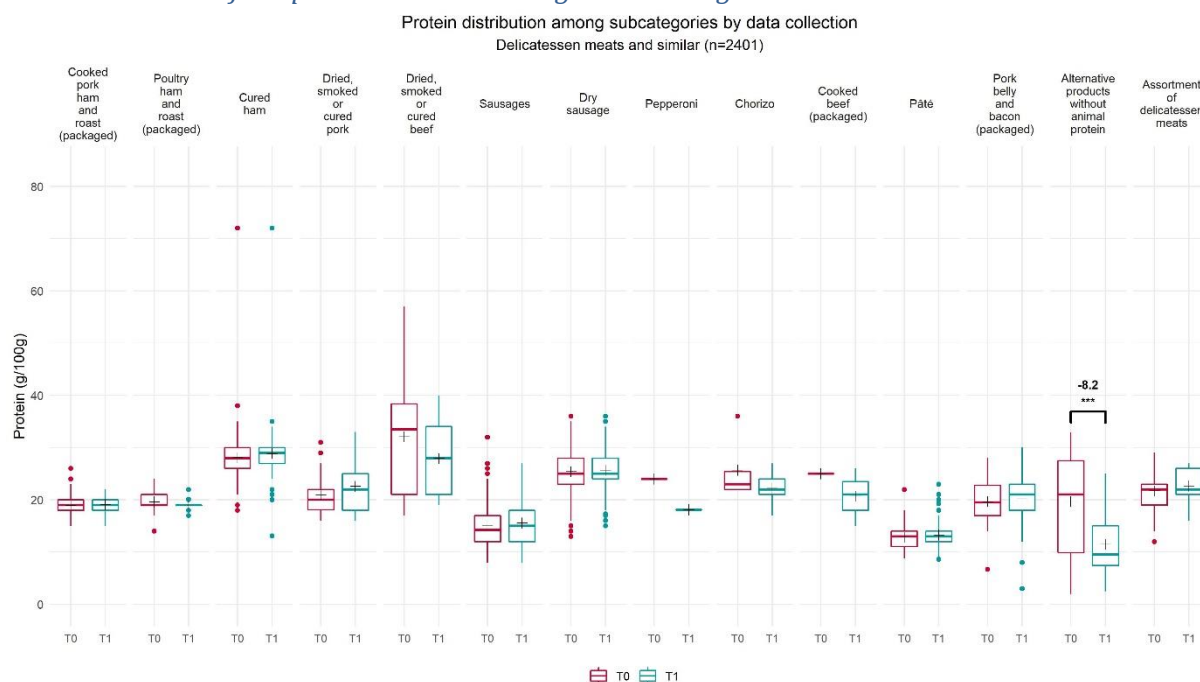


Figure 28 : Protein distribution among subcategories of Delicatessen meats and similar

Figure 28 shows the protein distribution of Delicatessen meats and similar between 2020 (T0) and 2022 (T1) by subcategories. Among the 14 subcategories considered, the average protein content significantly decreased for one subcategory only: Alternative products without animal protein (-8.2g/100g; -41.7%). This may be explained by the fact that there was a much higher number of products collected at T0 (n=70) compared with T1 (n=33).

The variability (range) differs according to the subcategories and to some extent within the same subcategory between T0 and T1. The subcategories including products with the most variable protein content at both times (T0; T1) are: Cured ham (n=82; n=84), Dried, smoked or cured beef (n=14; n=16), Pork belly and bacon (packaged) (n=42; n=53), Alternative products without animal protein (n=70; n=33), Sausages (n=430; n=321), Dry sausage (n=327; n=303).

The higher protein content at T0 compared to T1 in the subcategory Dried, smoked or cured beef can be ascribed to one 'beef chips' product (protein content: 57g/100g), while the extremely high protein content in subcategory Cured ham at T0 and T1 is due to one 'ham chips' product (protein content: 72g/100g).

3.2.3.2 Evolution of the protein content for paired products

Table 9 summarizes the differences in average protein content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot).

There were no significant differences in protein content of the paired products.

Table 9 : Summary of the evolution of the average protein content for Delicatessen meats and similar, by subcategory¹

	Protein					
	All products			Paired products		
Subcategory_name	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Cooked pork ham and roast (packaged)	19.1	+0.2	+1.1%	19.1	+0.2	+1.3%
Poultry ham and roast (packaged)	19	-0.6	-3.2%	19.2	-0.4	-2%
Cured ham	28.8	+0.7	+2.6%	29.5	-0.5	-1.7%
Dried, smoked or cured pork	22.6	+1.6	+7.8%	20.2	-0.2	-1.1%
Dried, smoked or cured beef	27.9	-4.2	-13%	31.5	+0.2	+0.5%
Other cured meats						
Sausages	15.6	+0.5	+3%	15.6	+0.2	+1.2%
Dry sausage	25.7	+0.2	+0.9%	25.8	+0.1	+0.5%
Pepperoni	18.1	-5.9	-24.6%			
Chorizo	22.2	-3.5	-13.6%	27	+1.6	+6.3%
Cooked beef (packaged)	20.7	-4.3	-17.3%			
Other cooked meats (packaged)						
Pâté	13.3	+0.4	+3.3%	12.9	+0.4	+2.9%
Preserved pork or poultry liver (canned)						
Pork belly and bacon (packaged)	20.2	+0.5	+2.6%	20.4	+0.1	+0.6%
Poultry lardons						
Alternative products without animal protein	11.5	-8.2***	-41.7%	13.6	-0.2	-1.3%
Assortment of delicatessen meats	22.7	+1	+4.4%	23.3	-1.2	-4.6%

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.3.3 Evolution of the fat content among the subcategories

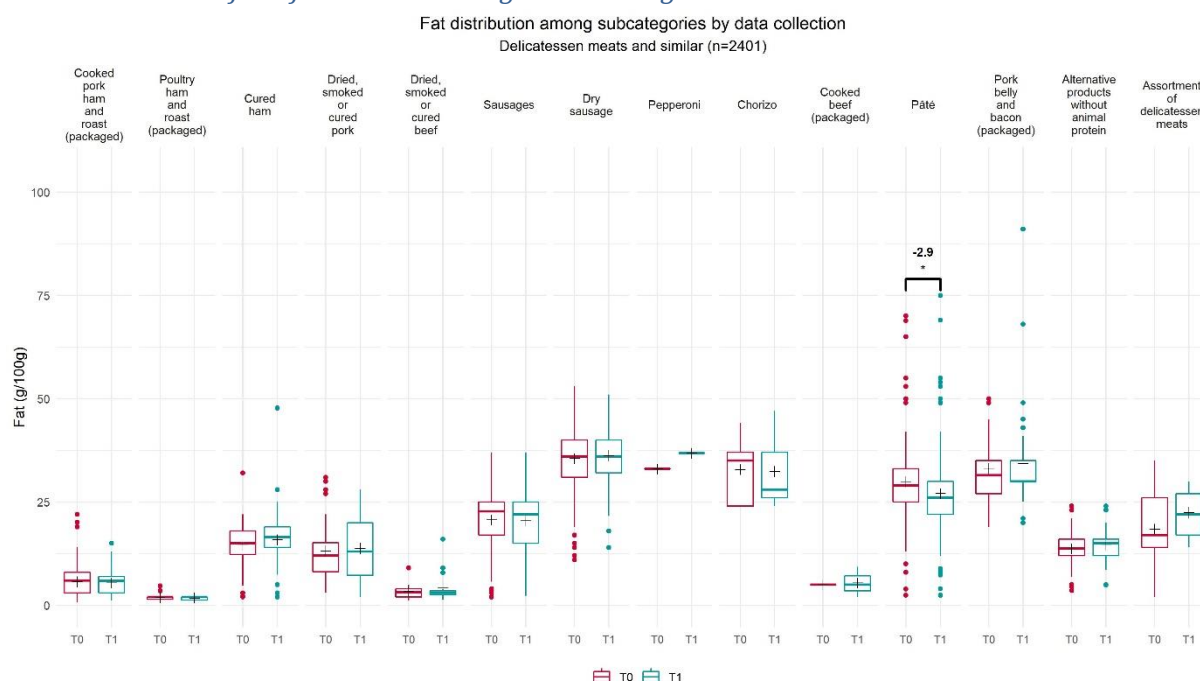


Figure 29 : Fat distribution among subcategories of Delicatessen meats and similar¹

Figure 29 shows the fat content distribution of Delicatessen meats and similar between 2020 (T0) and 2022 (T1) by subcategories. Among the 14 subcategories considered, the average fat content significantly decreased for one subcategory only: Pâté (-2.9g/100g; -9.6%). This may be explained by a difference in product offer in 2022.

The variability (range) differs according to the subcategories and also between the two snapshots within a same subcategory, especially for Pork belly and bacon (packaged) (T0, n=42; T1, n=53) and Cured ham (T0, n=82; T1, n=84), which had a higher variability at T1 compared to T0.

The subcategories including products with the most variable fat content at both times (T0; T1) are: Pâté (n=124; n=120), Pork belly and bacon (packaged) (n=42; n=53), Cured ham (n=82; n=84), Sausages (n=430; n=321), Dry sausage (n=327; n=303).

A higher variability in fat content in the subcategories Cured ham and Pork belly and bacon (packaged) at T1 compared to T0 can be explained by three individual products with a particularly high fat content, which were not recorded at T0: Ham from the black Slavonian pig (fat content: 47g/100g), Cured bacon (fat content: 91g/100g), Back bacon smoked and air dried (fat content: 68g/100g).

¹Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.3.4 Evolution of the fat content for paired products

Table 10 summarizes the difference in the average fat content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Table 10 : Summary of the evolution of the average fat content for Delicatessen meats and similar, by subcategory¹

	Fat					
	All products			Paired products		
Subcategory_name	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Cooked pork ham and roast (packaged)	5.4	-0.3	-5.1%	5.1	-0.2	-4.7%
Poultry ham and roast (packaged)	1.7	-0.2	-5.9%	1.7	+0.05	+2.7%
Cured ham	15.9	+1.4	+9.3%	15.6	+0.4	+2.3%
Dried, smoked or cured pork	13.8	+0.6	+4.9%	13.3	+0.6	+4.9%
Dried, smoked or cured beef	4.3	+0.9	+27%	3.7	-0.03	-0.8%
Other cured meats						
Sausages	20.4	-0.2	-1%	19.9	-0.07	-0.3%
Dry sausage	36.2	+0.7	+2.1%	37	+0.1	+0.4%
Pepperoni	36.8	+3.8	+11.5%			
Chorizo	32.4	-0.4	-1.3%	37	-7.2	-16.3%
Cooked beef (packaged)	5.4	+0.4	+8.7%			
Other cooked meats (packaged)						
Pâté	27	-2.9*	-9.6%	30.2	-0.4	-1.3%
Preserved pork or poultry liver (canned)						
Pork belly and bacon (packaged)	34.3	+1.2	+3.7%	34	+0.8	+2.5%
Poultry lardons						
Alternative products without animal protein	14.5	+0.9	+6.4%	15.6	-0.2	-1%
Assortment of delicatessen meats	22.4	+4	+21.7%	20.7	-1	-4.9%

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.3.5 Evolution of the saturated fat content among the subcategories

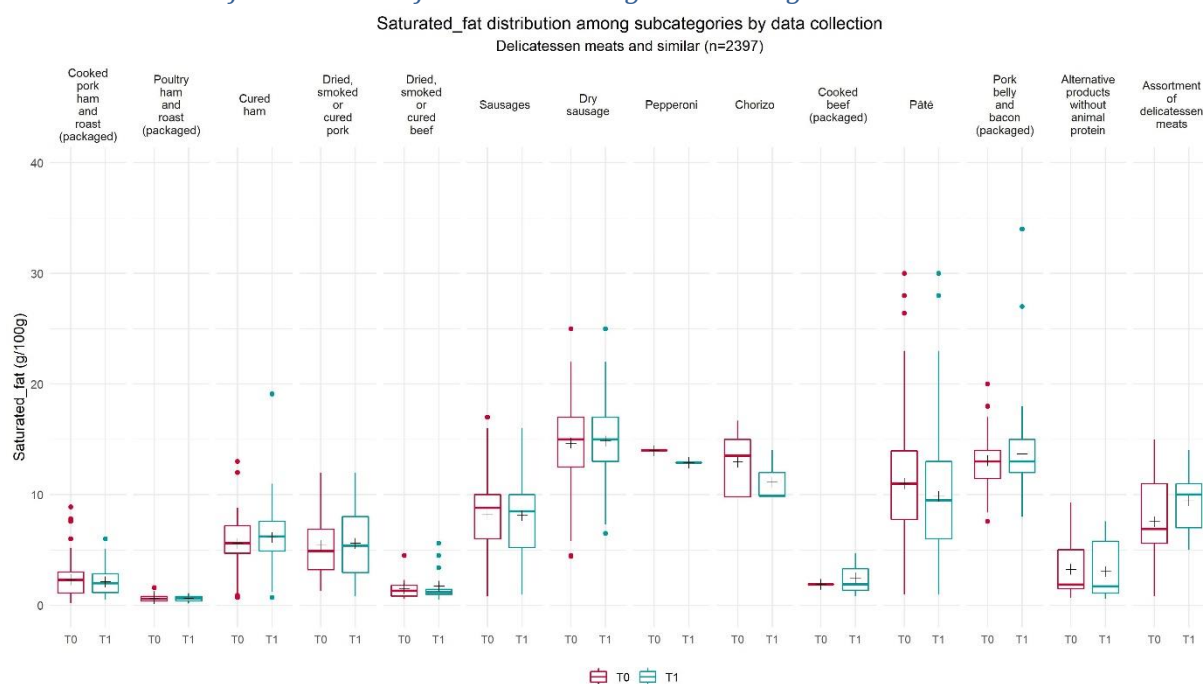


Figure 30 : Saturated fat distribution among subcategories of Delicatessen meats and similar¹

Figure 30 shows the saturated fat content distribution of Delicatessen meats and similar between 2020 (T0) and 2022 (T1) by subcategories. The average saturated fat content has not changed significantly in any of the 14 subcategories considered.

The variability (range) differs according to the subcategories but remains almost constant for most subcategories between the two snapshots within a same subcategory. Exceptions are for example the subcategories Cured ham (T0, n=82; T1, n=84) and Pork belly and bacon (packaged) (T0, n=42; T1, n=53), which had a higher variability at T1 compared to T0, due to some outliers.

The subcategories including products with the most variable saturated fat content at both times (T0; T1) are: Pâté (n=124; n=120), Pork belly and bacon (packaged) (n=42; n=53), Dry sausage (n=327; n=303), Sausages (n=429; n=321), Cured ham (n=82; n=84).

It should be noted, that there are major differences in the number of products in some subcategories between T0 and T1, like Cooked pork ham and roast (packaged) (n=113; n=79), Sausages (n=429; n=321), Alternative products without animal protein (n=70; n=33), Assortment of delicatessen meats (n=37; n=9).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.6 Evolution of the saturated fat content for paired products

Table 11 summarizes the differences in average saturated fat content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot).

No significant difference is observed at either level (all products and paired products).

Table 11 : Summary of the evolution of the average saturated fat content for Delicatessen meats and similar, by subcategory¹

	Saturated fat					
	All products			Paired products		
Subcategory_name	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Cooked pork ham and roast (packaged)	2.1	-0.2	-7.9%	2.1	-0.1	-5.5%
Poultry ham and roast (packaged)	0.6	-0.02	-3.6%	0.7	+0.08	+14.2%
Cured ham	6.1	+0.5	+9.5%	6	+0.3	+5%
Dried, smoked or cured pork	5.6	+0.2	+3.4%	5.4	+0.2	+4.3%
Dried, smoked or cured beef	1.7	+0.2	+14.8%	1.6	-0.06	-3.5%
Other cured meats						
Sausages	8.1	-0.1	-1.8%	7.8	-0.03	-0.4%
Dry sausage	14.9	+0.2	+1.5%	15.3	+0.07	+0.4%
Pepperoni	12.9	-1.1	-7.9%			
Chorizo	11.1	-1.9	-14.2%	12	-4.7	-28.1%
Cooked beef (packaged)	2.5	+0.6	+29.8%			
Other cooked meats (packaged)						
Pâté	9.9	-1.1	-10.5%	10.5	-0.04	-0.4%
Preserved pork or poultry liver (canned)						
Pork belly and bacon (packaged)	13.7	+0.6	+4.6%	13.5	+0.2	+1.3%
Poultry lardons						
Alternative products without animal protein	3	-0.2	-6.2%	3.9	-0.04	-1%
Assortment of delicatessen meats	9.4	+1.8	+24.9%	8.7	-0.3	-3.3%

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.3.7 Evolution of the sugar content among the subcategories

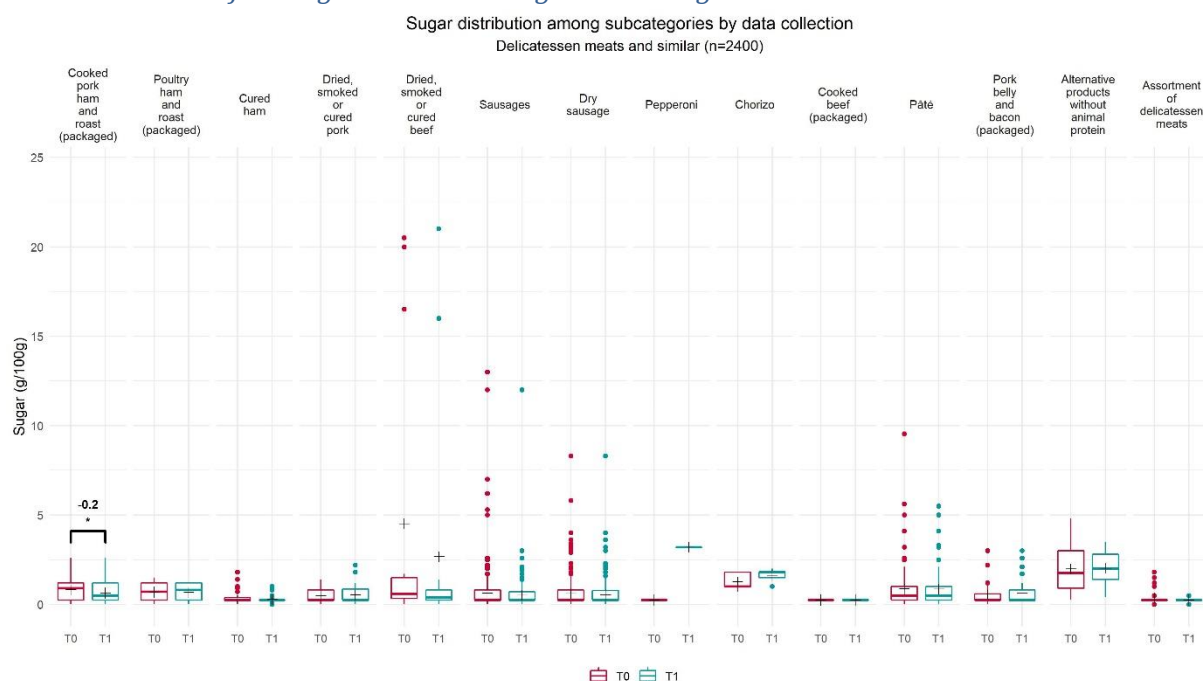


Figure 31 : Sugar distribution among subcategories of Delicatessen meats and similar¹

Figure 31 shows the sugar content distribution of Delicatessen meats and similar between 2020 (T0) and 2022 (T1) by subcategories. Among the 14 subcategories considered, the average sugar content has significantly decreased for one subcategory only: Cooked pork ham and roast (packaged) (-0.2g/100g; -21%).

The variability (range) is, with a few exceptions, relatively constant between the subcategories and between the two times within a same subcategory. A reason for this might be the generally low sugar content in this category. The subcategories including products with the most variable sugar content at both times (T0; T1) are: Dried, smoked or cured beef (n=14; n=16), Sausages (n=430; n=321), Dry sausage (n=327; n=303), Pâté (n=124; n=120).

The high sugar contents in the subcategories Dried, smoked or cured beef; Sausages; Dry sausage and Pâté can be explained by individual products: Beef jerky sweet & hot (20.5g/100g), Beef jerky original (16.5g/100g), Curry bock sausage with curry sauce (12g/100g), Snack boiled sausages with ketchup (8.3g/100g), Cranberry liver pâté (9.54g/100g).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.8 Evolution of the sugar content for paired products

Table 12 summarizes the difference in the average sugar content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

A significant decrease in the mean sugar content of paired products is observed for one subcategory out of 14: Dry sausage (-0.07g/100g, -11.1%). The significant decrease of the sugar content at the paired product level could possibly be linked to changes in the composition of some of the products, but is probably too low to be of relevance.

Table 12 : Summary of the evolution of the average sugar content for Delicatessen meats and similar, by subcategory¹

Subcategory_name	Sugar					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Cooked pork ham and roast (packaged)	0.6	-0.2*	-21%	0.8	+0.07	+10.1%
Poultry ham and roast (packaged)	0.7	-0.01	-2%	0.7	+0.1	+27.6%
Cured ham	0.3	-0.08	-22.2%	0.3	+0.007	+3%
Dried, smoked or cured pork	0.5	+0.05	+9.2%	0.5	+0.008	+1.5%
Dried, smoked or cured beef	2.7	-1.8	-40.9%	5.5	-0.2	-3.6%
Other cured meats						
Sausages	0.5	-0.1	-18.1%	0.5	-0.05	-7.9%
Dry sausage	0.5	-0.07	-11.2%	0.6	-0.07*	-11.1%
Pepperoni	3.2	+3	+1180%			
Chorizo	1.6	+0.4	+28.6%	2	+1.3	+185.7%
Cooked beef (packaged)	0.2	0	0%			
Other cooked meats (packaged)						
Pâté	0.9	-0.007	-0.8%	0.8	+0.08	+10.9%
Preserved pork or poultry liver (canned)						
Pork belly and bacon (packaged)	0.6	+0.09	+15.8%	0.6	-0.02	-2.5%
Poultry lardons						

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

Alternative products without animal protein	2	+0.04	+2.1%	2.2	+0.1	+4.9%
Assortment of delicatessen meats	0.2	-0.1	-32.7%	0.2	0	0%

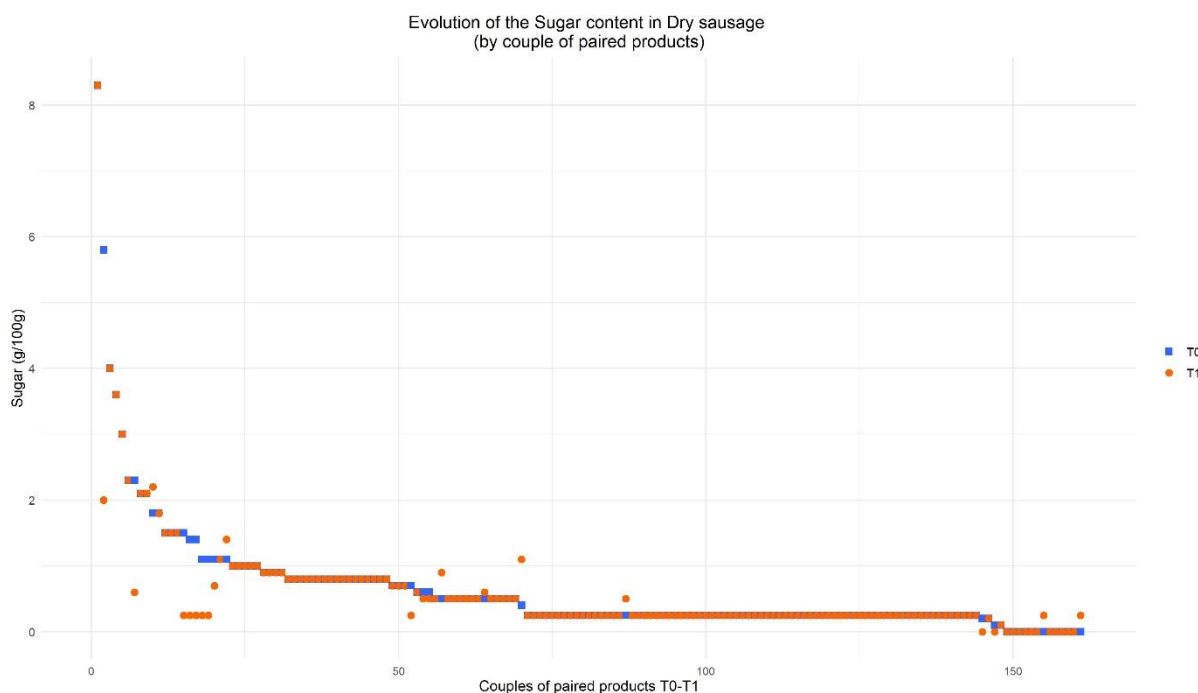


Figure 32 : Sugar content evolution between 2020 and 2022 by couple of paired product for Dry sausage subcategory

Of the 161 couples of paired products in subcategory Dry sausage (Figure 32), the majority (140 couples) have an equal sugar content in 2022 (T1) and in 2020 (T0).

Some pairs (n=13) show a lower sugar content in 2022 (T1) than in 2020 (T0). The reductions observed are between -3.8g/100g and -0.1g/100g.

A few couples (n=8) also show higher sugar values at T1 (2022) than at T0 (2020), ranging from +0.1g/100g to +0.7g/100g (Figure 32).

3.2.3.9 Evolution of the salt content among the subcategories

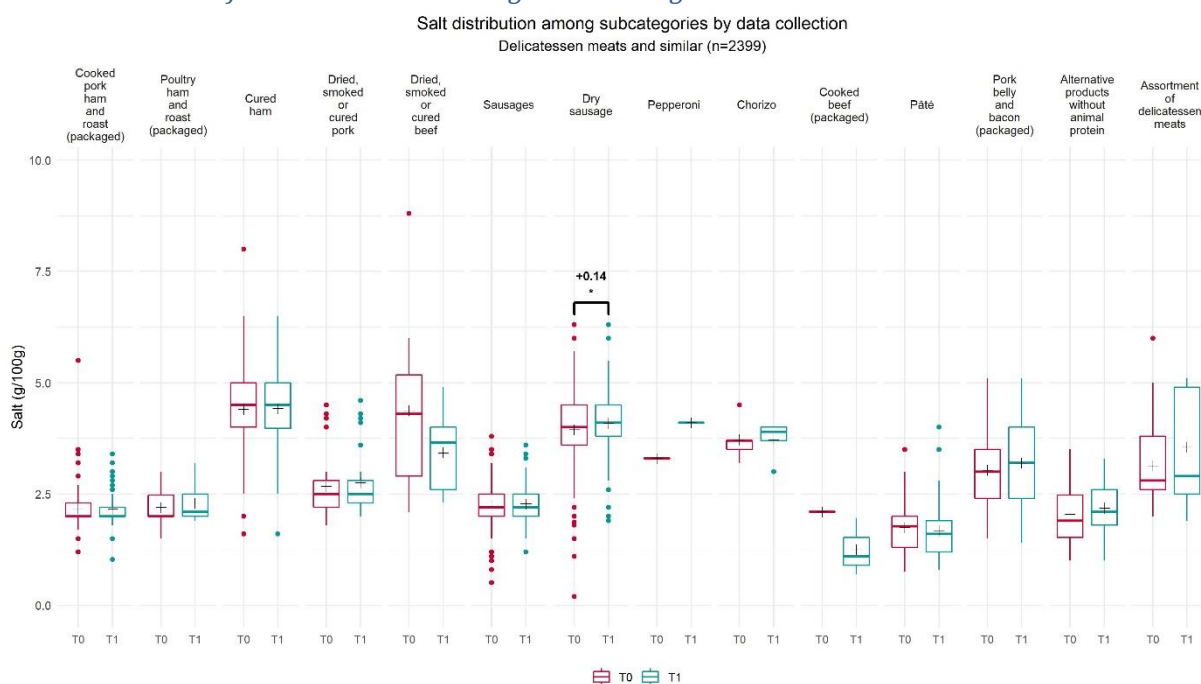


Figure 33 : Salt distribution among subcategories of Delicatessen meats and similar¹

Figure 33 shows the salt content distribution of Delicatessen meats and similar between 2020 (T0) and 2022 (T1) by subcategories. Among the 14 subcategories considered, the average salt content has significantly increased for one subcategory: Dry sausage (+0.14g/100g; +3.62%). This may be explained by a higher number of products collected at T0 (n=327) compared with T1 (n=302) and a different survey methodology.

The variability (range) differs greatly according to the subcategories and between the two times within a same subcategory. The subcategories including products with the most variable salt content at both times (T0; T1), possibly showing a potential for reformulation, are: Cured ham (n=81; n=84), Dry sausage (n=327; n=303), Dried, smoked or cured beef (n=14; n=16), Pork belly and bacon (packaged) (n=42; n=53), Assortment of delicatessen meats (n=37; n=9).

The high salt content in the subcategories 'Cured ham' and 'Dried, smoked or cured beef' can be explained by individual products, which were only present at T0: Serrano ham (6.5g/100g) and Beef crisps (8.8g/100g).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.10 Evolution of the salt content for paired products

Table 13 summarizes the difference in the average salt content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

A significant increase in the mean salt content of paired products is observed for one subcategory out of 14: Poultry ham and roast (+0.15g/100g, +6.97%). This can possibly be linked to a change in product composition for some products.

Table 13 : Summary of the evolution of the average salt content for Delicatessen meats and similar, by subcategory¹

Subcategory_name	Salt					
	All products			Paired products		
	Mean.T1 1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Cooked pork ham and roast (packaged)	2.16	-0.016	-0.8%	2.17	+0.028	+1.32%
Poultry ham and roast (packaged)	2.29	+0.093	+4.24%	2.35	+0.15*	+6.97%
Cured ham	4.42	+0.017	+0.4%	4.28	-0.13	-2.94%
Dried, smoked or cured pork	2.75	+0.085	+3.19%	2.6	-0.015	-0.6%
Dried, smoked or cured beef	3.42	-0.95	-21.65%	3.74	-0.4	-9.66%
Other cured meats						
Sausages	2.28	+0.053	+2.4%	2.27	+0.024	+1.09%
Dry sausage	4.09	+0.14*	+3.62%	4.09	+0.046	+1.15%
Pepperoni	4.1	+0.8	+24.24%			
Chorizo	3.72	0	0%	4	+0.8	+25%
Cooked beef (packaged)	1.25	-0.85	-40.48%			
Other cooked meats (packaged)						
Pâté	1.68	-0.068	-3.91%	1.65	+0.011	+0.7%
Preserved pork or poultry liver (canned)						
Pork belly and bacon (packaged)	3.19	+0.16	+5.29%	3.13	+0.15	+5.01%
Poultry lardons						
Alternative products without animal protein	2.18	+0.14	+6.71%	2.2	-0.051	-2.28%
Assortment of delicatessen meats	3.54	+0.41	+13.25%	3.2	+0.033	+1.05%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

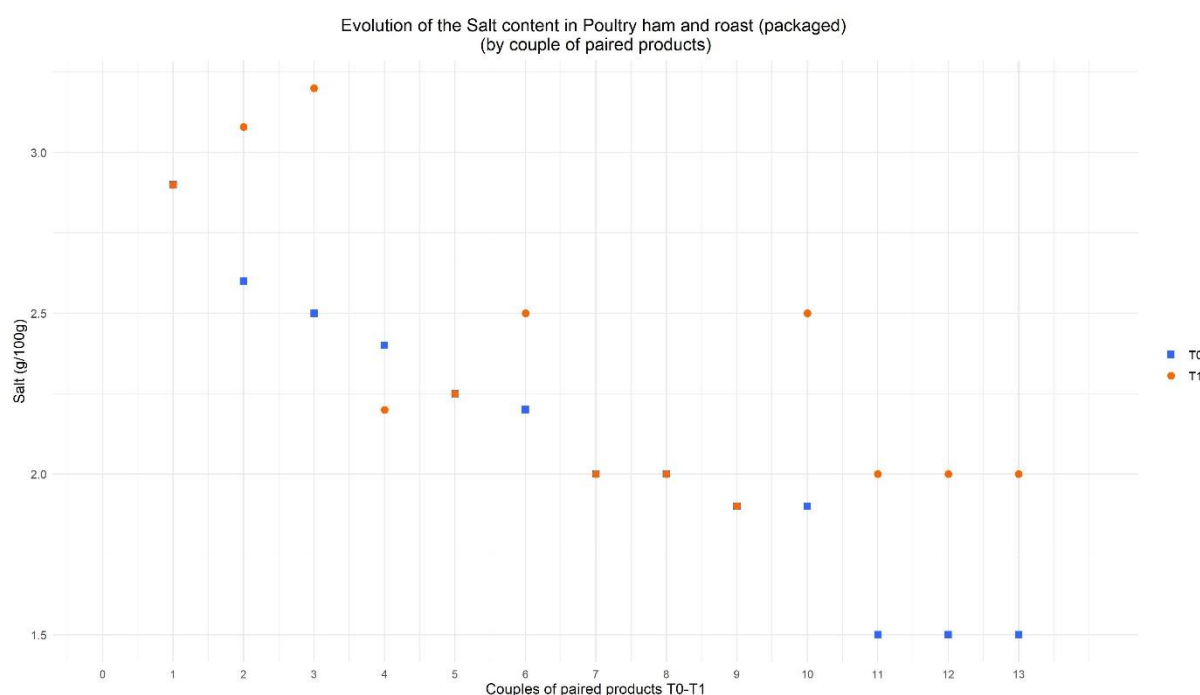


Figure 34 : Salt content evolution between 2020 and 2022 by couple of paired product for Poultry ham and roast (packaged) subcategory

Of the 13 couples of paired products in subcategory Poultry ham and roast (packaged), the majority (7 couples) have a higher salt content in 2022 (T1) than in 2020 (T0). The increases observed are between +0.7g/100g (couple 3) and +0.3g/100g (couple 6).

Only one couple shows a lower salt value in 2022 than in 2020, at -0.2g/100g (couple 4).

Five couples show no difference in salt content between 2022 (T1) and 2020 (T0) (Figure 34).

plain yoghurts and fermented milks with no added sugar' also has a high range in the protein content, but was only recorded at T1 (n=65).

A higher protein content or a higher variability (like in 'Artificially-sweetened yoghurts and fermented milks', 'Artificially-sweetened fresh cheeses' and 'Fresh light and/or artificially-sweetened desserts') at T1 compared to T0 may be explained in part by the trend to offer more products with a high protein content.

Differences in the variability in certain subcategories in 2022 (T1) compared to 2018-2019 (T0) may also be explained in part by a different number of products collected for some subcategories.

3.2.4.2 Evolution of the protein content for paired products

Table 14 summarizes the difference in the average protein content observed between 2018-2019 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot).

The mean protein content of paired products was significantly increased for one subcategory out of 19 (Classic sweet yoghurts and fermented milks: +0.07g/100g, +2.2%) and significantly decreased for one subcategory out of 19 (Fresh desserts with cereals: -0.06g/100g, -1.8%). This could in part be linked to a change in product composition for some products.

Table 14 : Summary of the evolution of the average protein content for Fresh dairy products and desserts, by subcategory¹

	Protein					
	All products			Paired products		
Subcategory_name	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	4.5					
Gourmet plain yoghurts and fermented milks with no added sugar	4.5					
Classic sweet yoghurts and fermented milks	3.4	+0.05	+1.6%	3.4	+0.07***	+2.2%
Gourmet sweet yoghurts and fermented milks	3.4	-0.03	-0.8%	3.4	+0.07	+2.1%
Artificially-sweetened yoghurts and fermented milks	6.4	+3.1***	+91.5%	3.1	+0.1	+3.3%
Classic plain fresh cheeses with no added sugar	10.5					
Gourmet plain fresh cheeses with no added sugar	9.6					

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

Classic sweetened fresh cheeses	6.6	-0.1	-2%	6.1	+0.03	+0.5%
Gourmet sweet fresh cheeses	5.1	+0.2	+4.1%	4.8	+0.03	+0.7%
Artificially-sweetened fresh cheeses	9.4	+1.3	+16.1%	7.5	0	0%
Dessert creams and jellied milks	3.1	-0.05	-1.6%	3	-0.02	-0.5%
Liégeois desserts and similar	2.6	+0.04	+1.4%	2.5	+0.02	+1%
Curdled milks						
Fresh desserts with cereals	3.3	-0.02	-0.6%	3.4	-0.06*	-1.8%
Fresh mousse-type desserts	4.5	-0.09	-2%	4.5	0	0%
Egg-based fresh desserts	4.5	-0.1	-2.2%	4.7	0	0%
Fresh light and/or artificially-sweetened desserts	8.2	+3.2**	+63.9%	5.5	-0.06	-1.1%
Fresh plain unsweetened soy desserts	4.7					
Fresh sweetened soy desserts	3.4	-0.02	-0.5%	3.4	+0.03	+0.9%
Other fresh plant-based desserts	0.8	-0.7***	-49.1%			
Other dairy products						

Evolution of the Protein content in Classic sweet yoghurts and fermented milks
(by couple of paired products)

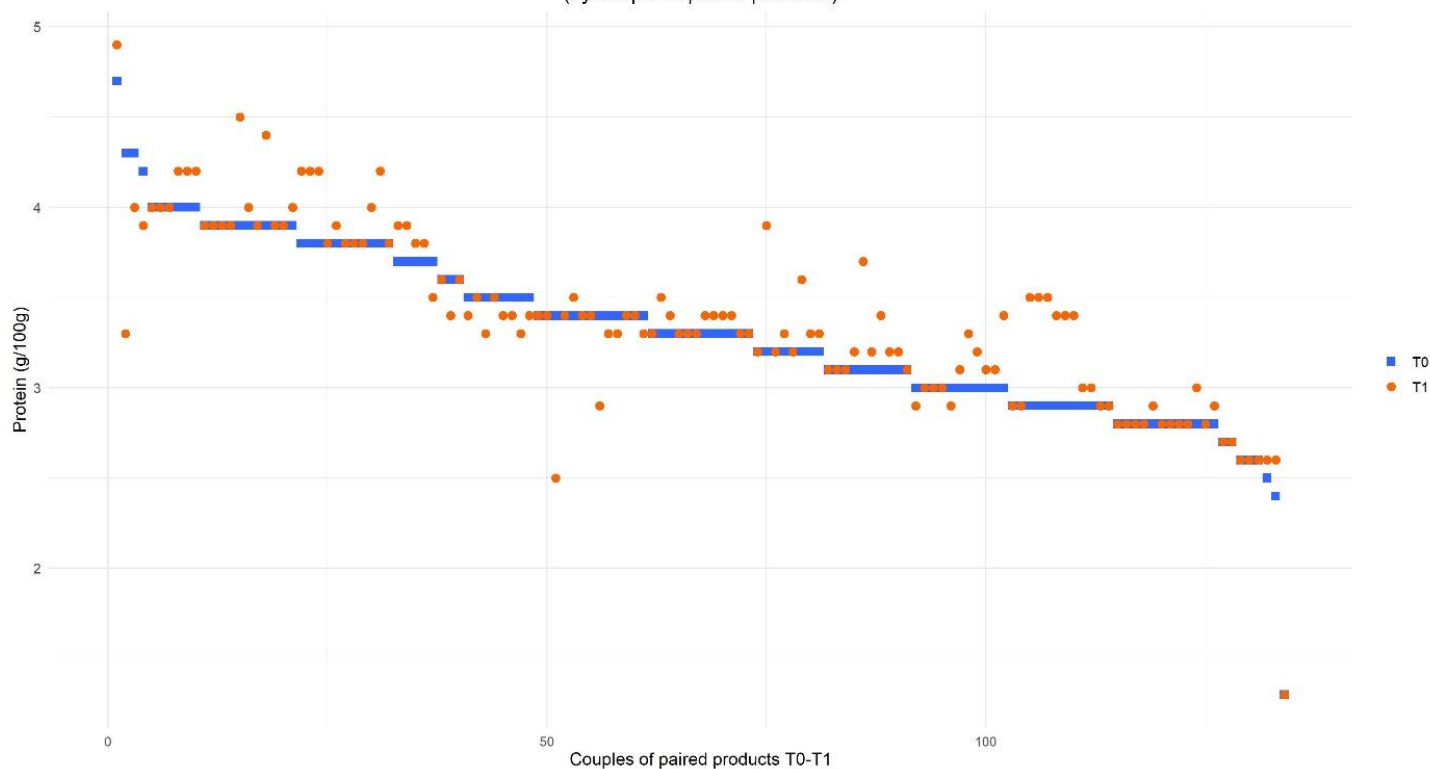


Figure 36 : Protein content evolution between 2018-2019 and 2022 by couple of paired product for Classic sweet yoghurts and fermented milks subcategory

Of the 134 couples of paired products in subcategory Classic sweet yoghurts and fermented milks, the majority (61 couples) have the same protein content in 2022 (T1) and in 2018-2019 (T0). 55 paired products have a higher protein content in 2022 (T1) than in 2018-2019 (T0). The increases observed are between +0.7g/100g and +0.1g/100g.

A minority of couples (n=18) show lower protein values in 2022 than in 2018-2019, ranging from -1g/100g to -0.1g/100g (Figure 36).

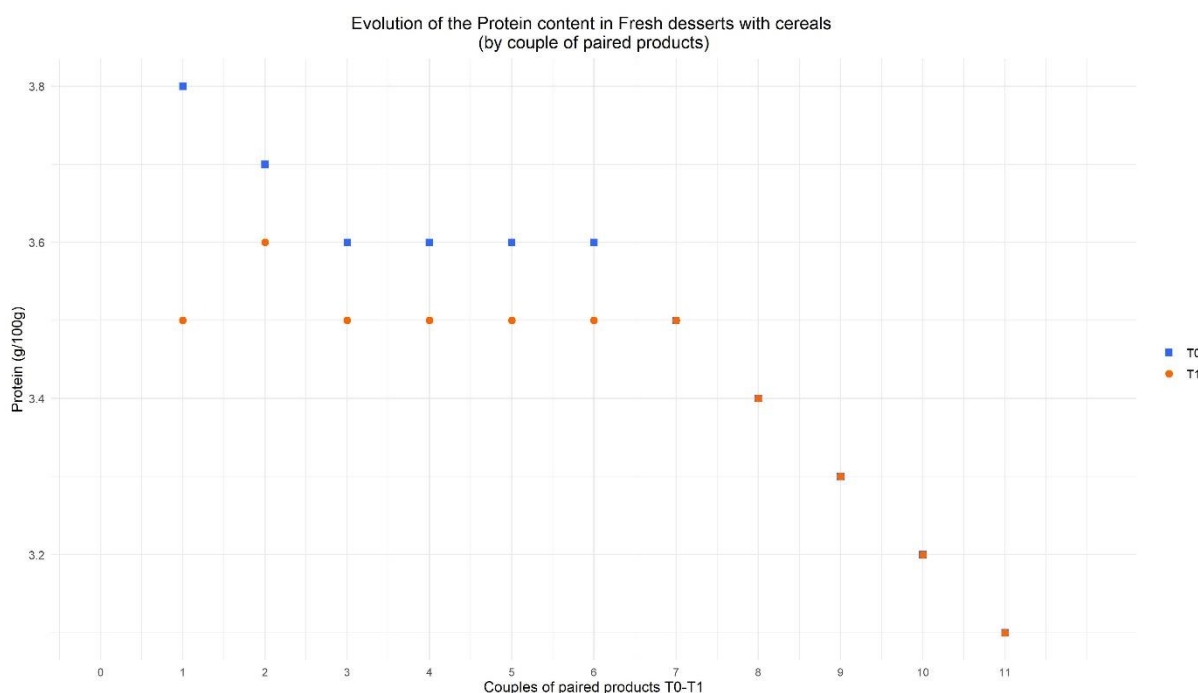


Figure 37 : Protein content evolution between 2018-2019 and 2022 by couple of paired product for Fresh desserts with cereals subcategory

About half of the 11 couples of paired products in subcategory Fresh desserts with cereals (n=6) have a lower protein content in 2022 (T1) than in 2018-2019 (T0). The reductions observed are between -0.3g/100g (couple 1) and -0.1g/100g (couples 2 to 6).

The other half of the paired products (n=5) have an equal protein content in 2022 (T1) and in 2018-2019 (T0) (couples 7 to 11) (Figure 37).

3.2.4.3 Evolution of the fat content among the subcategories

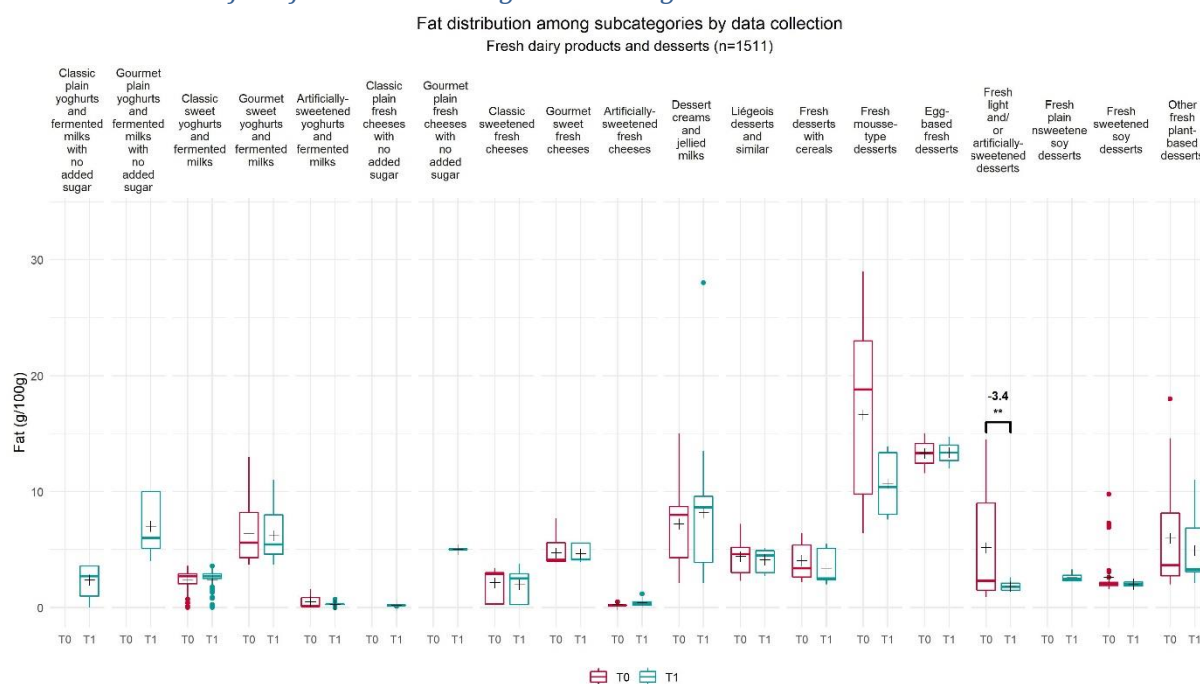


Figure 38 : Fat distribution among subcategories of Fresh dairy products and desserts¹

Figure 38 shows the fat distribution of Fresh dairy products and desserts between 2018-2019 (T0) and 2022 (T1) by subcategories. Among all the products collected within the Fresh dairy products and desserts category, there is a significant decrease between both data collections in the average fat content only for one subcategory out of 19: Fresh light and/or artificially-sweetened desserts (-3.4g/100g between 2018-2019 and 2022, -64.6%).

The variability (range) differs between the subcategories and also between the two times (T0; T1) within the same subcategory, especially for: Fresh mousse-type desserts (n=9; n=6), Fresh light and/or artificially-sweetened desserts (n=17; n=21), Fresh sweetened soy desserts (n=50; n=12) and Other fresh plant-based desserts (n=30; n=15), which had a much higher variability at T0 compared to T1. The range between the two times is also different for Dessert creams and jellied milks (n=61; n=30), but the higher range at T1 compared to T0 is only ascribed to one product.

The subcategories including products with the most variable fat content at both times (T0; T1), possibly showing a potential for reformulation, are: Dessert creams and jellied milks (n=61; n=30), Other fresh plant-based desserts (n=30; n=15), Gourmet sweet yoghurts and fermented milks (n=163; n=70), Fresh mousse-type desserts (n=9; n=6).

The fact that there is a different variability between T0 and T1 in certain subcategories may be explained in part by a different number of products collected for the respective subcategories as well as by a different methodology in data collection.

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.4.4 Evolution of the fat content for paired products

Table 15 summarizes the difference in the average fat content observed between 2018-2019 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

A significant decrease in the mean fat content of paired products is observed for two subcategories out of 19: Classic sweetened fresh cheeses (-0.2g/100g, -7.1%) and Fresh desserts with cereals (-0.2g/100g, -4.5%). This could possibly be linked to changes in the composition of some of the products, but is probably too low to be of relevance.

Table 15 : Summary of the evolution of the average fat content for Fresh dairy products and desserts, by subcategory¹

Subcategory_name	Fat					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	2.4					
Gourmet plain yoghurts and fermented milks with no added sugar	7					
Classic sweet yoghurts and fermented milks	2.4	+0.05	+2.2%	2.4	+0.009	+0.4%
Gourmet sweet yoghurts and fermented milks	6.2	-0.2	-3.3%	5.9	+0.04	+0.7%
Artificially-sweetened yoghurts and fermented milks	0.3	-0.2	-47%	0.2	+0.07	+41.7%
Classic plain fresh cheeses with no added sugar	0.2					
Gourmet plain fresh cheeses with no added sugar	5					
Classic sweetened fresh cheeses	2	-0.2	-8.3%	2.2	-0.2*	-7.1%
Gourmet sweet fresh cheeses	4.6	-0.07	-1.6%	4.7	-0.04	-0.8%
Artificially-sweetened fresh cheeses	0.4	+0.2	+76.2%	0.3	-0.02	-7.1%
Dessert creams and jellied milks	8.2	+1	+13.4%	7.5	+0.4	+4.9%
Liégeois desserts and similar	4.1	-0.3	-6.4%	4.1	-0.2	-3.8%
Curdled milks						

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

Fresh desserts with cereals	3.4	-0.7	-16.4%	4	-0.2*	-4.5%
Fresh mousse-type desserts	10.7	-5.9	-36%	7.6	0	0%
Egg-based fresh desserts	13.3	+0.05	+0.4%	12	+0.4	+3.4%
Fresh light and/or artificially-sweetened desserts	1.8	-3.4**	-64.6%	1.9	-0.06	-3%
Fresh unsweetened plain soy desserts	2.6					
Fresh sweetened soy desserts	2	-0.6	-22%	2	+0.03	+1.4%
Other fresh plant-based desserts	4.9	-1.1	-17.4%			
Other dairy products						

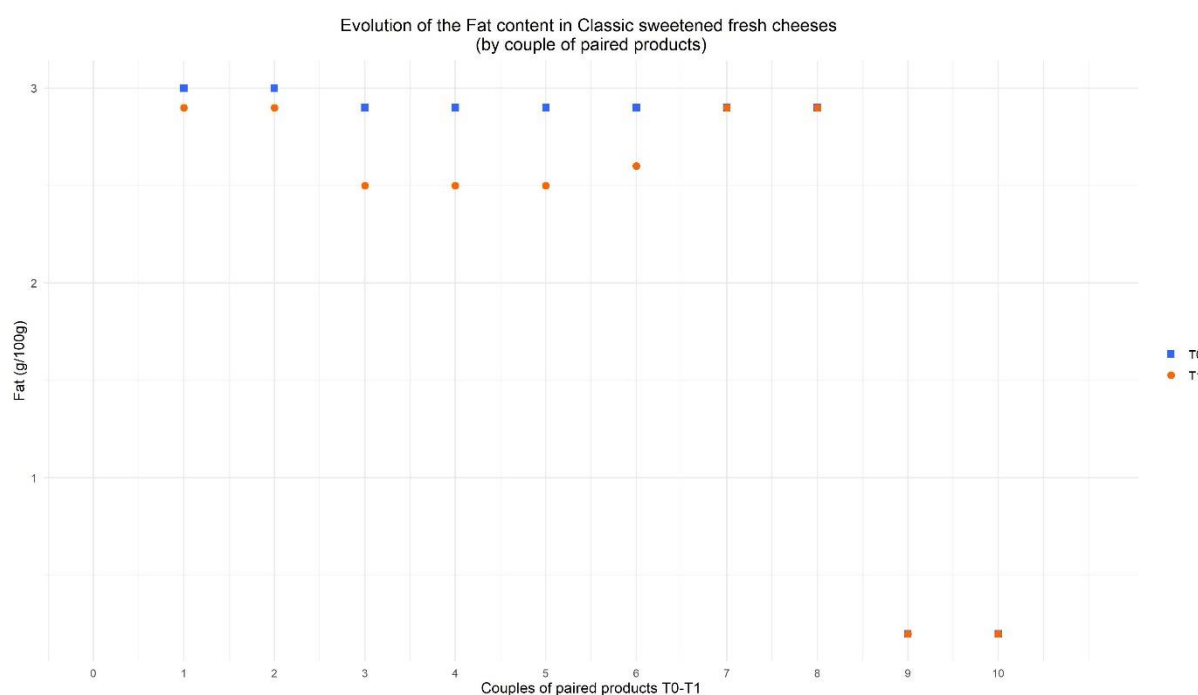


Figure 39 : Fat content evolution between 2018-2019 and 2022 by couple of paired product for Classic sweetened fresh cheeses subcategory

Of the 10 couples of paired products in subcategory Classic sweetened fresh cheeses, the majority (6 couples) have a lower fat content in 2022 (T1) than in 2018-2019 (T0). The reductions observed are between -0.4g/100g (couples 3 to 5) and -0.1g/100g (couple 1 and 2). It can be observed that a few, but not all products with the highest fat content in 2018-2019 (T0) have experienced a decrease in their fat content in 2022 (T1) (Figure 39).

Four out of ten couples show equal fat values in 2022 and in 2018-2019 and none of the couples has a higher fat content at T1 than at T0 (Figure 39).

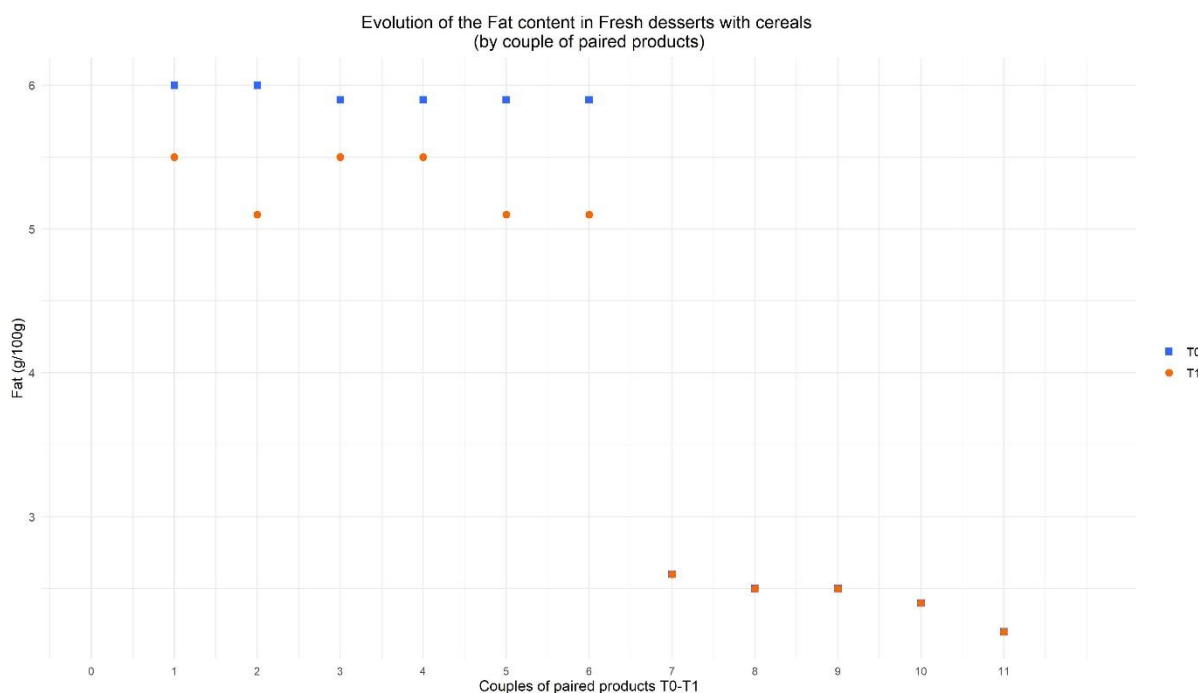


Figure 40 : Fat content evolution between 2018-2019 and 2022 by couple of paired product for Fresh desserts with cereals subcategory

About half of the 11 couples of paired products in subcategory Fresh desserts with cereals ($n=6$) have a lower fat content in 2022 (T1) than in 2018-2019 (T0). The reductions observed are between $-0.9\text{g}/100\text{g}$ (couple 2) and $-0.4\text{g}/100\text{g}$ (couples 3 to 4). It should be noted that all the products with the highest fat content in 2018-2019 (T0) have experienced a decrease in their fat content in 2022 (T1) (Figure 40).

For the other five couples, no changes of the fat content have been observed between 2022 and 2018-2019 (Figure 40).

3.2.4.5 Evolution of the saturated fat content among the subcategories

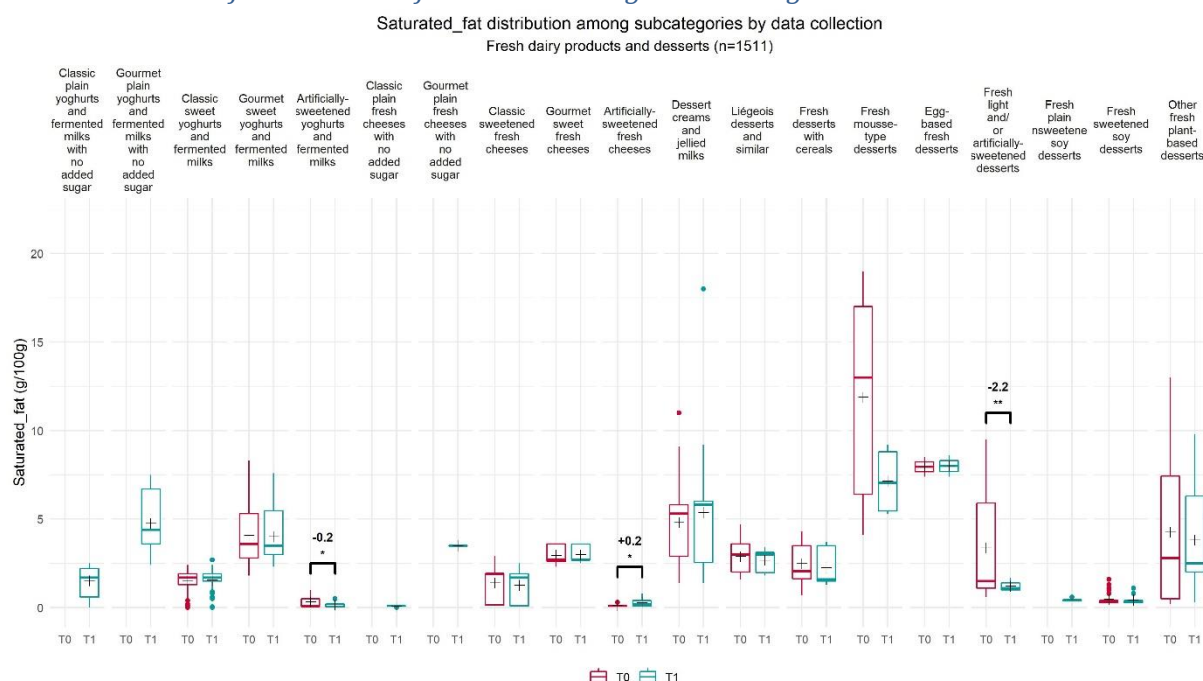


Figure 41 : Saturated fat distribution among subcategories of Fresh dairy products and desserts¹

Figure 41 shows the saturated fat distribution of Fresh dairy products and desserts between 2018-2019 (T0) and 2022 (T1) by subcategories. Among the 19 subcategories considered, the average saturated fat content has significantly decreased for two subcategories: Artificially-sweetened yoghurts and fermented milks (-0.2g/100g; -53%) and Fresh light and/or artificially-sweetened desserts (-2.2g/100g; -64.1%). A significant increase is observed for one subcategory: Artificially-sweetened fresh cheeses: (+0.2g/100g; +115.6%).

The variability (range) differs between the subcategories. For some subcategories, like Fresh mousse-type desserts (T0, n=9; T1, n=6), Fresh light and/or artificially-sweetened desserts (T0, n=17; T1, n=21) and Other fresh plant-based desserts (T0, n=30; T1, n=15), the variability also differs between the two times within the same subcategory. These subcategories are also subcategories with the most variable saturated fat content at T0, but not at T1 where the content of saturated fat is much lower.

A different range in the saturated fat content between T0 and T1 can also be observed in the subcategory Dessert creams and jellied milks (T0, n=61; T1, n=30), which can be ascribed to one product at T1 only.

The subcategories including products with the most variable saturated fat content at both times are: Other fresh plant-based desserts (T0, n=30; T1, n=15), Dessert creams and jellied milks (T0, n=61; T1, n=30) and Gourmet sweet yoghurts and fermented milks (T0, n=375; T1,

¹Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

n=234). The subcategory 'Gourmet plain yoghurts and fermented milks with no added sugar' also has a high range in the saturated fat content, but was only recorded at T1 (n=29).

The fact that there is a different variability between T0 and T1 in certain subcategories may be explained in part by a different number of products collected for the respective subcategories and by differences in methodology.

3.2.4.6 Evolution of the saturated fat content for paired products

Table 16 summarizes the differences in the average saturated fat content observed between 2018-2019 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

A significant decrease in the mean saturated fat content of paired products is observed for one subcategory out of 19: Fresh desserts with cereals (-0.2g/100g, -5.6%). This could in part be linked to a change in product composition for some products.

Table 16 : Summary of the evolution of the average saturated fat content for Fresh dairy products and desserts, by subcategory¹

	Saturated fat					
	All product			Paired products		
Subcategory_name	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	1.5					
Gourmet plain yoghurts and fermented milks with no added sugar	4.8					
Classic sweet yoghurts and fermented milks	1.6	+0.03	+2.2%	1.5	+0.02	+1%
Gourmet sweet yoghurts and fermented milks	4	-0.07	-1.8%	3.8	+0.05	+1.4%
Artificially-sweetened yoghurts and fermented milks	0.1	-0.2*	-53%	0.1	-0.01	-12.5%
Classic plain fresh cheeses with no added sugar	0.1					
Gourmet plain fresh cheeses with no added sugar	3.5					
Classic sweetened fresh cheeses	1.3	-0.1	-9.4%	1.4	-0.1	-6.5%
Gourmet sweet fresh cheeses	3	+0.02	+0.6%	3.1	+0.004	+0.1%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

Artificially-sweetened fresh cheeses	0.3	+0.2*	+115.6%	0.2	0	0%
Dessert creams and jellied milks	5.4	+0.6	+11.6%	5	+0.2	+4.6%
Liégeois desserts and similar	2.7	-0.2	-7.5%	2.6	-0.1	-4.5%
Curdled milks						
Fresh desserts with cereals	2.3	-0.2	-9.4%	2.7	-0.2*	-5.6%
Fresh mousse-type desserts	7.1	-4.8	-39.8%	5.9	+0.1	+1.7%
Egg-based fresh desserts	8	+0.05	+0.6%	7.4	0	0%
Fresh light and/or artificially-sweetened desserts	1.2	-2.2**	-64.1%	1.3	-0.04	-3%
Fresh plain unsweetened soy desserts	0.4					
Fresh sweetened soy desserts	0.4	-0.03	-7.4%	0.4	+0.01	+3.6%
Other fresh plant-based desserts	3.8	-0.5	-10.6%			
Other dairy products						

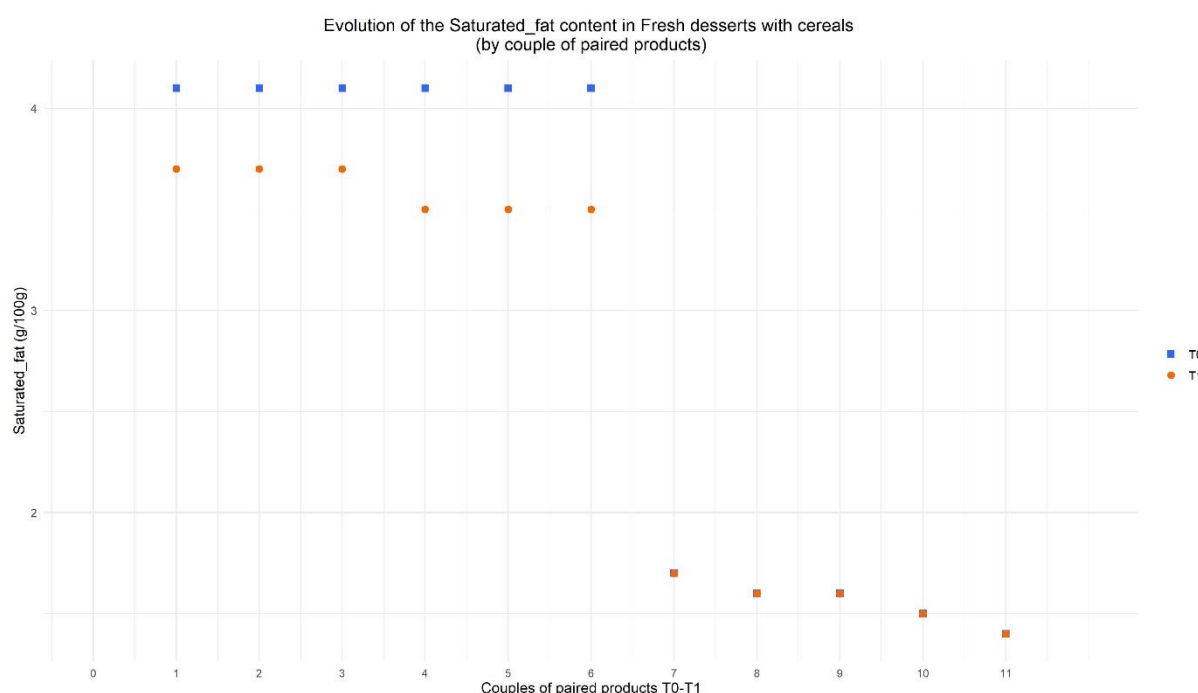


Figure 42 : Saturated fat content evolution between 2018-2019 and 2022 by couple of paired product for Fresh desserts with cereals subcategory

Of the 11 couples of paired products in subcategory Fresh desserts with cereals, six couples have a lower saturated fat content in 2022 (T1) compared to 2018-2019 (T0) and five couples have an equal saturated fat content. The observed reductions range between -0.6g/100g (couples 4 to 6) and -0.4g/100g (couples 1 to 3). It can be observed that all the products with

the highest saturated fat content at T0 have experienced a decrease in their saturated fat content at T1 (Figure 42).

3.2.4.7 Evolution of the sugar content among the subcategories

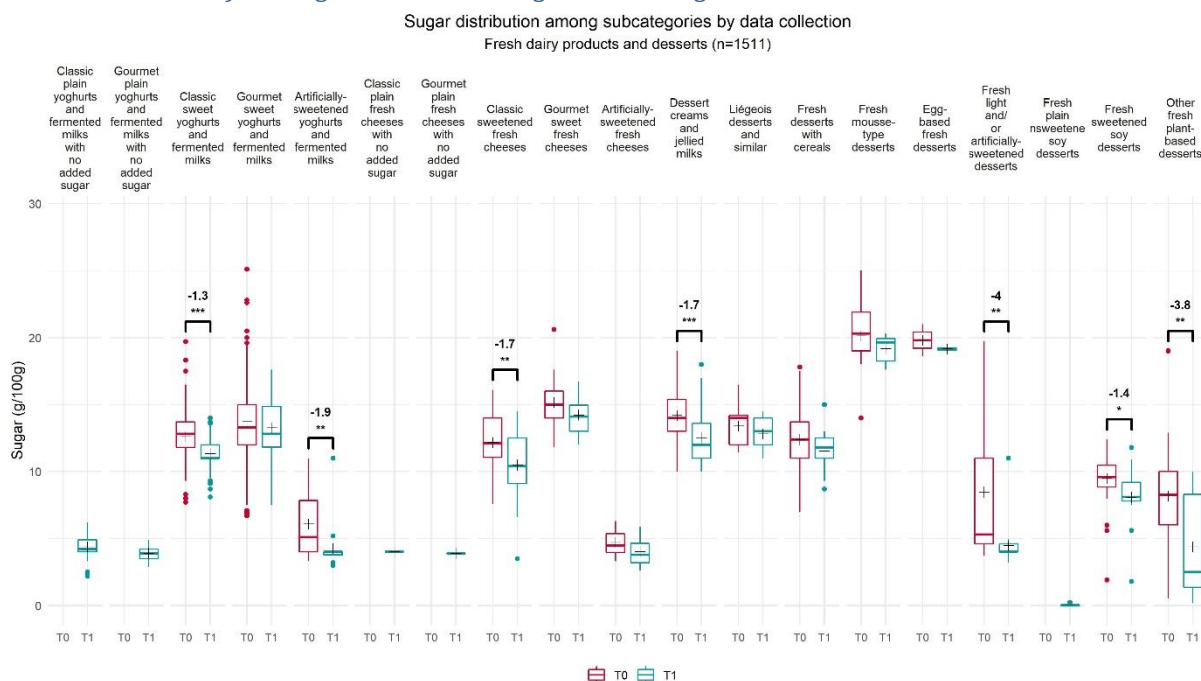


Figure 43 : Sugar distribution among subcategories of Fresh dairy products and desserts¹

Figure 43 shows the sugar distribution of Fresh dairy products and desserts between 2018-2019 (T0) and 2022 (T1) by subcategories. Among the 19 subcategories considered, the average sugar content has significantly decreased for seven subcategories: Classic sweet yoghurts and fermented milks (-1.3g/100g; -10%), Artificially-sweetened yoghurts and fermented milks (-1.9g/100g; -30.3%), Classic sweetened fresh cheeses (-1.7g/100g; -13.9%), Dessert creams and jellied milks (-1.7g/100g; -11.7%), Fresh light and/or artificially-sweetened desserts (-4g/100g; -47.2%), Fresh sweetened soy desserts (-1.4g/100g; -14.7%), Other fresh plant-based desserts (-3.8g/100g; -46.3%).

The variability (range) of the sugar content differs between the subcategories and for almost all subcategories within the same subcategory. The subcategories including products with the most variable sugar content at both times (T0; T1), possibly showing a potential for reformulation, are: Gourmet sweet yoghurts and fermented milks (T0, n=163; T1, n=70), Classic sweetened fresh cheeses (T0, n=47; T1, n=23), Dessert creams and jellied milks (T0, n=61; T1, n=30), Fresh sweetened soy desserts (T0, n=50; T1, n=12) and Other fresh plant-based desserts (T0, n=30; T1, n=15).

Differences in the variability in certain subcategories between T0 and T1 may be explained in part by a different number of products collected for the respective subcategories.

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.4.8 Evolution of the sugar content for paired products

Table 17 summarizes the differences in the average sugar content observed between 2018-2019 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

A significant decrease in the mean sugar content of paired products is observed for six subcategories out of 19: Classic sweet yoghurts and fermented milks (-1.2g/100g, -9.6%), Gourmet sweet yoghurts and fermented milks (-1.5g/100g, -10.6%), Classic sweetened fresh cheeses (-1.3g/100g, -10.4%), Gourmet sweet fresh cheeses (-1.1g/100g, -7.2%), Dessert creams and jellied milks (-0.8g/100g, -6%) and Liégeois desserts and similar (-0.8g/100g, -5.6%). For classic sweet yoghurts and fermented milks, Classic sweetened fresh cheeses and Dessert creams and jellied milks, the significant decrease of the mean sugar content observed at the paired product level can be linked to the significant decrease of the mean sugar content observed at the subcategory level, meaning that this evolution can in part be explained by reformulations.

Table 17 : Summary of the evolution of the average sugar content for Fresh dairy products and desserts, by subcategory¹

	Sugar					
	All products			Paired products		
Subcategory_name	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	4.4					
Gourmet plain yoghurts and fermented milks with no added sugar	3.9					
Classic sweet yoghurts and fermented milks	11.3	-1.3***	-10%	11.5	-1.2***	-9.6%
Gourmet sweet yoghurts and fermented milks	13.3	-0.5	-3.3%	13.4	-1.5***	-10.6%
Artificially-sweetened yoghurts and fermented milks	4.2	-1.9**	-30.3%	4.9	-0.8	-13.4%
Classic plain fresh cheeses with no added sugar	4					
Gourmet plain fresh cheeses with no added sugar	3.9					
Classic sweetened fresh cheeses	10.5	-1.7**	-13.9%	11.6	-1.3**	-10.4%
Gourmet sweet fresh cheeses	14.2	-0.9	-6.2%	14.4	-1.1**	-7.2%
Artificially-sweetened fresh cheeses	4	-0.7	-14.5%	4.6	+0.05	+1.1%
Dessert creams and jellied milks	12.5	-1.7***	-11.7%	12.7	-0.8**	-6%

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

Liégeois desserts and similar	12.8	-0.6	-4.5%	12.7	-0.8**	-5.6%
Curdled milks						
Fresh desserts with cereals	11.5	-0.9	-7.1%	11.5	-0.05	-0.4%
Fresh mousse-type desserts	19.2	-1	-4.8%	20.3	0	0%
Egg-based fresh desserts	19.1	-0.7	-3.3%	19	+0.4	+2.2%
Fresh light and/or artificially-sweetened desserts	4.5	-4**	-47.2%	5.2	-0.3	-5.4%
Fresh plain unsweetened soy desserts	0.1					
Fresh sweetened soy desserts	8.1	-1.4*	-14.7%	8.9	-0.9	-9.3%
Other fresh plant-based desserts	4.4	-3.8**	-46.3%			
Other dairy products						

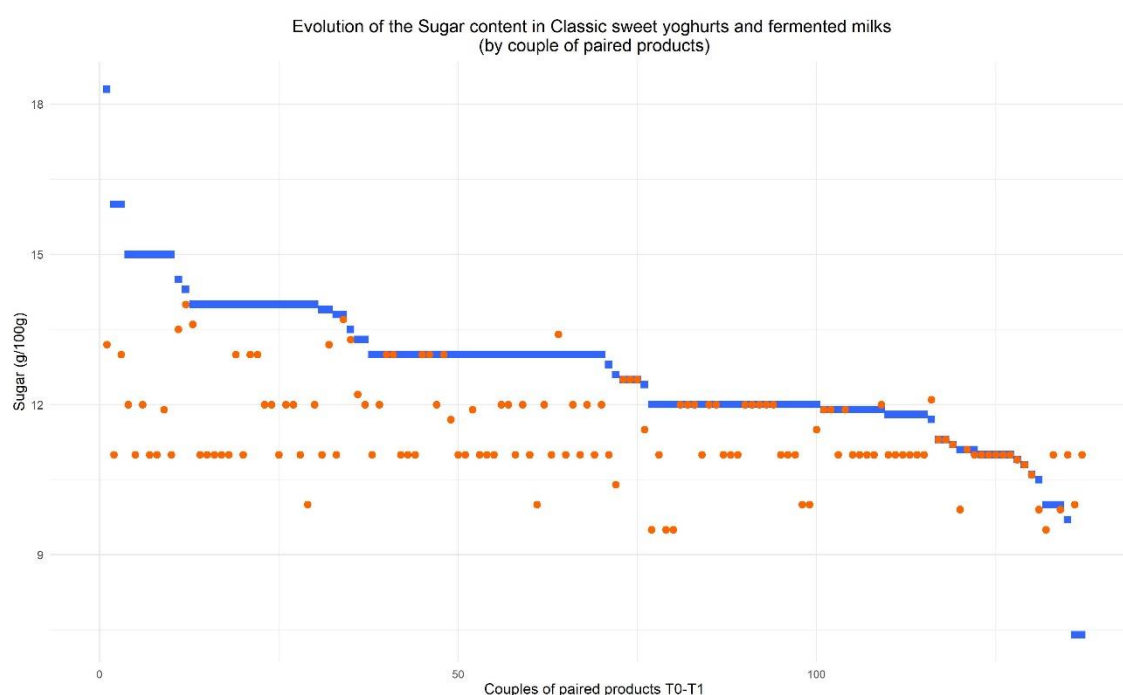


Figure 44 : Sugar content evolution between 2018-2019 and 2022 by couple of paired product for Classic sweet yoghurts and fermented milks subcategory

There are 134 couples of paired products in the subcategory Classic sweet yoghurts and fermented milks. The majority (97 couples) have a lower sugar content in 2022 (T1) compared to 2018-2020 (T0), whereas 33 couples have an equal and four couples have a higher sugar content. The ranges of the increased sugar contents are between +0.1g/100g and +1.0g/100g while the reductions range between -5.1g/100g and -0.1g/100g. It can be observed that most products that have experienced a reduction exhibit a sugar content of 11 to 12 g/100g at T1 (Figure 44).

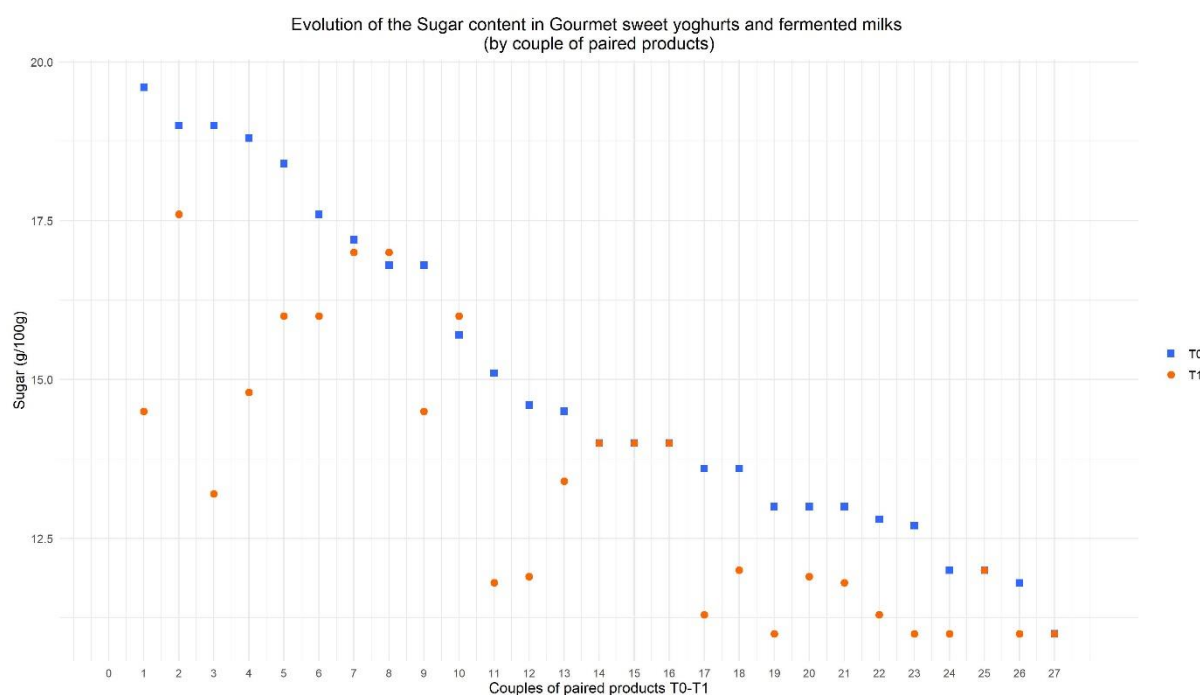


Figure 45 : Sugar content evolution between 2018-2019 and 2022 by couple of paired product for Gourmet sweet yoghurts and fermented milks subcategory

Among the 27 couples of paired products for Gourmet sweet yoghurts and fermented milks, the majority (20 couples) have a lower sugar content at T1 compared to T0, whereas five couples have an equal sugar content and three couples have a higher sugar content. The ranges of the elevated sugar contents are between +0.2g/100g (couple 8) and +0.3g/100g (couple 10) while the reductions range between -5.8g/100g (couple 3) and -0.2g/100g (couple 7) (Figure 45).

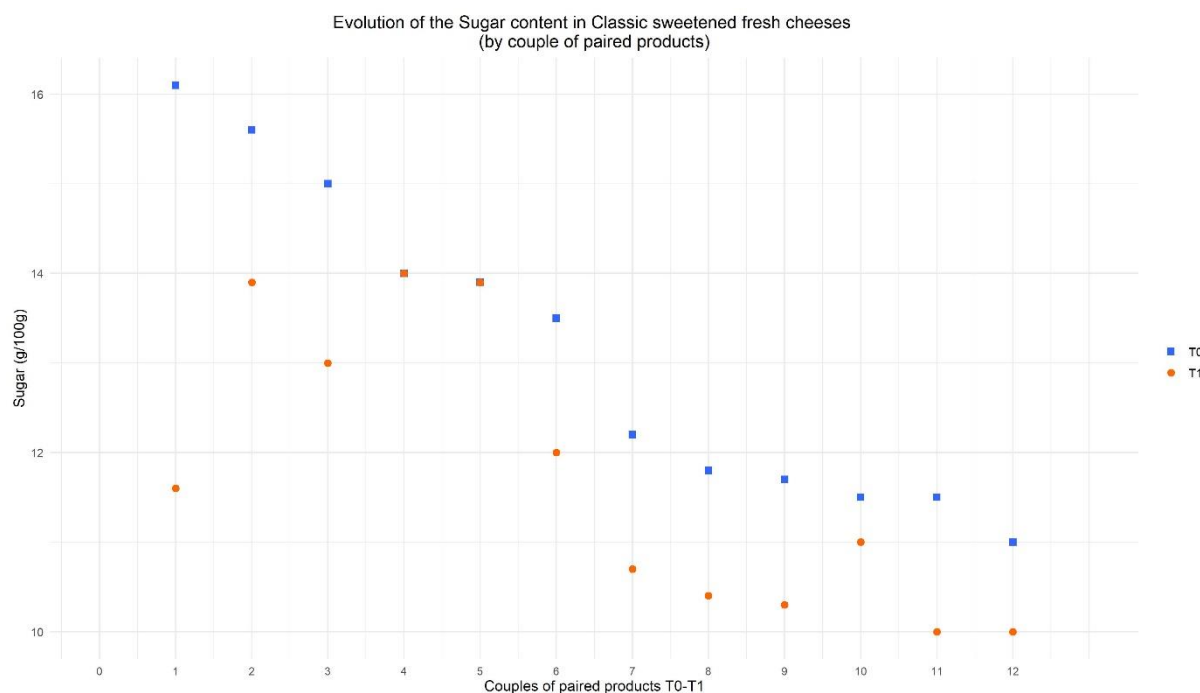


Figure 46 : Sugar content evolution between 2018-2019 and 2022 by couple of paired product for Classic sweetened fresh cheeses subcategory

Ten out of 12 couples of paired products in the subcategory Classic sweetened fresh cheeses have a lower sugar content in 2022 (T1) than in 2018-2019 (T0). The reductions observed are between -4.5g/100g (couple 1) and -0.5g/100g (couple 10). The other two couples have the same sugar content at the two snapshots (couples 4, 5) (Figure 46).

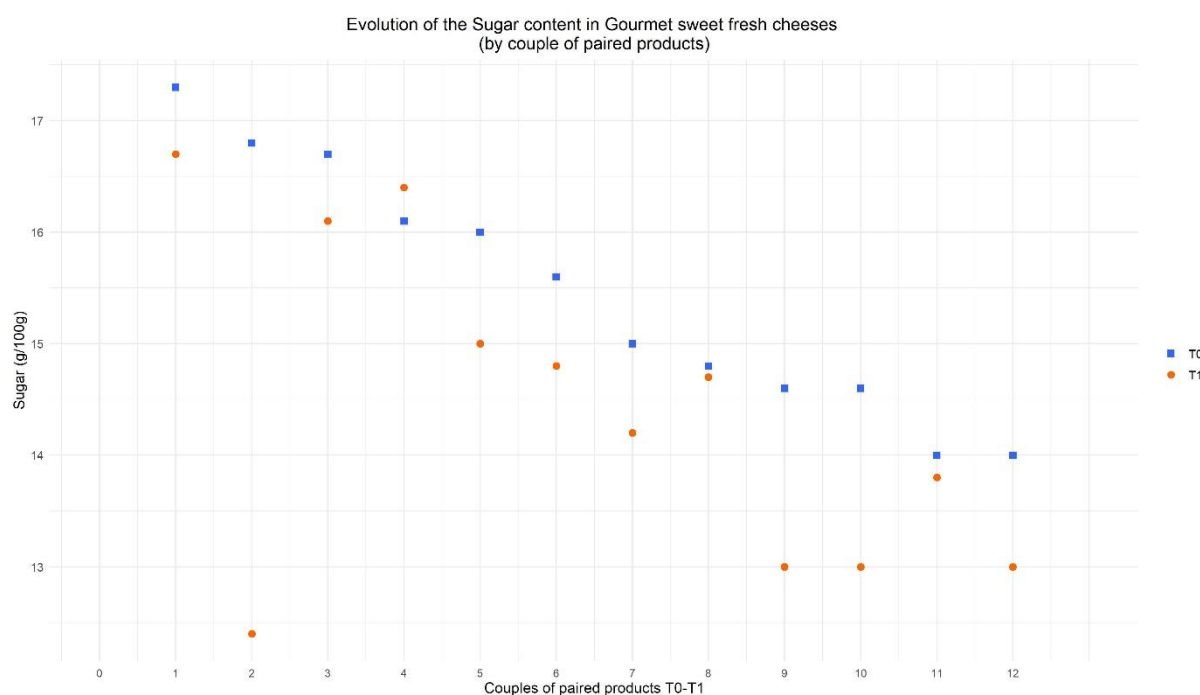


Figure 47 : Sugar content evolution between 2018-2019 and 2022 by couple of paired product for Gourmet sweet fresh cheeses subcategory

All but one couple of paired products of the Gourmet sweet fresh cheeses subcategory show a lower sugar content at T1 compared to T0. The observed reductions range between -4.4g/100g (couple 2) and -0.1g/100g (couple 8). The remaining couple has a +0.3g/100g higher sugar content at T1 than at T0 (couple 4) (Figure 47).

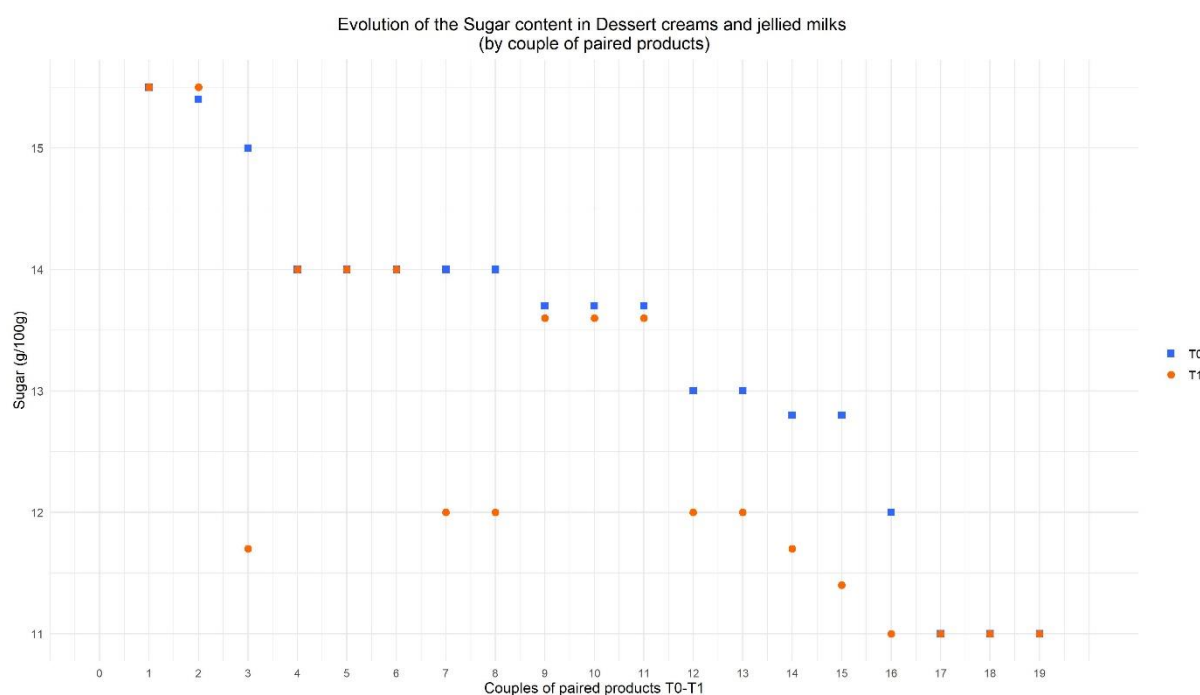


Figure 48 : Sugar content evolution between 2018-2019 and 2022 by couple of paired product for Dessert creams and jellied milks subcategory

Of the 19 couples of paired products in the Dessert creams and jellied milks subcategory, the majority (11 couples) have a lower sugar content in 2022 (T1) than in 2018-19 (T0). The reductions observed are between -3.3g/100g (couple 3) and -0.1g/100g (couples 9 to 11). Seven couples of paired products have an equal sugar content at T0 and T1. One couple shows a higher sugar content at T1 compared to T0, with an increase of +0.3g/100g (couple 2) (Figure 48).

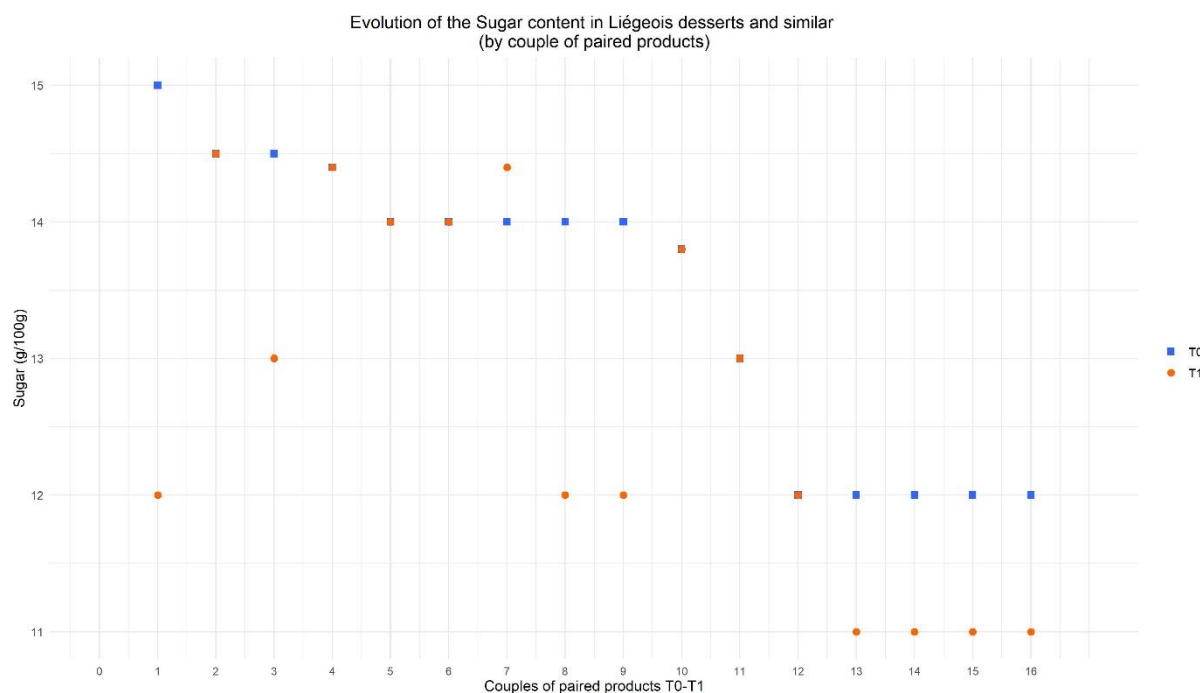


Figure 49 : Sugar content evolution between 2018-2019 and 2022 by couple of paired product for Liégeois desserts and similar subcategory

Half of the 16 couples of paired products in subcategory Liégeois desserts and similar ($n=8$) have a lower sugar content in 2022 (T1) than in 2018-2019 (T0). The reductions observed are between $-1\text{g}/100\text{g}$ (couples 13 to 16) and $-3\text{g}/100\text{g}$ (couple 1). Seven couples show equal sugar values in 2022 compared to 2018-2019 and one couple has a $+0.4\text{g}/100\text{g}$ higher sugar content in 2022 than in 2018-2019 (couple 7) (Figure 49).

3.2.4.9 Evolution of the fibre content among the subcategories

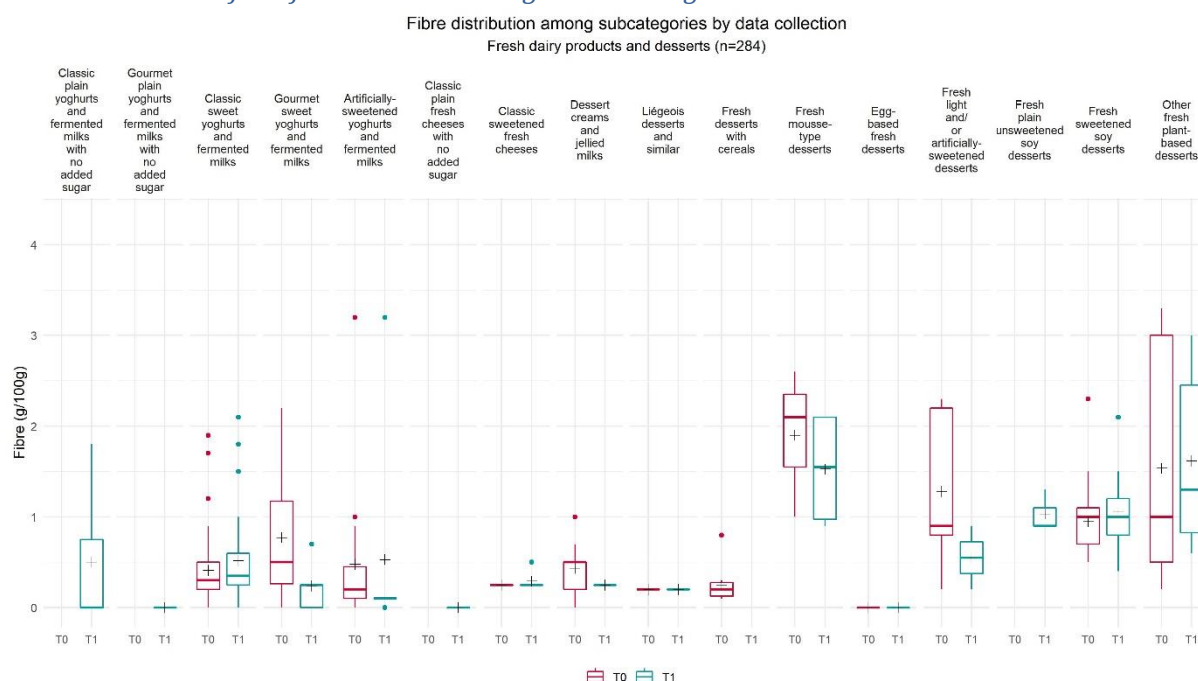


Figure 50 : Fibre distribution among subcategories of Fresh dairy products and desserts¹

Figure 50 shows the fibre distribution of Fresh dairy products and desserts between 2018-2019 (T0) and 2022 (T1) by subcategories. No significant increase or decrease of the average fibre content can be observed among the 16 subcategories.

The variability (range) varies among the different subcategories and to some extent within the same subcategory between T0 and T1, e.g. for: Gourmet sweet yoghurts and fermented milks (n=34; n=5), Fresh light and/or artificially-sweetened desserts (n=5; n=2) and Other fresh plant-based desserts (n=17; n=6). These subcategories have a higher variability at T0 than at T1.

Subcategories with the highest variability of the fibre content at both times (T0; T1) are: Classic sweet yoghurts and fermented milks (n=48; n=38), Fresh sweetened soy desserts (n=40; n=8), Other fresh plant-based desserts (n=17; n=6) and Artificially-sweetened yoghurts and fermented milks (n=19; n=7). It should be noted, that the high range of the Artificially-sweetened yoghurts and fermented milk subcategory is due to one outlier each at T0 and T1. The subcategory 'Classic plain yoghurts and fermented milks with no added sugar' also has a high range in the fibre content, but was only recorded at T1. This subcategory included two products with an addition of inulin.

The fact that there is a different variability between T0 and T1 in certain subcategories may be explained in part by a different methodology of data collection and a different number of products collected for the respective subcategories.

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.4.10 Evolution of the fibre content for paired products

Table 18 summarizes the difference in the average fibre content observed between 2018-2019 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

A significant increase in the mean fibre content of paired products is observed for one subcategory out of 21: Classic sweet yoghurts and fermented milks (+0.1*, +43.3%). The fibre content is generally low. The differences in the fibre content between the two snapshots could possibly be linked to changes in the processing of some products. It may also be due to differences in the way of labelling the fibre content.

Table 18 : Summary of the evolution of the average fibre content for Fresh dairy products and desserts, by subcategory¹

Subcategory_name	Fibre					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	0.5					
Gourmet plain yoghurts and fermented milks with no added sugar	0					
Classic sweet yoghurts and fermented milks	0.5	+0.1	+26%	0.4	+0.1*	+43.3%
Gourmet sweet yoghurts and fermented milks	0.2	-0.5	-68.9%	0.1	-0.1	-44.4%
Artificially-sweetened yoghurts and fermented milks	0.5	+0.05	+10.4%	0.6	0	0%
Classic plain fresh cheeses with no added sugar	0					
Gourmet plain fresh cheeses with no added sugar						
Classic sweetened fresh cheeses	0.3	+0.04	+16.7%	0.2	0	0%
Gourmet sweet fresh cheeses						
Artificially-sweetened fresh cheeses						
Dessert creams and jellied milks	0.2	-0.2	-42.3%			
Liégeois desserts and similar	0.2	0	0%	0.2	0	0%
Curdled milks						
Fresh desserts with cereals						
Fresh mousse-type desserts	1.5	-0.4	-19.7%			
Egg-based fresh desserts	0	0		0	0	

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

Fresh light and/or artificially-sweetened desserts	0.6	-0.7	-0.5%	0.2	0	0%
Fresh plain unsweetened soy desserts	1					
Fresh sweetened soy desserts	1.1	+0.1	+0.2%	1.2	+0.3	+32.8%
Other fresh plant-based desserts	1.6	+0.08	+0.07%			
Other dairy products						

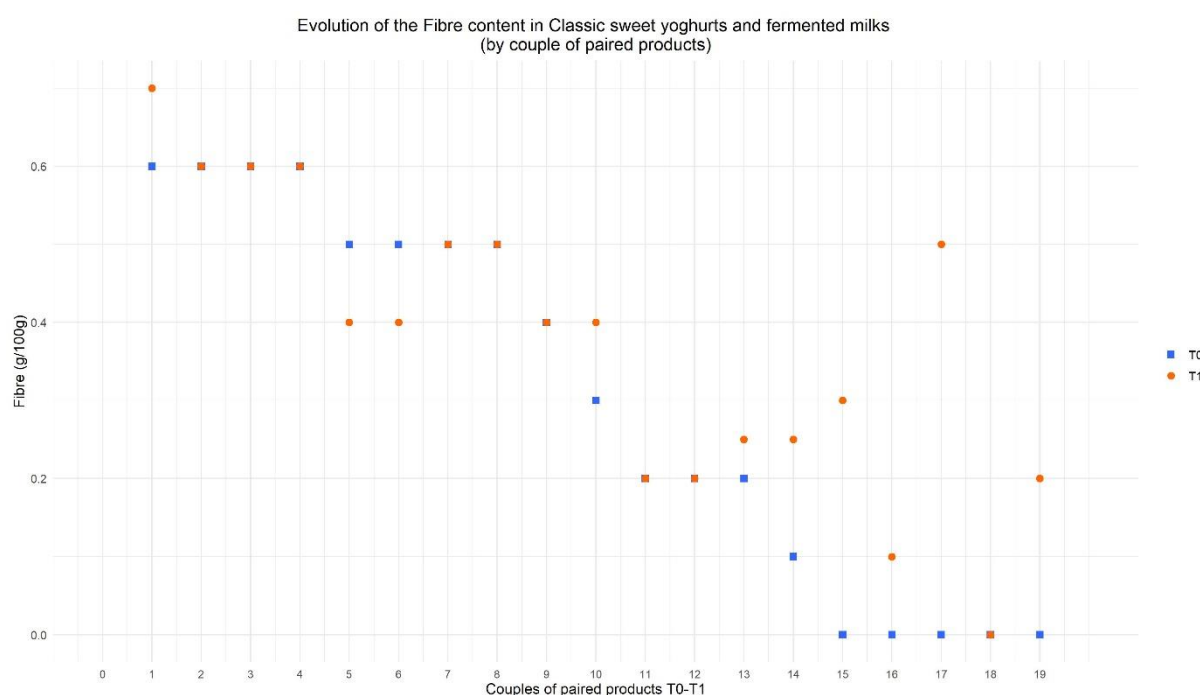


Figure 51 : Fibre content evolution between 2018-2019 and 2022 by couple of paired product for Classic sweet yoghurts and fermented milks subcategory

Of the 19 couples of paired products in the subcategory Classic sweet yoghurts and fermented milks, nine couples have an equal fibre content in 2018-2019 (T0) and 2022 (T1). Eight couples have a higher fibre content at T1 compared to T0. The observed increases range between +0.05g/100g (couple 13) and +0.5g/100g (couple 17). A minority of couples (n=2) shows lower fibre values in 2022 than in 2018-2019, with a decrease of -0.1g/100g (couples 5, 6) (Figure 51).

3.2.5 Soft drinks

The nutrients considered for the analysis of the evolution of the Soft drinks category are: Fat, Saturated fat, Sugars, Fibre and Salt.

3.2.5.1 Evolution of the fat content among the subcategories

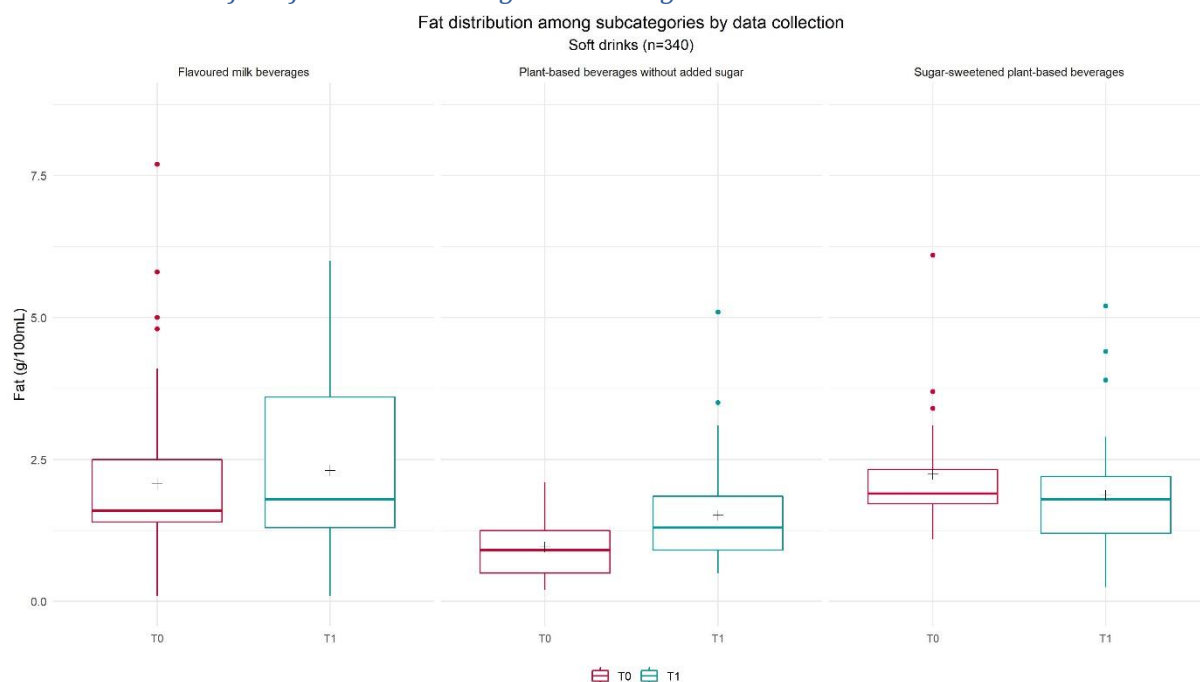


Figure 52 : Fat distribution among subcategories of Soft drinks¹

In Figure 52, the fat distribution of the soft drink subcategories Flavoured milk beverages, Plant-based beverages without added sugar and Sugar-sweetened plant-based beverages between 2018-2020 (T0) and 2022 (T1) is depicted. No significant changes of the fat content can be observed between the two data collections. The fat content is not relevant for the other collected subcategories.

The variability (range) of the fat content among the subcategories differs between the two snapshots as well as within the same subcategory, which may be partly due to differences in the number of collected products at T0 and T1 (Flavoured milk beverages: n=85 vs. 118; Plant-based beverages without added sugar: n=7 vs. 71; Sugar-sweetened plant-based beverages: n=22 vs. 37).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.5.2 Evolution of the fat content for paired products

Table 19 summarizes the difference in the average fat content observed between 2018-2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Table 19 : Summary of the evolution of the average fat content for Soft drinks, by subcategory¹

	Fat					
	All products			Paired products		
Subcategory_name	Mean.T1 (g/100mL)	Mean value difference (g/100mL)	Mean value evolution (%)	Mean.T1 (g/100mL)	Mean value difference (g/100mL)	Mean value evolution (%)
Flavoured milk beverages	2.3	+0.2	+11.4%	2	+0.0008	+0.04%
Plant-based beverages without added sugar	1.5	+0.6	+58.3%	1.3	-0.8	-38.1%
Sugar-sweetened plant-based beverages	1.9	-0.4	-16.7%	1.8	+0.02	+1.4%

3.2.5.3 Evolution of the saturated fat content among the subcategories

Saturated_fat distribution among subcategories by data collection
Soft drinks (n=340)

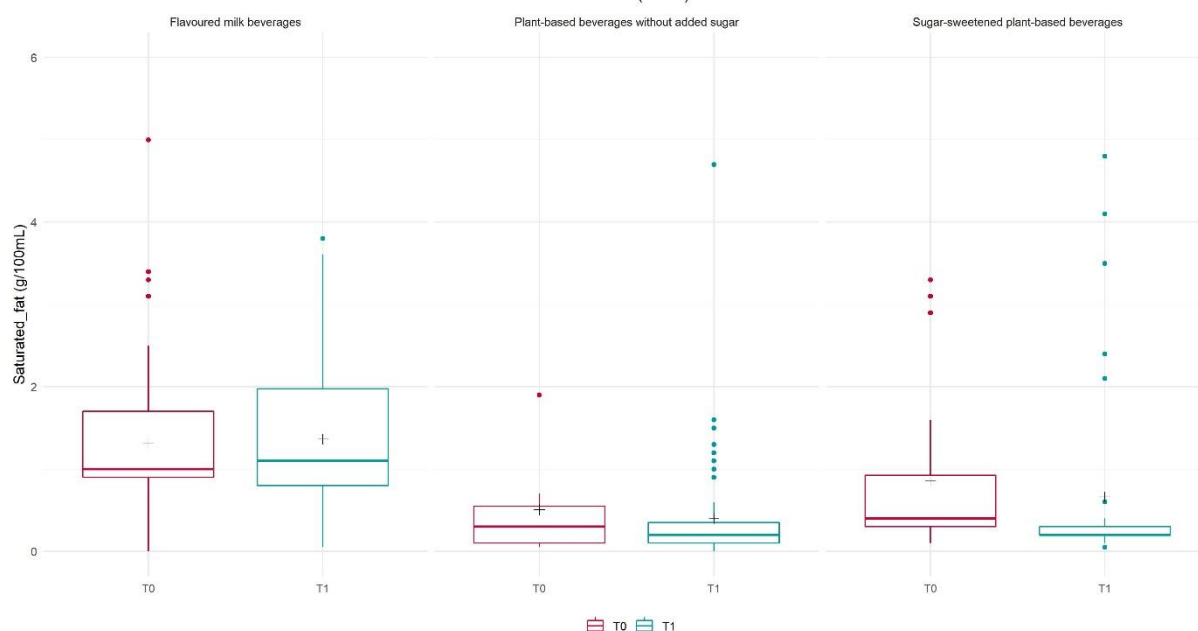


Figure 53 : Saturated fat distribution among subcategories of Soft drinks²

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

² Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Figure 53 shows the distribution of the saturated fat content of the Soft drinks subcategories 'Flavoured milk beverages', 'Plant-based beverages without added sugar' and 'Sugar-sweetened plant-based beverages' between T0 and T1. There are no significant changes of the saturated fat content between 2018-2020 and 2022 among these three subcategories.

The ranges differ according to the subcategories as well as within the subcategories. This may partly be explained by big differences in the number of products collected at the two snapshots (Flavoured milk beverages: n=85 at T0 vs. 118 at T1; Plant-based beverages without added sugar: n=7 vs. 71; Sugar-sweetened plant-based beverages: n=22 vs. 37).

3.2.5.4 Evolution of the saturated fat content for paired products

Table 20 summarizes the difference in the average fat content observed between 2018-2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Table 20 : Summary of the evolution of the average saturated fat content for Soft drinks, by subcategory¹

	Saturated fat					
	All products			Paired products		
Subcategory_name	Mean.T1 (g/100mL)	Mean value difference (g/100mL)	Mean value evolution (%)	Mean.T1 (g/100mL)	Mean value difference (g/100mL)	Mean value evolution (%)
Flavoured milk beverages	1.4	+0.05	+4.2%	1.3	+0.02	+1.6%
Plant-based beverages without added sugar	0.4	-0.1	-21.4%	1.1	-0.8	-42.1%
Sugar-sweetened plant-based beverages	0.7	-0.2	-23.2%	0.3	0	0%

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.5.5 Evolution of the sugar content among the subcategories

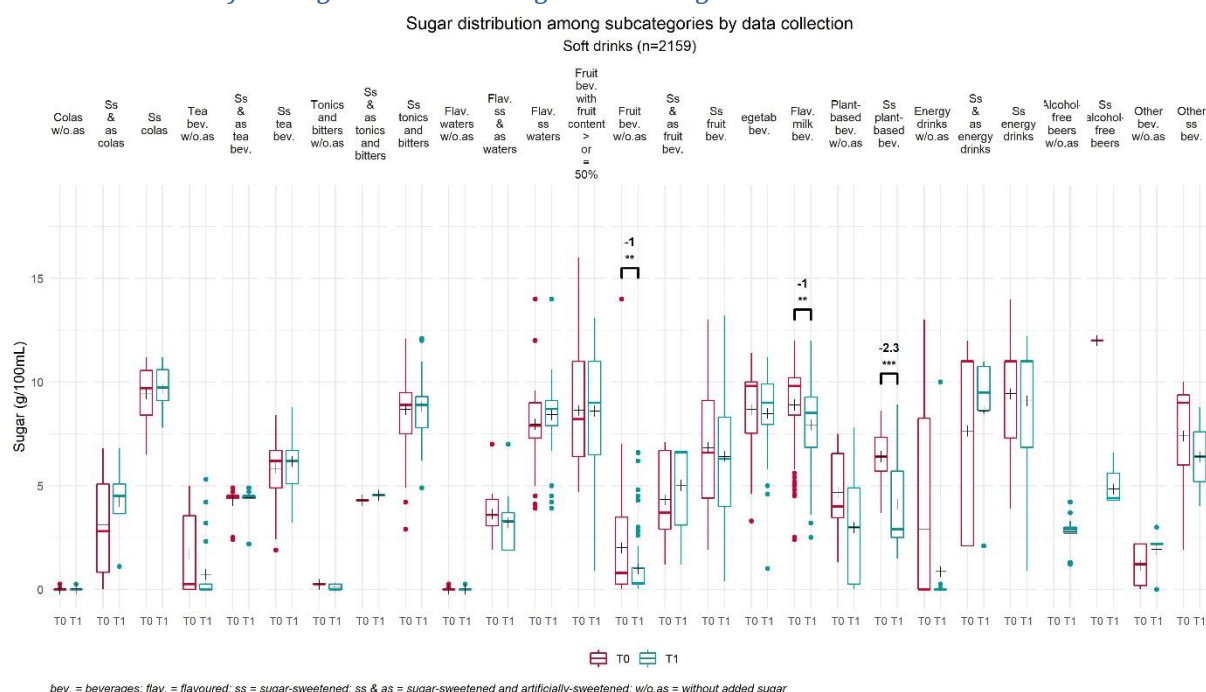


Figure 54 : Sugar distribution among subcategories of Soft drinks¹

The distribution of the sugar content of Soft drinks between 2018-2020 (T0) and 2022 (T1) is represented in Figure 54. Among the 27 subcategories the average sugar content has significantly decreased in three subcategories, i.e. Fruit beverages without added sugar (-1g/100ml; -50.8%), Flavoured milk beverages (-1g/100ml; -10.8%) and Sugar-sweetened plant-based beverages (-2.3g/100ml; -35.9%).

The variability (range) varies among the different subcategories and to some extent within the same subcategory between T0 and T1. Subcategories with the highest variability of the sugar content at both times, possibly showing a potential for reformulation, are: Sugar-sweetened fruit beverages (2018-2020, n=231; 2022, n=246), Fruit beverages with fruit content > or = 50% (2018-2020, n=60; 2022, n=90), Sugar-sweetened energy drinks (2018-2020, n=65; 2022, n=62), Flavoured sugar-sweetened waters (2018-2020, n=53; 2022, n=50), Vegetable beverages (2018-2020, n=24; 2022, n=44), Energy drinks without added sugar (2018-2020, n=31; 2022, n=24) and Flavoured milk beverages (2018-2020, n=85; 2022, n=118).

A higher variability in 2022 compared to 2018-2020 may be explained in part by a greater number of products collected in 2022, for example: Sugar-sweetened plant-based beverages (2018-2020, n=22; 2022, n=37), Vegetable beverages (2018-2020, n=24; 2022, n=44), Sugar-sweetened fruit beverages (2018-2020, n=231; 2022, n=246), Sugar-sweetened alcohol-free beers (2018-2020, n=1; 2022, n=17) and Fruit beverages with fruit content > or = 50% (2018-2020, n=60; 2022, n=90).

¹Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.5.6 Evolution of the sugar content for paired products

The differences in the average sugar content of all products between 2018-2020 (T0) and 2022 (T1) and of paired products are summarized in Table 21. Significant decreases of the sugar content of paired products between T0 and T1 can be observed for four subcategories: Sugar-sweetened tea beverages (-0.05g/100ml; -0.8%), Fruit beverages with fruit content > or = 50% (-0.1g/100ml; -1.8%), Sugar-sweetened fruit beverages (-0.6g/100ml; -8.3%) and Flavoured milk beverages (-0.5g/100ml; -5.7%). This could in part be linked to a change in product composition for some products.

Table 21 : Summary of the evolution of the average sugar content for Soft drinks, by subcategory ¹

Subcategory_name	Sugar					
	All products			Paired products		
	Mean.T1 (g/100mL)	Mean value difference (g/100mL)	Mean value evolution (%)	Mean.T1 (g/100mL)	Mean value difference (g/100mL)	Mean value evolution (%)
Colas without added sugar	0	-0.005	-14.3%	0	-0.003	-10.7%
Sugar-sweetened and artificially-sweetened colas	4.2	+1.1	+36.3%	3.4	+0.6	+20.2%
Sugar-sweetened colas	9.7	+0.2	+2.6%	9.7	-0.01	-0.1%
Tea beverages without added sugar	0.7	-1	-57.7%	0.9	-0.07	-7.8%
Sugar-sweetened and artificially-sweetened tea beverages	4.4	+0.1	+3.3%	4.6	-0.06	-1.3%
Sugar-sweetened tea beverages	6.2	+0.3	+5.8%	6	-0.05**	-0.8%
Tonics and bitters without added sugar	0.1	-0.2	-60%	0.2	0	0%
Sugar-sweetened and artificially-sweetened tonics and bitters	4.6	+0.2	+5.8%			
Sugar-sweetened tonics and bitters	8.8	+0.1	+1.6%	9	-0.2	-2.4%
Flavoured waters without added sugar	0	-0.003	-19.4%	0	-0.005	-20.6%
Flavoured sugar-sweetened and artificially-sweetened waters	3.2	-0.4	-11.2%	3.2	-0.2	-5.9%
Flavoured sugar-sweetened waters	8.4	+0.5	+5.8%	8.5	+0.2	+2.7%
Fruit beverages with fruit content > or = 50%	8.6	-0.03	-0.4%	7.6	-0.1*	-1.8%
Fruit beverages without added sugar	1	-1**	-50.8%	0.9	-0.3	-23.6%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

Sugar-sweetened and artificially-sweetened fruit beverages	5	+0.7	+16.3%	4.8	-0.2	-4.1%
Sugar-sweetened fruit beverages	6.4	-0.4	-6.1%	6.3	-0.6***	-8.3%
Vegetable beverages	8.5	-0.2	-2.3%	8.4	+0.05	+0.6%
Flavoured milk beverages	7.9	-1**	-10.8%	8.4	-0.5***	-5.7%
Plant-based beverages without added sugar	3	-1.7	-36.2%	3	-0.1	-3.2%
Sugar-sweetened plant-based beverages	4.1	-2.3***	-35.9%	7.1	+0.2	+2.5%
Energy drinks without added sugar	0.9	-2.1	-70.3%	1.2	-0.1	-7.8%
Sugar-sweetened and artificially-sweetened energy drinks	8.6	+1	+12.6%	7.7	-0.7	-8%
Sugar-sweetened energy drinks	9.1	-0.4	-3.8%	9.9	+0.1	+1%
Alcohol-free beers without added sugar	2.8					
Sugar-sweetened alcohol-free beers	4.8	-7.2	-59.7%			
Other beverages without added sugar	1.9	+0.8	+65.2%	2.2	0	0%
Other sugar-sweetened beverages	6.4	-1	-13.5%	4	-1	-20%

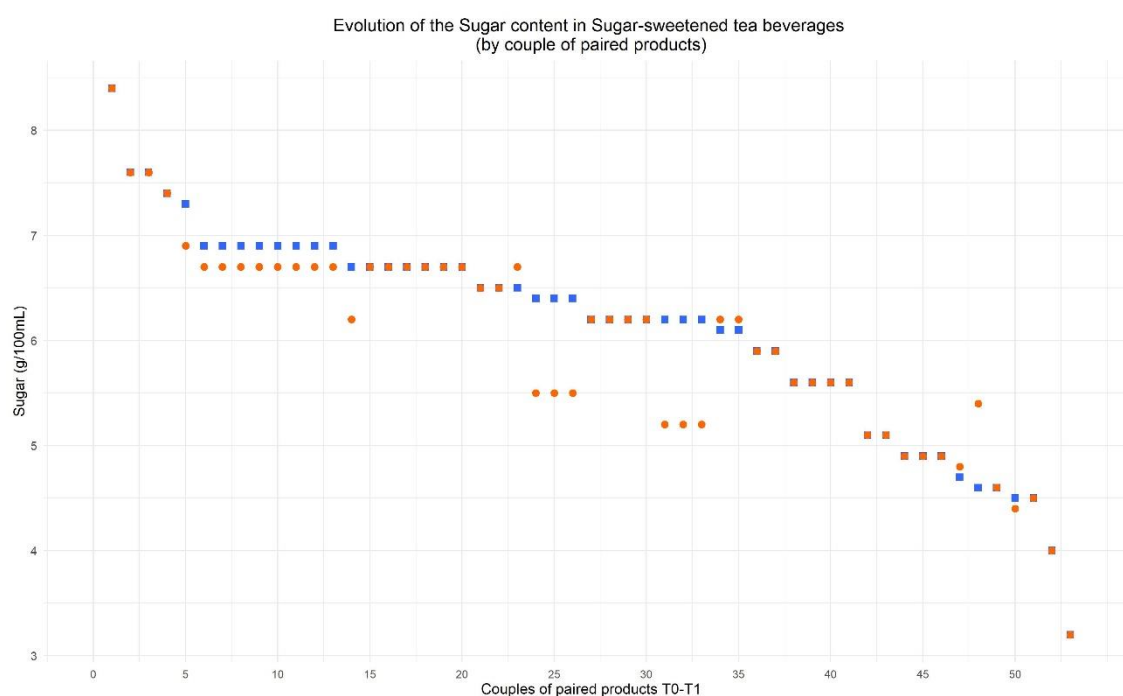


Figure 55 : Sugar content evolution between 2020 and 2022 by couple of paired product for Sugar-sweetened tea beverages

There are 53 couples of paired products in the subcategory Sugar-sweetened tea beverages. The majority (31 couples) have an equal sugar content at T0 and T1, whereas five pairs have a higher and 17 pairs a lower sugar content in 2022 compared to 2020. The ranges of the elevated sugar contents are between +0.1g/100mL (couples 34, 35, 47) and +0.8g/100mL (couple 48) while the reductions range between -0.1g/100mL (couple 50) and -1g/100mL (couples 31 to 33). No decrease can be observed for the product with the highest sugar content (Figure 55).

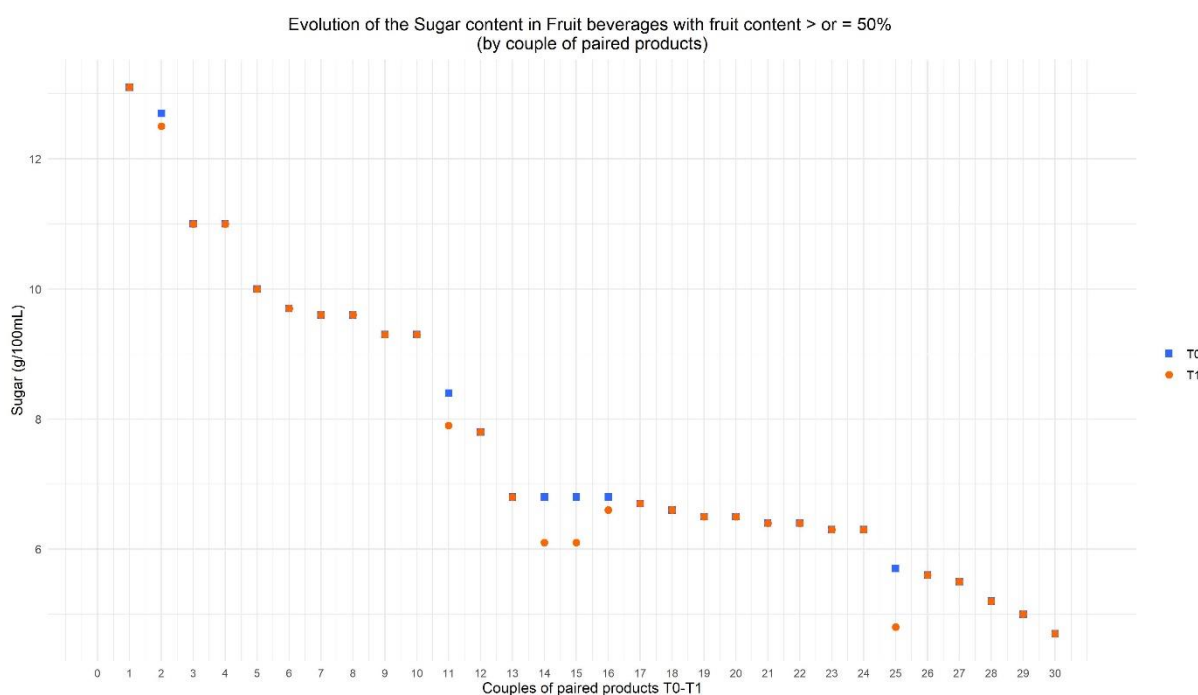


Figure 56 : Sugar content evolution between 2020 and 2022 by couple of paired product for Fruit beverages with fruit content $\geq 50\%$

There are 30 couples of paired products in the subcategory Fruit beverages with fruit content $\geq 50\%$. The majority of the couples ($n=24$) have an equal sugar content at T0 and T1, whereas six paired products have a lower sugar content in 2022 compared to 2020. There are no couples with a higher sugar content in 2022 compared to 2020. The ranges of the sugar content reductions are between -0.2g/100ml (couples 2, 16) and -0.9g/100ml (couple 25). No decrease can be observed for the product with the highest sugar content (Figure 56).

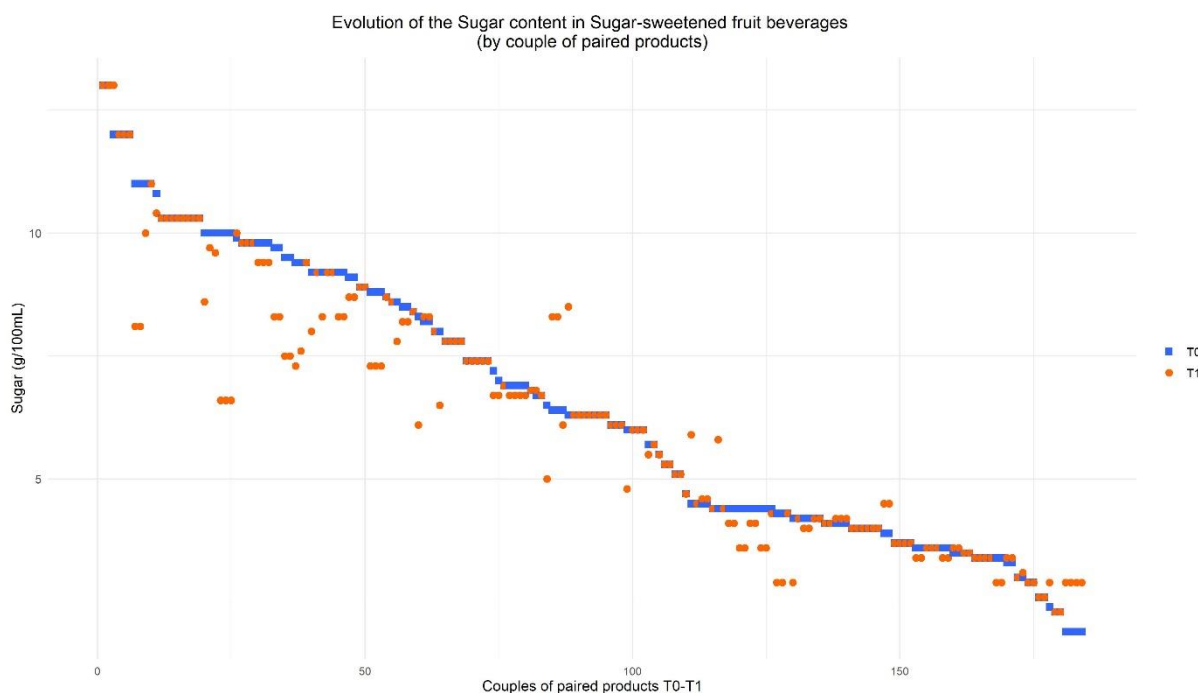


Figure 57 : Sugar content evolution between 2020 and 2022 by couple of paired product for Sugar-sweetened fruit beverages

Among the 184 couples of paired products of Sugar-sweetened fruit beverages, the majority (94 couples) have an equal sugar content at T0 and T1, whereas 27 couples have a higher and 63 couples a lower sugar content in 2022 compared to 2020. The ranges of the elevated sugar contents are between +0.1 and +2.2g/100ml while the reductions range between -0.1 and -3.4g/100ml. No decrease can be observed for the product with the highest sugar content (Figure 57).

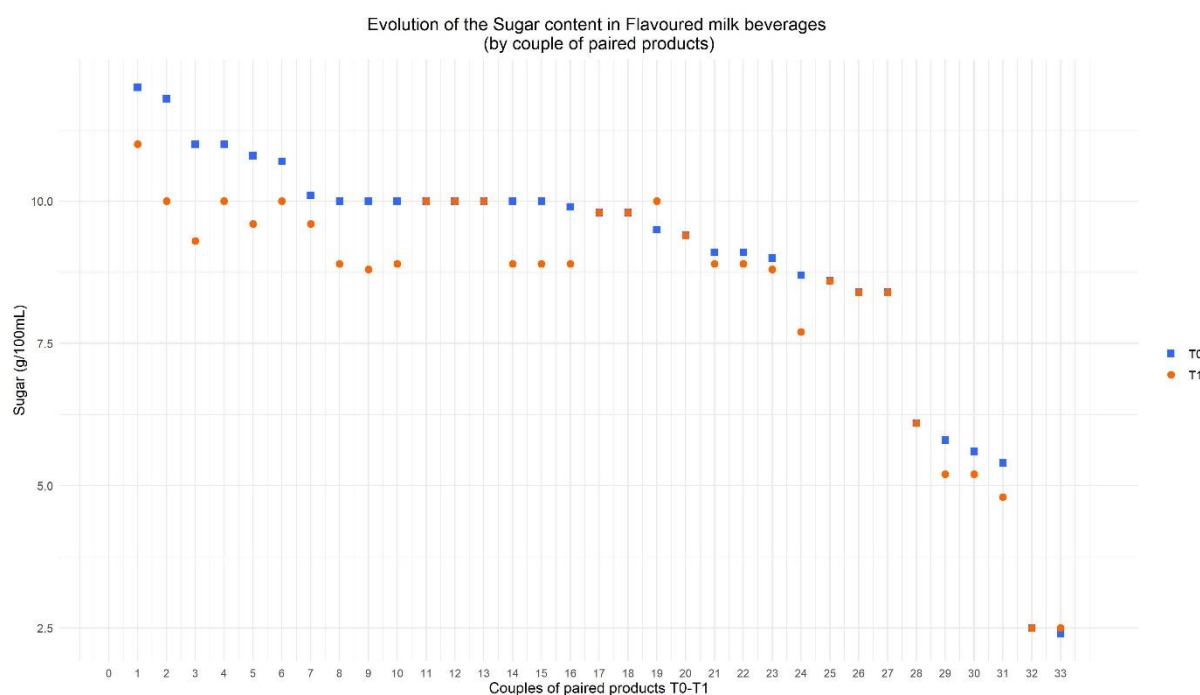


Figure 58 : Sugar content evolution between 2018-2019 and 2022 by couple of paired product for Flavoured milk beverages

Of the 33 couples of paired products in the subcategory Flavoured milk beverages, the majority (20 couples) have a lower sugar content in 2022 compared to 2018-2019. The observed reductions range between -0.2g/100ml (couple 21 to 23) and -1.8g/100ml (couple 2). Eleven couples have an equal and two couples have a higher sugar content. The ranges of the elevated sugar contents are between +0.1g/100ml (couple 33) and +0.5g/100ml (couple 19) (Figure 58).

3.2.5.7 Evolution of the fibre content among the subcategories

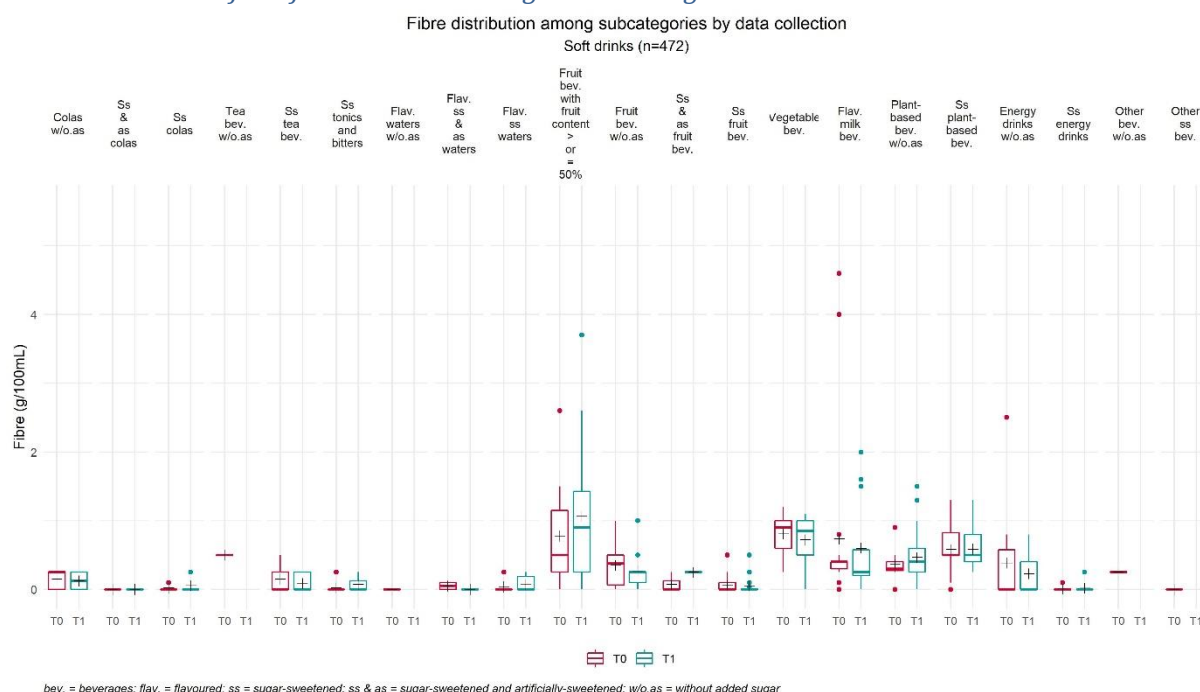


Figure 59 : Fibre distribution among subcategories of Soft drinks¹

The distribution of the fibre content of Soft drinks between 2018-2020 (T0) and 2022 (T1) is represented in Figure 59. Among the 21 subcategories, there were a few subcategories with no data for fibre content at T1, like Tea beverages without added sugar; Flavoured waters without added sugar; Other beverages without added sugar; Other sugar-sweetened beverages. None of the subcategories had significant differences in fibre content between the two data collections.

The variability (range) varies slightly among the different subcategories and to some extent within the same subcategory between T0 and T1.

Subcategories with the highest variability of the fibre content at both times and within the same subcategory are: Fruit beverages with fruit content $\geq 50\%$ (T0, n=15; T1, n=14), Flavoured milk beverages (T0, n=20; T1, n=30), Energy drinks without added sugar (T0, n=12; T1, n=7). Subcategories with a medium, but slightly elevated, variability between T0 and T1 are: Plant-based beverages without added sugar (T0, n=7; T1, n=54), Sugar-sweetened plant-based beverages (T0, n=18; T1, n=24), Vegetable beverages (T0, n=9; T1, n=14), Fruit beverages without added sugar (T0, n=10; T1, n=11).

Differences in the variability in 2022 compared to 2018-2020 may be explained in part by a greater number of products collected in 2022.

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.5.8 Evolution of the fibre content for paired products

Table 22 summarizes the differences in the average fibre content observed between 2018-2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

There were no significant differences in fibre content of all products or paired products.

It should be noted that some mean value evolutions in percent in Table 22 are high due to the considerably low amount of fibre in Soft drinks. Small changes in the fibre content and a different way of labelling over time (Traces or <0.5 or the correct value) can lead to large mean value evolutions in percent.

Table 22 : Summary of the evolution of the average fibre content for Soft drinks, by subcategory¹

Subcategory_name	Fibre					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Colas without added sugar	0.1	-0.02	-16.7%	0.1	0	0%
Sugar-sweetened and artificially-sweetened colas	0	0		0	0	
Sugar-sweetened colas	0.1	+0.04	+183.3%	0.1	+0.04	+353.3%
Tea beverages without added sugar						
Sugar-sweetened and artificially-sweetened tea beverages						
Sugar-sweetened tea beverages	0.1	-0.06	-41.2%	0.1	-0.07	-48.7%
Tonics and bitters without added sugar						
Sugar-sweetened and artificially-sweetened tonics and bitters						
Sugar-sweetened tonics and bitters	0.1	+0.05	+242.9%	0.1	+0.04	+128.6%
Flavoured waters without added sugar						
Flavoured sugar-sweetened and	0	-0.05	-100%	0	0	

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

artificially-sweetened waters						
Flavoured sugar-sweetened waters	0.1	+0.04	+95%	0.1	+0.03	+50%
Fruit beverages with fruit content > or = 50%	1.1	+0.3	+37%	0.9	-0.03	-3.7%
Fruit beverages without added sugar	0.3	-0.08	-23.4%	0.1	0	0%
Sugar-sweetened and artificially-sweetened fruit beverages	0.2	+0.2	+250%	0.2	+0.1	+100%
Sugar-sweetened fruit beverages	0.1	-0.01	-15.4%	0	-0.03	-70.6%
Vegetable beverages	0.7	-0.08	-10.4%	0.8	-0.06	-6.7%
Flavoured milk beverages	0.6	-0.1	-18.1%	0.3	-0.7	-69%
Plant-based beverages without added sugar	0.5	+0.1	+27.3%	0.2	+0.2	
Sugar-sweetened plant-based beverages	0.6	+0.005	+0.8%	0.7	0	0%
Energy drinks without added sugar	0.2	-0.2	-40.4%	0.2	+0.02	+8.8%
Sugar-sweetened and artificially-sweetened energy drinks						
Sugar-sweetened energy drinks	0	+0.01	+265.4%	0	+0.02	+316.7%
Alcohol-free beers without added sugar						
Sugar-sweetened alcohol-free beers						
Other beverages without added sugar						
Other sugar-sweetened beverages						

3.2.5.9 Evolution of the salt content among the subcategories

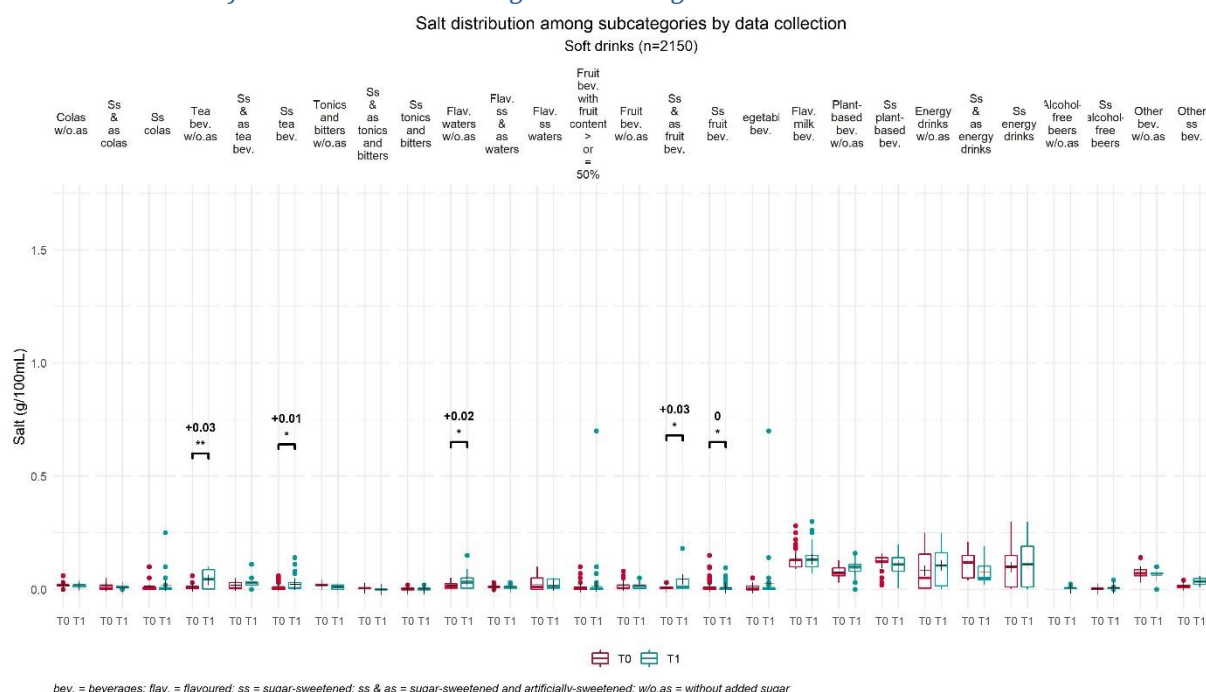


Figure 60 : Salt distribution among subcategories of Soft drinks¹

The distribution of the salt content of Soft drinks between 2018-2020 (T0) and 2022 (T1) is represented in Figure 60. Among the 27 subcategories the average salt content has significantly increased in four subcategories: Tea beverages without added sugar (+0.03g/100ml; +240.71%), Sugar sweetened tea beverages (+0.009g/100ml; +69.62%), Flavoured waters without added sugar (+0.019g/100ml; +105.39%) and Sugar sweetened and artificially-sweetened fruit beverages (+0.036g/100ml; +433.03%). A decrease could be observed for one subcategory: Sugar sweetened fruit beverages (-0.0037g/100ml; -31.97%). The differences in salt content are probably not of relevance and may be due to a different methodology in acquiring the data (at T0 the data was partly taken from online shops) and a different number of products between the two snapshots. It is also possible, that the way of labelling the salt content differed between the products (for example 0g vs. <0.01g/100ml).

The variability (range) is generally low and varies slightly among the different subcategories and for some products within the same subcategory between T0 and T1, especially for Fruit beverages with fruit content > or = 50% and Vegetable beverages, which had a much higher variability at T1 compared to T0, due to one outlier each at T1.

Subcategories with the highest variability of salt content at both times (T0; T1) are: Fruit beverages with fruit content > or = 50% (n=60 vs. n=90), Vegetable beverages (n=24 vs. n=44), Sugar-sweetened energy drinks (n=65 vs. n=61), Energy drinks without added sugar

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

(n=31 vs. n=24), Sugar-sweetened colas (n=47 vs. n=56), Flavoured milk beverages (n=85 vs. n=118), Sugar-sweetened plant-based beverages (n=22 vs. n=37).

A higher variability in 2022 compared to 2018-2020 may be explained in part by a greater number of products collected in 2022.

3.2.5.10 Evolution of the salt content for paired products

The differences of the average salt content of all products between 2018-2020 (T0) and 2022 (T1) and of paired products are summarized in Table 23. A significant decrease of the mean salt content of paired products between T0 and T1 can be observed for one subcategory, but the difference is very small: Fruit beverages without added sugar (-0.00026/100ml; -1.42%).

The very high mean value evolution percentages in some subcategories in Table 23 are high due to the considerably low amount of salt in Soft drinks. Small changes in the salt content and a different way of labelling over time (Traces or <0.01 or the correct value) can lead to large mean value evolutions in percent.

Table 23 : Summary of the evolution of the average salt content for Soft drinks, by subcategory¹

Subcategory_name	Salt					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Colas without added sugar	0.02	-0.0021	-11.38%	0.02	-0.0043	-21.03%
Sugar-sweetened and artificially-sweetened colas	0.01	-0.0075	-49.83%	0.01	+0.0017	+34%
Sugar-sweetened colas	0.02	+0.0036	+26.49%	0.02	+0.0081	+89.42%
Tea beverages without added sugar	0.04	+0.03**	+240.71%	0.03	+0.021	+153.95%
Sugar-sweetened and artificially-sweetened tea beverages	0.03	+0.011	+58.06%	0.02	+0.0024	+16.67%
Sugar-sweetened tea beverages	0.02	+0.009*	+69.62%	0.01	+0.0011	+8.03%
Tonics and bitters without added sugar	0.01	-0.01	-50%	0.02	0	0%
Sugar-sweetened and artificially-sweetened tonics and bitters	0	-0.005	-100%			
Sugar-sweetened tonics and bitters	0	+0.00073	+27.39%	0	+0.00057	+23.97%
Flavoured waters without added sugar	0.04	+0.019*	+105.39%	0.03	+0.0075	+35.8%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

Flavoured sugar-sweetened and artificially-sweetened waters	0.01	-0.0013	-12.27%	0.01	-0.0018	-16.48%
Flavoured sugar-sweetened waters	0.02	-0.00058	-2.86%	0.02	-0.000065	-0.3%
Fruit beverages with fruit content > or = 50%	0.01	+0.0021	+18.69%	0.01	-0.00061	-5.5%
Fruit beverages without added sugar	0.01	-0.0028	-16.5%	0.02	-0.00026*	-1.42%
Sugar-sweetened and artificially-sweetened fruit beverages	0.04	+0.036*	+433.03%	0.02	+0.0045	+40.03%
Sugar-sweetened fruit beverages	0.01	-0.0037*	-31.97%	0.01	-0.0026	-24.52%
Vegetable beverages	0.02	+0.016	+200.72%	0.01	+0.00076	+10.5%
Flavoured milk beverages	0.13	+0.0023	+1.77%	0.12	+0.00083	+0.7%
Plant-based beverages without added sugar	0.09	+0.016	+20.5%	0.07	+0.01	+16.67%
Sugar-sweetened plant-based beverages	0.11	-0.011	-9.66%	0.14	0	0%
Energy drinks without added sugar	0.11	+0.024	+29.42%	0.11	+0.0075	+7.62%
Sugar-sweetened and artificially-sweetened energy drinks	0.08	-0.036	-31.29%	0.06	-0.0067	-9.52%
Sugar-sweetened energy drinks	0.11	+0.012	+12%	0.13	+0.011	+8.6%
Alcohol-free beers without added sugar	0.01					
Sugar-sweetened alcohol-free beers	0.01	+0.0038	+125.49%			
Other beverages without added sugar	0.06	-0.016	-20%	0.07	0	0%
Other sugar-sweetened beverages	0.03	+0.019	+115.38%	0.06	+0.04	+200%

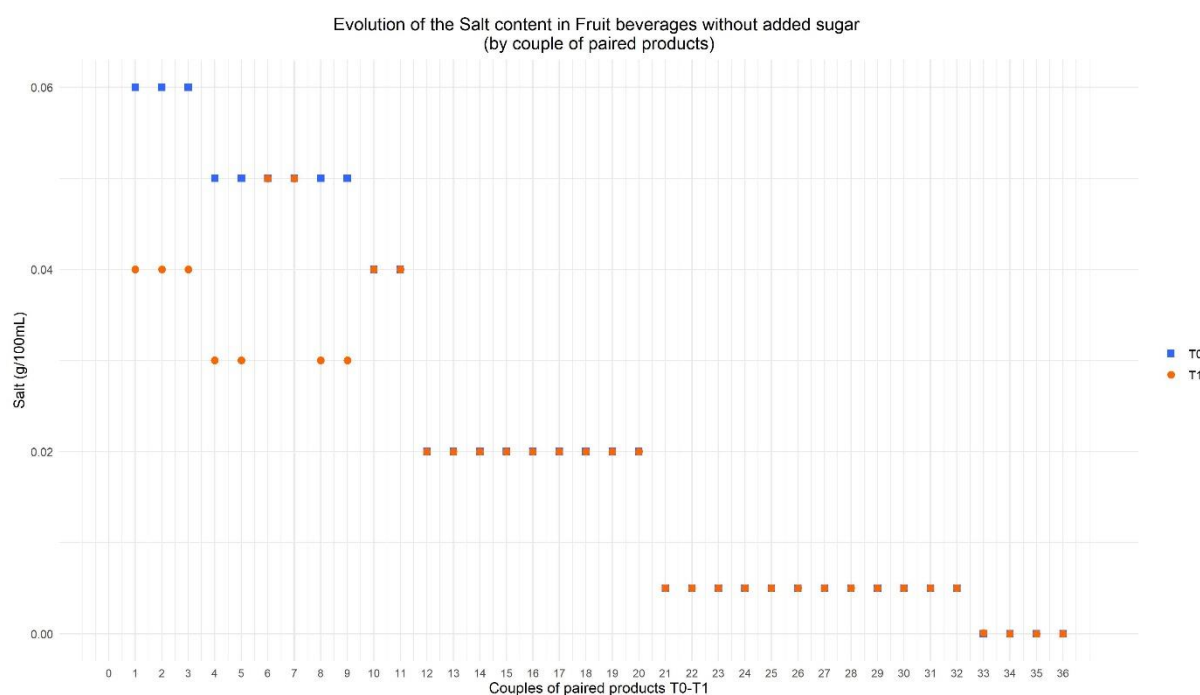


Figure 61 : Salt content evolution between 2020 and 2022 by couple of paired product for Fruit beverages without added sugar subcategory

There are 36 couples of paired products in the subcategory Fruit beverages without added sugar. The majority (28 couples) have an equal salt content at T0 and T1, whereas one couple has a slightly higher and 7 couples have a slightly lower salt content in 2022 compared to 2020. In the product with the higher salt content, the content is elevated by +0.0001g/100ml (couple 33) while the reduction is -0.02g/100ml (couples 1 to 5, 8, 9) (Figure 61). The differences are very small and not of relevance.



Best-ReMaP

Healthy Food for a Healthy Future

Belgium T1 statistics report

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Sciensano – WP5

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1 Description of the food offer

1.1 Presentation of data collected

The Belgium pre-existing data was collected through taking pictures from food and beverage products on the market in 2018 for the retailers Carrefour, Lidl and Aldi. There were five food categories that were collected, namely; Bread products, Breakfast cereals, Delicatessen meats and similar, Fresh dairy products and desserts and Soft drinks. For the Best-ReMaP data collection, a similar approach to the pre-existing data collection method was employed including data from the same five food categories. Pictures from branded food products were taken in 2022 in five retailers with the biggest market share in Belgium. These were Carrefour, Delhaize, Colruyt, Aldi and Lidl (Table 1) and according to data shared by La Libre Belgique, the big three stores in Belgium (Carrefour, Colruyt, Delhaize) control 66.9% of the food market while Aldi and Lidl, the “hard discounters,” occupy 18.2% (<https://www.brusselstimes.com/267605/85-of-food-retail-market-in-belgium-controlled-by-five-groups>, brussels times, 5 August 2022, accessed 23 August 2023).

For the purpose of this report, the pre-existing data prior to Best-ReMaP data collection is referred to as; T0, while Best-ReMaP data collection is referred to as; T1.

Table 1 : Years of data collections

Category name	T0 data collection year	T1 data collection year
Bread products	2018	2022
Breakfast cereals	2018	2022
Delicatessen meats and similar	2018	2022
Fresh dairy products and desserts	2018	2022
Soft drinks	2018	2022

1.2 Evolution of the food offer

1.2.1 Evolution of the food offer, by category

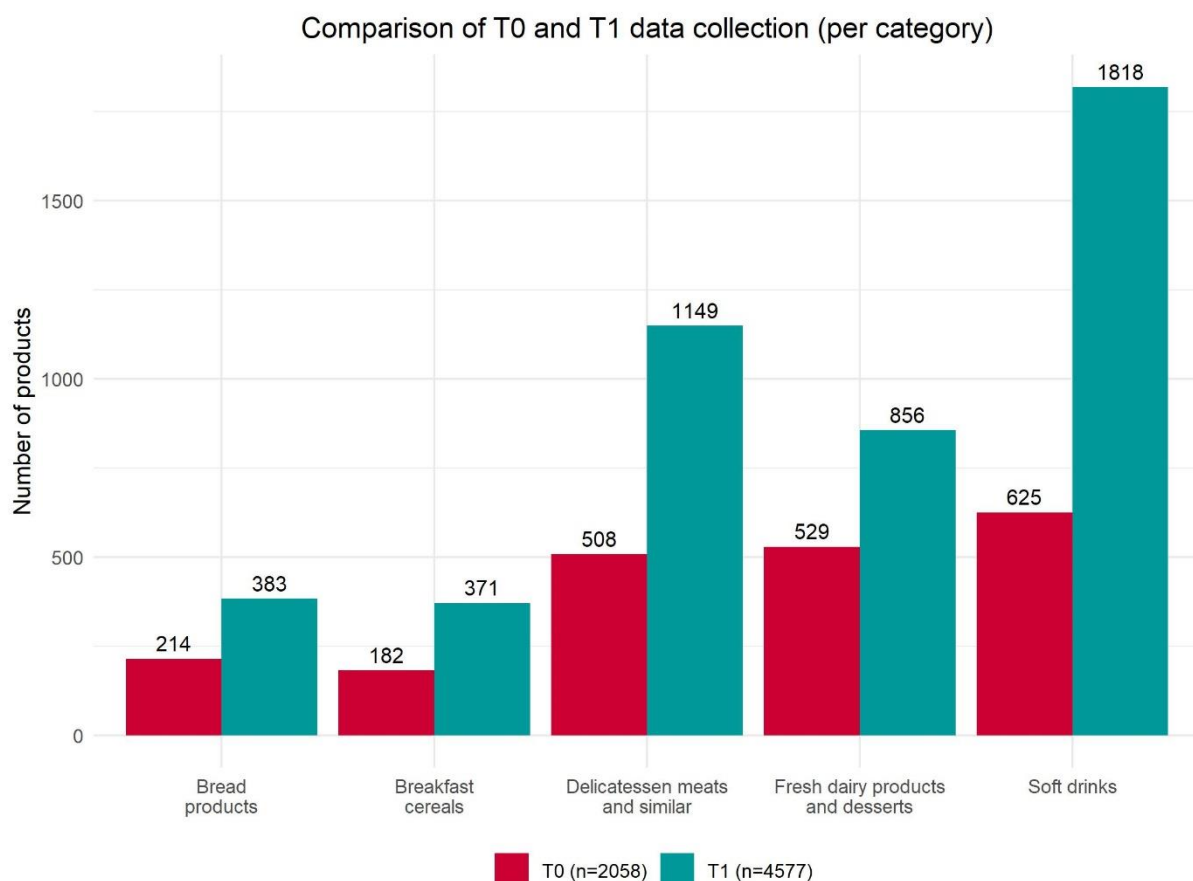


Figure 1 : Comparison of the number of references collected between preexisting (2018=T0) and Best-ReMaP (2022=T1) data collection, per category

The number of products collected at T1 is greater than the number of products collected at T0 (2058 during T0 vs. 4577 during T1) for all the 5 categories collected (Bread products: 214 vs. 383 T1; Breakfast cereals: 182 vs. 371; Delicatessen meats and similar: 508 vs. 1149; Fresh dairy products and desserts: 529 vs. 856; Soft drinks: 625 vs. 1818) (Figure 1).

1.2.2 Evolution of the food offer, by subcategory

1.2.2.1 Bread products

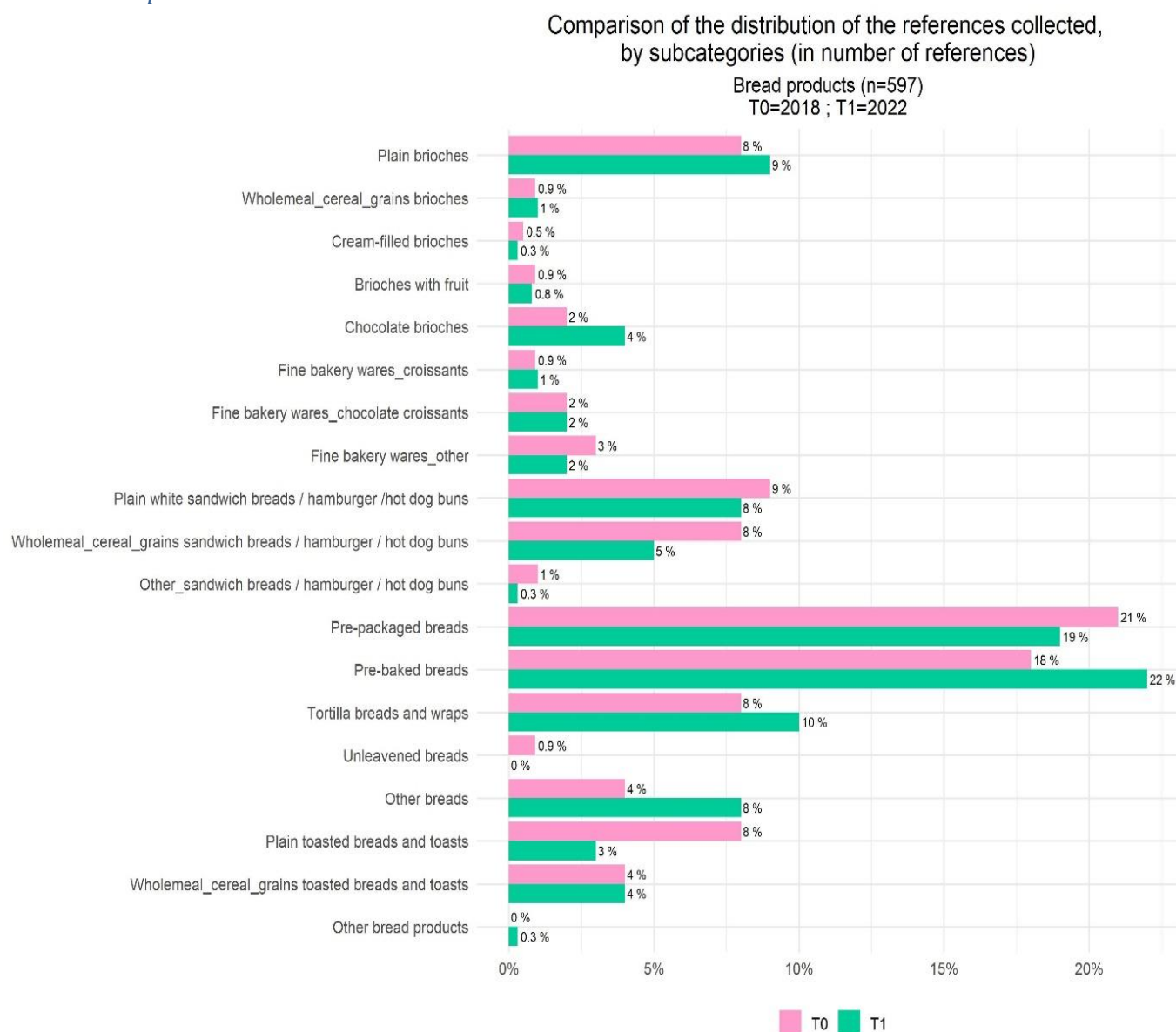


Figure 2 : Comparison of the distribution of the references collected, by subcategories (in number of references) among Bread products

The comparison of product distribution between 2018 (T0) and 2022 (T1) (Figure 2) shows that the percentage of collected products is:

- Higher at T1 for 8 sub-categories out of 19 (Plain brioches, Wholemeal_cereal_grains brioches, Chocolate brioches, Fine bakery wares_croissant, Pre-baked breads, Tortilla breads and wraps, Other breads, Other bread products).
- Higher at T0 in 9 sub-categories out of 19 (Cream-filled brioches, Brioches with fruit, Fine bakery wares_others, Plain white sandwich breads /hamburger/ hot dog buns, Wholemeal_cereal_grains sandwich breads /hamburger/ hot dog buns,

Other_sandwich breads/ hamburger/ hot dog buns, Pre-packaged breads, Unleavened breads, Plain toasted breads and toasts).

- Identical for 2 sub-categories out 19 (Fine bakery wares_chocolate croissant, Wholemeal_cereal_grains toasted breads and toasts).

1.2.2.2 Breakfast cereals

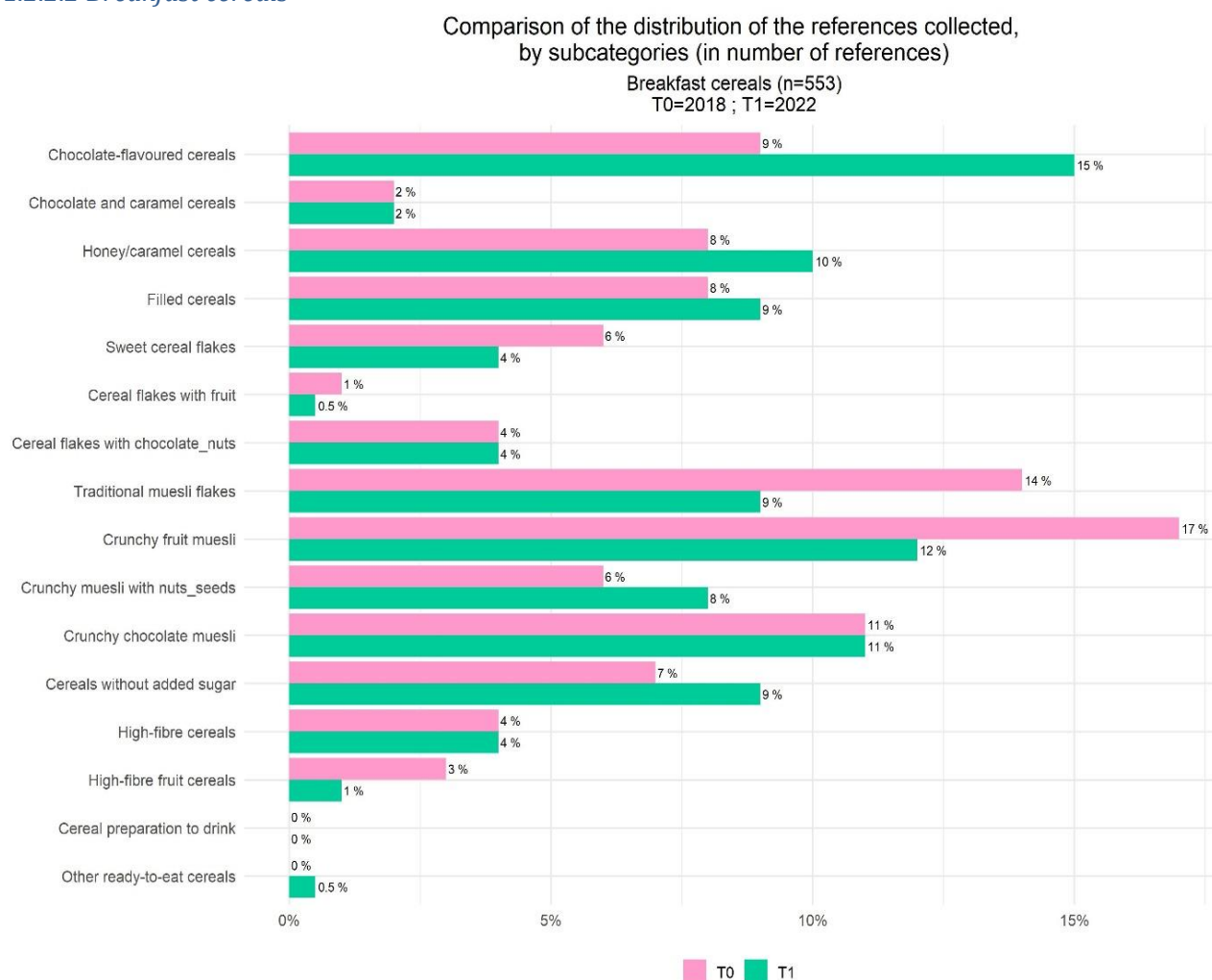


Figure 3 : Comparison of the distribution of the references collected, by subcategories (in number of references) among Breakfast cereals

The comparison of product distribution between 2018 (T0) and 2022 (T1) (Figure 3) shows that the percentage of collected products is:

- Higher at T1 for 6 sub-categories out of 16 (Chocolate-flavoured cereals, Honey/caramel cereals, Filled cereals, Crunchy muesli with nuts_seeds, Cereals without added sugar, Other ready-to-eat cereals)
- Higher at T0 in 5 sub-categories out of 16 (Cereal flakes with fruit, Sweet cereal flakes, Traditional muesli flakes, Crunchy fruit muesli, High-fibre fruit cereals)
- Identical for 4 sub-categories out 16 (Chocolate and caramel cereals, Cereal flakes with chocolate_nuts, Crunchy chocolate muesli, High-fibre cereals,)

- No products from the Cereal preparation to drink sub-category have been collected at T0 and at T1.

1.2.2.3 Delicatessen meats and similar

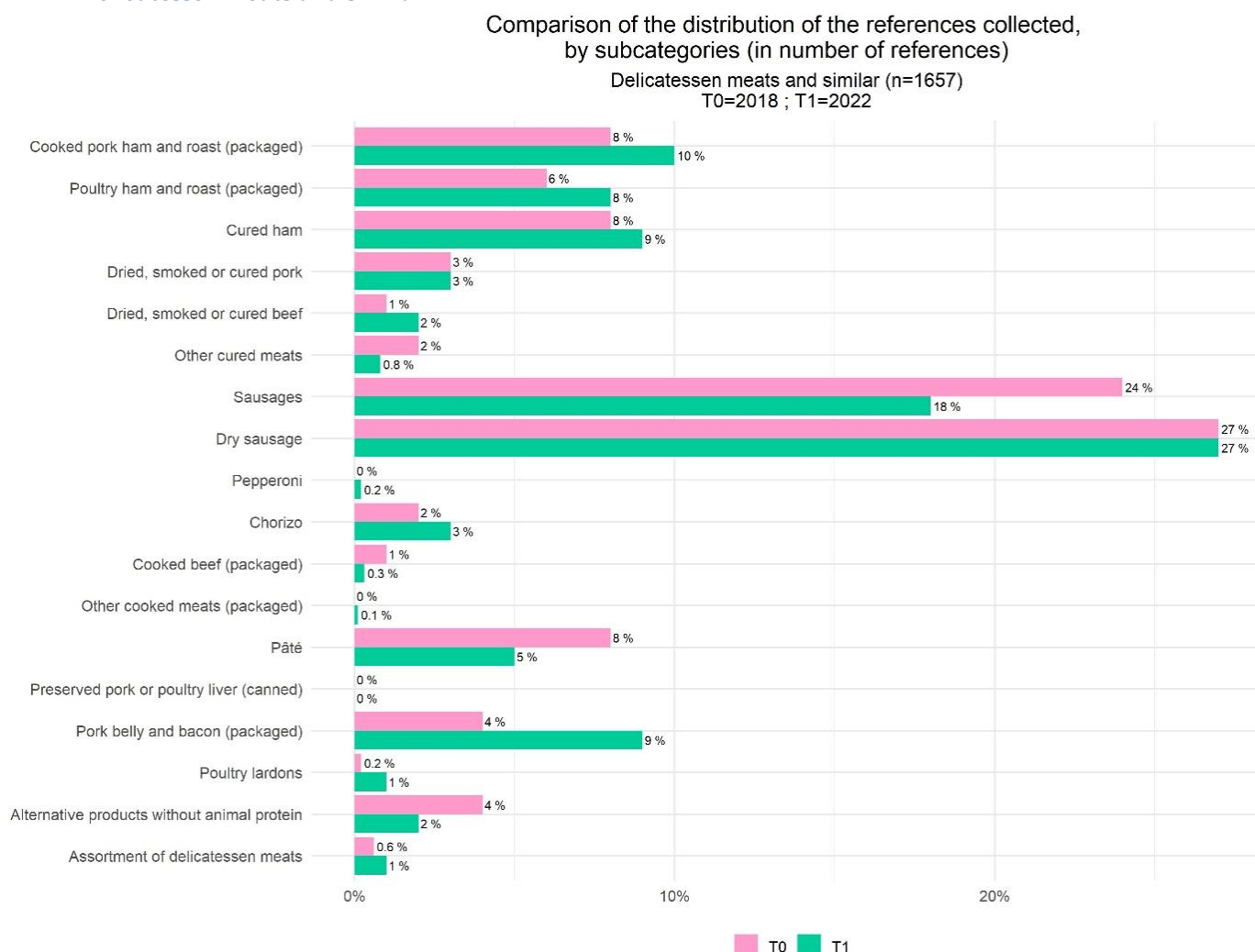


Figure 4 : Comparison of the distribution of the references collected, by subcategories (in number of references) among Delicatessen meats and similar

The comparison of product distribution between 2018 (T0) and 2022 (T1) (Figure 4) shows that the percentage of collected products is:

- Higher at T1 for 10 sub-categories out of 18 (Cooked pork ham and roast (packaged), Poultry ham and roast (packaged), Cured ham, Dried, smoked or cured beef, Pepperoni, Chorizo, Other cooked meats (packaged), Pork belly and bacon (packaged), Poultry lardons, Assortment of delicatessen meats)
- Higher at T0 in 5 sub-categories out of 18 (Other cured meats, Sausages, Cooked beef (packaged), Pâté, Alternative products without animal protein)
- Identical for 2 sub-categories out of 18 (Dried, smoked or cured pork, Dry sausage,)
- There were no products collected for the Preserved pork or poultry liver (canned) sub-category at T0 and at T1.

1.2.2.4 Fresh dairy products and desserts

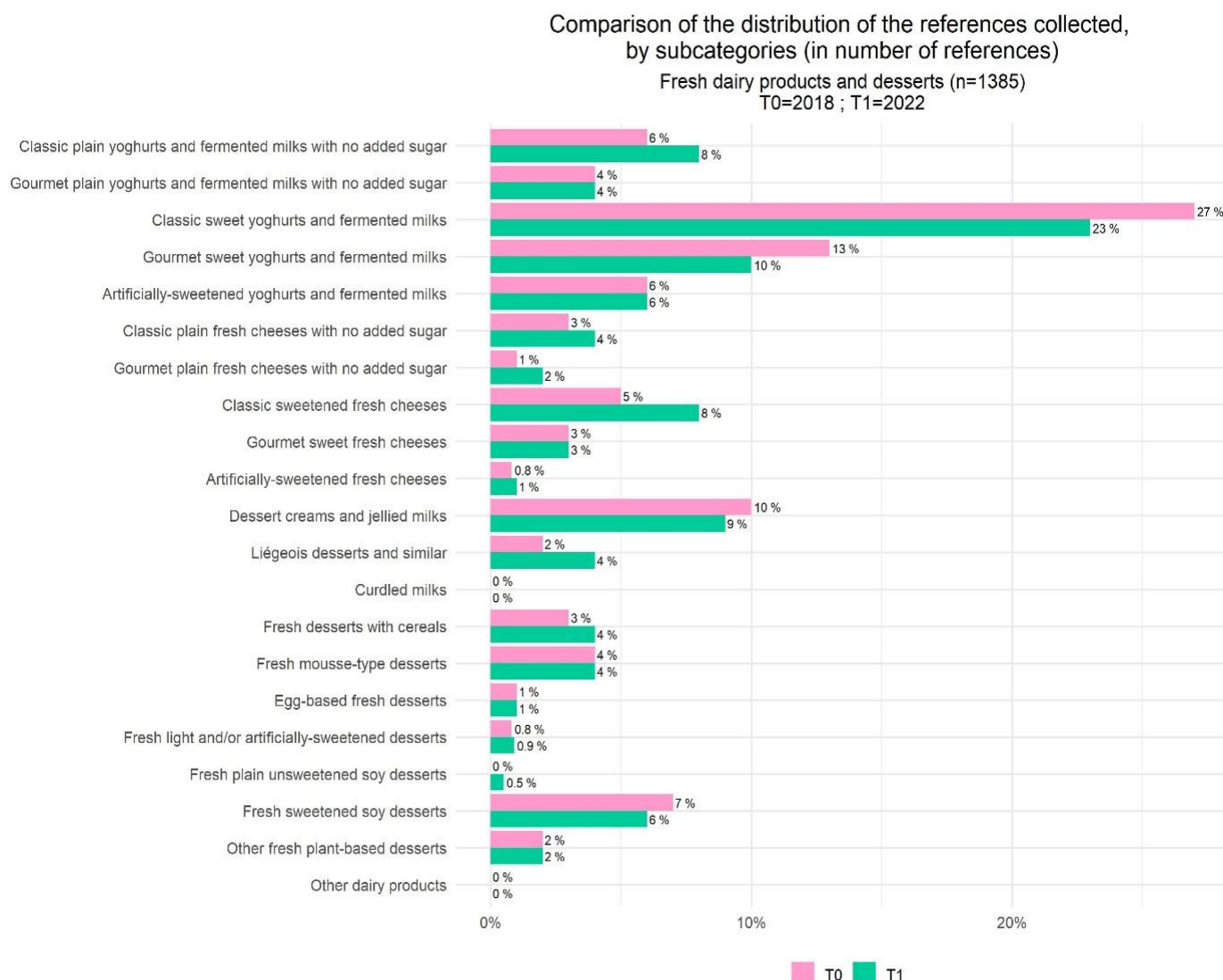


Figure 5 : Comparison of the distribution of the references collected, by subcategories (in number of references) among Fresh dairy products and desserts

The comparison of product distribution between 2018 (T0) and 2022 (T1) (Figure 5) shows that the percentage of collected products is:

- Higher at T1 for 9 sub-categories out of 21 (Classic plain yoghurts and fermented milks with no added sugar, Classic plain fresh cheeses with no added sugar, Gourmet plain fresh cheeses with no added sugar, Classic sweetened fresh cheeses, Artificially-sweetened fresh cheeses, Liégeois desserts and similar, Fresh desserts with cereals, Fresh light and/or artificially-sweetened desserts, Fresh plain unsweetened soy desserts)
- Higher at T0 in 4 sub-categories out of 21 (Classic sweet yoghurts and fermented milks, Gourmet sweet yoghurts and fermented milks, Dessert creams and jellied milks, Fresh sweetened soy desserts)

- Identical for 6 sub-categories out 21 (Gourmet plain yoghurts and fermented milks with no added sugar, Artificially-sweetened yoghurts and fermented milks, Gourmet sweet fresh cheeses, Fresh mousse-type desserts, Egg-based fresh desserts, Other fresh plant-based desserts)
- No products from the Curdled milks and Other dairy products sub-categories have been collected at T0 and at T1.

1.2.2.5 Soft drinks

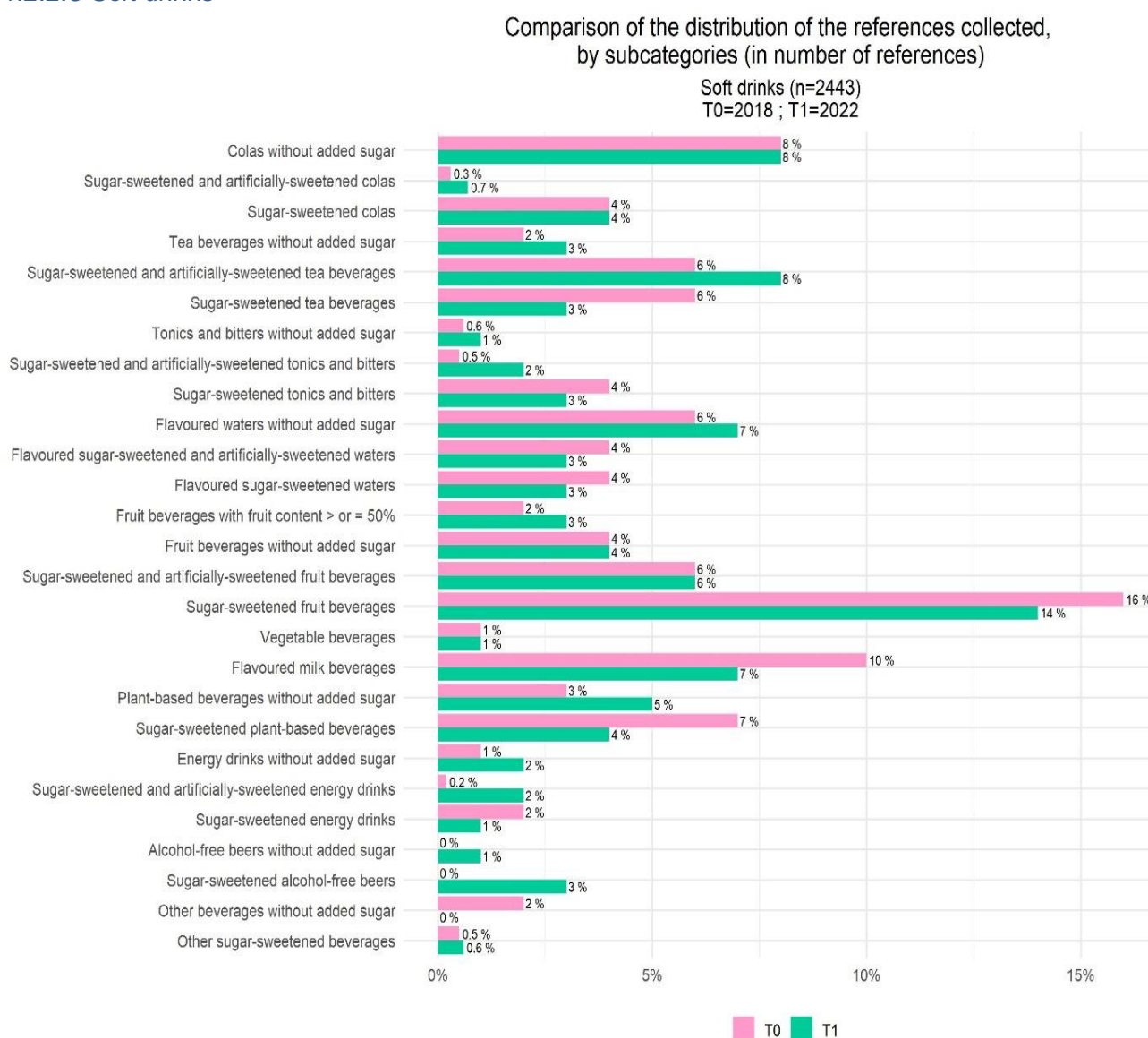


Figure 6 : Comparison of the distribution of the references collected, by subcategories (in number of references) among Soft drinks

The comparison of product distribution between 2018 (T0) and 2022 (T1) (Figure 6) shows that the percentage of collected products is:

- Higher at T1 for 13 sub-categories out of 27 (Sugar-sweetened and artificially-sweetened colas, Tea beverages without added sugar, Sugar-sweetened and artificially-sweetened tea beverages, Tonics and bitters without added sugar, Sugar-sweetened and artificially-sweetened tonics and bitters, Flavoured waters without added sugar, Fruit beverages with fruit content $\geq 50\%$, Plant-based beverages without added sugar, Energy drinks without added sugar, Sugar-sweetened and artificially-sweetened energy drinks, Alcohol-free beers without added sugar, Sugar-sweetened alcohol-free beers, Other sugar-sweetened beverages)
- Higher at T0 in 9 sub-categories out of 27 (Sugar-sweetened tea beverages, Sugar-sweetened tonics and bitters, Flavoured sugar-sweetened and artificially-sweetened waters, Flavoured sugar-sweetened waters, Sugar-sweetened fruit beverages, Flavoured milk beverages, Sugar-sweetened plant-based beverages, Sugar-sweetened energy drinks, Other beverages without added sugar)
- Identical for 5 sub-categories out 27 (Colas without added sugar, Sugar-sweetened colas, Fruit beverages without added sugar, Sugar-sweetened and artificially-sweetened fruit beverages, Vegetable beverages)

1.2.3 Analysis of the evolution of the food offer

1.2.3.1 Bread products

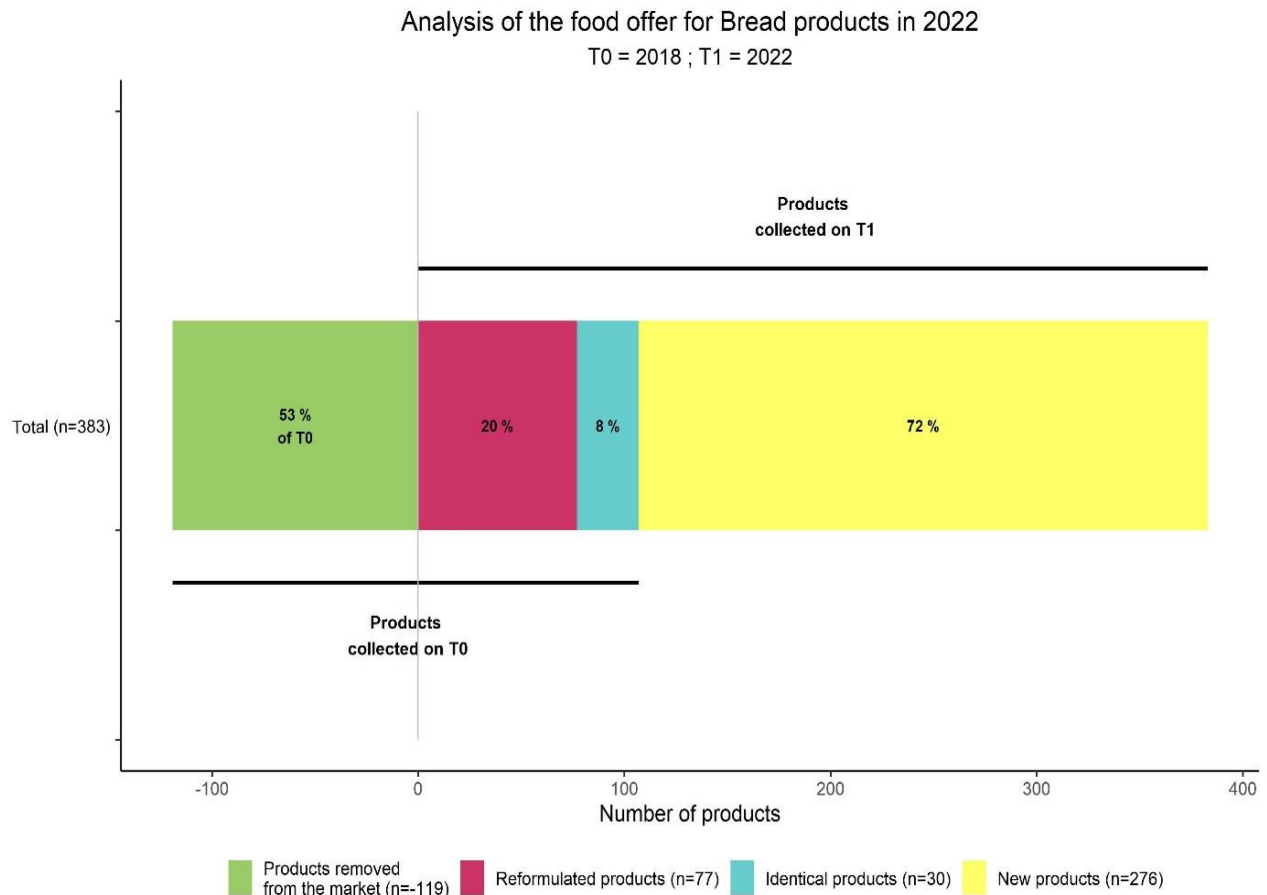


Figure 7 : Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Bread products

The comparison of the data collected between the two times among Bread products category (Figure 7) shows that:

- Products added to the market represent the majority of the data collected in 2022 (T1) (72% of T1 data collection), reflecting a strong renewal of the offer (it may also be caused by the fact that the previous snapshot did not enable to have all products available on the market),
- A majority of products collected in 2018 (T0) are not found in data collected in 2022 (T1), therefore are considered as removed from the market (53% of T0 data collection), but it can also be products that were not available at the time of the second snapshot data collection,
- 20% of the products were already present in 2018 (T0) but have been reformulated in 2022 (T1).
- Only 8% of the products are identical in both data collections.

1.2.3.2 Breakfast cereals

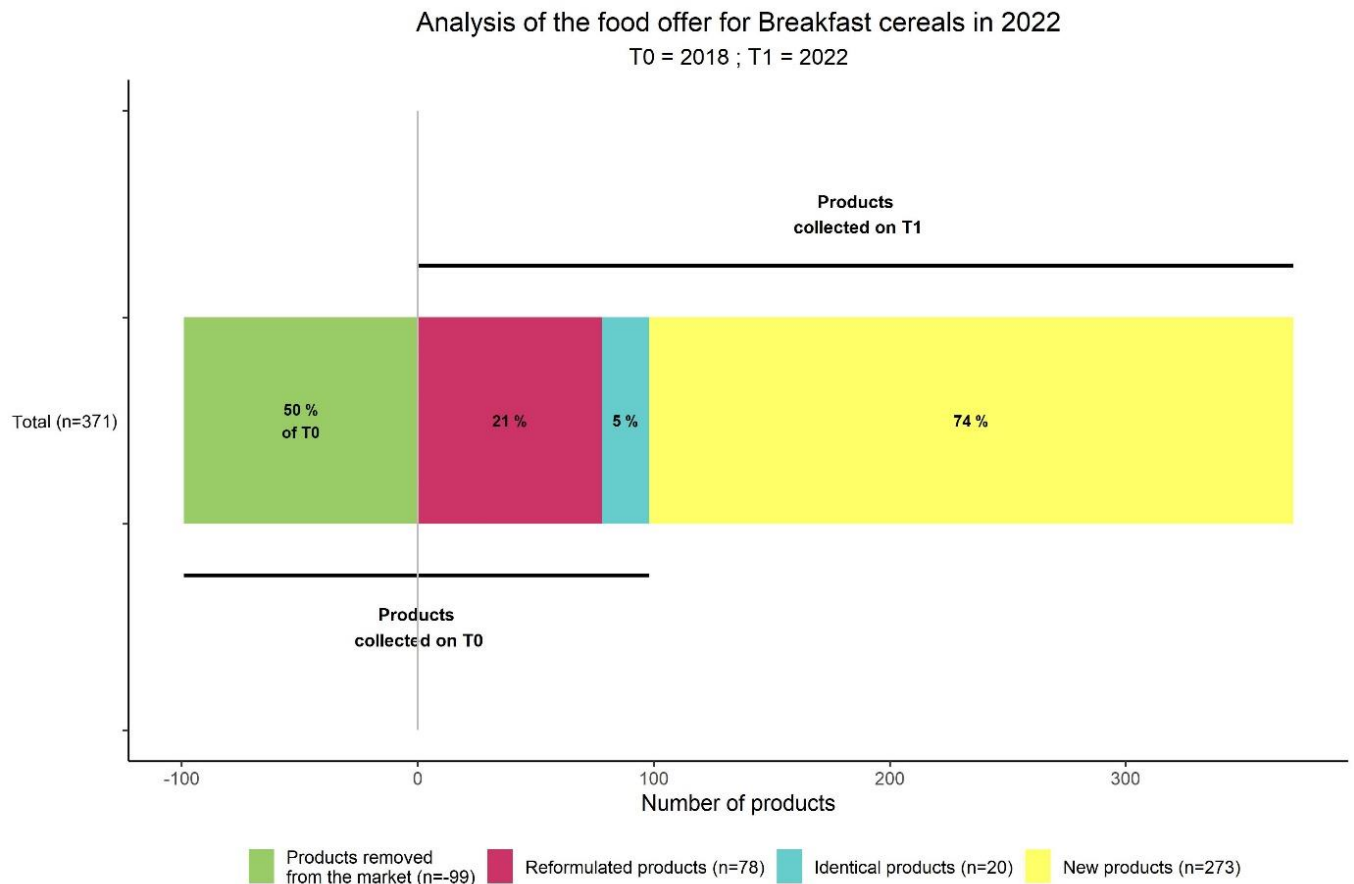


Figure 8 : Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Breakfast cereals

The comparison of the data collected between the two times among Breakfast cereals category (Figure 8) shows that:

- Products added to the market represent the majority of the data collected in 2022 (T1) (74% of T1 data collection), reflecting a strong renewal of the offer (it may also be caused by the fact that the previous snapshot did not enable to have all products available on the market),
- A majority of products collected in 2018 (T0) are not found in data collected in 2022 (T1), therefore are considered as removed from the market (50% of T0 data collection), but it can also be products that were not available at the time of the second snapshot data collection,
- 21% of the products were already present in 2018 (T0) but have been reformulated in 2022 (T1).
- Only 5% of the products are identical in both data collections.

1.2.3.3 Delicatessen meats and similar

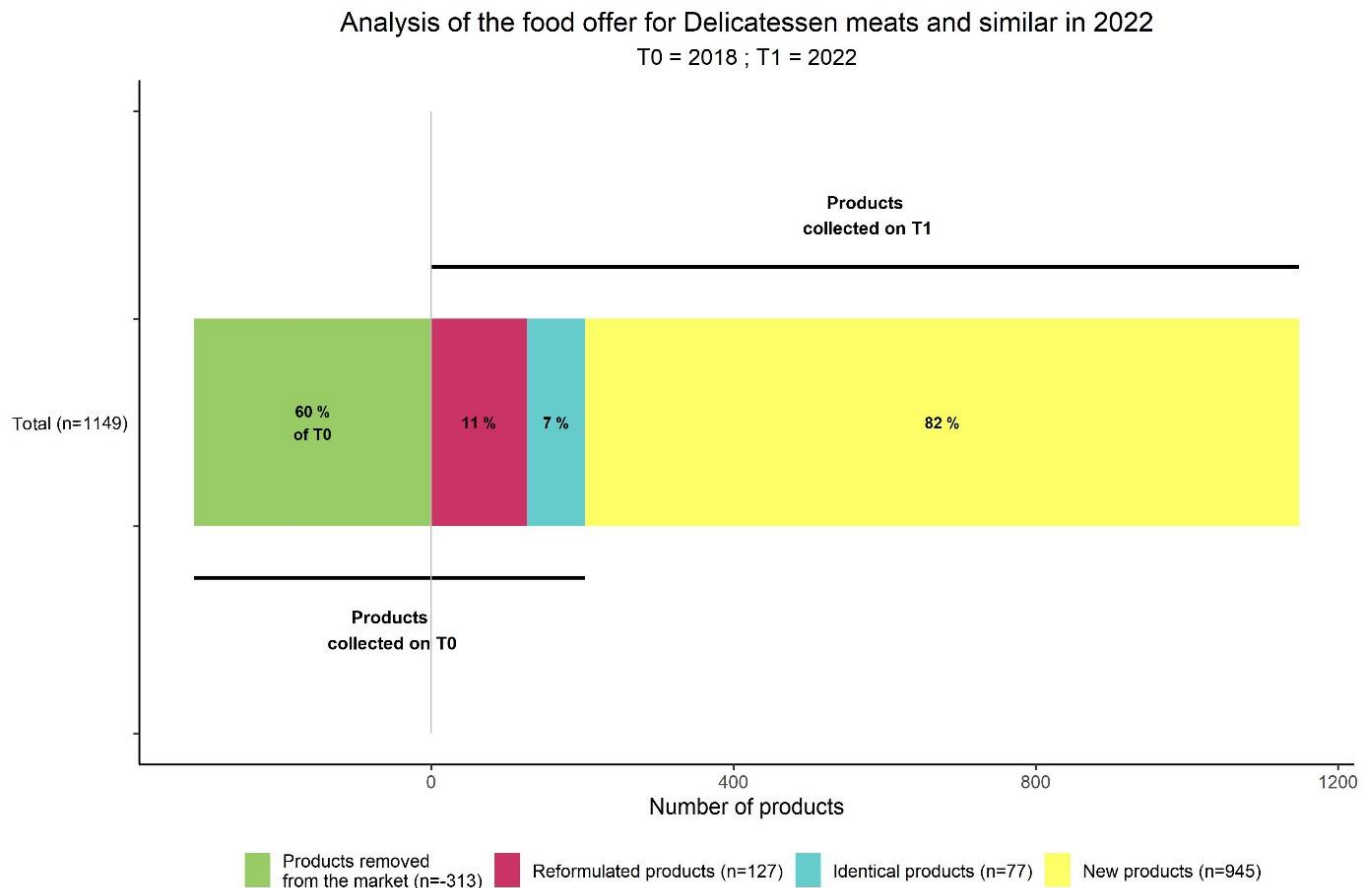


Figure 9 : Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Delicatessen meats and similar

The comparison of the data collected between the two times among Delicatessen meats and similar category (Figure 9) shows that:

- Products added to the market represent the majority of the data collected in 2022 (T1) (82% of T1 data collection), reflecting a strong renewal of the offer (it may also be caused by the fact that the previous snapshot did not enable to have all products available on the market),
- A majority of products collected in 2018 (T0) are not found in data collected in 2022 (T1), therefore are considered as removed from the market (60% of T0 data collection), but it can also be products that were not available at the time of the second snapshot data collection,
- 11% of the products were already present in 2018 (T0) but have been reformulated in 2022 (T1).
- Only 7% of the products are identical in both data collections.

1.2.3.4 Fresh dairy products and desserts

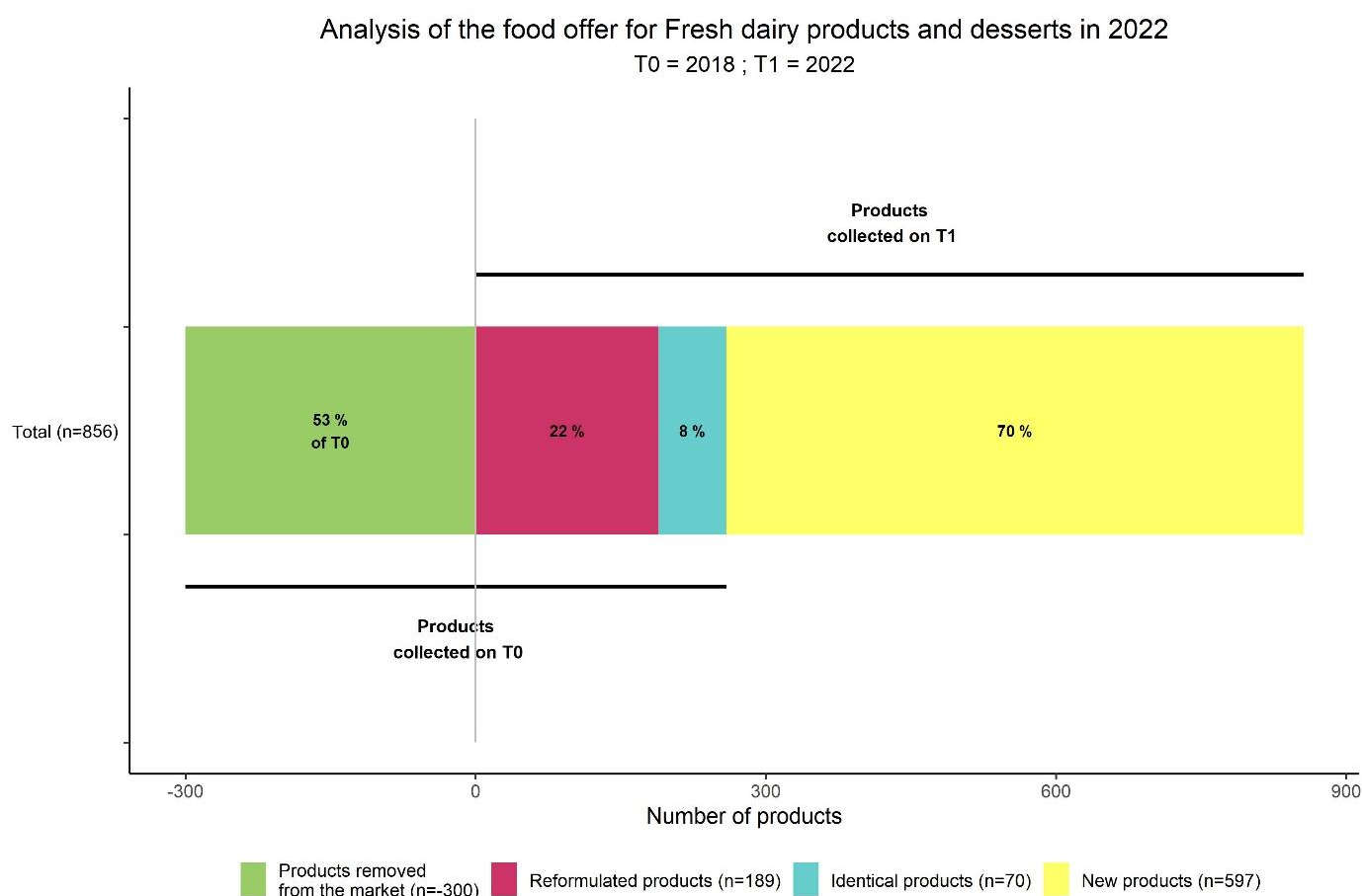


Figure 10 : Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Fresh dairy products and desserts

The comparison of the data collected between the two times among Fresh dairy products and desserts category (Figure 10) shows that:

- Products added to the market represent the majority of the data collected in 2022 (T1) (70% of T1 data collection), reflecting a strong renewal of the offer (it may also be caused by the fact that the previous snapshot did not enable to have all products available on the market),
- A majority of products collected in 2018 (T0) are not found in data collected in 2022 (T1), therefore are considered as removed from the market (53% of T0 data collection), but it can also be products that were not available at the time of the second snapshot data collection,
- 22% of the products were already present in 2018 (T0) but have been reformulated in 2022 (T1).
- Only 8% of the products are identical in both data collections.

1.2.3.5 Soft drinks

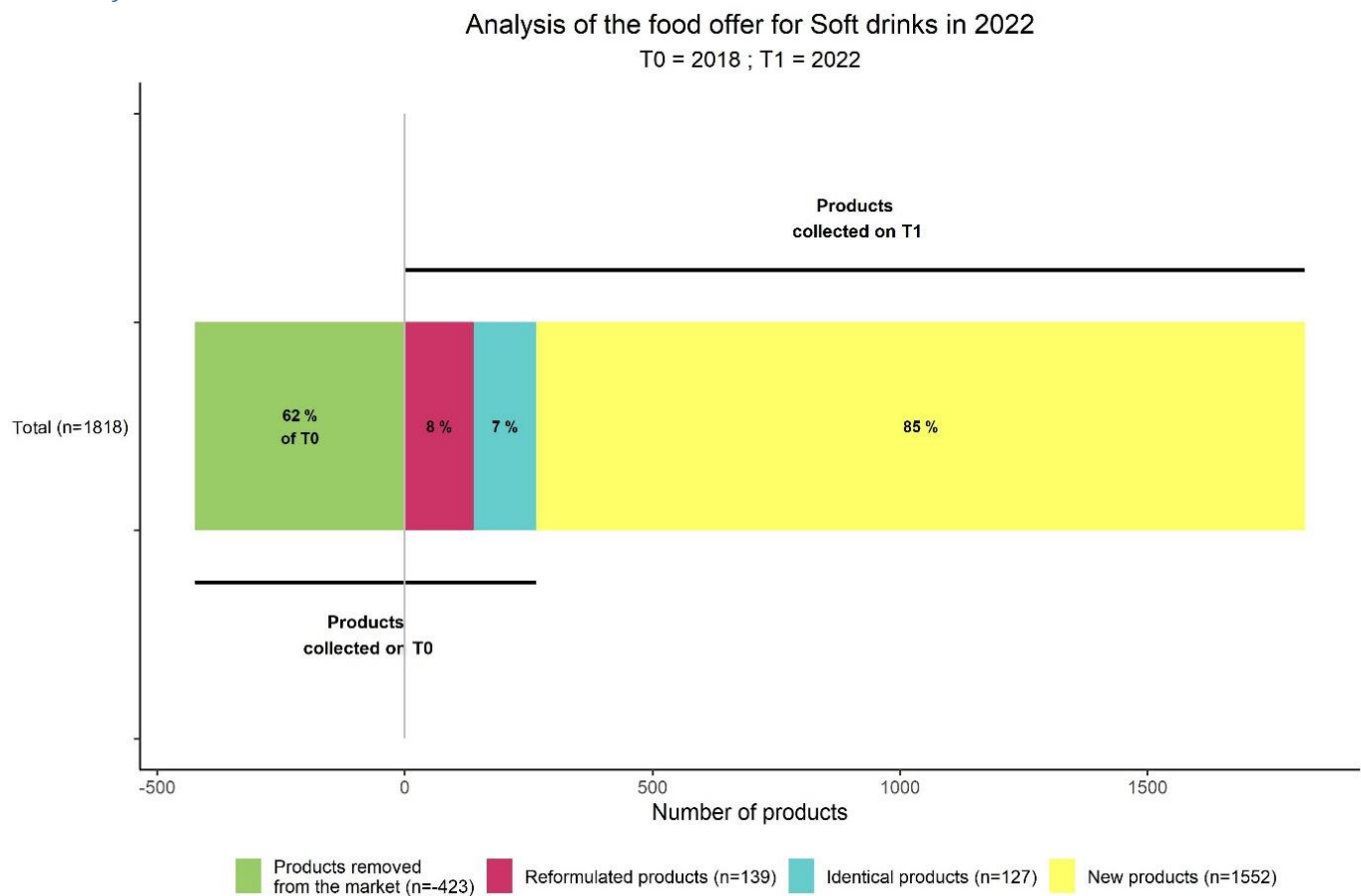


Figure 11 : Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among soft drinks

The comparison of the data collected between the two times among Soft drink category (Figure 11) shows that:

- Products added to the market represent the majority of the data collected in 2022 (T1) (85% of T1 data collection), reflecting a strong renewal of the offer (it may also be caused by the fact that the previous snapshot did not enable to have all products available on the market),
- A majority of products collected in 2018 (T0) are not found in data collected in 2022 (T1), therefore are considered as removed from the market (62% of T0 data collection), but it can also be products that were not available at the time of the second snapshot data collection,
- 8% of the products were already present in 2018 (T0) but have been reformulated in 2022 (T1).
- Only 7% of the products are identical in both data collections.

2 Analysis of labeling parameters

2.1 Front of pack labeling, state of play of T1 data, per category

It should be noted that only data collected during Best-Remap are described in this section because the presence or absence of a front of pack labeling is a parameter that was not always available in preexisting data. Therefore, this section (2.1) will only describe 2022 (T1) data.

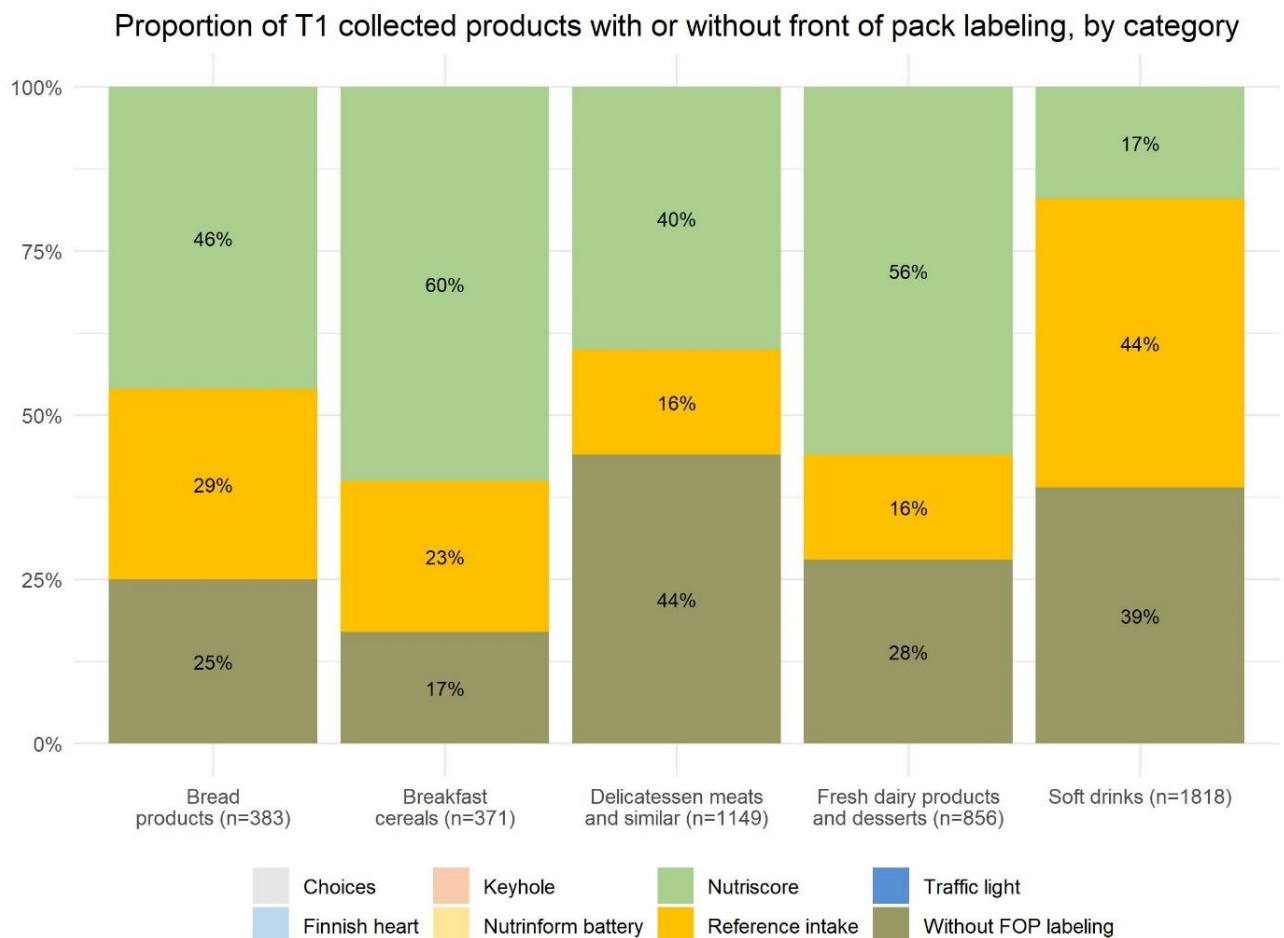


Figure 12 : Proportion of products with or without front of pack labeling, by category

Figure 12 shows the distribution of front-of-pack labeling by category across data collected in 2022 (T1). All food categories have products without FOP labelling, with 25% of Bread products, 17% of Breakfast cereals, 44% of Delicatessen meats and similar, 28% of Fresh dairy products and desserts and 39% of Soft drink.

For 4 categories out of the 5 collected, the Nutri-Score logo is the most common label found on the front of packages: Bread products (46% of the products); Breakfast cereals (60%), Delicatessen meats and similar (40%) and Fresh dairy products and desserts (56%). For Soft drinks, the references intakes was the most commonly found (44%).

2.2 Evolution of the quantified portion size

2.2.1 Evolution of the proportion of products with or without quantified portion size

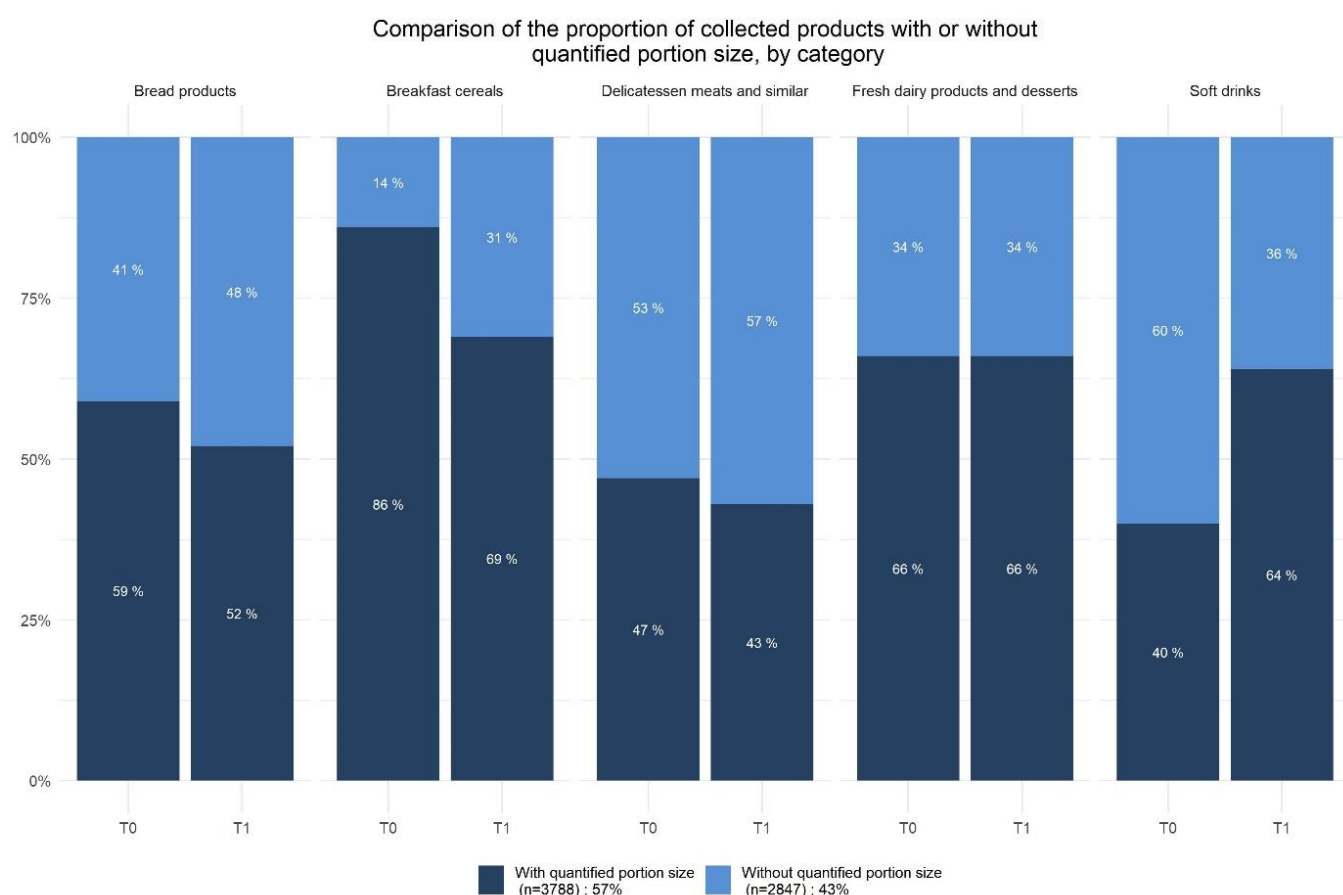


Figure 13 : Evolution of the proportion of collected products with or without quantified portion size, between T0 and T1, per category

Between 2018 (T0) and 2022 (T1), the number of products with a quantified portion size (Figure 13) has decreased for Bread products (59% of products with quantified portion size in 2018 vs. 52% in 2022), Breakfast cereals (86% vs. 69%) and Delicatessen meats and similar (47% vs. 43%) and increased for Soft drinks (40% vs. 64%). There was no change for Fresh dairy products and desserts with 66% of products with quantified portion size at both T0 and T1.

2.2.2 Proportion of the most represented portion sizes, per category

The study of the size of quantified labeled portion sizes at both times is an indicator of the evolution of the serving sizes indicated by the manufacturers. The evolution of this parameter can potentially influence the quantities consumed and therefore the intake of nutrients.

2.2.2.1 Bread products

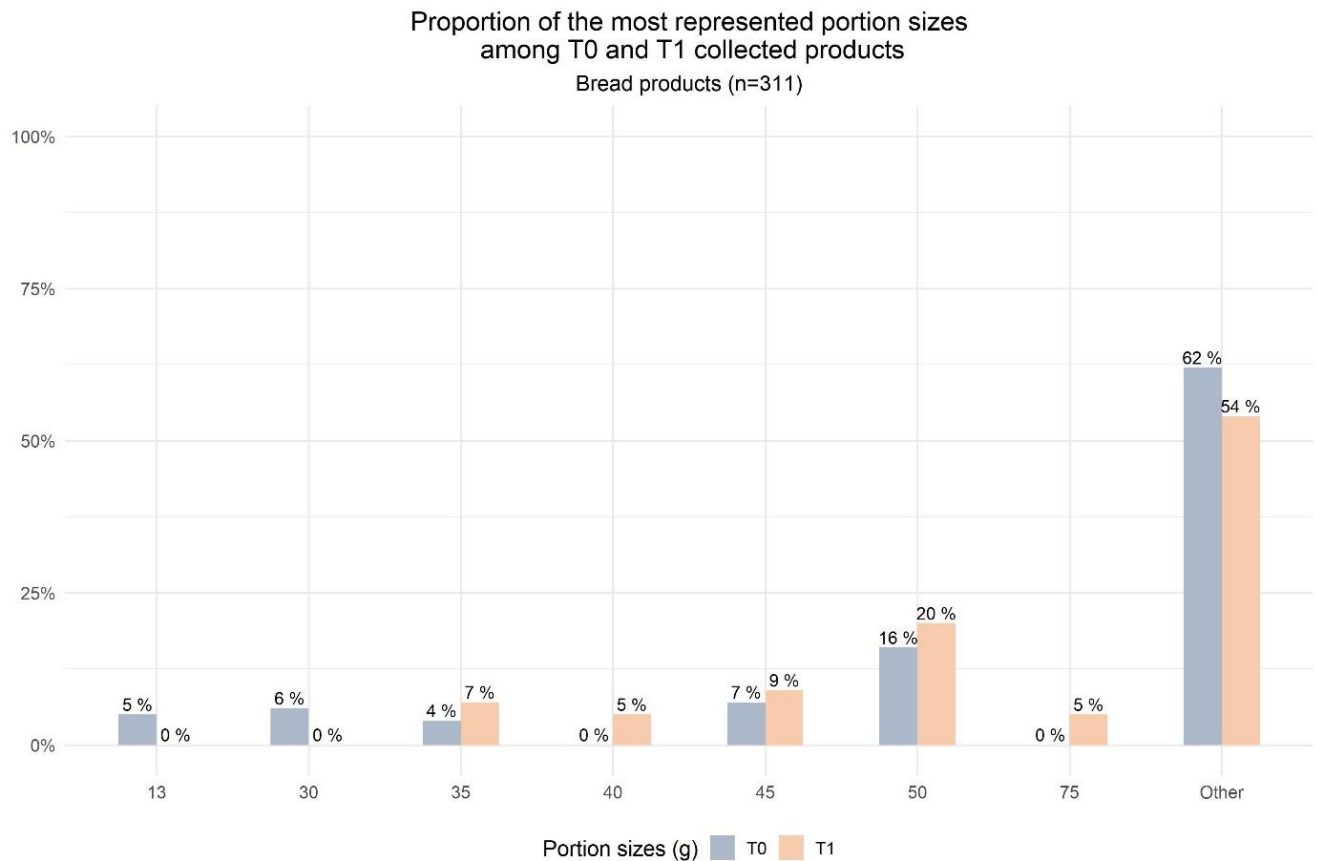
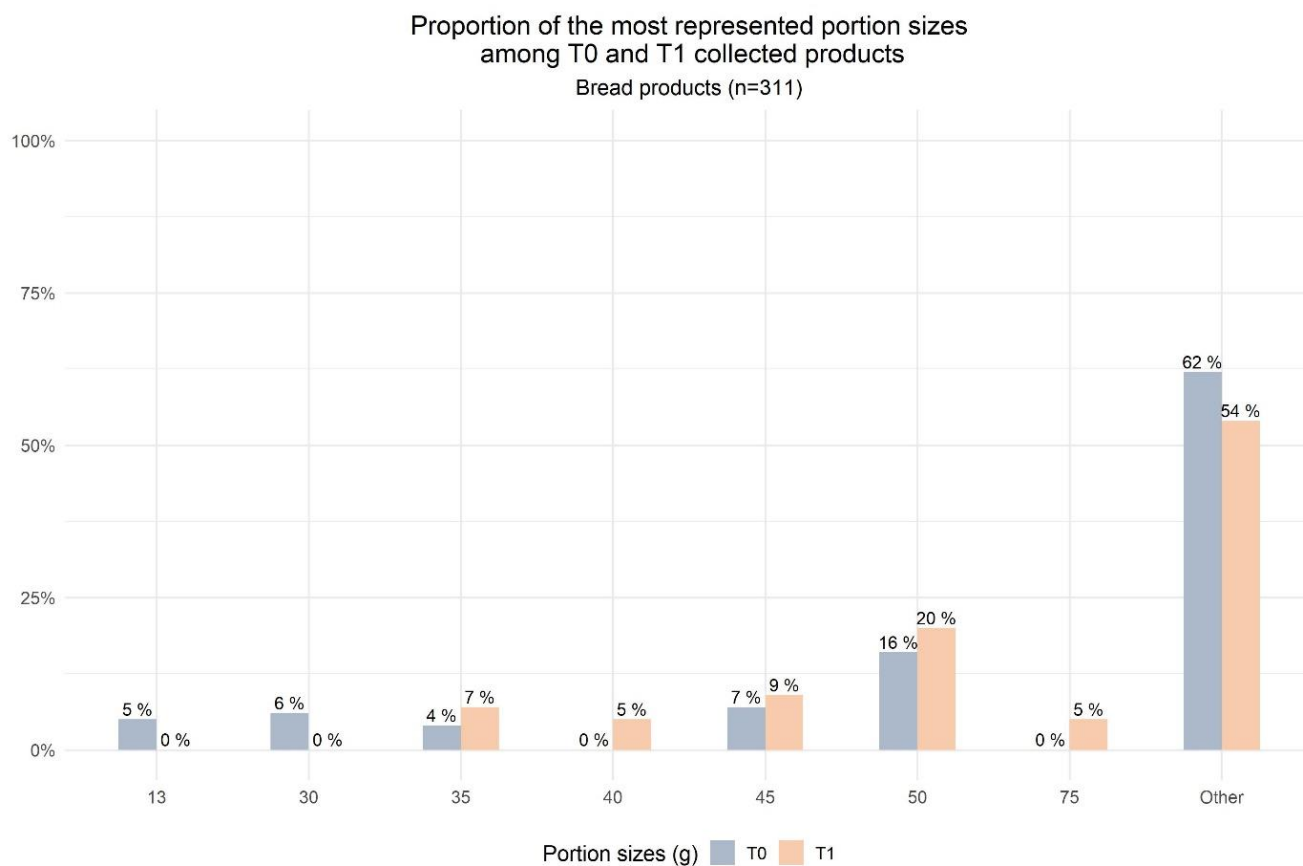


Figure 14 : Distribution of the size of the 5 most represented quantified portions in 2018 (T0) and 2022 (T1) in Bread products category¹

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

Between 2018 and 2022, the most represented indicated portion sizes differs (



). Overall it appears that the five most represented portion size are smaller in 2018 ranging from 13g to 50g (T0) than in 2022 (T1) ranging from 35g to 75g.

2.2.2.2 Breakfast cereals

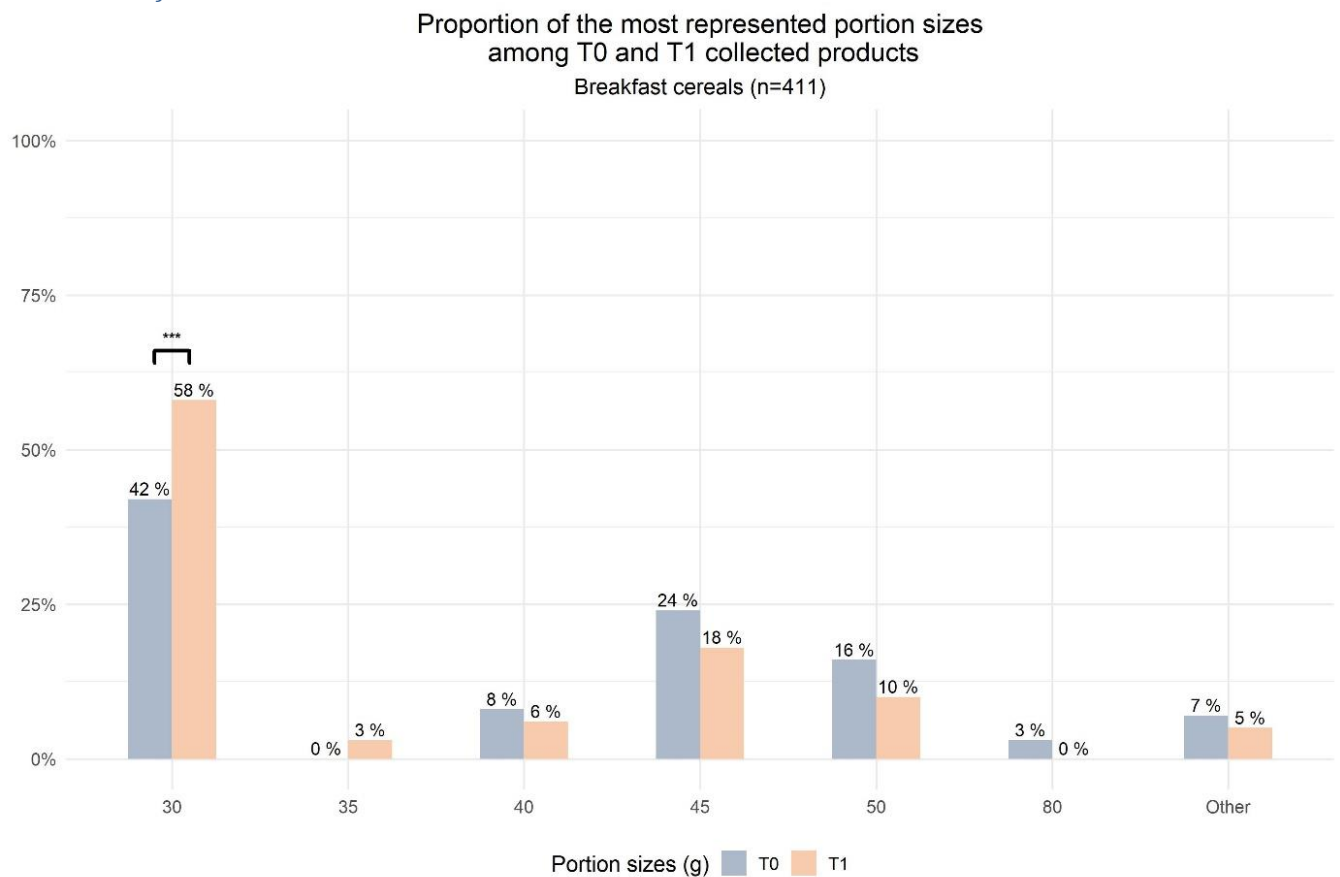


Figure 15 : Distribution of the size of the 5 most represented quantified portions in 2018 (T0) and 2022 (T1) in Breakfast cereals category¹

Figure 15 shows the most common portion sizes found in the two data collections. Most of the products collected in 2018 and 2022 had a portion size of 30g (42% of products in 2018 and 58% of products in 2022). The second most found portion size in 2018 and 2022 is 45g (24% of products in 2018 and 18% of products in 2022).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

2.2.2.3 Delicatessen meats and similar

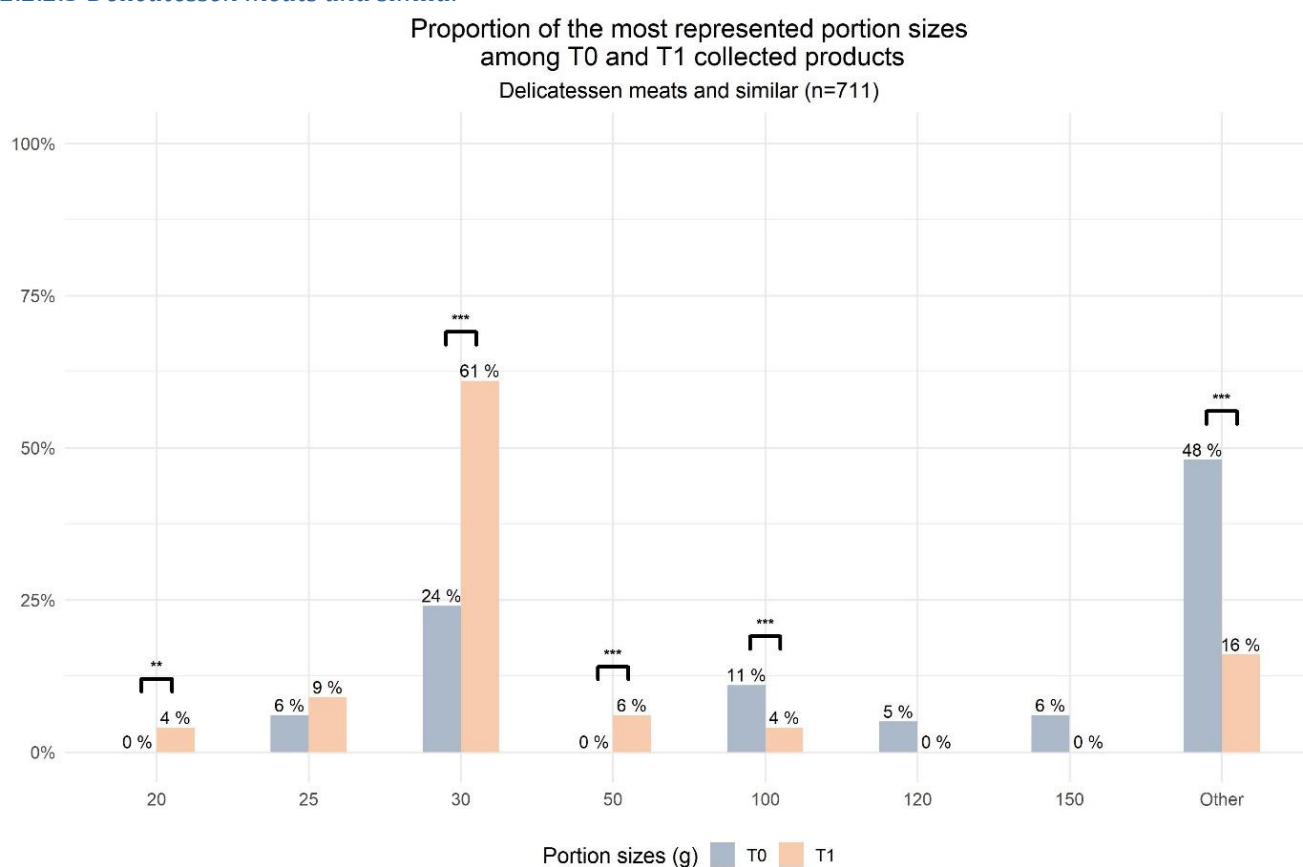


Figure 16 : Distribution of the size of the 5 most represented quantified portions in 2018 (T0) and 2022 (T1) in Delicatessen meats and similar category¹

Figure 16 shows the most common portion sizes found in the two data collections. In 2022, the most represented portion size was 30g (61% of products), whereas the other four most common portion sizes (20g, 25g, 50g, 100g) were represented by less than 10% of products respectively. In 2018, the most represented portion size was also 30g (24% of products).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

2.2.2.4 Fresh dairy products and desserts

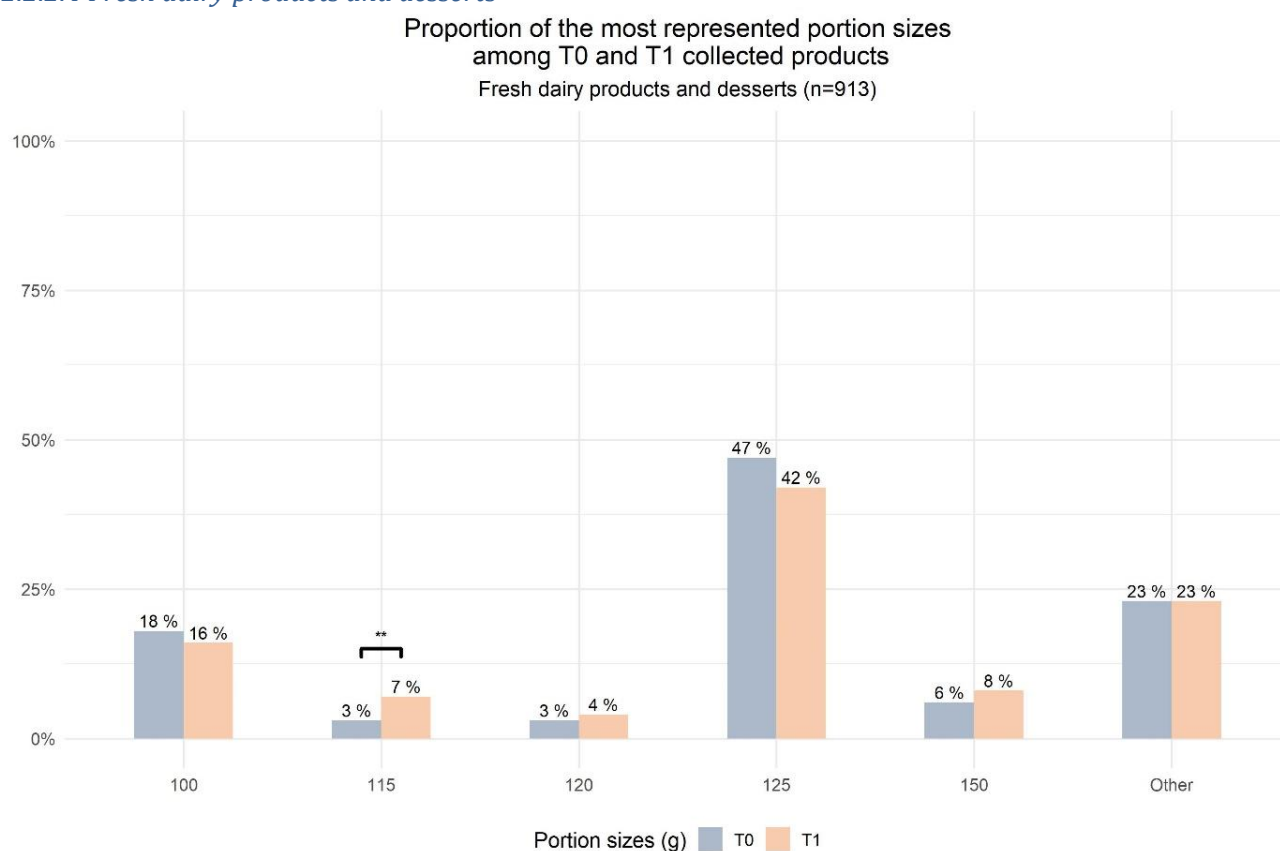


Figure 17 : Distribution of the size of the 5 most represented quantified portions in 2018 (T0) and 2022 (T1) in Fresh dairy products and desserts category¹

Figure 17 shows the most common portion sizes found in the two data collections. Overall it appears that the most represented indicated portion sizes are very similar between 2018 and 2022. The most represented portion size in 2018 and 2022 is 125g (47% in 2018 and 42% in 2022).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

2.2.2.5 Soft drinks

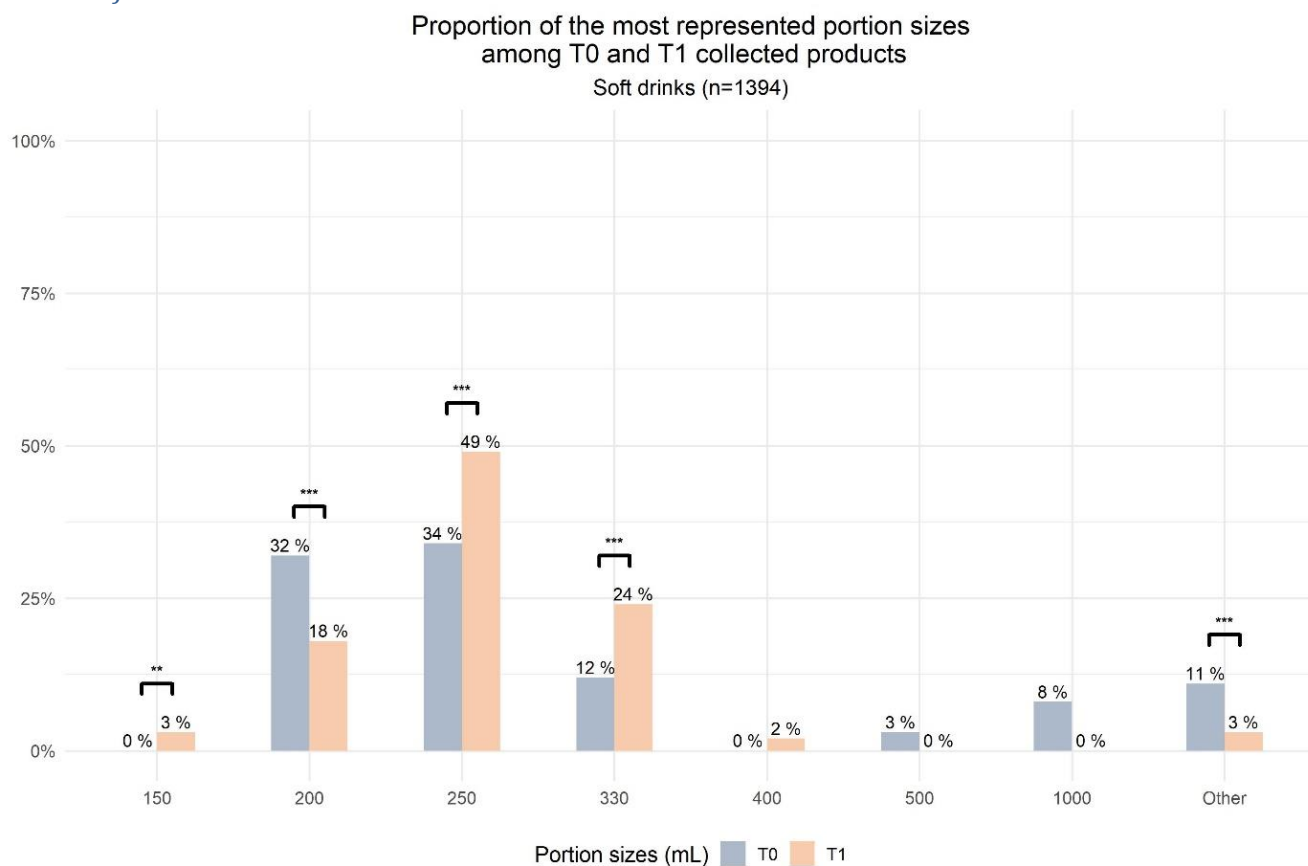


Figure 18 : Distribution of the size of the 5 most represented quantified portions in 2018 (T0) and 2022 (T1) in Fresh dairy products and desserts category¹

Figure 18 shows the most common portion sizes found in the two data collections. Overall, it appears that the most represented indicated portion sizes differs. In 2022, the most represented portion size is 250mL (49% of products) whereas in 2018, there were 2 most represented portion size: 200mL (32% of products) and 250mL (34% of products). It also appears that the 5 most represented portion size are more diverse in 2018, ranging from 200mL to 1000mL, than in 2022 (150mL to 400mL).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

3 Evolution of labeled nutritional values

3.1 Evolution of the labeling frequency

The first parameter examined is the frequency of nutritional values on the packages. The proportion of products with a nutritional value per nutrient and per category in the 2 collections is presented in Table 2.

Between the 2 data collections (T0:2018-T1:2022), the frequency of labeling remains systematic and constant for Protein, Fat, Saturated fat, Carbohydrates, Sugars and Salt.

For fibre, even if the labeling is not mandatory, there is an increasing trend in its labeling (+5% to +32%) for all categories for which fibers are monitored.

Table 2 : Evolution of the frequency of nutrient labeling among the categories

	Fat			Saturated fat			Sugar		
Category_name	T0	T1	Delta	T0	T1	Delta	T0	T1	Delta
Bread products (T0 : n=214 ; T1 : n=383)	99%	99%	0	99%	99%	0	99%	99%	0
Breakfast cereals (T0 : n=182 ; T1 : n=371)	100%	100%	0	100%	100%	0	100%	100%	0
Delicatessen meats and similar (T0 : n=508 ; T1 : n=1149)	100%	100%	0	100%	100%	0	100%	99%	-1%
Fresh dairy products and desserts (T0 : n=529 ; T1 : n=856)	99%	99%	0	99%	99%	0	99%	99%	0
Soft drinks (T0 : n=625 ; T1 : n=1818)	99%	94%	-5%	98%	93%	-5%	98%	99%	1%

	Protein			Salt			Fibre		
Category_name	T0	T1	Delta	T0	T1	Delta	T0	T1	Delta
Bread products (T0 : n=214 ; T1 : n=383)	99%	99%	0	99%	99%	0	69%	91%	+22%
Breakfast cereals (T0 : n=182 ; T1 : n=371)	100%	100%	0	100%	99%	-1%	94%	99%	+5%
Delicatessen meats and similar (T0 : n=508 ; T1 : n=1149)	100%	100%	0	100%	100%	0	37%	62%	+25%
Fresh dairy products and desserts (T0 : n=529 ; T1 : n=856)	99%	99%	0	99%	100%	1%	29%	61%	+32%
Soft drinks (T0 : n=625 ; T1 : n=1818)	99%	94%	-5%	98%	97%	-1%	17%	24%	+7%

3.2 Evolution of the nutritional composition, by category

3.2.1 Bread products

The nutrients considered for the analysis of the evolution of the nutritional content of the Bread products are : Fat, Saturated fat, Sugar, Salt and Fibre.

3.2.1.1 Evolution of the fat content among the subcategories

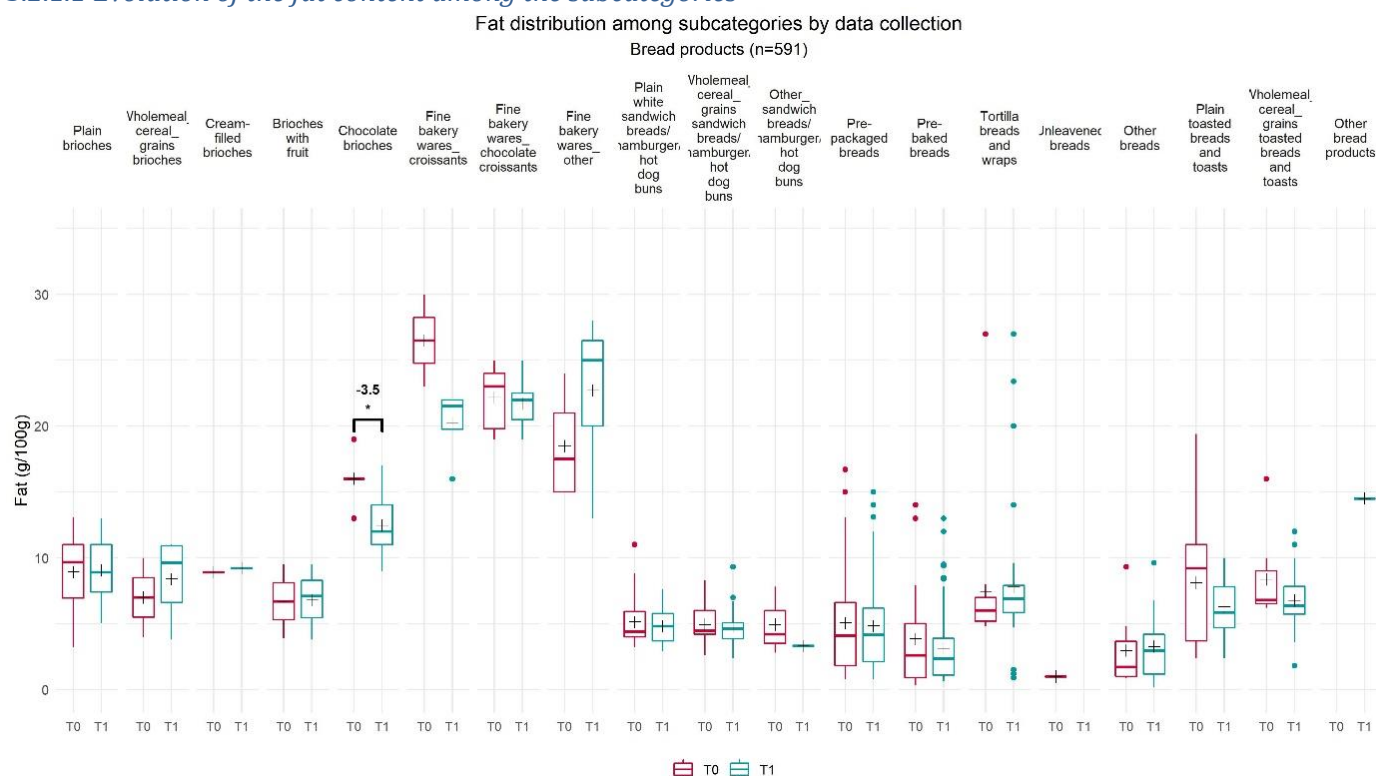


Figure 19 : Evolution of fat distribution among subcategories of Bread products¹

Figure 19 shows the fat distribution of Bread products between 2018 (T0) and 2022 (T1) by subcategories. Among the 19 subcategories considered, the average fat content has significantly decreased for one subcategory only: Chocolate brioches (-3.5g/100g; -22.1 %).

The subcategories including products with the most variable fat content at both times, meaning room for reformulation, are: Tortilla breads and wraps (2018, n=17; 2022, n=39), Pre-packaged breads (2018, n=45; 2022, n=74), Pre-baked breads (2018, n=37; 2022, n=82) and Fine bakery wares_other (2018, n=4; 2022, n=7).

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.1.2 Evolution of the fat content for paired products

The

Table 3 summarizes the difference in the average fat content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Table 3 : Summary of the evolution of the average fat content for Bread products, by subcategory¹

Subcategory_name	Fat					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Plain brioches	9	+0.1	+1.2 %	9,2	+0.8	+10%
Wholemeal_cereal_grains brioches	8,4	+1.4	+19.7 %	3,8	-0.2	-5%
Cream-filled brioches	9,2	+0.3	+3.4 %	9,2	+0.3	+3.4 %
Brioches with fruit	6,8	+0.1	+1.5 %	9,5	0	0%
Chocolate brioches	12,5	-3.5*	-22.1 %	15,5	+1	+6.9 %
Fine bakery wares_croissants	20,2	-6.2	-23.6 %			
Fine bakery wares_chocolate croissants	21,7	-0.4	-2%	22,3	0	0%
Fine bakery wares_other	22,7	+4.2	+22.8 %	24	0	0%
Plain white sandwich breads / hamburger /hot dog buns	4,8	-0.3	-6.3 %	5,2	-0.3	-6%
Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns	4,8	-0.1	-2.8 %	4,9	0	0%
Other_sandwich breads / hamburger / hot dog buns	3,3	-1.6	-33.1 %			
Pre-packaged breads	4,8	-0.2	-4.6 %	7,1	+0.2	+3.6 %
Pre-baked breads	3,1	-0.7	-18.6 %	2,6	-0.1	-3.9 %
Tortilla breads and wraps	7,8	+0.4	+5%	8,3	-0.01	-0.2 %
Other breads	3,3	+0.3	+10.3 %	2,7	+0.2	+8.1 %
Plain toasted breads and toasts	6,3	-1.8	-22.5 %	5,4	-2	-22.5 %
Wholemeal_cereal_grains toasted breads and toasts	6,8	-1.6	-19.2 %	6,1	-2	-20.8 %
Other bread products	14,5					

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.1.3 Evolution of the saturated fat content among the subcategories

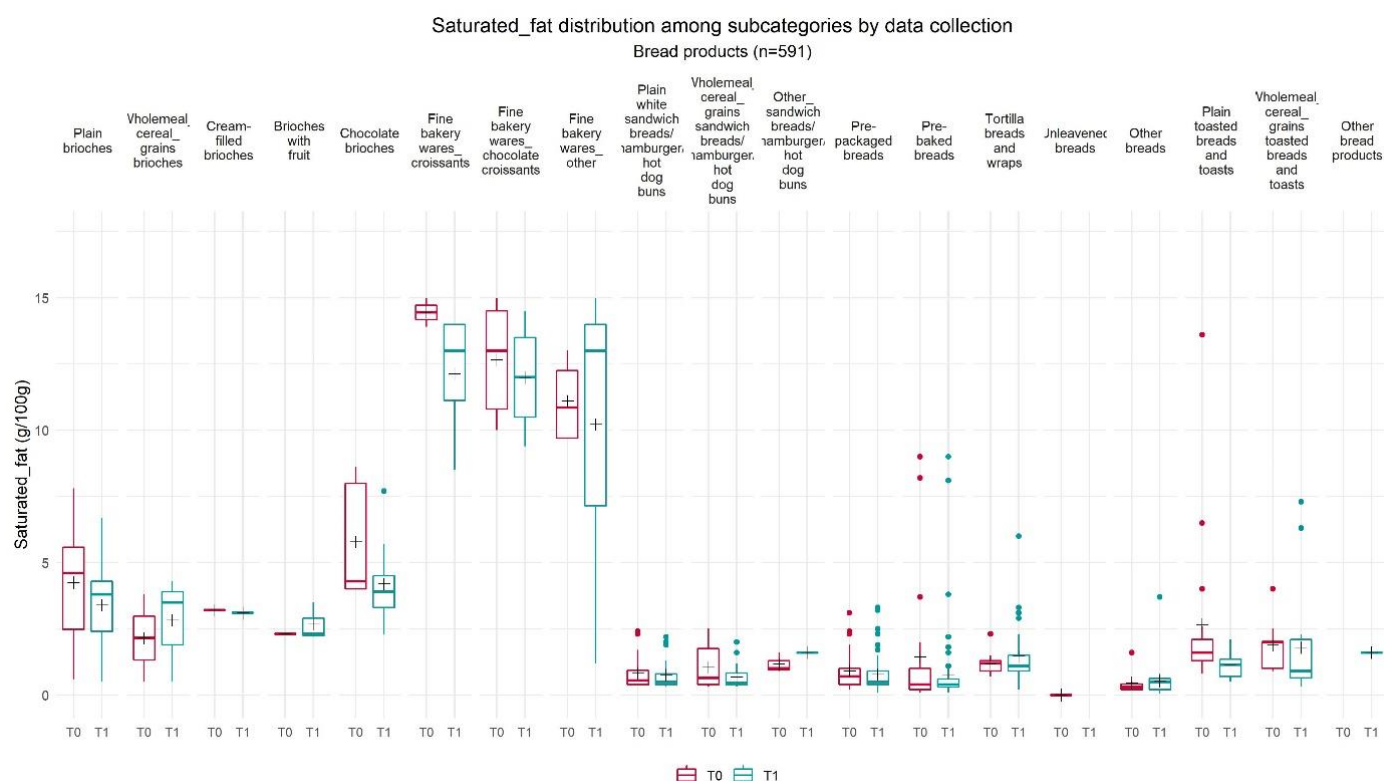


Figure 20 : Saturated fat distribution among subcategories of Bread products¹

Figure 20 shows the saturated fat distribution of Bread products between 2018 (T0) and 2022 (T1) by subcategories. Among the 19 subcategories considered, there were no significant changes in the average saturated fat content between T0 and T1.

The subcategories including products with the most variable saturated fat content at both times, meaning room for reformulation, are: Pre-baked breads (2018, n=37; 2022, n=82) and Plain brioches (2018, n=16; 2022, n=33).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Tortilla breads and wraps (2018, n=17; 2022, n=39), Wholemeal_cereal_grains toasted breads and toasts (2018, n=9; 2022, n=16).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.1.4 Evolution of the saturated fat content for paired products

The Table 4 summarizes the difference in the average saturated fat content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

A significant decrease in the mean saturated fat content of paired products is observed for one subcategory : Pre-packaged breads (-0.1g/100g; -12.5%). However, the decrease observed at the subcategory level for Pre-packaged breads is not significant.

Table 4 : Summary of the evolution of the average saturated fat content for Bread products, by subcategory¹

Subcategory_name	Saturated fat					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Plain brioches	3,4	-0.9	-20.2 %	3,1	-0.7	-17.7 %
Wholemeal_cereal_grains brioches	2,8	+0.7	+31.2 %	0,5	0	0%
Cream-filled brioches	3,1	-0.1	-3.1 %	3,1	-0.1	-3.1 %
Brioches with fruit	2,7	+0.4	+15.9 %	2,3	0	0%
Chocolate brioches	4,2	-1.6	-27.5 %	4,5	+0.3	+8.4 %
Fine bakery wares_croissants	12,1	-2.3	-16.1 %			
Fine bakery wares_chocolate croissants	12	-0.7	-5.3 %	12,5	0	0%
Fine bakery wares_other	10,2	-0.9	-8%	12	0	0%
Plain white sandwich breads / hamburger /hot dog buns	0,8	-0.07	-8.6 %	0,6	-0.2	-23.2 %
Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns	0,7	-0.4	-35.4 %	0,6	0	0%
Other_sandwich breads / hamburger / hot dog buns	1,6	+0.4	+37.1 %			
Pre-packaged breads	0,8	-0.1	-13.8 %	1	-0.1*	-12.5 %
Pre-baked breads	0,7	-0.7	-48.2 %	0,5	-0.02	-4.4 %
Tortilla breads and wraps	1,5	+0.3	+24.2 %	1,2	-0.07	-5.9 %
Other breads	0,5	+0.07	+15.2 %	0,4	+0.07	+20%
Plain toasted breads and toasts	1,1	-1.5	-57.1 %	1,4	-0.1	-6.9 %
Wholemeal_cereal_grains toasted breads and toasts	1,8	-0.08	-4.5 %	1,2	-1	-46.8 %
Other bread products	1,6					

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

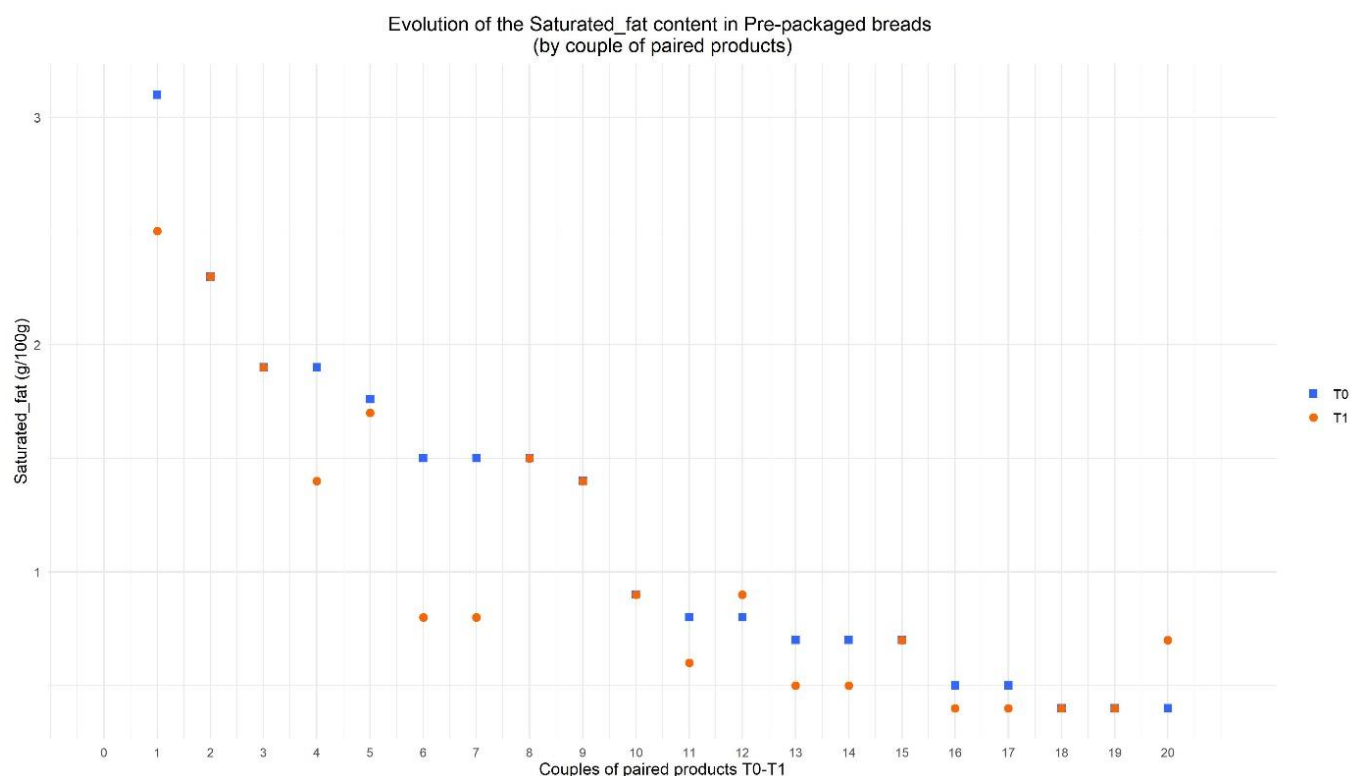


Figure 21 : Saturated fat content evolution between 2018 and 2022 by couple of paired product for Pre-packaged breads subcategory

Of the 20 couples of paired products in subcategory Pre-packaged breads, 50% of the products have a lower saturated fat content in 2022 (T1) than in 2018 (T0) (Figure 21). It should be noted that only 2 products show a higher saturated fat content in 2022 than in 2018 and the product with the highest saturated fat content in 2018 experienced a decrease in its saturated fat content in 2022.

3.2.1.5 Evolution of the sugar content among the subcategories

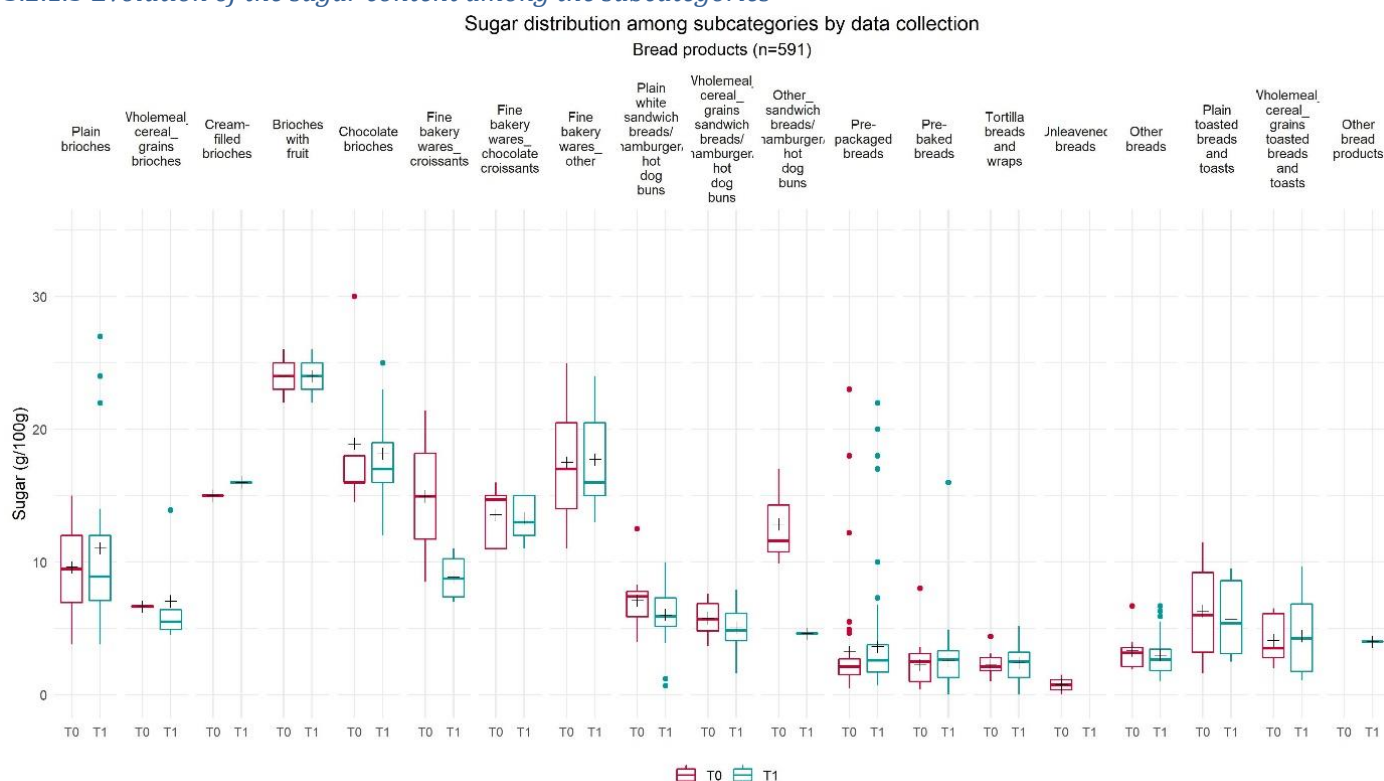


Figure 22 : Sugar distribution among subcategories of Bread products¹

Figure 22 shows the sugar distribution of Bread products between 2018 (T0) and 2022 (T1) by subcategories. Among the 19 subcategories considered, there were no significant changes in the average sugar content between T0 and T1.

The subcategories including products with the most variable sugar content at both times, meaning room for reformulation, are: Fine bakery wares_other (2018, n=4; 2022, n=7), Plain brioches (2018, n=16; 2022, n=33), Pre-packaged bread (2018, n=45; 2022, n=74), Chocolate brioches (2018, n=5; 2022, n=13).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Pre-baked breads (2018, n=37; 2022, n=82).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.1.6 Evolution of the sugar content for paired products

The Table 5 summarizes the difference in the average sugar content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Table 5 : Summary of the evolution of the average sugar content for Bread products, by subcategory¹

Subcategory_name	Sugar					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Plain brioches	11	+1.4	+15%	8,7	+0.2	+2.5 %
Wholemeal_cereal_grains brioches	7	+0.4	+5.9 %	4,9	-2	-27.9 %
Cream-filled brioches	16	+1	+6.7 %	16	+1	+6.7 %
Brioches with fruit	24	0	0%	26	0	0%
Chocolate brioches	18,2	-0.7	-3.9 %	17,5	+0.5	+2.9 %
Fine bakery wares_croissants	8,9	-6.1	-40.6 %			
Fine bakery wares_chocolate croissants	13,3	-0.3	-1.9 %	12,3	0	0%
Fine bakery wares_other	17,7	+0.2	+1.2 %	14	-1	-6.7 %
Plain white sandwich breads / hamburger /hot dog buns	6	-1.1	-15.3 %	7,4	-0.9	-11.2 %
Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns	5	-0.7	-12.9 %	5,2	0	0%
Other_sandwich breads / hamburger / hot dog buns	4,6	-8.2	-64.2 %			
Pre-packaged breads	3,6	+0.4	+12.2 %	3,9	-0.09	-2.3 %
Pre-baked breads	2,6	+0.4	+16.3 %	2,1	+0.05	+2.4 %
Tortilla breads and wraps	2,4	+0.2	+6.8 %	2,1	-0.08	-3.7 %
Other breads	3	-0.3	-9.8 %	2,7	-0.07	-2.4 %
Plain toasted breads and toasts	5,7	-0.6	-9.5 %	5	-0.5	-9.8 %
Wholemeal_cereal_grains toasted breads and toasts	4,4	+0.3	+7.9 %	4,1	-0.7	-14%
Other bread products	4					

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.1.7 Evolution of the fibre content among the subcategories

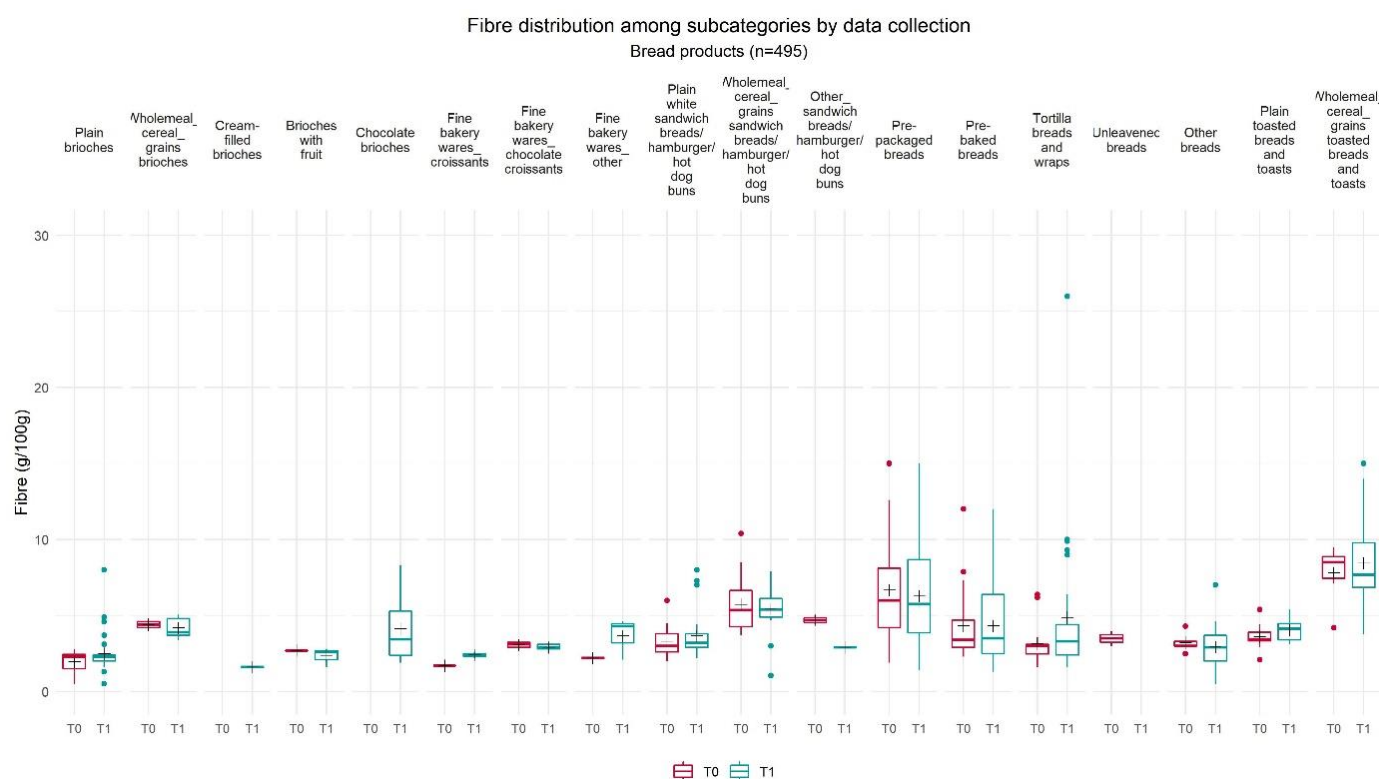


Figure 23 : Fibre distribution among subcategories of Bread products¹

Figure 23 shows the fibre distribution of Bread products between 2018 (T0) and 2022 (T1) by subcategories. Among the 18 subcategories considered, there were no significant changes in the average fibre content between T0 and T1.

The subcategories including products with the most variable fibre content at both times, meaning room for reformulation, are: Pre-baked breads (2018, n=21; 2022, n=78), Pre-packaged bread (2018, n=33; 2022, n=72).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Tortilla breads and wraps (2018, n=14; 2022, n=29), Wholemeal_cereal_grains toasted breads and toasts (2018, n=6; 2022, n=16).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.1.8 Evolution of the fibre content for paired products

The Table 6 summarizes the difference in the average fibre content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Table 6 : Summary of the evolution of the average fibre content for Bread products, by subcategory¹

Subcategory_name	Fibre					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Plain brioches	2,5	+0.5	+27.2 %	2,6	+0.6	+27.3 %
Wholemeal_cereal_grains brioches	4,2	-0.2	-5%	4,8	0	0%
Cream-filled brioches	1,6			1,6		
Brioches with fruit	2,3	-0.4	-13.6 %	1,6		
Chocolate brioches	4,1			3,5		
Fine bakery wares_croissants	2,4	+0.7	+41.2 %			
Fine bakery wares_chocolate croissants	2,9	-0.2	-5.4 %	3,1	0	0%
Fine bakery wares_other	3,7	+1.5	+66.7 %	2,1		
Plain white sandwich breads / hamburger /hot dog buns	3,7	+0.4	+10.7 %	4	+1	+36.5 %
Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns	5,4	-0.3	-5.5 %	6,5	0	0%
Other_sandwich breads / hamburger / hot dog buns	2,9	-1.8	-38.3 %			
Pre-packaged breads	6,3	-0.4	-6%	6,9	-1	-13.3 %
Pre-baked breads	4,3	+0.01	+0.3 %	4,6	-0.8	-14.7 %
Tortilla breads and wraps	4,9	+1.7	+55%	4,1	+0.8	+25.4 %
Other breads	2,9	-0.3	-9%	3,2	-0.1	-4.4 %
Plain toasted breads and toasts	4	+0.4	+11.4 %	3,9	+0.05	+1.3 %
Wholemeal_cereal_grains toasted breads and toasts	8,4	+0.6	+8.3 %	9,4	+0.9*	+10.3 %
Other bread products						

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.1.9 Evolution of the salt content among the subcategories

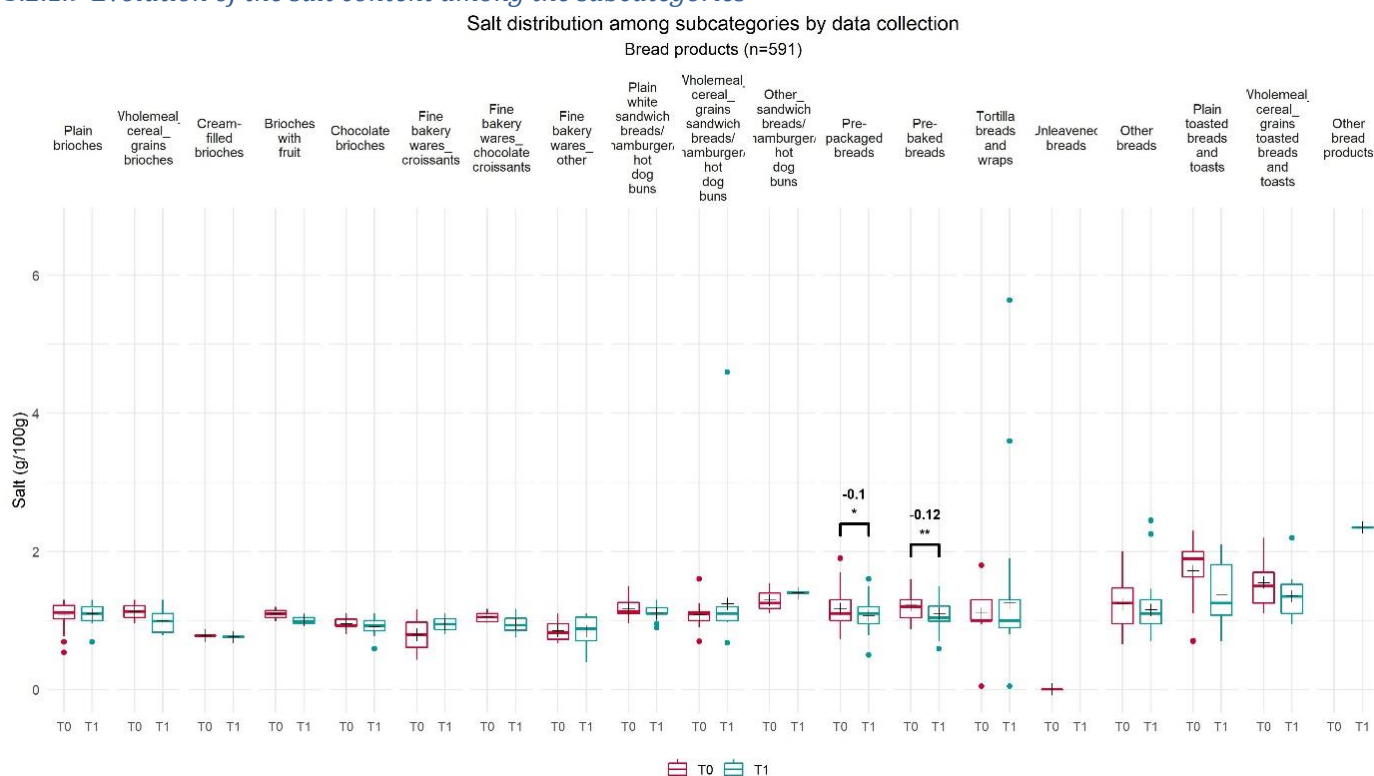


Figure 24 : Salt distribution among subcategories of Bread products¹

Figure 24 shows the salt distribution of Bread products between 2018 (T0) and 2022 (T1) by subcategories. Among the 19 subcategories considered, the average salt content has significantly decreased for two subcategories only: Pre-packaged breads (-0.1g/100g; -8.65%) and Pre-baked breads (-0.12g/100g; -10.02%).

The subcategories including products with the most variable salt content in 2022 (T1), meaning room for reformulation, are: Tortilla breads and wraps (2022, n=39), Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns (2022, n=20).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.1.10 Evolution of the salt content for paired products

The Table 7 summarizes the difference in the average salt content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

The mean salt content has significantly decreased for paired products for one subcategory only: Tortilla breads and wraps (-0.14g/100g; -12.59%). However, the decrease observed at the subcategory level for Tortilla breads and wraps is not significant.

Table 7 : Summary of the evolution of the average salt content for Bread products, by subcategory¹

Subcategory_name	Salt					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Plain brioches	1,1	+0.018	+1.64 %	1,1	+0.082	+8.02 %
Wholemeal_cereal_grains brioches	1	-0.13	-11.33 %	1,3	0	0%
Cream-filled brioches	0,76	-0.02	-2.56 %	0,76	-0.02	-2.56 %
Brioches with fruit	1,01	-0.088	-8.07 %	0,99	0	0%
Chocolate brioches	0,91	-0.043	-4.49 %	0,88	+0.015	+1.74 %
Fine bakery wares_croissants	0,95	+0.15	+19.18 %			
Fine bakery wares_chocolate croissants	0,95	-0.11	-10%	1,08	0	0%
Fine bakery wares_other	0,84	-0.012	-1.42 %	1,1	0	0%
Plain white sandwich breads / hamburger /hot dog buns	1,11	-0.067	-5.72 %	1,13	+0.036	+3.3 %
Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns	1,24	+0.16	+15.01 %	1,09	0	0%
Other_sandwich breads / hamburger / hot dog buns	1,4	+0.1	+7.97 %			
Pre-packaged breads	1,07	-0.1*	-8.65 %	1,08	-0.034	-3.04 %
Pre-baked breads	1,1	-0.12**	-10.02 %	1,19	-0.013	-1.07 %
Tortilla breads and wraps	1,26	+0.16	+14.08 %	0,98	-0.14*	-12.59 %
Other breads	1,15	-0.086	-6.96 %	1,17	-0.013	-1.12 %
Plain toasted breads and toasts	1,37	-0.35	-20.25 %	1,48	-0.025	-1.66 %
Wholemeal_cereal_grains toasted breads and toasts	1,35	-0.2	-12.7 %	1,29	-0.055	-4.07 %
Other bread products	2,35					

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

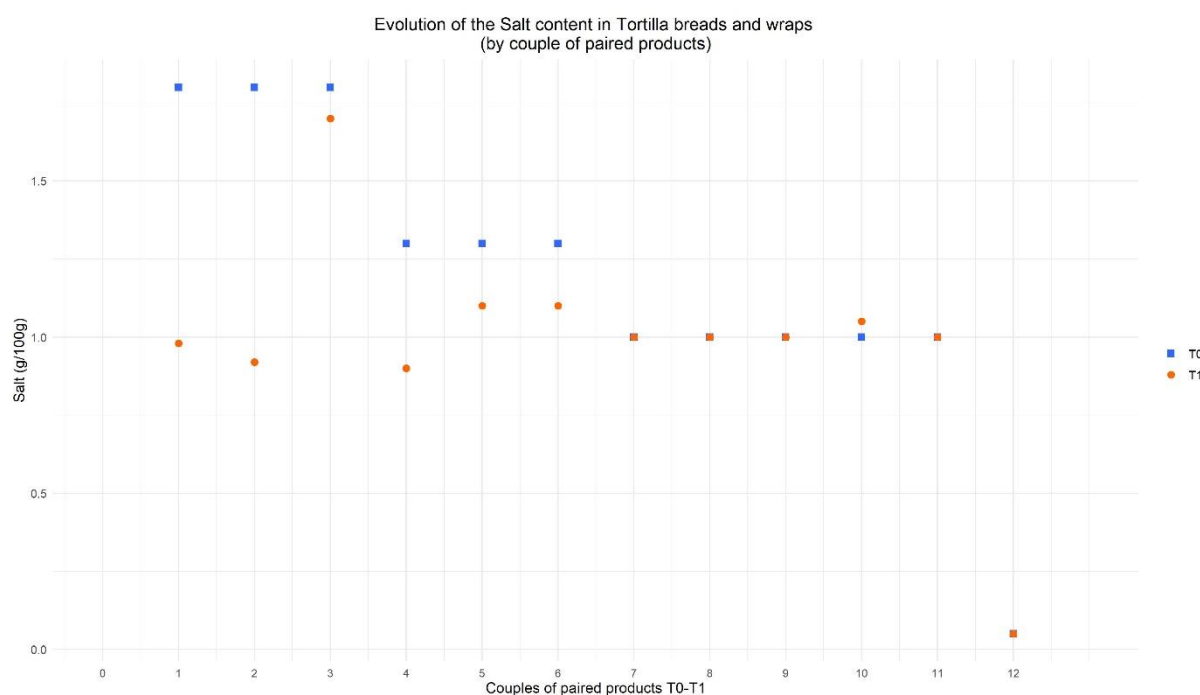


Figure 25 : Salt content evolution between 2018 and 2022 by couple of paired product for Tortilla breads and wraps subcategory

Of the 12 couples of paired products in subcategory Tortilla breads and wraps, 6 products have a lower salt content in 2022 (T1) than in 2018 (T0) and only one product has a slightly higher salt content in 2022.(Figure 25).

3.2.2 Breakfast cereals

The nutrients considered for the analysis of the evolution of Breakfast cereals category are: Fat, Saturated fat, Sugars, Salt and Fibre.

3.2.2.1 Evolution of the fat content among the subcategories

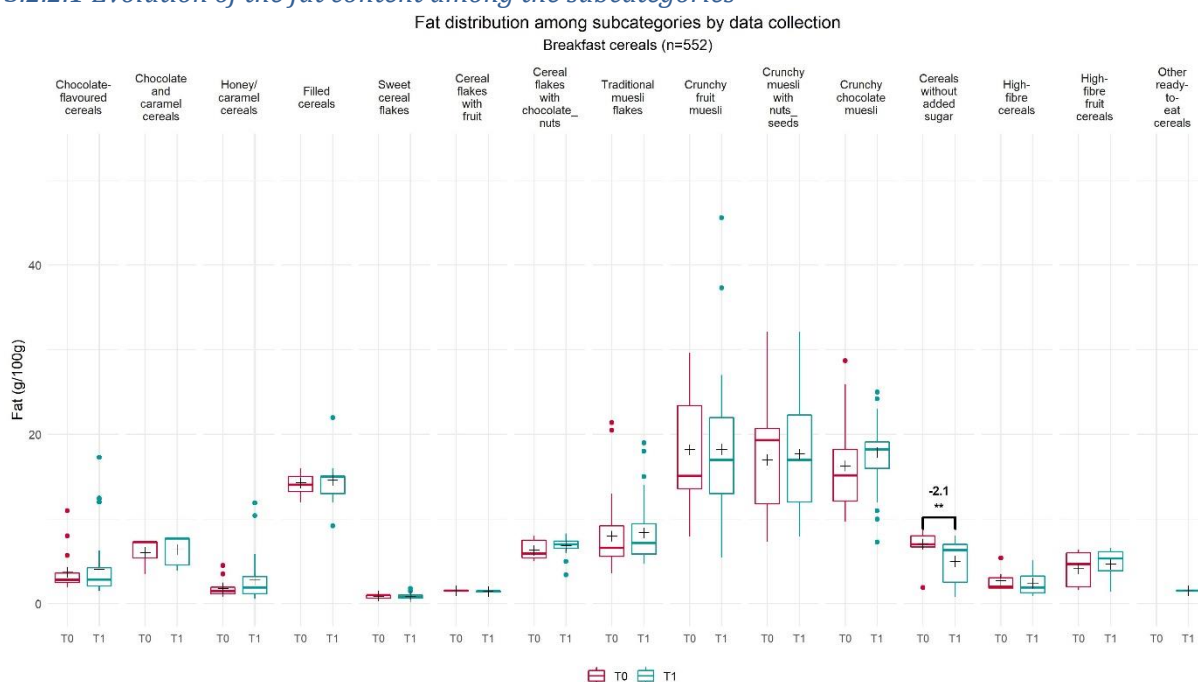


Figure 26 : Fat distribution among subcategories of Breakfast cereals¹

Figure 26 shows the fat distribution of Breakfast cereals between 2018 (T0) and 2022 (T1) by subcategories.

Among all the products collected within Breakfast cereals category, there is a significant decrease between both data collections in the average fat content only for one subcategory out of 15 : Cereals without added sugar (-2.1g/100g between 2018 and 2022 , -29.2%).

Overall, the variability of the fat content differs between the subcategories but the subcategories with the highest variability are the same at T0 and T1 : Crunchy fruit muesli (2018, n=31; 2022, n=45); Crunchy muesli with nuts_seeds (2018, n=11; 2022, n=29); Crunchy chocolate muesli (2018, n=20; 2022, n=40); and Traditional muesli flakes (2018, n=25; 2022, n=35).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Chocolate-flavoured cereals (2018, n=17; 2022, n=56).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.2.2 Evolution of the fat content for paired products

The

No significant difference is observed at the level of paired products.

Table 8 summarizes the difference in the average fat content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Table 8 : Summary of the evolution of the average fat content for Breakfast cereals, by subcategory¹

	Fat					
	All products			Paired products		
Subcategory_name	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Chocolate-flavoured cereals	4,1	+0.4	+9.8 %	2,7	-0.2	-6.7 %
Chocolate and caramel cereals	6,4	+0.4	+5.9 %	6,8	+1	+25%
Honey/caramel cereals	2,8	+1.1	+60.7 %	1,8	+0.2	+12.1 %
Filled cereals	14,6	+0.3	+2.3 %	15,6	+0.9	+6.4 %
Sweet cereal flakes	0,9	-0.02	-2.5 %	0,9	+0.4	+84.2 %
Cereal flakes with fruit	1,4	-0.1	-6.5 %			
Cereal flakes with chocolate_nuts	6,8	+0.5	+8.5 %	6,7	+0.4	+5.8 %
Traditional muesli flakes	8,4	+0.4	+4.9 %	6,6	-0.1	-2%
Crunchy fruit muesli	18,2	+0.05	+0.3 %	12,5	+0.1	+1.1 %
Crunchy muesli with nuts_seeds	17,7	+0.7	+4%	18,6	-2	-10.7 %
Crunchy chocolate muesli	17,9	+1.6	+9.8 %	19,7	+1	+5.1 %
Cereals without added sugar	5	-2.1**	-29.2 %	6,5	-0.04	-0.5 %
High-fibre cereals	2,4	-0.3	-10.3 %	2	0	0%
High-fibre fruit cereals	4,7	+0.5	+12.9 %	4,2	0	0%
Other ready-to-eat cereals	1,6					

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.2.3 Evolution of the saturated fat content among the subcategories



Figure 27 : Saturated fat distribution among subcategories of Breakfast cereals¹

Figure 27 shows the saturated fat distribution of Breakfast cereals between 2018 (T0) and 2022 (T1) by subcategories.

Among all the products collected within Breakfast cereals category, there is a significant decrease between both data collections in the average saturated fat content only for one subcategory out of 15 : Cereals without added sugar (-0.4g/100g between 2018 and 2022 , - 29.8%).

Overall, the variability of the saturated fat content differs between the subcategories but the subcategories with the highest variability are the same at T0 and T1 : Crunchy fruit muesli (2018, n=17; 2022, n=56); Crunchy muesli with nuts_seeds (2018, n=31; 2022, n=45); Crunchy chocolate muesli (2018, n=20; 2022, n=40).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Chocolate-flavoured cereals (2018, n=17; 2022, n=56).

¹Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.2.4 Evolution of the saturated fat content for paired products

The Table 9 summarizes the difference in the average saturated fat content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Table 9 : Summary of the evolution of the average saturated fat content for Breakfast cereals, by subcategory¹

Subcategory_name	Saturated fat					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Chocolate-flavoured cereals	1,6	-0,003	-0.2 %	1,2	-0,04	-3.2 %
Chocolate and caramel cereals	1,3	+0,09	+7.3 %	1,4	+0,2	+17.4 %
Honey/caramel cereals	0,5	-0,06	-11.3 %	0,3	+0,02	+7.2 %
Filled cereals	3,9	+0,09	+2.4 %	4,2	+0,1	+2.4 %
Sweet cereal flakes	0,2	-0,003	-1.4 %	0,2	+0,1	+125%
Cereal flakes with fruit	0,3	-0,05	-14.3 %			
Cereal flakes with chocolate_nuts	3,6	+0,6	+20%	2,4	+0,2	+9%
Traditional muesli flakes	1,8	-0,1	-6.3 %	2,2	-0,06	-2.7 %
Crunchy fruit muesli	4,6	-0,2	-4.9 %	2,8	-0,8	-21.3 %
Crunchy muesli with nuts_seeds	3	-0,8	-20.3 %	3	-1	-29.4 %
Crunchy chocolate muesli	5,1	+0,6	+12.2 %	6,7	+0,3	+4.6 %
Cereals without added sugar	0,9	-0,4**	-29.8 %	1,2	+0,03	+2.9 %
High-fibre cereals	0,7	-0,09	-10.3 %	0,6	0	0%
High-fibre fruit cereals	2,8	+0,5	+21.7 %	2,5	+0,03	+1.4 %
Other ready-to-eat cereals	0,6					

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.2.5 Evolution of the sugar content among the subcategories

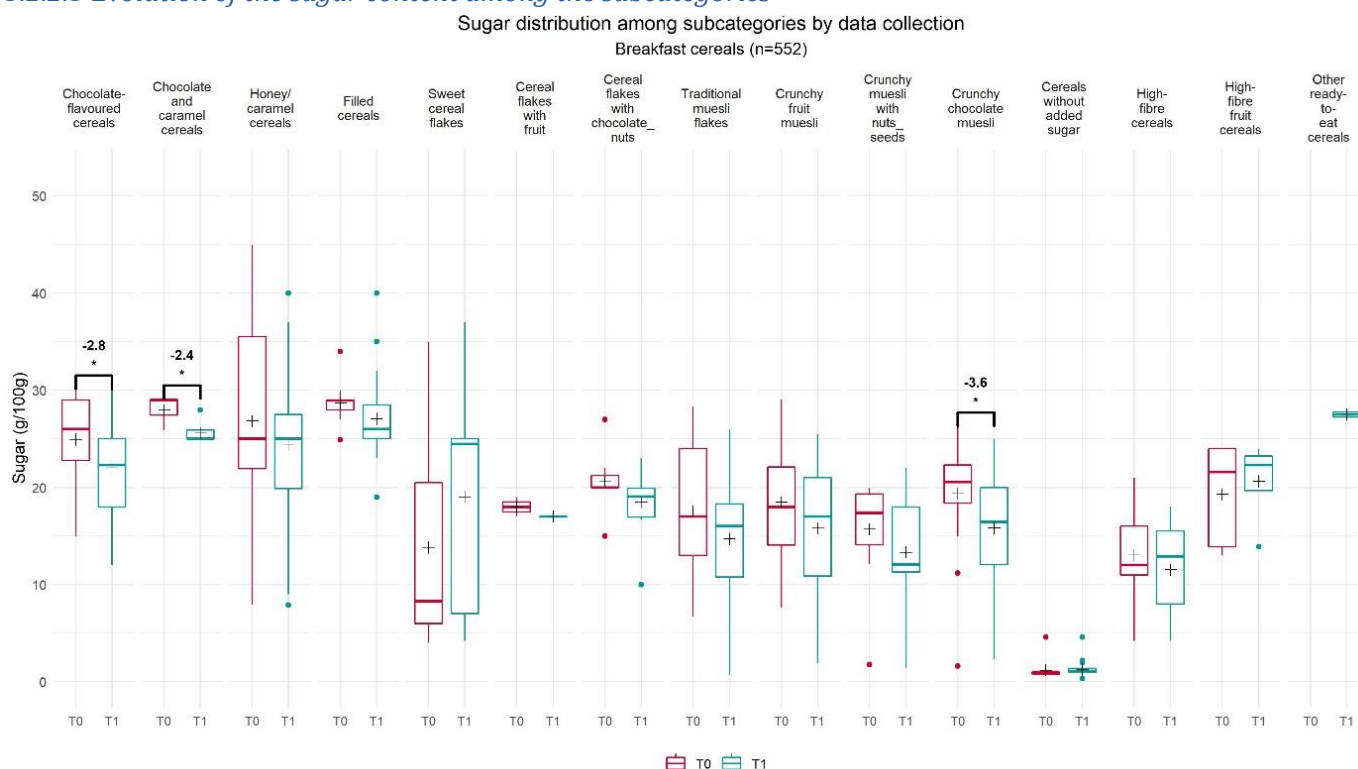


Figure 28 : Sugar distribution among subcategories of Breakfast cereals¹

Figure 28 shows the sugar distribution of Breakfast cereals between 2018 (T0) and 2022 (T1) by subcategories.

Among all the products collected within Breakfast cereals category, there is a significant decrease between both data collections in the average sugar content for three subcategories out of 15 : Chocolate-flavoured cereals (-2.8g/100g; -11.4%) , Chocolate and caramel cereals (-2.4g/100g; -8.5%) and Crunchy chocolate muesli (-3.5g/100g; -18.3%).

The subcategories including products with the most variable sugar content at both times, meaning room for reformulation, are: Sweet cereal flakes (2018, n=11; 2022, n=16), Honey/caramel cereals (2018, n=15; 2022, n=36), Traditional muesli flakes (2018, n=25; 2022, n=35), Crunchy fruit muesli (2018, n=31; 2022, n=45), Crunchy chocolate muesli (2018, n=20; 2022, n=40).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Filled cereals (2018, n=14; 2022, n=33).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.2.6 Evolution of the sugar content for paired products

The Table 10 summarizes the difference in the average sugar content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Table 10 : Summary of the evolution of the average sugar content for Breakfast cereals, by subcategory ¹

Subcategory_name	Sugar					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Chocolate-flavoured cereals	22,1	-2.8*	-11.4 %	+23,8	-2	-6.9 %
Chocolate and caramel cereals	25,6	-2.4*	-8.5 %	+25,2	-2	-8.1 %
Honey/caramel cereals	24,4	-2.5	-9.3 %	+26,4	-2	-7.7 %
Filled cereals	27,1	-1.6	-5.7 %	+26,9	-2	-7.1 %
Sweet cereal flakes	19	+5.2	+37.6 %	+15,7	-2	-12.7 %
Cereal flakes with fruit	17	-1	-5.6 %			
Cereal flakes with chocolate_nuts	18,5	-2.1	-10.2 %	+20	-2	-10.5 %
Traditional muesli flakes	14,7	-2.8	-15.9 %	+17,3	-2	-8.2 %
Crunchy fruit muesli	15,8	-2.7	-14.4 %	+19,8	-0,6	-3.1 %
Crunchy muesli with nuts_seeds	13,3	-2.4	-15.1 %	+15,6	-0,8	-4.7 %
Crunchy chocolate muesli	15,8	-3.5*	-18.3 %	+16,3	+0,1	+0.7 %
Cereals without added sugar	1,3	+0.09	+7.8 %	+1,4	-0,1	-6.6 %
High-fibre cereals	11,5	-1.5	-11.4 %	+4,2	0	0%
High-fibre fruit cereals	20,6	+1.3	+6.9 %	+19,5	-0,3	-1.7 %
Other ready-to-eat cereals	27,5					-6.9 %

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.2.7 Evolution of the fibre content among the subcategories

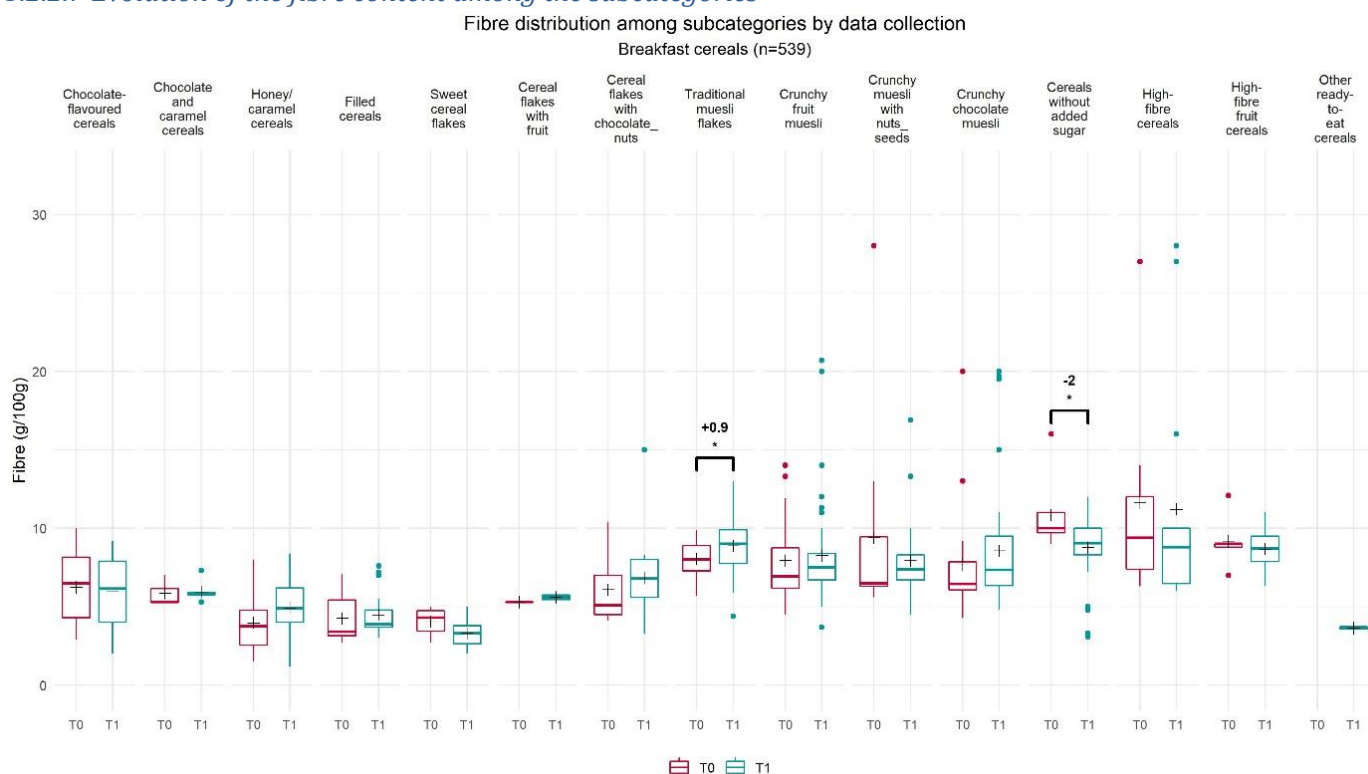


Figure 29 : Fibre distribution among subcategories of Breakfast cereals¹

Figure 29 shows the fibre distribution of Breakfast cereals between 2018 (T0) and 2022 (T1) by subcategories.

Among all the products collected within Breakfast cereals category, there is a significant increase between both data collections in the average fibre content only for one subcategory out of 15 : Traditional muesli flakes (+0.8g/100g; +10.5%), and a significant decrease for the subcategory Cereals without added sugar (-2.1g/100g between 2018 and 2022 , -19%).

The subcategories including products with the most variable fibre content at both times, meaning room for reformulation, are: High-fibre cereals (2018, n=7; 2022, n=14), Crunchy fruit muesli (2018, n=30; 2022, n=45), Crunchy chocolate muesli (2018, n=20; 2022, n=40) and Crunchy muesli with nuts_seeds (2018, n=11; 2022, n=29).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.2.8 Evolution of the fibre content for paired products

The Table 11 summarizes the difference in the fibre content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Table 11 : Summary of the evolution of the average fibre content for Breakfast cereals, by subcategory¹

Subcategory_name	Fibre					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Chocolate-flavoured cereals	6	-0.2	-3.7 %	5,1	-0.8	-13.9 %
Chocolate and caramel cereals	6	+0.08	+1.4 %	5,8	-0.3	-5.3 %
Honey/caramel cereals	4,9	+1	+24.1 %	4	+0.2	+5.6 %
Filled cereals	4,5	+0.2	+5.1 %	4,6	+0.2	+5.7 %
Sweet cereal flakes	3,3	-0.7	-18.3 %	3,5	-0.6	-15.4 %
Cereal flakes with fruit	5,6	+0.3	+5.7 %			
Cereal flakes with chocolate_nuts	6,8	+0.8	+12.4 %	6,3	-1	-17.2 %
Traditional muesli flakes	8,9	+0.8*	+10.5 %	8	-0.4	-4.2 %
Crunchy fruit muesli	8,3	+0.3	+4%	8	+0.2	+2.7 %
Crunchy muesli with nuts_seeds	8	-1.4	-15.3 %	6,9	-0.3	-3.6 %
Crunchy chocolate muesli	8,6	+0.9	+11.7 %	8,6	-0.7	-7.2 %
Cereals without added sugar	8,8	-2.1*	-19%	9,7	-0.3	-2.8 %
High-fibre cereals	11,2	-0.4	-3.7 %	10	0	0%
High-fibre fruit cereals	8,7	-0.5	-5.5 %	8,6	-0.7	-7.9 %
Other ready-to-eat cereals	3,6					

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.2.9 Evolution of the salt content among the subcategories

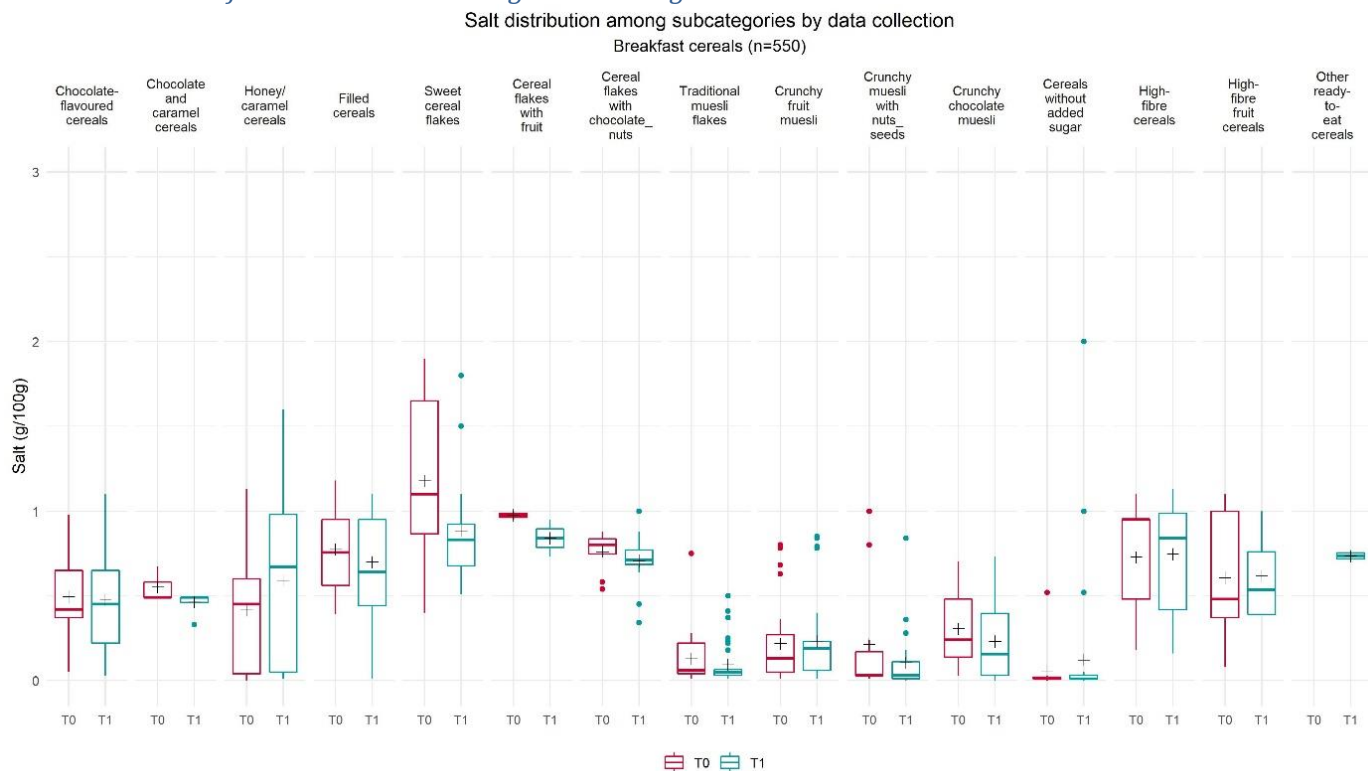


Figure 30 : Salt distribution among subcategories of Breakfast cereals¹

Figure 30 shows the salt distribution of Breakfast cereals between 2018 (T0) and 2022 (T1) by subcategories. Among the 15 subcategories considered, there were no significant changes in the average salt content between T0 and T1.

The subcategories including products with the most variable salt content at both times, meaning room for reformulation, are: Sweet cereal flakes (2018, n=11; 2022, n=16), Honey/caramel cereals (2018, n=15; 2022, n=35).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Filled cereals (2018, n=14; 2022, n=33), Chocolate-flavoured cereals (2018, n=17; 2022, n=56), Cereals without added sugar (2018, n=13; 2022, n=33).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.2.10 Evolution of the salt content for paired products

The Table 12 summarizes the difference in the average salt content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Table 12 : Summary of the evolution of the average salt content for Breakfast cereals, by subcategory¹

Subcategory_name	Salt					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Chocolate-flavoured cereals	0,47	-0.02	-4.04 %	0,51	+0.05	+10.94 %
Chocolate and caramel cereals	0,46	-0.088	-15.91 %	0,48	-0.098	-16.81 %
Honey/caramel cereals	0,59	+0.18	+42.33 %	0,66	+0.14	+26.37 %
Filled cereals	0,7	-0.074	-9.59 %	0,63	-0.05	-7.33 %
Sweet cereal flakes	0,88	-0.29	-25.04 %	0,7	-0.36	-34.12 %
Cereal flakes with fruit	0,84	-0.14	-13.85 %			
Cereal flakes with chocolate_nuts	0,71	-0.054	-7.07 %	0,69	-0.07	-9.17 %
Traditional muesli flakes	0,09	-0.035	-27.48 %	0,15	-0.044	-22.15 %
Crunchy fruit muesli	0,23	+0.015	+6.83 %	0,14	+0.008	+6.3 %
Crunchy muesli with nuts_seeds	0,11	-0.11	-50.77 %	0,03	-0.004	-13.33 %
Crunchy chocolate muesli	0,23	-0.075	-24.47 %	0,36	+0.07	+24.14 %
Cereals without added sugar	0,12	+0.07	+138.75 %	0,09	-0.011	-11.43 %
High-fibre cereals	0,75	+0.019	+2.55 %	0,28	0	0%
High-fibre fruit cereals	0,62	+0.009	+1.49 %	0,49	-0.16	-25.13 %
Other ready-to-eat cereals	0,74					

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.3 Delicatessen meats and similar

3.2.3.1 Evolution of the protein content among the subcategories

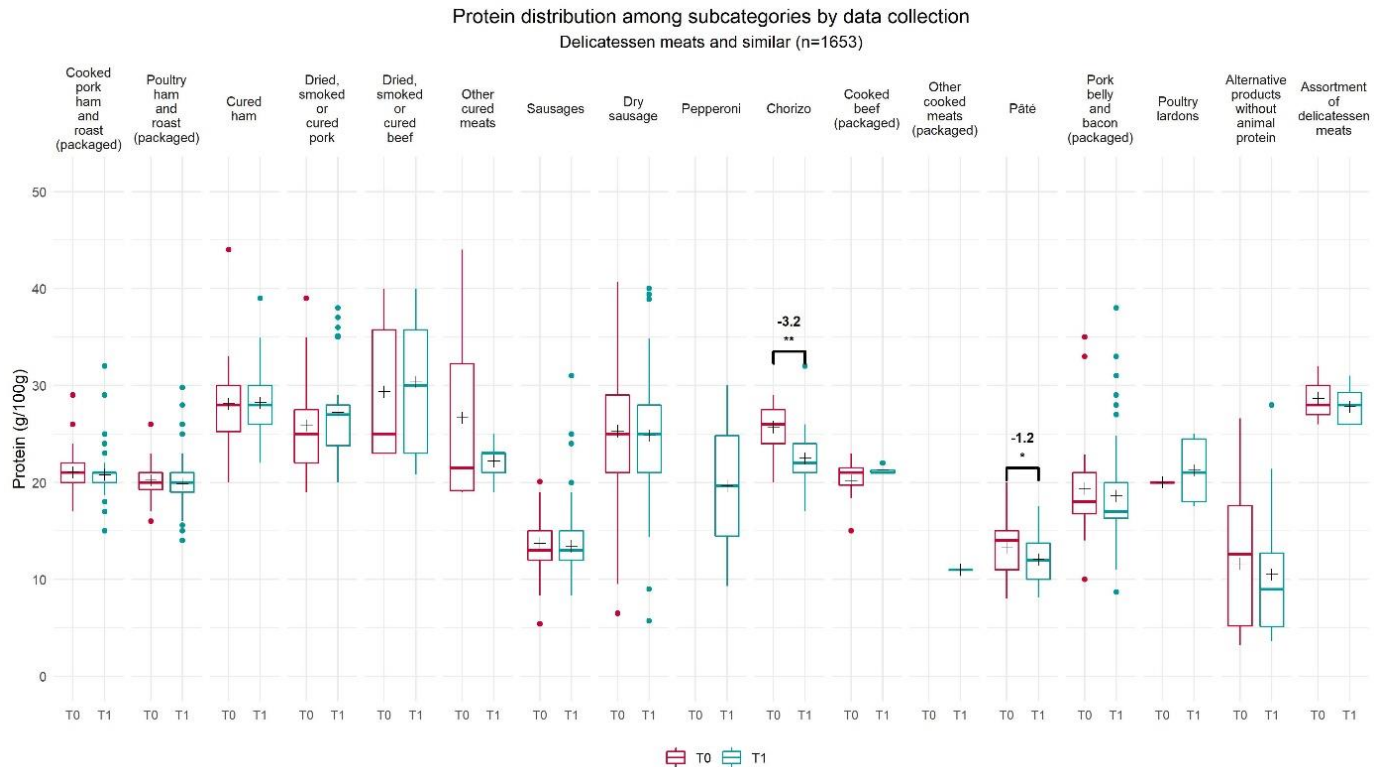


Figure 31 : Protein distribution among subcategories of Delicatessen meats and similar

Figure 31 shows the protein distribution of Delicatessen meats and similar between 2018 (T0) and 2022 (T1) by subcategories.

Among all the products collected within Delicatessen meats and similar category, there is a significant decrease between both data collections in the average protein content for two subcategories out of 17 : Chorizo (-3.2g/100g between 2018 and 2022, -12.6%) and Pâté (-1.2g/100g between 2018 and 2022, -9%).

The subcategories including products with the most variable protein content at both times, meaning room for reformulation, are: Dry sausage (2018, n=135; 2022, n=306), Pork belly and bacon (packaged) (2018, n=20; 2022, n=108), Alternative products without animal protein (2018, n=21; 2022, n=18).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Sausages (2018, n=121; 2022, n=210).

3.2.3.2 Evolution of the protein content for paired products

The Table 13 summarizes the difference in the average sugar content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Table 13 : Summary of the evolution of the average protein content for Delicatessen meats and similar, by subcategory¹

Subcategory_name	Protein					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Cooked pork ham and roast (packaged)	20,8	-0.3	-1.3 %	20,4	-0.01	-0.05 %
Poultry ham and roast (packaged)	19,9	-0.4	-1.9 %	19,5	-0.2	-1.3 %
Cured ham	28,2	+0.1	+0.4 %	27,7	-0.8	-2.9 %
Dried, smoked or cured pork	27,2	+1.4	+5.3 %	25,2	+0.3	+1.2 %
Dried, smoked or cured beef	30,4	+1	+3.4 %	27,7	-0.02	-0.09 %
Other cured meats	22,2	-4.4	-16.7 %	20,7	0	0%
Sausages	13,4	-0.3	-2.1 %	12,9	+0.06	+0.5 %
Dry sausage	24,8	-0.5	-1.9 %	25	-0.2	-0.8 %
Pepperoni	19,6					
Chorizo	22,5	-3.2**	-12.6 %	24	-1	-5.3 %
Cooked beef (packaged)	21,2	+1.1	+5.2 %	21	0	0%
Other cooked meats (packaged)	11					
Pâté	12,1	-1.2*	-9%	12,2	-0.04	-0.3 %
Pork belly and bacon (packaged)	18,6	-0.7	-3.8 %	17,3	-0.2	-1%
Poultry lardons	21,2	+1.2	+6.2 %	18	-2	-10%
Alternative products without animal protein	10,5	-1.1	-9.4 %	6,7	-1	-17.9 %
Assortment of delicatessen meats	27,8	-0.9	-3%	28	0	0%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.3.3 Evolution of the fat content among the subcategories

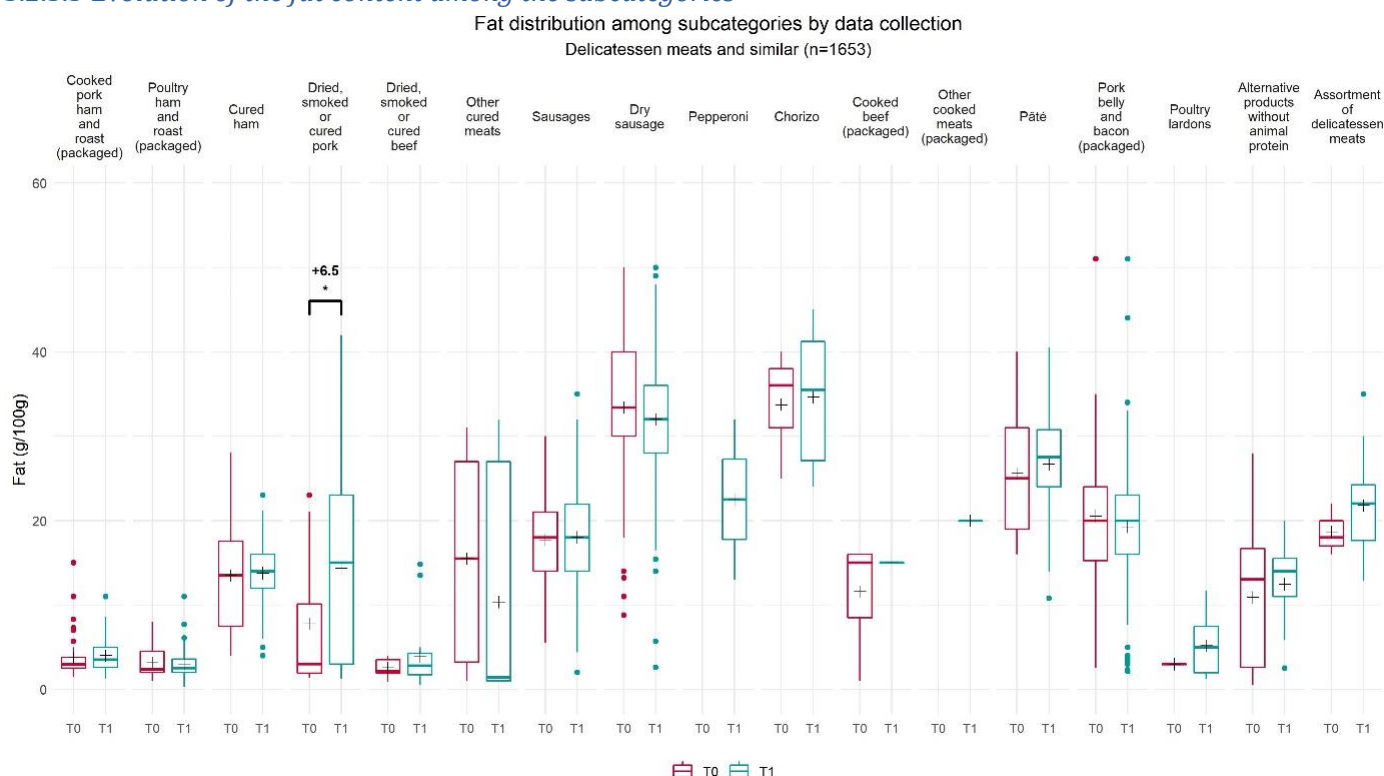


Figure 32 : Fat distribution among subcategories of Delicatessen meats and similar¹

Figure 32 shows the fat distribution of Delicatessen meats and similar between 2018 (T0) and 2022 (T1) by subcategories.

Among all the products collected within Delicatessen meats and similar category, there is a significant increase between both data collections in the average fat content only for one subcategory out of 17 : Dried, smoked or cured pork (+6.6g/100g between 2018 and 2022, +84.9%).

The subcategories including products with the most variable fat content at both times, meaning room for reformulation, are: Dry sausage (2018, n=135; 2022, n=306), Pork belly and bacon (packaged) (2018, n=20; 2022, n=108), Other cured meats (2018, n=10; 2022, n=9).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Sausages (2018, n=121; 2022, n=210), Dried, smoked or cured pork (2018, n=15; 2022, n=39).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.4 Evolution of the fat content for paired products

The Table 14 summarizes the difference in the average fat content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Table 14 : Summary of the evolution of the average fat content for Delicatessen meats and similar, by subcategory¹

Subcategory_name	Fat					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Cooked pork ham and roast (packaged)	4	+0.3	+6.9 %	4	+0.8	+25.8 %
Poultry ham and roast (packaged)	2,9	-0.2	-7.4 %	3,4	+0.1	+3.4 %
Cured ham	13,8	+0.3	+2%	11,5	+1	+14.1 %
Dried, smoked or cured pork	14,3	+6.6*	+84.9 %	5,7	-0.8	-12.7 %
Dried, smoked or cured beef	3,9	+1.3	+52.6 %	2,2	0	0%
Other cured meats	10,4	-5.2	-33.2 %	18,5	0	0%
Sausages	18	+0.3	+1.9 %	18,6	+0.5	+2.5 %
Dry sausage	32	-1.4	-4.1 %	33,3	+0.6	+1.7 %
Pepperoni	22,5					
Chorizo	34,6	+0.9	+2.7 %	33,3	-0.7	-2%
Cooked beef (packaged)	15	+3.4	+29.6 %	15	-0.5	-3.2 %
Other cooked meats (packaged)	20					
Pâté	26,7	+1.1	+4.2 %	28,4	+0.2	+0.7 %
Pork belly and bacon (packaged)	19,3	-1.3	-6.2 %	22	+0.05	+0.2 %
Poultry lardons	5,2	+2.2	+72.7 %	4	+1	+33.3 %
Alternative products without animal protein	12,5	+1.6	+14.4 %	12,8	-0.3	-2.3 %
Assortment of delicatessen meats	21,8	+3.1	+16.8 %	22	0	0%

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.3.5 Evolution of the saturated fat content among the subcategories

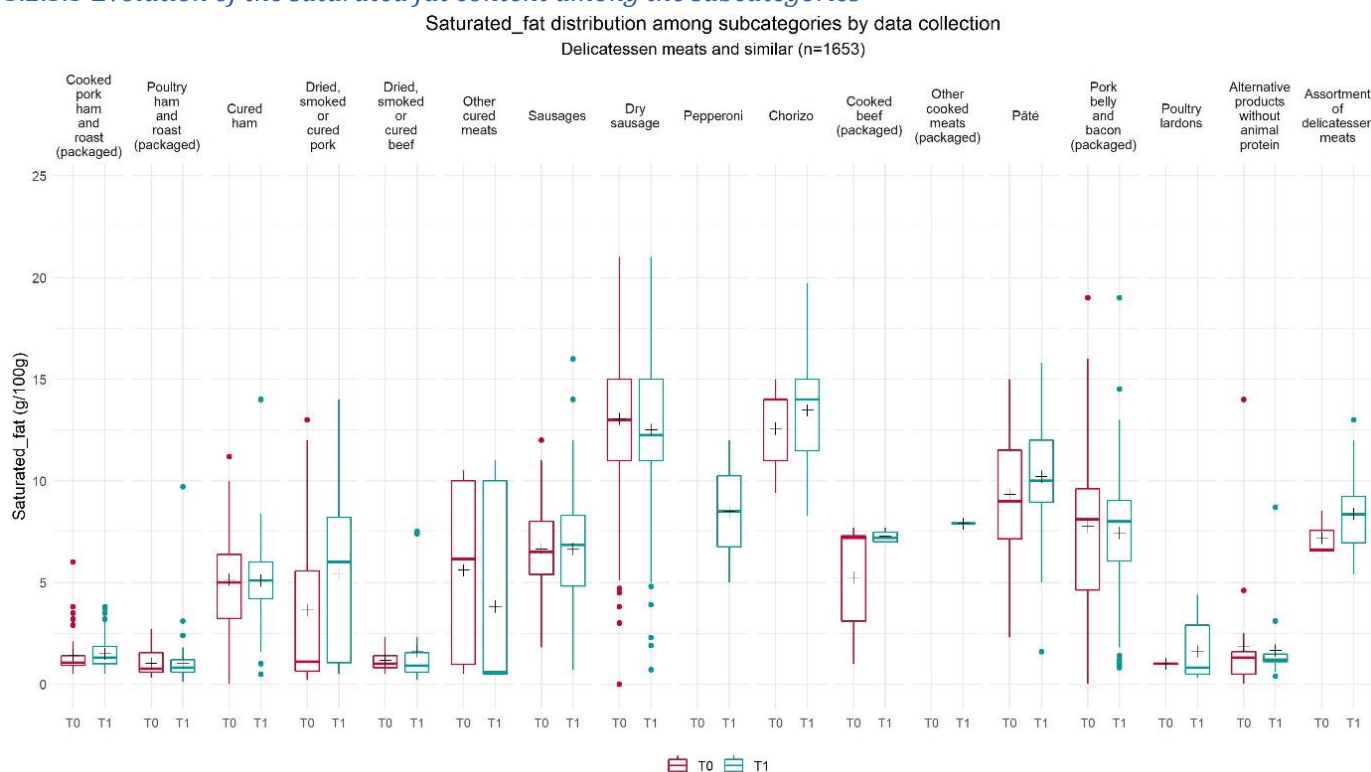


Figure 33 : Saturated fat distribution among subcategories of Delicatessen meats and similar¹

Figure 33 shows the saturated fat distribution of Delicatessen meats and similar between 2018 (T0) and 2022 (T1) by subcategories. Among the 17 subcategories considered, there were no significant changes in the average saturated fat content between T0 and T1.

The subcategories including products with the most variable saturated fat content at both times, meaning room for reformulation, are: Dry sausage (2018, n=135; 2022, n=306), Pork belly and bacon (packaged) (2018, n=20; 2022, n=108), Sausages (2018, n=121; 2022, n=210), Pâté (2018, n=43; 2022, n=58), Dried, smoked or cured pork (2018, n=15; 2022, n=39), Cured ham (2018, n=42; 2022, n=101).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Chorizo (2018, n=11; 2022, n=34), Poultry ham and roast (packaged) (2018, n=30; 2022, n=93).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.6 Evolution of the saturated fat content for paired products

The Table 15 summarizes the difference in the average saturated fat content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

The mean saturated fat content has significantly increased for paired products in only one subcategory: Sausages (+0.4g/100g; +6.4%). However, the increase observed at the subcategory level for Sausages is not significant.

Table 15 : Summary of the evolution of the average saturated fat content for Delicatessen meats and similar, by subcategory¹

	Saturated fats					
	All products			Paired products		
Subcategory_name	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Cooked pork ham and roast (packaged)	1,5	+0.07	+5.2 %	1,5	+0.3	+26.6 %
Poultry ham and roast (packaged)	1	+0.007	+0.6 %	1,1	+0.01	+1.1 %
Cured ham	5,1	-0.05	-0.9 %	4,3	+0.3	+7.6 %
Dried, smoked or cured pork	5,4	+1.8	+49.6 %	2,1	-1	-39.1 %
Dried, smoked or cured beef	1,6	+0.4	+38.3 %	1,1	-0.02	-2.3 %
Other cured meats	3,8	-1.8	-31.7 %	6,9	0	0%
Sausages	6,7	+0.02	+0.2 %	7,1	+0.4*	+6.4 %
Dry sausage	12,5	-0.5	-4.1 %	13,1	+0.1	+0.8 %
Pepperoni	8,5					
Chorizo	13,5	+0.9	+7.2 %	12,6	0	0%
Cooked beef (packaged)	7,3	+2	+38.8 %	7,3	-0.1	-1.3 %
Other cooked meats (packaged)	7,9					
Pâté	10,2	+0.9	+9.5 %	11	+0.9	+9%
Pork belly and bacon (packaged)	7,4	-0.3	-4%	8,8	-0.04	-0.4 %
Poultry lardons	1,6	+0.6	+61.8 %	1,4	+0.4	+40%
Alternative products without animal protein	1,7	-0.2	-11.3 %	1	-0.2	-14.9 %
Assortment of delicatessen meats	8,4	+1.2	+16.2 %	8,5	0	0%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

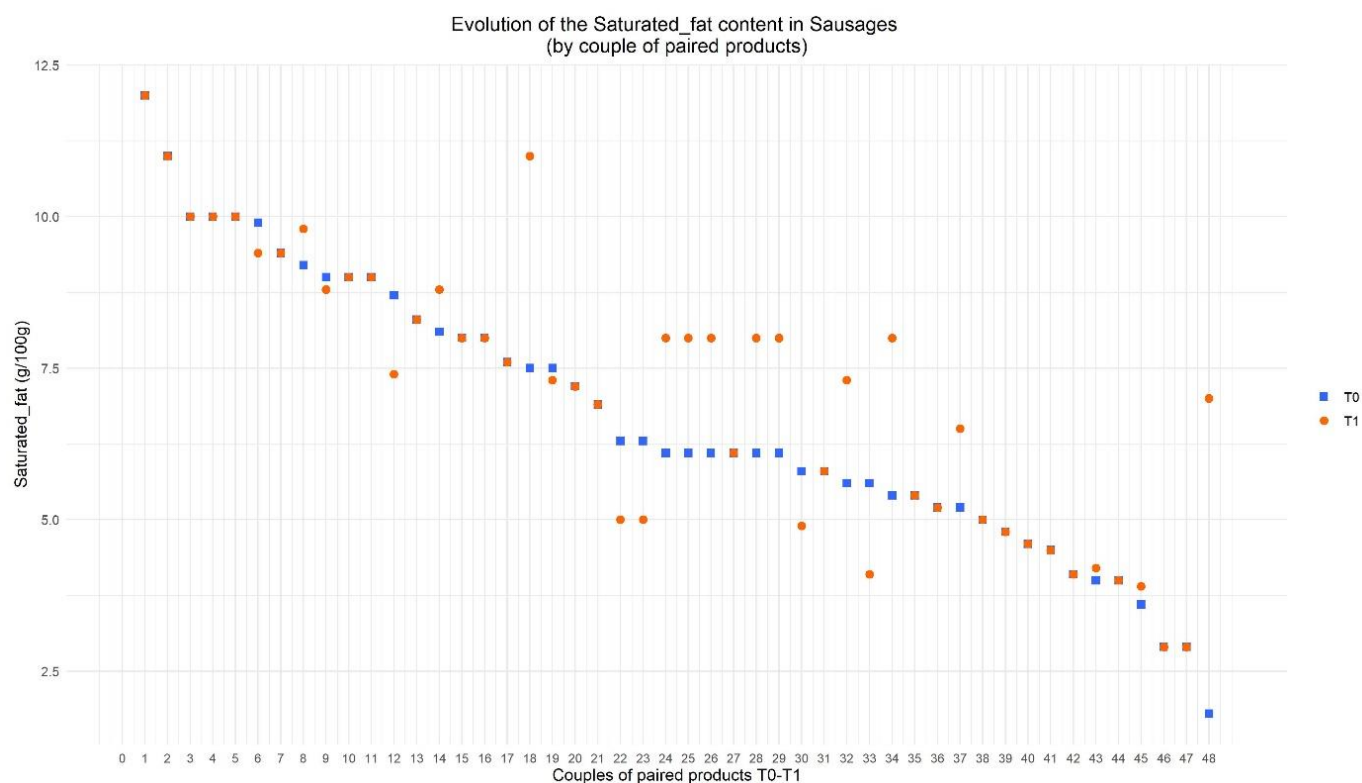


Figure 34 : Saturated fat content evolution between 2018 and 2022 by couple of paired product for Sausages subcategory

Of the 48 couples of paired products in subcategory Sausages, 26 couples have an equal saturated fat content in 2018 (T1) and in 2022 (T0). It should be noted that only 8 out of 48 couples show a lower saturated fat content in 2022 (T1). (Figure 34).

3.2.3.7 Evolution of the sugar content among the subcategories

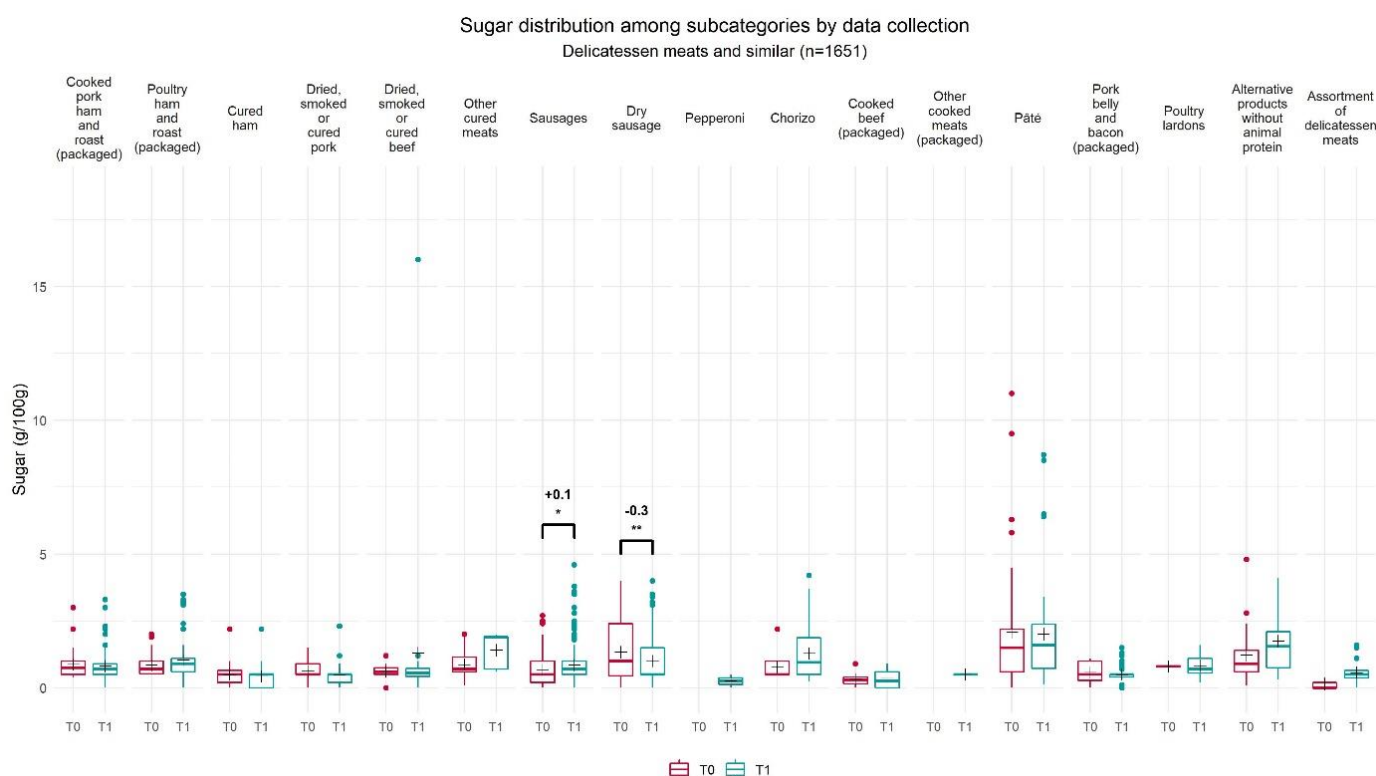


Figure 35 : Sugar distribution among subcategories of Delicatessen meats and similar¹

Figure 35 shows the sugar distribution of Delicatessen meats and similar between 2018 (T0) and 2022 (T1) by subcategories.

Among the 17 subcategories considered, the average sugar content has significantly increased for one subcategory only: Sausages (+0.2g/100g; +25.8%), and significantly decreased for one subcategory only: Dry sausage (-0.3g/100g; -24.7%).

The subcategories including products with the most variable sugar content at both times, meaning room for reformulation, are: Pâté (2018, n=43; 2022, n=58), Sausages (2018, n=121; 2022, n=210), Dry sausage (2018, n=135; 2022, n=305).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Dried, smoked or cured beef (2018, n=7; 2022, n=20).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.8 Evolution of the sugar content for paired products

The Table 16 summarizes the difference in the average sugar content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Table 16 : Summary of the evolution of the average sugar content for Delicatessen meats and similar, by subcategory¹

Subcategory_name	Sugar					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Cooked pork ham and roast (packaged)	0,8	-0.06	-6.4 %	0,8	-0.2	-19.6 %
Poultry ham and roast (packaged)	1	+0.2	+23.2 %	0,8	-0.2	-22.8 %
Cured ham	0,4	-0.07	-14.4 %	0,7	-0.04	-6.1 %
Dried, smoked or cured pork	0,5	-0.1	-22.7 %	0,6	-0.02	-2.7 %
Dried, smoked or cured beef	1,3	+0.7	+112.4 %	0,7	+0.2	+30%
Other cured meats	1,4	+0.5	+62.2 %	1,1	0	0%
Sausages	0,8	+0.2*	+25.8 %	0,9	+0.1	+16%
Dry sausage	1	-0.3**	-24.7 %	1,2	-0.03	-2.4 %
Pepperoni	0,2					
Chorizo	1,3	+0.5	+62.7 %	0,9	-0.1	-13.3 %
Cooked beef (packaged)	0,3	+0.02	+6.5 %	0,2	+0.05	+25%
Other cooked meats (packaged)	0,5					
Pâté	2	-0.06	-2.9 %	1,5	-0.2	-10.7 %
Pork belly and bacon (packaged)	0,5	-0.08	-13.8 %	0,6	-0.05	-6.8 %
Poultry lardons	0,8	+0.03	+3.4 %	0,6	-0.2	-25%
Alternative products without animal protein	1,8	+0.5	+43%	1,2	+0.2	+17.1 %
Assortment of delicatessen meats	0,6	+0.4	+326.6 %	0	0	

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.3.9 Evolution of the salt content among the subcategories

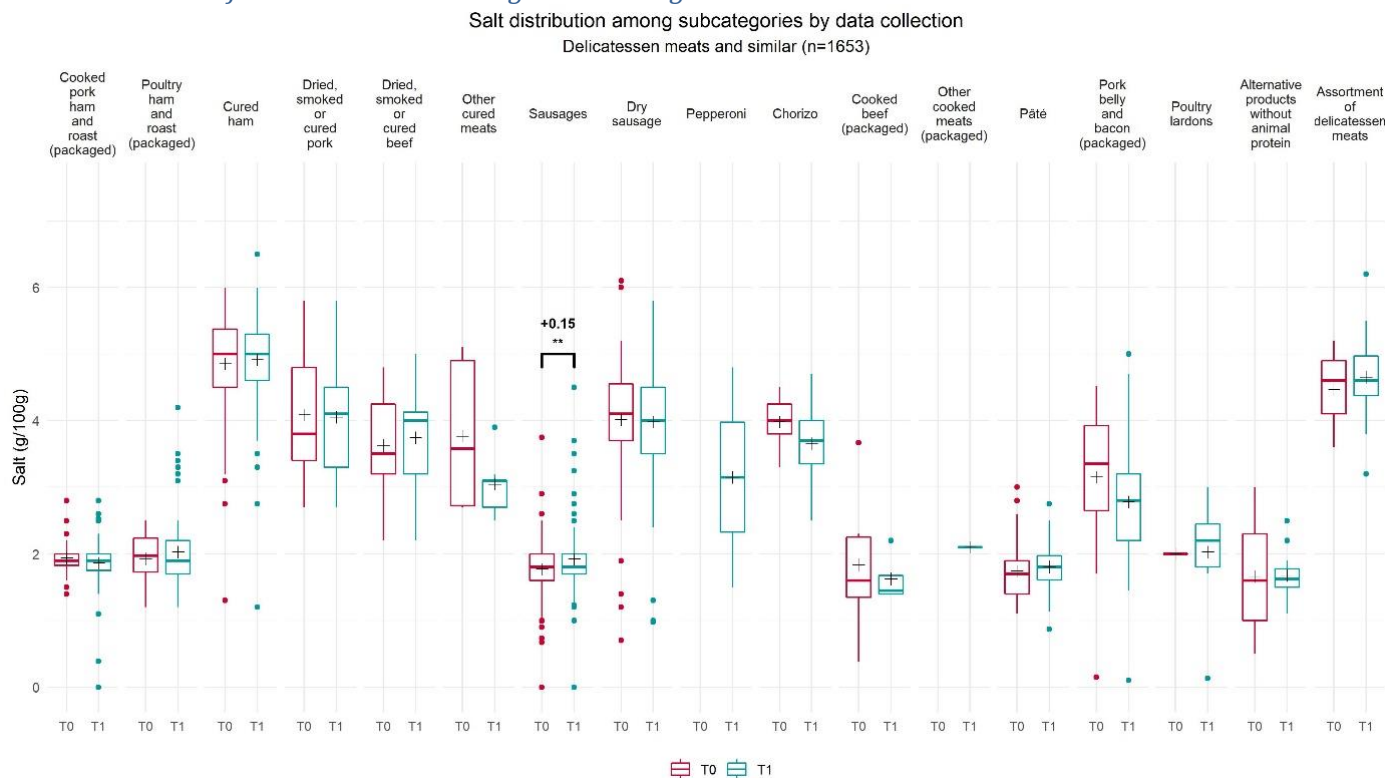


Figure 36 : Salt distribution among subcategories of Delicatessen meats and similar¹

Figure 36 shows the salt distribution of Delicatessen meats and similar between 2018 (T0) and 2022 (T1) by subcategories. Among the 17 subcategories considered, the average salt content has significantly increased for one subcategory only: Sausages (+0.15g/100g; +8.53 %),

The subcategories including products with the most variable salt content at both times, meaning room for reformulation, are: Cured ham (2018, n=42; 2022, n=101), Sausages (2018, n=121; 2022, n=210), Dry sausage (2018, n=135; 2022, n=306), Pork belly and bacon (packaged) (2018, n=20; 2022, n=108).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Assortment of delicatessen meats (2018, n=3; 2022, n=16), Poultry ham and roast (packaged) (2018, n=30; 2022, n=93).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.10 Evolution of the salt content for paired products

The Table 17 summarizes the difference in the average salt content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

In the paired products, the mean salt content has significantly decreased for one subcategory only: Pork belly and bacon (packaged) (-0.18g/100g; -6.28 %). However, the decrease observed at the subcategory level for Pork belly and bacon (packaged) is not significant.

Table 17 : Summary of the evolution of the average salt content for Delicatessen meats and similar, by subcategory¹

Subcategory_name	Salt					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Cooked pork ham and roast (packaged)	1,86	-0,075	-3.88 %	1,92	-0,05	-2.54 %
Poultry ham and roast (packaged)	2,03	+0,1	+5.28 %	2,01	-0,1	-4.75 %
Cured ham	4,91	+0,058	+1.2 %	4,9	-0,12	-2.45 %
Dried, smoked or cured pork	4,05	-0,034	-0.8 %	3,41	-0,53	-13.37 %
Dried, smoked or cured beef	3,74	+0,11	+3.15 %	3,35	-0,075	-2.19 %
Other cured meats	3,04	-0,72	-19.16 %	2,87	+0,13	+4.88 %
Sausages	1,92	+0,15**	+8.53 %	1,85	-0,044	-2.33 %
Dry sausage	3,98	-0,036	-0.9 %	3,95	-0,023	-0.6 %
Pepperoni	3,15					
Chorizo	3,66	-0,32	-8.13 %	3,8	-0,2	-5%
Cooked beef (packaged)	1,62	-0,21	-11.48 %	1,45	+0,1	+7.41 %
Other cooked meats (packaged)	2,1					
Pâté	1,81	+0,065	+3.71 %	1,84	+0,083	+4.69 %
Pork belly and bacon (packaged)	2,78	-0,37	-11.78 %	2,65	-0,18*	-6.28 %
Poultry lardons	2,03	+0,03	+1.5 %	1,8	-0,2	-10%
Alternative products without animal protein	1,68	+0,013	+0.8 %	1,6	-0,22	-12.33 %
Assortment of delicatessen meats	4,65	+0,19	+4.15%	4,6	0	0%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

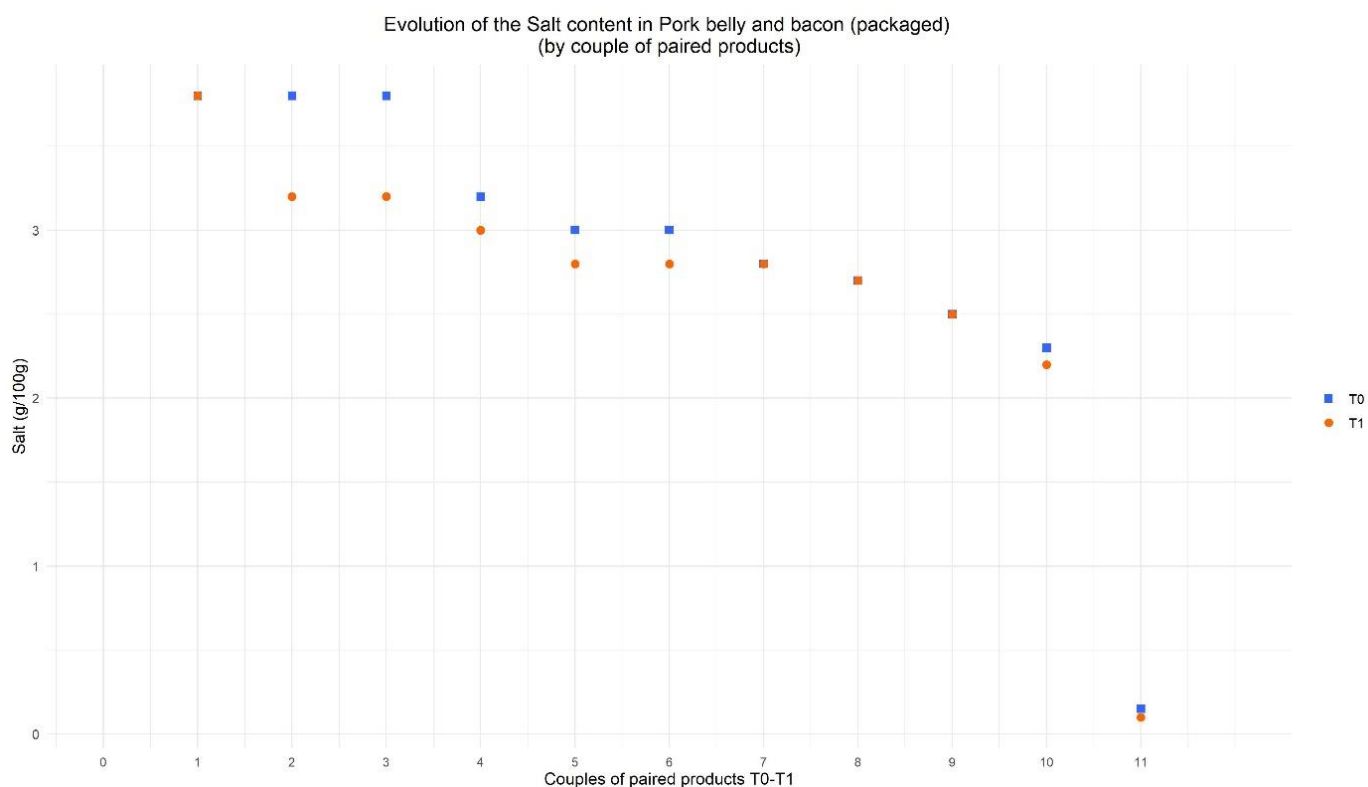


Figure 37 : Salt fat content evolution between 2018 and 2022 by couple of paired product for Pork belly and bacon (packaged) subcategory

Of the 11 couples of paired products in subcategory Pork belly and bacon (packaged), 7 couples have a lower salt content in 2022 (T1) than in 2018 (T0). The 4 other couples show an equal salt content at T0 and T1. (Figure 37).

3.2.4 Fresh dairy products and desserts

3.2.4.1 Evolution of the protein content among the subcategories

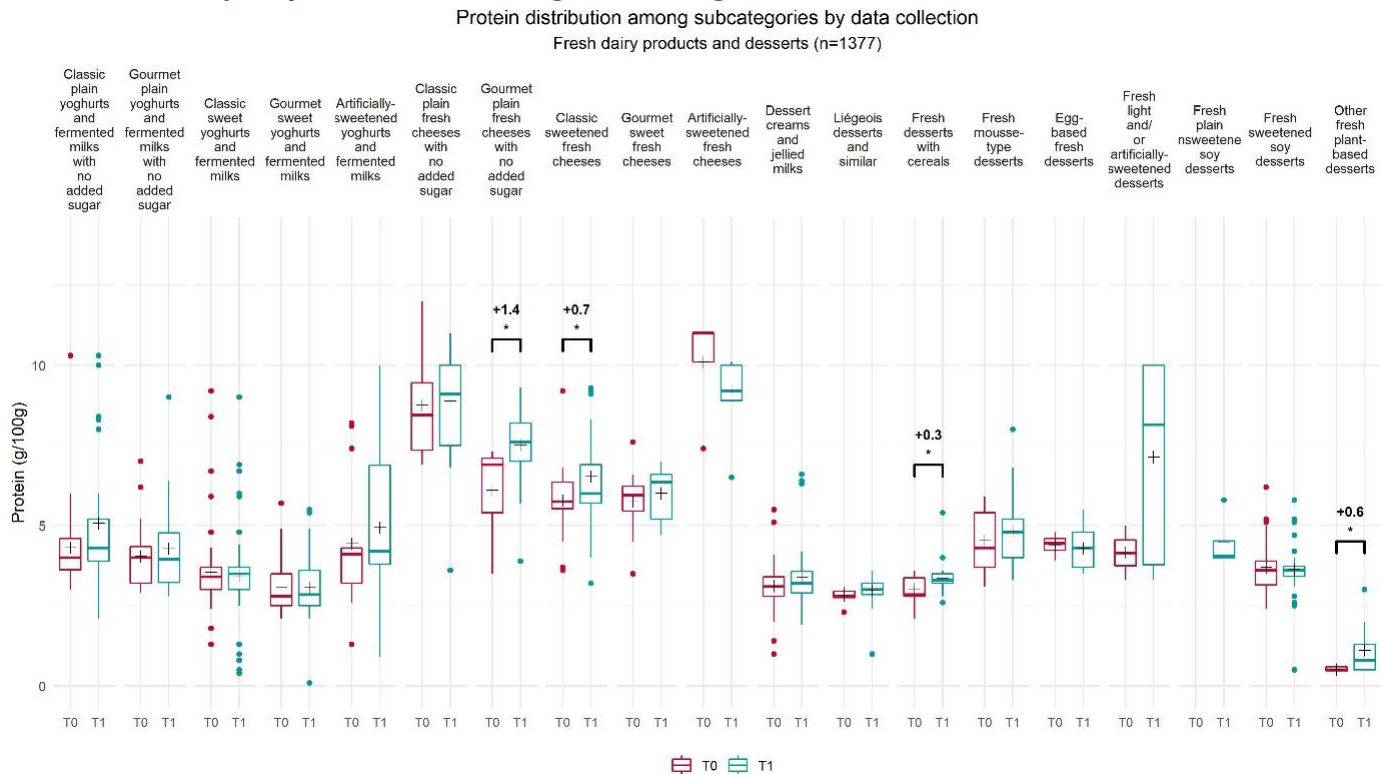


Figure 38 : Protein distribution among subcategories of Fresh dairy products and desserts¹

Figure 26 shows the protein distribution of Fresh dairy products and desserts between 2018 (T0) and 2022 (T1) by subcategories.

Among all the products collected within Fresh dairy products and desserts category, there is a significant increase between both data collections in the average protein content for four subcategories out of 19: Gourmet plain fresh cheeses with no added sugar (+1.4g/100g; +23.3%); Classic sweetened fresh cheeses (+0.8g/100g; +13%); Fresh desserts with cereals (+0.3g/100g; +10.7%) and Other fresh plant-based desserts (+0.6g/100g; +117.6%).

The subcategories including products with the most variable protein content at both times, meaning room for reformulation, are: Artificially-sweetened yoghurts and fermented milks (2018, n=32; 2022, n=54), Classic sweet yoghurts and fermented milks (2018, n=145; 2022, n=195), Classic plain yoghurts and fermented milks with no added sugar (2018, n=34; 2022, n=65), Classic plain fresh cheeses with no added sugar (2018, n=18; 2022, n=37).

¹Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.4.2 Evolution of the protein content for paired products

The Table 18 summarizes the difference in the average protein content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Table 18 : Summary of the evolution of the average protein content for Fresh dairy products and desserts, by subcategory¹

Subcategory_name	Protein					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	5,1	+0.8	+17.9 %	4,2	+0.02	+0.4 %
Gourmet plain yoghurts and fermented milks with no added sugar	4,3	+0.2	+6%	3,9	-0.04	-1.1 %
Classic sweet yoghurts and fermented milks	3,4	-0.1	-3.1 %	3,4	-0.03	-1%
Gourmet sweet yoghurts and fermented milks	3,1	+0.008	+0.3 %	3,3	+0.1	+3.3 %
Artificially-sweetened yoghurts and fermented milks	4,9	+0.5	+11.3 %	3,5	-0.2	-4.8 %
Classic plain fresh cheeses with no added sugar	8,9	+0.1	+1.5 %	8,3	+0.05	+0.6 %
Gourmet plain fresh cheeses with no added sugar	7,5	+1.4*	+23.3 %	7,7	+1	+18.6 %
Classic sweetened fresh cheeses	6,5	+0.8*	+13%	5,9	+0.09	+1.5 %
Gourmet sweet fresh cheeses	6	+0.3	+4.5 %	5,7	+0.02	+0.4 %
Artificially-sweetened fresh cheeses	9,2	-0.9	-8.8 %			
Dessert creams and jellied milks	3,4	+0.3	+8.5 %	3,2	+0.05	+1.7 %
Liégeois desserts and similar	3	+0.2	+6.1 %	2,9	+0.06	+2.2 %
Fresh desserts with cereals	3,3	+0.3*	+10.7 %	3,1	+0.008	+0.2 %
Fresh mousse-type desserts	4,8	+0.3	+6.7 %	4,1	-0.02	-0.4 %
Egg-based fresh desserts	4,3	-0.1	-2.3 %	4	-0.1	-2.4 %
Fresh light and/or artificially-sweetened desserts	7,1	+3	+72%	3,5	-0.05	-1.4 %
Fresh plain unsweetened soy desserts	4,5					
Fresh sweetened soy desserts	3,6	-0.05	-1.3 %	3,7	-0.03	-0.9 %
Other fresh plant-based desserts	1,1	+0.6*	117.6 %			

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.4.3 Evolution of the fat content among the subcategories

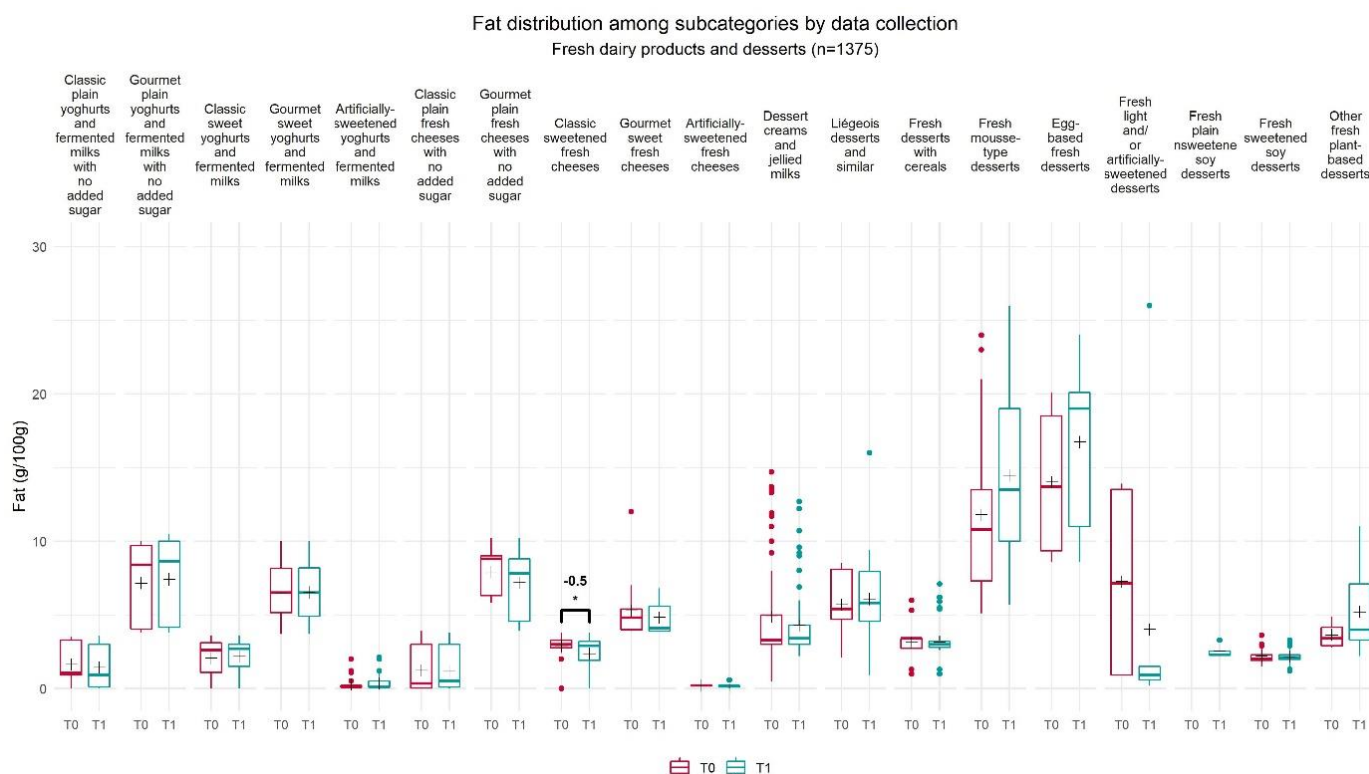


Figure 39 : Fat distribution among subcategories of Fresh dairy products and desserts¹

Figure 39 shows the fat distribution of Fresh dairy products and desserts between 2018 (T0) and 2022 (T1) by subcategories.

Among all the products collected within Fresh dairy products and desserts category, there is a significant decrease between both data collections in the average fat content only for one subcategory out of 19: Classic sweetened fresh cheeses (-0.5g/100g; -18.7%).

The subcategories including products with the most variable fat content at both times, meaning room for reformulation, are: Fresh light and/or artificially-sweetened desserts (2018, n=4; 2022, n=8), Fresh mousse-type desserts (2018, n=21; 2022, n=37), Egg-based fresh desserts (2018, n=6; 2022, n=9), Dessert creams and jellied milks (2018, n=53; 2022, n=74).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Liégeois desserts and similar (2018, n=11; 2022, n=31).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.4.4 Evolution of the fat content for paired products

The Table 19 summarizes the difference in the average fat content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

At the level of paired products, the mean fat content has significantly decreased for two subcategories: Classic sweetened fresh cheeses (-0.1g/100g; -4.7%) and Fresh desserts with cereals (-0.1g/100g; -4.2%). For Classic sweetened fresh cheeses, it can be linked to the significant decrease of the mean saturated fat content observed at the subcategory level, meaning that this evolution can in part be explained by reformulations. There was no significant decrease of the mean fat content at the subcategory level for Fresh desserts with cereals.

Table 19 : Summary of the evolution of the average fat content for Fresh dairy products and desserts, by subcategory¹

Subcategory_name	Fat					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	1,4	-0.2	-12.6 %	1,9	+0.06	+3.1 %
Gourmet plain yoghurts and fermented milks with no added sugar	7,4	+0.3	+3.6 %	8,4	+0.3	+3.8 %
Classic sweet yoghurts and fermented milks	2,2	+0.1	+6%	2	-0.1	-6%
Gourmet sweet yoghurts and fermented milks	6,5	+0.06	+0.9 %	5,9	+0.2	+2.8 %
Artificially-sweetened yoghurts and fermented milks	0,3	+0.07	+23.8 %	0,4	+0.06	+17.2 %
Classic plain fresh cheeses with no added sugar	1,2	-0.06	-5%	1,4	+0.2	+16.8 %
Gourmet plain fresh cheeses with no added sugar	7,2	-0.7	-9.1 %	9,4	0	0%
Classic sweetened fresh cheeses	2,4	-0.5*	-18.7 %	3	-0.1**	-4.7 %
Gourmet sweet fresh cheeses	4,8	-0.5	-8.9 %	4,6	-2	-24.8 %
Artificially-sweetened fresh cheeses	0,2	+0.01	+5.6 %			
Dessert creams and jellied milks	4,3	-0.6	-11.9 %	4,3	+0.1	+2.5 %
Liégeois desserts and similar	6,1	+0.4	+6.8 %	5,7	+0.08	+1.4 %
Fresh desserts with cereals	3,2	+0.007	+0.2 %	2,3	-0.1*	-4.2 %
Fresh mousse-type desserts	14,5	+2.7	+22.6 %	11	+0.9	+9.4 %
Egg-based fresh desserts	16,7	+2.7	+19.5 %	19,6	+1	+5.4 %

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

Fresh light and/or artificially-sweetened desserts	4	-3.3	-44.8 %	0,9	0	0%
Fresh plain unsweetened soy desserts	2,5					
Fresh sweetened soy desserts	2,2	-0.04	-1.7 %	2,2	-0.06	-2.8 %
Other fresh plant-based desserts	5,2	+1.6	+43.1 %			

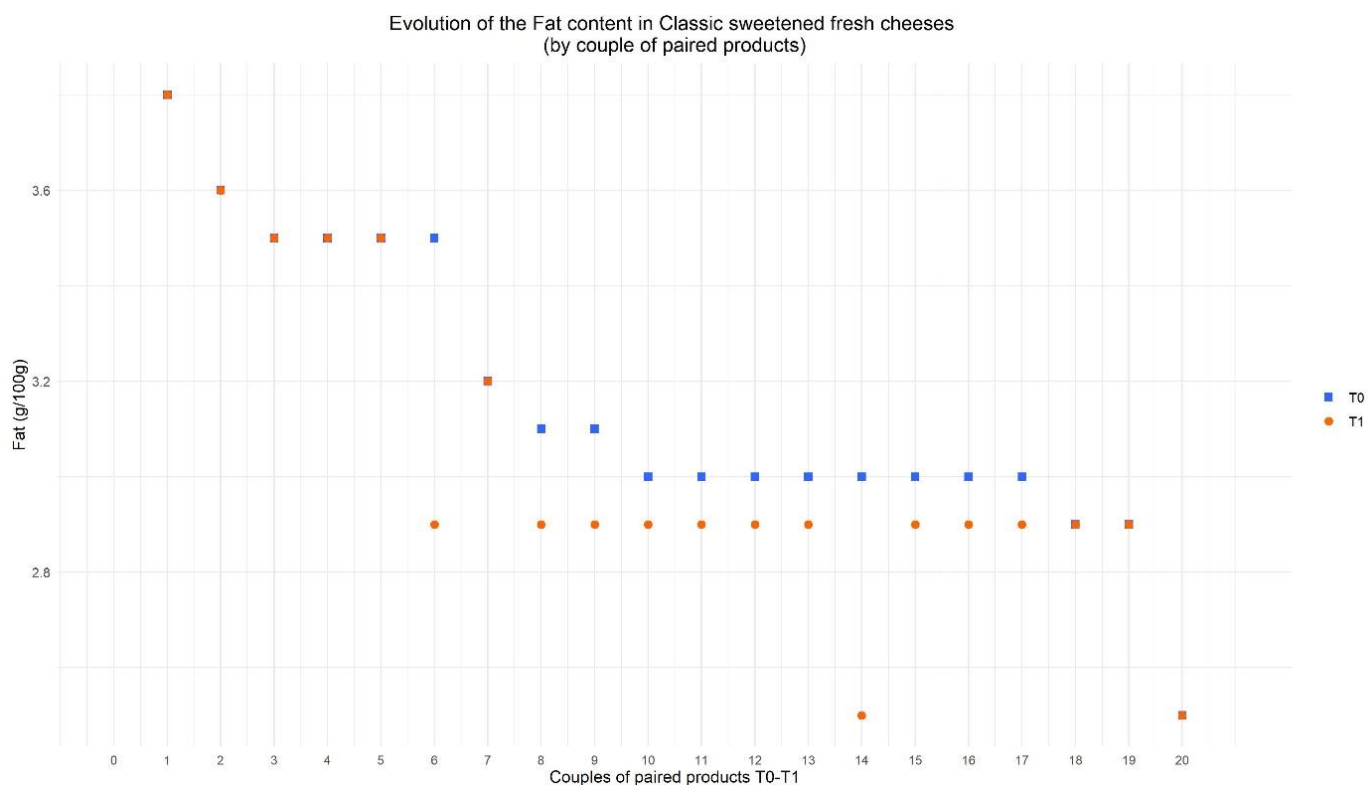


Figure 40 : Fat content evolution between 2018 and 2022 by couple of paired product for Classic sweetened fresh cheeses subcategory

Of the 20 couples of paired products in subcategory Classic sweetened fresh, 11 couples have a lower fat content in 2022 (T1) than in 2018 (T0) (Figure 40). It should be noted that the couples of paired products with the highest fat content in 2018 have the same fat content in 2022.

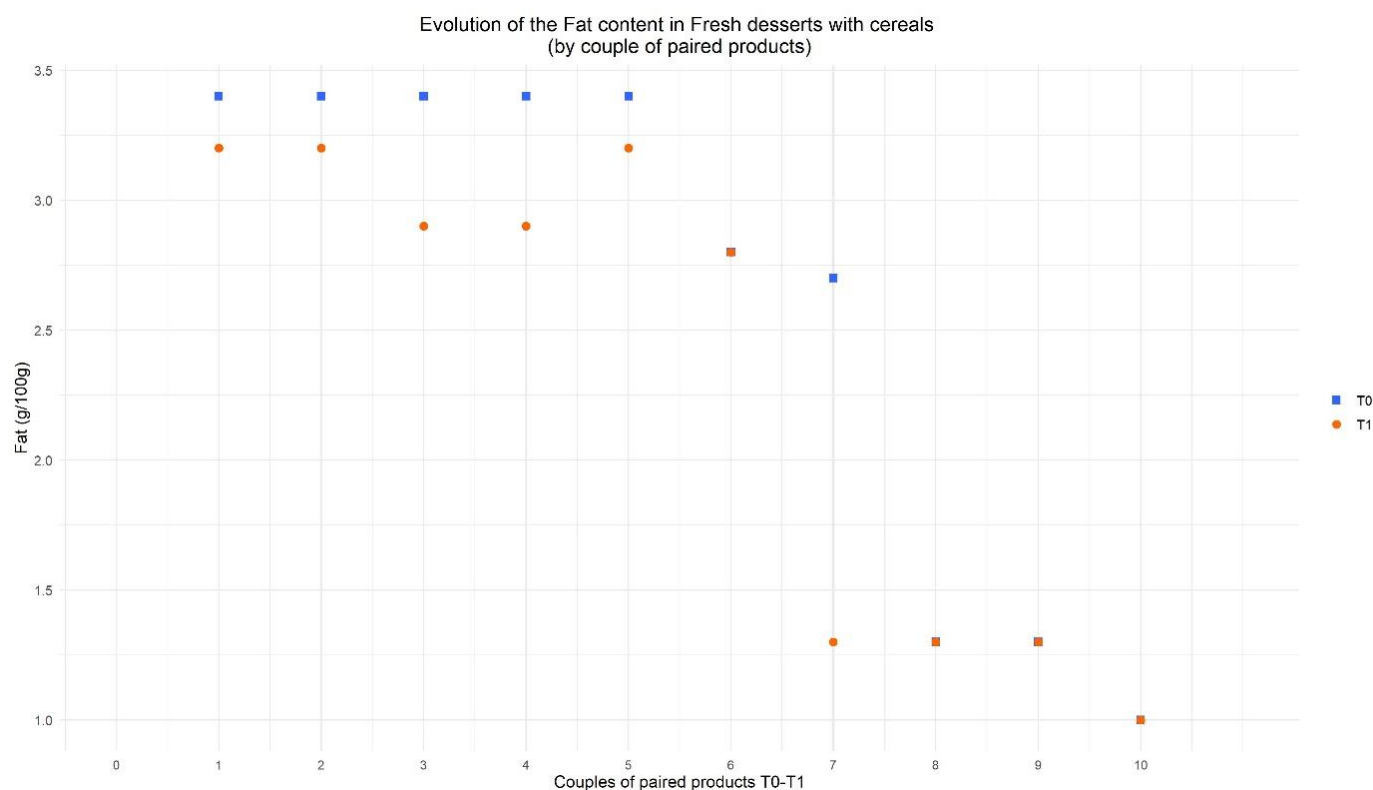


Figure 41 : Fat content evolution between 2018 and 2022 by couple of paired product for Fresh desserts with cereals subcategory

Of the 10 couples of paired products in subcategory Fresh desserts with cereals, 6 couples of paired products have a lower fat content in 2022 (T1) than in 2018 (T0) (Figure 41). The other 4 couples of paired products have the same fat content in 2018 and 2022.

3.2.4.5 Evolution of the saturated fat content among the subcategories

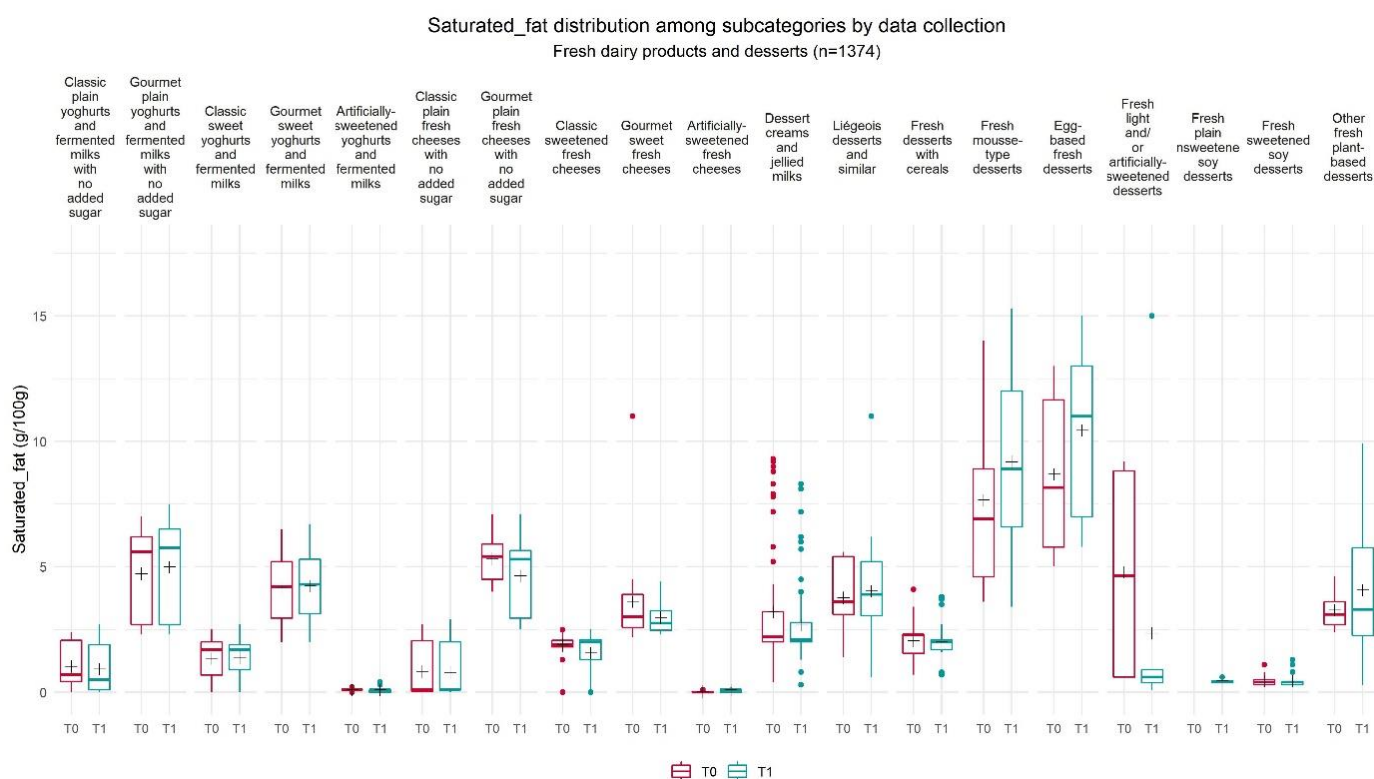


Figure 42 : Saturated fat distribution among subcategories of Fresh dairy products and desserts¹

Figure 42 shows the saturated fat distribution of Fresh dairy products and desserts between 2018 (T0) and 2022 (T1) by subcategories. Among all the products collected within Fresh dairy products and desserts category, there is no significant difference between both data collections in the average saturated fat content.

The subcategories including products with the most variable saturated fat content at both times, meaning room for reformulation, are: Fresh light and/or artificially-sweetened desserts (2018, n=4; 2022, n=8), Fresh mousse-type desserts (2018, n=21; 2022, n=37), Egg-based fresh desserts (2018, n=6; 2022, n=9), Dessert creams and jellied milks (2018, n=53; 2022, n=74).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Liégeois desserts and similar (2018, n=11; 2022, n=31), Other fresh plant-based desserts (2018, n=8; 2022, n=15).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.4.6 Evolution of the saturated fat content for paired products

The Table 20 summarizes the difference in the average saturated fat content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

At the level of paired products, the mean saturated fat content has significantly decreased for two subcategories: Artificially-sweetened yoghurts and fermented milks (-0.04g/100g; -38.9%) and Fresh desserts with cereals milks (-0.06g/100g; -3.7%). However, there was no significant decrease of the mean saturated fat content at the subcategory level for these two subcategories.

Table 20 : Summary of the evolution of the average saturated fat content for Fresh dairy products and desserts, by subcategory¹

Subcategory_name	Saturated fat					
	All product			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	0,9	-0.1	-10.4 %	1,3	+0.07	+6.1 %
Gourmet plain yoghurts and fermented milks with no added sugar	5	+0.3	+5.5 %	5,7	+0.2	+4.4 %
Classic sweet yoghurts and fermented milks	1,4	+0.05	+3.5 %	1,2	-0.1	-10%
Gourmet sweet yoghurts and fermented milks	4,2	+0.05	+1.1 %	3,8	+0.2	+4.2 %
Artificially-sweetened yoghurts and fermented milks	0,1	+0.003	+3.2 %	0,1	-0.04*	-38.9 %
Classic plain fresh cheeses with no added sugar	0,8	-0.04	-5%	0,9	+0.07	+8.5 %
Gourmet plain fresh cheeses with no added sugar	4,6	-0.7	-12.9 %	6	0	0%
Classic sweetened fresh cheeses	1,6	-0.3	-17.8 %	2,1	-0.02	-1%
Gourmet sweet fresh cheeses	3	-0.6	-17.6 %	3	-2	-34.8 %
Artificially-sweetened fresh cheeses	0,1	+0.06	+255.6 %			
Dessert creams and jellied milks	2,7	-0.5	-16.6 %	2,8	+0.05	+1.7 %
Liégeois desserts and similar	4	+0.3	+7%	3,8	+0.02	+0.6 %
Fresh desserts with cereals	2	-0.05	-2.5 %	1,5	-0.06*	-3.7 %
Fresh mousse-type desserts	9,2	+1.5	+19.9 %	7,3	+0.6	+9.2 %
Egg-based fresh desserts	10,4	+1.8	+20.3 %	12,6	+2	+13.5 %

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

Fresh light and/or artificially-sweetened desserts	2,4	-2.4	-50.8 %	0,6	0	0%
Fresh plain unsweetened soy desserts	0,4					
Fresh sweetened soy desserts	0,4	-0.005	-1%	0,5	-0.05	-9.5 %
Other fresh plant-based desserts	4,1	+0.8	+24.2 %			

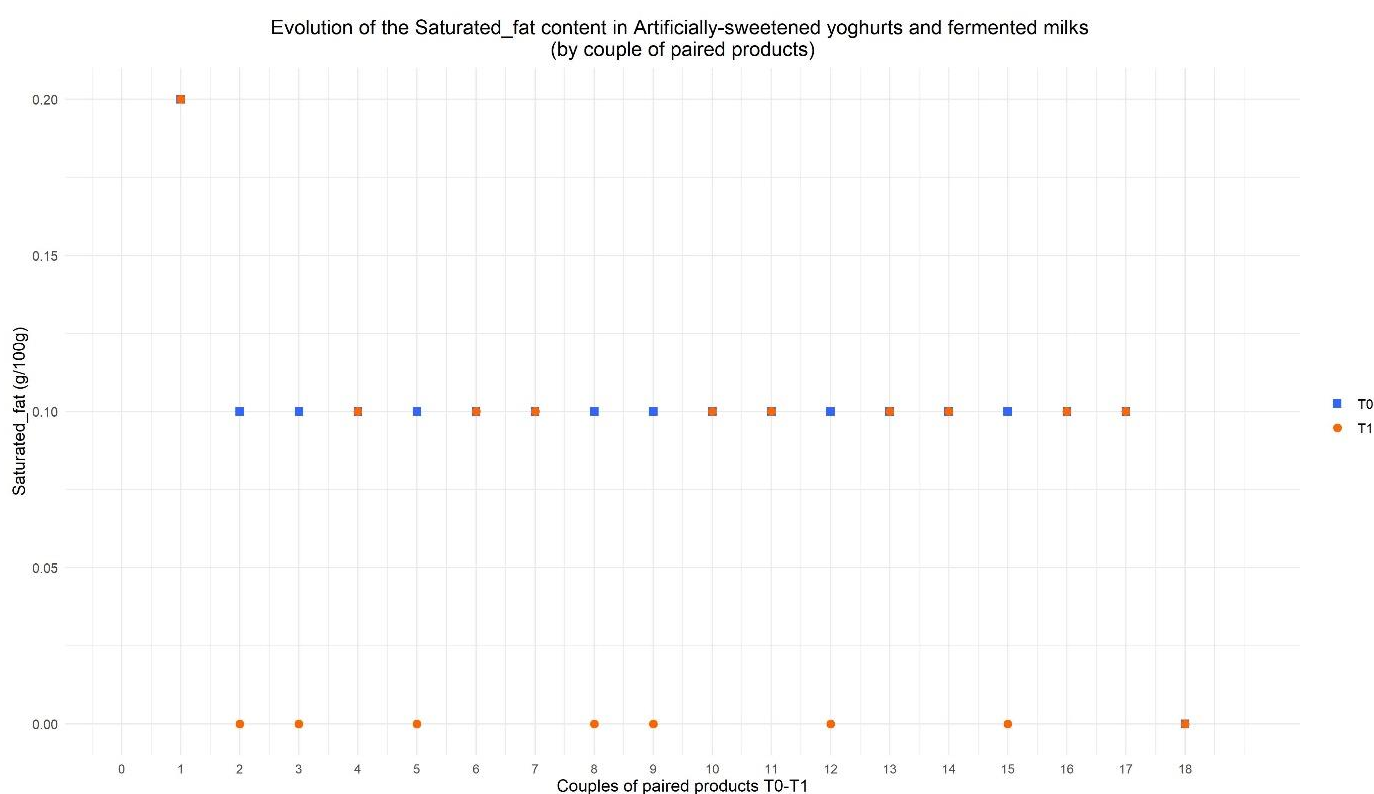


Figure 43 : Saturated fat content evolution between 2018 and 2022 by couple of paired product for Artificially-sweetened yoghurts and fermented milks subcategory

Of the 18 couples of paired products in the subcategory Artificially-sweetened yoghurts and fermented milks, 7 couples of paired products have a lower saturated fat content in 2022 (T1) than in 2018 (T0) (Figure 43). The other couples of paired products have the same saturated fat content in 2018 and 2022. It should be noted that the couple of paired products with the highest saturated fat content in 2018 have the same content in 2022.

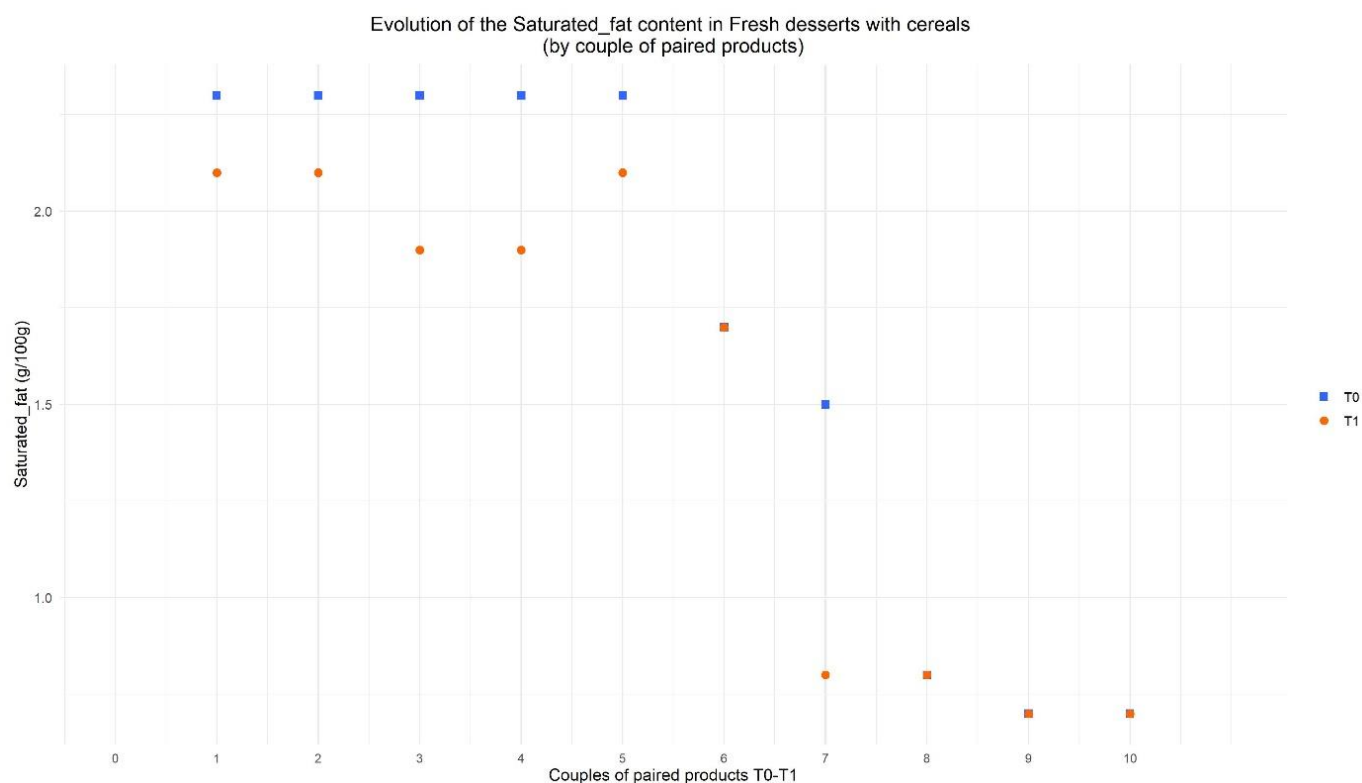


Figure 44 : Saturated fat content evolution between 2018 and 2022 by couple of paired product for Fresh desserts with cereals subcategory

Of the 10 couples of paired products in the subcategory Fresh desserts with cereals, 6 couples of paired products have a lower saturated fat content in 2022 (T1) than in 2018 (T0) (Figure 44).

3.2.4.7 Evolution of the sugar content among the subcategories

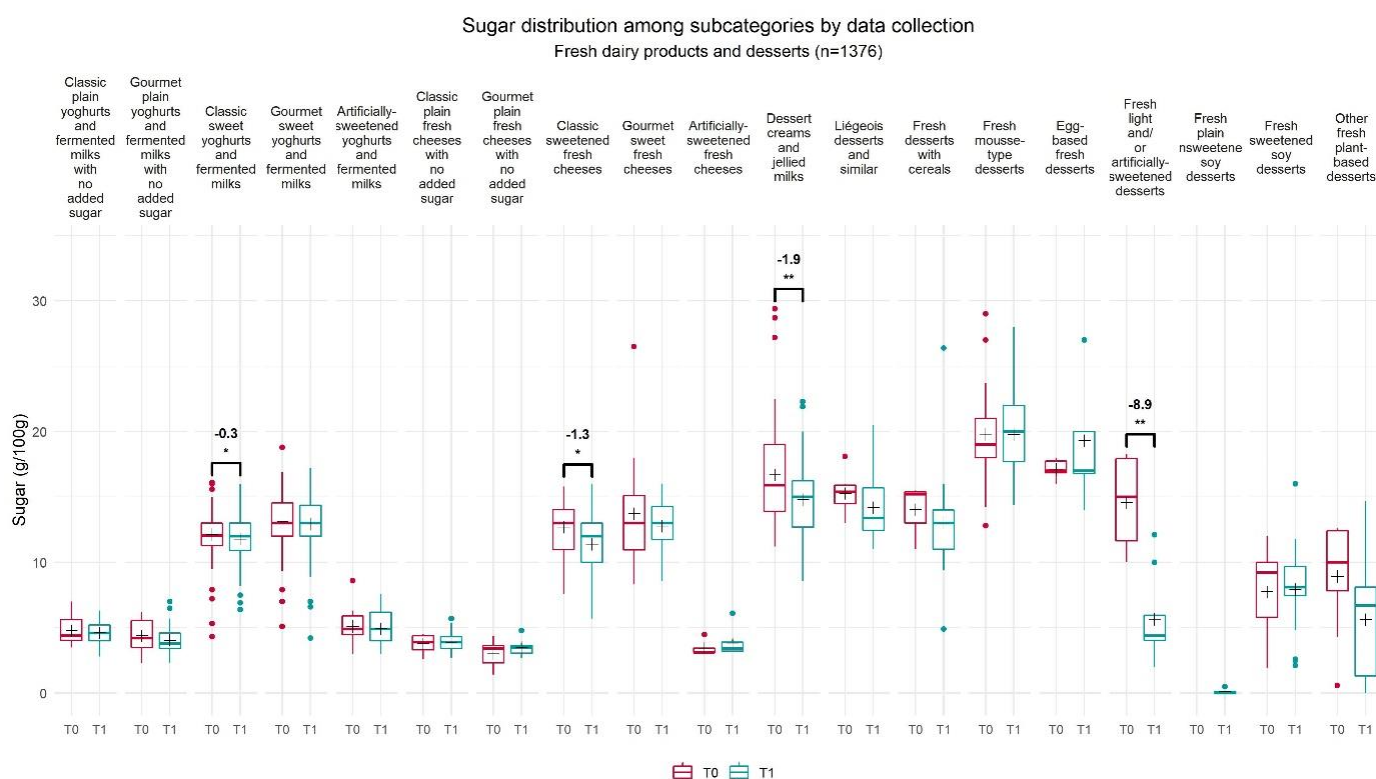


Figure 45 : Sugar distribution among subcategories of Fresh dairy products and desserts¹

Figure 45 shows the sugar distribution of Fresh dairy products and desserts between 2018 (T0) and 2022 (T1) by subcategories.

Among all the products collected within Fresh dairy products and desserts category, there is a significant decrease between both data collections in the average sugar content for four subcategories out of 19: Classic sweet yoghurts and fermented milks (-0.4g/100g; -2.9 %) ; Classic sweetened fresh cheeses (-1.3g/100g; -10.3%) ; Dessert creams and jellied milks (-1.9g/100g; -11.3%) and Fresh light and/or artificially-sweetened desserts (-8.9g/100g; -61.2 %).

The subcategories including products with the most variable sugar content at both times, meaning room for reformulation, are: Other fresh plant-based desserts (2018, n=8; 2022, n=13), Fresh mousse-type desserts (2018, n=21; 2022, n=37), Fresh sweetened soy desserts (2018, n=35; 2022, n=48), Dessert creams and jellied milks (2018, n=53; 2022, n=74), Gourmet sweet yoghurts and fermented milks (2018, n=67; 2022, n=90).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Fresh desserts with cereals (2018, n=14; 2022, n=35).

¹Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.4.8 Evolution of the sugar content for paired products

The Table 21 summarizes the difference in the average sugar content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

Among all the paired products collected within Fresh dairy products and desserts category, there is a significant decrease in the mean sugar content for five subcategories out of 21: Classic sweet yoghurts and fermented milks (-0.4g/100g; -2.8%); Gourmet sweet yoghurts and fermented milks (-0.8g/100g; -6.1%); Classic sweetened fresh cheeses (-1g/100g; -7.3%); Dessert creams and jellied milks (-0.5g/100g; -3%) and Fresh sweetened soy desserts (-0.6g/100g; -7%). For Classic sweet yoghurts and fermented milks, Classic sweetened fresh cheeses and Dessert creams and jellied milks subcategories, it can be linked to the significant decreases of the mean sugar content observed at the subcategory level, meaning that this evolution can in part be explained by reformulations.

Table 21 : Summary of the evolution of the average sugar content for Fresh dairy products and desserts, by subcategory¹

	Sugar					
	All products			Paired products		
Subcategory_name	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	4,6	-0.2	-3.3 %	4,7	0	0%
Gourmet plain yoghurts and fermented milks with no added sugar	4	-0.3	-7.8 %	3,9	-0.3	-6.1 %
Classic sweet yoghurts and fermented milks	11,8	-0.4*	-2.9 %	12,2	-0.4***	-2.8 %
Gourmet sweet yoghurts and fermented milks	12,9	-0.2	-1.3 %	12,8	-0.8**	-6.1 %
Artificially-sweetened yoghurts and fermented milks	4,9	-0.2	-3.5 %	4,8	-0.2	-3.1 %
Classic plain fresh cheeses with no added sugar	3,9	+0.09	+2.3 %	4	+0.4	+11.5 %
Gourmet plain fresh cheeses with no added sugar	3,5	+0.5	+16.1 %	3,6	0	0%
Classic sweetened fresh cheeses	11,4	-1.3*	-10.3 %	12,7	-1***	-7.3 %
Gourmet sweet fresh cheeses	12,8	-1	-7%	13,6	-0.1	-0.9 %
Artificially-sweetened fresh cheeses	3,8	+0.4	+10.5 %			
Dessert creams and jellied milks	14,8	-1.9**	-11.3 %	15,1	-0.5**	-3%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

Liégeois desserts and similar	14,2	-1.1	-7.1 %	15,7	-0.05	-0.3 %
Fresh desserts with cereals	13	-1	-7.4 %	14,1	+0.08	+0.6 %
Fresh mousse-type desserts	19,8	-0.03	-0.2 %	20	+1	+6.4 %
Egg-based fresh desserts	19,3	+2.2	+12.7 %	16,4	-0.5	-3%
Fresh light and/or artificially-sweetened desserts	5,7	-8.9**	-61.2 %	11,1	-0.05	-0.5 %
Fresh plain unsweetened soy desserts	0,1					
Fresh sweetened soy desserts	7,9	+0.2	+2.2 %	7,7	-0.6*	-7%
Other fresh plant-based desserts	5,6	-3.3	-37%			

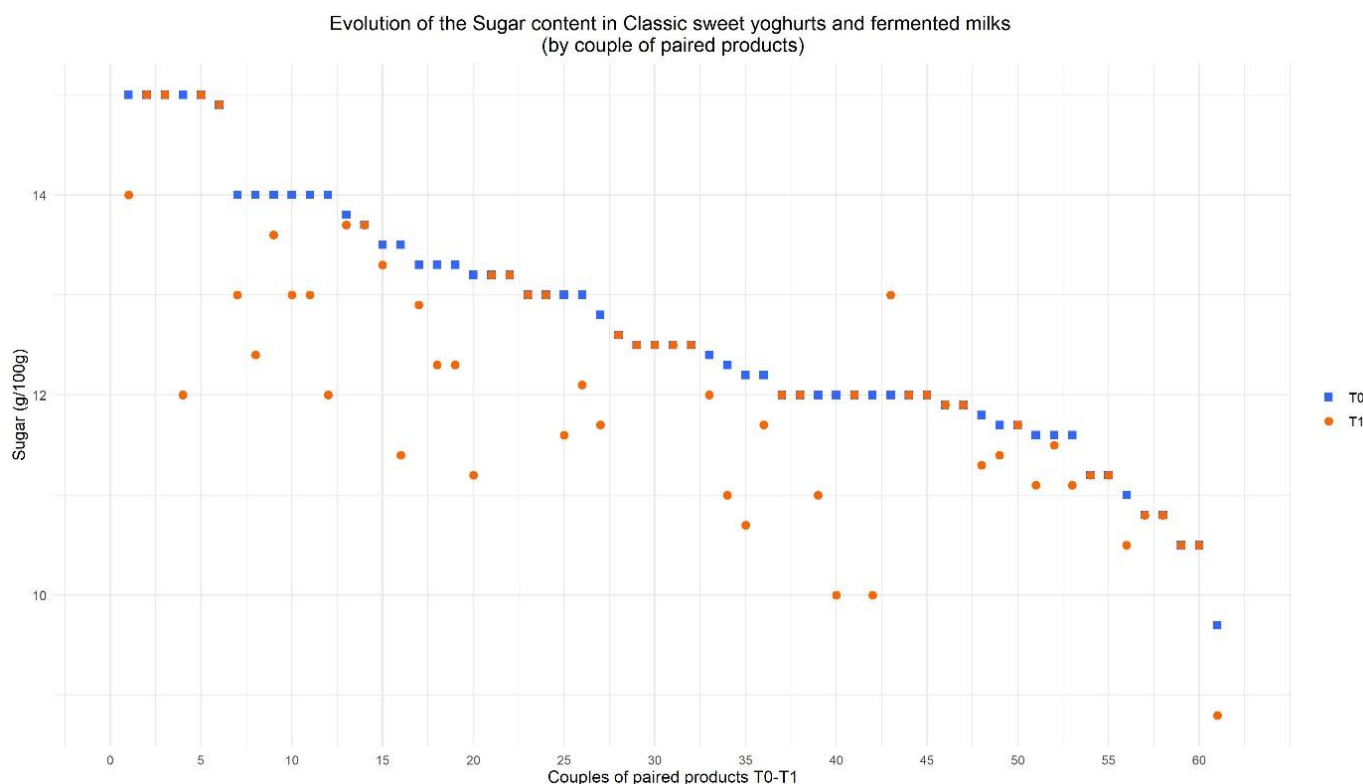


Figure 46 : Sugar content evolution between 2018 and 2022 by couple of paired product for Classic sweet yoghurts and fermented milks subcategory

Of the 61 couples of paired products in the subcategory Classic sweet yoghurts and fermented milks, 32 couples of paired products have a lower sugar content in 2022 (T1) than in 2018 (T0) and only one couple has a higher sugar content at T1 compared to T0. (Figure 46).

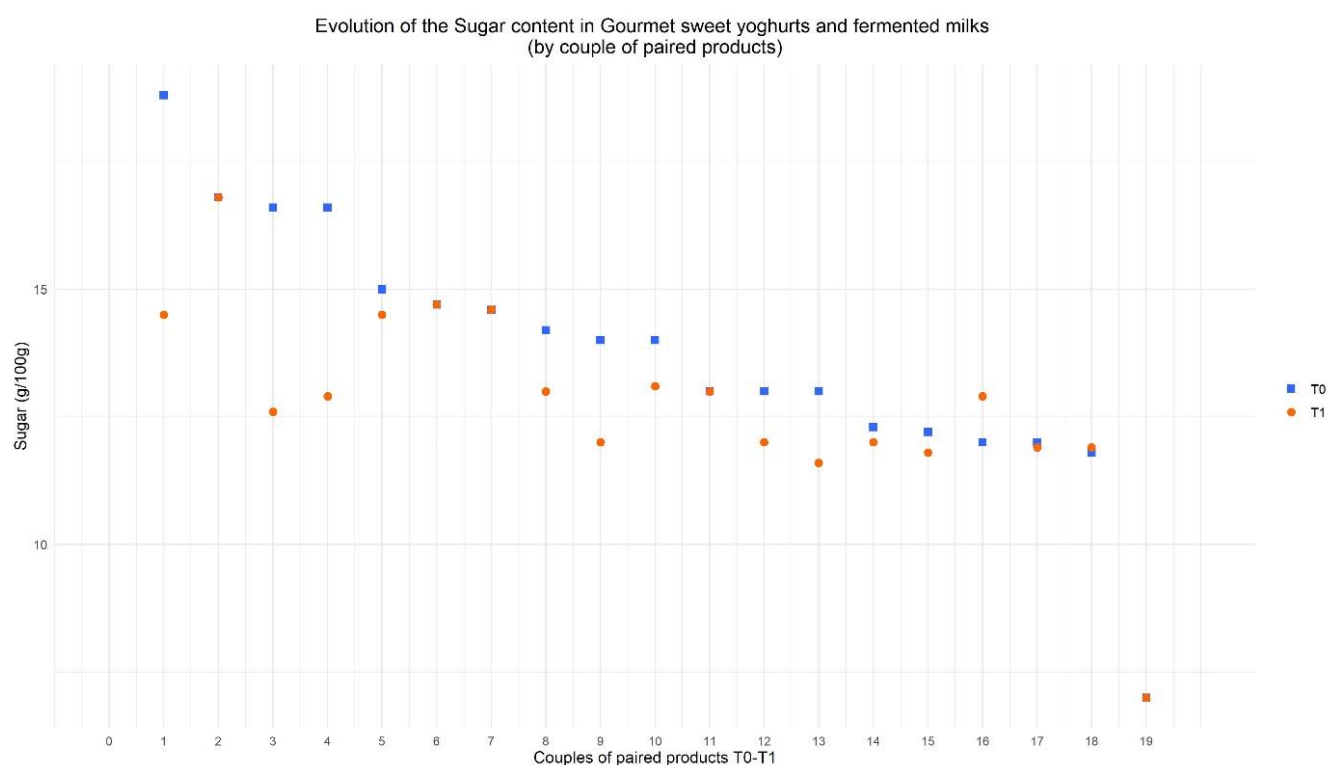


Figure 47 : Sugar content evolution between 2018 and 2022 by couple of paired product for Gourmet sweet yoghurts and fermented milks subcategory

Of the 19 couples of paired products in the subcategory Gourmet yoghurts and fermented milks, 12 couples of paired products have a lower sugar content in 2022 (T1) than in 2018 (T0) and 2 couples have a higher sugar content at T1 compared to T0. (Figure 47).

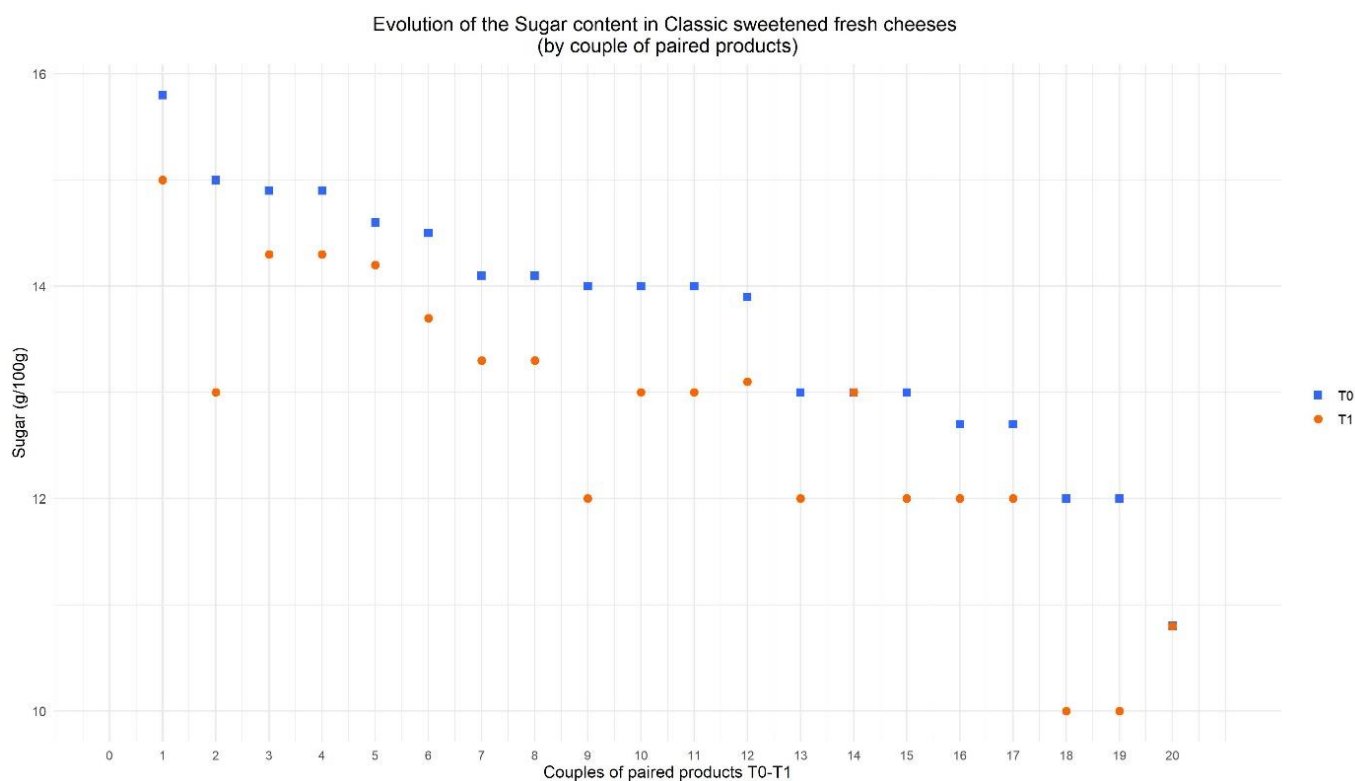


Figure 48 : Sugar content evolution between 2018 and 2022 by couple of paired product for Classic sweetened fresh cheeses subcategory

Of the 20 couples of paired products in the subcategory Classic sweetened fresh cheeses, 18 couples of paired products have a lower sugar content in 2022 (T1) than in 2018 (T0) and 2 couples show the same sugar content at T1 and T0. (Figure 48).

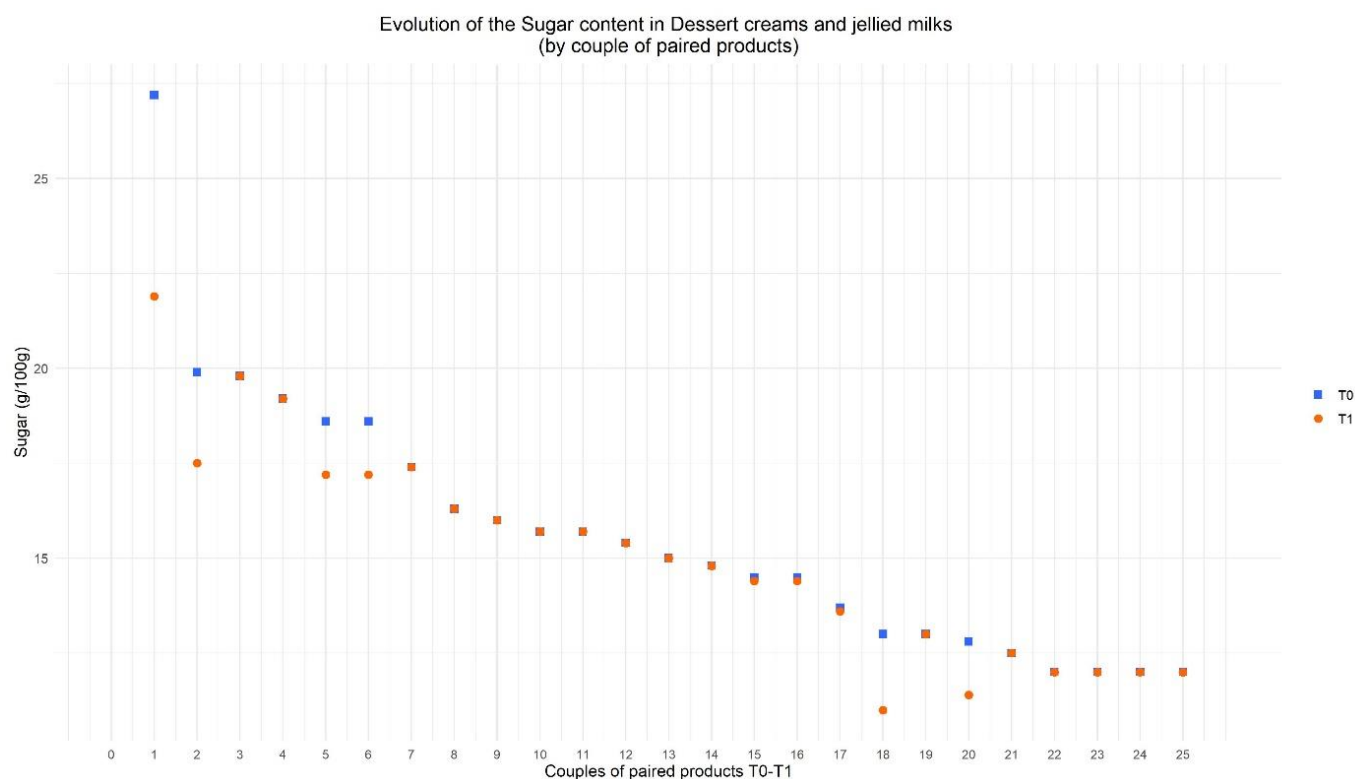


Figure 49 : Sugar content evolution between 2018 and 2022 by couple of paired product for Dessert creams and jellied milks subcategory

Of the 25 couples of paired products in the subcategory Dessert creams and jellied milks, only 6 couples of paired products have a much lower sugar content in 2022 (T1) than in 2018 (T0) and 3 couples show a very slightly lower sugar content at T1 compared to T0. 16 couples of paired products have the same sugar content at T0 and T1 (Figure 49).

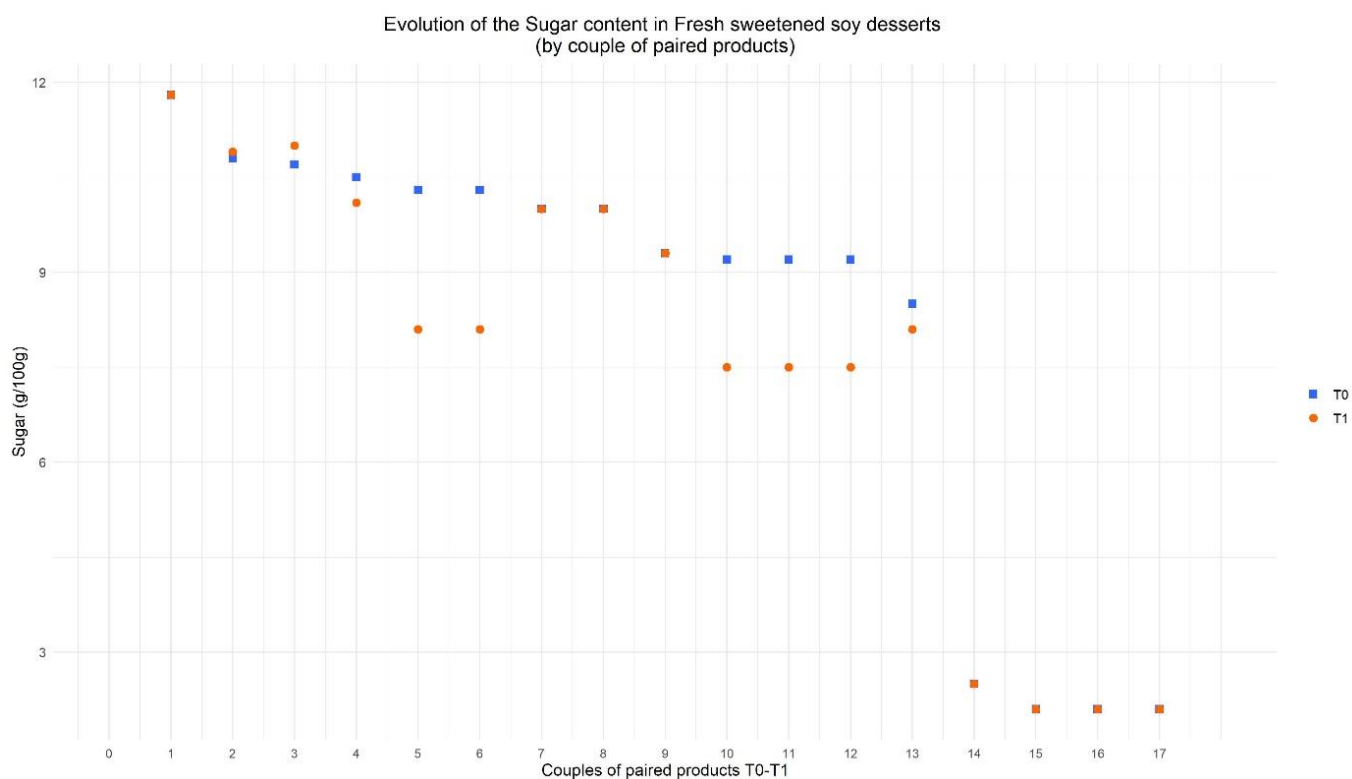


Figure 50 : Sugar content evolution between 2018 and 2022 by couple of paired product for Fresh sweetened soy desserts subcategory

Of the 17 couples of paired products in the subcategory Fresh sweetened soy desserts, 7 couples of paired products have a lower sugar content in 2022 (T1) than in 2018 (T0) and 8 couples have the same sugar content at T0 and T1 (Figure 50).

3.2.4.9 Evolution of the fibre content among the subcategories

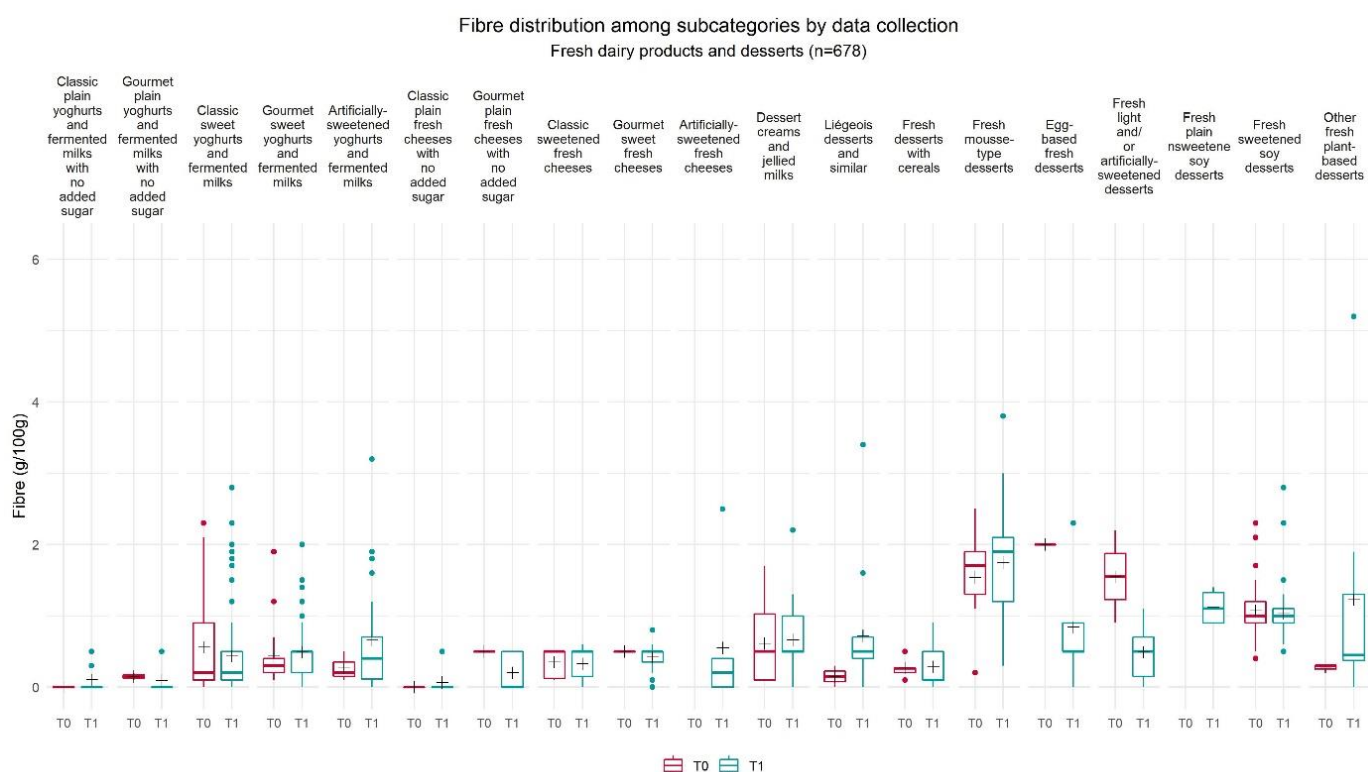


Figure 51 : Fibre distribution among subcategories of Fresh dairy products and desserts¹

Figure 51 shows the fibre distribution of Fresh dairy products and desserts between 2018 (T0) and 2022 (T1) by subcategories.

Among all the products collected within Fresh dairy products and desserts category, there is no significant difference between both data collections in the average fibre content.

The subcategories including products with the most variable saturated fat content at both times, meaning room for reformulation, are: Classic sweet yoghurts and fermented milks (2018, n=29; 2022, n=103), Fresh mousse-type desserts (2018, n=13; 2022, n=27), Fresh sweetened soy desserts (2018, n=31; 2022, n=48), Gourmet sweet yoghurts and fermented milks (2018, n=24; 2022, n=50).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Liégeois desserts and similar (2018, n=2; 2022, n=17), Other fresh plant-based desserts (2018, n=3; 2022, n=8), Artificially-sweetened yoghurts and fermented milks (2018, n=3; 2022, n=41).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.4.10 Evolution of the fibre content for paired products

The Table 22 summarizes the difference in the average fibre content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Table 22 : Summary of the evolution of the average fibre content for Fresh dairy products and desserts, by subcategory¹

Subcategory_name	Fibre					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	0,1	+0.1		0	0	
Gourmet plain yoghurts and fermented milks with no added sugar	0,1	-0.06	-37.5 %	0		
Classic sweet yoghurts and fermented milks	0,4	-0.1	-23%	0,2	-0.5	-70%
Gourmet sweet yoghurts and fermented milks	0,5	0.06	+13%	0,4	+0.1	+41.2 %
Artificially-sweetened yoghurts and fermented milks	0,7	+0.4	+147.5 %	0,5		
Classic plain fresh cheeses with no added sugar	0,1	+0.07		0	0	
Gourmet plain fresh cheeses with no added sugar	0,2	-0.3	-60%	0	-0.5	-100%
Classic sweetened fresh cheeses	0,3	-0.02	-6.7 %	0,3	-0.2	-38.8 %
Gourmet sweet fresh cheeses	0,4	-0.08	-16%	0,4	-0.07	-13.3 %
Artificially-sweetened fresh cheeses	0,6					
Dessert creams and jellied milks	0,7	+0.05	+8.3 %	0,3	+0.07	+25%
Liégeois desserts and similar	0,7	+0.6	+376.9 %	0,4		
Fresh desserts with cereals	0,3	+0.02	+9.1 %	0,2	-0.03	-10.7 %
Fresh mousse-type desserts	1,7	+0.2	+13.6 %	1,9	+0.06	+3.3 %

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

Egg-based fresh desserts	0,8	-1.2	-58%			
Fresh light and/or artificially-sweetened desserts	0,5	-1.1	-68.4 %	0,6		
Fresh plain unsweetened soy desserts	1,1					
Fresh sweetened soy desserts	1	-0.04	-3.7 %	1,1	+0.07	+6.9 %
Other fresh plant-based desserts	1,2	1	+359.4 %			

3.2.5 Soft drinks

The nutrients considered for the analysis of the evolution of Soft drinks category are: Sugars, Salt, Fat, Saturated fat, and Fibre.

3.2.5.1 Evolution of the sugar content among the subcategories

Sugar distribution among subcategories by data collection

Soft drinks (n=2414)

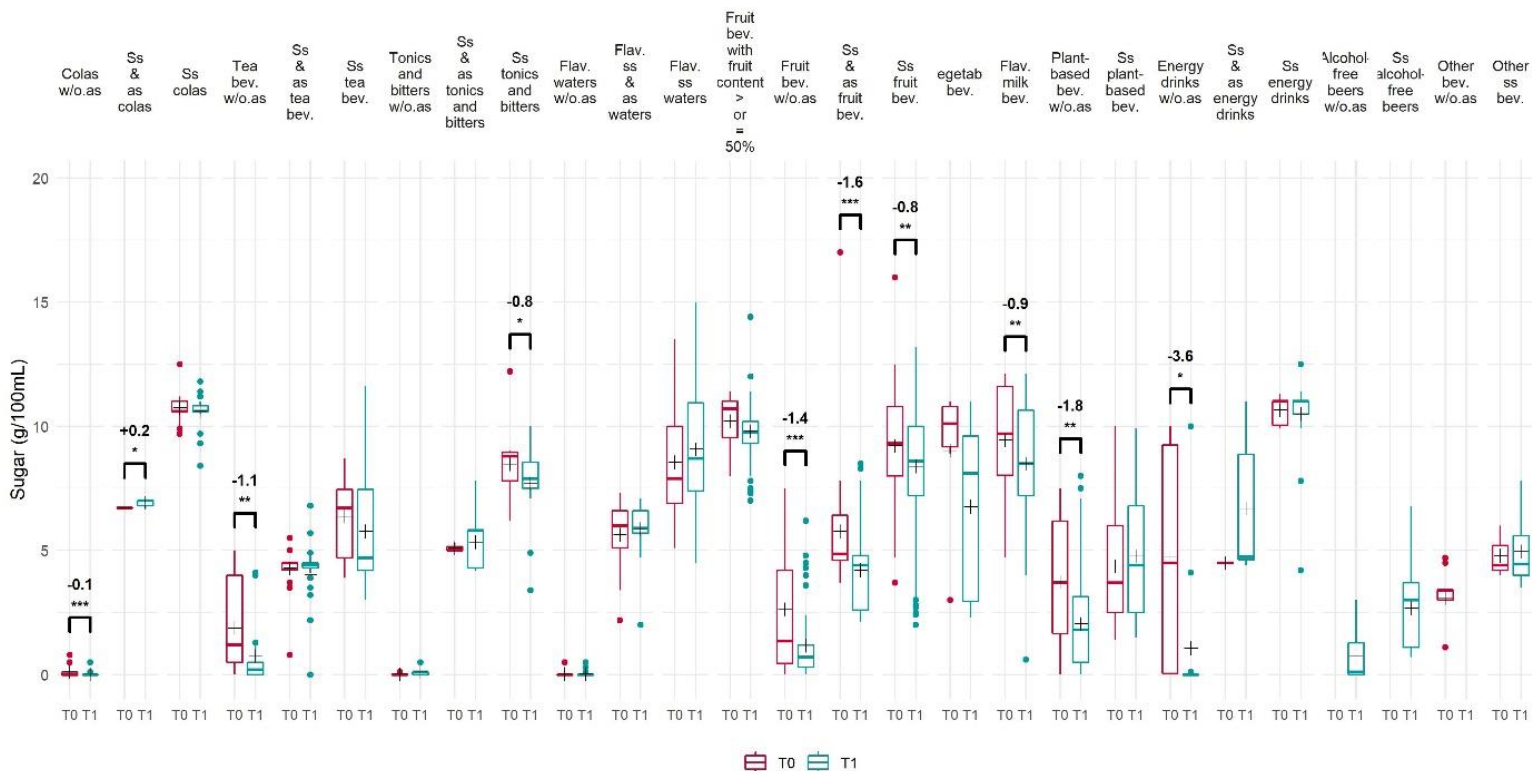


Figure 52 : Sugar distribution among subcategories of Soft drinks¹

Figure 52 shows the sugar distribution of Soft drinks between 2018 (T0) and 2022 (T1) by subcategories.

Among all the products collected within Soft drinks category, there is a significant decrease between both data collections in the average sugar content for 9 subcategories out of 27: Colas without added sugar (-0.09g/100g; -79%) ; Tea beverages without added sugar (-1.1g/100g; -59.6%) ; Sugar-sweetened tonics and bitters (-0.8g/100g; -9%), Fruit beverages without added sugar (-1.5g/100g; -55.6 %), Sugar-sweetened and artificially-sweetened fruit beverages (-1.6g/100g; -27%), Sugar-sweetened fruit beverages (-0.8g/100g; -9%), Flavoured milk beverages (-1g/100g; -10.2%), Plant-based beverages without added sugar (-1.7g/100g; -45.5%), Energy drinks without added sugar (-3.7g/100g; -77.4%).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

There is a significant increase between both data collections in the average sugar content for only 1 subcategory out of 27: Sugar-sweetened and artificially-sweetened colas (+0.2g/100g; +3.2%).

The subcategories including products with the most variable sugar content at both times, meaning room for reformulation, are: Flavoured milk beverages (2018, n=62; 2022, n=128), Sugar-sweetened fruit beverages (2018, n=101; 2022, n=257), Flavoured sugar-sweetened waters (2018, n=24; 2022, n=47), Energy drinks without added sugar (2018, n=7; 2022, n=32), Vegetable beverages (2018, n=6; 2022, n=23) and Sugar-sweetened plant-based beverages (2018, n=41; 2022, n=71).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Sugar-sweetened tea beverages (2018, n=35; 2022, n=55), Sugar-sweetened energy drinks (2018, n=11; 2022, n=27), Fruit beverages with fruit content > or = 50% (2018, n=10; 2022, n=56), Sugar-sweetened and artificially-sweetened energy drinks (2018, n=1; 2022, n=34).

3.2.5.2 Evolution of the sugar content for paired products

The Table 23 summarizes the difference in the average sugar content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

Among all the paired products collected within Soft drinks category, there is a significant decrease in the mean sugar content only for 3 subcategories out of 27: Colas without added sugar (-0.1g/100g; -69.2%) ; Sugar-sweetened fruit beverages (-0.4g/100g; -4.5%); Flavoured milk beverages (-0.4g/100g; -4.3%). These significant decreases at the level of paired products can be linked to the significant decreases of the mean sugar content observed at the subcategory level, meaning that this evolution can in part be explained by reformulations.

Table 23 : Summary of the evolution of the average sugar content for Soft drinks, by subcategory¹

Subcategory_name	Sugar					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Colas without added sugar	0	-0.09***	-79%	0	-0.1*	-69.2 %
Sugar-sweetened and artificially-sweetened colas	6,9	+0.2*	+3.2 %			
Sugar-sweetened colas	10,6	-0.1	-1.3 %	10,6	-0.03	-0.3 %
Tea beverages without added sugar	0,8	-1.1**	-59.6 %	0,6	-0.1	-14.2 %
Sugar-sweetened and artificially-sweetened tea beverages	4	-0.3	-6.2 %	4,4	-0.05	-1.1 %
Sugar-sweetened tea beverages	5,8	-0.6	-9.4 %	5,7	-0.1	-2.5 %
Tonics and bitters without added sugar	0,1	+0.08	+300%	0,1	+0.03	+80%
Sugar-sweetened and artificially-sweetened tonics and bitters	5,3	+0.2	+4.7 %	5,2	+0.2	+3%
Sugar-sweetened tonics and bitters	7,7	-0.8*	-9%	7,8	-0.2	-2.2 %
Flavoured waters without added sugar	0	+0.004	+16.5 %	0	-0.1	-100%
Flavoured sugar-sweetened and artificially-sweetened waters	5,9	+0.2	+4.2 %	6,2	-0.03	-0.5 %
Flavoured sugar-sweetened waters	9,1	+0.5	+6.2 %	11,5	+0.9	+8.8 %
Fruit beverages with fruit content > or = 50%	9,8	-0.4	-3.9 %	10,3	-0.3	-3.3 %
Fruit beverages without added sugar	1,2	-1.5***	-55.6 %	0,9	+0.05	+5.5 %

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

Sugar-sweetened and artificially-sweetened fruit beverages	4,2	-1.6***	-27%	5,2	-0.06	-1.2 %
Sugar-sweetened fruit beverages	8,4	-0.8**	-9%	9,4	-0.4***	-4.5 %
Vegetable beverages	6,8	-2.3	-25%	8,7	-2	-20.9 %
Flavoured milk beverages	8,5	-1**	-10.2 %	9,6	-0.4*	-4.3 %
Plant-based beverages without added sugar	2	-1.7**	-45.5 %	1,9	-0.2	-8.9 %
Sugar-sweetened plant-based beverages	4,8	+0.4	+9.4 %	4	-0.02	-0.4 %
Energy drinks without added sugar	1,1	-3.7*	-77.4 %	0	0	0%
Sugar-sweetened and artificially-sweetened energy drinks	6,7	+2.2	+48.6 %			
Sugar-sweetened energy drinks	10,5	-0.2	-1.6 %	10,7	+0.05	+0.5 %
Alcohol-free beers without added sugar	0,8					
Sugar-sweetened alcohol-free beers	2,7					
Other sugar-sweetened beverages	5	+0.2	+3.5 %			

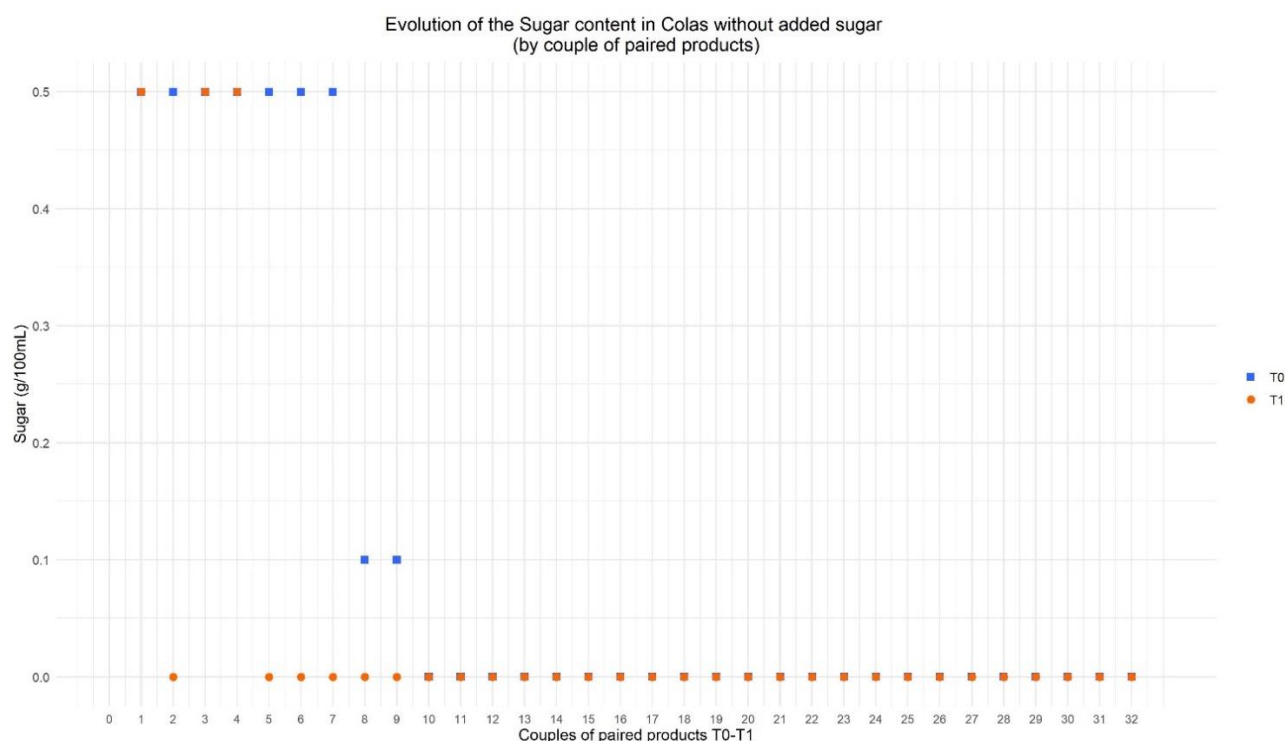


Figure 53 : Sugar content evolution between 2018 and 2022 by couple of paired product for Colas without added sugar subcategory

Of the 32 couples of paired products in sub-category Colas without added sugar, 26 have the same sugar content in 2018 and 2022 and 6 couples of paired products have a higher sugar content in 2022 (T1) than in 2018 (T0) (Figure 53).

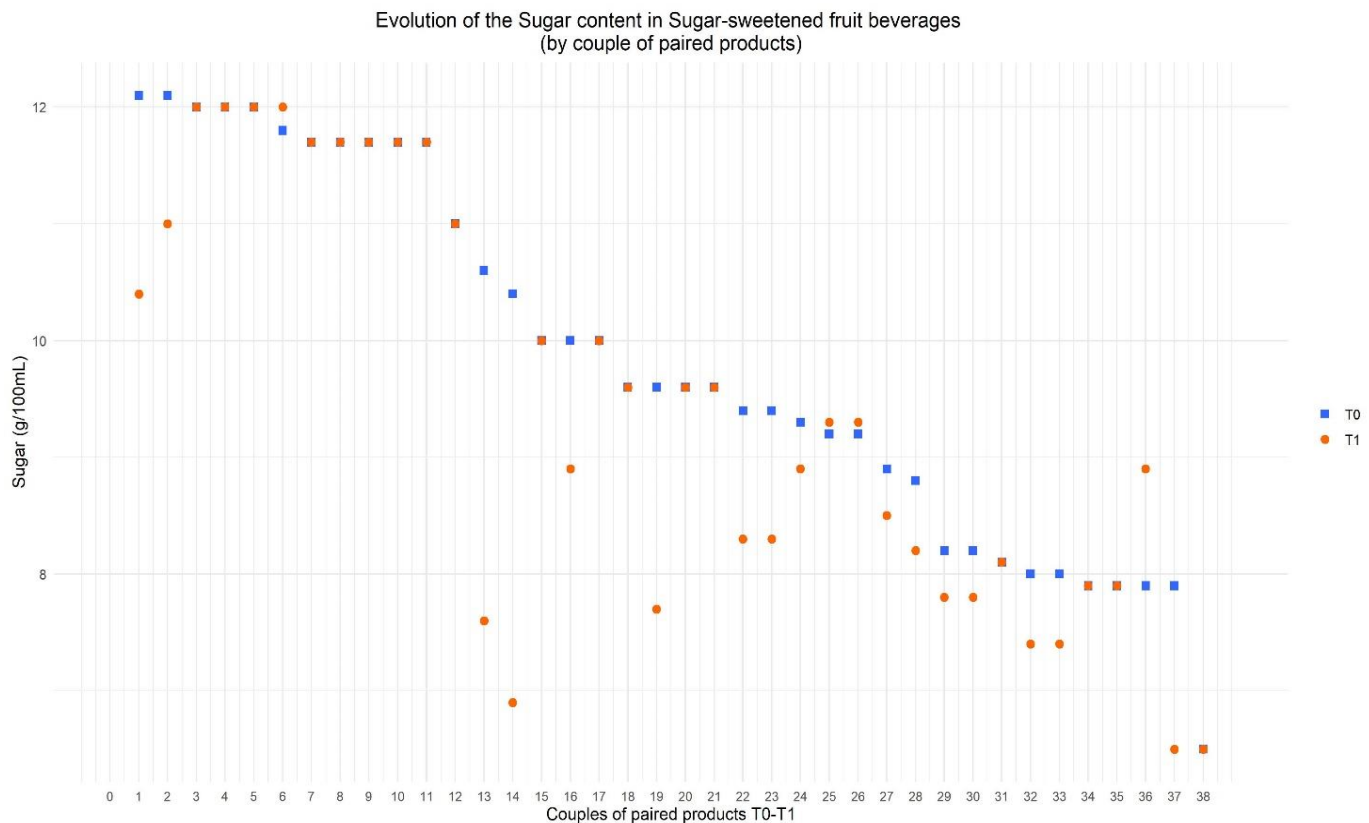


Figure 54 : Sugar content evolution between 2018 and 2022 by couple of paired product for Sugar-sweetened fruit beverages subcategory

Of the 38 couples of paired products in sub-category Sugar-sweetened fruit beverages, 16 have a lower sugar content in 2022 (T1) than in 2018 (T0). (Figure 54). Only 4 couples of paired products show a higher sugar content in 2022 (T1) than in 2018 (T0). It should be noted that the two products with the highest sugar content in 2018 (T0) have experienced a decrease in their sugar content in 2022 (T1) (Figure 54).

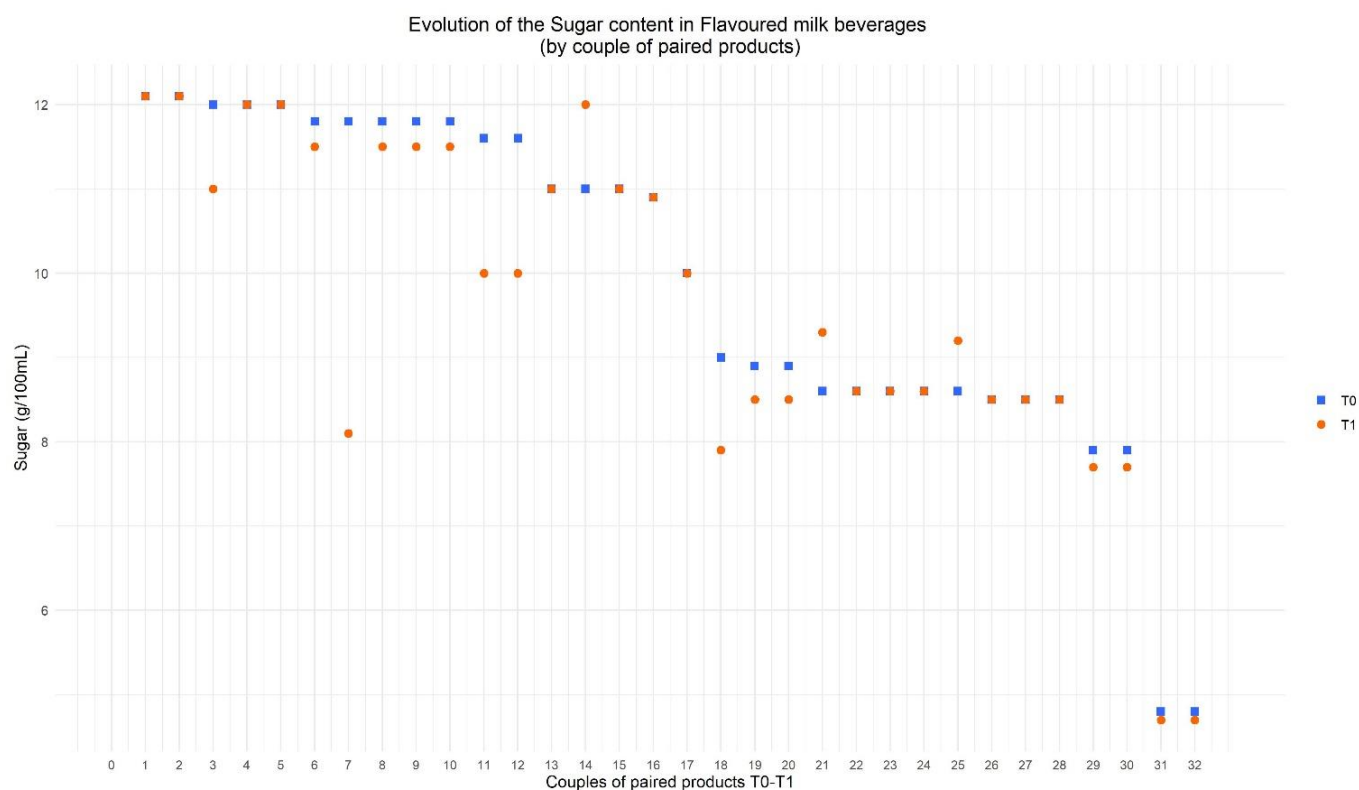


Figure 55 : Sugar content evolution between 2018 and 2022 by couple of paired product for Flavoured milk beverages subcategory

Of the 32 couples of paired products in sub-category Flavoured milk beverages, 15 have a lower sugar content in 2022 (T1) than in 2018 (T0). Only 3 couples of paired products show a higher sugar content in 2022 (T1) than in 2018 (T0) (Figure 55).

3.2.5.3 Evolution of the salt content among the subcategories

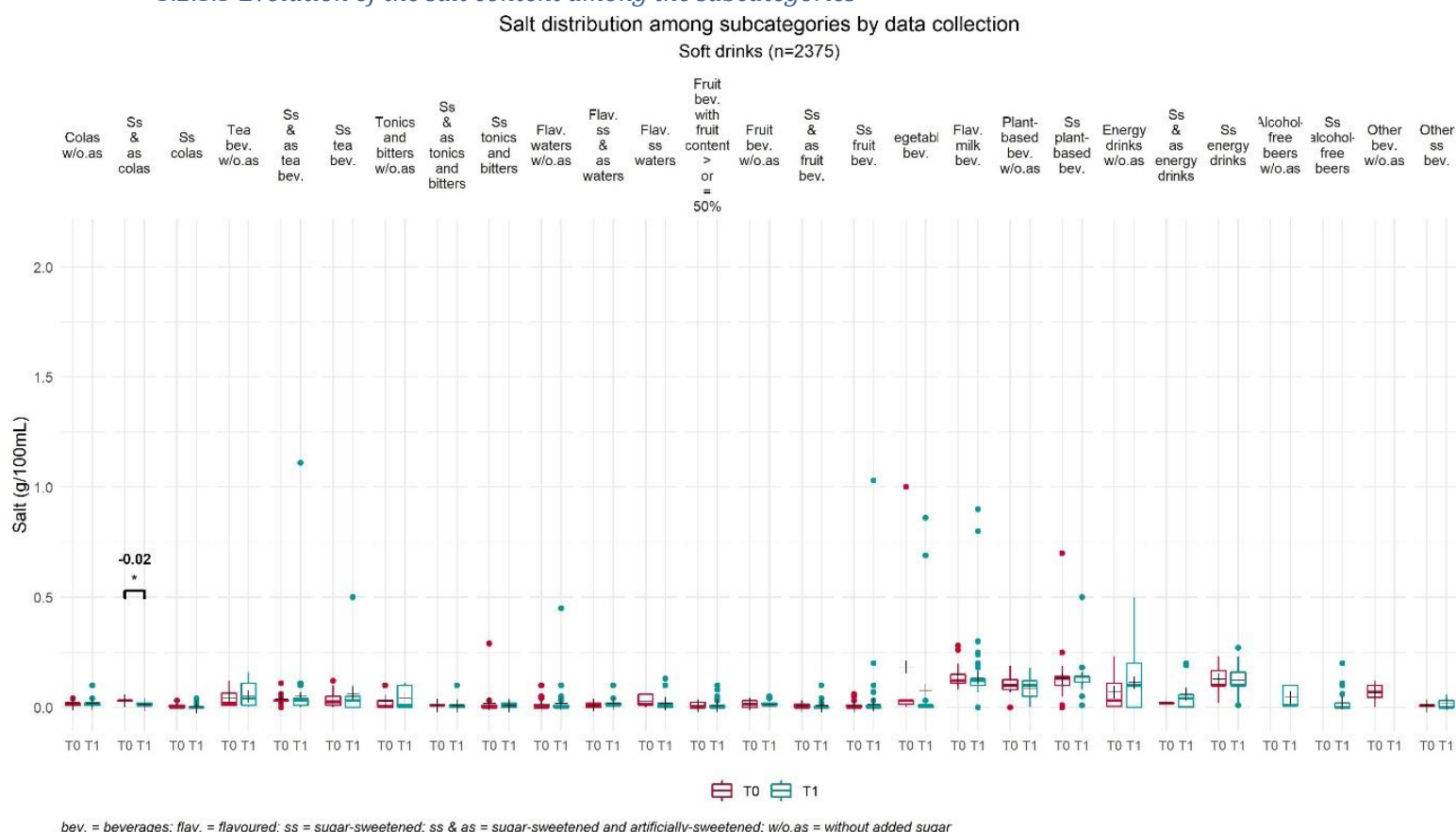


Figure 56 : Salt distribution among subcategories of Soft drinks¹

Figure 56 shows the salt distribution of Soft drinks between 2018 (T0) and 2022 (T1) by subcategories.

Among all the products collected within Soft drinks category, there is a significant decrease between both data collections in the average salt content for only 1 subcategory out of 27: Sugar-sweetened and artificially-sweetened colas (-0.017g/100g; -55.6%).

The subcategories including products with the most variable salt content at both times, meaning room for reformulation, are: Vegetable beverages (2018, n=6; 2022, n=22) and Sugar-sweetened plant-based beverages (2018, n=41; 2022, n=71).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Sugar-sweetened and artificially-sweetened tea beverages (2018, n=38; 2022, n=149), Sugar-sweetened fruit beverages (2018, n=101; 2022, n=234), and Flavoured milk beverages (2018, n=62; 2022, n=128).

¹Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.5.4 Evolution of the salt content for paired products

The Table 24 summarizes the difference in the average salt content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

Among all the paired products collected within Soft drinks category, there is a significant increase in the mean sugar content only for 1 subcategory out of 27: Sugar-sweetened tonics and bitters (+0.011g/100g). It should be noted that at subcategory level, it is a decrease in the mean salt content that is being observed, rather than an increase.

Table 24 : Summary of the evolution of the average salt content for Soft drinks, by subcategory¹

Subcategory_name	Salt					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Colas without added sugar	0,02	+0.00013	+0.7 %	0,02	-0.001	-4.67 %
Sugar-sweetened and artificially-sweetened colas	0,01	-0.017*	-55.56 %			
Sugar-sweetened colas	0	-0.0031	-42.27 %	0	-0.002	-33.33 %
Tea beverages without added sugar	0,05	+0.007	+16.19 %	0,05	-0.0026	-4.91 %
Sugar-sweetened and artificially-sweetened tea beverages	0,05	+0.012	+31.44 %	0,05	-0.0037	-7.1 %
Sugar-sweetened tea beverages	0,06	+0.032	+101.72 %	0,03	+0.0011	+4.17 %
Tonics and bitters without added sugar	0,04	+0.016	+58.85 %	0,06	+0.027	+80%
Sugar-sweetened and artificially-sweetened tonics and bitters	0,01	-0.0014	-13.79 %	0,01	0	0%
Sugar-sweetened tonics and bitters	0,01	-0.0085	-48.66 %	0,01	+0.011*	
Flavoured waters without added sugar	0,02	+0.0089	+93.45 %	0,02	+0.009	+90%
Flavoured sugar-sweetened and artificially-sweetened waters	0,02	+0.0069	+66.35 %	0,01	+0.0017	+14.29 %
Flavoured sugar-sweetened waters	0,02	-0.011	-38.58 %	0,02	+0.01	+100%
Fruit beverages with fruit content > or = 50%	0,01	+0.00053	+5.87 %	0	0	
Fruit beverages without added sugar	0,02	-0.00027	-1.75 %	0,02	+0.0066	+54.76 %

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

Sugar-sweetened and artificially-sweetened fruit beverages	0,01	+0.00023	+2.86 %	0	-0.00056	-10%
Sugar-sweetened fruit beverages	0,01	+0.0063	+81.97 %	0,01	-0.0016	-15.63 %
Vegetable beverages	0,08	-0.11	-58.1 %	0,03	0	0%
Flavoured milk beverages	0,13	+0.0044	+3.41 %	0,12	-0.012	-9.49 %
Plant-based beverages without added sugar	0,09	-0.016	-15.32 %	0,08	-0.0045	-5.21 %
Sugar-sweetened plant-based beverages	0,14	+0.0024	+1.8 %	0,15	+0.017	+13.21 %
Energy drinks without added sugar	0,11	+0.042	+60.27 %	0,17	0	0%
Sugar-sweetened and artificially-sweetened energy drinks	0,06	+0.039	+194.12 %			
Sugar-sweetened energy drinks	0,12	-0.0063	-4.94 %	0,12	-0.0032	-2.56 %
Alcohol-free beers without added sugar	0,05					
Sugar-sweetened alcohol-free beers	0,02					
Other sugar-sweetened beverages	0,02	+0.0083	+108.7 %			

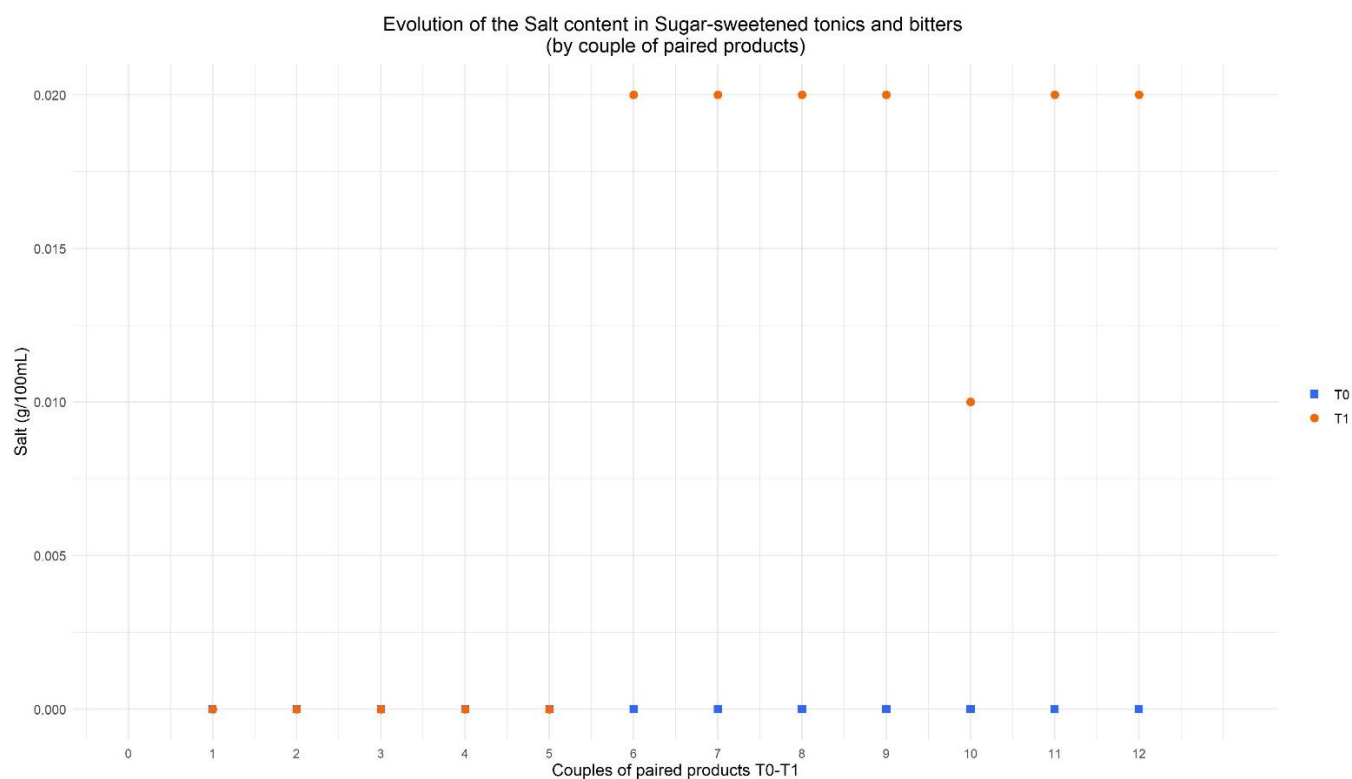


Figure 57 : Salt content evolution between 2018 and 2022 by couple of paired product for Sugar-sweetened tonics and bitters subcategory

In the 12 couples of paired products, all the products have zero salt content at T0. At T1, 5 products have zero salt content, 6 products have a salt content of 0.02g/100g and one product has a salt content of 0.01g/100g. This explains the increase in the mean salt content between T0 and T1 for the couples of paired products for this subcategory. (Figure 57)

3.2.5.5 Evolution of the fat content among the subcategories

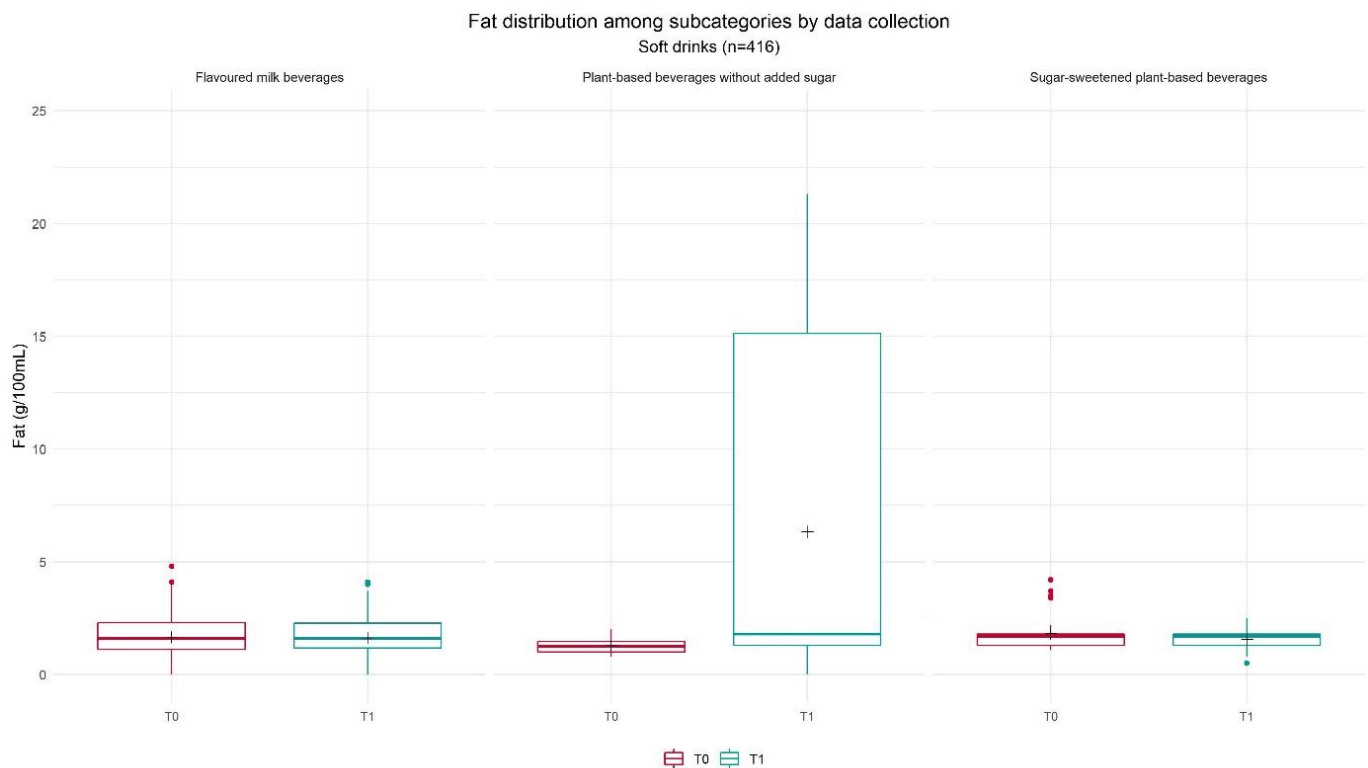


Figure 58 : Fat distribution among subcategories of Soft drinks¹

Figure 58 shows the distribution of the fat content of the Soft drinks subcategories Flavoured milk beverages, Plant-based beverages without added sugar and Sugar-sweetened plant-based beverages between T0 and T1.

There is a significant decrease between both data collections in the average fat content for only 1 subcategory out of 3: Sugar-sweetened plant-based beverages (-0.3g/100g; -14.1%).

There is a significant increase between both data collections in the average fat content for only 1 subcategory out of 3: Plant-based beverages without added sugar (+5g/100g; +395.3%). This significant increase can be partly explained by the difference in the number of products collected between the 2 data collections (2018, n=18; 2022, n=96).

The subcategory including products with the most variable fat content in 2022 (T1), meaning room for reformulation, is: Plant-based beverages without added sugar (2022, n=96).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.5.6 Evolution of the fat content for paired products

The Table 25 summarizes the difference in the average fat content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Table 25 : Summary of the evolution of the average fat content for Soft drinks, by subcategory¹

Subcategory_name	Fat					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Flavoured milk beverages	1,6	-0.03	-2%	1,7	+0.05	+2.9 %
Plant-based beverages without added sugar	6,3	+5**	+395.3 %	3,4	+2	+131.6 %
Sugar-sweetened plant-based beverages	1,6	-0.3*	-14.1 %	1,5	+0.07	+4.7 %

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.5.7 Evolution of the saturated fat content among the subcategories

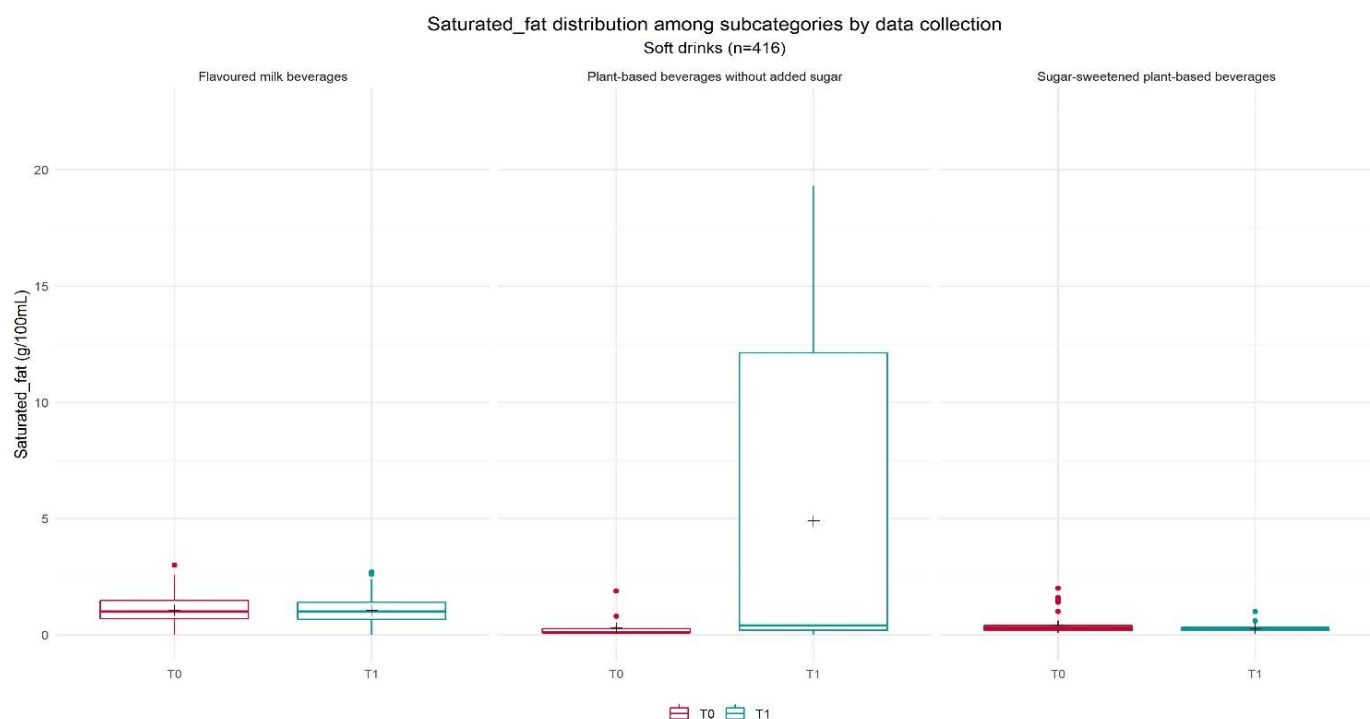


Figure 59 : Saturated Fat distribution among subcategories of Soft drinks¹

Figure 59 shows the distribution of the saturated fat content of the Soft drinks subcategories Flavoured milk beverages, Plant-based beverages without added sugar and Sugar-sweetened plant-based beverages between T0 and T1.

There is a significant decrease between both data collections in the average saturated fat content for only 1 subcategory out of 3: Sugar-sweetened plant-based beverages (-0.2g/100g; -36.1%).

There is a significant increase between both data collections in the average saturated fat content for only 1 subcategory out of 3: Plant-based beverages without added sugar (+5g/100g; +1565.6%). This significant increase can be partly explained by the difference in the number of products collected between the 2 data collections (2018, n=18; 2022, n=96).

The subcategory including products with the most variable saturated fat content in 2022 (T1), meaning room for reformulation, is: Plant-based beverages without added sugar (2022, n=96).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.5.8 Evolution of the saturated fat content for paired products

The Table 26 summarizes the difference in the average saturated fat content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Table 26 : Summary of the evolution of the average saturated fat content for Soft drinks, by subcategory¹

Subcategory_name	Fat					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Flavoured milk beverages	1,1	-0.006	-0.6 %	1,1	+0.04	+3.7 %
Plant-based beverages without added sugar	4,9	+5**	+1565.6 %	1,9	+2	+929.8 %
Sugar-sweetened plant-based beverages	0,3	-0.2**	-36.1 %	0,3	+0.006	+2.5 %

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.5.9 Evolution of the fibre content among the subcategories

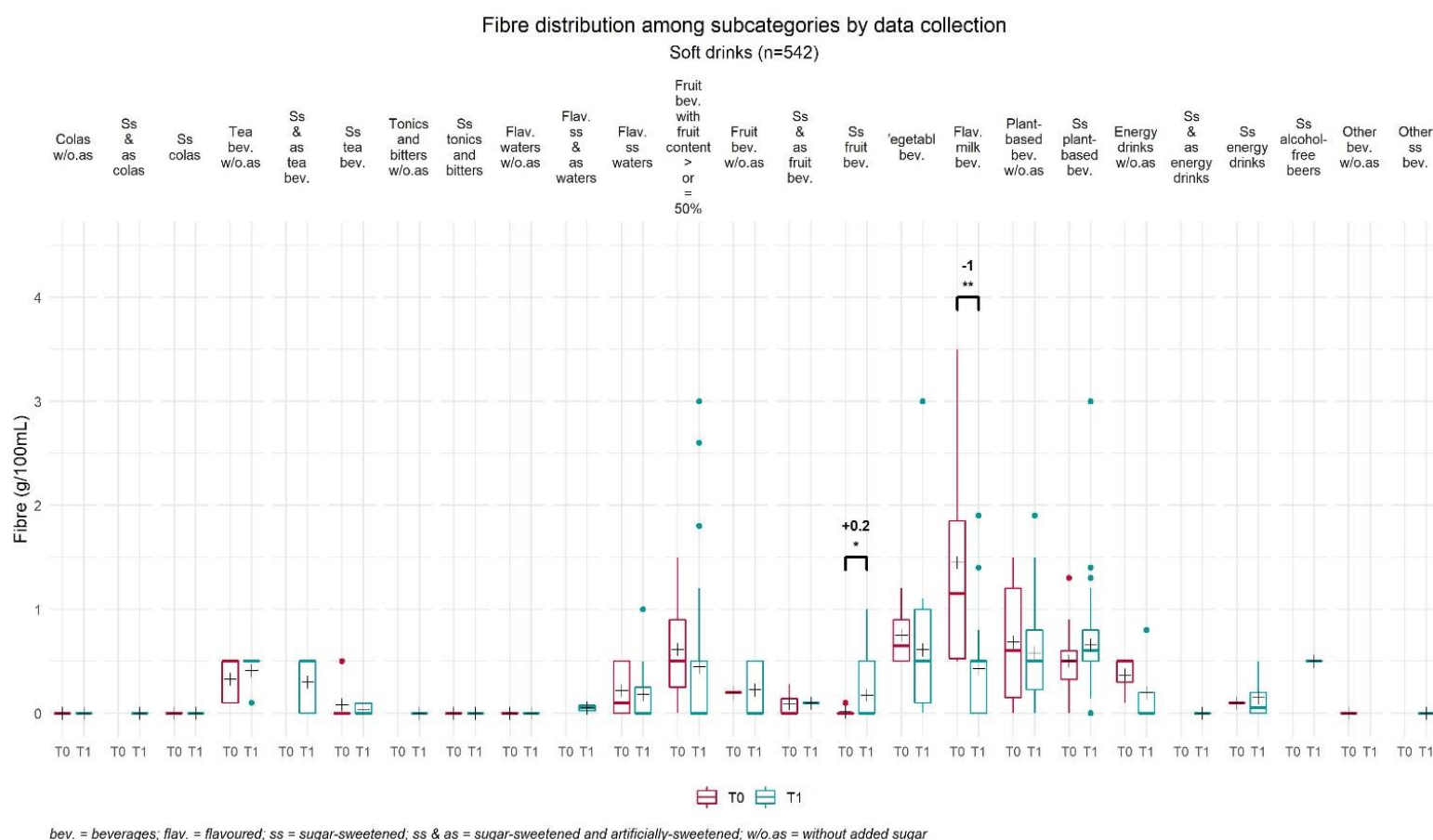


Figure 60 : Fibre distribution among subcategories of Soft drinks¹

Figure 60 shows the distribution of fibre content of the Soft drinks subcategories between T0 and T1. Among the 25 subcategories considered, the average fibre content has significantly increased for one subcategory only: Sugar-sweetened fruit beverages (+0.2g/100g; 1109.4%), and significantly decreased for the subcategory Flavoured milk beverages (-1.0g/100g; -70.4%).

The significant increase can be partly explained by the difference in the number of products collected between the 2 data collections in the subcategory Sugar-sweetened fruit beverages (2018, n=14; 2022, n=83).

The subcategories including products with the most variable fibre content at both times, meaning room for reformulation, are: Fruit beverages with fruit content > or = 50% (2018, n=7; 2022, n=40) and Sugar-sweetened plant-based beverages (2018, n=30; 2022, n=66).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.5.10 Evolution of the fibre content for paired products

The Table 27 summarizes the difference in the average fibre content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Table 27 : Summary of the evolution of the average fibre content for Soft drinks, by subcategory¹

Subcategory_name	Fibre					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Colas without added sugar	0	0				
Sugar-sweetened and artificially-sweetened colas	0					
Sugar-sweetened colas	0	0		0	0	
Tea beverages without added sugar	0,4	+0.08	+25.1 %	0,3	+0.1	+50%
Sugar-sweetened and artificially-sweetened tea beverages	0,3			0,5		
Sugar-sweetened tea beverages	0	-0.05	-56%	0	0	
Tonics and bitters without added sugar	0					
Sugar-sweetened and artificially-sweetened tonics and bitters						
Sugar-sweetened tonics and bitters	0	0				
Flavoured waters without added sugar	0	0		0	0	
Flavoured sugar-sweetened and artificially-sweetened waters	0					
Flavoured sugar-sweetened waters	0,2	-0.04	-17.4 %			
Fruit beverages with fruit content > or = 50%	0,4	-0.2	-27.6 %	1,8	+0.3	+20%
Fruit beverages without added sugar	0,2	+0.03	+13.6 %			
Sugar-sweetened and artificially-sweetened fruit beverages	0,1	+0.007	+7.1 %			
Sugar-sweetened fruit beverages	0,2	+0.2*	+1109.4 %	0,1	+0.1	
Vegetable beverages	0,6	-0.1	-18.7 %	0,5	0	0%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

Flavoured milk beverages	0,4	-1**	-70.4 %	0,2	-1	-85.3 %
Plant-based beverages without added sugar	0,6	-0.1	-15.5 %	1	+0.04	+3.8 %
Sugar-sweetened plant-based beverages	0,7	+0.2	+30.5 %	0,6	-0.03	-4.6 %
Energy drinks without added sugar	0,2	-0.2	-45.5 %			
Sugar-sweetened and artificially-sweetened energy drinks	0					
Sugar-sweetened energy drinks	0,1	+0.05	+50%	0,1	0	0%
Alcohol-free beers without added sugar						
Sugar-sweetened alcohol-free beers	0,5					
Other sugar-sweetened beverages	0					



Best-ReMaP

Healthy Food for a Healthy Future

Estonia T1 statistics report

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National Institute for Health Development – WP5

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1 Description of the food offer

1.1 Presentation of data collected

Estonia first data collection (T0) took place from September to November 2018, within 66 stores of 9 retailers, which had at least 2% of the market according to the Estonian Merchants Union.¹ Products collected were used as a state of play (T0) of the food offer in Estonia for the Best-ReMaP project. The data collection was carried out by adapting the JANPA project methodology.² Data was collected for the categories considered for Best-ReMaP: Soft drinks, Breakfast cereals, Delicatessen meats, Fresh dairy products and desserts, Bread products, Additionally to these categories, other seasoned meat products and cheeses were collected, but will not be analysed as part of the project.

Best-ReMaP follow-up data collection (T1) took place between April and June 2022. Products belonging to the five considered Best-ReMaP categories were collected, according to the Best-ReMaP methodology. Information regarding market share distribution was requested from the Estonian Merchants Union in September 2021 and was used to select the retailers to target.³ Six of the biggest retailers of Estonia were selected for the data collection (covering around 86% of the market share): COOP Eesti (25% of the market share), Maxima Eesti (18%), Selver (18%), Rimi Eesti Food (13%), Prisma Peremarket (6%) and OG Elektra (6%). Data was collected at the largest store by surface area of each retailer. No web scraping or food purchasing was conducted.

It is important to note that because methodology used for the two data collection was different, there are some slight differences in the subcategories collected, which will be detailed later in this report (see part 1.2.2).

Table 1: Years of data collections

Category name	T0 data collection year	T1 data collection year
Bread products	2018	2022
Breakfast cereals	2018	2022
Delicatessen meats and similar	2018	2022
Fresh dairy products and desserts	2018	2022
Soft drinks	2018	2022

¹ E-mail correspondence between NIHD and the Estonian Merchants' Union

² [Joint Action on Nutrition and Physical Activity](#)

³ E-mail correspondence between NIHD and the Estonian Merchants' Union, 24.09.21

1.2 Evolution of the food offer

1.2.1 Evolution of the food offer, by category

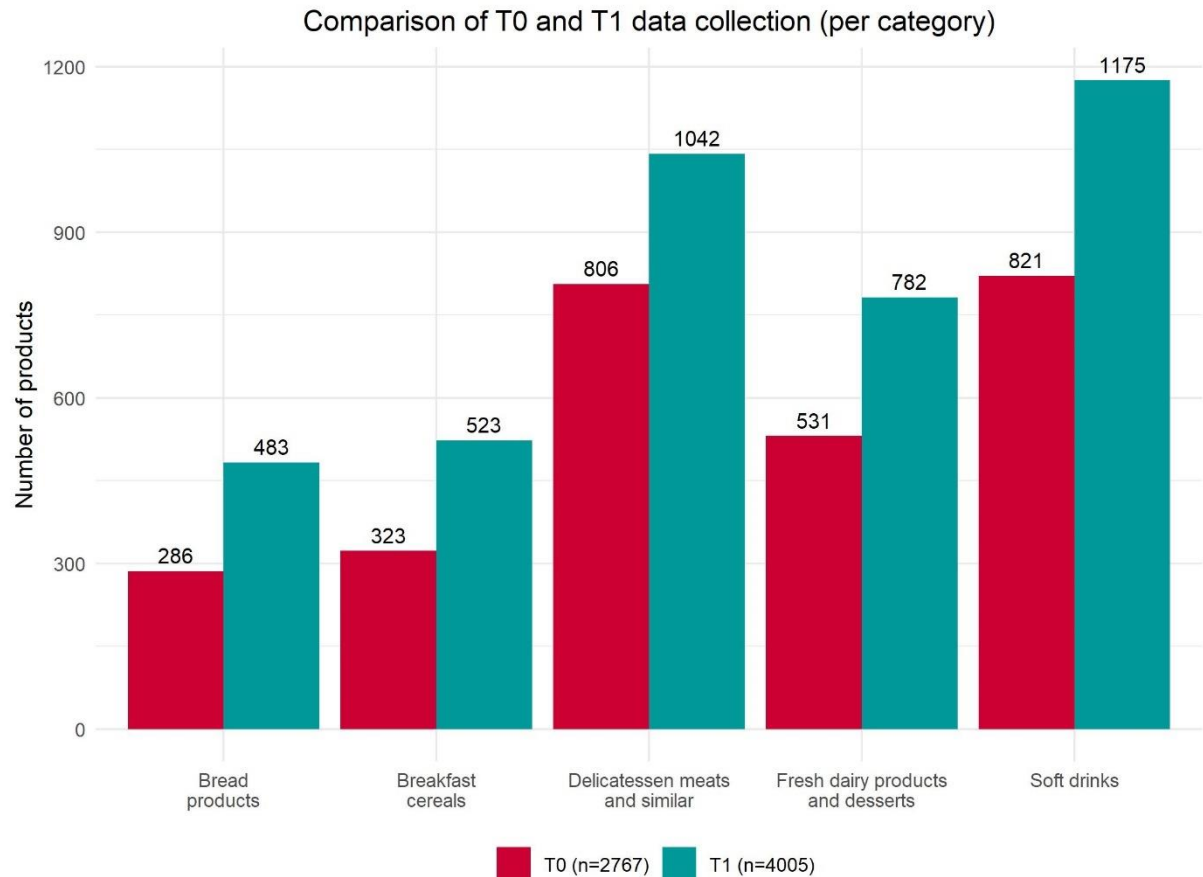


Figure 1: Comparison of the number of references collected between pre-existing (2018=T0) and Best-ReMaP (2022=T1) data collection, per category

The number of products collected during Best-ReMaP data collection (T1) is greater than the number of products collected during pre-existing data collection (T0) [4005 during T1 vs 2767 during T0] for all categories collected (Figure 1): Bread products (483 vs 266); Breakfast cereals (523 vs 323); Delicatessen meats and similar (1042 vs 806); Fresh dairy products and desserts (782 vs 531) and Soft drinks (1175 vs 821).

1.2.2 Evolution of the food offer, by subcategory

1.2.2.1 Bread products

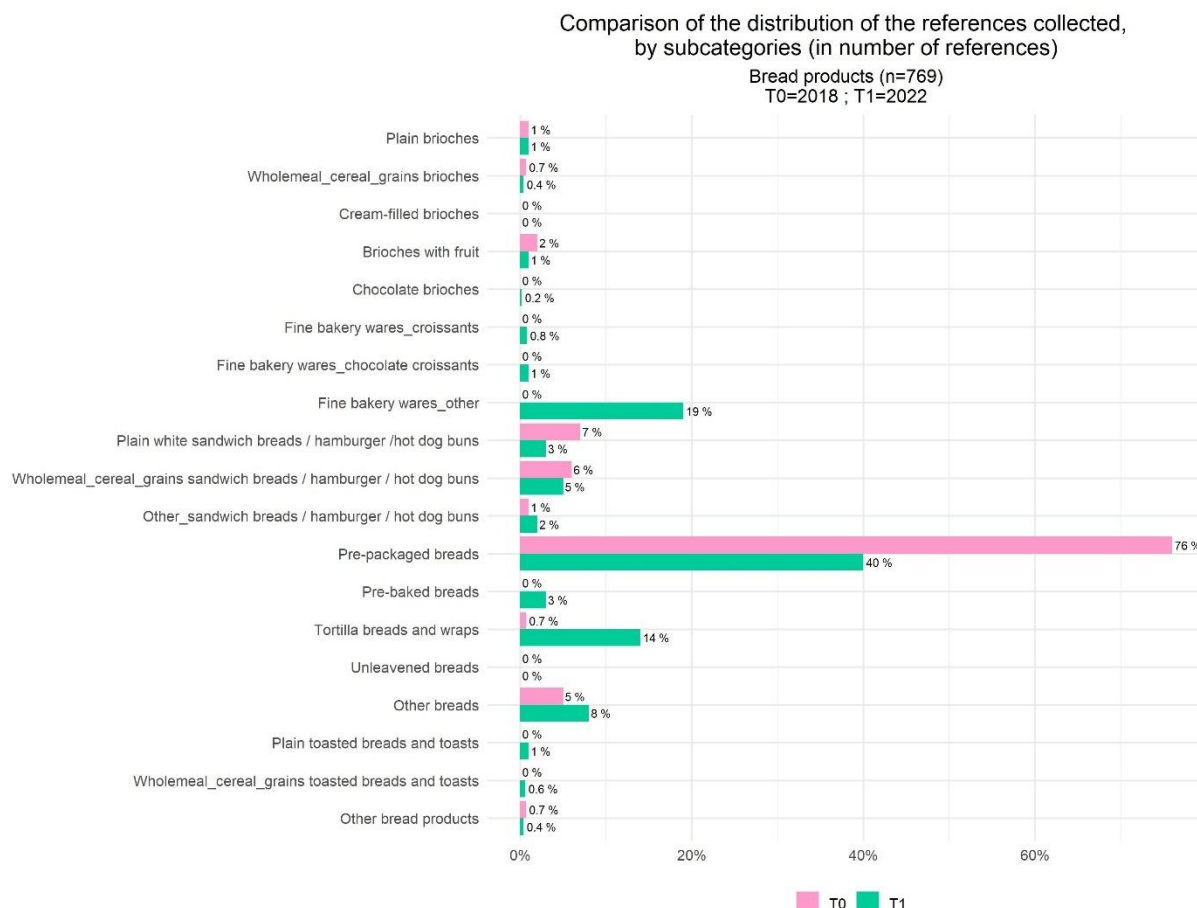


Figure 2: Comparison of the distribution of the references collected, by subcategory (in number of references) among Bread products

The comparison of product distribution between 2018 (T0) and 2022 (T1) among Bread products (Figure 2) shows that the T1 data collection is generally broader than T0 in particular for three subcategories out of 19 (Fine bakery wares_other, Tortilla breads and wraps, Other breads).

On the opposite, a higher number of products was collected at T0 in two subcategories out of 19 (Plain white sandwich breads / hamburger / hot dog buns, Pre-packaged breads).

No products from Cream-filled brioches and Unleavened bread subcategories were collected either at T0 or at T1. This is due to the lack of these types of products in the selected stores visited.

Differences observed can partially be explained by the smaller amount of products collected during T0. For example, products of subcategories as Fine bakery wares or Pre-baked breads were not collected during the pre-existing data collection.

1.2.2.2 Breakfast cereals

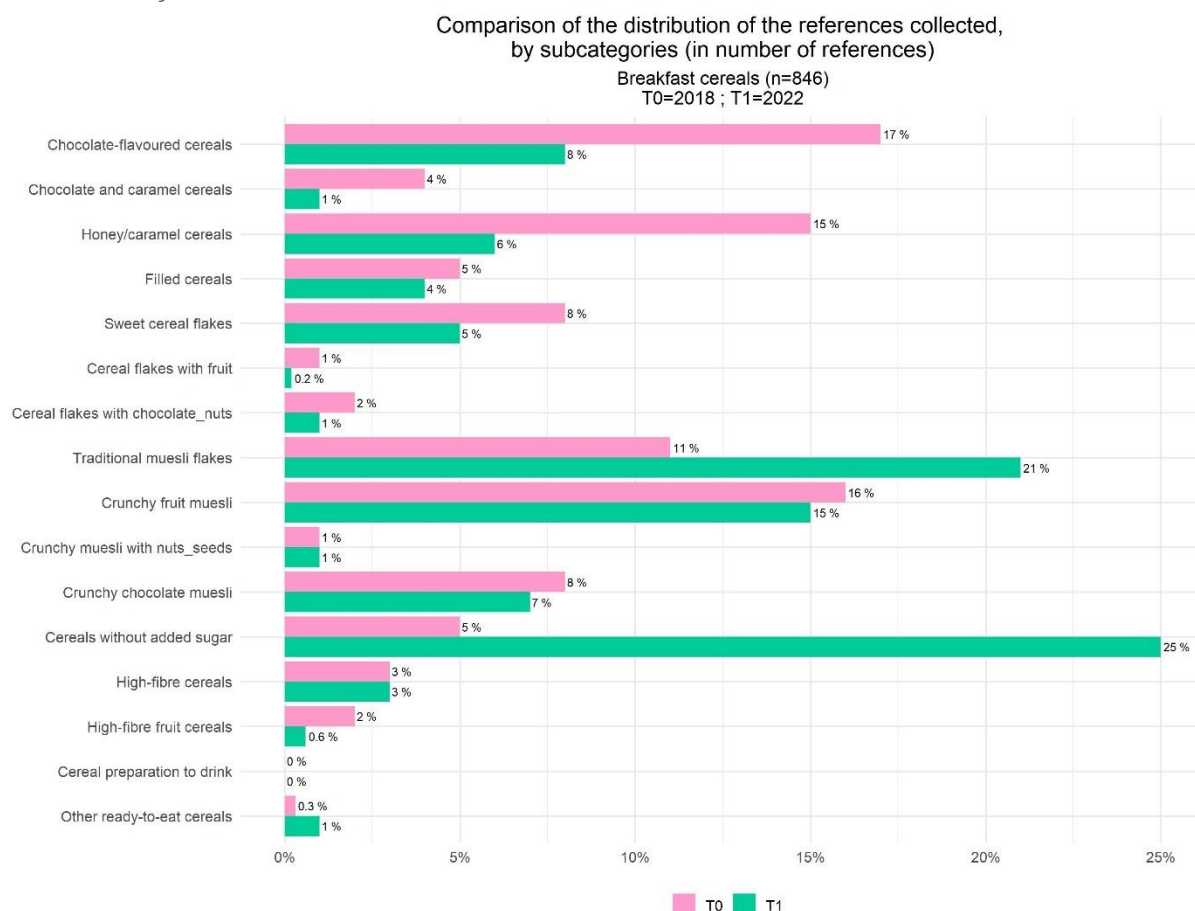


Figure 3: Comparison of the distribution of the references collected, by subcategory (in number of references) among Breakfast cereals

The comparison of product distribution, between 2018 (T0) and 2022 (T1), among subcategories of Breakfast cereals (Figure 3) shows that the percentage of collected products is broader at T0 in four subcategories out of 16 (Chocolate-flavoured cereals, Chocolate and caramel cereals, Honey/caramel cereals, Sweet cereal flakes). However, a higher number of products was collected at T1 for two subcategories: Traditional muesli flakes, Cereals without added sugar.

No products from Cereal preparations to drink subcategory were collected either at T0 or at T1. This is due to the lack of this type of products in the selected stores visited.

Differences observed can partially be explained because during T0, cereals porridge mixes, that are included under the subcategory Traditional muesli flakes and unflavoured cereals included under Cereals without added sugar were not collected.

1.2.2.3 Delicatessen meats and similar

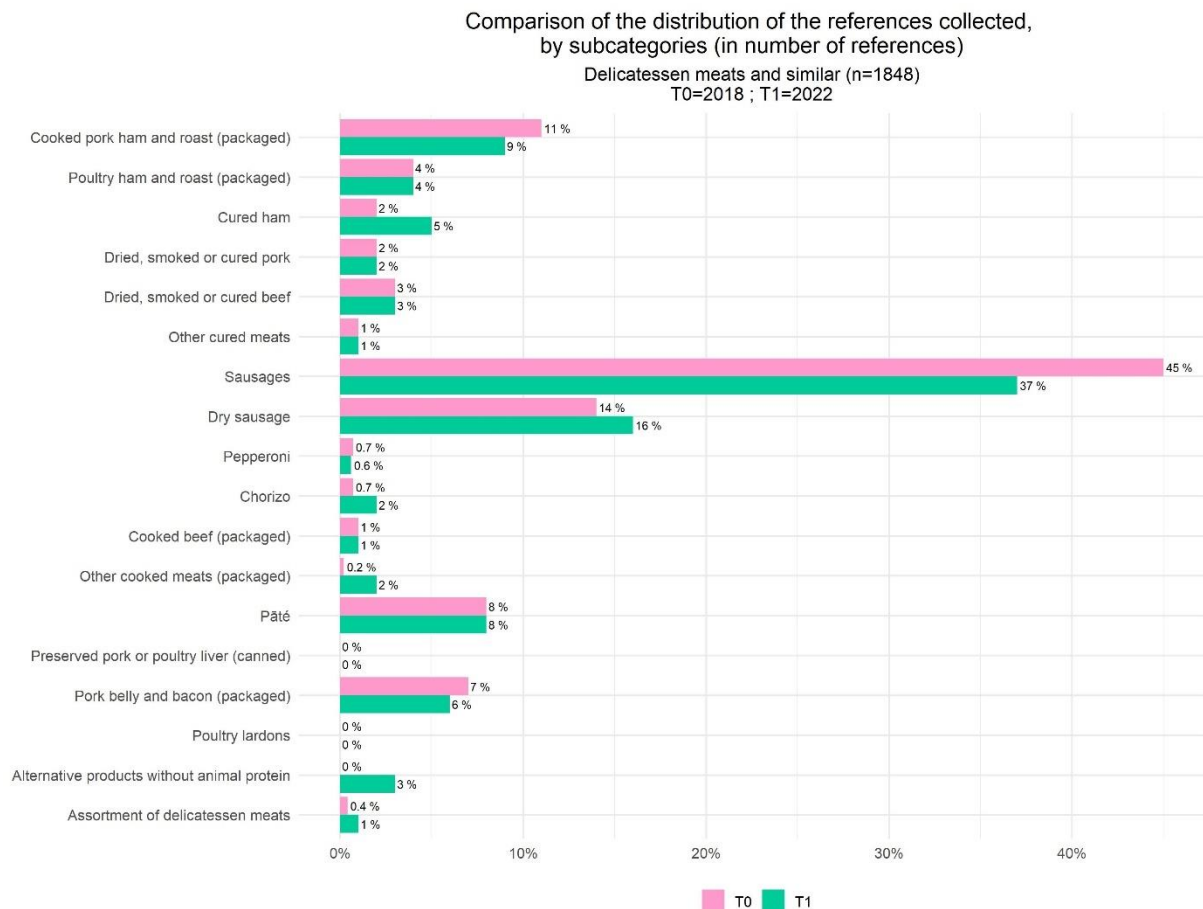


Figure 4: Comparison of the distribution of the references collected, by subcategory (in number of references) among Delicatessen meats and similar

The comparison of product distribution among Delicatessen meats and similar (Figure 4) shows that the percentage of collected products among subcategories is broadly similar between 2018 (T0) and 2022 (T1), except for subcategories Sausages and Cooked pork ham and roast (packaged), which include a higher number of references collected in 2018 than in 2022. However, it can be noted that for subcategories Dry sausage and Cured ham more products were collected in 2022 than in 2018. In addition, it can be noted that alternative products without animal protein were not collected during T0.

No products from Preserved pork or poultry liver (canned) and Poultry lardons subcategories were collected either at T0 or at T1. This is due to the lack of these types of products in the selected stores visited.

1.2.2.4 Fresh dairy products and desserts

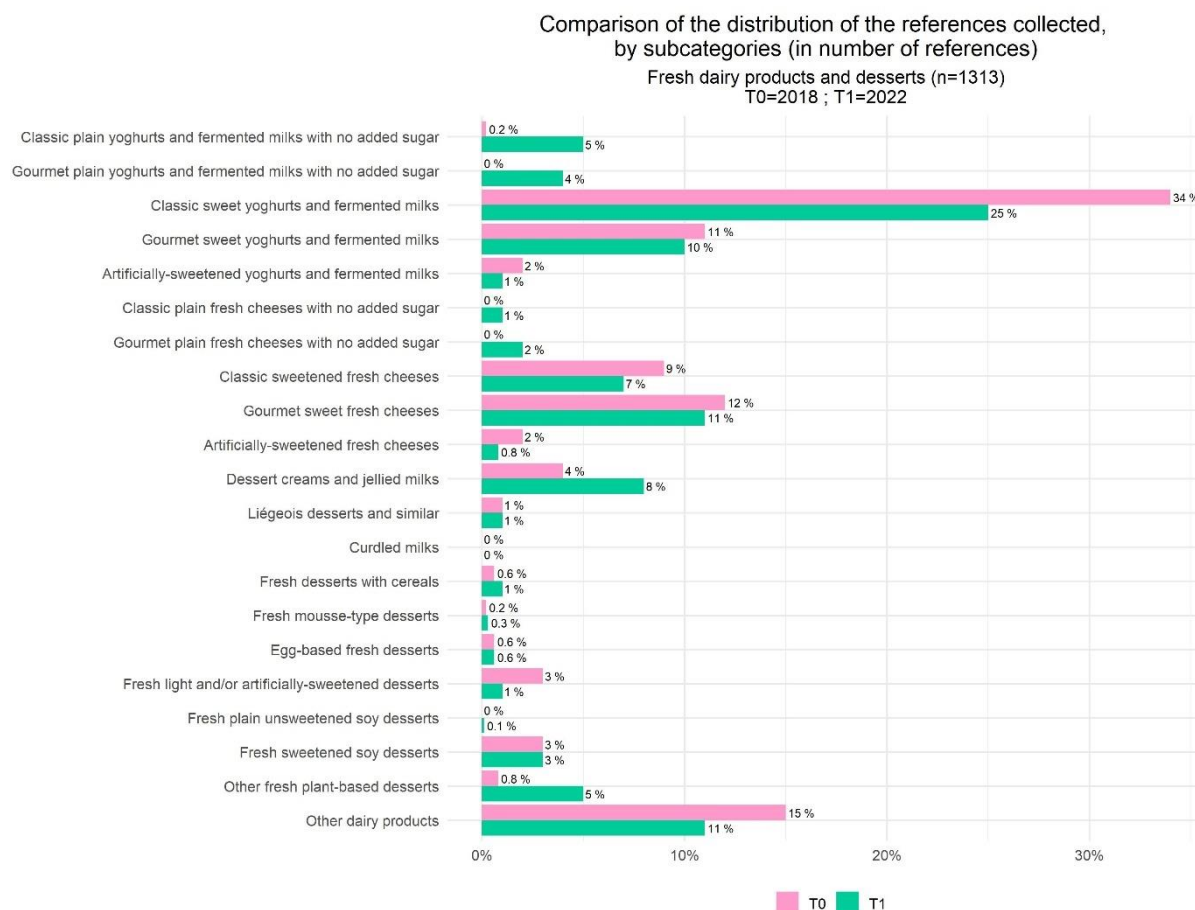


Figure 5: Comparison of the distribution of the references collected, by subcategory (in number of references) among Fresh dairy products and desserts

The comparison of product distribution between 2018 (T0) and 2022 (T1) among subcategories of Fresh dairy products and desserts (Figure 5) shows that the percentage of collected products is different during the two data collections. There is a greater diversity of products collected in 2022 than in 2018. The T1 data collection includes products belonging to the subcategories of yoghurts with no added sugar (Classic plain yoghurts and fermented milks with no added sugar, Gourmet plain yoghurts and fermented milks with no added sugar, Classic plain fresh cheeses with no added sugar, Gourmet plain fresh cheeses with no added sugar) and Dessert creams and jellied milks.

No products from Curdled milks subcategories were collected either at T0 or at T1. This is due to the lack of this types of products in the selected stores visited.

Differences observed can partially be explained because during T0 products with no added sugar were not collected.

1.2.2.5 Soft drinks

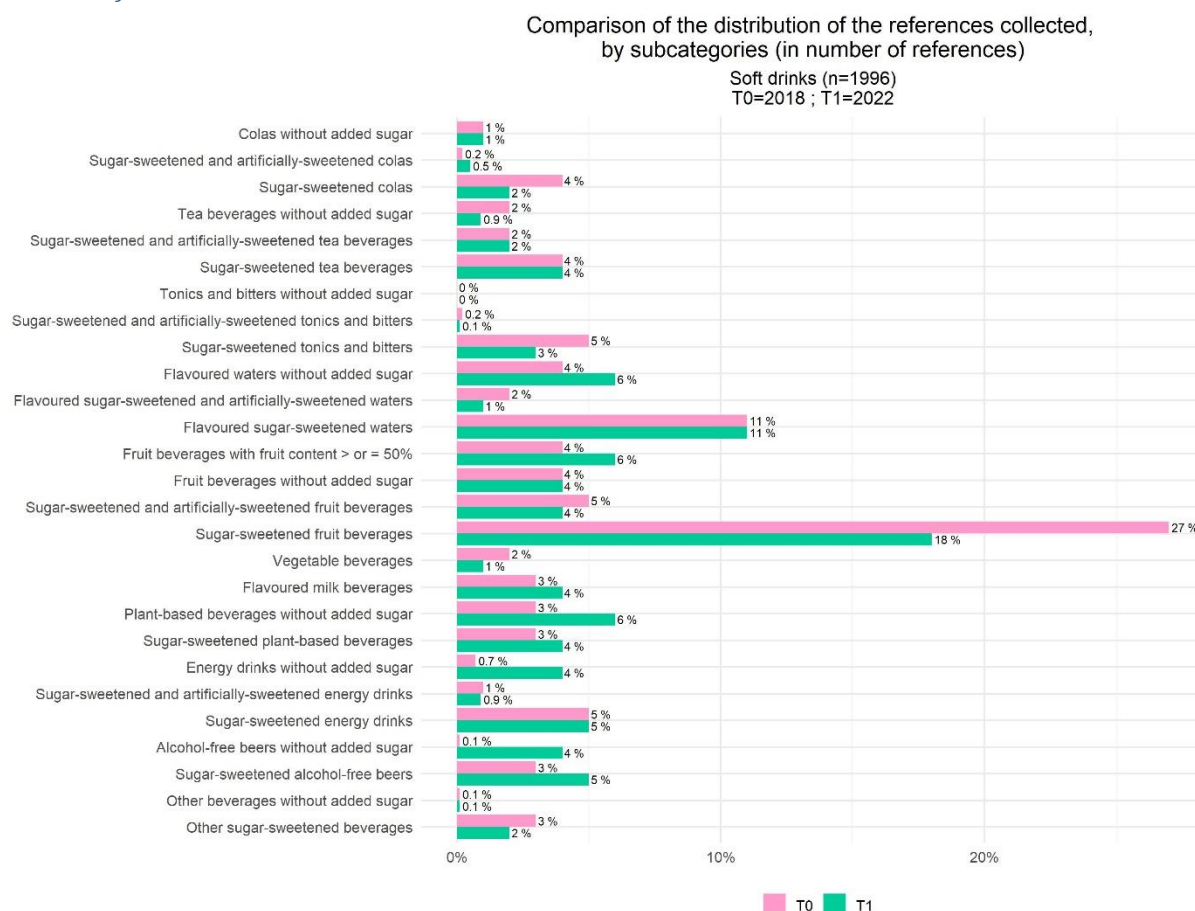


Figure 6: Comparison of the distribution of the references collected, by subcategory (in number of references) among Soft drinks

The comparison of product distribution between 2018 (T0) and 2022 (T1) among Soft drinks subcategories (Figure 6) shows that the percentage of collected products is quite similar between the two times, except for subcategories Sugar-sweetened fruit beverages and Alcohol-free beers without added sugar.

No products from Tonics and bitters without added sugar subcategory were collected either at T0 or at T1. This is due to the lack of this type of products in the selected stores visited.

Differences observed can partially be explained because during T0, only “kvass” products were collected from the alcohol-free beers sub-categories.

1.2.3 Analysis of the evolution of the food offer

1.2.3.1 Bread products

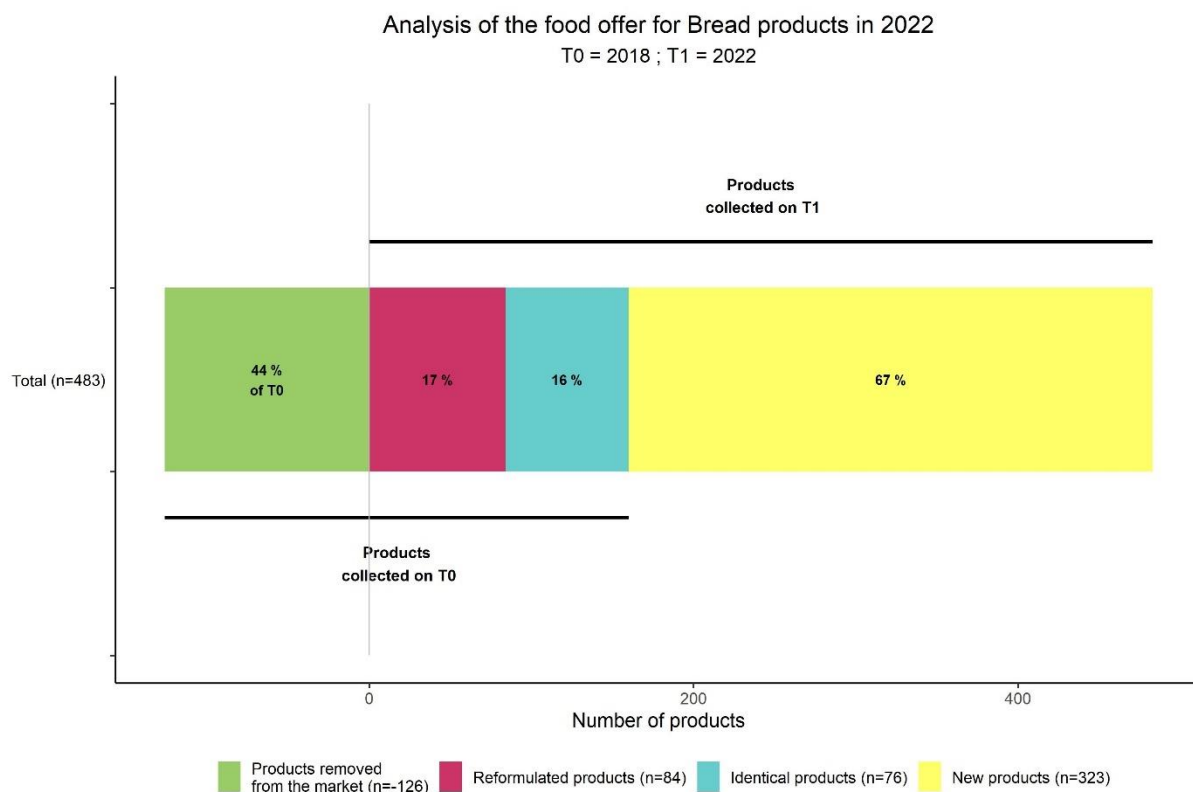


Figure 7: Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Bread products

The comparison of the data collected between the two times among Bread products category (Figure 7) shows that:

- Products added to the market represent most of the data collected in 2022 (T1) (67% of T1 data collection), reflecting a strong renewal of the offer, but it is also because the previous snapshot did not target all considered Best-ReMaP subcategories,
- Slightly less than half of the products collected in 2018 (T0) are not found in data collected in 2022 (T1), therefore are considered as removed from the market (44% of T0 data collection),
- 17% of the products collected in 2022 (T1) were already present in 2018 (T0) but have been reformulated in 2022 (T1),
- 16% of the products collected in 2022 (T1) are identical between the two data collections.

1.2.3.2 Breakfast cereals

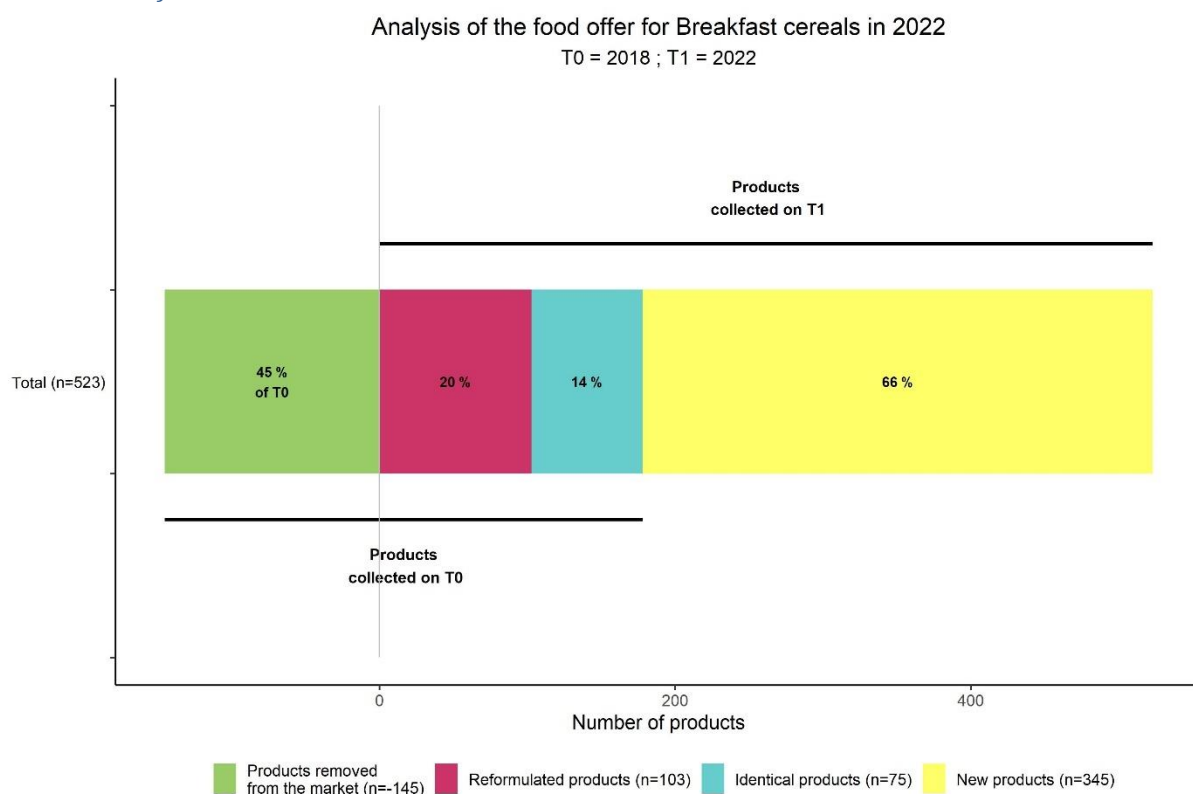


Figure 8: Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Breakfast cereals

The comparison of the data collected between the two times among Breakfast cereals category (Figure 8) shows that:

- Products added to the market represent most of the data collected in 2022 (T1) (66% of T1 data collection), reflecting a strong renewal of the offer between 2018 and 2022, but it is also partially caused by the fact that the previous snapshot did not target all considered Best-ReMaP subcategories,
- Slightly less than half of the products collected in 2018 (T0) are not found in data collected in 2022 (T1), therefore are considered as removed from the market (45% of T0 data collection),
- 20% of the products collected in 2022 (T1) were already present in 2018 (T0) but have been reformulated in 2022 (T1),
- 14% of the products collected in 2022 (T1) are identical between the two data collections.

1.2.3.3 Delicatessen meats and similar

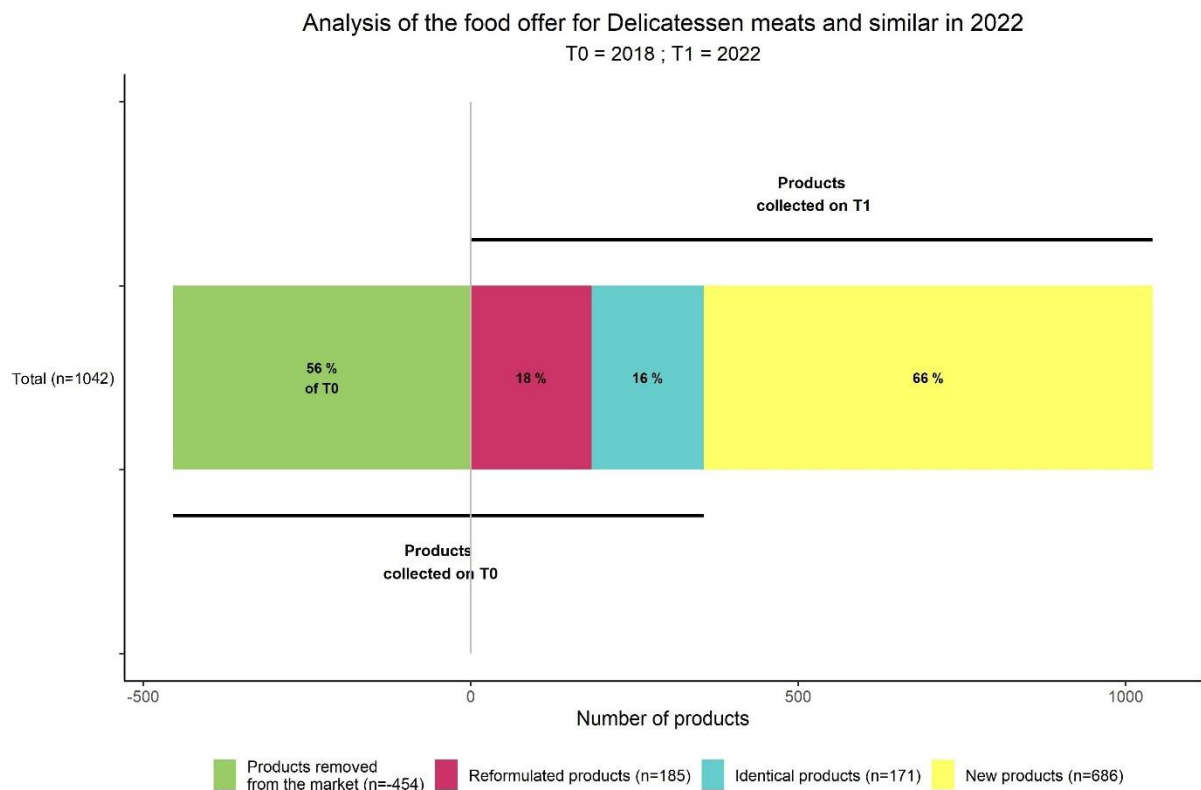


Figure 9: Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Delicatessen meats and similar

The comparison of the data collected between the two times among Delicatessen meats category (Figure 9) shows that:

- Products added to the market represent most of the data collected in 2022 (T1) (66% of T1 data collection), reflecting a strong renewal of the offer between the two times, but it is also partially caused by the fact that the previous snapshot did not target all considered Best-ReMaP subcategories,
- Majority of the products collected in 2018 (T0) are not found in data collected in 2022 (T1), therefore are considered as removed from the market (56% of T0 data collection),
- 18% of the products collected in 2022 (T1) were already present in 2018 (T0) but have been reformulated in 2022 (T1),
- 16% of the products collected in 2022 (T1) are identical between the two data collections.

1.2.3.4 Fresh dairy products and desserts

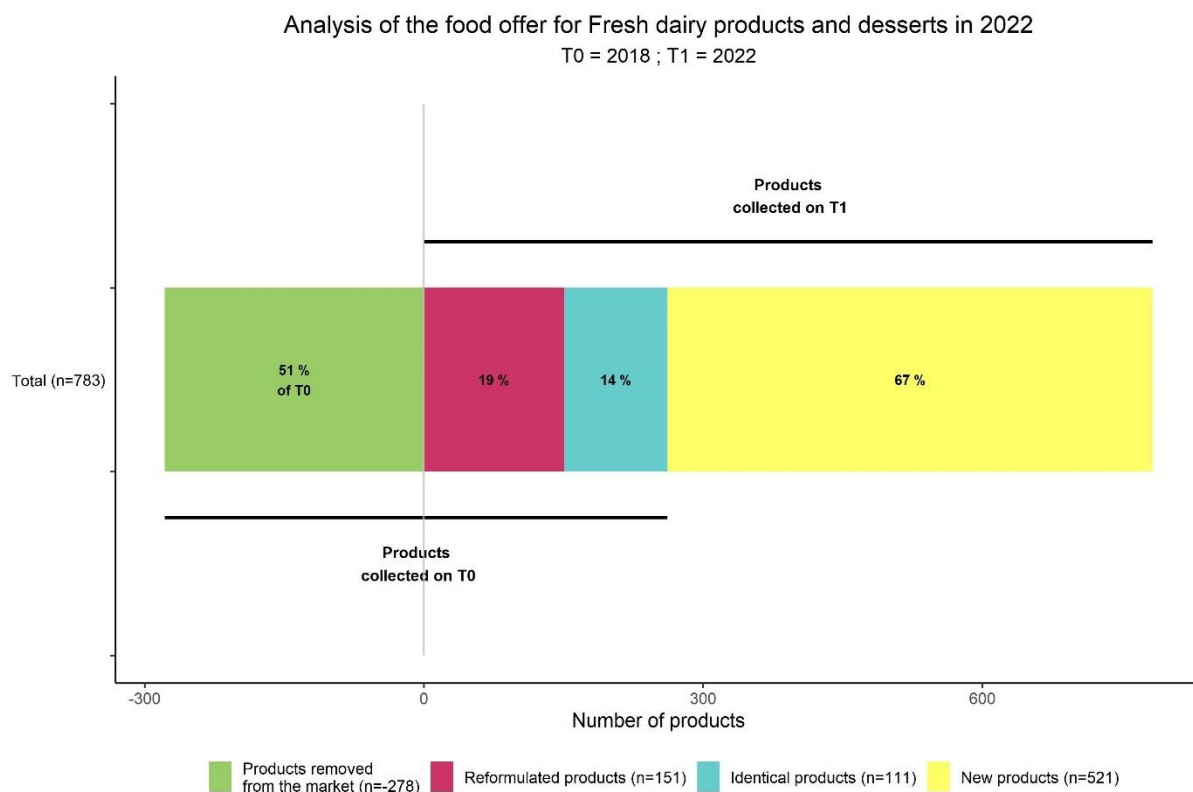


Figure 10: Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Fresh dairy products and desserts

The comparison of the data collected between the two times among Fresh Dairy products and desserts category (Figure 10) shows that:

- Products added to the market represent most of the data collected in 2022 (T1) (67% of T1 data collection), reflecting a strong renewal of the offer between the two data collections, but it is also partially caused by the fact that the previous snapshot did not target all considered Best-ReMaP subcategories,
- Approximately half of the products collected in 2018 (T0) are not found in data collected in 2022 (T1), therefore are considered as removed from the market (51% of T0 data collection),
- 19% of the products collected in 2022 (T1) were already present in 2018 (T0) but have been reformulated in 2022 (T1),
- 14% of the products collected in 2022 (T1) are identical between the two data collections.

1.2.3.5 Soft drinks

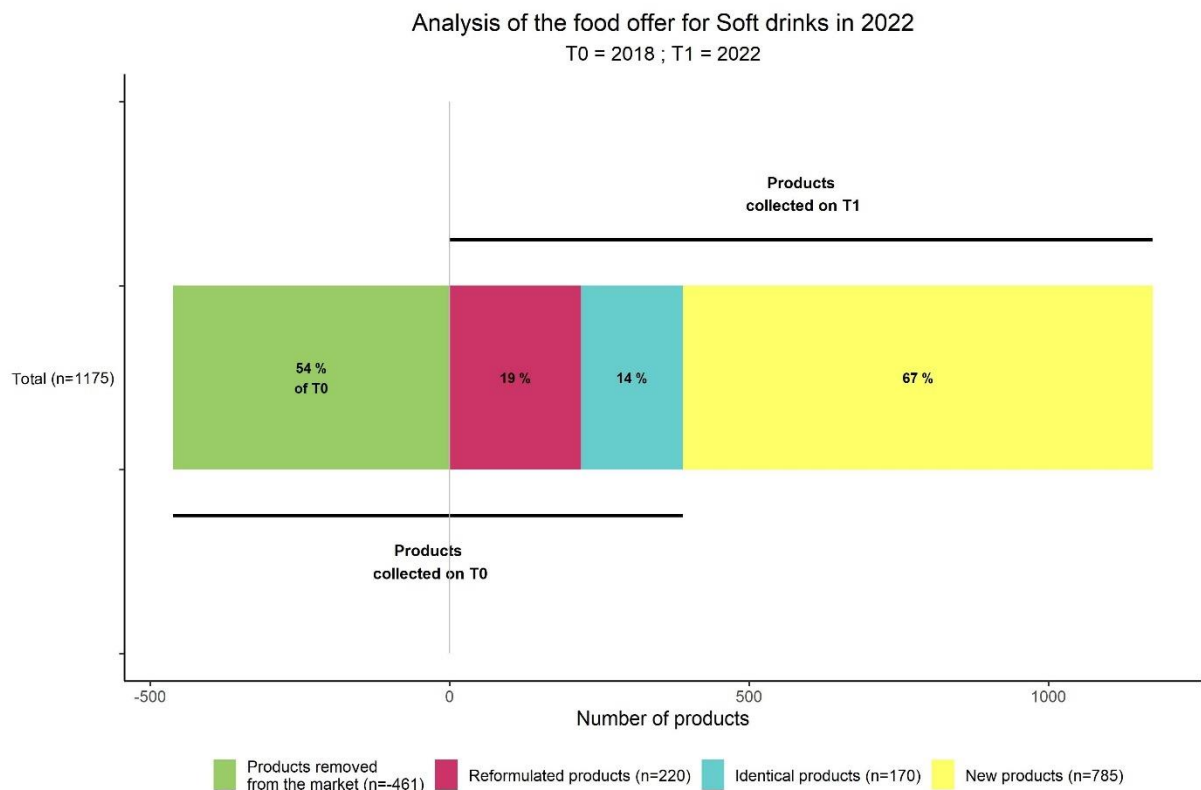


Figure 11: Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Soft drinks

The comparison of the data collected between the two times among Soft drinks category (Figure 11) shows that:

- Products added to the market represent most of the data collected in 2022 (T1) (67% of T1 data collection), reflecting a strong renewal of the offer between 2018 and 2022, but it is also partially caused by the fact that the previous snapshot did not target all considered Best-ReMaP subcategories,
- Majority of the products collected in 2018 (T0) are not found in data collected in 2022 (T1), therefore are considered as removed from the market (54% of T0 data collection),
- 19% of the products collected in 2022 (T1) were already present in 2018 (T0) but have been reformulated,
- 14% of the products collected in 2022 (T1) are identical between the two data collections.

2 Analysis of labelling parameters

2.1 Front of pack labelling, state of play of T1 data, per category

It should be noted that only data collected during Best-Remap are described in this section because the presence or absence of a front of pack labelling is a parameter that was not always available in pre-existing data. Therefore, this section (2.1) will only describe 2022 (T1) data.

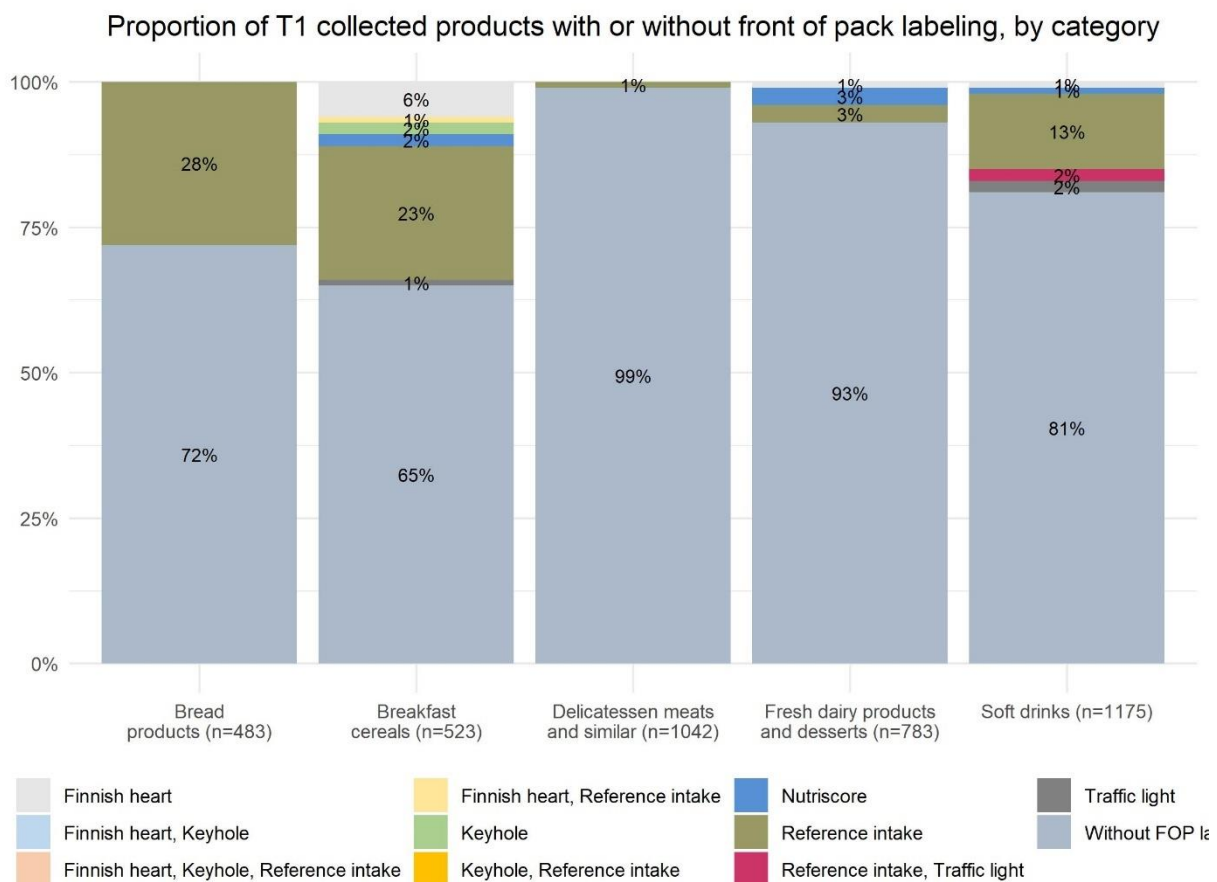


Figure 12: Proportion of products with or without front of pack labelling, by category

Figure 12 shows the distribution of front-of-pack labelling by category across data collected in 2022 (T1). For all categories, most products are without FOP labelling, from 65% of products among Breakfast cereals to 99% of products among Delicatessen meats and similar.

For all categories, Reference intake is the most common label found on the front of packages: Bread products (28% of the products); Breakfast cereals (23%); Soft drinks (13%); Fresh dairy products and desserts (3%) and Delicatessen meats and similar (1%).

Finnish heart is also visible, mostly on Breakfast cereals (6%), and on a very low number of products in Fresh dairy products and desserts and Soft drinks (1% of both categories).

Finally, a small number of products have other FOP labelling, such as Nutriscore (3% of Fresh dairy products and desserts, 2% of Breakfast cereals, 1% of Soft drinks), Traffic light (2% of Soft drinks and 1% of Breakfast cereals), Keyhole (2% of Breakfast cereals), or a combination of several FOP labels (Reference intake and Traffic light for 2% of Soft drinks, Finnish heart and Reference intake for 1% of Breakfast cereals).

2.2 Evolution of the quantified portion size

2.2.1 Evolution of the proportion of products with or without quantified portion size

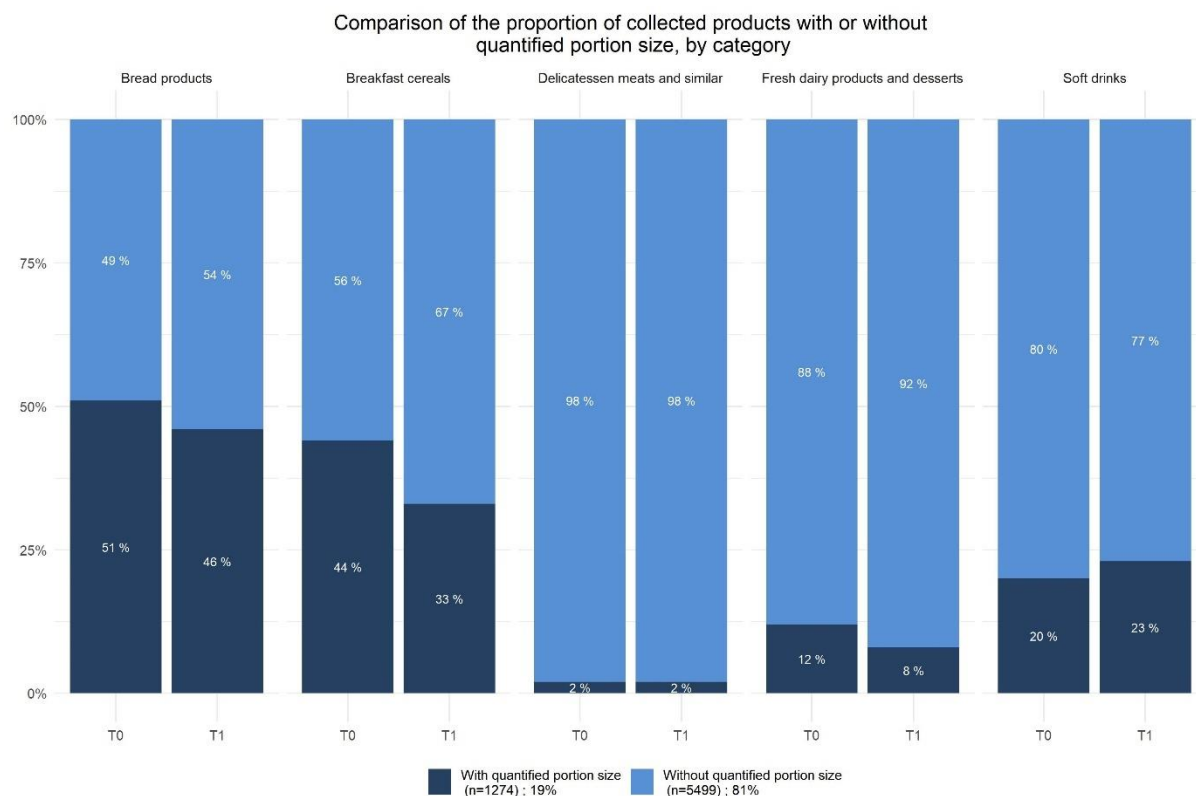


Figure 13: Evolution of the proportion of collected products with or without quantified portion size, between T0 and T1, per category

Between 2018 (T0) and 2022 (T1), the number of products with a quantified portion size (Figure 13) has decreased for 3 out of 5 categories: Bread products (51% of products with quantified portion size in 2018 vs. 46% in 2022), Breakfast cereals (44% vs. 33%), Fresh dairy products and desserts (12% vs. 8%) and slightly increased for Soft drinks (20% vs 23%). For Delicatessen meats and similar, 2% of products are with a quantified portion size at both times.

2.2.2 Proportion of the most represented portion sizes, per category

The study of the size of quantified labelled portion sizes at both times is an indicator of the evolution of the serving sizes indicated by the manufacturers. The evolution of this parameter can potentially influence the quantities consumed and therefore the intake of nutrients.

2.2.2.1 Bread products

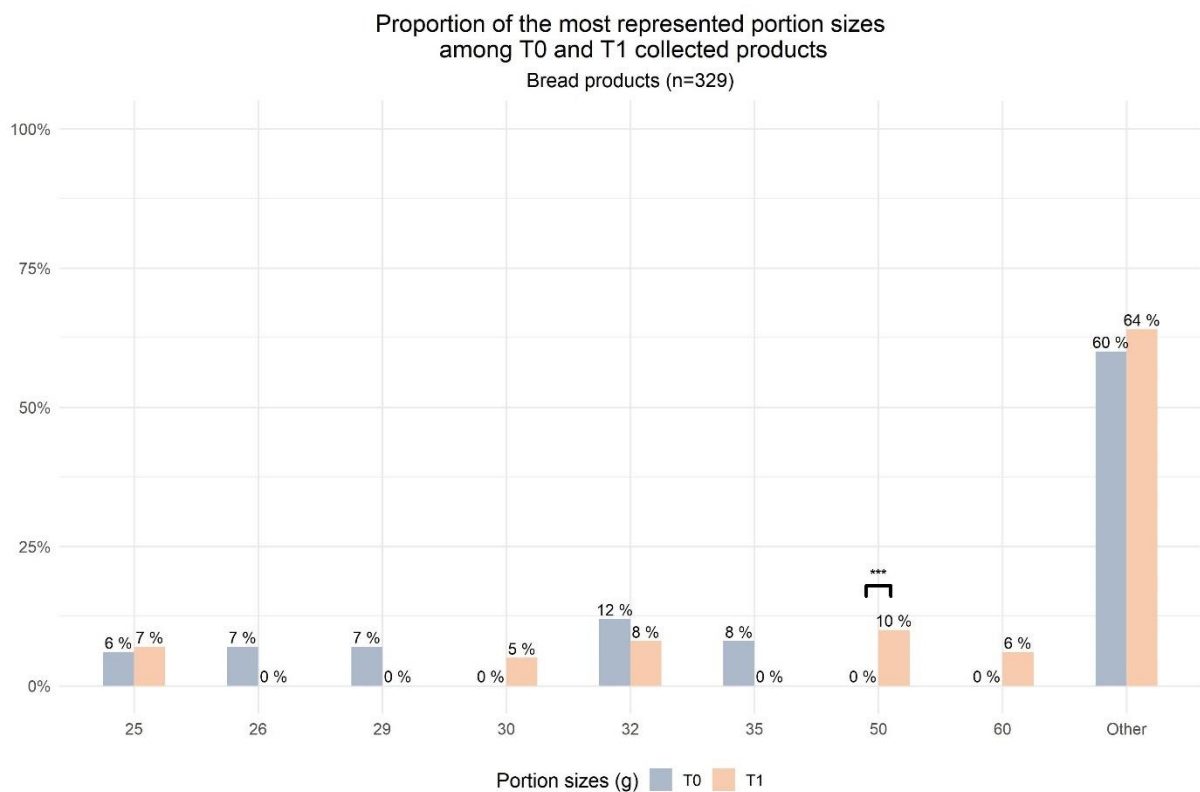


Figure 14: Distribution of the size of the 5 most represented quantified portions in 2018 (T0) and 2022 (T1) in Bread products category¹

Between 2018 and 2022, the most represented indicated portion sizes observed among Bread products differ greatly (Figure 14). In 2018, the five most common portion sizes varied between 25g and 35g, 32g being the most observed. Conversely, portion sizes of 30g, 50g and 60g were not among the top 5 portion size in 2018 but are commonly found in 2022 (respectively 5%, 10% and 6% of the portions sizes found on Bread products collected in 2022). Differences observed among the most common portion sizes found at the two times can probably be explained by the fact that products targeted were not exactly the same between the two data collection (see part 1.2.2.1).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

2.2.2.2 Breakfast cereals

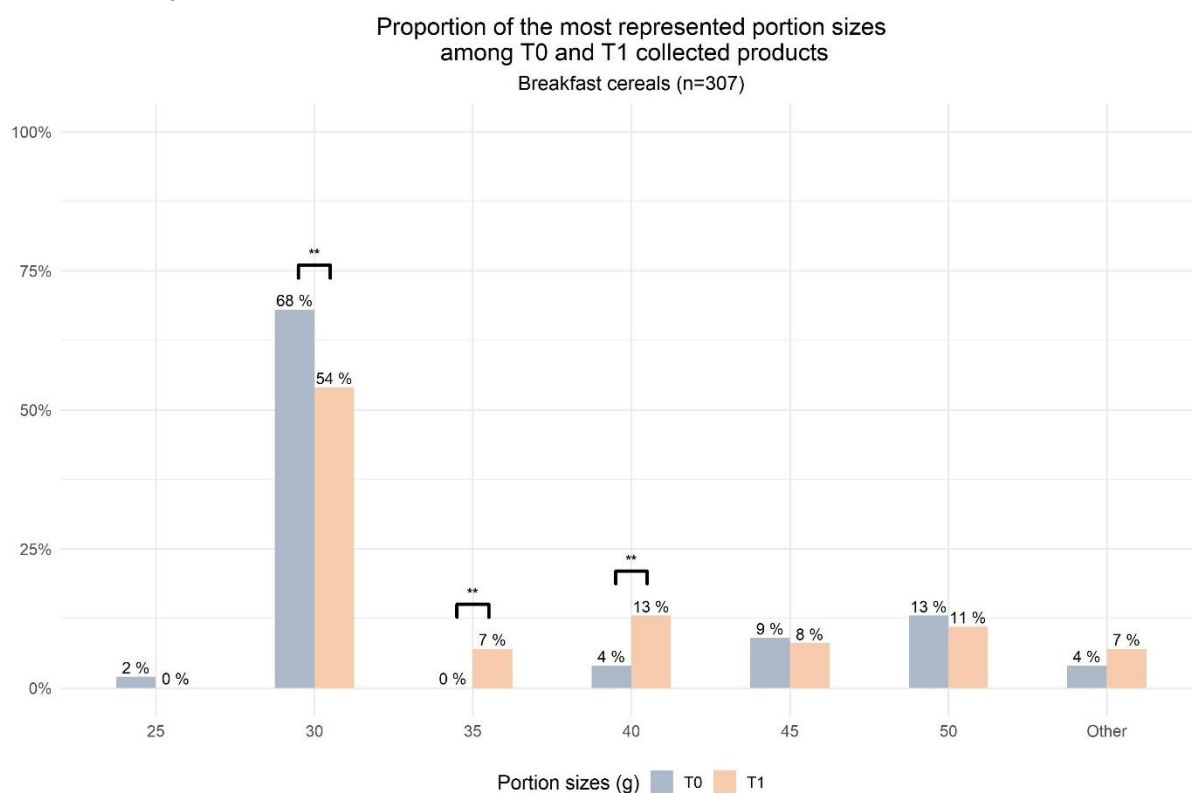


Figure 15: Distribution of the size of the 5 most represented quantified portions in 2018 (T0) and 2022 (T1) in Breakfast cereals category¹

Figure 15 shows the five most common portion sizes found in the two data collections among Breakfast cereals.

Overall, it appears that the portion size of 30g is mostly predominant for both year (T0:68%; T1:54%) and that there are few other portion sizes in the Breakfast cereals category. The decrease of the 30g portion observed between T0 and T1 is compensated by the increase of 40g and the appearance of 35g portions.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

2.2.2.3 Delicatessen meats and similar

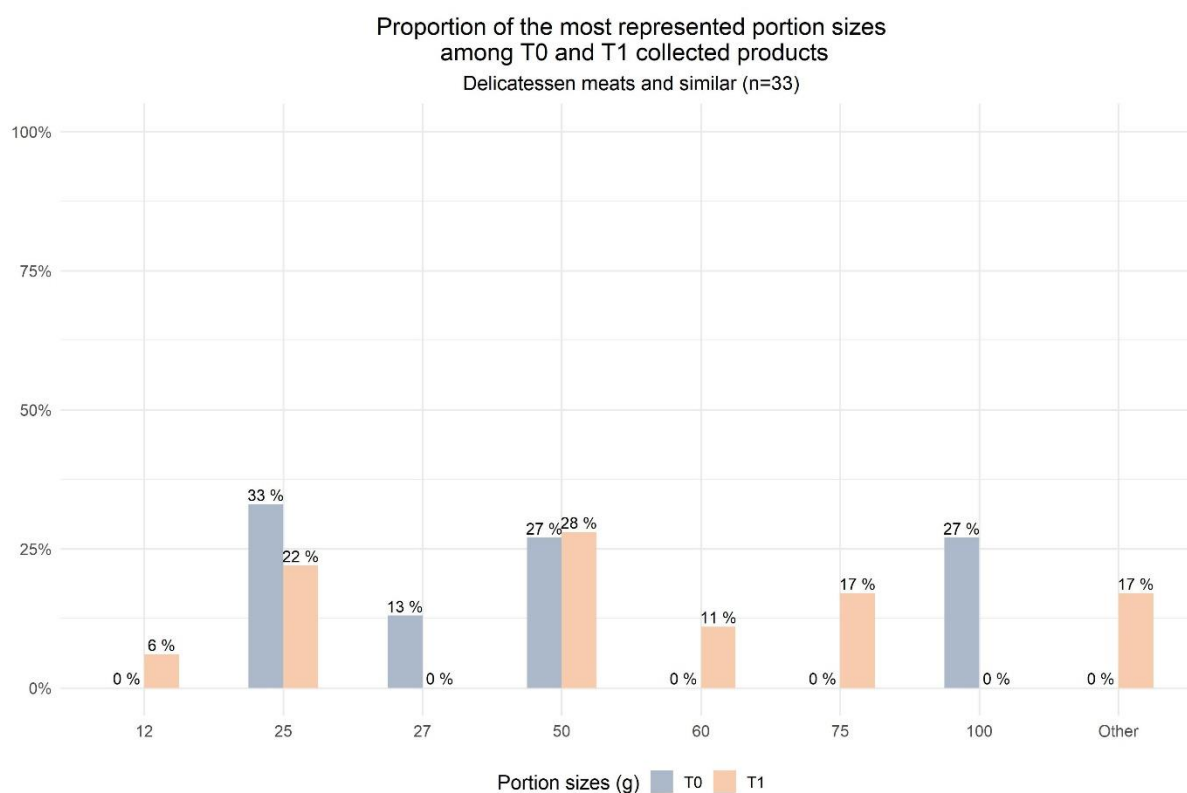


Figure 16: Distribution of the size of the 5 most represented quantified portions in 2018 (T0) and 2022 (T1) in Delicatessen meats and similar category¹

Figure 16 shows the variability of portion sizes found on products collected in the two data collections. Although there was no significant change in the five most common portion sizes found between 2018 and 2022, there was nevertheless a greater diversity of portion sizes in 2022, while only four portion sizes were found in the T0 data (25g, 27g, 50g and 100g). Two of them are also found in the five most common portion sizes in T1 (25g and 50g), but so are 75g, 60g and 12g, as well as various other sizes pooled under Other.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

2.2.2.4 Fresh dairy products and desserts

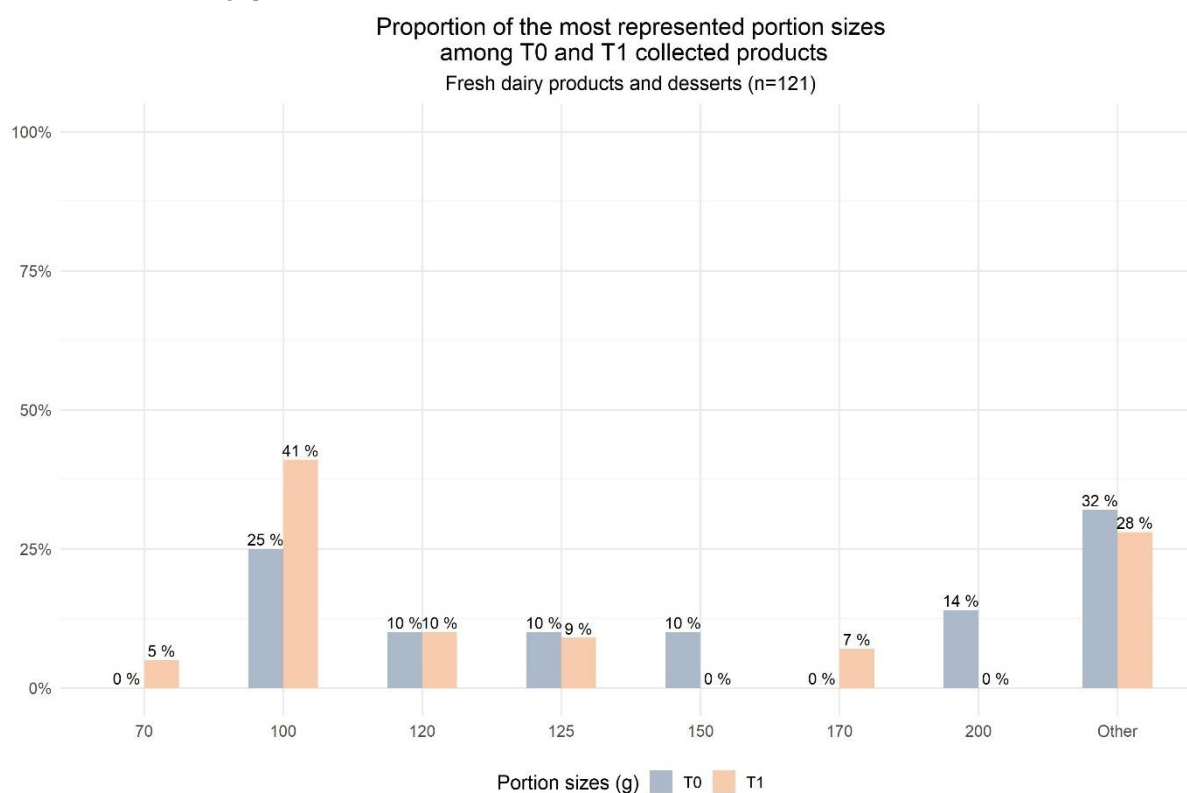


Figure 17: Distribution of the size of the 5 most represented quantified portions in 2018 (T0) and 2022 (T1) in Fresh dairy products and desserts category¹

Within Fresh dairy products and desserts category, the most common portion size is 100g (24% at T0 and 41% at T1). The distribution of 120g and 125g is identically for both times (Figure 17). The main difference resides in the fact that in the T0 data, 14% of T0 products had portion sizes of 200g and 10% of 150g, whereas these portion sizes disappear from the most represented in T1 in favour of 70g (represented on 5% of T1 products) and 170g (7%). For both years, there is also a predominance of various different portion sizes in the Other category.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

2.2.2.5 Soft drinks

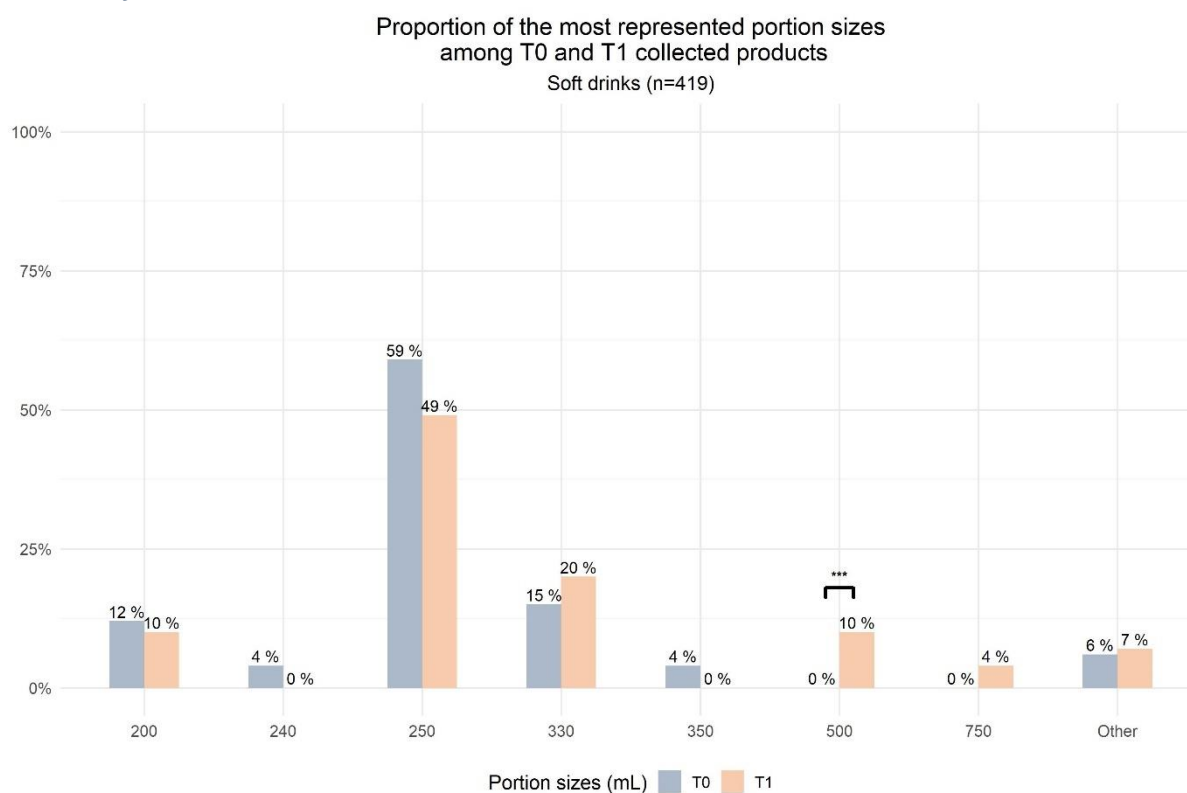


Figure 18: Distribution of the size of the 5 most represented quantified portions in 2018 (T0) and 2022 (T1) in Soft drinks category¹

Figure 18 presents the distribution of the five most represented quantified portion sizes in the two years of data collection among the Soft drinks category. Overall, it appears that the sizes mostly found are identical for both data collection: 250mL (59% and 49% of the products), 330mL and 200mL. This observation can be explained by the fact that these sizes are often those of individual beverage containers (bottles and cans). The decrease observed for 250 ml is compensated by the appearance of 500 ml (10% of the products) and 750 ml portions, corresponding to larger cans or individual bottles.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

3 Evolution of labelled nutritional values

3.1 Evolution of the labelling frequency

The first parameter examined is the frequency of nutritional values on the packages. The proportion of products with a nutritional value per nutrient and per category in the two data collections (T0:2018-T1:2022) is presented in Table 2.

Between the two data collections, the frequency of labelling of nutrient of interest for each category is generally constant. In contrast, a decrease is observed for the other nutrients like Fat (-8%); Saturated fat (-13%) and Protein (-6%) for Soft drinks.

For fibre, which is the only nutritional value not mandatory, there are some categories (Breakfast cereals, Fresh dairy products and desserts) in which the frequency of labelling is increasing (+2%) and some others (Bread products and Soft drinks) in which it is decreasing. For Bread products, that could be explained by the presence of the fine bakery wares subcategory (which do not label fibre) at T1.

Table 2: Evolution of the frequency of nutrient labelling among the categories

	Fat			Saturated fat			Sugar		
Category_name	T0	T1	Delta	T0	T1	Delta	T0	T1	Delta
Bread products (T0: n=286; T1: n=483)	100%	99%	-1%	100%	98%	-2%	100%	98%	-2%
Breakfast cereals (T0: n=323; T1: n=523)	100%	98%	-2%	99%	97%	-2%	100%	98%	-2%
Delicatessen meats and similar (T0: n=806; T1: n=1042)	99%	99%	0	99%	99%	0	99%	99%	0
Fresh dairy products and desserts (T0: n=531; T1: n=782)	100%	99%	-1%	99%	99%	0	99%	99%	0
Soft drinks (T0: n=821; T1: n=1175)	97%	89%	-8%	96%	83%	-13%	96%	93%	-3%

	Protein			Salt			Fibre		
Category name	T0	T1	Delta	T0	T1	Delta	T0	T1	Delta
Bread products (T0: n=469; T1: n=858)	100%	99%	-1%	100%	99%	-1%	86%	71%	-15%
Breakfast cereals (T0: n=353; T1: n=458)	100%	98%	-2%	100%	96%	-4%	93%	95%	+2%
Delicatessen meats and similar (T0: n=975; T1: n=1556)	99%	99%	0	99%	99%	0	2%	2%	0
Fresh dairy products and desserts (T0: n=1457; T1: n=2194)	100%	99%	-1%	98%	96%	-2%	10%	12%	+2%
Soft drinks (T0: n=0; T1: n=1375)	96%	90%	-6%	94%	90%	-4%	21%	15%	-6%

3.2 Evolution of the nutritional composition, by category

3.2.1 Bread products

The nutrients considered for the analysis of the evolution of the nutritional content of the Bread products are: Fat, Saturated fat, Sugar, Salt and Fibre.

3.2.1.1 Evolution of the fat content among the subcategories

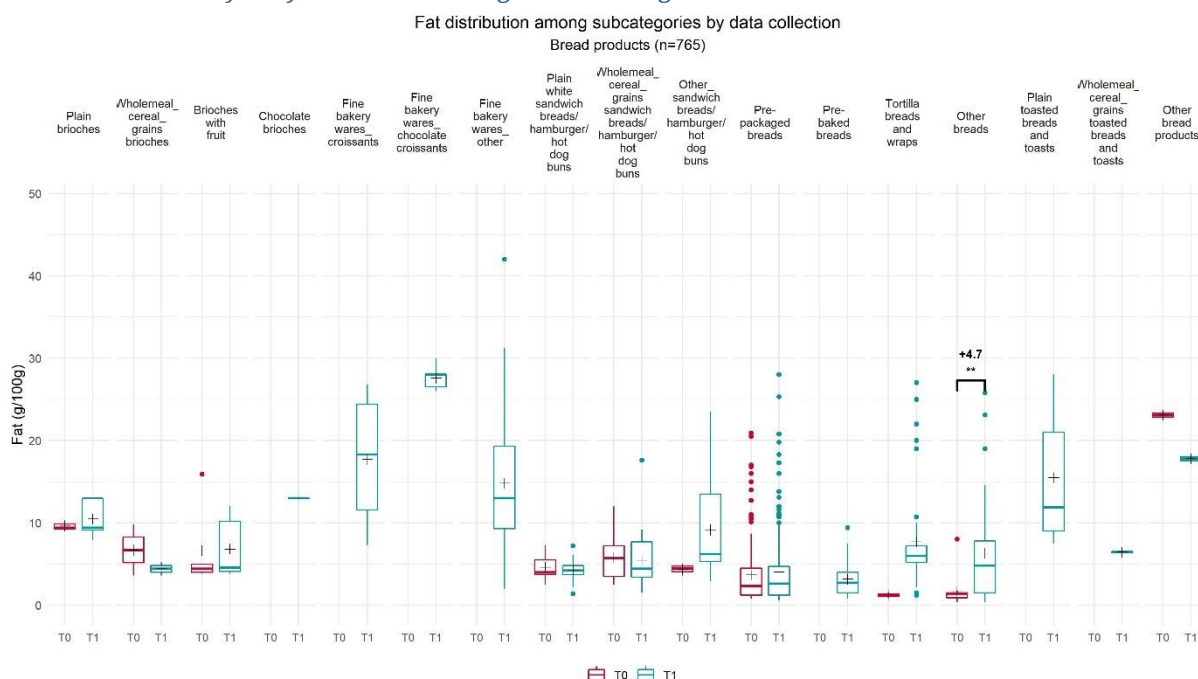


Figure 19: Evolution of fat distribution among subcategories of Bread products¹

Figure 19 shows the fat distribution of Bread products between 2018 (T0) and 2022 (T1) by subcategory. Among the 17 subcategories considered, the average fat content has increased significantly for one subcategory only: Other breads (+4,7g/100g; +2,9%). This can be explained by the significant increase in the number of products collected in the Other breads subcategory in T1 (n=37), compared to T0 (n=13), but also by the difference between the products included in this subcategory, which includes many different types of bread.

The variability differs according to the subcategories and times, partly because the Best-ReMaP data collection included products not collected during the pre-existing one.

The subcategory containing products with the most variable fat content at both times, meaning room for reformulation, is Pre-packaged breads (T0: n=217; T1: n=191).

There are several subcategories with a high variability in fat content observed only among T1 data as products fitting their definition were mostly collected in 2022: Fine bakery wares_croissants (T0: n=0; T1: n=4), Fine bakery wares_other (T0: n=0; T1: n=89), Tortilla breads and wraps (T0: n=2; T1: n=65), Other breads (T0: n=13; T1: n=37), Plain toasted breads and toasts (T0: n=0; T1: n=5) and Other_sandwich breads / hamburger / hot dog buns (T0: n=4; T1: n=9). However, the conclusions need to be nuanced in certain subcategories

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

containing only a small number of products. This is also the case for the subcategories “Other ...” as they contain a diversity of different products, which increases consequently the variability of the fat content.

3.2.1.2 Evolution of the fat content for paired products

The Table 3 summarizes the difference in the average fat content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation). No significant difference is observed at the level of paired products.

Table 3: Summary of the evolution of the average fat content for Bread products, by subcategory ¹

Subcategory name	Fat					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Plain brioches	10,5	+0,9	+9,2%	8,8	-0,8	-8,3%
Wholemeal_cereal_grains brioches	4,4	-2,3	-34,3%	4,4	-2	-34,3%
Brioches with fruit	6,8	+0,2	+2,7%	4,2	-3	-40,1%
Chocolate brioches	13					
Fine bakery wares_croissants	17,7					
Fine bakery wares_chocolate croissants	27,6					
Fine bakery wares_other	14,8					
Plain white sandwich breads / hamburger / hot dog buns	4,3	-0,3	-6,7%	4	-0,2	-4,5%
Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns	5,5	-0,3	-5,4%	5,3	-0,1	-2,6%
Other_sandwich breads / hamburger / hot dog buns	9,1	+4,8	+110,2%	5,3	+1	+26,2%
Pre-packaged breads	4	+0,4	+9,8%	3,6	-0,08	-2,3%
Pre-baked breads	3,2					
Tortilla breads and wraps	7,7	+6,5	+540,5%	1,5	0	0%
Other breads	6,3	+4,7**	+283,9%	1,8	0	0%
Plain toasted breads and toasts	15,5					
Wholemeal_cereal_grains toasted breads and toasts	6,4					
Other bread products	17,8	-5,3	-22,9%	17,8	-5	-22,9%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.1.3 Evolution of the saturated fat content among the subcategories

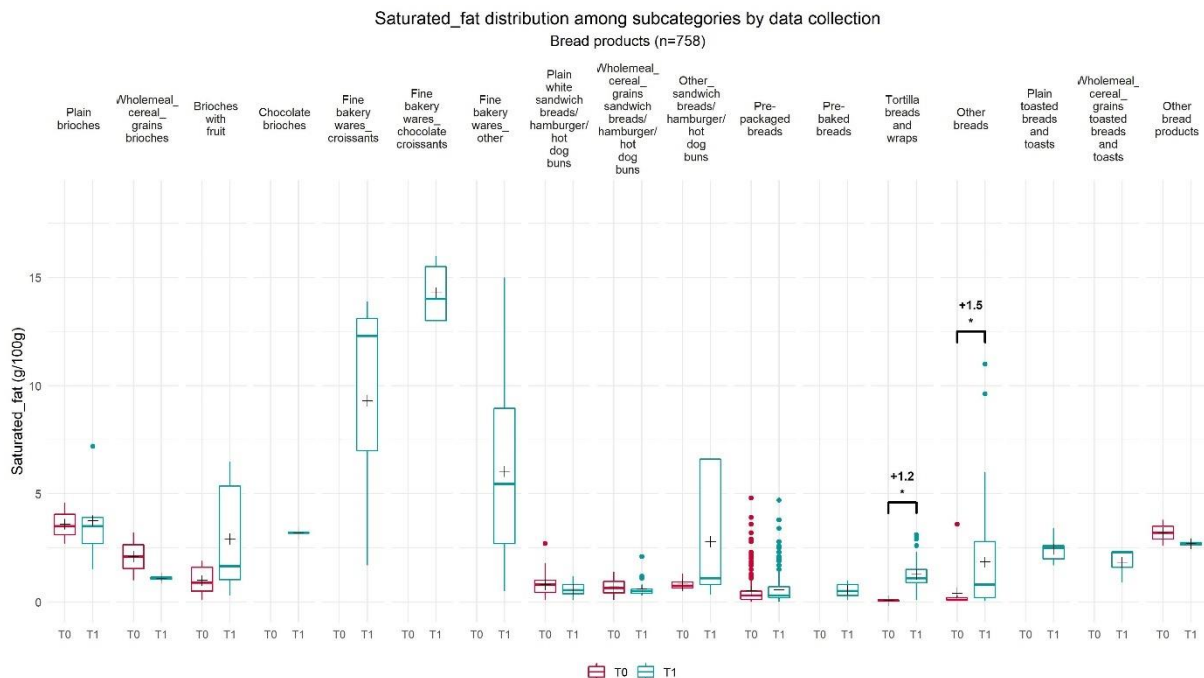


Figure 20: Saturated fat distribution among subcategories of Bread products¹

Figure 20 shows the saturated fat distribution of Bread products between 2018 (T0) and 2022 (T1) by subcategory. Among the 17 subcategories considered, the average saturated fat content has significantly increased for two subcategories: Tortilla breads and wraps (+1,2g/100g; +12%) and Other breads (+1,5g/100g; +3,8%). This can be explained by the significant increase in the number of products collected in both subcategories during T1 (Tortilla breads and wraps T1: n=65, T0: n=2; Other breads T1: n=37, T0: n=13).

The variability differs according to the subcategories and times. The subcategory containing products with the most variable saturated fat content at both times meaning room for reformulation, is Pre-packaged breads (T1: n=188; T0: n=217). However, given the large number of products included in this subcategory, the majority of products have rather homogeneous saturated content except for some products for which room reformulation is still possible (see dots outside of the box).

Subcategories with the highest variability in saturated fat content during T1 are: Fine bakery wares_other (T1: n=89; T0: n=0), Fine bakery wares_croissants (T1: n=4; T0: n=0) and Other breads (T1: n=37; T0: n=13). However, results for the subcategory Fine bakery wares_croissants have to be nuanced because of the small number of products included.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

The difference in the variability of saturated fat content when comparing T0 data to T1 might be due to the low number and the type of products collected in these subcategories during T0. More specifically, in Other breads subcategory, a higher number of products that contain cheese were included during the T1 data collection, which might have increased the saturated fat content.

Also, it can be noted that in Brioches with fruit subcategory, the number of products included in both years of data collection is nearly similar (T0: n=5; T1: n=6), meaning that either on average the saturated fat content of products including in this subcategory has increased between T0 and T1 or products collected at the two times are not the same. However, the number of products in this subcategory is low, and the change observed is not statistically significant.

3.2.1.4 Evolution of the saturated fat content for paired products

The Table 4 summarizes the difference in the average fat content observed between T0 and T1 for all products and for paired products. No significant difference is observed at the level of paired products.

Table 4: Summary of the evolution of the average saturated fat content for Bread products, by subcategory¹

Subcategory name	Saturated fat					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Plain brioches	3,8	+0,2	+4,4%	3,4	-0,2	-6,5%
Wholemeal_cereal_grains brioches	1,1	-1	-47,6%	1,1	-1	-47,6%
Brioches with fruit	2,9	+1,9	+191,7%	1,1	0	0%
Chocolate brioches	3,2					
Fine bakery wares_croissants	9,3					
Fine bakery wares_chocolate croissants	14,3					
Fine bakery wares_other	6					
Plain white sandwich breads / hamburger /hot dog buns	0,6	-0,2	-26,6%	0,5	-0,2	-28,1%
Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns	0,6	-0,1	-15,6%	0,6	-0,07	-10,5%
Other_sandwich breads / hamburger / hot dog buns	2,8	+2	+238,7%	1,6	+0,8	+100%
Pre-packaged breads	0,6	+0,05	+9,5%	0,5	+0,02	+4,4%
Pre-baked breads	0,5					
Tortilla breads and wraps	1,3	+1,2*	+1728,6%	0,1	+0,06	+150%
Other breads	1,9	+1,4*	+356,2%	0,5	0	0%
Plain toasted breads and toasts	2,4					
Wholemeal_cereal_grains toasted breads and toasts	1,8					
Other bread products	2,7	-0,5	-15,6%	2,7	-0,5	-15,6%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

Sugar distribution among subcategories by data collection

Bread products (n=760)

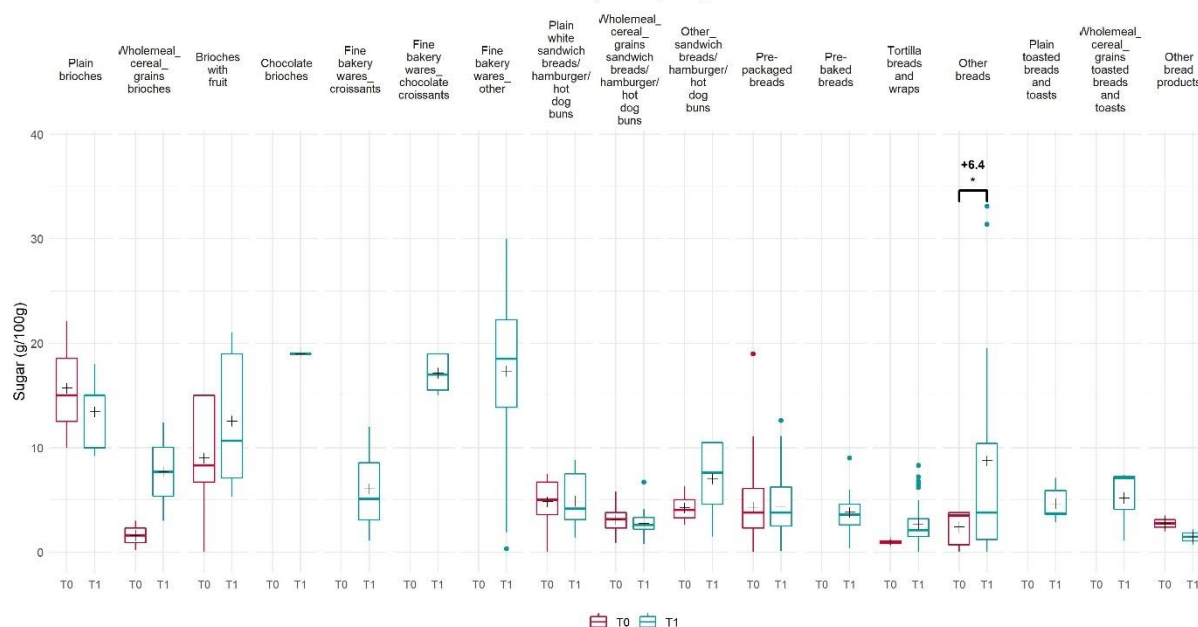


Figure 21 shows the sugar distribution of Bread products between 2018 (T0) and 2022 (T1) by subcategory. Among the 17 subcategories considered, the average saturated fat content has significantly increased for one subcategory: Other breads (+6,4g/100g; +2,7%). This could partly be explained by the increased number of products collected in this subcategory (Other breads T1: n=37, T0: n=13) but also because this subcategory can contains a wide variety of products.

There are several subcategories including products with variable sugar content at both times, meaning room for reformulation: Plain brioches (T0: n=3; T1: n=5), Brioches with fruit (T0: n=5; T1: n=6) and Pre-packaged breads (T0: n=217; T1: n=188).

There are few subcategories with high variability in sugar content mostly during T1: Other breads (T1: n=37; T0: n=13), Fine bakery wares_other (T1: n=88; T0: n=0), Brioches with fruit (T1: n=6; T0: n=5), Fine bakery wares_croissants (T1: n=3; T0: n=0) and Other_sandwich breads / hamburger / hot dog buns (T1: n=9; T0: n=4), but some of these include a small number of products. In addition, it can be noted that these 6 subcategories have a smaller number of products collected in 2018 than in 2022, which can influence the variability of the sugar content.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.1.6 Evolution of the sugar content for paired products

The Table 5 summarizes the difference in the average sugar content observed between T0 and T1 for all products and for paired products. A significant increase in the mean sugar content of paired products is observed for one subcategory out of 17: Pre-packaged breads (+0,3g, +0,07%). Even though the increase of the sugar content observed at the subcategory level was not significant, it is significant among paired products, thus this evolution can be explained by an increase of the sugar content when reformulating some references found at both times.

Table 5: Summary of the evolution of the average sugar content for Bread products, by subcategory¹

Subcategory name	Sugar					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean value evolution (%)
Plain brioches	13,4	-2,3	-14,4%	14,3	-1	-8,7%
Wholemeal_cereal_grains brioches	7,7	+6,1	+381,2%	7,7	+6	+381,2%
Brioches with fruit	12,6	+3,6	+39,4%	8,3	+0,8	+11%
Chocolate brioches	19					
Fine bakery wares_croissants	6,1					
Fine bakery wares_chocolate croissants	17,1					
Fine bakery wares_other	17,3					
Plain white sandwich breads / hamburger / hot dog buns	4,9	+0,07	+1,4%	3,5	-0,8	-18,7%
Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns	2,7	-0,4	-11,4%	2,9	-0,02	-0,7%
Other_sandwich breads / hamburger / hot dog buns	7	+2,8	+65,5%	3,2	-0,3	-8,6%
Pre-packaged breads	4,4	+0,09	+2,1%	4,7	+0,2*	+4,2%
Pre-baked breads	3,8					
Tortilla breads and wraps	2,7	+1,7	+182,6%	3,8	+3	+442,9%
Other breads	8,8	+6,3*	+263,2%	1,9	-0,004	-0,2%
Plain toasted breads and toasts	4,6					
Wholemeal_cereal_grains toasted breads and toasts	5,2					
Other bread products	1,5	-1,3	-47,3%	1,5	-1	-47,3%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

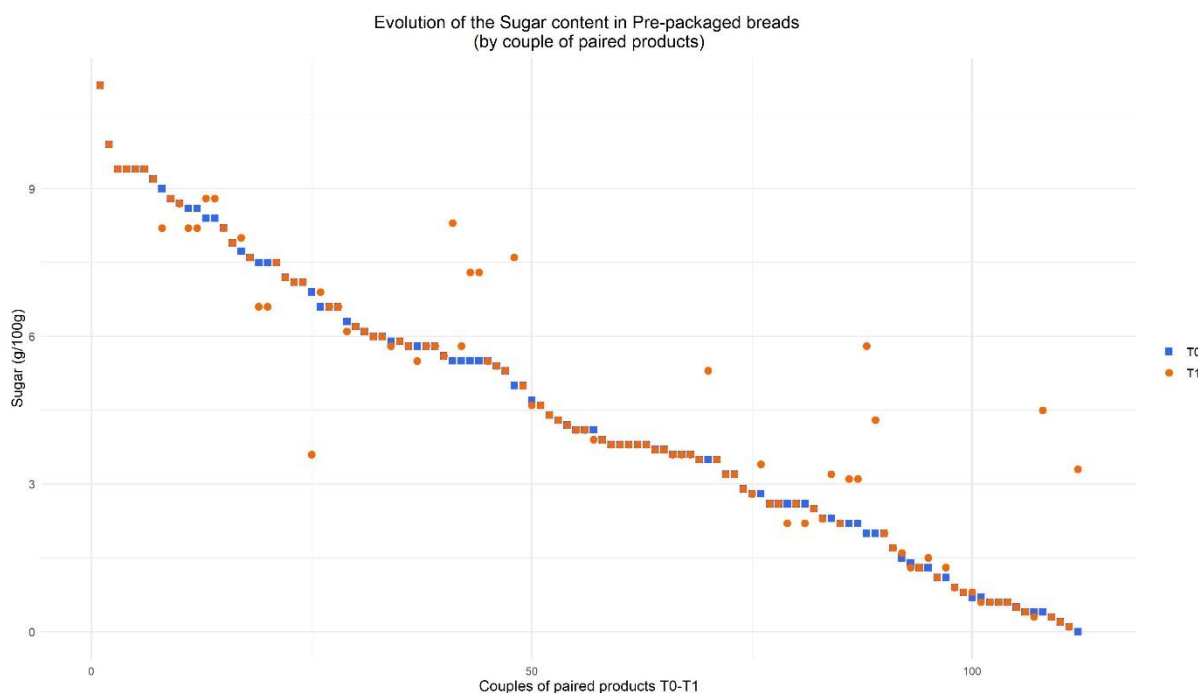


Figure 22: Sugar content evolution between 2018 and 2022 by couple of paired product for Pre-packaged breads subcategory

Figure 22 shows that of the over 100 couples of paired products in subcategory Pre-packaged breads, 21 have a higher sugar content in 2022 (T1) than in 2018 (T0). It can be observed that these increases concern mainly products with a relatively low sugar content at T0.

It is visible that some products also have a reduced sugar content in T1, however they represent less than 20 couples in total. These products are mainly products which had a high sugar content at T0.

3.2.1.7 Evolution of the fibre content among the subcategories

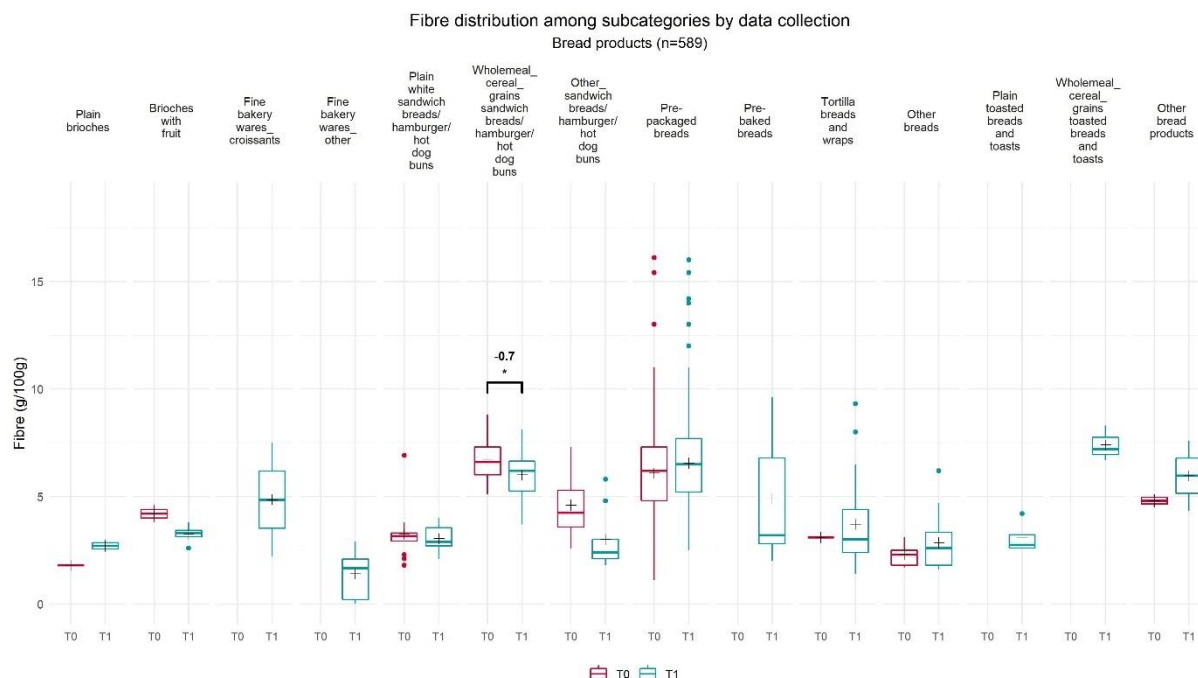


Figure 23: Fibre distribution among subcategories of Bread products¹

Figure 23 shows the fibre distribution of Bread products between 2018 (T0) and 2022 (T1) by subcategory. Among the 14 subcategories considered for fibre, the average fibre content has significantly decreased for one subcategory: Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns (-0,7g/100g; -0,1%).

The variability differs according to the subcategories but remains globally constant between the two times within a same subcategory. The subcategories including products with the most variable fibre content at both times, meaning room for reformulation, are Pre-packaged breads (T0: n=195; T1: n=173). There are two subcategories with a higher variability in fibre content that were mostly collected during T1: Pre-baked breads (T1: n=13; T0: n=0), Tortilla breads and wraps (T1: n=45; T0: n=2).

Many subcategories have very few products included, mainly because fibre labelling is voluntary. Thus, one must be critical when interpreting the results of the fibre content distribution among subcategories.

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.1.8 Evolution of the fibre content for paired products

The Table 6 summarizes the difference in the average fibre content observed between T0 and T1 for all products and for paired products.

A significant increase in the mean fibre content of paired products is observed for one subcategory out of 14: Pre-packaged breads (+0,2g, +0,03%). Even though the increase of the fibre content observed at the subcategory level was not significant, it is significant among paired products, thus this evolution can be explained by reformulations leading to an increase of the fibre content among same references found at both times.

Table 6: Summary of the evolution of the average fibre content for Bread products, by subcategory¹

Subcategory name	Fibre					
	All products			Paired products		
	Mean. T1 (g/100 g)	Mean value differenc e (g/100g)	Mean value evolution (%)	Mean. T1 (g/100 g)	Mean value differenc e (g/100g)	Mean value evolution (%)
Plain brioches	2,7	+0,9	+50%	2,4	+0,6	+33,3%
Brioches with fruit	3,2	-1	-22,6%	3,2	-1	-23,8%
Fine bakery wares_croissants	4,8					
Fine bakery wares_other	1,4					
Plain white sandwich breads / hamburger /hot dog buns	3	-0,2	-6,5%	3,2	+0,2	+6,2%
Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns	6	-0,7*	-10,7%	6,3	-0,6	-8,1%
Other_sandwich breads / hamburger / hot dog buns	3	-1,6	-34,8%	2,4	-0,2	-7,7%
Pre-packaged breads	6,5	+0,5	+7,7%	6,4	+0,1*	+2%
Pre-baked breads	4,9					
Tortilla breads and wraps	3,7	+0,6	+19,6%	3,1	0	0%
Other breads	2,9	+0,5	+22,7%	2,2	0	0%
Plain toasted breads and toasts	3,1					
Wholemeal_cereal_grains toasted breads and toasts	7,4					
Other bread products	6	+1,2	+24,2%	6	+1	+24,2%

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

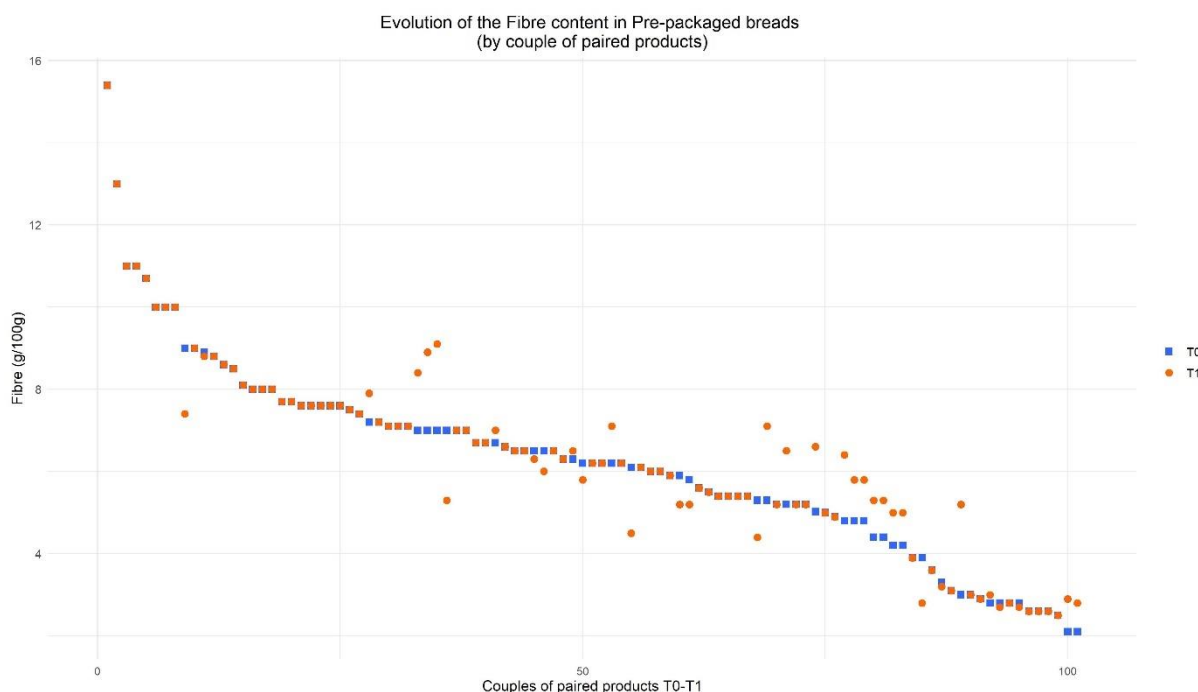


Figure 24: Fibre content evolution between 2018 and 2022 by couple of paired products for Pre-packaged breads subcategory

Figure 24 shows the evolution of fibre content among couple of paired products between the two data collections. Of the approximately 100 couples of paired products in subcategory Pre-packaged breads, 21 have a higher fibre content in 2022 (T1) than in 2018 (T0). Some of the products, for which the fibre content has increased between T0 and T1, were among the lower fibre content in the subcategory in 2018, which shows a positive trend.

It is visible that some products also have a reduced fibre content in T1, however it concerns a much smaller number of products (around 13 couples).

3.2.1.9 Evolution of the salt content among the subcategories

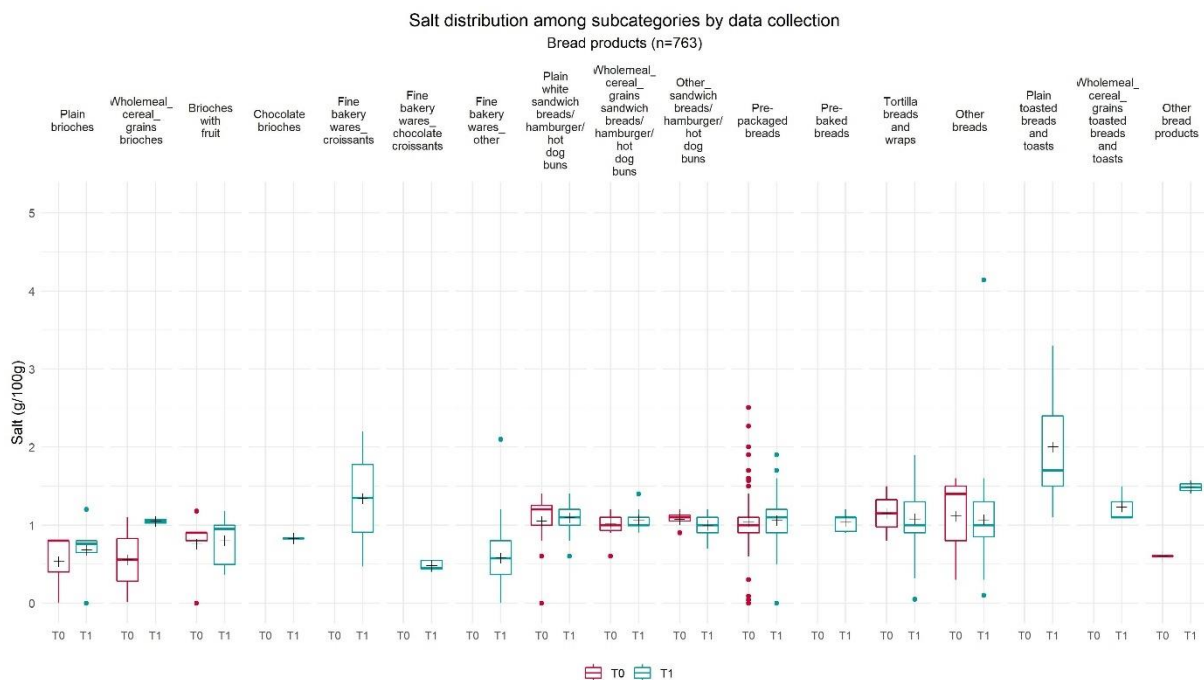


Figure 25: Salt distribution among subcategories of Bread products¹

Figure 25 shows the salt distribution of Bread products between 2018 (T0) and 2022 (T1) by subcategory. Among the 17 subcategories considered, the average salt content has not significantly changed for any subcategory.

The variability differs according to the subcategories but remains globally constant between the two times within a same subcategory collected at both times. The subcategories including products with the most variable salt content at both times, meaning room for reformulation, are and Pre-packaged breads (T0: n=217; T1: n=191) and Other breads (T0: n=13; T1: n=37).

There are several subcategories with high variability in salt content that were only collected during T1: Fine bakery wares_croissants (n=3), Fine bakery wares_other (n=88), Plain toasted breads and toasts (n=5) but they include a limited number of products.

Higher variability of salt content during T1 can be seen in Tortilla breads and wraps subcategory, which could be explained by a higher number of products collected in that subcategory during T1 (T0: n=2; T1: n=65).

For the subcategories Plain brioches (T0: n=3; T1: n=5) and Wholemeal_cereal_grains brioches (T0: n=2; T1: n=2) the variability of salt content has reduced between T0 and T1. However, both subcategories include a very low number of products at both times.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.1.10 Evolution of the salt content for paired products

The Table 7 summarizes the difference in the average salt content observed between T0 and T1 for all products and for paired products. No significant difference in the salt content is observed for both level, all products and paired products.

Table 7: Summary of the evolution of the average salt content for Bread products, by subcategory¹

Subcategory_name	Salt					
	All products			Paired products		
	Mean.T 1 (g/100g)	Mean difference (g/100g)	Mean evolutio n (%)	Mean.T 1 (g/100g)	Mean difference (g/100g)	Mean evolutio n (%)
Plain brioches	0,68	+0,15	+27,88 %	0,48	-0,05	-9,37%
Wholemeal_cereal_grains brioches	1,05	+0,5	+89,19 %	1,05	+0,5	+89,19 %
Brioches with fruit	0,8	+0,044	+5,82%	1,02	+0,28	+36,91 %
Chocolate brioches	0,83					
Fine bakery wares_croissants	1,34					
Fine bakery wares_chocolate croissants	0,48					
Fine bakery wares_other	0,58					
Plain white sandwich breads / hamburger / hot dog buns	1,09	+0,044	+4,17%	1,11	-0,025	-2,2%
Wholemeal_cereal_grains sandwich breads / hamburger /	1,07	+0,043	+4,19%	1,06	+0,018	+1,71%
Other_sandwich breads / hamburger / hot dog buns	1	-0,075	-6,98%	1,2	+0,3	+33,33 %
Pre-packaged breads	1,06	+0,016	+1,54%	1,05	-0,007	-0,7%
Pre-baked breads	1,05					
Tortilla breads and wraps	1,08	-0,071	-6,18%	1,3	-0,2	-13,33%
Other breads	1,07	-0,047	-4,18%	1,42	+0,44	+44,86 %
Plain toasted breads and toasts	2					
Wholemeal_cereal_grains toasted breads and toasts	1,23					
Other bread products	1,48	+0,89	+147,5 %	1,48	+0,88	+147,5 %

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.2 Breakfast cereals

The nutrients considered for the analysis of the evolution of Breakfast cereals category are: Fat, Saturated fat, Sugars, Salt and Fibre.

3.2.2.1 Evolution of the fat content among the subcategories

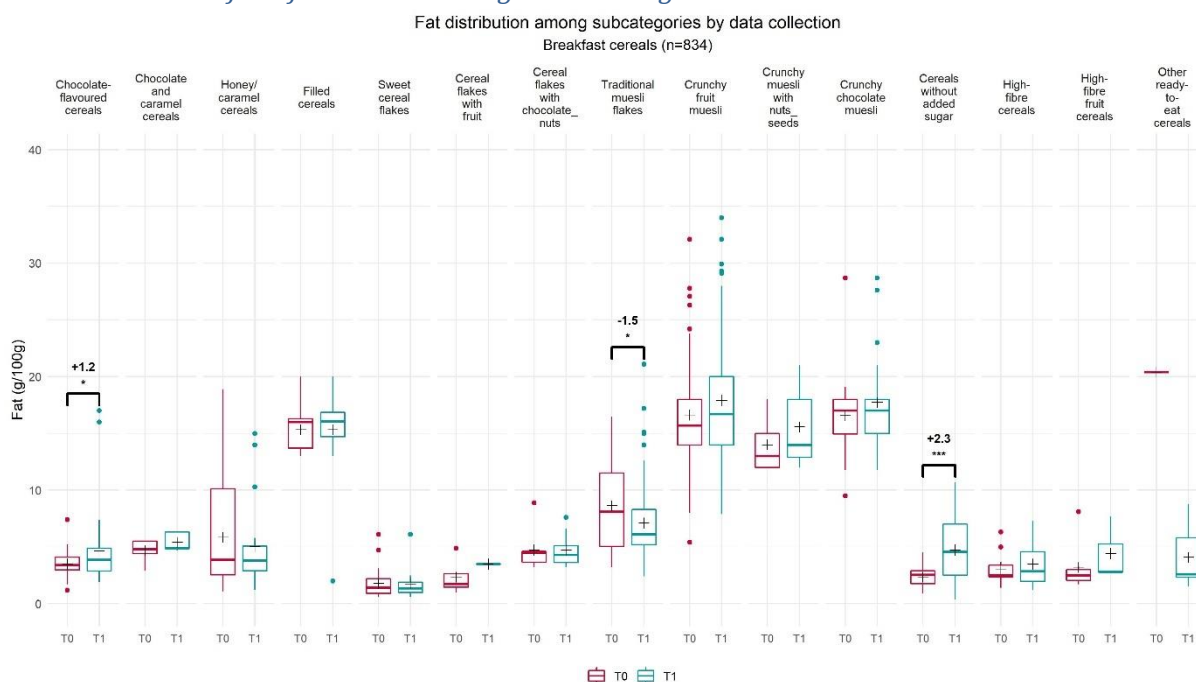


Figure 26: Fat distribution among subcategories of Breakfast cereals¹

Figure 26 shows the fat distribution of Breakfast cereals between 2018 (T0) and 2022 (T1) by subcategory.

Among all the products collected within Breakfast cereals, there is a significant change, between both data collections, in the average fat content for three subcategories out of 15. More specifically, there is a significant increase of the mean fat content for Chocolate-flavoured cereals (+1,2g/100g; +0,3%) and Cereals without added sugar (+2,3g/100g; +1%) and a significant decrease for subcategory Traditional muesli flakes (-1,5g/100g; -0,2%).

Significant changes observed for subcategories Traditional muesli flakes and Cereals without added sugar might be due to the greater number of products collected in T1 compared to T0 (Traditional muesli flakes T0: n=35, T1: n=111; Cereals without added sugars T0: n=16, T1: n=118). Significant increase observed among Chocolate-flavoured cereals, can be explain by the few products collected during T1 that are especially high in fat compared to the majority of products in the subcategory.

The subcategories including products with the most variable fat content at both times, meaning room for reformulation, are Traditional muesli flakes (T0: n=111; T1: n=35), Crunchy fruit muesli (T0: n=52; T1: n=77), and Crunchy chocolate muesli (T0: n=27; T1: n=35) and to a

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

lower extent Crunchy muesli with nuts and seeds (T0: n=4; T1: n=5). Honey/caramel cereals subcategory has a variable fat content during T0 but it has reduced at T1. However, some outliers still appear, so there is still a potential for reformulation. Cereals without added sugar subcategory has become more diverse between T0 and T1 due to the addition of many new products to this subcategory, also opening it up for reformulation.

3.2.2.2 Evolution of the fat content for paired products

The Table 8 summarizes the difference in the average fat content observed between 2018 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

A significant increase in the mean fat content of paired products is observed for one subcategory out of 15: Chocolate flavoured cereals (+0,4g, +0,1%). The increase observed at the subcategory level can be linked to the significant increase of the fat content observed for a majority of paired products, meaning that this evolution can in part be explained by reformulations.

Table 8: Summary of the evolution of the average fat content for Breakfast cereals, by subcategory¹

Subcategory name	Fat					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	4,7	+1,2*	+32,9%	4	+0,4**	+10,8%
Chocolate and caramel cereals	5,4	+0,7	+15,9%	5,2	+0,2	+4%
Honey/caramel cereals	5	-0,8	-14,3%	5,5	-0,004	-0,1%
Filled cereals	15,3	-0,01	-0,1%	16,5	+0,3	+2%
Sweet cereal flakes	1,7	-0,05	-2,8%	1,8	-0,3	-13,1%
Cereal flakes with fruit	3,5	+1,1	+48,9%			
Cereal flakes with chocolate_nuts	4,7	-0,02	-0,3%	3,2	0	0%
Traditional muesli flakes	7,1	-1,5*	-17,6%	7,2	-0,1	-1,5%
Crunchy fruit muesli	17,9	+1,3	+7,8%	17	+0,2	+1,3%
Crunchy muesli with nuts_seeds	15,6	+1,6	+11,3%	14,7	0	0%
Crunchy chocolate muesli	17,8	+1,2	+7,1%	17,1	-0,2	-1,1%
Cereals without added sugar	4,7	+2,4***	+101,6%	2,2	-0,1	-4,8%
High-fibre cereals	3,5	+0,4	+13,8%	3,3	+0,1	+4,5%
High-fibre fruit cereals	4,4	+1,2	+38,5%	5,2	-0,2	-2,8%
Other ready-to-eat cereals	4,1	-16,3	-79,9%			

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

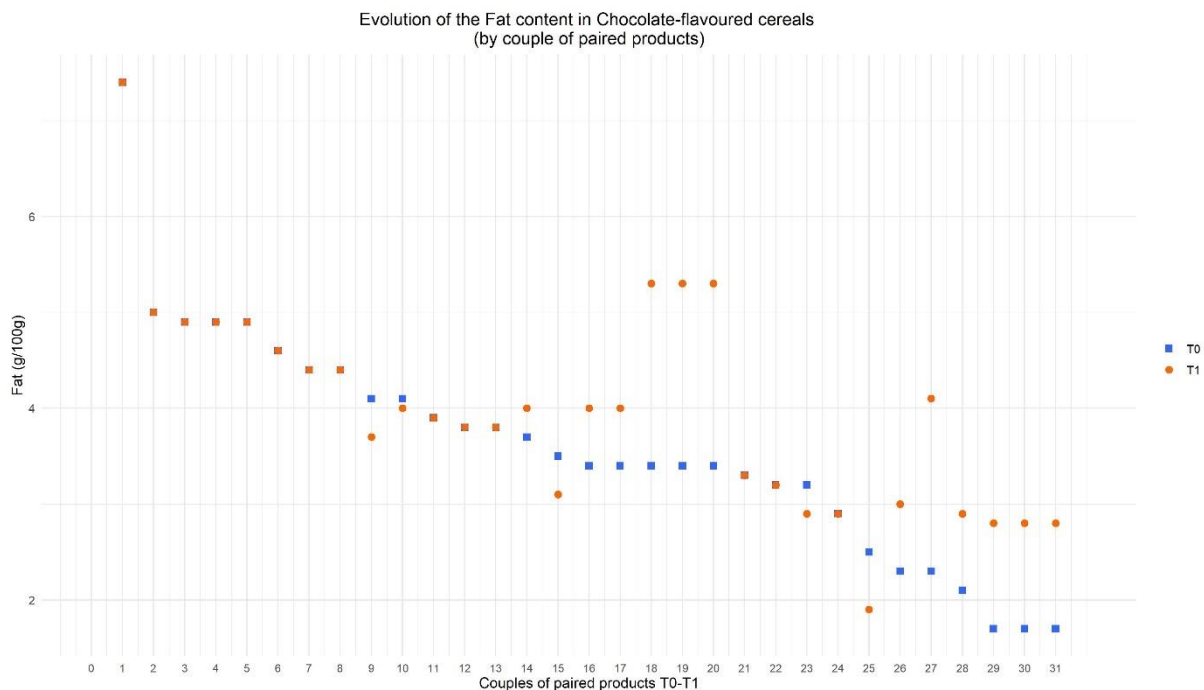


Figure 27: Fat content evolution between 2018 and 2022 by couple of paired product for Chocolate-flavoured cereals subcategory

The significant increase of fat content observed on the Chocolate-flavoured cereals subcategory can be explained by observing at the level of paired products that the fat content has increased for a significant number of same references over time. Of the 31 couples of paired products almost half (12) have a higher fat content in 2022 (T1) than in 2018 (T0) (Figure 27). Many of these products come from the lower end of fat content in 2018, raising the mean values of the subcategory significantly in 2022.

3.2.2.3 Evolution of the saturated fat content among the subcategories

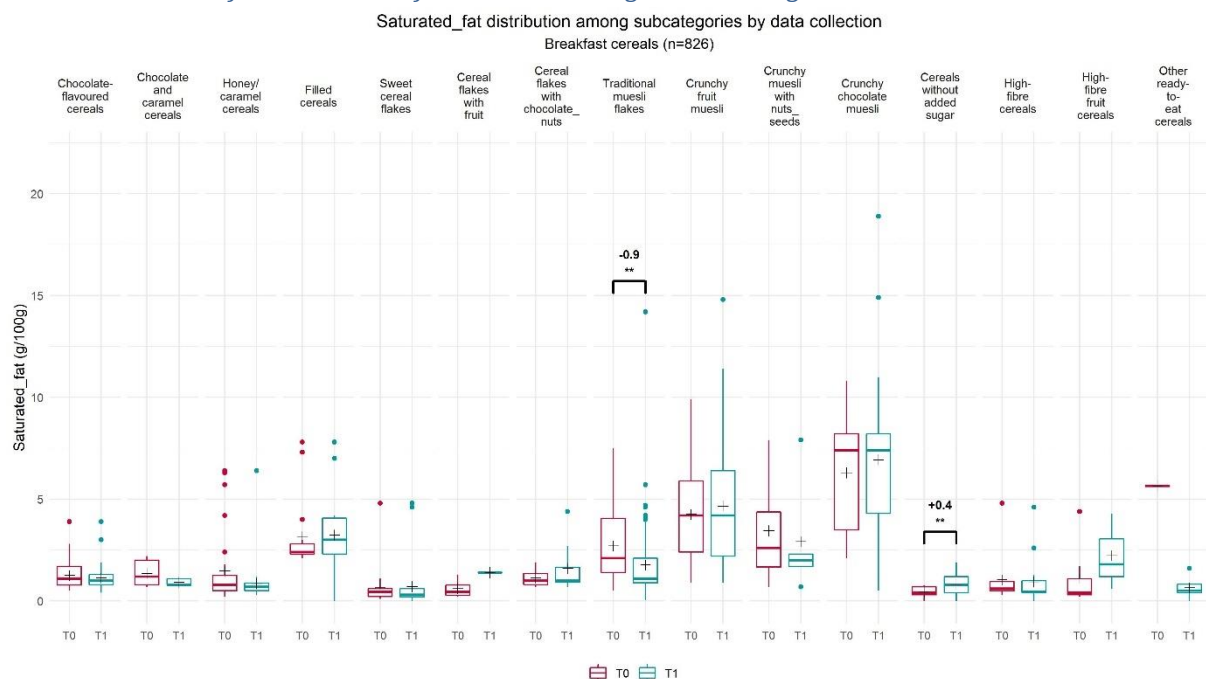


Figure 28: Saturated fat distribution among subcategories of Breakfast cereals¹

Figure 28 shows the saturated fat distribution of Breakfast cereals between 2018 (T0) and 2022 (T1) by subcategory.

Among all the products collected within Breakfast cereals, there is a significant change between both data collections in the average saturated fat content for two subcategories out of 15: Traditional muesli flakes (-0,9g/100g; -0,3%), Cereals without added sugar (+0,4g/100g; +1%). This change might be due to the increased number of different products collected at T1 compared to T0 (Traditional muesli flakes T0: n=35, T1: n=111; Cereals without added sugars T0: n=16, T1: n=117).

Overall, the variability in fat content observed for each subcategory at the two times is nearly similar. The subcategories including products with the most variable saturated fat content at both times are Traditional muesli flakes (T0: n=35; T1: n=111), Crunchy fruit muesli (T0: n=51; T1:n=76), Crunchy chocolate muesli (T0: n=25; T1: n=33), Filled cereals (T0: n=17; T1: n=22), Crunchy muesli with nuts_seeds (T0: n=4; T1: n=5) and Honey/caramel cereals (T0: n=47; T1: n=34). Crunchy muesli with nuts_seeds, had a variable fat content at T0 that reduced at T1 but it remains variable because of outliers that still appear on the boxplot, translating a potential for reformulation for these products. However, it can be noted that this subcategory does not contain a large number of products for both data collections.

¹Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.2.4 Evolution of the saturated fat content for paired products

The Table 9 summarizes the difference in the average saturated fat content observed between T0 and T1 for all products and for paired products.

A significant decrease in the mean saturated fat content of paired products is observed for one subcategory out of 15: Chocolate-flavoured cereals (-0,1g, -0,08%). Even though the decrease of the saturated fat content observed at the subcategory level was not significant, it is significant in the paired products, thus this allows to conclude about reformulations among paired products.

Table 9: Summary of the evolution of the average saturated fat content for Breakfast cereals, by subcategory¹

	Saturated fat					
	All products			Paired products		
Subcategory name	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	1,1	-0,1	-9,8%	1,1	-0,1*	-11,7%
Chocolate and caramel cereals	0,9	-0,4	-32,3%	0,9	-0,2	-20,5%
Honey/caramel cereals	0,8	-0,6	-42,4%	0,9	-0,2	-18,3%
Filled cereals	3,2	+0,07	+2,3%	3,4	+0,05	+1,5%
Sweet cereal flakes	0,7	+0,06	+9,5%	0,7	-0,1	-12,9%
Cereal flakes with fruit	1,4	+0,8	+133,3%			
Cereal flakes with chocolate_nuts	1,6	+0,5	+41,8%	0,7	0	0%
Traditional muesli flakes	1,8	-0,9**	-34,6%	1,9	-0,2	-9,6%
Crunchy fruit muesli	4,7	+0,4	+9,6%	4,2	-0,04	-0,9%
Crunchy muesli with nuts_seeds	2,9	-0,5	-15,4%	3,5	0	0%
Crunchy chocolate muesli	6,9	+0,6	+10,1%	6,5	-0,1	-1,8%
Cereals without added sugar	0,8	+0,4**	+86,5%	0,4	+0,01	+2,8%
High-fibre cereals	0,9	-0,1	-9,5%	1,3	-0,04	-2,9%
High-fibre fruit cereals	2,2	+1,1	+100,4%	3	-4×10 ⁻¹⁶	-1×10 ⁻¹⁴ %
Other ready-to-eat cereals	0,7	-5	-88,5%			

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

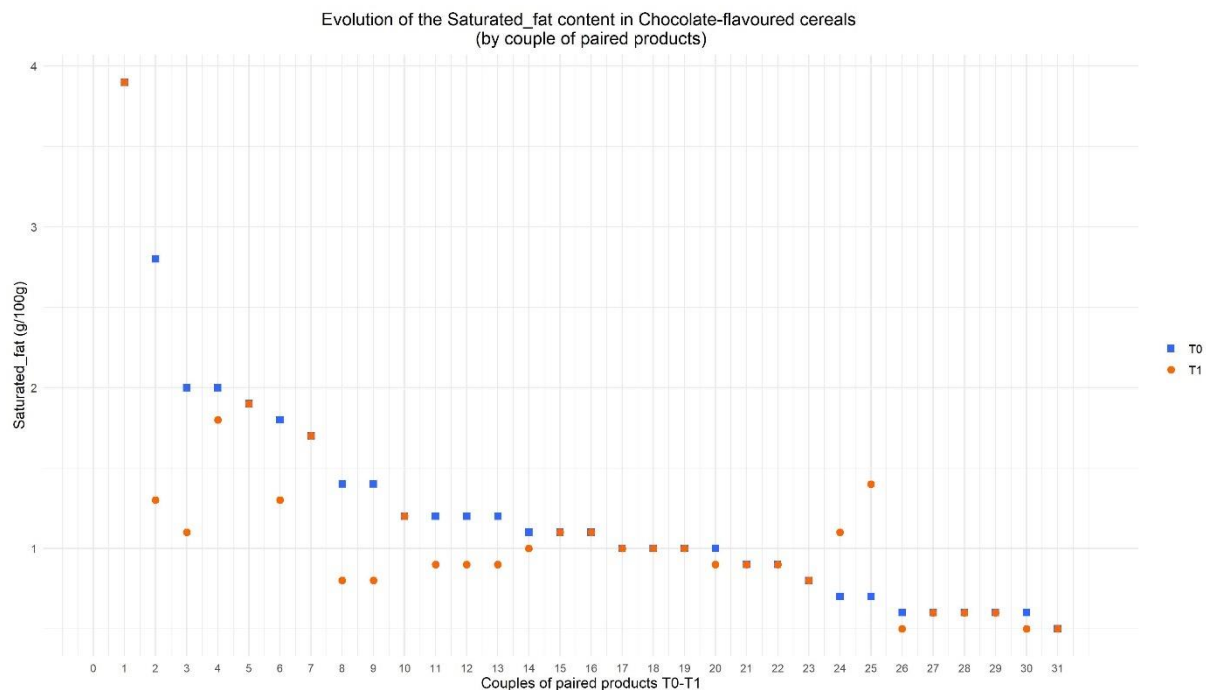


Figure 29: Saturated fat content evolution between 2018 and 2022 by couple of paired product for Chocolate-flavoured cereals subcategory

The significant decrease of saturated fat content observed on the Chocolate-flavoured cereals subcategory can be explained the fact that a significant number of paired products had a saturated fat content higher at T0 compared to T1. Of the 31 couples of paired products in subcategory Chocolate-flavoured cereals, almost half (13) have a lower saturated fat content in 2022 (T1) than in 2018 (T0) (Figure 29). Most of them come from the higher end of saturated fat content during T0, lowering the mean values of the subcategory at T1. This result is the opposite of changes observed for the mean fat content for the same subcategory, but it might indicate a change in oils used in this subcategory.

3.2.2.5 Evolution of the sugar content among the subcategories



Figure 30: Sugar distribution among subcategories of Breakfast cereals¹

Figure 30 shows the sugar distribution of Breakfast cereals between 2018 (T0) and 2022 (T1) by subcategory.

Among all the products collected within Breakfast cereals, there is a significant reduction between both data collections in the average sugar content for three subcategories out of 15: Chocolate-flavoured cereals (-2,1g/100g; -0,08%), Chocolate and caramel cereals (-2,4g/100g; -0,08%) and Cereals without added sugar (-0,5g/100g; -0,3%).

Variability observed by subcategory is nearly similar between times. There are many subcategories with high variability in the sugar content in the breakfast cereals category. The subcategories including products with the most variable sugar content at both times, meaning there is still room for reformulation, are Honey/caramel cereals (T0: n=47; T1: n=34), Filled cereals (T0: n=17; T1: n=22), Sweet cereal flakes (T0: n=26; T1: n=26), Traditional muesli flakes (T0: n=35; T1: n=111), Crunchy fruit muesli (T0: n=52; T1: n=77), Crunchy chocolate muesli (T0: n=27; T1: n=35), Chocolate-flavoured cereals (T0: n=56; T1: n=44), Cereal flakes with chocolate_nuts (T0: n=7; T1: n=8), High-fibre cereals (T0: n=11; T1: n=16), High-fibre fruit cereals (T0: n=7; T1: n=3).

There is a single outlier with a very high sugar content (68g/100g) in the crunchy fruit muesli category. The nutritional information on the labelling of this product indicates that there are 6,5g/100g of carbohydrates but 68g/100g of sugar in the product. We assumed that there was a mistake on this value, but decided to keep it as it is the information given by the producer.

¹Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.2.6 Evolution of the sugar content for paired products

The Table 10 summarizes the difference in the average sugar content observed between T0 and T1 for all products and for paired products.

A significant decrease in the mean sugar content of paired products is observed for one subcategory out of 15: Chocolate-flavoured cereals (-1,8g, -0,07%). This evolution can be linked to the significant decrease of the saturated fat content observed at the subcategory level, meaning that this evolution can in part be explained by reformulations.

Table 10: Summary of the evolution of the average sugar content for Breakfast cereals, by subcategory¹

Subcategory name	Sugar					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	24,3	-2,1*	-7,9%	24,7	-2***	-6,9%
Chocolate and caramel cereals	26,6	-2,4*	-8,2%	27	-1	-4,2%
Honey/caramel cereals	26,8	+0,9	+3,7%	27	+0,1	+0,4%
Filled cereals	29,6	-1,5	-4,8%	32,4	-0,3	-1 %
Sweet cereal flakes	12,5	-1,7	-11,9%	10,8	-0,2	-2%
Cereal flakes with fruit	24,4	+9,1	+59,7%			
Cereal flakes with chocolate nuts	26,2	-1,1	-4,1%	26,8	0	0%
Traditional muesli flakes	15,9	-0,4	-2,7%	15,5	+0,7	+4,5%
Crunchy fruit muesli	18,7	-1,9	-9,4%	22,3	+0,9	+4,1%
Crunchy muesli with nuts seeds	11,7	-0,7	-5,4%	11,5	0	0%
Crunchy chocolate muesli	21,1	-1,8	-7,9%	22,9	-0,4	-1,7%
Cereals without added sugar	1	-0,5*	-32,5%	1,2	-0,09	-7%
High-fibre cereals	11,1	-2,5	-18,4%	11,5	-1	-9,2%
High-fibre fruit cereals	20,3	+5,3	+35,2%	26,7	+0,5	+1,7%
Other ready-to-eat cereals	2,8	-7	-71,5%			

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

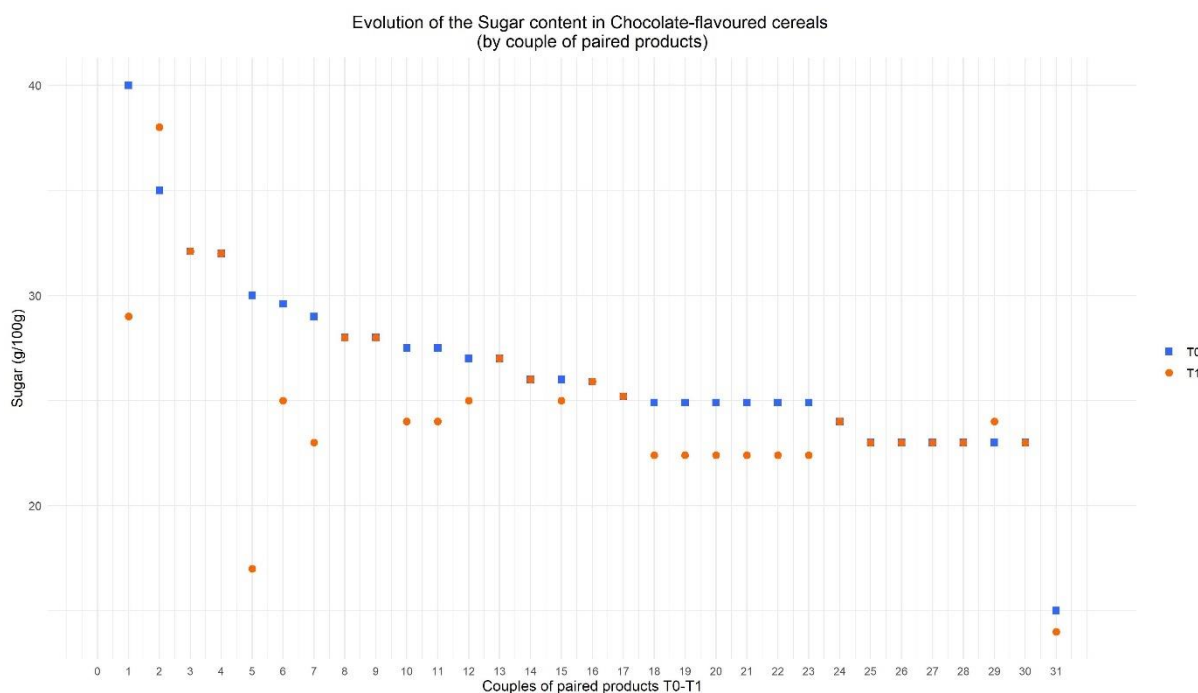
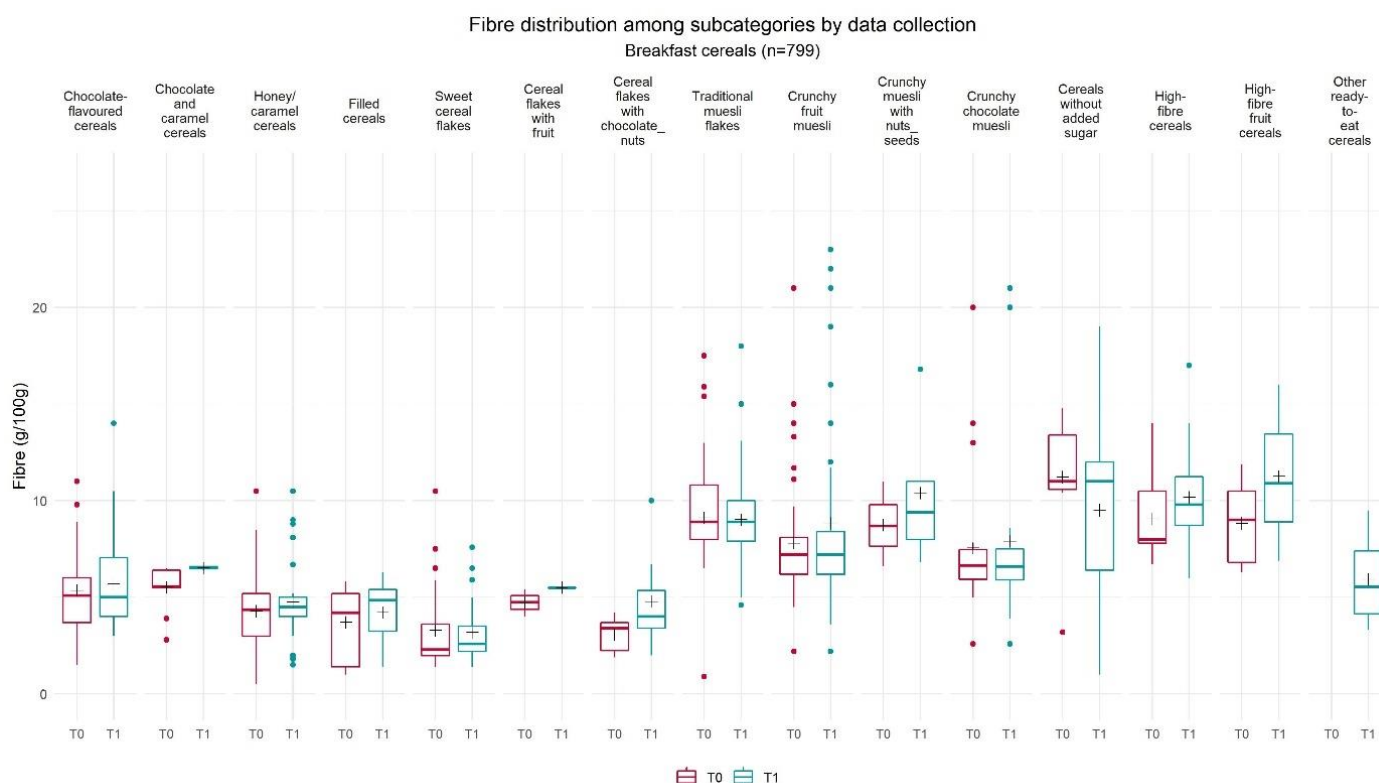


Figure 31: Sugar content evolution between 2018 and 2022 by couple of paired product for Chocolate-flavoured cereals subcategory

Of the 31 couples of paired products in subcategory Chocolate-flavoured cereals, almost half (15) have a lower sugar content in 2022 (T1) than in 2018 (T0) (Figure 31). Reduction of sugar in the paired couples is visible in both ends of the spectrum, no matter if they had a relatively high or low sugar content in T0.



3.2.2.7 Evolution of the fibre content among the subcategories **Figure 32: Fibre distribution among subcategories of Breakfast cereals¹**

Figure 32 shows the fibre distribution of Breakfast cereals between 2018 (T0) and 2022 (T1) by subcategory.

Among all the products collected within Breakfast cereals, there is no significant change between both data collections in the average fibre content.

There are many subcategories with a high variability and many outliers in the fibre content in breakfast cereals. The subcategories including products with the most variable fibre content at both times, meaning room for reformulation, are Traditional muesli flakes (T0: n=33; T1: n=105), Crunchy fruit muesli (T0: n=49; T1: n=77), Crunchy chocolate muesli (T0: n=22; T1: n=33) and cereals without added sugar (T0: n=12; T1: n=117).

Higher variability appears in T1, compared to T0 data collection for High fibre cereals and Crunchy muesli with nuts_seeds. This is due to products collected during T1, with higher fibre content (see outlier dots).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.2.8 Evolution of the fibre content for paired products

The Table 11 summarizes the difference in the average fibre content observed between T0 and T1 for all products and for paired products. No significant difference is observed at the level of paired products.

Table 11: Summary of the evolution of the average fibre content for Breakfast cereals, by subcategory¹

	Fibre					
	All products			Paired products		
Subcategory name	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	5,7	+0,3	+6,2%	5,4	-0,1	-2,3%
Chocolate and caramel cereals	6,5	+1	+18%	6,5	+0,3	+4,4%
Honey/caramel cereals	4,8	+0,5	+10,9%	4,8	+0,004	+0,1%
Filled cereals	4,2	+0,5	+13,7%	4,2	+1	+39,6%
Sweet cereal flakes	3,2	-0,1	-3,5%	3,1	-0,2	-7,4%
Cereal flakes with fruit	5,5	+0,8	+16,4%			
Cereal flakes with chocolate_nuts	4,8	+1,7	+56,5%	2	0	0%
Traditional muesli flakes	9	-0,08	-0,8%	9,2	-0,06	-0,6%
Crunchy fruit muesli	8,8	+1	+13,3%	7,2	-0,05	-0,6%
Crunchy muesli with nuts_seeds	10,4	+1,7	+18,9%	9,5	0	0%
Crunchy chocolate muesli	7,9	+0,4	+4,8%	7,3	-0,2	-2,5%
Cereals without added sugar	9,5	-1,7	-15,2%	8,9	-2	-16,1%
High-fibre cereals	10,2	+1,1	+12,4%	9	+0,08	+0,9%
High-fibre fruit cereals	11,3	+2,4	+27,6%	8,9	-0,5	-5,3%
Other ready-to-eat cereals	5,9					

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.2.10 Evolution of the salt content among the subcategories

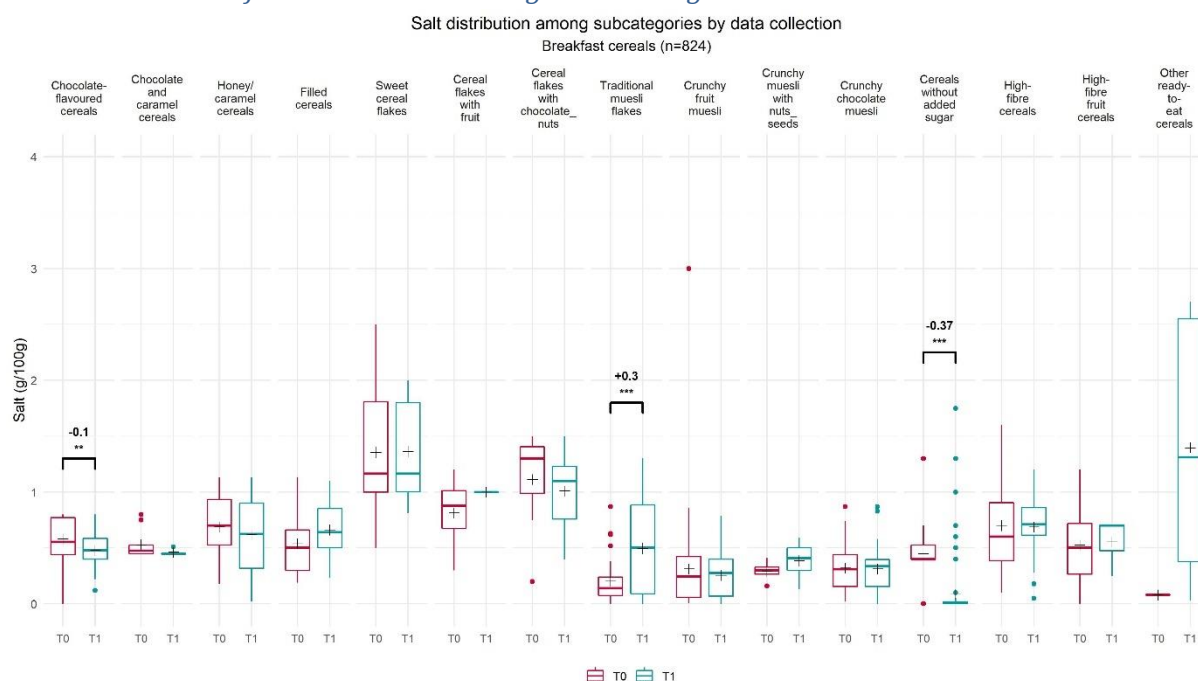


Figure 33: Salt distribution among subcategories of Breakfast cereals¹

Figure 33 shows the salt distribution of Breakfast cereals between 2018 (T0) and 2022 (T1) by subcategory.

Among all the products collected within Breakfast cereals, there are three subcategories out of 15 with a significant change, between both data collections, in the average salt content. There is a significant decrease in mean salt content for Chocolate-flavoured cereals (-0,1g/100g; -0,2%) and Cereals without added sugar (-0,37g/100g; -0,8%) and a significant increase for Traditional muesli flakes (+0,3g/100g; +1,5%). Changes observed can be caused by the increased number of products collected between T0 and T1, especially for Traditional muesli flakes (T0: n=35, T1: n=111) and Cereals without added sugar (T0: n=16; T1: n=111), but also by the differences among products collected at the two times.

The subcategories including products with the most variable fibre content at both times, meaning room for reformulation, are Cereals without added sugar (T0: n=16; T1: n=111), Sweet cereal flakes (T0: n=26; T1: n=26), Cereal flakes with chocolate_nuts (T0: n=7; T1: n=8) and High-fibre cereals (T0: n=11; T1: n=16).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

In addition, higher variability appears in T1, compared to T0 data, for subcategories Honey/caramel cereals (T0: n=47; T1: n=34) and Other ready-to-eat cereals (T0: n=1; T1: n=6), partly due to differences among products collected at the two times. Moreover, in the case of Other ready-to-eat cereals, only one product has been collected during the first data collection in 2018, and by definition, this subcategory can include a wide variety of products, that were collected at T1.

The variability is reduced at T1 for Cereal flakes with fruit and High-fibre fruit cereals but due to the very low number of products collected at T1 (respectively 1 and 3) no conclusion can be drawn.

3.2.2.11 Evolution of the salt content for paired products

The Table 10 summarizes the difference in the average salt content observed between T0 and T1 for all products and for paired products.

A significant decrease in the mean salt content of paired products is observed for two subcategories out of 15: Chocolate-flavoured cereals (-0,09g; -0,2%) and Honey/caramel cereals (-0,05g; -0,08%). In Chocolate-flavoured cereals this can be linked to the significant decrease of the salt content observed at the subcategory level, meaning that this evolution can in part be explained by reformulations. In Honey/caramel cereals the decrease in the salt content was not significant on the subcategory level, meaning that the reformulations observed may have been hidden by the evolution of the food offer.

Table 12: Summary of the evolution of the average salt content for Breakfast cereals, by subcategory¹

Subcategory name	Salt					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	0,48	-0,1**	-17,7%	0,5	-0,087**	-14,84%
Chocolate and caramel cereals	0,46	-0,066	-12,56%	0,47	0	0%
Honey/caramel cereals	0,62	-0,07	-10,22%	0,57	-0,043**	-7,02%
Filled cereals	0,66	+0,12	+22,88%	0,63	-0,012	-1,95%
Sweet cereal flakes	1,36	+0,0085	+0,6%	1,39	-0,033	-2,31%
Cereal flakes with fruit	1	+0,19	+23,08%			
Cereal flakes with chocolate_nuts	1,01	-0,1	-9,35%	1,5	0	0%
Traditional muesli flakes	0,5	+0,29***	+144,52%	0,16	+0,0012	+0,7%
Crunchy fruit muesli	0,26	-0,056	-18,04%	0,27	-0,054	-17,03%
Crunchy muesli with nuts_seeds	0,39	+0,094	+31,97%	0,28	-0,01	-3,45%
Crunchy chocolate muesli	0,31	-0,0084	-2,6%	0,33	+0,035	+12,1%
Cereals without added sugar	0,08	-0,37***	-81,42%	0,48	+0,0011	+0,2%
High-fibre cereals	0,69	-0,013	-1,91%	0,61	-0,06	-8,93%
High-fibre fruit cereals	0,55	+0,029	+5,54%	0,7	-0,015	-2,08%
Other ready-to-eat cereals	1,4	+1,32	+1645,42%			

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

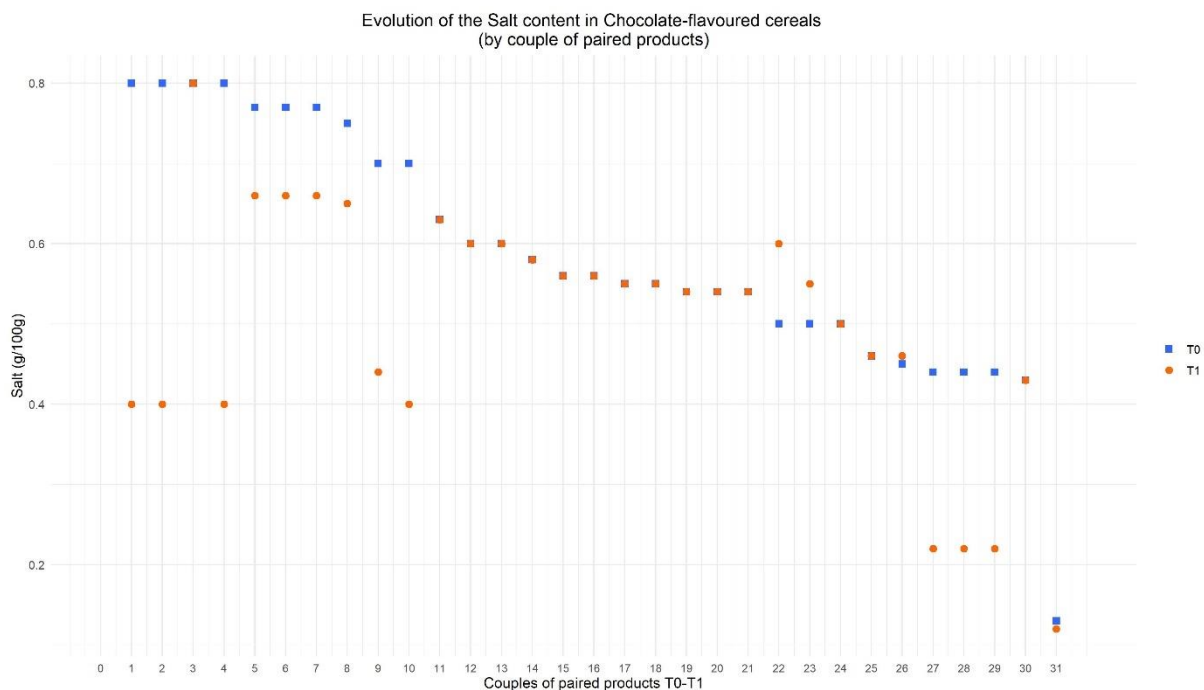


Figure 34: Salt content evolution between 2018 and 2022 by couple of paired products for Chocolate-flavoured cereals subcategory

Of the 31 couples of paired products in subcategory Chocolate-flavoured cereals, almost half (13) have a lower salt content in 2022 (T1) than in 2018 (T0) (Figure 34). Salt reduction can especially be seen in the products with a higher salt content in T0. Thus, these observations explain the decrease of mean salt content observed among Chocolate flavoured cereals subcategory.

There are also three products with a higher amount of salt in T1 compared to T0, but the increase is relatively minor (max +0,1g/100g) compared to salt reductions (max -0,4g/100g).

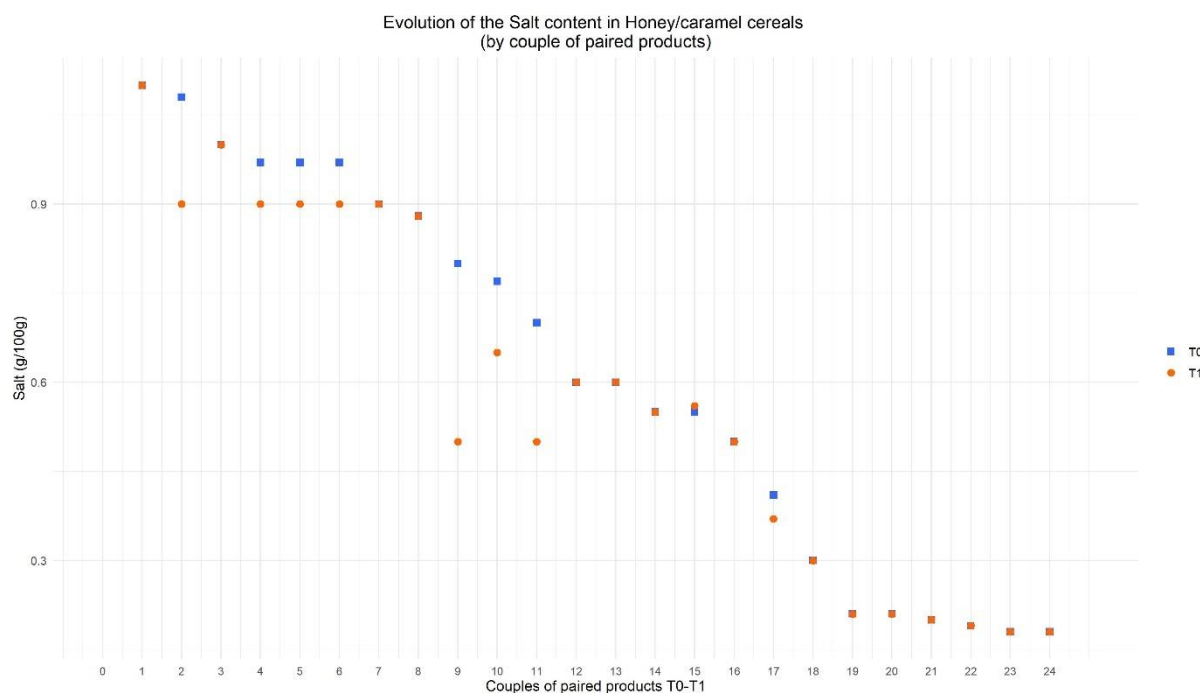


Figure 35: Salt content evolution between 2018 and 2022 by couple of paired products for Honey/caramel cereals subcategory

Figure 35 allows to conclude more precisely about the observed decrease in mean salt content between 2018 and 2022 in Chocolate-flavoured subcategory. Of the 24 couples of paired products, eight have reduced their salt content in 2022, against only one, for which the salt content is higher at T1 compared to T0, but this change is minor (couple 15). Salt reduction can especially be seen in the products with a higher salt content at T0.

3.2.3 Delicatessen meats and similar

The nutrients considered for the analysis of the evolution of Delicatessen meats category are: Protein, Fat, Saturated fat, Sugars and Salt.

3.2.3.1 Evolution of the protein content among the subcategories

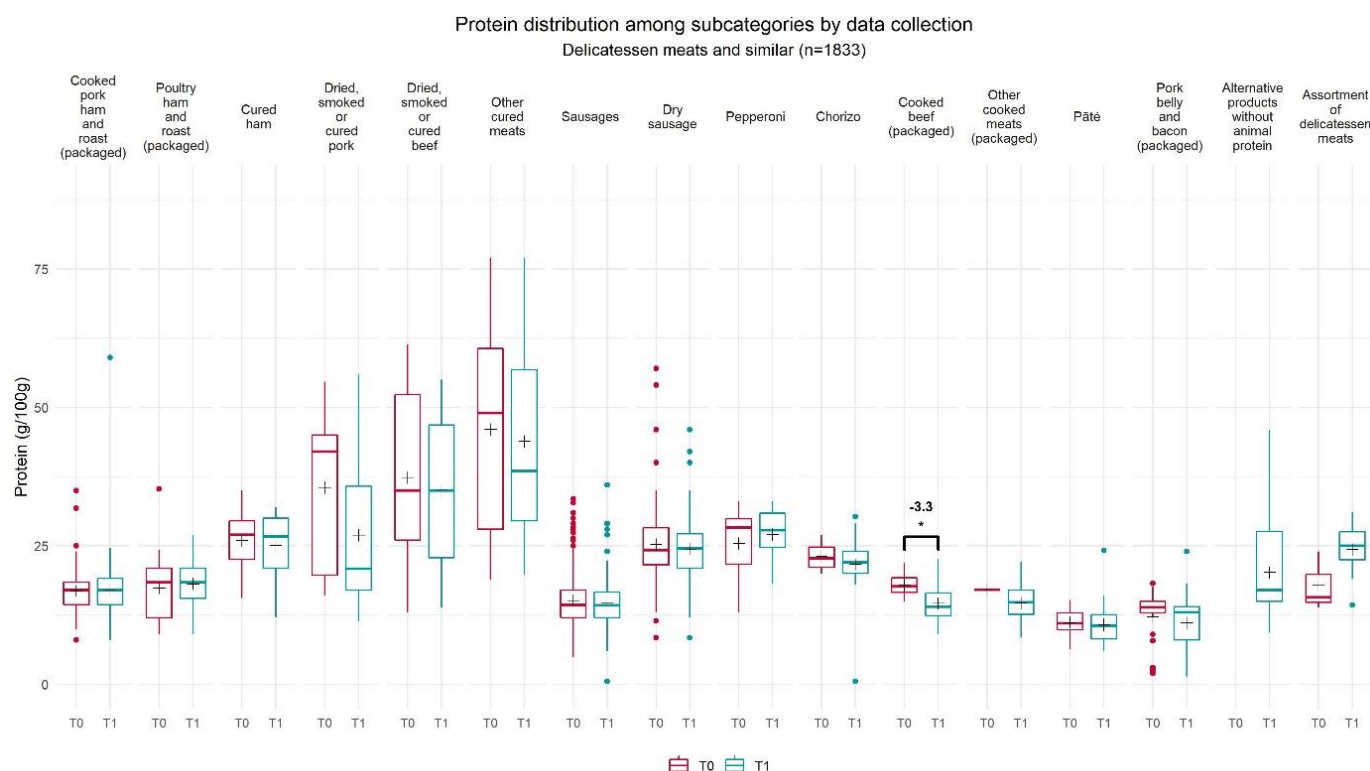


Figure 36: Protein distribution among subcategories of Delicatessen meats and similar

Figure 37 shows the protein distribution of Delicatessen meats and similar between 2018 (T0) and 2022 (T1) by subcategory.

Among all the products collected, there is one subcategory out of 16 with a significant reduction in the average protein content between both data collections: Cooked beef (packaged) (-3,3g/100g; -0,2%). This might be due to the addition of some canned meats into this subcategory in the data collection of T1 compared to T0 but also to differences among products collected at both times.

There is a high variability in protein content among all subcategories of Delicatessen meats and similar, that remains broadly constant over times. With the exception of two subcategories, with a higher variability at T1, for which products were not collected (or few) during the T0 data collection: Alternative products without protein animal (T0: n=0; T1: n=29) and Other cooked meats (T0: n=2; T1: n=22). Moreover, variability observed at T1 can in part be explained by the differences in the products included within these subcategories.

The subcategories which include products with the most variable protein content at both times, meaning room for reformulation, are Dried, smoked or cured pork (T0: n=13; T1: n=18), Dried, smoked or cured beef (T0: n=24; T1: n=35), Other cured meats (T0: n=11; T1: n=12), Sausages (T0: n=357; T1: n=386), Dry sausage (T0: n=110; T1: n=161). High variability, is also observed for Cooked pork ham and roast (packaged) (T0: n=91; T1: n=91), but this is mainly due to few products, for which protein content appears to be higher than the majority of products included (see outliers dots). The greatest variability is observed among subcategory Other cured meats, but an explanation could be the wide range of different products included, which can differ in protein content. Also for the “Dried” type subcategories, it can be noted that protein content is highly dependent of the dry cure.

3.2.3.2 Evolution of the protein content for paired products

The Table 13 summarizes the difference in the average protein content observed in Delicatessen meats and similar category between T0 and T1 for all products and for paired products. No significant difference is observed at the level of paired products.

Table 13: Summary of the evolution of the average protein content for Delicatessen meats and similar, by subcategory¹

	Protein					
	All products			Paired products		
Subcategory name	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Cooked pork ham and roast (packaged)	17,1	+0,2	+1,3%	16,3	+0,06	+0,4%
Poultry ham and roast (packaged)	18,1	+0,7	+4,2%	16,3	+1	+6,7%
Cured ham	25,1	-0,9	-3,5%	25,8	-0,04	-0,2%
Dried, smoked or cured pork	26,9	-8,6	-24,2%	38,2	+3	+9%
Dried, smoked or cured beef	35	-2,3	-6,1%	39,8	+0,3	+0,7%
Other cured meats	43,9	-2,2	-4,7%	50,8	-2	-4,7%
Sausages	14,7	-0,4	-2,6%	14,3	-0,006	-0,04%
Dry sausage	24,4	-0,8	-3,2%	24,7	+0,3	+1,2%
Pepperoni	27	+1,6	+6,4%	30,4	+0,5	+1,8%
Chorizo	21,6	-1,5	-6,3%	22,3	+0,5	+2,3%
Cooked beef (packaged)	14,6	-3,3*	-18,3%	16,8	0	0%
Other cooked meats (packaged)	14,7	-2,4	-14,2%			
Pâté	10,8	-0,4	-3,5%	11,4	-0,08	-0,7%
Pork belly and bacon (packaged)	11,1	-1,1	-8,7%	13,1	-0,04	-0,3%
Alternative products without animal protein	20,2					
Assortment of delicatessen meats	24,3	+6,5	+36,2%	14,3	+0,4	+2,9%

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.3.3 Evolution of the fat content among the subcategories

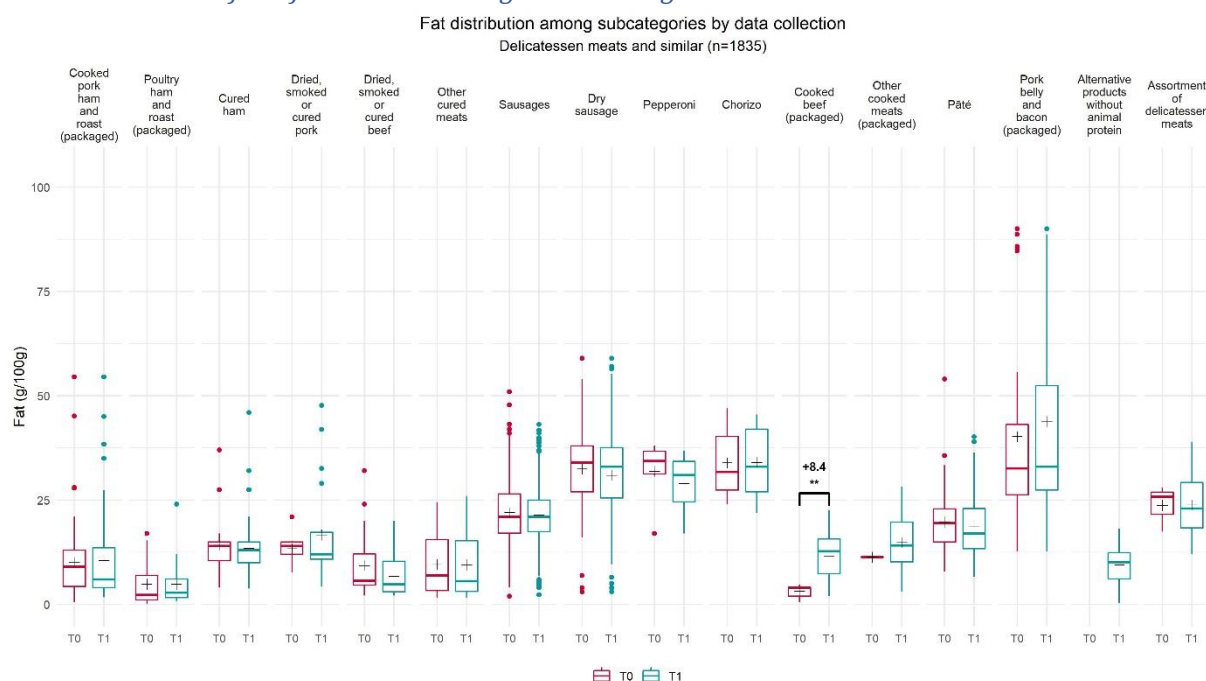


Figure 37: Fat distribution among subcategories of Delicatessen meats and similar¹

Figure 37 shows the fat distribution of Delicatessen meats and similar between 2018 (T0) and 2022 (T1) by subcategory.

Among all the products collected within Delicatessen meats category, there is one subcategory out of 18 with a significant increase between both data collections in the average fat content: Cooked beef (packaged) (+8,4g/100g; +2,6%). This might be due to the addition of some canned meats included into this subcategory, collected mostly in the T1 data collection but also to differences of fat content of products collected at the two times. There is a high variability of fat content among all subcategories, meaning room for reformulation, especially for Pork belly and bacon (packaged).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.4 Evolution of the fat content for paired products

The Table 14 summarizes the difference in the average fat content observed in Delicatessen meats and similar category between T0 and T1 for all products and for paired products. No significant difference is observed at the level of paired products.

Table 14: Summary of the evolution of the average fat content for Delicatessen meats and similar, by subcategory¹

	Fat					
	All products			Paired products		
Subcategory name	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Cooked pork ham and roast (packaged)	10,5	+0,4	+3,6%	8,2	-0,2	-2%
Poultry ham and roast (packaged)	4,8	-0,03	-0,6%	4,1	-0,06	-1,3%
Cured ham	13,4	-0,8	-5,3%	14	-0,04	-0,3%
Dried, smoked or cured pork	16,7	+3,3	+24,7%	12,5	-1	-9,4%
Dried, smoked or cured beef	6,7	-2,6	-28,3%	8,3	-0,3	-3,6%
Other cured meats	9,5	-0,06	-0,7%	10	0	0%
Sausages	21,4	-0,6	-2,7%	22,2	+0,1	+0,7%
Dry sausage	30,9	-1,5	-4,7%	32,2	-0,2	-0,5%
Pepperoni	28,9	-3	-9,3%	23,9	-5	-16,2%
Chorizo	34	+0,1	+0,3%	30,3	-1	-3,7%
Cooked beef (packaged)	11,6	+8,5**	+266,3%	3,4	0	0%
Other cooked meats (packaged)	14,8	+3,5	+31,4%			
Pâté	18,7	-1	-5%	17,4	-0,8	-4,4%
Pork belly and bacon (packaged)	43,9	+3,7	+9,1%	35,5	-0,05	-0,1%
Alternative products without animal protein	9,4					
Assortment of delicatessen meats	23,9	+0,1	+0,5%	17,5	+0,1	+0,6%

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.3.5 Evolution of the saturated fat content among the subcategories

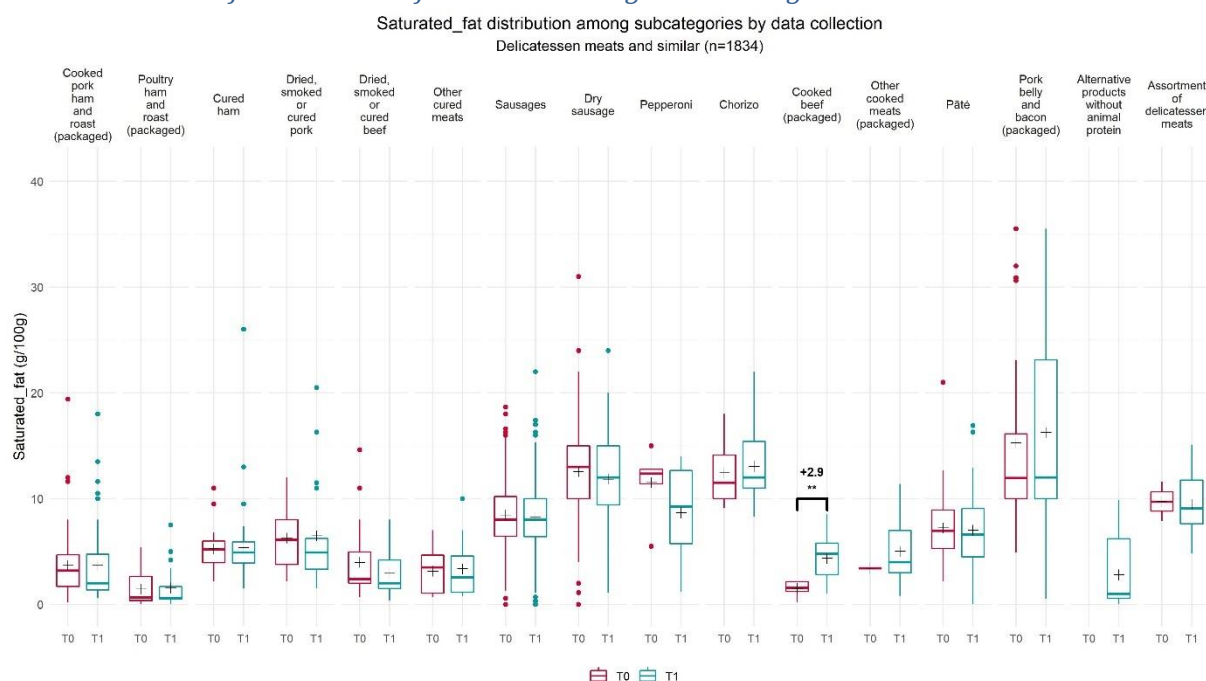


Figure 38: Saturated fat distribution among subcategories of Delicatessen meats and similar¹

Figure 38 shows the saturated fat distribution of Delicatessen meats and similar between 2018 (T0) and 2022 (T1) by subcategory.

Among all the products collected within Delicatessen meats category, one category out of 18 had a significant increase between both data collections in the average saturated fat content: Cooked beef (packaged) (+2,9g/100g; +1,9%). This might be due to the addition of some canned meats included into this subcategory, collected mostly at T1, but also to differences of saturated fat content of products collected.

Overall, the variability of fat content is wide in every subcategory collected, meaning room for reformulation for the whole category especially for Sausages (T0: n=358; T1: n=386), Dry sausage (T0: n=110; T1: n=161) and Pork belly and bacon (packaged) (T0: n=54; T1: n=61). The change between T1 and T0 is likely due to the significantly increased number of products in those subcategories. Some of the variability could be explained by different meat being used in the same subcategory, e.g. sausages can include poultry or pork, which significantly differ in saturated fat content.

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.6 Evolution of the saturated fat content for paired products

The Table 15 summarizes the difference in the average saturated fat content observed in Delicatessen meats and similar category between T0 and T1 for all products and for paired products. No significant difference is observed at the level of paired products.

Table 15: Summary of the evolution of the average saturated fat content for Delicatessen meats and similar, by subcategory¹

Subcategory name	Saturated fat					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Cooked pork ham and roast (packaged)	3,7	+0,0001	+0,003%	3,2	-0,05	-1,6%
Poultry ham and roast (packaged)	1,6	+0,1	+8,7%	1,3	-0,02	-1,7%
Cured ham	5,3	+0,07	+1,3%	5,4	0	0%
Dried, smoked or cured pork	6,5	+0,2	+3,1%	5,2	-0,6	-10,6%
Dried, smoked or cured beef	2,9	-1	-26,1%	3,6	+0,08	+2,3%
Other cured meats	3,4	+0,2	+7,3%	3,4	0	0%
Sausages	8,2	-0,2	-2,7%	8,5	-0,1	-1,3%
Dry sausage	11,8	-0,7	-5,8%	12,2	-0,3	-2,6%
Pepperoni	8,7	-2,8	-24,7%	4,4	-5	-55,1%
Chorizo	13,1	+0,6	+5%	10,8	-0,4	-3,6%
Cooked beef (packaged)	4,4	+2,9**	+188,9%	1,6	0	0%
Other cooked meats (packaged)	5	+1,6	+47,6%			
Pâté	7	-0,2	-3%	6,7	-0,1	-1,5%
Pork belly and bacon (packaged)	16,3	+1	+6,4%	13,5	-1	-6,9%
Alternative products without animal protein	2,8					
Assortment of delicatessen meats	9,4	-0,3	-3%	8	+0,1	+1,3%

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.3.7 Evolution of the sugar content among the subcategories

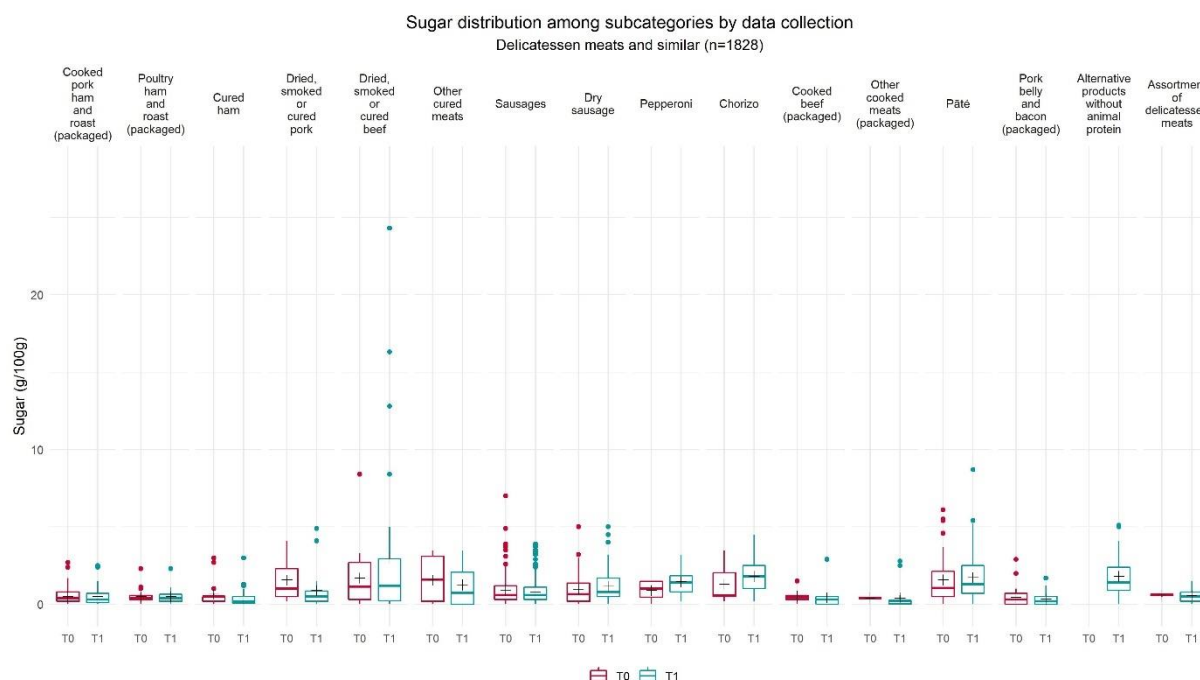


Figure 39: Sugar distribution among subcategories of Delicatessen meats and similar¹

Figure 39 shows the sugar distribution of Delicatessen meats and similar between 2018 (T0) and 2022 (T1) by subcategory.

Among all the products collected within Delicatessen meats category, there is no significant change between both data collections in the average sugar content.

However, it can be noted that some subcategories have a greater variability in their sugar content, meaning room for reformulation, in particular: Dried, smoked or cured beef (T0: n=24; T1: n=35), Sausages (T0: n=357; T1: n=386), Dry sausage (T0: n=110; T1: n=161) and Pâté (n=79).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.8 Evolution of the sugar content for paired products

The Table 16 summarizes the difference in the average sugar content observed in Delicatessen meats and similar category between T0 and T1 for all products and for paired products. No significant difference is observed.

Table 16: Summary of the evolution of the average sugar content for Delicatessen meats and similar, by subcategory¹

	Sugar					
	All products			Paired products		
Subcategory name	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Cooked pork ham and roast (packaged)	0,5	-0,03	-5,7%	0,5	-0,003	-0,5%
Poultry ham and roast (packaged)	0,5	+0,004	+0,8%	0,7	+0,03	+4,8%
Cured ham	0,4	-0,3	-42,9%	0,6	-0,03	-4,3%
Dried, smoked or cured pork	0,9	-0,7	-42,3%	1,8	+0,2	+13,8%
Dried, smoked or cured beef	3	+1,3	+74,4%	2,5	+0,3	+16,4%
Other cured meats	1,2	-0,3	-20,1%	1,7	0	0%
Sausages	0,8	-0,1	-11,8%	0,9	+0,01	+1,4%
Dry sausage	1,2	+0,2	+19%	1,3	+0,07	+5,5%
Pepperoni	1,5	+0,6	+63%	1,1	-0,03	-2,9%
Chorizo	1,8	+0,5	+38,8%	2,3	+0,2	+7,7%
Cooked beef (packaged)	0,4	-0,1	-20,4%	0,3	0	0%
Other cooked meats (packaged)	0,4	+0,01	+2,7%			
Pâté	1,7	+0,2	+10,4%	1,6	+0,06	+3,5%
Pork belly and bacon (packaged)	0,3	-0,1	-25,2%	0,2	-0,08	-25,2%
Alternative products without animal protein	1,8					
Assortment of delicatessen meats	0,6	-0,05	-8,3%	0,7	+0,1	+16,7%

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.9 Evolution of the salt content among the subcategories

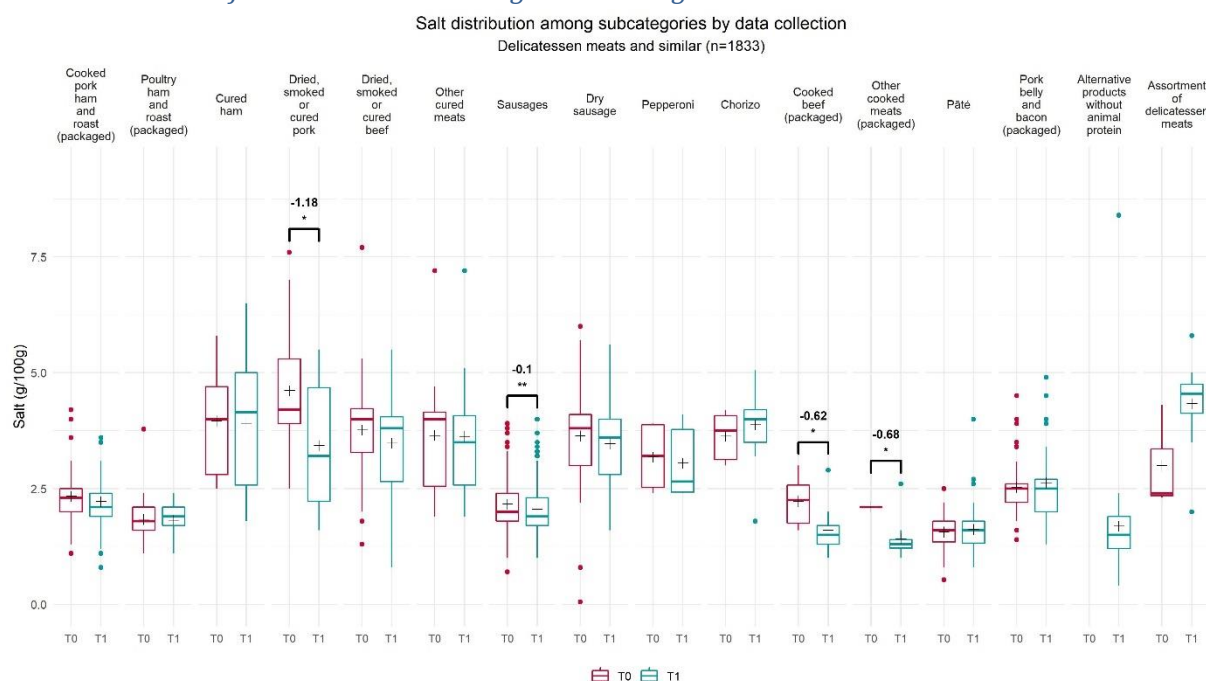


Figure 40: Salt distribution among subcategories of Delicatessen meats and similar¹

Figure 40 shows the salt distribution of Delicatessen meats and similar between 2018 (T0) and 2022 (T1) by subcategory.

Among all the products collected within Delicatessen meats, four subcategories out of 16 has a significant decrease between both data collections in the average salt content: Dried, smoked or cured pork (-1,18g/100g; -0,3%), Sausages (-0,1g/100g; -0,05%), Cooked beef (-0,62g/100g; -0,3%) and Other cooked meats (-0,68g/100g; -0,3%). Changes might be partly due to the increase in the number of products collected in T1 compared to T0 (Cooked beef T0: n=8, T1: n=13; Other cooked meats T0: n=2; T1: n=22; Dried, smoked or cured pork T0: n=13; T1: n=18). But also, due to different products included, especially for subcategory Other cooked meats, that can include a great variety of products.

The subcategories including products with the most variable salt content at T1, meaning still room for reformulation, are Cured ham (T0: n=19; T1: n=52), Dried, smoked or cured pork (T0: n=13; T1: n=18), Dried, smoked or cured beef (T0: n=24; T1: n=35), Pâté (T0: n=64; T1: n=79), Alternative products without animal protein (T0: n=0; T1: n=29); Other cured meats (T0: n=11; T1: n=12), Sausages (T0: n=357; T1: n=386), Dry sausage (T0: 110; T1: n=161),

For Alternative products without animal protein there is a single outlier with a very high salt content, higher than any other Delicatessen meat category products. This product is a type of bacon alternative.

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.10 Evolution of the salt content for paired products

The Table 17 summarizes the difference in the average salt content observed in Delicatessen meats and similar category between T0 and T1 for all products and for paired products. No significant difference on the level of paired products is observed.

Table 17: Summary of the evolution of the average salt content for Delicatessen meats and similar, by subcategory¹

	Salt					
	All products			Paired products		
Subcategory name	Mean.T1 1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Cooked pork ham and roast (packaged)	2,22	-0,12	-5,06%	2,23	-0,039	-1,71%
Poultry ham and roast (packaged)	1,82	-0,018	-1%	1,9	+0,067	+3,64%
Cured ham	3,91	-0,051	-1,28%	3,89	0	0%
Dried, smoked or cured pork	3,43	-1,18*	-25,65%	4,73	-0,16	-3,22%
Dried, smoked or cured beef	3,48	-0,28	-7,51%	3,92	+0,019	+0,5%
Other cured meats	3,62	-0,02	-0,6%	3,95	0	0%
Sausages	2,06	-0,11**	-4,98%	2,17	-0,012	-0,6%
Dry sausage	3,47	-0,17	-4,73%	3,58	-0,045	-1,23%
Pepperoni	3,05	-0,13	-4,19%	2,43	-0,5	-17,05%
Chorizo	3,88	+0,25	+6,76%	3,73	+0,17	+4,67%
Cooked beef (packaged)	1,6	-0,62*	-28,09%	1,8	0	0%
Other cooked meats (packaged)	1,42	-0,68*	-32,58%			
Pâté	1,62	+0,057	+3,65%	1,58	-0,024	-1,5%
Preserved pork or poultry liver (canned)						
Pork belly and bacon (packaged)	2,62	+0,097	+3,83%	2,59	+0,015	+0,6%
Poultry lardons						
Alternative products without animal protein	1,69					
Assortment of delicatessen meats	4,33	+1,33	+44,3%	2	-0,4	-16,67%

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.4 Fresh dairy products and desserts

The nutrients considered for the analysis of the evolution of Fresh dairy products and desserts category are: Protein, Fat, Saturated fat, Sugars and Fibre.

3.2.4.1 Evolution of the protein content among the subcategories

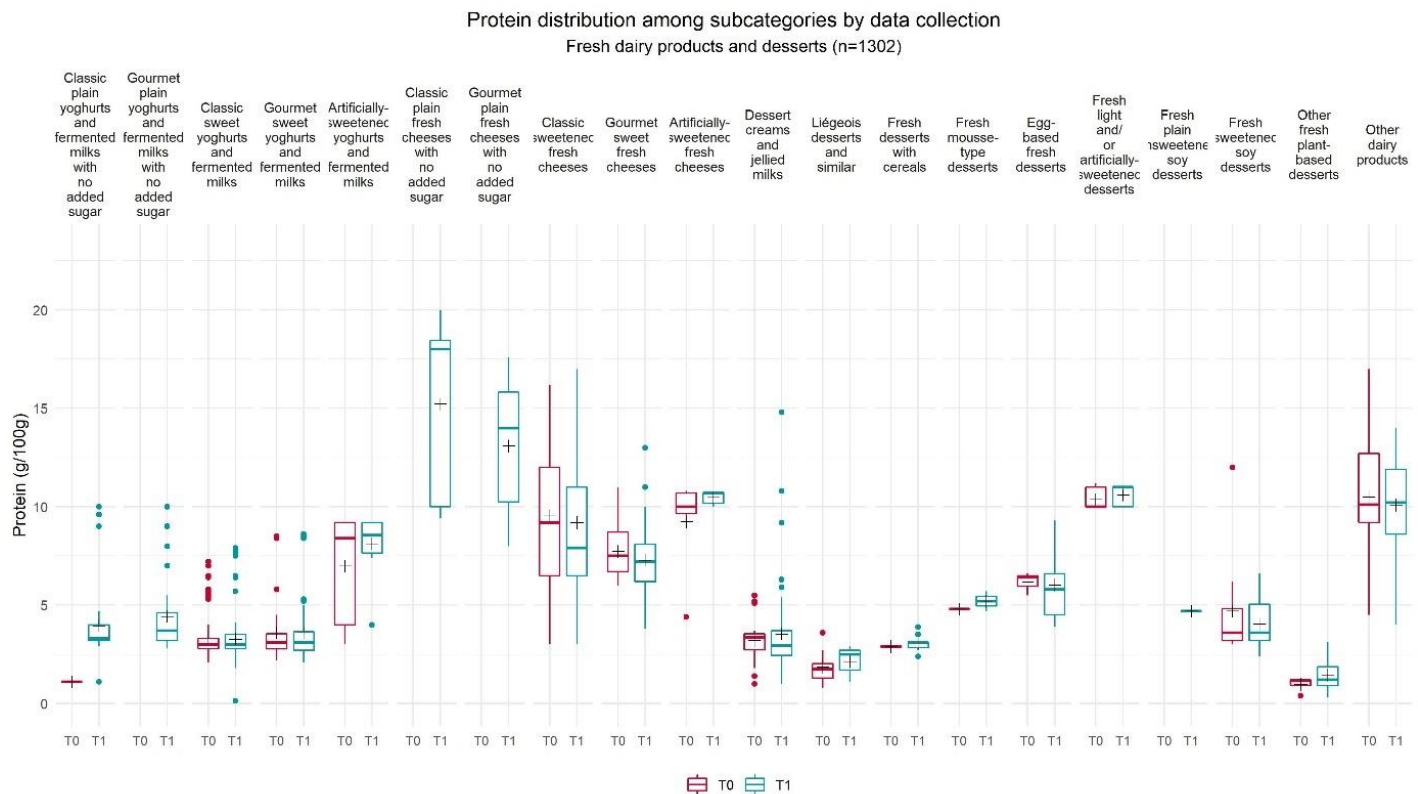


Figure 41: Protein distribution among subcategories of Fresh dairy products and desserts¹

Figure 41 shows the protein distribution of Fresh dairy products and desserts between 2018 (T0) and 2022 (T1) by subcategory. No categories had a significant change between both data collections in the average protein content.

The subcategories including products with the most variable protein content at T1, meaning room for reformulation, are Classic sweetened fresh cheeses (T0: n=50; T1: n=57), Dessert creams and jellied milks (T0: n=20; T1: n=62), Classic plain fresh cheeses with no added sugar (T0: n= 0; T1: n=11) and Other dairy products (T0: n=81; T1: n=81).

Classic plain fresh cheeses with no added sugar (T1: n=11), Gourmet plain yoghurts and fermented milks with no added sugar (T1: n=29) and Gourmet plain fresh cheeses with no added sugar (T1: n=18) were not collected at T0, which is why there is no comparison for these subcategories but they have a high variability in the average protein content during T1.

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.4.2 Evolution of the protein content for paired products

The Table 18 summarizes the difference in the average protein content observed in Fresh dairy products and desserts category between T0 and T1 for all products and for paired products. Even though no significant difference on the subcategory level was found, there were three subcategories of paired products with a significant change: Classic sweet yoghurts and fermented milks (+0,1g*; +0,03%), Gourmet sweet fresh cheeses (+0,2g**; +0,03%), Dessert creams and jellied milks (-0,1g*; -0,03%). Significant changes in paired products indicate reformulation T0 and T1.

Table 18: Summary of the evolution of the average protein content for Fresh dairy products and desserts, by subcategory¹

Subcategory name	Protein					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	4	+2,9	+259,2%	1,1	0	0%
Gourmet plain yoghurts and fermented milks with no added sugar	4,4					
Classic sweet yoghurts and fermented milks	3,3	-0,06	-1,7%	3,2	+0,02*	+0,5%
Gourmet sweet yoghurts and fermented milks	3,6	+0,008	+0,2%	4,1	-0,06	-1,5%
Artificially-sweetened yoghurts and fermented milks	8,1	+1,1	+16,2%	7,5	0	0%
Classic plain fresh cheeses with no added sugar	15,2					
Gourmet plain fresh cheeses with no added sugar	13,1					
Classic sweetened fresh cheeses	9,2	-0,3	-3,5%	9,7	+0,003	+0,03%
Gourmet sweet fresh cheeses	7,3	-0,4	-5,8%	7,7	+0,2**	+2,9%
Artificially-sweetened fresh cheeses	10,5	+1,2	+13,5%	10,7	0	0%
Dessert creams and jellied milks	3,5	+0,3	+10,4%	3,1	-0,1*	-4,4%
Liégeois desserts and similar	2,1	+0,3	+15,3%	1,4	+0,02	+1,8%
Fresh desserts with cereals	3,1	+0,2	+5,6%			
Fresh mousse-type desserts	5,2	+0,4	+8,3%			
Egg-based fresh desserts	6	-0,1	-2,4%	6,6	0	0%
Fresh light and/or artificially-sweetened desserts	10,6	+0,2	+2,2%	10,8	0	0%
Fresh plain unsweetened soy desserts	4,7					
Fresh sweetened soy desserts	4	-0,7	-14,1%	4,1	-0,8	-15,5%
Other fresh plant-based desserts	1,4	+0,5	+48,2%	0,3	-0,1	-25%
Other dairy products	10,1	-0,4	-3,8%	11	+0,007	+0,07%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

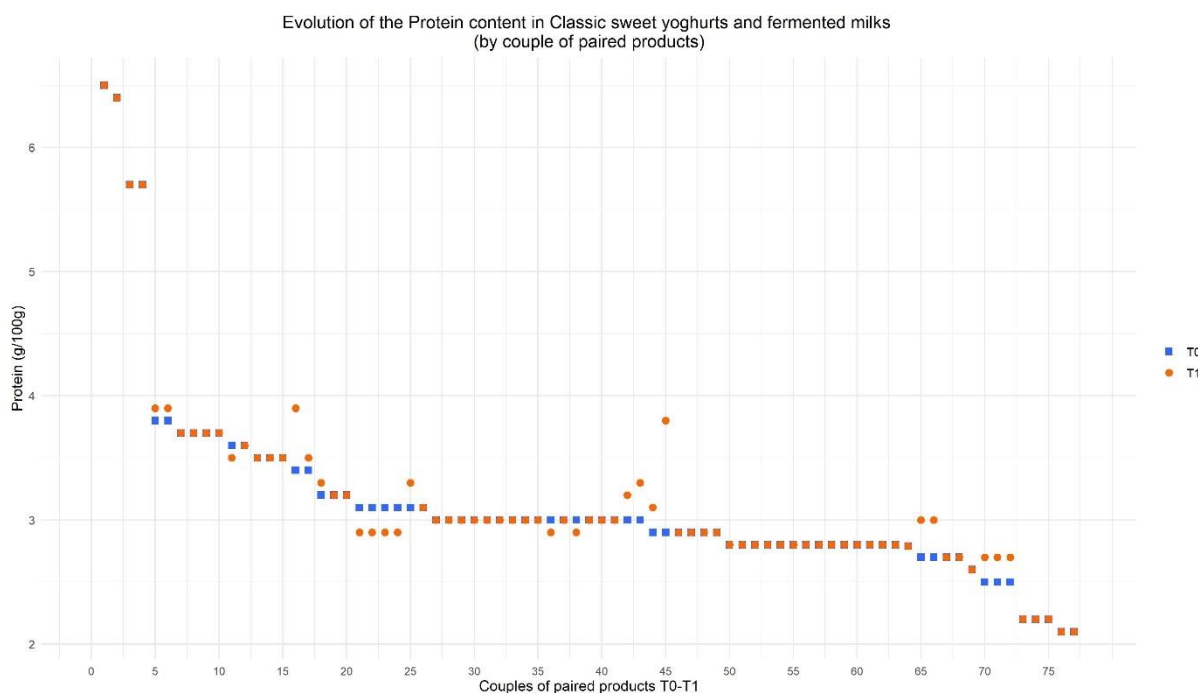


Figure 42: Protein content evolution between 2018 and 2022 by couple of paired products for Classic sweet yoghurts and fermented milks subcategory

Of the 80 couples of paired products in Classic sweet yoghurts and fermented milks, 15 have a higher protein content in 2022 (T1) than in 2018 (T0), even if the majority did not evolve between the two data collections (Figure 42).

There are also seven products, for which there is a small reduction in protein content in T1 compared to T0.

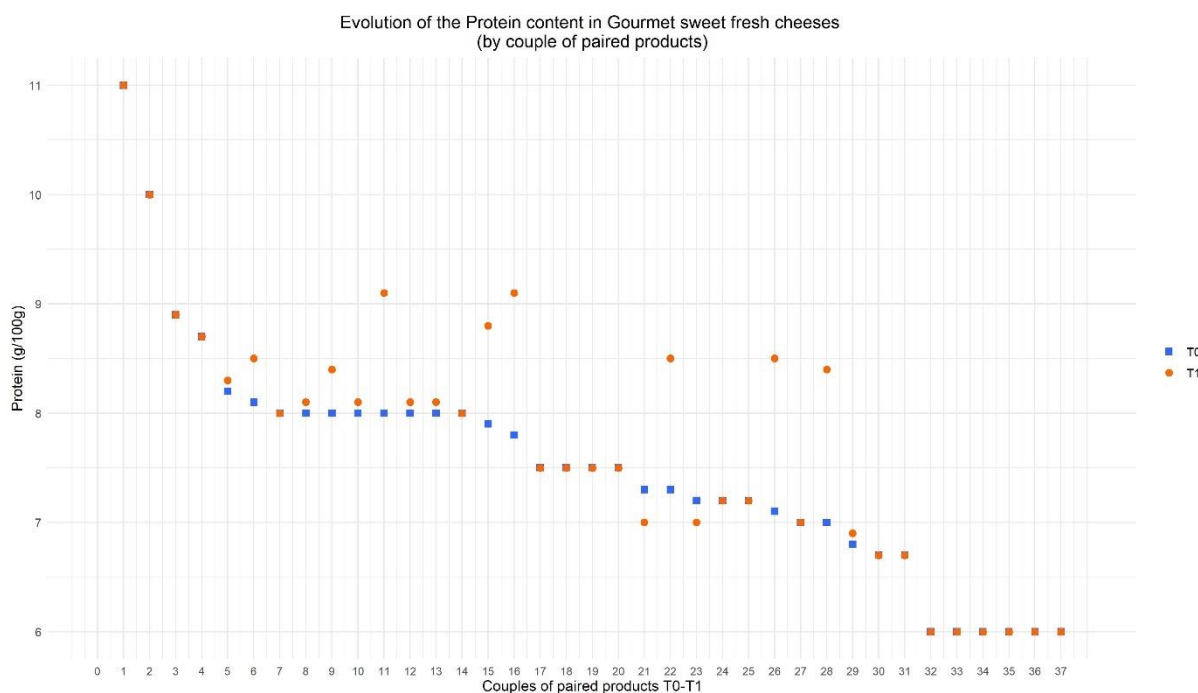


Figure 43: Protein content evolution between 2018 and 2022 by couple of paired products for Gourmet sweet fresh cheeses subcategory

Of the 37 couples of paired products in subcategory Gourmet sweet fresh cheeses, 14 have a higher protein content in 2022 (T1) than in 2018 (T0), which explains the significant increase observed at the level of paired products (Figure 43). Biggest increases, from T0 to T1, reach approximately +1,4g/100g.

There are also two products with a lower amount of protein in T1 compared to T0.

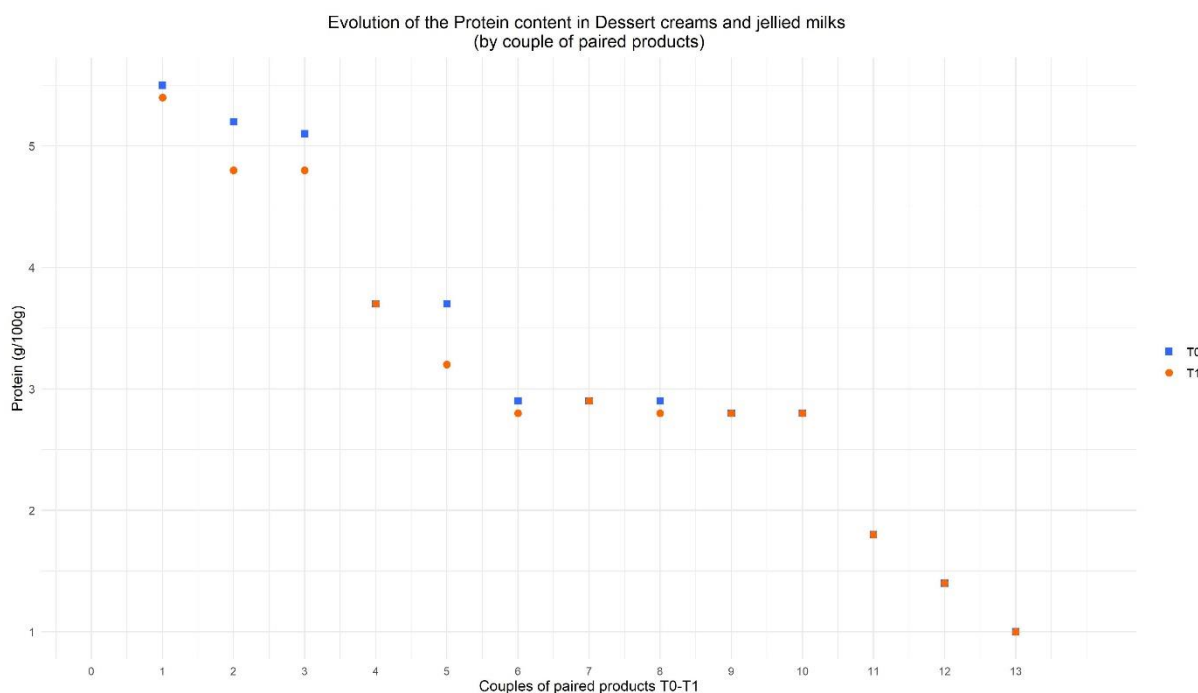


Figure 44: Protein content evolution between 2018 and 2022 by couple of paired products for Dessert creams and jellied milks subcategory

Of the 13 couples of paired products in subcategory Dessert creams and jellied milks, almost half (6) have reduced their protein content and none have increased it between 2022 (T1) and 2018 (T0) (Figure 44).

3.2.4.3 Evolution of the fat content among the subcategories

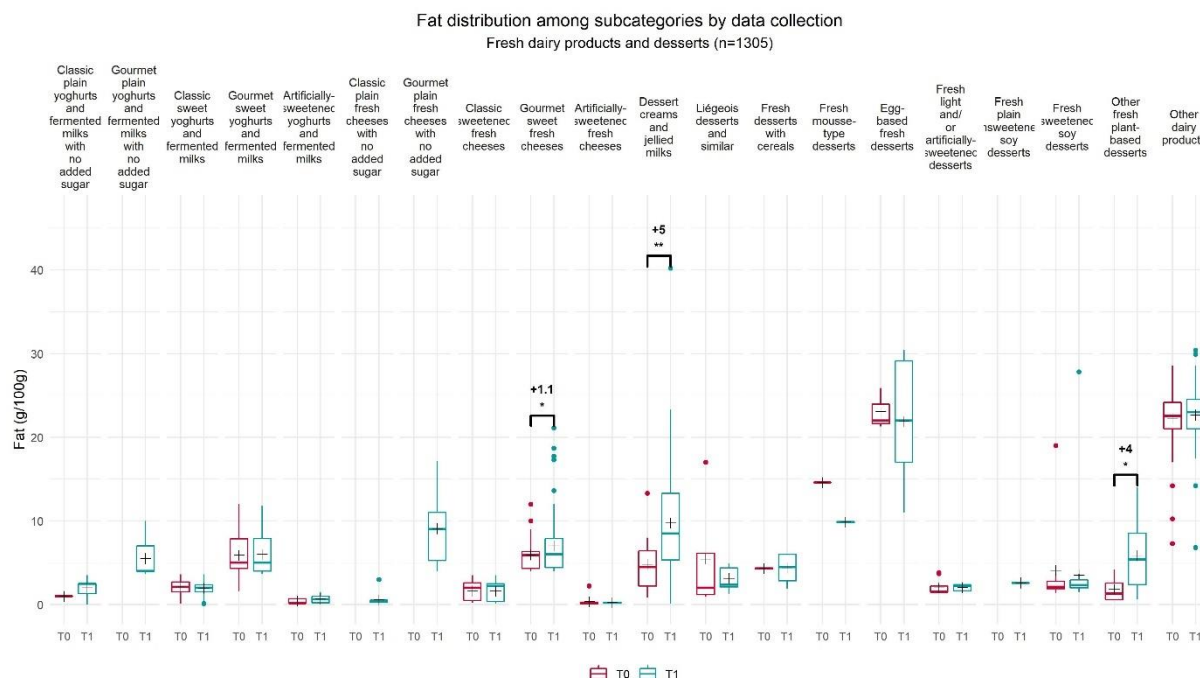


Figure 45: Fat distribution among subcategories of Fresh dairy products and desserts¹

Figure 45 shows the fat distribution of Fresh dairy products and desserts between 2018 (T0) and 2022 (T1) by subcategory.

Among all the products collected within Fresh dairy products and desserts, three subcategories out of 20 has a significant increase between both data collections in the average fat content: Gourmet sweet fresh cheeses (+1,1g/100g; +0,2%), Dessert creams and jellied milks (+5g/100g; +1%), Other fresh plant-based desserts (+4g/100g; +2,1%).

For the Dessert creams and jellied milks and Other fresh plant-based desserts subcategories part of the change could be explained by an increase in the number of products collected at T1 compared to T0 (Dessert creams and jellied milks T0: n=20, T1: n=62; Other fresh plant-based desserts T0: n=4; T1: n=38). Moreover, in the Dessert creams and jellied milks subcategory, at T1, there is an outlier with a very high fat content (40,2g/100g) which pulls up the average, but when comparing the median values of T0 and T1 (4,5g vs 8,5g), it also shows an increase.

The subcategories including products with the most variable fat content at both times, meaning room for reformulation, are Dessert creams and jellied milks (T0: n=20; T1: n=62) and Other dairy products (T0: n=82; T1: n=82). High variability is also observed for Fresh sweetened soy desserts (T0: n=18; T1: n=23), but this is mainly due to one product, that have a particularly high fat content (see outlier dot). Moreover, for some subcategories variability increases

¹Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

between T0 and T1, as for subcategories: Egg-based fresh desserts (T0: n=3; T1: n=5), Other fresh plant-based desserts (T0: n=4; T1: n=38) and Gourmet sweet fresh cheeses (T0: n=65; T1: n=87).

3.2.4.4 Evolution of the fat content for paired products

The Table 19 summarizes the difference in the average fat content observed in Fresh dairy products and desserts category between T0 and T1 for all products and for paired products. There are two subcategories of paired products with a significant reduction of mean fat content: Classic sweet yoghurts and fermented milks (-0,2g*; -0,1%) and Classic sweetened fresh cheeses (-0,1g*; -0,06%). Significant changes in paired products indicate reformulation between T0 and T1.

Table 19: Summary of the evolution of the average fat content for Fresh dairy products and desserts, by subcategory¹

Subcategory_name	Fat					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	2	+1	+100,6%	1	0	0%
Gourmet plain yoghurts and fermented milks with no added sugar	5,5					
Classic sweet yoghurts and fermented milks	2	-0,1	-6,9%	1,9	-0,1*	-5,1%
Gourmet sweet yoghurts and fermented milks	6	+0,08	+1,3%	5,8	+0,2	+4,2%
Artificially-sweetened yoghurts and fermented milks	0,7	+0,3	+68%	0,8	0	0%
Classic plain fresh cheeses with no added sugar	0,6					
Gourmet plain fresh cheeses with no added sugar	9,1					
Classic sweetened fresh cheeses	1,6	-0,007	-0,4%	1,5	-0,02*	-1,2%
Gourmet sweet fresh cheeses	7	+1,1*	+18%	6,1	-0,01	-0,2%
Artificially-sweetened fresh cheeses	0,2	-0,1	-31,4%	0,2	+0,01	+4,2%
Dessert creams and jellied milks	9,8	+4,9**	+102,6%	5,4	-0,2	-3,4%
Liégeois desserts and similar	3,1	-2,3	-42,7%	1,9	-0,05	-2,6%
Fresh desserts with cereals	4,4	+0,05	+1,1%			
Fresh mousse-type desserts	9,8	-4,8	-32,5%			
Egg-based fresh desserts	21,9	-1,2	-5,1%	22	0	0%
Fresh light and/or artificially-sweetened desserts	2	+0,05	+2,7%	2,1	+0,07	+3,6%
Fresh plain unsweetened soy desserts	2,6					
Fresh sweetened soy desserts	3,5	-0,6	-13,6%	2,4	-2	-40,7%
Other fresh plant-based desserts	5,9	+4*	+216,9%	3,6	-0,6	-14,3%
Other dairy products	22,7	+0,4	+1,8%	22,1	+0,1	+0,5%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

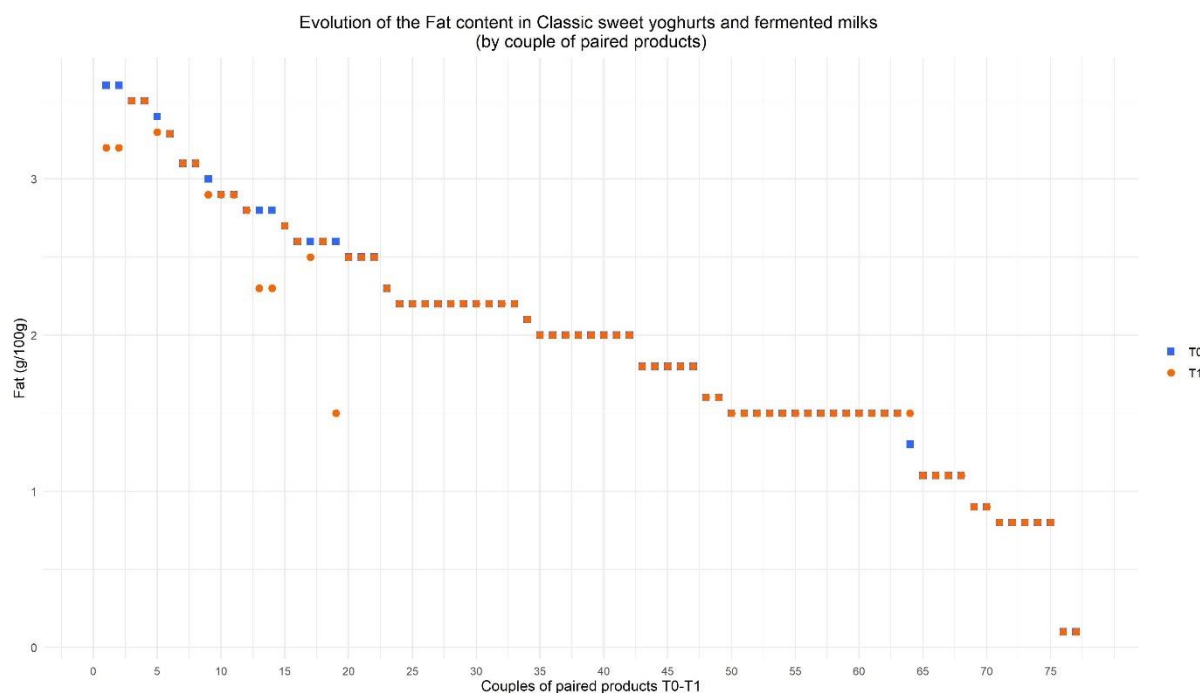


Figure 46: Fat content evolution between 2018 and 2022 by couple of paired products for Classic sweet yoghurts and fermented milks subcategory

As seen on Figure 46 of the over 75 couples of paired products, the majority of products found at both times, have the same fat content, one product has a higher amount of fat in T1 and eight have a lower fat content in 2022 (T1) than in 2018 (T0) and have therefore been reformulated by reducing their fat content.

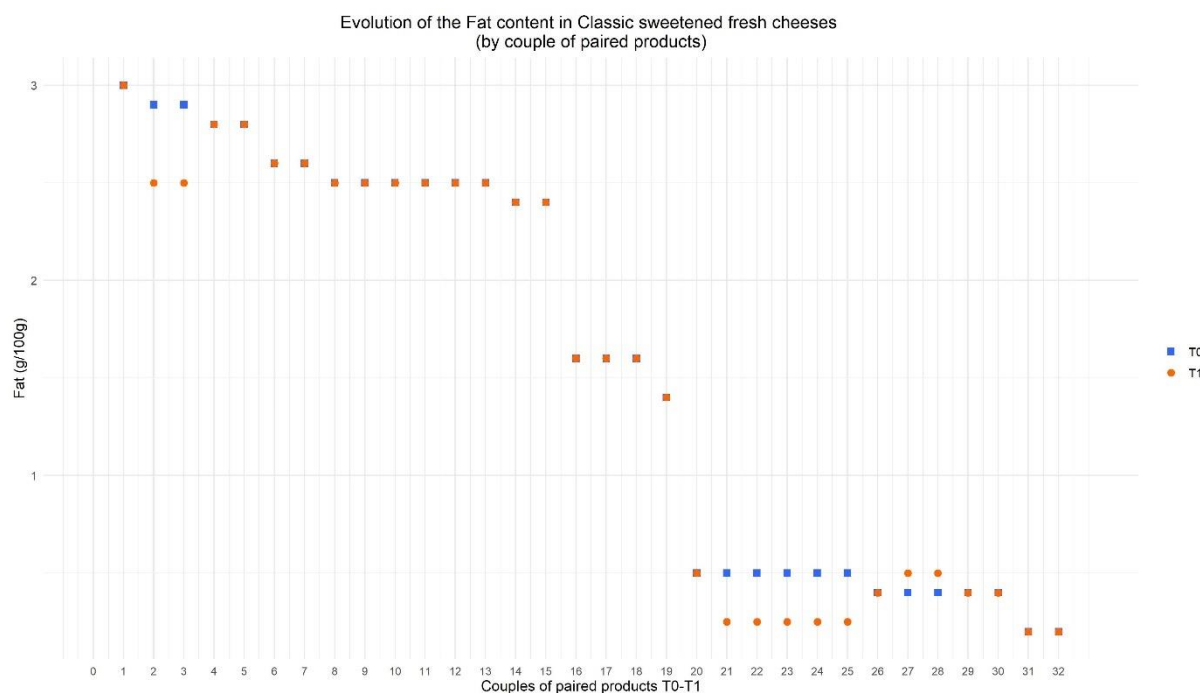


Figure 47: Fat content evolution between 2018 and 2022 by couple of paired products for Classic sweetened fresh cheeses subcategory

As seen on Figure 47, of the 32 couples of paired products in subcategory Classic sweetened fresh cheeses, seven have reduced their fat content in 2022 (T1), explaining the significant decrease in mean fat value for this subcategory. There are also two products which have a higher amount of fat in T1 compared to T0, but the increase of fat content for these products has no visible impact on the whole subcategory.

3.2.4.5 Evolution of the saturated fat content among the subcategories

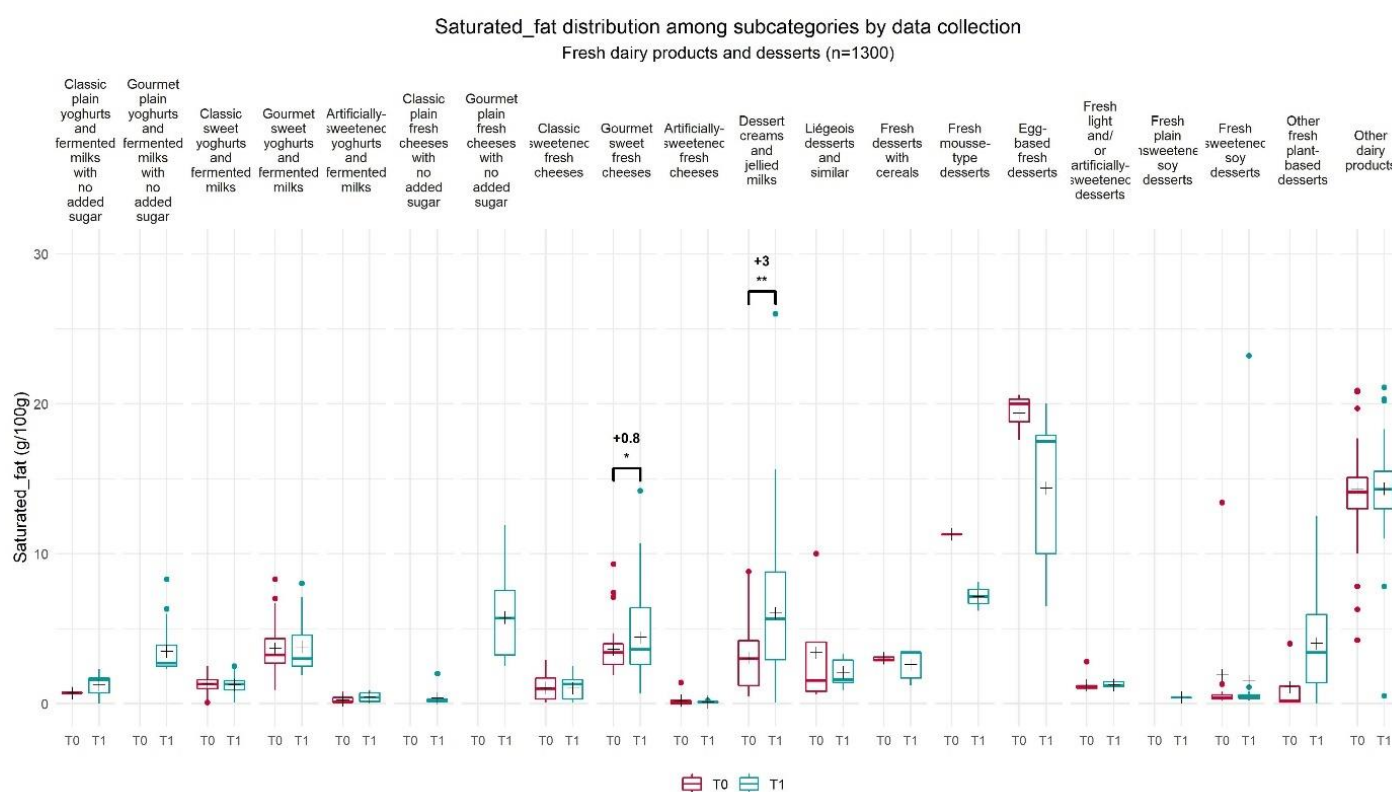


Figure 48: Saturated fat distribution among subcategories of Fresh dairy products and desserts¹

Figure 48 shows the saturated fat distribution of Fresh dairy products and desserts between 2018 (T0) and 2022 (T1) by subcategory.

The saturated fat distribution among Fresh dairy products and desserts is quite similar to the fat distribution in the same category. Among all the products collected within Fresh dairy products and desserts category, two subcategories out of 20 have a significant increase in the average saturated fat content between both data collections: Gourmet sweet fresh cheeses (+0,8g/100g; +0,2%), Dessert creams and jellied milks (+3g/100g; +1). Part of the change could be explained by the increase in the number of products collected at T1 (n=62) compared to T0 (n=20) but also, due to differences of products collected at each time (food offer has evolved). In the Dessert creams and jellied milks subcategory there is an outlier with a very high saturated fat content (26g/100g), which is raising the average saturated fat content for this subcategory at T1, and when comparing the median values observed at T0 and T1 (3g/100g vs 5,7/100g), it also shows an increase.

The subcategory that remains the most variable in terms of saturated fat content, at both times, meaning room for reformulation, is Other dairy products (T0: n=82; T1: n=81). It can be noted

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

that this subcategory includes a large variety of different products, explaining why the variability of saturated fat content of products observed at the two times is wide.

As in the case of fat content, high variability is also observed for Fresh sweetened soy desserts (T0: n=18; T1: n=23), but this is mainly due to the one product that stands out from the saturated fat content observed for this subcategory.

Moreover, there are many subcategories, collected at the two times, in which the variability increased between T0 and T1: Dessert creams and jellied milks (T0: n=20; T1: n= 62), Gourmet sweet fresh cheeses (T0: n=61; T1: n=87), Egg-based fresh desserts (T0: n=3; T1: n=5) and Other fresh plant-based desserts (T0: n=4; T1: n=38).

Finally, some subcategories show a variability only at T1 because they were only collected in 2022: Gourmet plain fresh cheeses with no added sugar (n=18) and Gourmet plain yoghurts and fermented milks with no added sugar (n=29).

3.2.4.6 Evolution of the saturated fat content for paired products

The Table 20 summarizes the difference in the average saturated fat content observed in Fresh dairy products and desserts category between T0 and T1 for all products and for paired products. There were no significant changes observed on the paired products level.

Table 20: Summary of the evolution of the average saturated fat content for Fresh dairy products and desserts, by subcategory¹

Subcategory name	Saturated fat					
	All product			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	1,3	+0,6	+80,5%	0,7	0	0%
Gourmet plain yoghurts and fermented milks with no added sugar	3,5					
Classic sweet yoghurts and fermented milks	1,2	-0,09	-6,9%	1,3	-0,06	-4,2%
Gourmet sweet yoghurts and fermented milks	3,8	+0,1	+2,7%	3,6	+0,2	+5,8%
Artificially-sweetened yoghurts and fermented milks	0,4	+0,2	+70,6%	0,5	0	0%
Classic plain fresh cheeses with no added sugar	0,4					
Gourmet plain fresh cheeses with no added sugar	5,7					
Classic sweetened fresh cheeses	1	-0,02	-1,9%	0,9	-0,003	-0,3%
Gourmet sweet fresh cheeses	4,4	+0,8*	+22%	4	+0,2	+5%
Artificially-sweetened fresh cheeses	0,1	-0,08	-39,4%	0,2	-0,005	-3,2%
Dessert creams and jellied milks	6	+3**	+97,8%	3,5	+0,03	+0,9%
Liégeois desserts and similar	2,1	-1,3	-38,8%	1,3	-0,2	-14,8%
Curdled milks						
Fresh desserts with cereals	2,6	-0,4	-14,3%			
Fresh mousse-type desserts	7,2	-4,2	-36,7%			
Egg-based fresh desserts	14,4	-5	-25,9%	20	0	0%
Fresh light and/or artificially-sweetened desserts	1,2	+0,01	+1,2%	1,2	+0,05	+4,3%
Fresh plain unsweetened soy desserts	0,4					
Fresh sweetened soy desserts	1,5	-0,4	-21,5%	0,4	-1	-74,2%
Other fresh plant-based desserts	4	+2,9	+266,5%	3,4	-0,6	-15%
Other dairy products	14,3	+0,008	+0,06%	14	+0,3	+2,1%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.4.7 Evolution of the sugar content among the subcategories

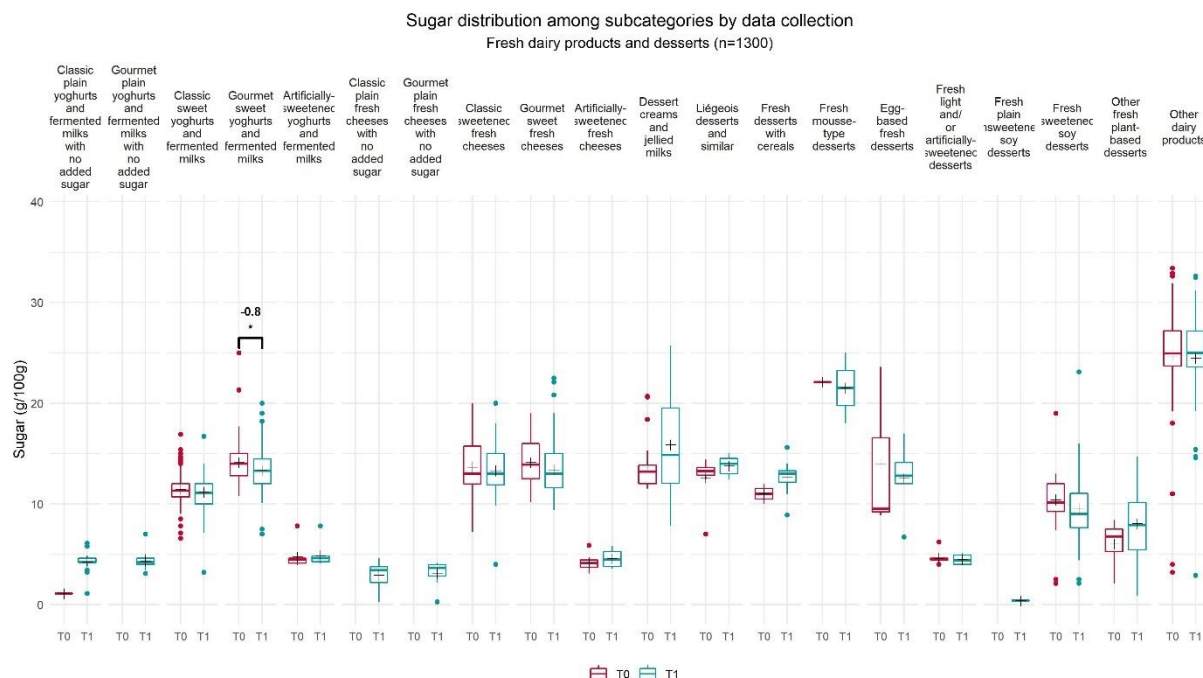


Figure 49: Sugar distribution among subcategories of Fresh dairy products and desserts¹

Figure 49 shows the sugar distribution of Fresh dairy products and desserts between 2018 (T0) and 2022 (T1) by subcategory.

Among all the products collected within Fresh dairy products and desserts, one subcategory out of 20 has a significant decrease between both data collections in the average sugar content: Gourmet sweet yoghurts and fermented milks (-0,8g/100g; -0,06%).

The subcategories including products with sugar content remaining the most variable at both times, meaning still room for reformulation, are Classic sweet yoghurts and fermented milks (T0: n=181; T1: n=192), Gourmet sweet yoghurts and fermented milks (T0: n=60; T1: n=79), Classic sweetened fresh cheeses (T0: n=50; T1: n=57), Gourmet sweet fresh cheeses (T0: n=61; T1: n=87), Fresh sweetened soy desserts (T0: n=18; n=23), and Other dairy products (T0: n=82; T1: n=82).

Additionally, for Dessert creams and jellied milks (T0: n=20; T1: n=62), Other fresh plant-based desserts (T0: n=4; T1: n=38), Gourmet sweet fresh cheeses (T0: 61; T1: n=87) the variability increased between T0 and T1.

Finally, for subcategory Egg-based fresh desserts (T0: n=3; T1: n=5), variability has decreased considerably from T0 to T1.

¹Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.4.7 Evolution of the sugar content for paired products

The Table 21 summarizes the difference in the average sugar content in Fresh dairy products and desserts category between T0 and T1 for all products and for paired products. There are four subcategories with a significant reduction of mean sugar values among paired products: Classic sweet yoghurts and fermented milks (-0,4g***; -0,03%), Gourmet sweet yoghurts and fermented milks (-0,5g***; -0,04%), Classic sweetened fresh cheeses (-0,3g*; -0,02%), Gourmet sweet fresh cheeses (-1,3g***; -0,09%). Significant changes in paired products indicate reformulation reducing products sugar content between T0 and T1.

Table 21: Summary of the evolution of the average sugar content for Fresh dairy products and desserts, by subcategory¹

Subcategory name	Sugar					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	4,2	+3,1	+284,7%	1,1	0	0%
Gourmet plain yoghurts and fermented milks with no added sugar	4,3					
Classic sweet yoghurts and fermented milks	11,2	-0,3	-2,6%	11,7	-0,3***	-2,5%
Gourmet sweet yoghurts and fermented milks	13,3	-0,8*	-5,6%	13,1	-0,4***	-3,3%
Artificially-sweetened yoghurts and fermented milks	4,8	+0,1	+2%	5,3	0	0%
Classic plain fresh cheeses with no added sugar	2,9					
Gourmet plain fresh cheeses with no added sugar	3,1					
Classic sweetened fresh cheeses	13,3	-0,3	-2,5%	13,7	-0,2*	-1,6%
Gourmet sweet fresh cheeses	13,4	-0,7	-5,1%	13,3	-1**	-8,5%
Artificially-sweetened fresh cheeses	4,6	+0,4	+9,6%	4	0	0%
Dessert creams and jellied milks	15,9	+2	+14,2%	14,5	-0,1	-0,9%
Liégeois desserts and similar	13,8	+1,2	+9,4%	13,2	-0,2	-1,5%
Fresh desserts with cereals	12,7	+1,7	+15,1%			
Fresh mousse-type desserts	21,5	-0,6	-2,7%			
Egg-based fresh desserts	12,5	-1,5	-10,6%	6,7	-2	-24,7%
Fresh light and/or artificially-sweetened desserts	4,4	-0,1	-2,8%	4,3	0	0%
Fresh plain unsweetened soy desserts	0,4					
Fresh sweetened soy desserts	9,6	-0,8	-8,1%	7,8	-2	-17,2%
Other fresh plant-based desserts	8	+2	+33,9%	12	+5	+66,7%
Other dairy products	24,5	-0,2	-0,9%	25,5	-0,2	-0,6%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

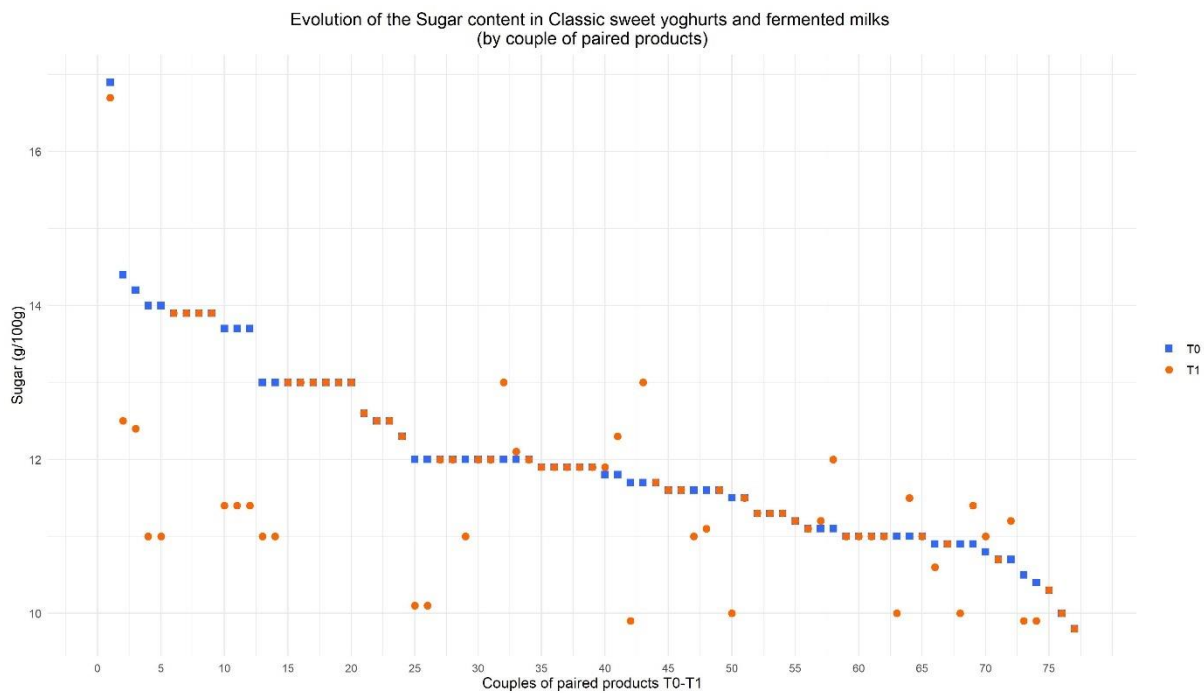


Figure 50: Sugar content evolution between 2018 and 2022 by couple of paired product for Classic sweet yoghurts and fermented milks subcategory

As seen on Figure 50, of the 77 couples of paired products, 22 products have a reduced sugar content in 2022 (T1) compared to 2018 (T0). The biggest reduction is approximately -3g/100g. There are 11 products with a higher amount of sugar in T1 compared to T0.

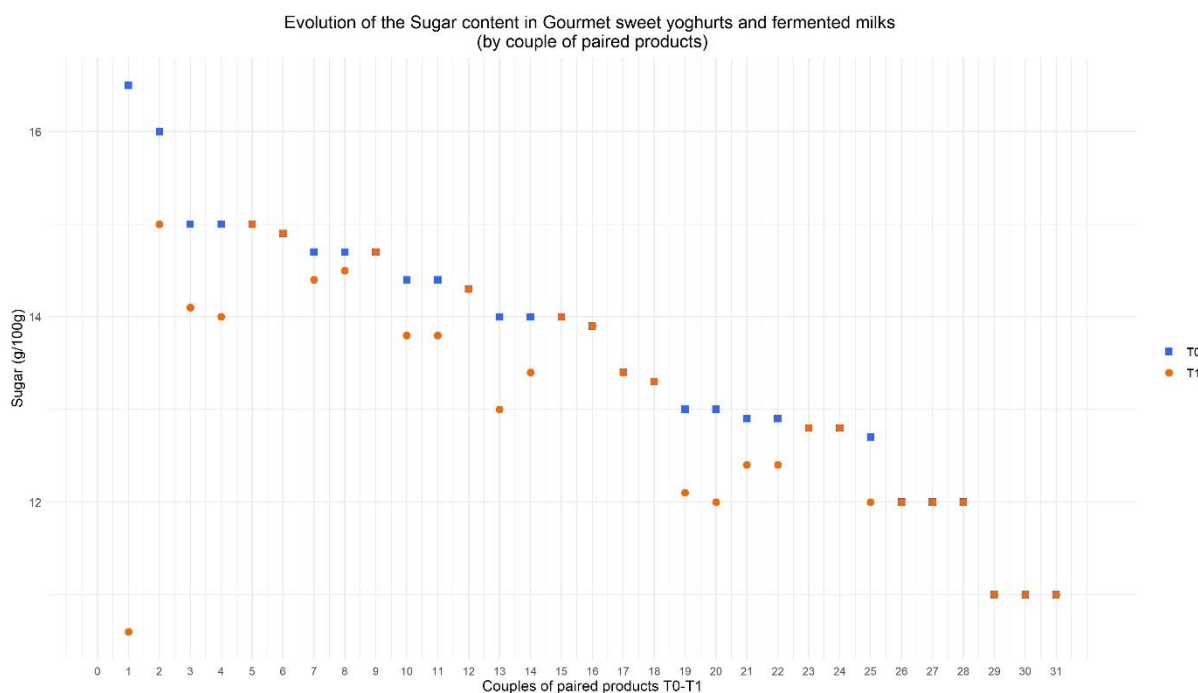


Figure 51: Sugar content evolution between 2018 and 2022 by couple of paired product for Gourmet sweet yoghurts and fermented milks subcategory

As seen on Figure 51, of the 31 couples of paired products in subcategory Gourmet sweet yoghurts and fermented milks, approximately half of the products (15) have a reduced sugar content in 2022 (T1) compared to 2018 (T0), explaining partly the decrease of sugar mean value for this subcategory. The biggest reduction observed is approximately -6g/100g.

There are no products with a higher amount of sugar in T1 compared to T0.

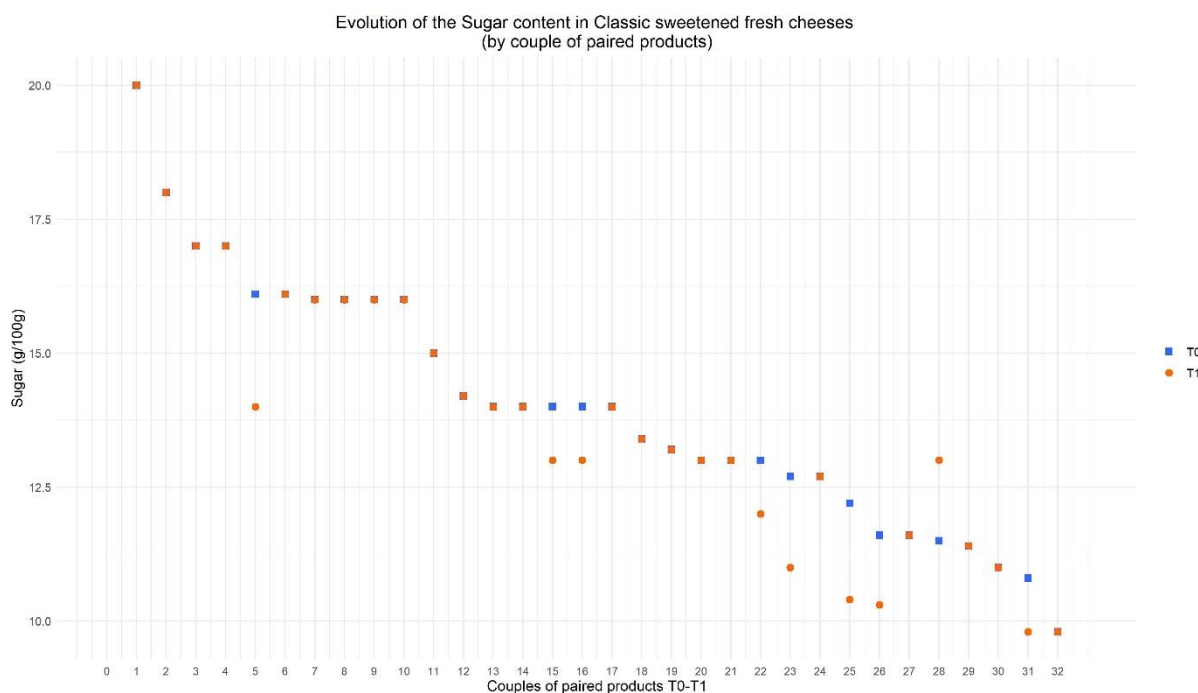


Figure 52: Sugar content evolution between 2018 and 2022 by couple of paired product for Classic sweetened fresh cheeses subcategory

As seen on Figure 52, of the 32 couples of paired products in subcategory Classic sweetened fresh cheeses, eight have a lower sugar content in 2022 (T1) than in 2018 (T0). The biggest reduction is approximately -2,5g/100g.

There is one product with a higher amount of sugar in T1 compared to T0 (couple 28).

The reduction of sugar content of products collected at the two times explains partly the significant decrease of mean sugar value observed for this subcategory.

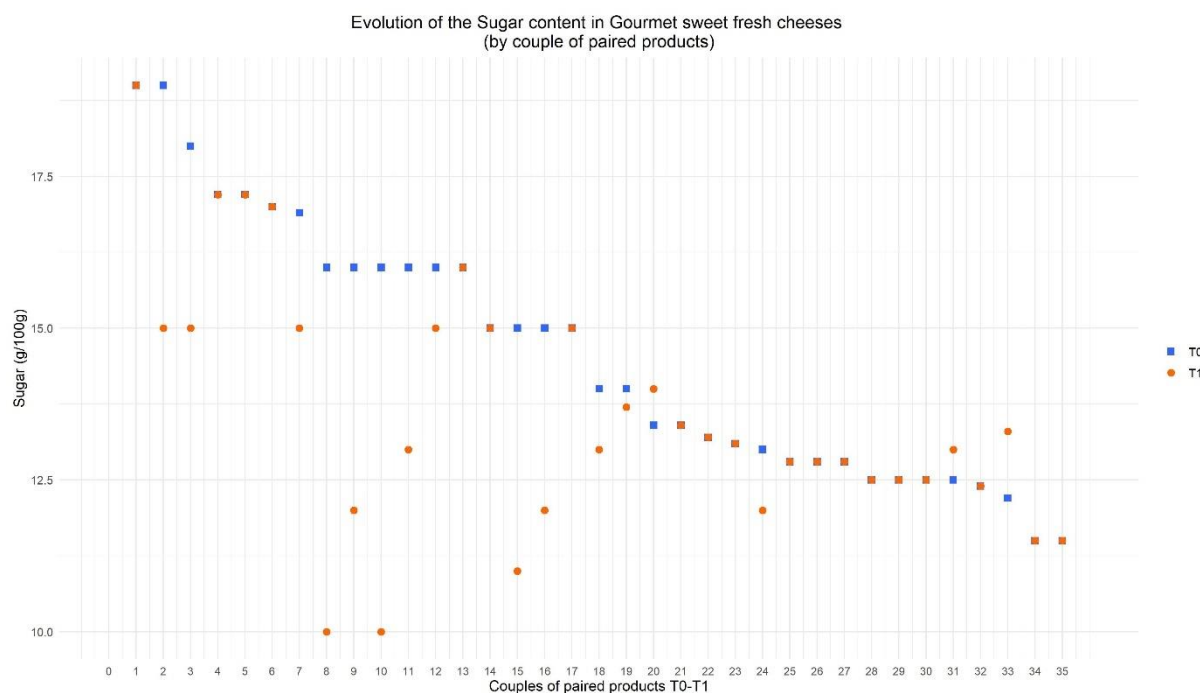


Figure 53: Sugar content evolution between 2018 and 2022 by couple of paired products for Gourmet sweet fresh cheeses subcategory

As seen on Figure 53, of the 35 couples of paired products, 13 have a reduced sugar content in 2022 (T1) compared to 2018 (T0). The biggest reduction is approximately -6g/100g.

There are also three products with a higher amount of sugar at T1 compared to T0, but the increases have no visible impact on the subcategory as a whole.

3.2.4.8 Evolution of the fibre content among the subcategories

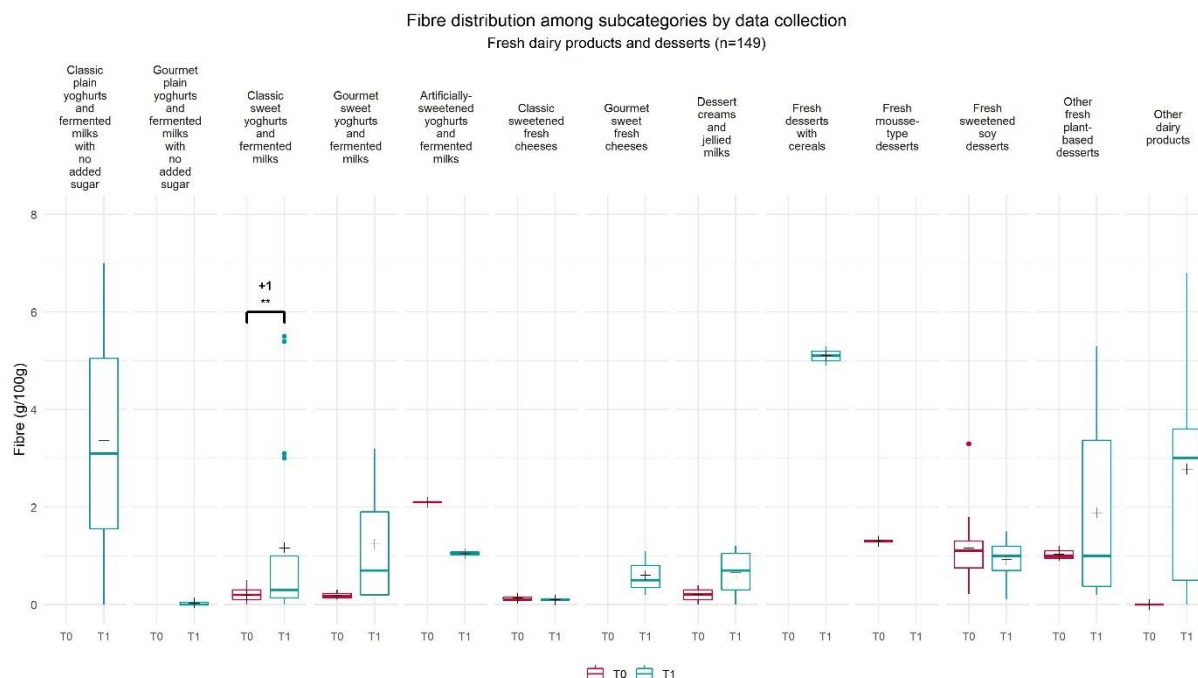


Figure 54: Fibre distribution among subcategories of Fresh dairy products and desserts¹

Figure 54 shows the fibre distribution of Fresh dairy products and desserts between 2018 (T0) and 2022 (T1) by subcategory.

Because the fibre labelling is not mandatory, it can be noted that the number of products considered for the comparison is lower (Table 2) than for the other nutrients. It therefore may influence the observed variability of fibre.

While in T0 there was little variability in the fibre content of Fresh dairy products and desserts, in T1 many subcategories have a higher variability.

Finally, among products with fibre labelling collected within Fresh dairy products and desserts category, there is one subcategory with a significant increase in the average fibre content between both data collections: Classic sweet yoghurts and fermented milks (+1g/100g; +5%).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.4.9 Evolution of the fibre content for paired products

The Table 22 summarizes the difference in the average fibre content in Fresh dairy products and desserts category between T0 and T1 for all products and for paired products. No significant difference is observed at the level of paired products, meaning that the change observed at the subcategory level for Classic sweet yoghurts and fermented milks is most likely led by new products being added to the food offer, which are enriched with fibre.

Table 22: Summary of the evolution of the average fibre content for Fresh dairy products and desserts, by subcategory¹

Subcategory_name	Fibre					
	All products			Paired products		
	Mean. T1 (g/100 g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean. T1 (g/100 g)	Mean value difference (g/100g)	Mean value evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	3,4					
Gourmet plain yoghurts and fermented milks with no added sugar	0					
Classic sweet yoghurts and fermented milks	1,2	+1**	+518,9%	0,2	+0,05	+30%
Gourmet sweet yoghurts and fermented milks	1,2	+1,1	+561,3%	0,2	+0,03	+14,3%
Artificially-sweetened yoghurts and fermented milks	1	-1	-50%			
Classic sweetened fresh cheeses	0,1	-0,03	-25%			
Gourmet sweet fresh cheeses	0,6					
Dessert creams and jellied milks	0,7	+0,4	+221,8%	0,2	-0,002	-1%
Fresh desserts with cereals	5,1					
Fresh sweetened soy desserts	0,9	-0,2	-20,4%	1,1	+0,2	+21,6%
Other fresh plant-based desserts	1,9	+0,8	+82%	0,8	-0,1	-11,1%
Other dairy products	2,8	+2,8		0	0	

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

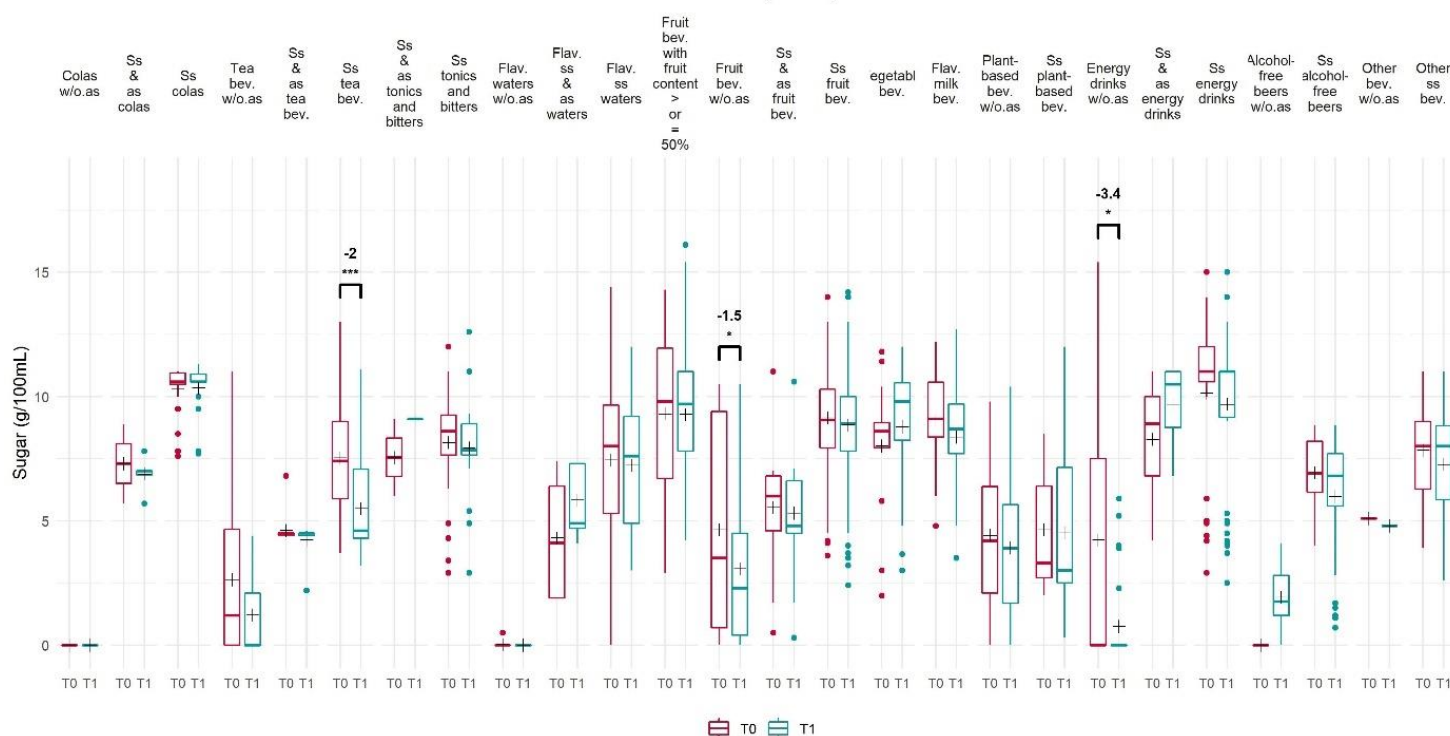
Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.5 Soft drinks

The nutrients considered for the analysis of the evolution of Soft drinks category are: Sugars, Fibre and Salt. For Flavoured Milk beverages, Plant-based beverages without added sugar and Sugar-sweetened plant-based beverages subcategories, Fat and Saturated fat are also considered.

3.2.5.1 Evolution of the sugars content among the subcategories

Sugar distribution among subcategories by data collection
Soft drinks (n=1888)



bev. = beverages; flav. = flavoured; ss = sugar-sweetened; ss & as = sugar-sweetened and artificially-sweetened; w/o.as = without added sugar

Figure 55: Sugar distribution among subcategories of Soft drinks¹

Figure 55 shows the sugar distribution of Soft drinks between 2018 (T0) and 2022 (T1) by subcategory.

Among all the products collected within Soft drinks category, three subcategories out of 26 had a significant decrease in the average sugar content between both data collections: Sugar-sweetened tea beverages (-2g/100g; -0,3%), Fruit beverages without added sugar (-1,5g/100g; -0,3%), Energy drinks without added sugar (-3,4g/100g; -0,8%). As two of these subcategories were by definition without added sugar, most likely the fruit content in these products has been reduced. However, Energy drinks without added sugar subcategory also had a much lower number of products in T0 (n=6) than in T1 (n=48).

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

There is a very high variability in the sugar content of Soft drinks among all subcategories meaning room for reformulation for the whole category, except for the subcategories “without added sugar”, for which the variability in sugar is relatively homogeneous due to their definition.

In a few subcategories the sugar content variability has considerably reduced between T0 and T1, as for Tea beverages without added sugar (T0: n=15; T1: n=11) and Energy drinks without added sugar (T0: n=6; T1: n=48).

3.2.5.2 Evolution of the sugar content for paired products

The Table 23 summarizes the difference in the average sugar content in Soft drinks category between T0 and T1 for all products and for paired products. There is one subcategory with a significant reduction of sugar mean content of paired products: Sugar-sweetened fruit beverages (-0,2g**; -0,02%). Even though the decrease of the sugar content observed at the subcategory level was not significant, it is significant in the paired products, meaning that there have been reformulations.

Table 23: Summary of the evolution of the average sugar content for Soft drinks, by subcategory¹

Subcategory name	Sugar					
	All products			Paired products		
	Mean. T1 (g/100 g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean. T1 (g/100 g)	Mean value difference (g/100g)	Mean value evolution (%)
Colas without added sugar	0	0		0	0	
Sugar-sweetened and artificially-sweetened colas	6,9	-0,4	-5,7%			
Sugar-sweetened colas	10,3	+0,05	+0,5%	10,3	+0,1	+1,4%
Tea beverages without added sugar	1,2	-1,4	-54,1%	2	-0,2	-9,1%
Sugar-sweetened and artificially-sweetened tea beverages	4,2	-0,4	-8,2%	4,2	-0,3	-7,6%
Sugar-sweetened tea beverages	5,5	-2***	-26,9%	6,4	-0,02	-0,3%
Sugar-sweetened and artificially-sweetened tonics and bitters	9,1	+1,5	+20,5%			
Sugar-sweetened tonics and bitters	7,9	-0,2	-2,7%	7,8	+0,03	+0,4%
Flavoured waters without added sugar	0	-0,02	-100%	0	0	
Flavoured sugar-sweetened and artificially-sweetened waters	5,8	+1,5	+35,5%	6,2	-0,1	-2,3%
Flavoured sugar-sweetened waters	7,2	-0,2	-2,9%	7,1	-0,03	-0,4%
Fruit beverages with fruit content > or = 50%	9,3	-0,03	-0,3%	9,8	+0,4	+4%
Fruit beverages without added sugar	3,1	-1,6*	-33,8%	2,9	-0,5	-13,8%

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

Table 23 (continued): Summary of the evolution of the average sugar content for Soft drinks, by subcategory¹

Subcategory_name	Sugar					
	All products			Paired products		
	Mean. T1 (g/100 g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean. T1 (g/100 g)	Mean value difference (g/100g)	Mean value evolution (%)
Sugar-sweetened and artificially-sweetened fruit beverages	5,3	-0,2	-4,2%	4,9	-0,03	-0,6%
Sugar-sweetened fruit beverages	8,9	-0,3	-3%	9,1	-0,2**	-2,1%
Vegetable beverages	8,8	+0,8	+9,5%	5,8	0	0%
Flavoured milk beverages	8,4	-0,7	-7,6%	8,5	+0,01	+0,1%
Plant-based beverages without added sugar	3,9	-0,5	-11,4%	4,4	-0,3	-5,9%
Sugar-sweetened plant-based beverages	4,5	-0,1	-2,8%	4,5	-0,2	-3,9%
Energy drinks without added sugar	0,8	-3,5*	-82,1%	0	0	
Sugar-sweetened and artificially-sweetened energy drinks	9,7	+1,4	+16,7%	9	+0,1	+1,1%
Sugar-sweetened energy drinks	9,7	-0,5	-4,5%	9,6	-0,1	-1,1%
Alcohol-free beers without added sugar	1,9	+1,9		0	0	
Sugar-sweetened alcohol-free beers	6	-1	-13,8%	6,9	+0,1	+1,5%
Other beverages without added sugar	4,8	-0,3	-5,9%			
Other sugar-sweetened beverages	7,3	-0,6	-7,3%	8	-0,2	-2,3%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

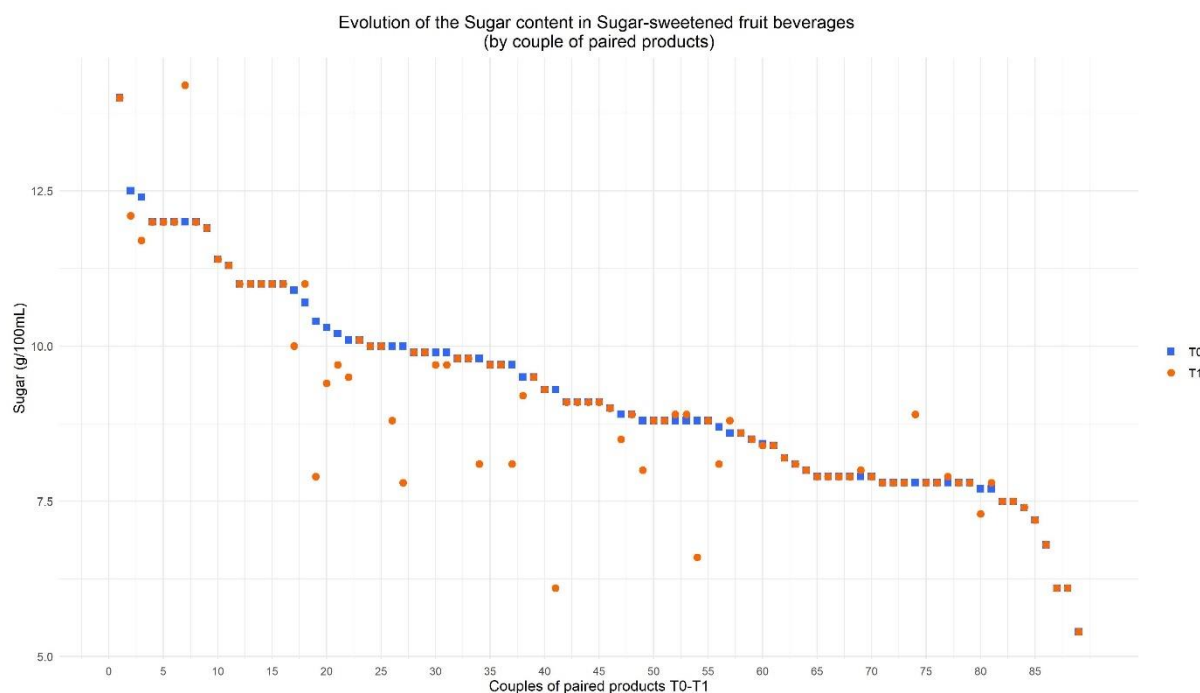


Figure 56: Sugar content evolution between 2018 and 2022 by couple of paired products for Sugar-sweetened fruit beverages subcategory

As seen on Figure 56, of the 89 couples of paired products, 20 have a reduced sugar content in 2022 (T1) compared to 2018 (T0). The biggest reduction is approximately -3g/100g.

There are also nine products with a higher amount of sugar in T1 compared to T0.

3.2.5.3 Evolution of the fibre content among the subcategories

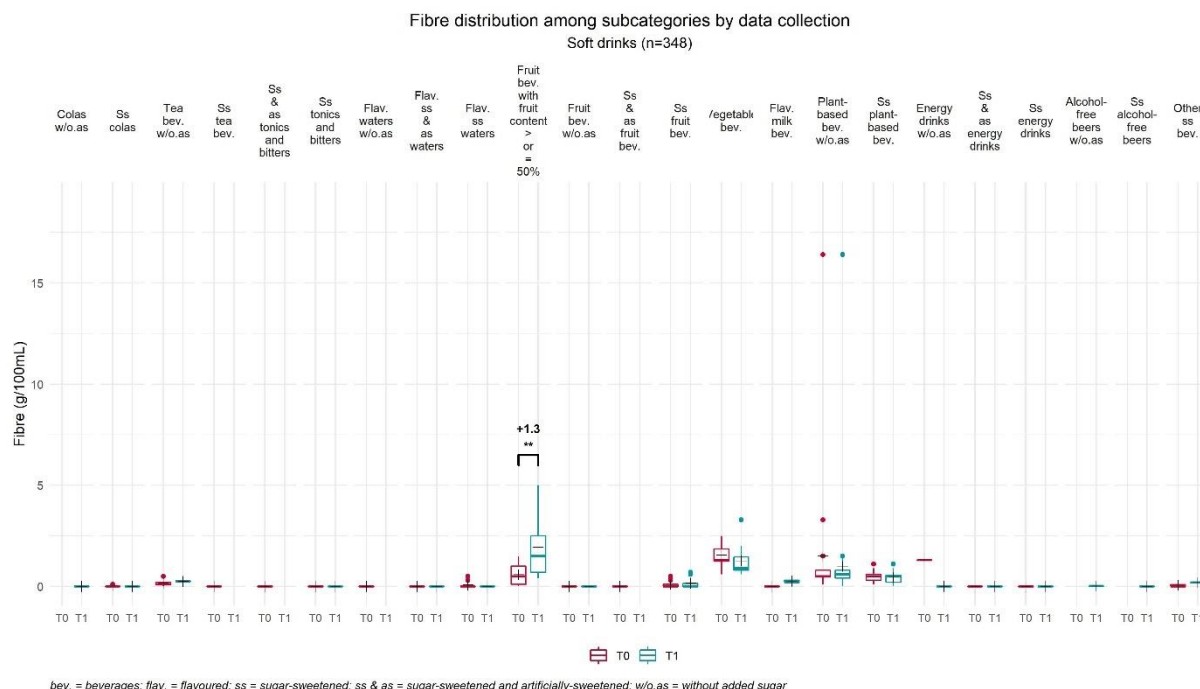


Figure 57: Fibre distribution among subcategories of Soft drinks¹

Figure 57 shows the fibre distribution of Soft drinks between 2018 (T0) and 2022 (T1) by subcategory.

Among all the products collected within Soft drinks category, one subcategory out of 26 has a significant increase between both data collections in the average fibre content: Fruit beverages with fruit content $\geq 50\%$ (+1,3g; +2,2%).

Most subcategories have very low variability in the fibre content.

There is an outlier for Plant-based beverages without added sugar in both T0 and T1 (16,4g/100g). This outlier is a powdered soy drink which is meant for reconstitution, thus the fibre content per 100g of product is much higher.

As fibre labelling is not mandatory, many products did not include this information.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.5.4 Evolution of the fibre content for paired products

The Table 24 summarizes the difference in the average fibre content in Soft drinks category between T0 and T1 for all products and for paired products. There is no significant change of mean fibre content in paired products.

Table 24: Summary of the evolution of the average fibre content for Soft drinks, by subcategory¹.

Subcategory name	Fibre					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Colas without added sugar	0					
Sugar-sweetened colas	0	-0,02	-100%	0	0	
Tea beverages without added sugar	0,2	+0,08	+42,9%	0,2	-0,2	-50%
Sugar-sweetened tonics and bitters	0	0		0	0	
Flavoured sugar-sweetened and artificially-sweetened waters	0	0		0	0	
Flavoured sugar-sweetened waters	0	-0,07	-100%	0	0	
Fruit beverages with fruit content > or = 50%	1,9	+1,4**	+233,9%	0,9	-0,03	-2,7%
Fruit beverages without added sugar	0	0		0	0	
Sugar-sweetened fruit beverages	0,2	+0,07	+69%	0,1	+0,03	+42,9%
Vegetable beverages	1,3	-0,3	-18,7%	1,8	0	0%
Flavoured milk beverages	0,3	+0,3				
Plant-based beverages without added sugar	1	-0,5	-33,6%	2,2	-0,2	-6,5%
Sugar-sweetened plant-based beverages	0,5	-0,04	-7,5%	0,5	-0,06	-12,2%
Energy drinks without added sugar	0	-1,3	-100%			
Sugar-sweetened and artificially-sweetened energy drinks	0	0		0	0	
Sugar-sweetened energy drinks	0	0				
Alcohol-free beers without added sugar	0					
Sugar-sweetened alcohol-free beers	0					
Other sugar-sweetened beverages	0,2	+0,1	+200%	0,2	0	0%

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test). Only subcategories with information regarding fibre content were included.

Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.5.5 Evolution of the salt content among the subcategories

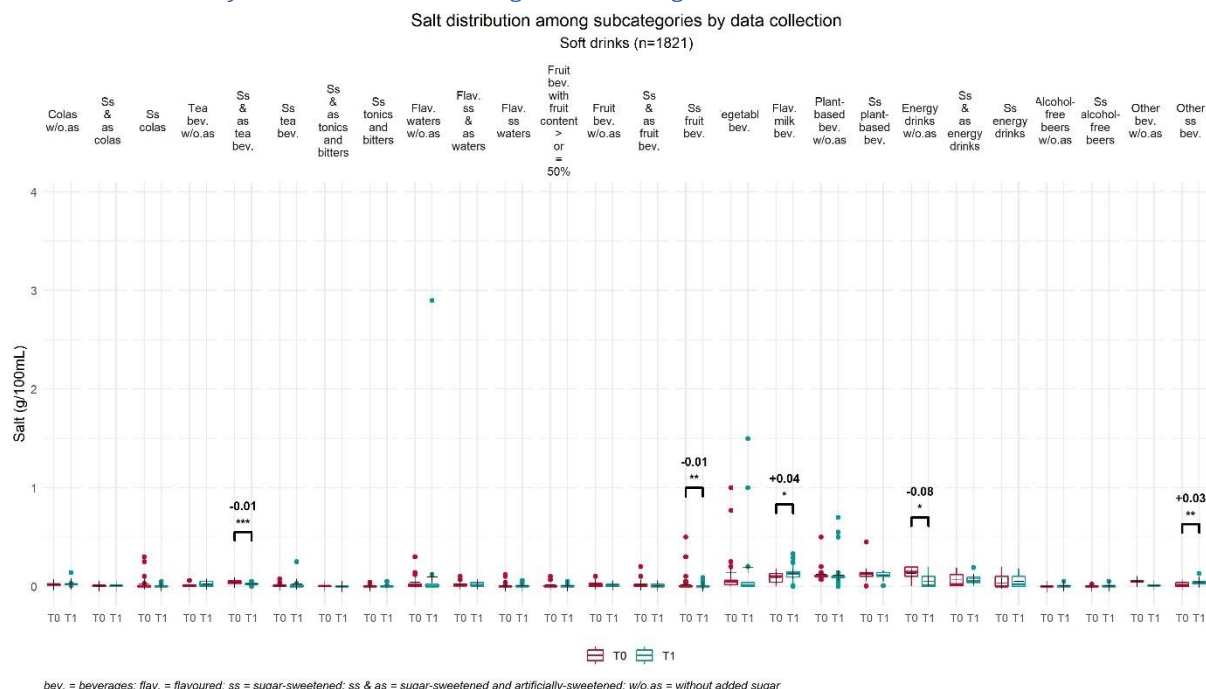


Figure 58: Salt distribution among subcategories of Soft drinks¹

Figure 58 shows the salt distribution of Soft drinks between 2018 (T0) and 2022 (T1) by subcategory.

Among all the products collected within Soft drinks category, five subcategories out of 26 has a significant change in the average salt content between both data collections.

A significant decrease of mean salt content is observed for Sugar-sweetened and artificially-sweetened tea beverages (-0,001g/100g; -0,3%), Sugar-sweetened fruit beverages (-0,01g/100g; -1%) and Energy drinks without added sugar (-0,08g/100g; -0,6%).

A significant increase of mean salt content is observed for subcategories: Flavoured milk beverages (+0,04g/100g; +0,4%) and Other sugar-sweetened beverages (+0,03g/100g; +1,5%).

Most subcategories have very low variability in the salt content.

There is an outlier for Flavoured waters without added sugar in T1 (2,9g/100g). This outlier is a salty soft drink, which does not have sugar but has added salt.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.5.6 Evolution of the salt content for paired products

The Table 25 summarizes the difference in the average salt content in Soft drinks category between T0 and T1 for all products and for paired products. No significant difference is observed at the level of paired products.

Table 25: Summary of the evolution of the average salt content for Soft drinks, by subcategory¹.

Subcategory_name	Salt					
	All products			Paired products		
	Mean. T1 (g/100 g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean. T1 (g/100 g)	Mean value difference (g/100g)	Mean value evolution (%)
Colas without added sugar	0,03	+0,0082	+45,83%	0,02	0	0%
Sugar-sweetened and artificially-sweetened colas	0,01	+0,0017	+33,33%			
Sugar-sweetened colas	0	-0,021	-82,24%	0,01	+0,002	+40%
Tea beverages without added sugar	0,02	+0,014	+129,69%	0	-0,005	-50%
Sugar-sweetened and artificially-sweetened tea beverages	0,03	-0,014***	-35,66%	0,03	-0,0077	-20,72%
Sugar-sweetened tea beverages	0,02	+0,014	+129,15%	0	-0,0015	-23,52%
Sugar-sweetened and artificially-sweetened tonics and bitters	0	-0,0025	-100%			
Sugar-sweetened tonics and bitters	0	+0,0025	+50,87%	0	-0,0022	-70,45%
Flavoured waters without added sugar	0,09	+0,051	+120,15%	0,02	0	0%
Flavoured sugar-sweetened and artificially-sweetened waters	0,02	-0,0054	-20,82%	0,03	-0,012	-30,67%
Flavoured sugar-sweetened waters	0,01	-0,00029	-4,29%	0	-0,0067	-70,5%
Fruit beverages with fruit content > or = 50%	0,01	-0,0074	-49,18%	0,01	+0,00087	+19,17%
Fruit beverages without added sugar	0,01	-0,0092	-43,32%	0,01	-0,0089	-51,18%
Sugar-sweetened and artificially-sweetened fruit beverages	0	-0,008	-47%	0,01	-0,00071	-11,11%
Sugar-sweetened fruit beverages	0	-0,0096**	-69,39%	0	-0,0039	-47,61%

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test).

Purple box: significant decrease in average content; Yellow box: significant increase in average content

Table 25 (continued): Summary of the evolution of the average salt content for Soft drinks, by subcategory¹

Subcategory_name	Salt					
	All products			Paired products		
	Mean. T1 (g/100 g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean. T1 (g/100 g)	Mean value difference (g/100g)	Mean value evolution (%)
Vegetable beverages	0,19	+0,052	+38,18%	0,52	0	0%
Flavoured milk beverages	0,13	+0,038*	+42,22%	0,12	+0,0011	+0,9%
Plant-based beverages without added sugar	0,11	-0,0099	-8,08%	0,13	0	0%
Sugar-sweetened plant-based beverages	0,11	-0,018	-13,95%	0,12	-0,0033	-2,35%
Energy drinks without added sugar	0,05	-0,077*	-58,39%	0,18	+0,013	+8%
Sugar-sweetened and artificially-sweetened energy drinks	0,07	+0,0068	+10,25%	0,09	0	0%
Sugar-sweetened energy drinks	0,05	+0,013	+36,86%	0,05	+0,01	+24,15%
Alcohol-free beers without added sugar	0,01	+0,0072		0	0	
Sugar-sweetened alcohol-free beers	0,01	+0,0036	+117,07%	0	-0,00023	-6,67%
Other beverages without added sugar	0,01	-0,04	-80%			
Other sugar-sweetened beverages	0,05	+0,027**	+144,9%	0,03	+0,012	+53,47%

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)
 Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.5.7 Evolution of the fat content among the subcategories

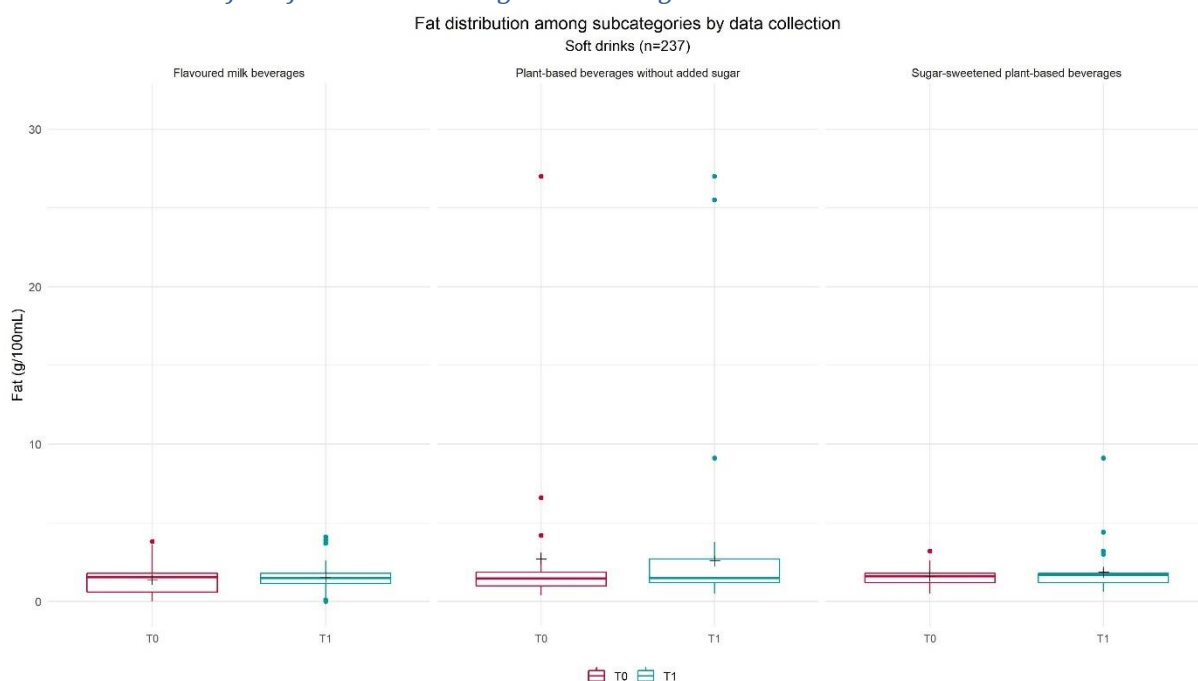


Figure 59: Fat distribution among Flavoured milk beverages, Plant-based beverages without added sugar and Sugar-sweetened plant-based beverages subcategories of Soft drinks¹

Figure 59 shows the fat distribution of Soft drinks between 2018 (T0) and 2022 (T1) in the three relevant subcategories: Flavoured milk beverages, Plant-based beverages without added sugar and Sugar-sweetened plant-based beverages.

Among the three subcategories, none have a significant change between both data collections in the average fat content.

Figure 59 is influenced by outliers in the Plant-based beverages without added sugar subcategory. These outliers are powdered soy drinks, meant for reconstitution, thus the fat content per 100g of product is much higher.

However, even if room for reformulation is still possible for some products included in these subcategories, the variability of fat content remains quite low for the majority of products and is mainly influenced by the nature of the plant used.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.5.8 Evolution of the fat content for paired products

The Table 26 summarizes the difference in the average fat content in the three relevant Soft drinks subcategories between T0 and T1 for all products and for paired products. No significant difference is observed.

Table 26: Summary of the evolution of the average fat content for Flavoured milk beverages, Plant-based beverages without added sugar and Sugar-sweetened plant-based beverages subcategories¹.

Subcategory name	Fat					
	All products			Paired products		
	Mean.T 1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T 1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Flavoured milk beverages	1,5	+0.2	+11 %	1,7	+0,01	+0,6%
Plant-based beverages without added sugar	2,6	-0.1	-5,2 %	3,1	+0,04	+1,4 %
Sugar-sweetened plant-based beverages	1,9	+0.3	+16,9%	1,6	+0,05	+3,5 %

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test).

Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.5.9 Evolution of the saturated fat content among the subcategories

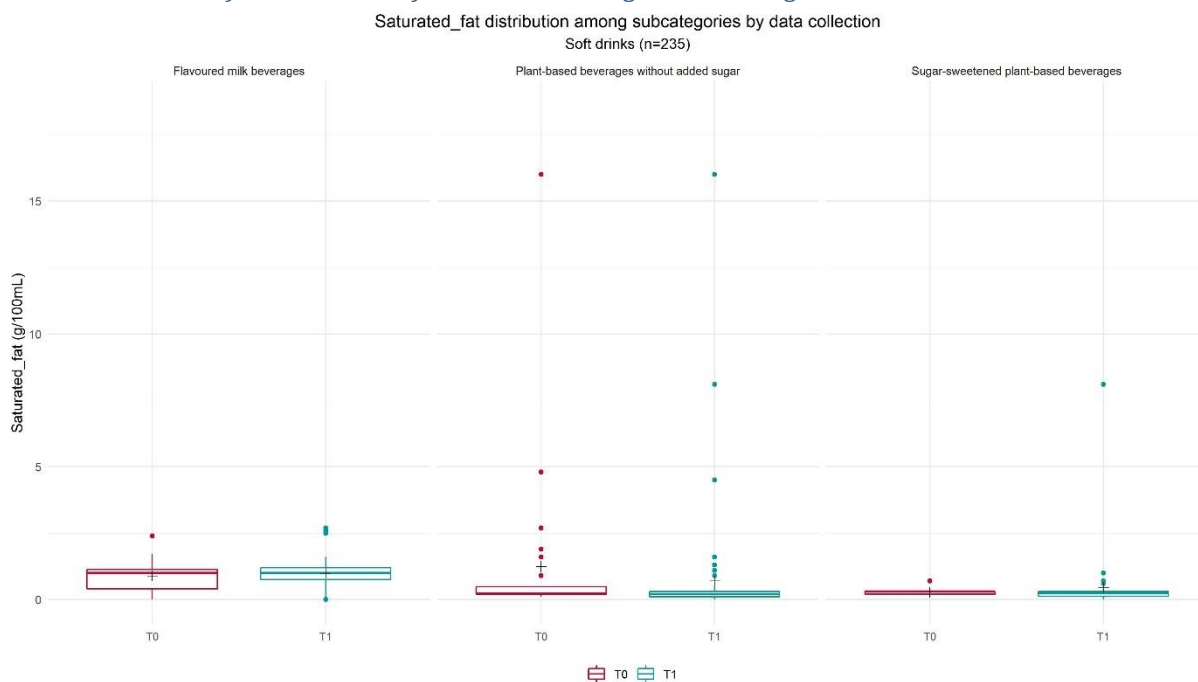


Figure 60: Saturated fat distribution among Flavoured milk beverages, Plant-based beverages without added sugar and Sugar-sweetened plant-based beverages subcategories of Soft drinks¹

Figure 60 shows the saturated fat distribution of Soft drinks between 2018 (T0) and 2022 (T1) in the three relevant subcategories: Flavoured milk beverages, Plant-based beverages without added sugar and Sugar-sweetened plant-based beverages.

Among the three subcategories none has a significant change between both data collections in the average fat content.

Figure 58 is influenced by outliers in the Plant-based beverages without added sugar subcategory. These outliers are powdered soy drinks meant for reconstitution, thus the fat content per 100g of product is much higher. However, among the other products, the variability is quite low.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.5.10 Evolution of the saturated fat content for paired products

The Table 27 summarizes the difference in the average saturated fat content in the three relevant Soft drinks subcategories between T0 and T1 for all products and for paired products. There is no significant changes of mean saturated fat content in paired products. No significant difference is observed.

Table 27: Summary of the evolution of the average saturated fat content for Flavoured milk beverages, Plant-based beverages without added sugar and Sugar-sweetened plant-based beverages subcategories¹.

Subcategory name	Saturated fat					
	All products			Paired products		
	Mean.T 1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T 1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Flavoured milk beverages	1	+0,1	+11,1%	1,1	+0,01	+1,3%
Plant-based beverages without added sugar	0,7	-0,5	-43,8%	1,4	+0,03	+2,6 %
Sugar-sweetened plant-based beverages	0,5	+0,2	+67,8%	0,3	+0,005	+2,2%

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test).

Purple box: significant decrease in average content; Yellow box: significant increase in average content



Best-ReMaP

Healthy Food for a Healthy Future

Germany T1 statistics report

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1 Description of the food offer

1.1 Presentation of data collected

As part of the German “National Reduction and Innovation Strategy for Sugar, Fats and Sat” (NRI), the German Ministry of Food and Agriculture has tasked the Max Rubner-Institut (MRI) in 2018, to annually monitor the assortment of processed foods available on the German retail market. The methodology for this monitoring is published elsewhere (Great et al, 2023). Briefly, every year, different product categories are scheduled to be re-monitored in order to observe any changes in the nutritional profile (as per the mandatory nutrition labelling information). The choice of brands and products was based on sales data for brands and manufacturers with the highest sale volume and turnover, by screening databases (e.g. Statista), leaflets, online shops and test reports. The main data source for product information was online research on the manufacturers’ websites. If the information was unavailable or incomplete, research was supplemented with e-mail enquiries with manufacturers or on-site research in grocery stores. Products collected through the MRI monitoring in 2022 were used in place of the data collection methods provided by Best-ReMaP. The data were then standardised to the Best-ReMaP requirements (codification of the requested fields and descriptions in the common nomenclature).

In 2019, the MRI collected data for the three categories of Breakfast cereals, Soft drinks, and Fresh dairy products and desserts (Table 1). The product categories Bread products and Delicatessen meats and similar were surveyed in 2020. This dataset represents the pre-existing data (T0). The Best-ReMaP data collection (T1) took place in 2022 for the categories Breakfast cereals, Fresh dairy products and desserts and Soft drinks. Because the T0 monitoring for the categories Bread products and Delicatessen meats and similar was more recent, their re-monitoring is scheduled for late 2023 and thus cannot be evaluated within the timeline of Best-ReMaP.

Of note, the definition and subcategorisation of the surveyed product categories differs between the German product monitoring carried out by MRI and the Best-ReMaP methodology. This is largely owing to the fact that the German monitoring began before the start of the Joint Action Best-ReMaP and was tailored to the specificities of the German market. As a consequence, the matching of the German dataset to the Best-ReMaP nomenclature resulted in empty subcategories in various instances.

Table 1 : Years of data collections

Category name	T0 data collection year	T1 data collection year
Bread products	2020	None
Breakfast cereals	2019	2022
Delicatessen meats and similar	2020	None
Fresh dairy products and desserts	2019	2022
Soft drinks	2019	2022

1.2 Evolution of the food offer

1.2.1 Evolution of the food offer, by category



Figure 1: Comparison of the number of references collected between preexisting (2019-2020=T0) and Best-ReMaP (2022=T1) data collection, per category

The total number of products collected at T0 is greater than the number of products collected at T1, with 7481 products in T0 vs. 5646 products in T1 (Figure 1). The main reason for this is that T1 lacks two categories (Bread products and Delicatessen meats and similar), as the re-monitoring for these categories was not scheduled to take place within the Best-ReMaP timeline. Upon subtracting the two categories without a follow-up snapshot from T0, the total number of products in T1 is greater than the number of products collected in T0 (T0, n = 4260 vs. T1, n = 5646).

Of the three categories with both T0 and T1 snapshots, two categories were collected in greater number during T1 than T0 (Breakfast cereals: T0, n = 923 vs. T1, n = 1490 and Soft drinks: T0, n = 1836 vs. T1, n = 2873). For Fresh dairy products and desserts, more products were collected in T0 than in T1 (T0, n = 1501 vs. T1, n = 1283).

1.2.2 Evolution of the food offer, by subcategory

1.2.2.1 Breakfast cereals

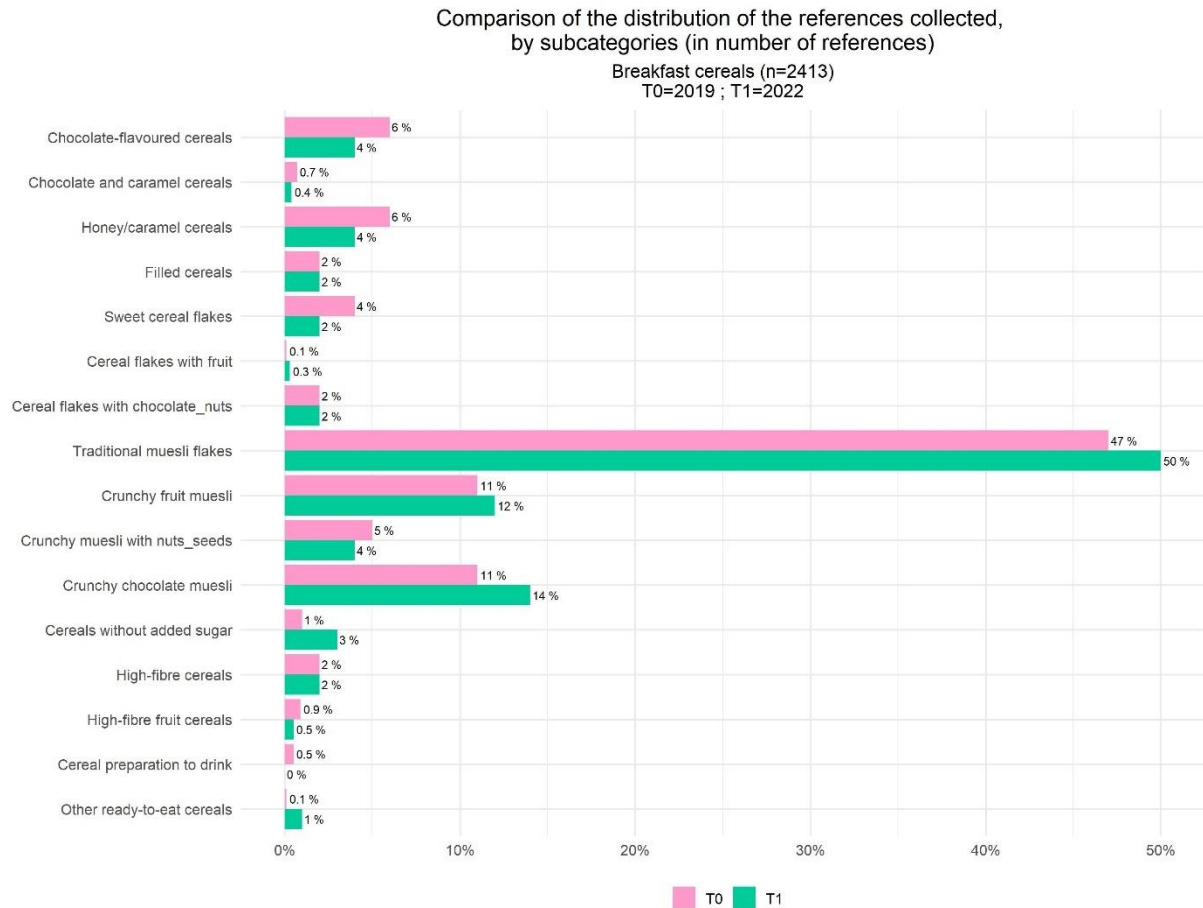


Figure 2: Comparison of the distribution of the references collected, by subcategories (in number of references) among Breakfast cereals

The comparison of product distribution across subcategories for Breakfast cereals between 2019 (T0) and 2022 (T1) (Figure 2) shows that the percentage of collected products is:

- Higher at T0 in 7 subcategories out of 16 (Chocolate-flavoured cereals, Chocolate and caramel cereals, Honey/caramel cereals, Sweet cereal flakes, Crunchy muesli with nuts_seeds, High-fibre fruit cereals and Cereal preparation to drink).
- Higher at T1 in 6 subcategories out of 16 (Cereal flakes with fruit, Traditional muesli flakes, Crunchy fruit muesli, Crunchy chocolate muesli, Cereals without added sugar and Other ready-to-eat cereals).
- Identical for 3 subcategories out of 16 (Filled cereals, Cereal flakes with chocolate_nuts and High-fibre cereals).

1.2.2.2 Fresh dairy products and desserts

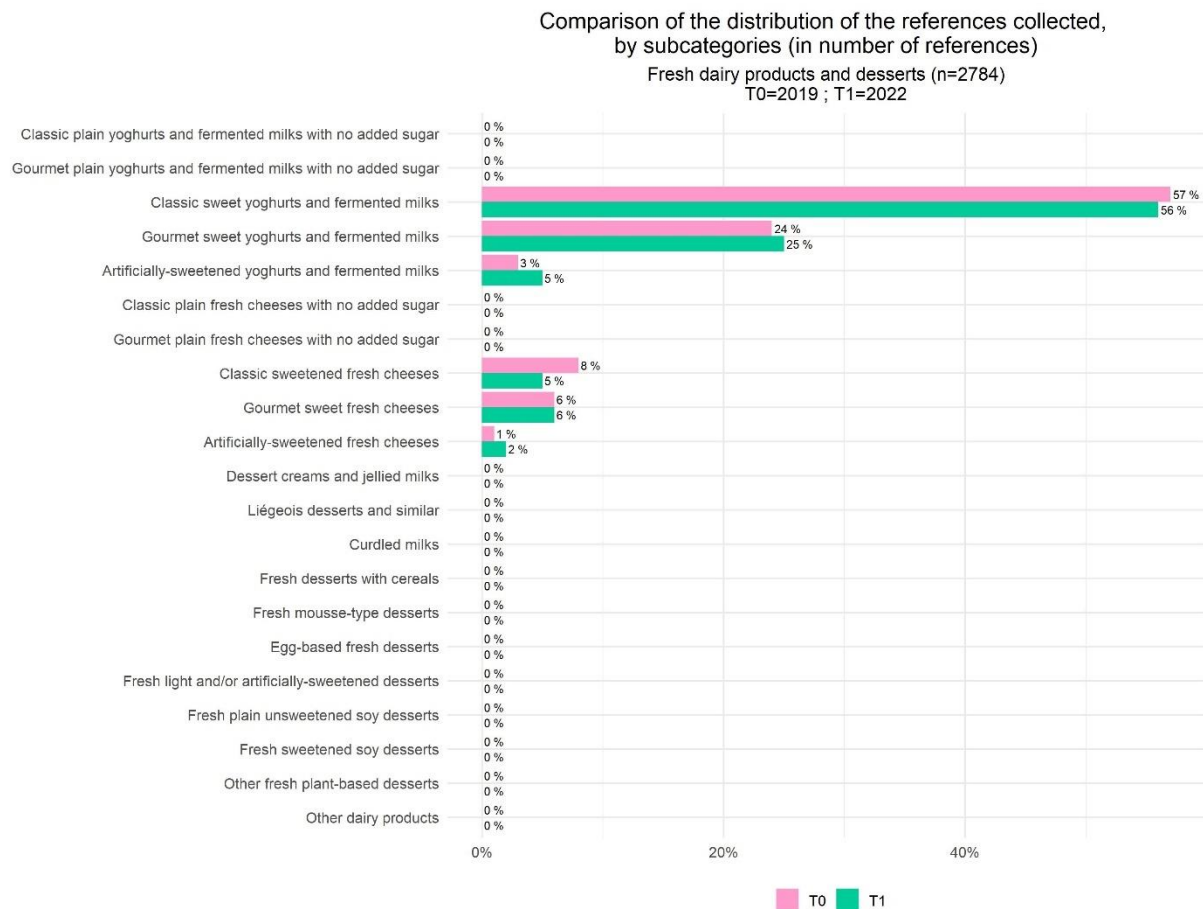


Figure 3: Comparison of the distribution of the references collected, by subcategories (in number of references) among Fresh dairy products and desserts

15 subcategories were not observed in either T0 or T1 (Figure 3). This is because a majority of the subcategories listed in Best-ReMaP were outside the scope of the MRI monitoring, as plant-based and egg-based products as well as desserts are explicitly excluded from the monitoring. The percentages of collected products in the comparison of product distribution for the remaining 6 subcategories of Fresh dairy products and desserts between T0 and T1 are:

- Higher at T0 for 2 subcategories out of 6 (Classic sweet yoghurts and fermented milks and Classic sweetened fresh cheeses).
- Higher at T1 for 3 subcategories out of 6 (Gourmet sweet yoghurts and fermented milks, Artificially-sweetened yoghurts and fermented milks and Artificially-sweetened fresh cheeses).
- Identical for 1 subcategory out of 6 (Gourmet sweet fresh cheeses).

1.2.2.3 Soft drinks

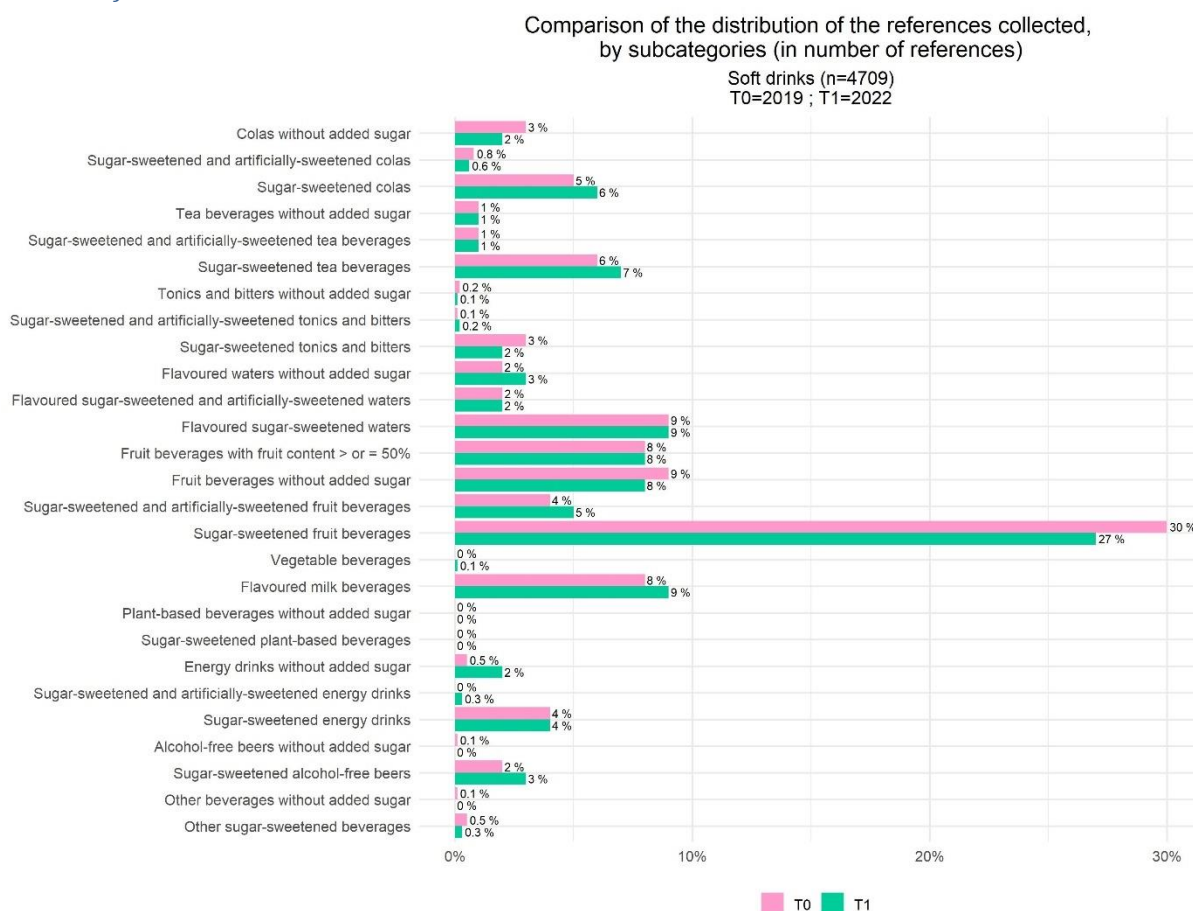


Figure 4: Comparison of the distribution of the references collected, by subcategories (in number of references) among Soft drinks

Two subcategories (Plant-based beverages without added sugar and Sugar-sweetened plant-based beverages) were not observed in either T0 or T1, as they exceed the scope of the MRI monitoring (Figure 4). The percentages of product distribution between T0 and T1 are in comparison:

- Higher at T0 for 9 subcategories out of 25 (Colas without added sugar, Sugar-sweetened and artificially-sweetened colas, Tonics and bitters without added sugar, Sugar-sweetened tonics and bitters, Fruit beverages without added sugar, Sugar-sweetened fruit beverages, Alcohol-free beers without added sugar, Other beverages without added sugar and Other sugar-sweetened beverages).
- Higher at T1 for 10 subcategories out of 25 (Sugar-sweetened colas, Sugar-sweetened tea beverages, Sugar-sweetened and artificially-sweetened tonics and bitters, Flavoured waters without added sugar, Sugar-sweetened and artificially-sweetened fruit beverages, Vegetable beverages, Flavoured milk beverages, Energy drinks without added sugar, Sugar-sweetened and artificially-sweetened energy drinks and Sugar-sweetened alcohol-free beers).
- Identical for 6 subcategories out of 25 (Tea beverages without added sugar, Sugar-sweetened and artificially-sweetened tea beverages, Flavoured sugar-sweetened and

artificially-sweetened waters, Flavoured sugar-sweetened waters, Fruit beverages with fruit content $\geq 50\%$ and Sugar-sweetened energy drinks).

1.2.3 Analysis of the evolution of the food offer

1.2.3.1 Breakfast cereals

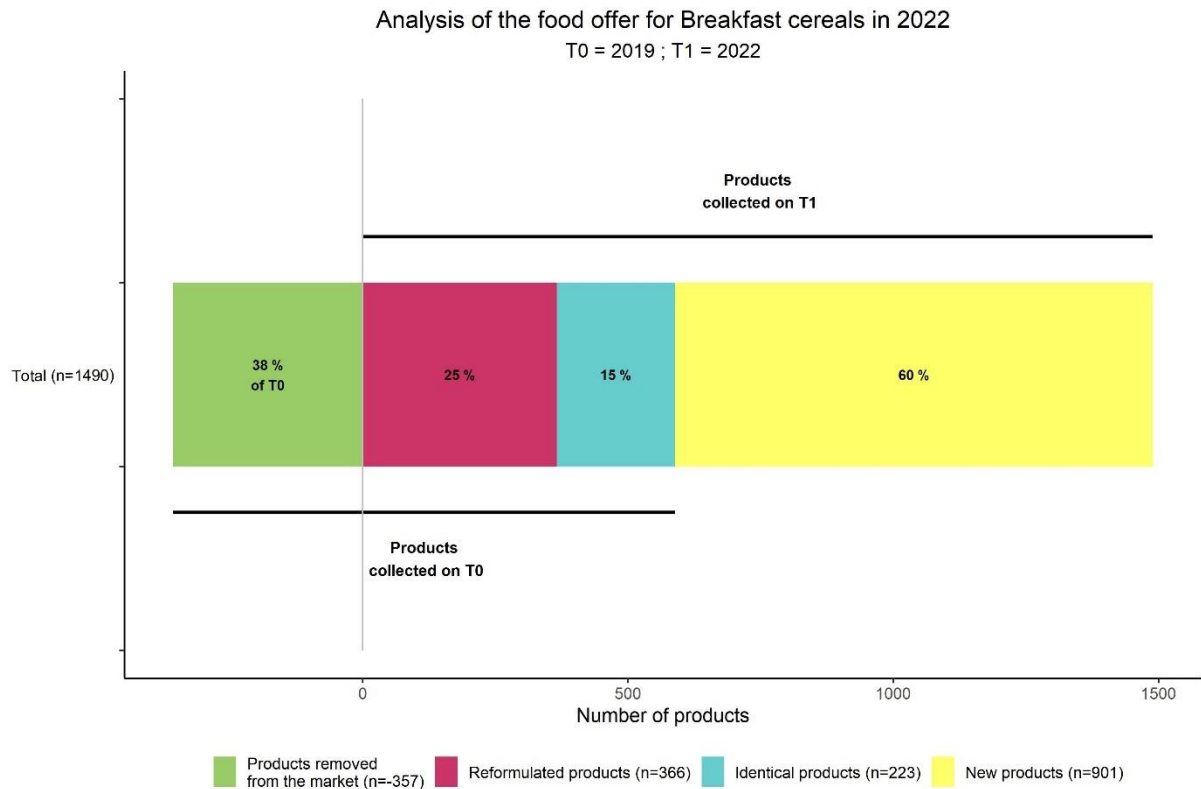


Figure 5: Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Breakfast cereals

The comparison of the data collected between the two snapshots within the category of Breakfast cereals is reflected in Figure 5.

- 38% of the products observed in T0 were not found in the T1 snapshot, here labelled as “products removed from the market”. This could be because they were phased out, not available during the time of the T1 data collection, or simply not found.
- In T1, the majority of products collected (60%) is made up of new products. This could be due to a combination factors, such as new products on the market but also because the T0 observation did not collect all products available on the market. The T1 observation heavily expanded upon the number of brands, which contributes to the large increase of observed products in the follow-up (Figure 1).
- Of the remaining 40% of products in T1, about one-third were unchanged between the two snapshots and the other two-thirds have been reformulated by 2022.

1.2.3.2 Fresh dairy products and desserts

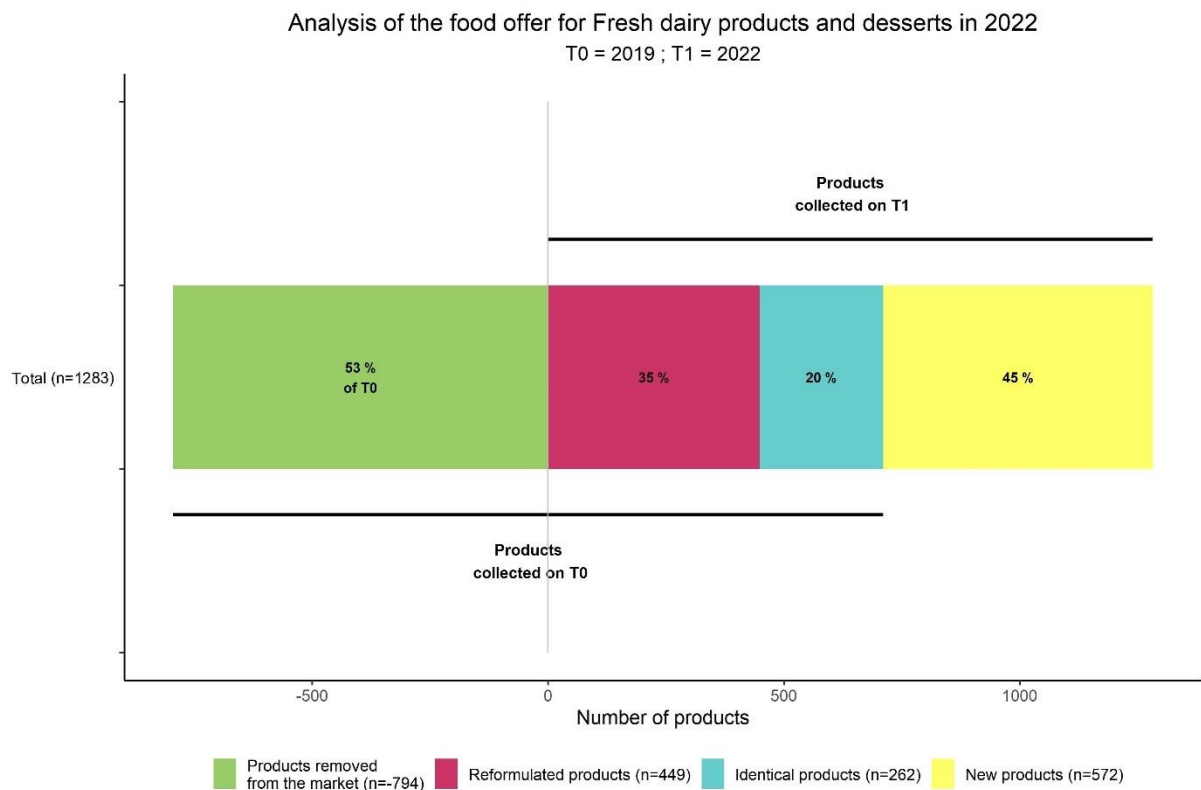


Figure 6: Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Fresh dairy products and desserts

The comparison between the T0 and T1 data for Fresh dairy products and desserts (Figure 6) shows that:

- A majority (53%) of products collected in T0 was not observed again in T1. They were either removed from the market or not found during the T1 data collection phase.
- 45% of the products in T1 are new products, i.e. there was no match with the products in the T0 snapshot.
- 20% of the products collected in T1 are identical in their nutritional values to products surveyed in T0.
- 35% of the products found in T1 have been reformulated within three years.

1.2.3.3 Soft drinks

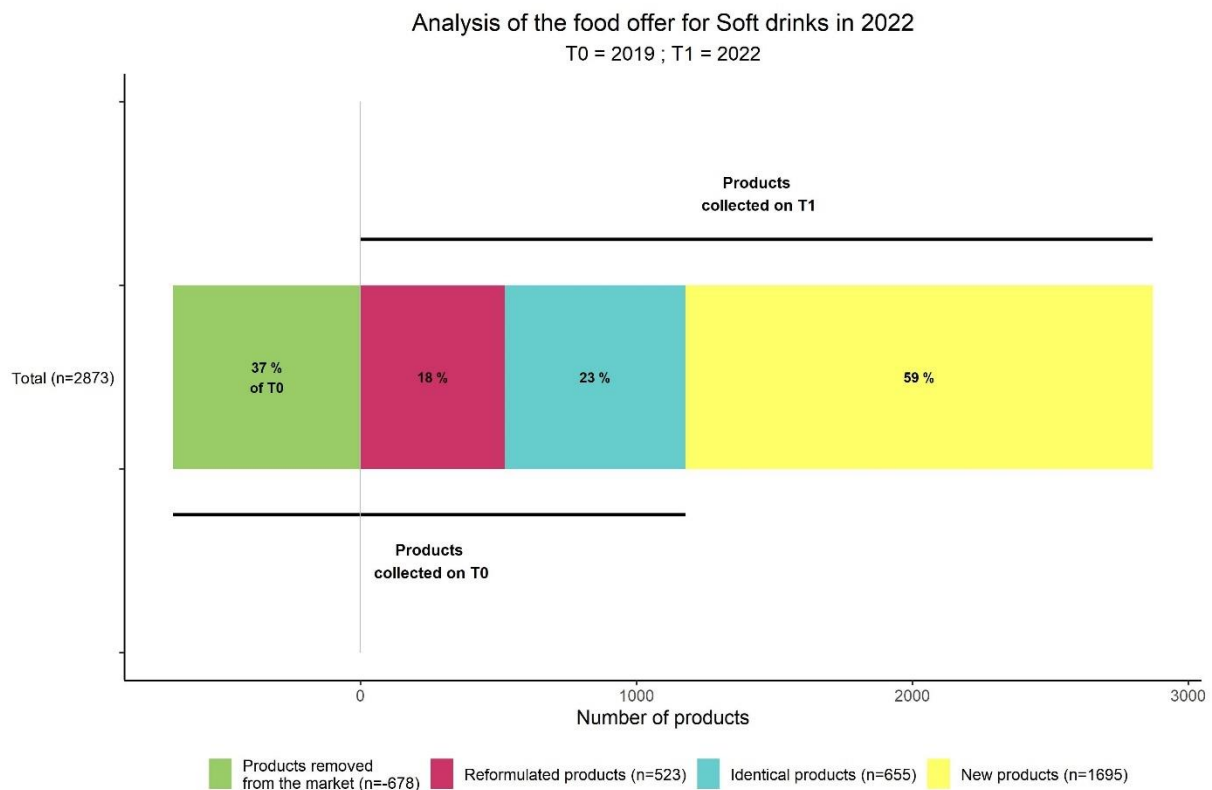


Figure 7: Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Soft drinks

Between T0 and T1, the comparison of the data collected in the Soft drink category (Figure 7) shows that:

- 37% of the products from T0 were not observed in T1, either because they were not available during the time of the snapshot or because they were removed from the market.
- 59% of the products from T1 are new products that were not observed during T0. They are either new on the market or part of brands that were not included in the T0 snapshot.
- 18% of the products from T1 remained unchanged in their declared nutritional values compared to T0 (identical products).
- 23% of the products from T1 were reformulated in the time between T0 and T1.

2 Analysis of labeling parameters

2.1 Front of pack labeling, state of play of T1 data, per category

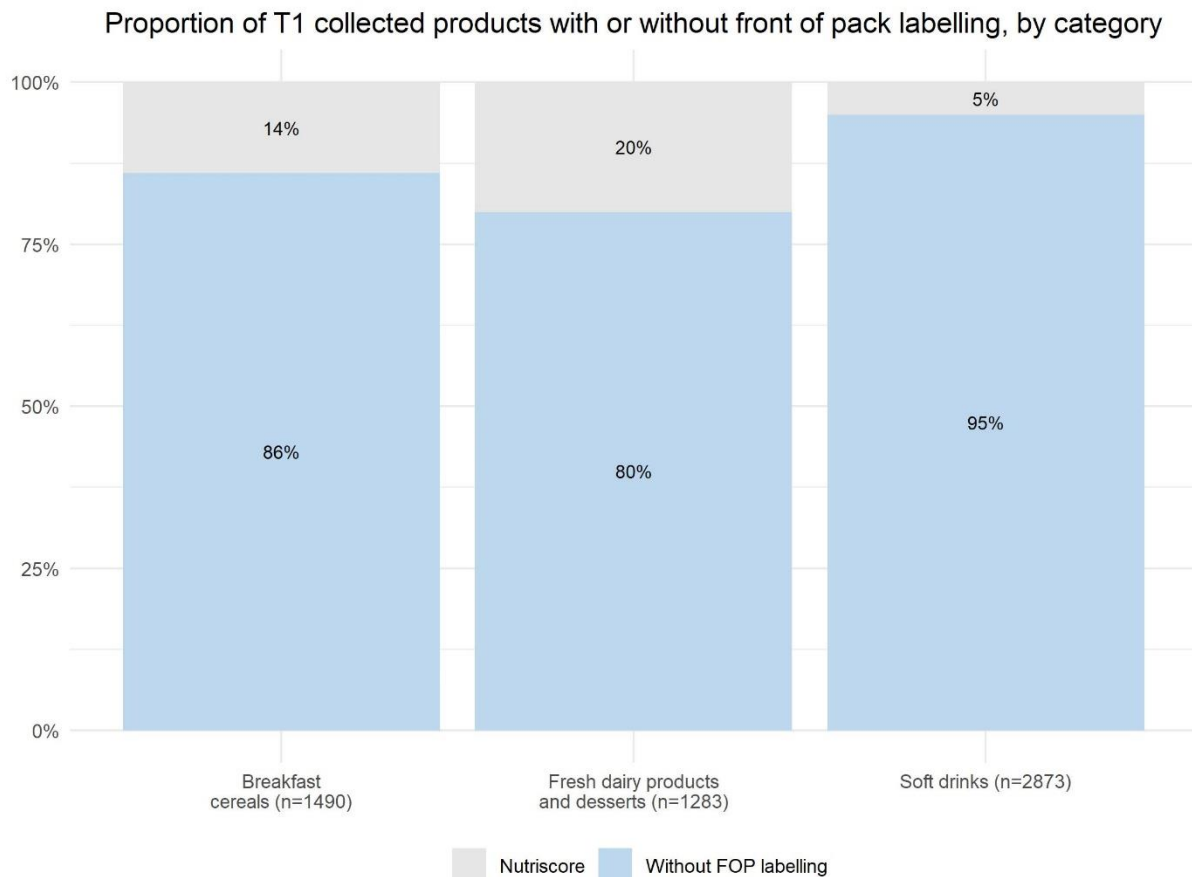


Figure 8: Proportion of products with or without front of pack labelling, by category

Figure 8 represents the distribution of front of pack (FOP) nutrition labelling in the T1 snapshot. The T0 snapshot is not accounted for in this analysis, as the data collection prior to Best-ReMaP did not include information on FOP labelling. The majority of products observed in the snapshot did not have any kind of FOP labelling (86% of Breakfast cereals, 80% of Fresh dairy products and desserts and 95% of Soft drinks). The products in the categories Bread products and Delicatessen meats and similar were not surveyed in T1 and thus are missing in this figure. Of all different kinds of FOP labelling, only Nutriscore was accounted for in the snapshot as this was and still is the only FOP label endorsed by the German government. However, most product data were collected via online search, and the main source of information for FOP labelling was product pictures on the manufacturers' websites. These pictures could have been outdated and not include the FOP labelling available on the actual product in the store.

2.2 Evolution of the quantified portion size

2.2.1 Evolution of the proportion of products with or without quantified portion size

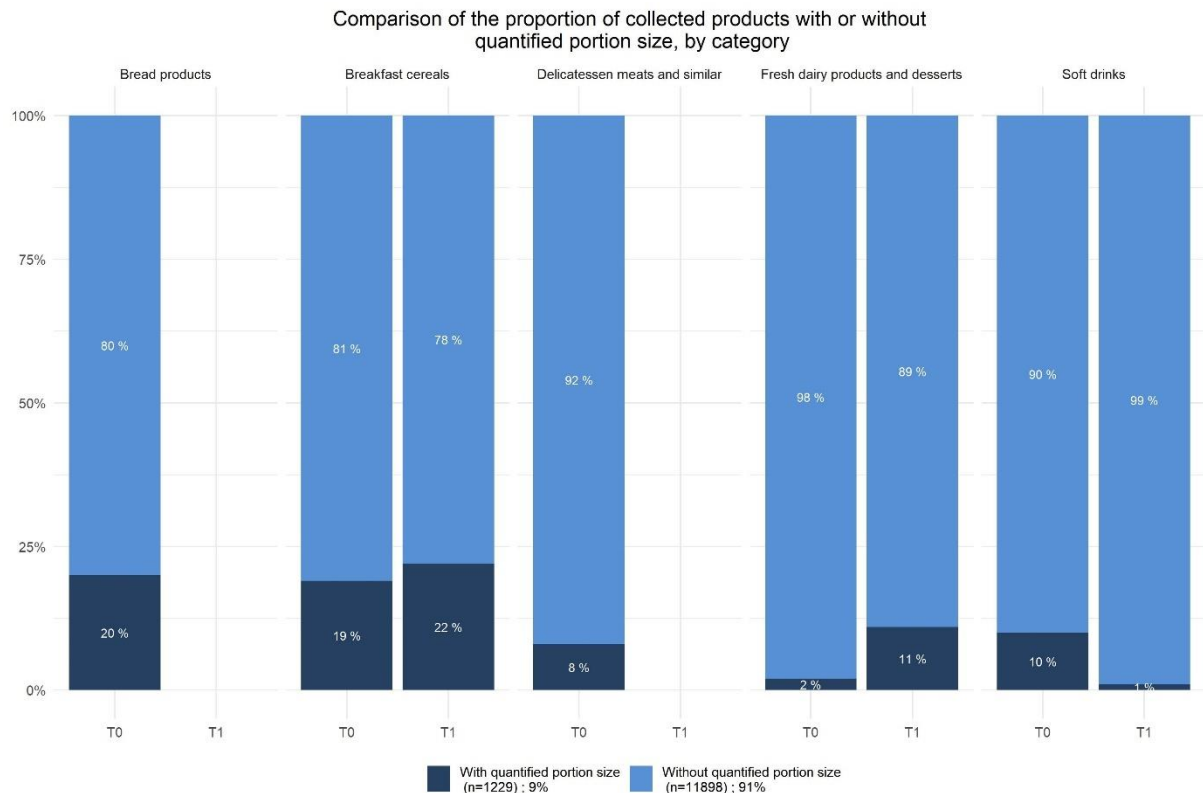


Figure 9: Evolution of the proportion of collected products with or without quantified portion size, between T0 and T1, per category

The quantified portion size increased for two categories between 2019 (T0) and 2022 (T1) (Figure 9). The sample sizes for each bar are those indicated in Figure 1. For Breakfast cereals, the quantified portion size increased by 3 percentage points (from 19% to 22%) and for Fresh dairy products and desserts, it increased by 9 percentage points (from 2% to 11%). In the category Soft drinks, a decrease by 9 percentage points was observed between the two snapshots (from 10% to 1%). The T1 collection for Bread products and Delicatessen meats and similar is beyond the timeframe of Best-ReMaP and is therefore not present in this analysis.

It is possible that a lot of products without a quantified portion size in the snapshot did in fact have one printed on their labels, which was not observed, as the main source of data was the manufacturers' websites. Depending on the brand or manufacturer, the websites tend to be incomplete in this regard. Hence, the portion of products without quantified portion size includes products which did not have a quantified portion size printed on their packaging and products where the portion size was not captured in the snapshot.

2.2.2 Proportion of the most represented portion sizes, per category

Within each product category, the five most represented portion sizes in each T0 and T1 are extracted and the frequency of them is quantified. As the five most represented portion sizes can differ between both snapshots, the figures can show up to ten different portion sizes.

2.2.2.1 Breakfast cereals

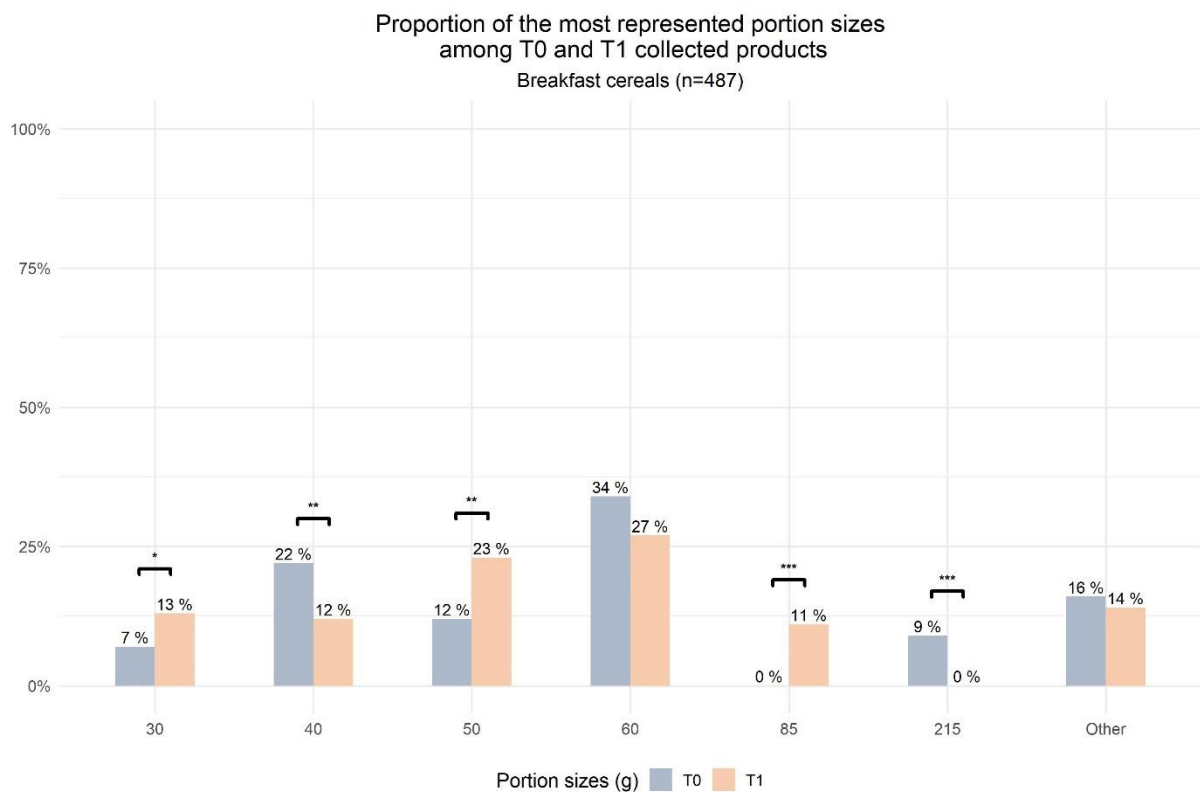


Figure 10: Distribution of the size of the 5 most represented quantified portions in 2019 (T0) and 2022 (T1) in Breakfast cereals category¹

Figure 10 shows the five most common portion sizes found during each snapshot (T0 and T1) in the category Breakfast cereals. For both snapshots, the portion size of 60 g is most common. The largest portion size (215 g) was among the five most common portion sizes in 2019 (T0) and refers to porridges after their preparation with water. It was not found in 2022 (T1), whereas the portion size of 85 g in T1 was not present in T0. In comparison to T0, the portion sizes 30 g and 50 g are found in significantly greater proportion in T1 than T0, while the portion size 40 g was significantly more frequent in T0 than in T1.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

2.2.2.2 Fresh dairy products and desserts

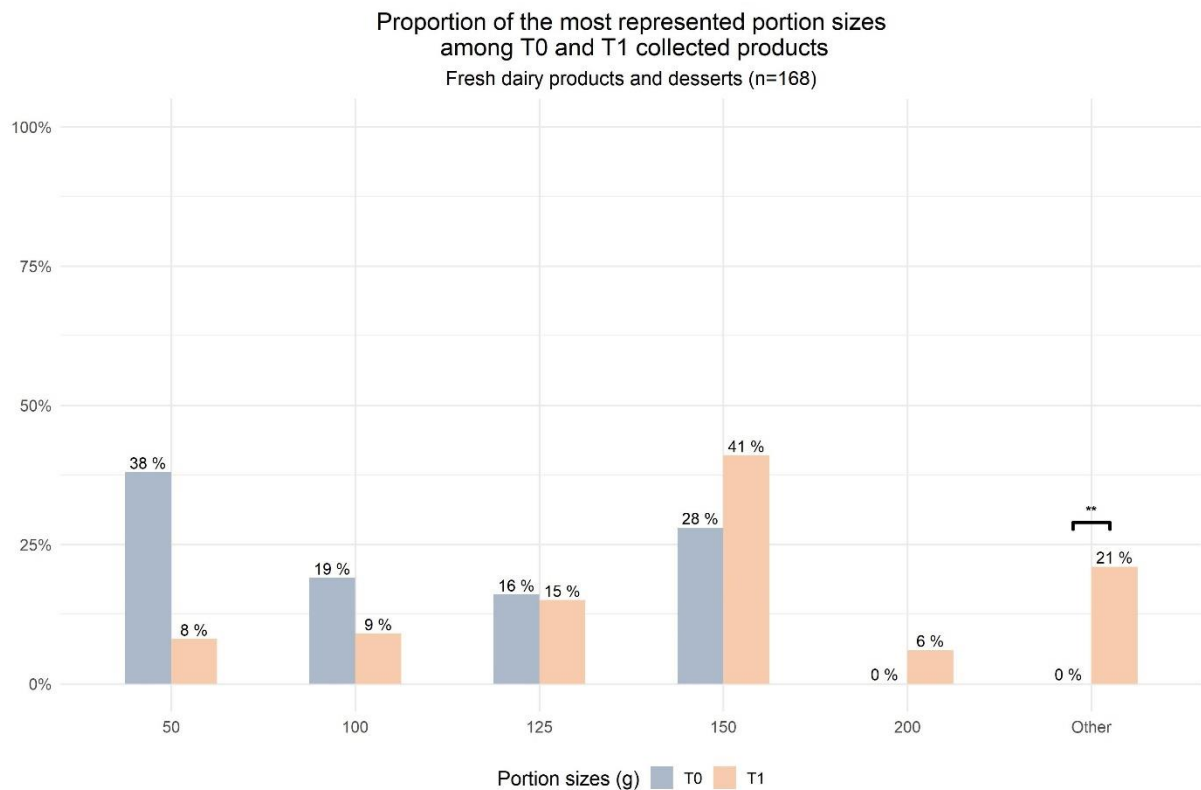


Figure 11: Distribution of the size of the 5 most represented quantified portions in 2019 (T0) and 2022 (T1) in Fresh dairy products and desserts category¹

For Fresh dairy products and desserts, there was no significant change for the five most common portion sizes found between T0 and T1. The most common portion size in T0 was 50 g, while in T1, 150 g took the largest share. Overall, the variety of different portion sizes increased from 2019 to 2022, as the T1 collection encompassed a mixture of different portion sizes, extending into Other, while the T0 collection only observed 4 different portion sizes.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

2.2.2.3 Soft drinks

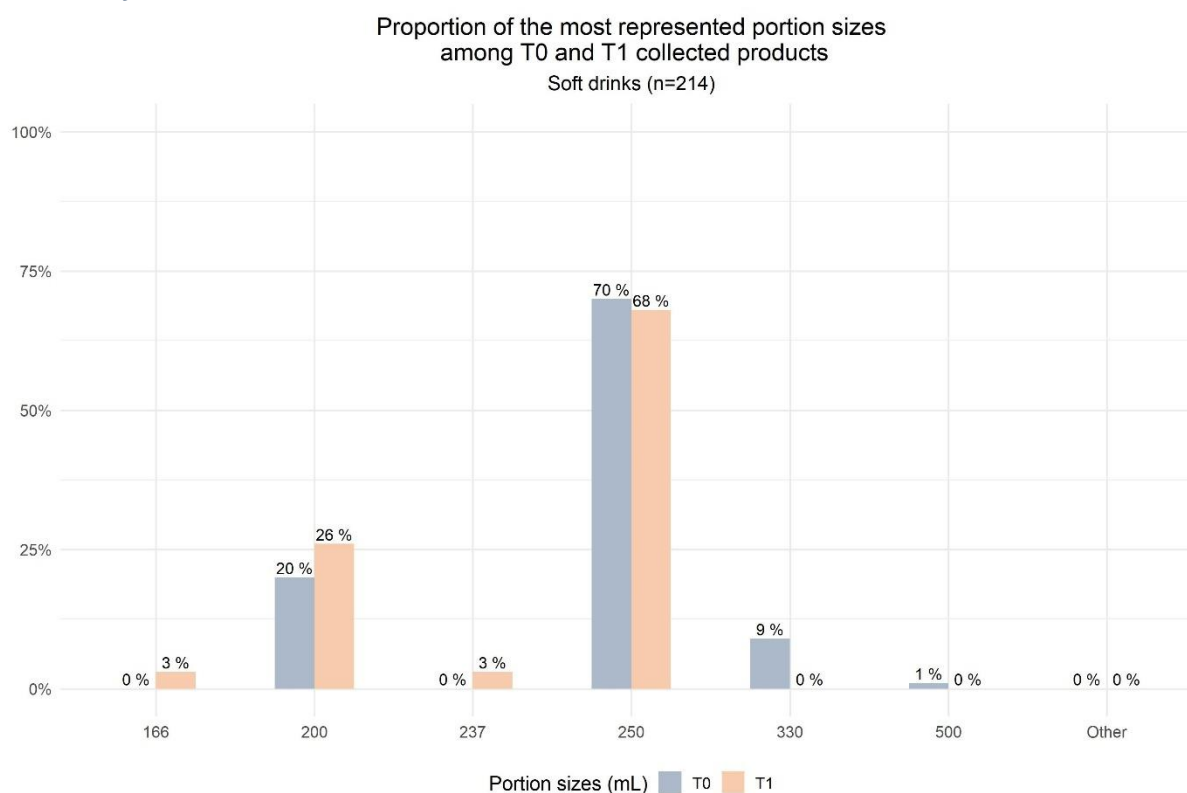


Figure 12: Distribution of the size of the 5 most represented quantified portions in 2019 (T0) and 2022 (T1) in Soft drinks category¹

In the subcategory Soft drinks, the largest portion size found in both T0 and T1 was 250 mL, followed by 200 mL for both snapshots (Figure 12). There were no significant differences found in the distribution of any portion sizes between both data collection points. Products with the portion sizes 330 mL and 500 mL were only found in T0, while the portion sizes 166 mL and 237 mL were only found in T1.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

3 Evolution of labelled nutritional values

3.1 Evolution of the labelling frequency

The first parameter to be examined regarding the nutritional values is the frequency of nutritional values on the packages. In the EU, Regulation (EU) No 1169/2011 mandates that energy, fat, saturated fat, carbohydrates, sugar, protein, and salt be declared on the packaging of food and drinks products. This mandatory information applies to all products considered in this monitoring, hence the availability of this information in theory should be 100 %.

Table 2 and Table 3 depict the evolution of labelling frequency for the six nutrients (fat, saturated fat, sugar and protein, salt, fibre respectively) commonly found on the packaging.

In the category Breakfast cereals, the frequency of labelling for all nutrients apart from fibre increased by 4 percentage points, reaching a frequency of 100 %. While the labelling for fibre is not mandatory, it increased by 14 percentage points to reach a frequency of 87 % in T1.

The labelling frequency in the category Fresh dairy products and desserts for the 4 nutrients fat, saturated fat, sugar and protein remained at 100% between T0 and T1. The labelling frequency of salt increased by 2 percentage points, leading to a 100 % frequency. For fibre, the labelling frequency increased by 2 percentage points to reach a frequency of 10% in T1.

In the Soft drinks category, the frequency of nutritional value labelling remained at 100% for sugar. For the nutrients fat, saturated fat and protein, the frequency reduced by 3, 2 and 3 percentage points respectively, to a total frequency of 95% for all three nutrients. The frequency of salt labelling decreased by 1 percentage point to a total of 97 % of products observed. The only nutrient where an increase of labelling was observed is fibre with an increase by 1 percentage point, reaching a frequency of 9 % in T1.

For the categories Bread products and Delicatessen meats and similar, there is no T1 observation present to allow for any statements about the evolution of labelling frequency.

Table 2: Evolution of the frequency of nutrient labelling (fat, saturated fat and sugar) among the categories

	Fat			Saturated fat			Sugar		
Category_name	T0	T1	Delta	T0	T1	Delta	T0	T1	Delta
Breakfast cereals (T0: n=923 ; T1: n=1490)	96 %	100 %	+4 %	96 %	100 %	+4 %	96 %	100 %	+4 %
Fresh dairy products and desserts (T0: n=1501 ; T1: n=1283)	100 %	100 %	0	100 %	100 %	0	100 %	100 %	0
Soft drinks (T0: n=1836 ; T1: n=2873)	98 %	95 %	-3 %	97 %	95 %	-2 %	100 %	100 %	0

Table 3: Evolution of the frequency of nutrient labelling (protein, salt and fibre) among the categories

	Protein			Salt			Fibre		
Category_name	T0	T1	Delta	T0	T1	Delta	T0	T1	Delta
Breakfast cereals (T0: n=923 ; T1: n=1490)	96 %	100 %	+4 %	96 %	100 %	+4 %	73 %	87 %	+14 %
Fresh dairy products and desserts (T0: n=1501 ; T1: n=1283)	100 %	100 %	0	98 %	100 %	+2 %	8 %	10 %	+2 %
Soft drinks (T0: n=1836 ; T1: n=2873)	98 %	95 %	-3 %	98 %	97 %	-1 %	8 %	9 %	+1 %

3.2 Evolution of the nutritional composition, by category

The second parameter examined is the nutritional composition found on the packages. Within each subcategory, the distribution of the nutrient content of selected relevant nutrients is compared between T0 and T1.

3.2.1 Breakfast cereals

The nutrients considered for the analysis of evolution in the category Breakfast cereals are fat, saturated fat, sugar, salt, and fibre.

3.2.1.1 Evolution of the fat content among the subcategories of Breakfast cereals

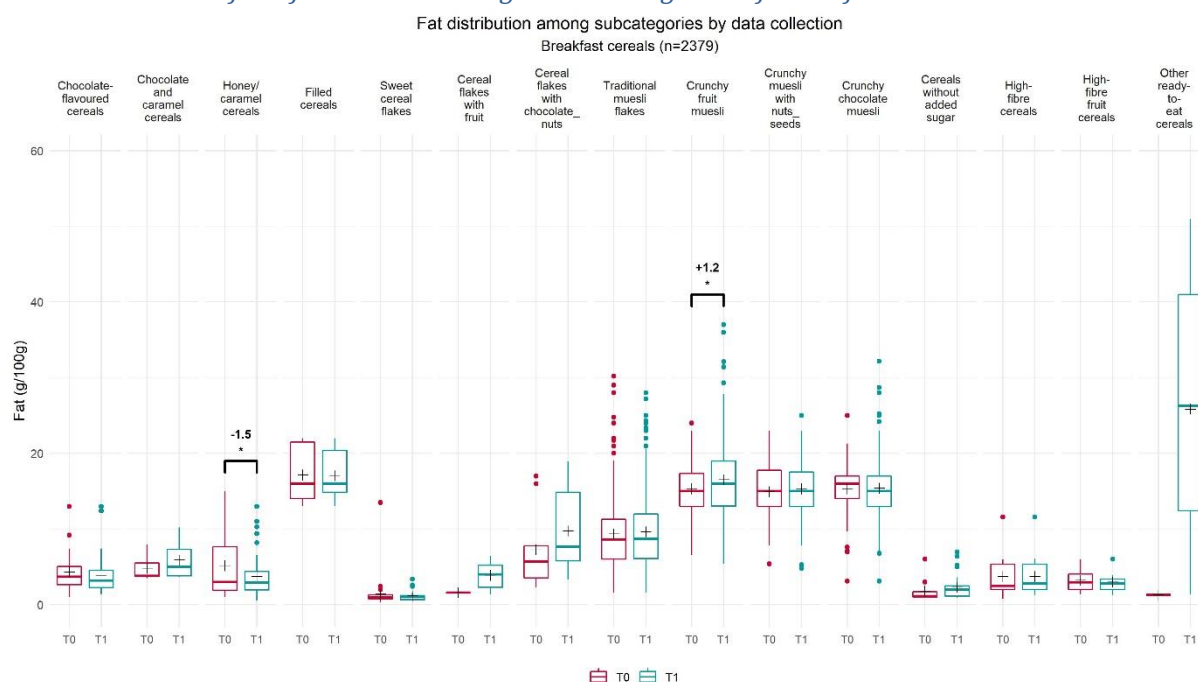


Figure 13: Fat distribution among subcategories of Breakfast cereals¹

Figure 13 shows the fat distribution of Breakfast cereals between 2019 (T0) and 2022 (T1), by subcategories. There is a significant decrease in the average fat content between both data collections for one subcategory out of 15: Honey/caramel cereals (-1.4^* g/100 g ; -27.3%). A significant increase was found for the subcategory Crunchy fruit muesli ($+1.2^* \text{ g/100 g}$; $+7.8 \%$). Due to a slight difference in rounding methods applied to the data in order to generate the figures, the mean value difference for Honey/caramel cereals presented in the figure does not match the value in the text and Table 4 below.

The subcategory Other ready-to-eat cereals showed an unusually high variability in fat content in T1. This subcategory includes cereals such as high-protein cereals based on soy beans or ketogenic cereals consisting mainly of nuts and seeds and is therefore very heterogenic. During T0, only one product matched this subcategory, explaining the large difference in variability between T0 and T1 (T0, $n = 1$; T1, $n = 21$). A similar observation was made in the subcategory Cereal flakes with fruit (T0, $n = 1$; T1, $n = 5$). The variability of Crunchy fruit muesli (T0, $n = 104$; T1, $n = 182$) and Crunchy chocolate muesli (T0, $n = 103$; T1, $n = 202$) was larger

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

in T1 than T0. This is likely due to the larger sample size in T1, but the large variability also indicates room for reformulation.

Of the remaining subcategories, the variability stayed constant between T0 and T1, with some subcategories having a larger variability than others. The subcategories with the highest variability were Cereal flakes with chocolate_nuts (T0, n = 15; T1, n = 26), Traditional muesli flakes (T0, n = 436; T1, n = 749) and Crunchy muesli with nuts_seeds (T0, n = 42; T1, n = 59). This high variability suggests the possibility for reformulation towards lower fat content.

3.2.1.2 Evolution of the fat content for paired products of Breakfast cereals

Table 4 summarises the mean values as well as the differences in the average fat content observed between 2019 (T0) and 2022 (T1) for all subcategories and for paired products in each subcategory. Paired products are items available both during T0 and T1, which allows for conclusions on reformulation. The sample size given for all products refers to the sample size in T1. For paired products, the sample size refers to the number of matched products found, provided that the product contains information in both snapshots on the nutrients to be examined.

Over the 14 subcategories populated with product pairs, Crunchy chocolate muesli showed a significantly decreased mean fat content for paired products between T0 and T1 (-0.4^* g/100 g; -2.4%). This is likely due to reformulation in the timespan between 2019 and 2022. The following nutrient evolution chart (Figure 14) depicts the individual product pairs found in the subcategory with significant differences between T0 and T1, in order to visualise the efforts on reformulation.

Table 4: Summary of the evolution of the average fat content for Breakfast cereals, by subcategory¹

	Fat							
	All products				Paired products			
Subcategory_name	Sample size (n)	Mean.T1 (g/100 g)	Mean value difference (g/100 g)	Mean value evolution (%)	Sample size (n)	Mean.T1 (g/100 g)	Mean value difference (g/100 g)	Mean value evolution (%)
Chocolate-flavoured cereals	54	3.8	-0.5	-11.2 %	31	3.9	+0.05	+1.2 %
Chocolate and caramel cereals	6	5.9	+1.1	+22.9 %	3	5.1	+0.07	+1.3 %
Honey/caramel cereals	63	3.7	-1.4*	-27.3 %	34	4.5	+0.1	+2.3 %
Filled cereals	23	17.1	-0.09	-0.5 %	11	18.9	+1.0	+8.0 %
Sweet cereal flakes	27	1.2	-0.2	-16.0 %	17	1.0	-0.04	-3.4 %
Cereal flakes with fruit	5	3.9	+2.3	+142.7 %	0			
Cereal flakes with chocolate_nuts	26	9.8	+2.5	+34.1 %	8	6.2	-0.3	-4.4 %
Traditional muesli flakes	749	9.6	+0.3	+3.2 %	273	9.3	+0.2	+2.0 %
Crunchy fruit muesli	182	16.5	+1.2*	+7.8 %	69	15.9	-0.2	-1.0 %
Crunchy muesli with nuts_seeds	59	15.3	+0.4	+2.4 %	31	14.7	-0.2	-1.1 %
Crunchy chocolate muesli	202	15.4	+0.09	+0.6 %	72	15.1	-0.4*	-2.4 %
Cereals without added sugar	38	2.3	+0.5	+28.2 %	9	1.6	+0.2	+11.0 %
High-fibre cereals	27	3.7	-0.01	-0.3 %	16	4.2	+0.07	+1.6 %
High-fibre fruit cereals	8	3.0	-0.2	-6.6 %	4	3.3	+0.0	+0.0 %

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

Cereal preparation to drink	subcategory outside scope of MRI product monitoring, hence no products							
Other ready-to-eat cereals	21	25.8	+24.5	+1887.9 %	1	1.4	+0.1	+7.7 %

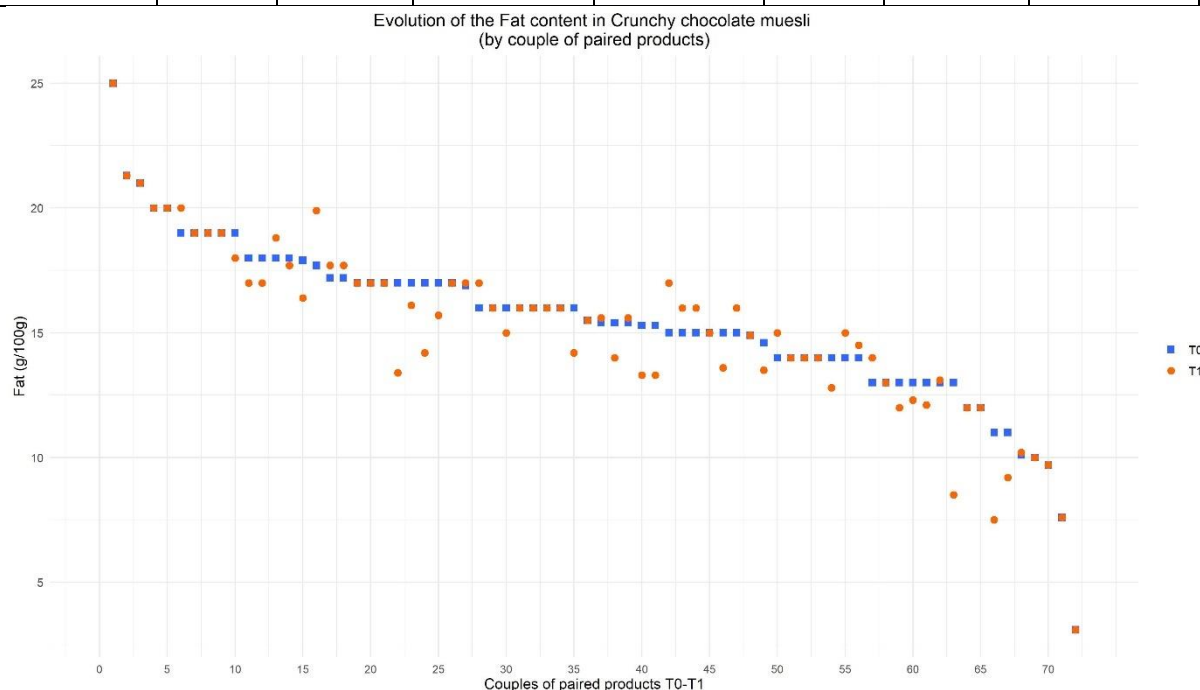


Figure 14: Fat content evolution between 2019 and 2022 by couple of paired products for Crunchy chocolate muesli subcategory

For all subcategories with significant nutrient content differences between T0 and T1 in paired products, a nutrient evolution chart is created. 72 couples of paired products were found in the subcategory Crunchy chocolate muesli (Figure 14). The majority ($n = 30$) retained their fat content between 2019 (T0) and 2022 (T1). 19 products showed an increased fat content at T1, ranging from +0.1 g/100 g (couple 58) to +2.2 g/100 g (couple 16). 23 products showed a decreased fat content at T1, with the reductions ranging from -0.3 g/100 g (couple 12) to -4.5 g/100 g (couple 63).

3.2.1.3 Evolution of the saturated fat content among the subcategories of Breakfast cereals

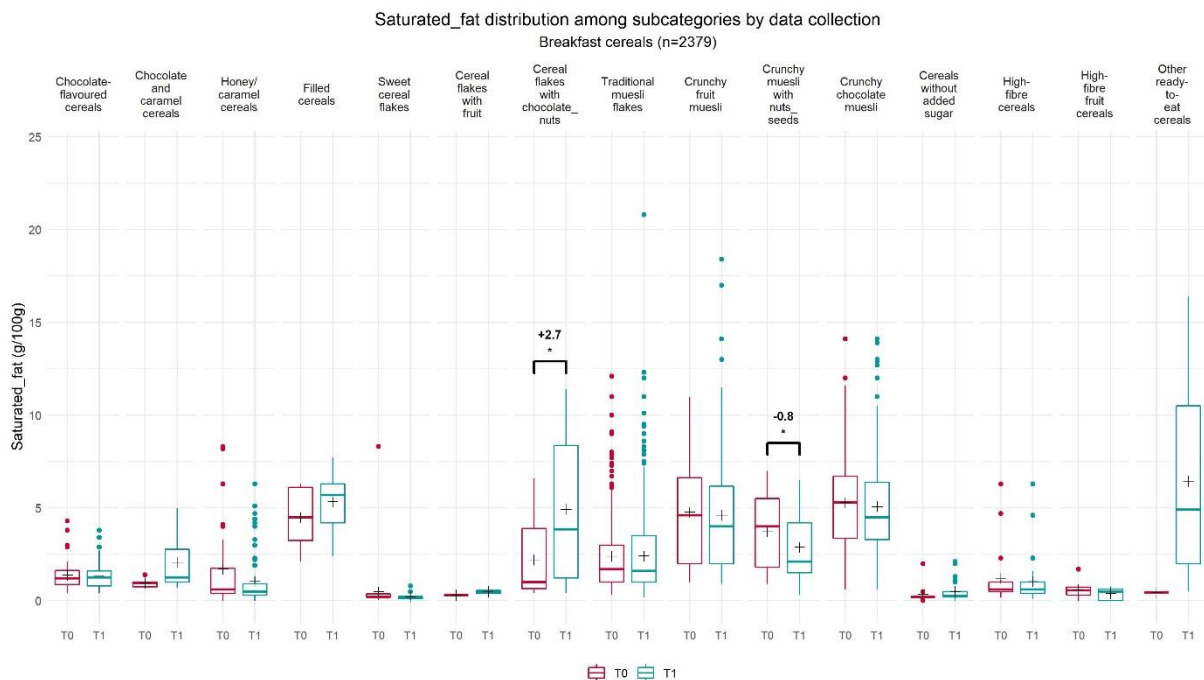


Figure 15: Saturated fat distribution among subcategories of Breakfast cereals¹

The evolution of saturated fat in Breakfast cereals between 2019 (T0) and 2022 (T1) is shown in Figure 15. A significant decrease was found for one subcategory out of 15: Crunchy muesli with nuts_seeds (-0.8^* g/100 g ; -22.3%). In the subcategory Cereal flakes with chocolate_nuts, the saturated fat content increased significantly ($+2.7^* \text{ g/100 g}$; $+124.0 \%$).

The greatest number and range of outliers is found in the subcategory Traditional muesli flakes, likely due to the large sample size in comparison to the other subcategories (T0, $n = 436$; T1, $n = 749$) and because the composition of the products in this subcategory is very diverse, with some containing a large amount of coconut flakes or chocolate; both ingredients with a high content of saturated fats.

As with the fat content in Breakfast cereals, the subcategory Other ready-to-eat cereals shows a large variability in saturated fat content in the T1 collection. This can be explained with the heterogeneity of this subcategory, by including high protein, paleo or ketogenic cereals, which are not based on traditional grains but on legumes, nuts or seeds. Furthermore, comparisons between T0 and T1 within this subcategory, as well as the subcategory Cereal flakes with fruit are not reliable due to the low sample size ($n = 1$) for both in T0. Two other subcategories increased in variability between T0 and T1: Chocolate and caramel cereals (T0, $n = 6$; T1, $n = 6$), Cereal flakes with chocolate_nuts (T0, $n = 15$; T1, $n = 26$) and Crunchy fruit muesli (T0, $n = 104$; T1, $n = 182$).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

In the remaining subcategories, the variabilities are similar between T0 and T1. The subcategories with the largest variability are Crunchy chocolate muesli (T0, n = 103; T1, n = 202) and Traditional muesli flakes (T0, n = 436; T1, n = 749).

3.2.1.4 Evolution of the saturated fat content for paired products of Breakfast cereals

The means of the average saturated fat content and differences to it between 2019 (T0) and 2022 (T1) for all subcategories are shown in Table 5. Out of the 14 subcategories containing paired products, the mean saturated fat content for paired products decreased significantly in 3 subcategories: Crunchy fruit muesli (-0.8^{***} g/100 g; -18.0 %), Crunchy muesli with nuts_seeds (-1.0^{***} g/100 g; -27.3 %) and Crunchy chocolate muesli (-0.6^{**} g/100 g; -10.4 %). The difference in each product pair for subcategories with significant changes in saturated fat are shown in the respective nutrient evolution charts (Figure 16, Figure 17 and Figure 18).

Table 5: Summary of the evolution of the average saturated fat content for Breakfast cereals, by subcategory¹

Subcategory_name	Saturated fat							
	All products				Paired products			
Subcategory_name	Sample size (n)	Mean.T1 (g/100 g)	Mean value difference (g/100 g)	Mean value evolution (%)	Sample size (n)	Mean.T1 (g/100 g)	Mean value difference (g/100 g)	Mean value evolution (%)
Chocolate-flavoured cereals	54	1.3	-0.04	-3.0 %	31	1.5	+0.09	+6.3 %
Chocolate and caramel cereals	6	2.1	+1.1	+117.5 %	3	1.8	+0.8	+74.2 %
Honey/caramel cereals	63	1.1	-0.6	-37.4 %	34	1.4	+0.3	+23.3 %
Filled cereals	23	5.3	+0.9	+19.2 %	11	5.4	+1.0	+22.4 %
Sweet cereal flakes	27	0.2	-0.3	-57.1 %	17	0.2	-0.04	-20.8 %
Cereal flakes with fruit	5	0.5	+0.2	+64.0 %	0			
Cereal flakes with chocolate_nuts	26	4.9	+2.7*	+124.0 %	8	1.8	+0.03	+1.4 %
Traditional muesli flakes	749	2.4	+0.02	+0.9 %	273	2.4	+0.1	+6.1 %
Crunchy fruit muesli	182	4.6	-0.2	-3.6 %	69	3.8	-0.8***	-18.0 %
Crunchy muesli with nuts_seeds	59	2.9	-0.8*	-22.3 %	31	2.7	-1.0***	-27.3 %
Crunchy chocolate muesli	202	5.1	-0.2	-4.1 %	72	4.8	-0.6**	-10.4 %
Cereals without added sugar	38	0.5	+0.1	+43.1 %	9	0.2	+0.04	+17.6 %
High-fibre cereals	27	1.0	-0.2	-13.6 %	16	1.3	-0.03	-2.1 %
High-fibre fruit cereals	8	0.4	-0.2	-34.0 %	4	0.3	0.0	0%
Cereal preparation to drink	subcategory outside scope of our product monitoring. hence no products							
Other ready-to-eat cereals	21	6.4	+6.0	+1331.1 %	1	0.5	+0.05	+11.1 %

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

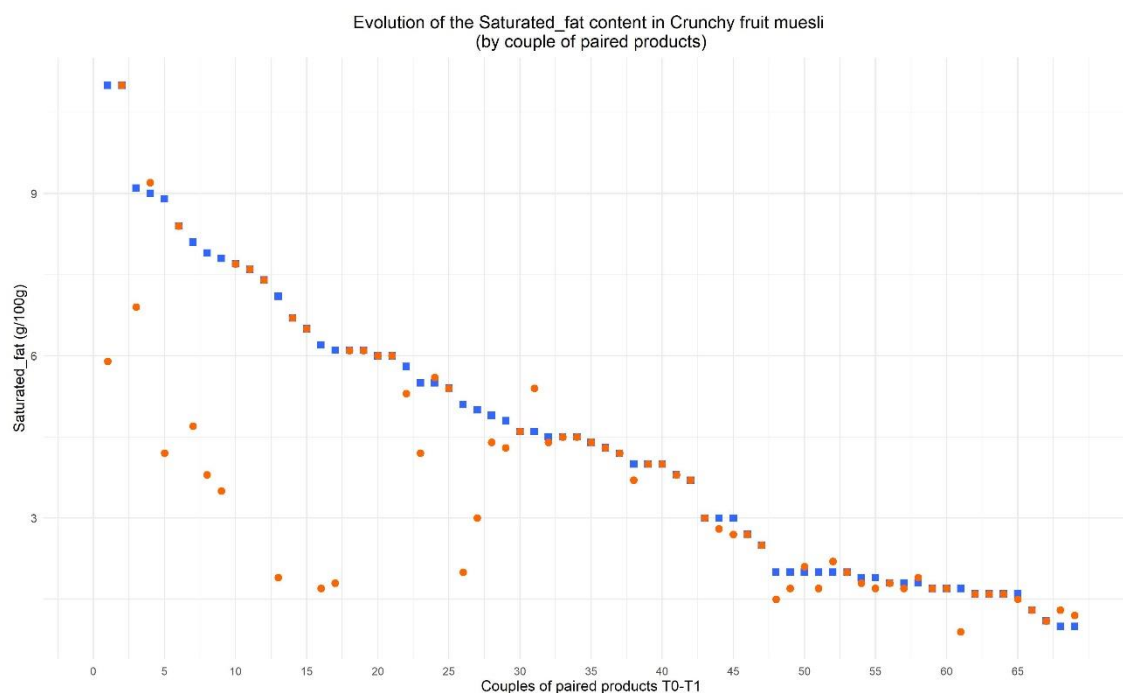


Figure 16: Saturated fat content evolution between 2019 and 2022 by couple of paired products for Crunchy fruit muesli subcategory

Of the 69 couples of paired products found in the subcategory Crunchy fruit muesli, 34 remained the same in saturated fat content between T0 and T1 (Figure 16). 8 products increased in saturated fat, with the highest increase at +0.8 g/100 g (couple 31) and the lowest increase at +0.1 g/100 g (couples 24, 50 and 58). For 27 products, a decrease in saturated fat content was observed; the maximum decrease at -5.2 g/100 g (couple 13) and the lowest decrease at -0.1 g/100 g (couples 32, 54 and 65).

Overall, the largest decreases were found in products with a higher saturated fat content in T0 (> 4 g/100 g), while products with lower saturated fat content in T0 (≤ 4 g/100 g) were reformulated to a lesser extent or remained the same at T1. Naturally, products with a lower saturated fat content at T0 do not have as much room for a reduction as products with an initially higher saturated fat content.

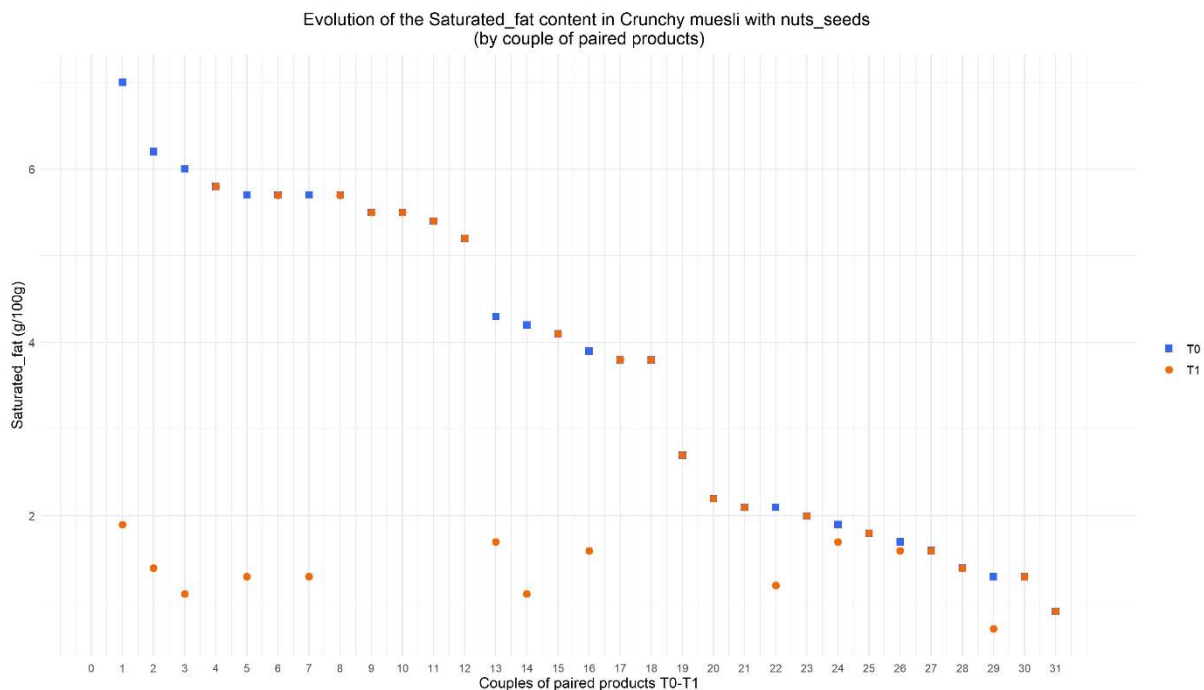


Figure 17: Saturated fat content evolution between 2019 and 2022 by couple of paired products for Crunchy muesli with nuts_seeds subcategory

Between the two snapshots in T0 and T1, 31 pairs of products in the Crunchy muesli with nuts_seeds subcategory were found (Figure 17). Of those, no change in saturated fat was found for 19 products. A decrease was observed in 12 products, ranging from -0.1 g/100 g (couple 26) to -5.1 g/100 g (couple 1). No products were found to have an increased saturated fat content in T1. Similar to the subcategory Crunchy fruit muesli, products with a higher saturated fat content (> 4 g/100 g) decreased in saturated fat content by a larger amount than products with a lower saturated fat content (≤ 4 g/100 g).

There appear to be three subgroups in this subcategory, with cut-off points at 5 g/100 g and 3 g/100 g. All products in the group with the highest saturated fat content in T0 (≥ 5 g/100 g) contain palm oil among the first five ingredients. Products in the middle group (3 g/100 g $\leq x < 5$ g/100 g) are listed with either palm oil or coconut flakes in their ingredients at T0. In the group with the lowest saturated fat content (< 3 g/100 g), palm oil is found in one product in T0 (couple 29), which got reformulated by T1 to replace palm oil with sunflower oil.

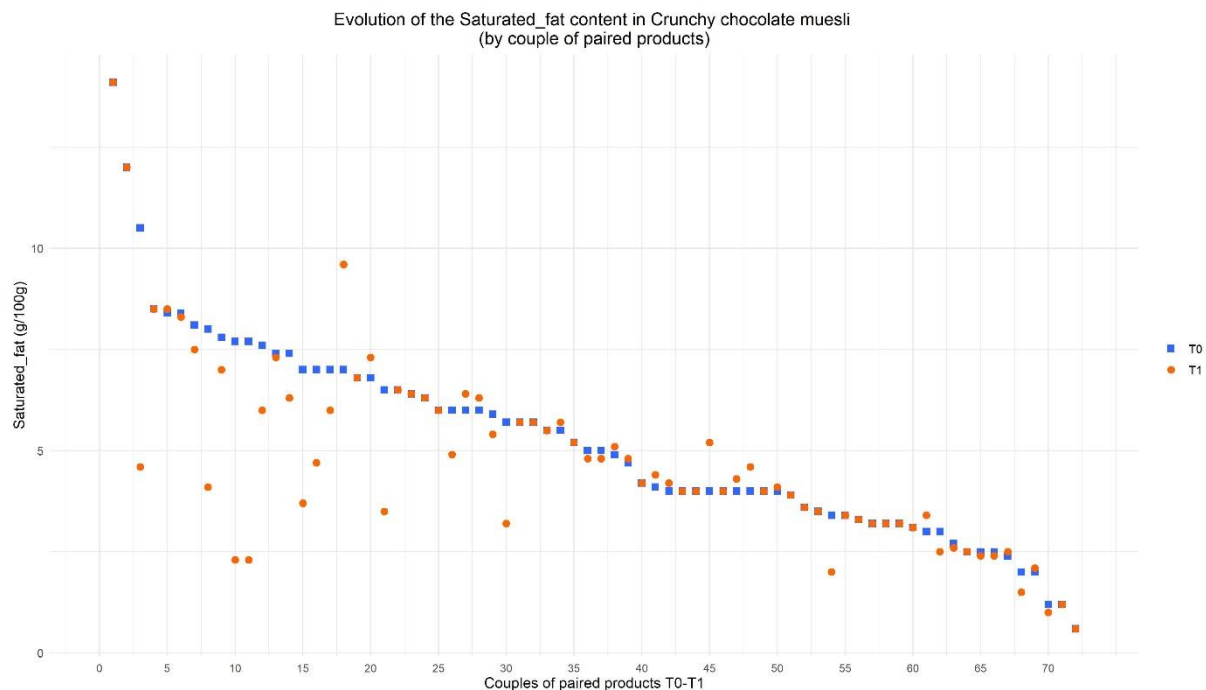


Figure 18: Saturated fat content evolution between 2019 and 2022 by couple of paired products for Crunchy chocolate muesli subcategory

Figure 18 depicts the evolution of saturated fat content for 72 couples of paired products between the two snapshots in the subcategory Crunchy chocolate muesli. 29 products stayed the same regarding their saturated fat content, while 17 products increased in saturated fat, ranging between +0.1 g/100 g (couples 5, 39, 50, 67 and 69) and +2.6 g/100 g (couple 18). 26 products showed a decrease in saturated fat within a range of -0.1 g/100 g (couples 6, 13, 63, 65 and 66) and -5.9 g/100 g (couple 3).

As with the other two crunchy muesli subcategories, products with a higher saturated fat content (> 5 g/100 g) decreased the most (Figure 16, Figure 17). This trend across all three crunchy muesli subcategories can be explained, at least in part, by producers substituting palm oil with other oils, such as sunflower oil or rapeseed oil. Overall, the products in the Crunchy chocolate category have a higher saturated fat content, compared to the other two crunchy muesli subcategories. This is most likely due to the cocoa butter found in chocolate, which has a high share of saturated fatty acids.

3.2.1.5 Evolution of the sugar content among the subcategories of Breakfast cereals

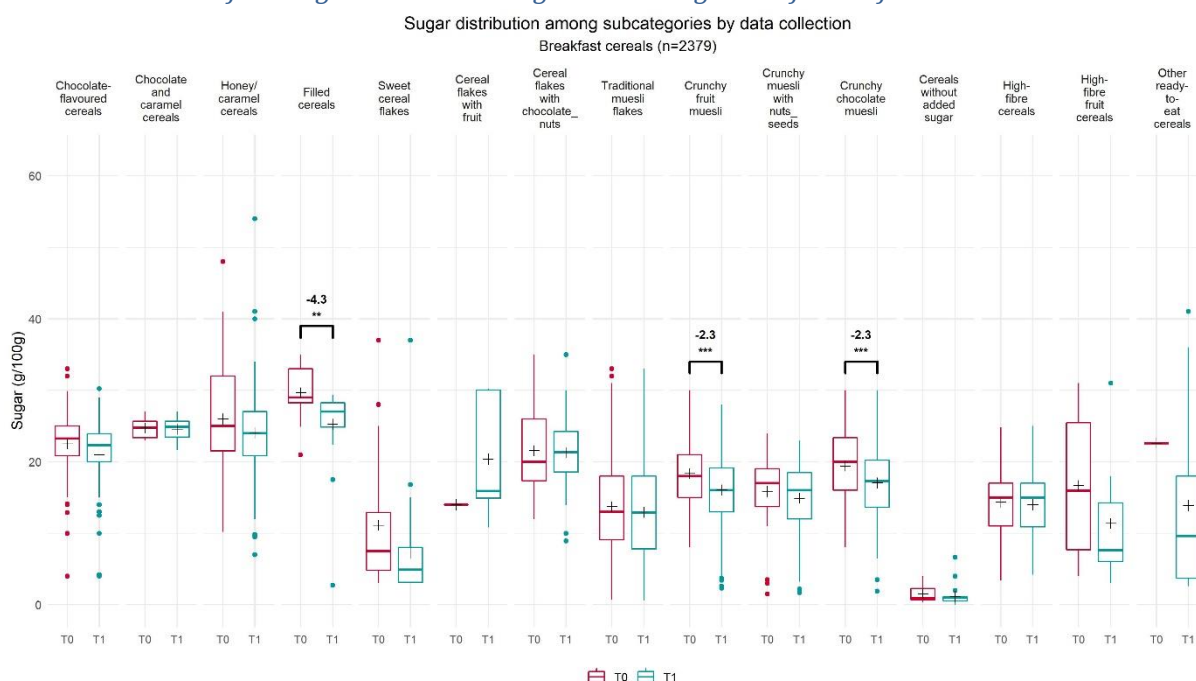


Figure 19: Sugar distribution among subcategories of Breakfast cereals¹

Between 2019 (T0) and 2022 (T1), the sugar content in Breakfast cereals decreased significantly for three subcategories out of 15 (Figure 19): Filled cereals (-4.4^{**} g/100 g; -14.8%), Crunchy fruit muesli (-2.3^{***} g/100 g; -12.5%) and Crunchy chocolate muesli (-2.3^{***} g/100 g; -12.1%). The slight difference in the change in mean for Filled cereals is due to a difference in rounding methods in order to generate the figures.

A large difference in variability over time is observed in the subcategories Cereal flakes with fruit and Other ready-to-eat cereals due to a small sample size in T0 ($n = 1$), making a comparison not possible. Furthermore, the subcategory Other ready-to-eat cereals contains a mixture of non-grain based low-carb, ketogenic, paleo, or high protein cereals, leading to a heterogenic range of products and hence the large variability.

In the subcategories Sweet cereal flakes (T0, $n = 34$; T1, $n = 27$) and High-fibre fruit cereals (T0, $n = 8$; T1, $n = 8$), the variability in sugar content appears to have decreased in T1 while also lowering the median. However, likely due to high outliers in both subcategories, the observed change was not significant. The data suggest that reformulation for products in these subcategories has occurred, but not for the products with the highest sugar content in T0. This can be seen in further detail in the nutrient evolution chart for Sweet cereal flakes (Figure 22).

The subcategory with the highest variability found is Honey/caramel cereals (T0, $n = 58$; T1, $n = 63$). This is also the subcategory where products with the highest sugar content are found. In comparison to other subcategories with a high variability, such as Traditional muesli flakes

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

(T0, n = 436; T1, n = 749), where the sugar content is mainly sourced from fruits, the source of sugar in Honey/caramel cereals is free sugars. The high variability in Honey/caramel cereals suggests there is a lot of room for reformulation to lower the sugar content in products out of this subcategory.

3.2.1.6 Evolution of the sugar content for paired products of Breakfast cereals

Table 6 shows the average sugar content in all subcategories of Breakfast cereals in 2022 (T1) and their mean value differences in comparison to 2019 (T0). Upon comparing the paired products found in both T0 and T1, significant decreases in sugar content were found for seven out of 14 observable subcategories: Honey/caramel cereals (−1.0** g/100 g; −3.8 %), Filled cereals (−3.0** g/100 g; −9.2 %), Sweet cereal flakes (−0.6* g/100 g; −8.3 %), Traditional muesli flakes (−0.3* g/100 g; −2.3 %), Crunchy fruit muesli (−1.0*** g/100 g; −6.4 %), Crunchy muesli with nuts_seeds (−0.5* g/100 g; −3.5 %) and Crunchy chocolate muesli (−1.0*** g/100 g; −7.3 %).

Table 6: Summary of the evolution of the average sugar content for Breakfast cereals, by subcategory¹

Subcategory_name	Sugar							
	All products				Paired products			
	Sample size (n)	Mean.T1 (g/100 g)	Mean value difference (g/100 g)	Mean value evolution (%)	Sample size (n)	Mean.T1 (g/100 g)	Mean value difference (g/100 g)	Mean value evolution (%)
Chocolate-flavoured cereals	54	21.0	−1.5	−6.7 %	31	21.2	−0.8	−3.8 %
Chocolate and caramel cereals	6	24.6	−0.2	−0.7 %	3	24.6	0.0	0.0 %
Honey/caramel cereals	63	24.1	−1.9	−7.4 %	34	25.7	−1.0**	−3.8 %
Filled cereals	23	25.3	−4.4**	−14.8 %	11	27.1	−3.0**	−9.2 %
Sweet cereal flakes	27	7.2	−3.9	−35.3 %	17	7.2	−0.6*	−8.3 %
Cereal flakes with fruit	5	20.4	+6.4	+45.4 %	0			
Cereal flakes with chocolate_nuts	26	21.3	−0.3	−1.4 %	8	22.9	−0.4	−1.5 %
Traditional muesli flakes	749	13.0	−0.8	−5.5 %	273	13.8	−0.3*	−2.3 %
Crunchy fruit muesli	182	16.1	−2.3***	−12.5 %	69	16.8	−1.0***	−6.4 %
Crunchy muesli with nuts_seeds	59	14.9	−1.0	−6.1 %	31	14.9	−0.5*	−3.5 %
Crunchy chocolate muesli	202	17.1	−2.3***	−12.1 %	72	18.3	−1.0***	−7.3 %
Cereals without added sugar	38	1.1	−0.4	−23.8 %	9	1.2	+0.03	+2.1 %
High-fibre cereals	27	14.0	−0.3	−2.4 %	16	13.4	−1.0	−9.1 %
High-fibre fruit cereals	8	11.4	−5.3	−31.9 %	4	11.2	−1.0	−10.1 %
Cereal preparation to drink	subcategory outside scope of our product monitoring. hence no products							
Other ready-to-eat cereals	21	13.9	−8.7	−38.6 %	1	23.0	+0.4	+1.8 %

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

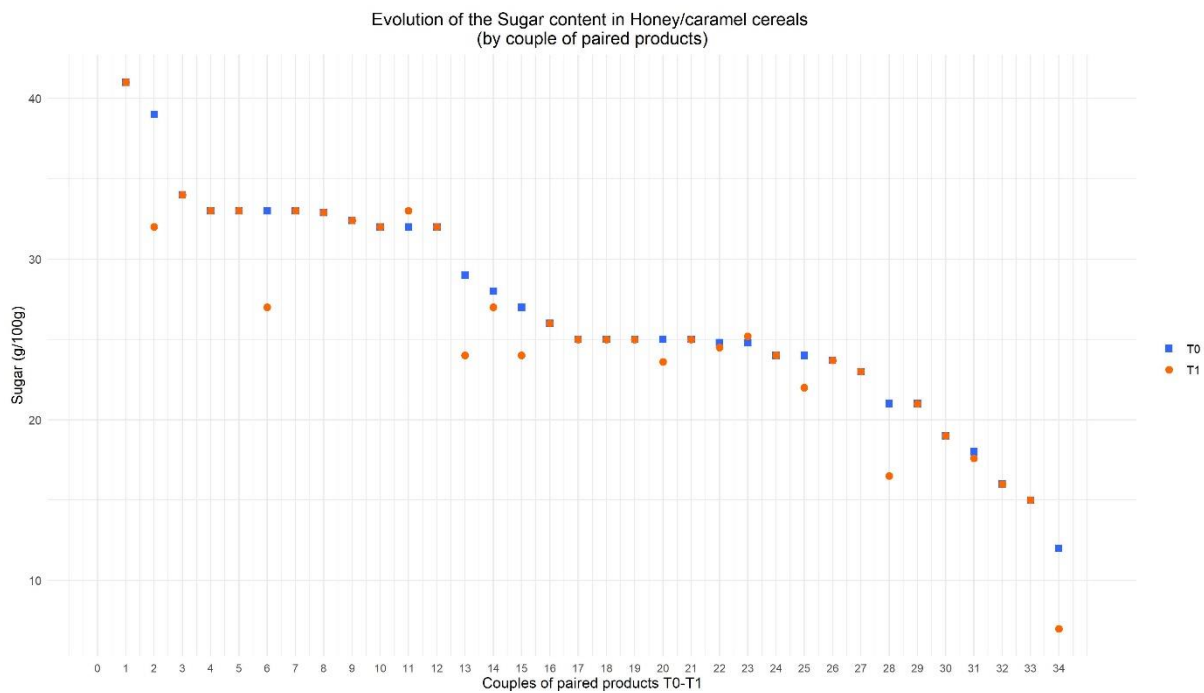


Figure 20: Sugar content evolution between 2019 and 2022 by couple of paired products for Honey/caramel cereals subcategory

The sugar content evolution in 34 couples of paired products in the subcategory Honey/caramel cereals is shown in Figure 20. Of those, 21 products retained their sugar content, while two products increased in sugar content (+1.0 g/100 g in couple 11 and +0.4 g/100 g in couple 23). 11 products were decreased in sugar content, ranging from -0.3 g/100 g (couple 22) to -7.0 g/100 g (couple 2).

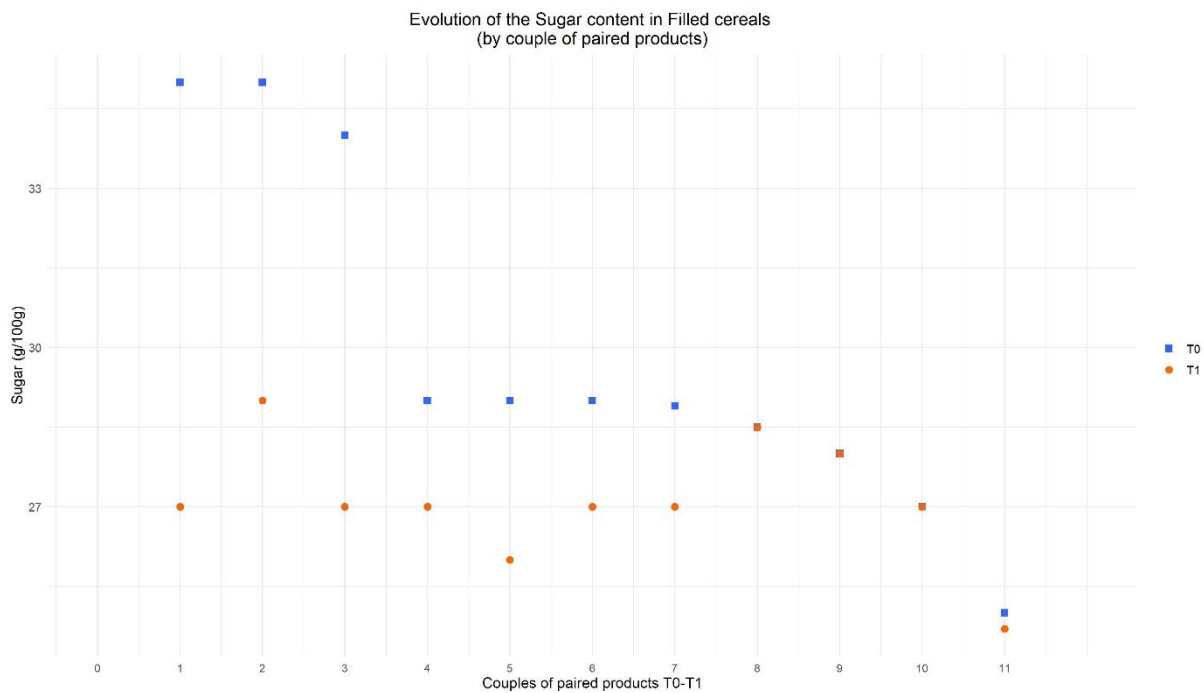


Figure 21: Sugar content evolution between 2019 and 2022 by couple of paired products for Filled cereals subcategory

Out of 11 couples of paired products found in the subcategory Filled cereals, the sugar content for three products stayed the same between T0 and T1 (Figure 21). While no increase in sugar content was observed, eight product pairs were found with a decreased sugar content. The highest decrease was at -8.0 g/100 g (couple 1) and the lowest decrease at -0.3 g/100 g (couple 11). All three products with the highest sugar content (> 30 g/100 g; couples 1-3) were reformulated to a level similar to the other products.

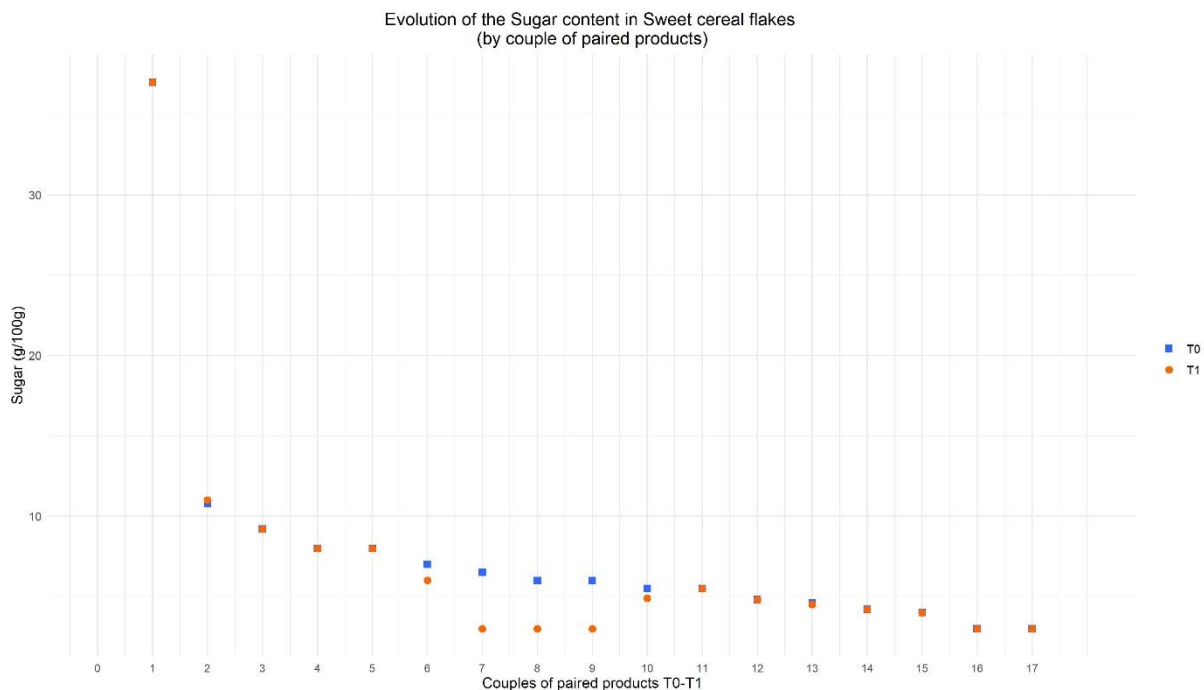


Figure 22: Sugar content evolution between 2019 and 2022 by couple of paired products for Sweet cereal flakes subcategory

17 couples of paired products were found in the subcategory Sweet cereal flakes, of which 10 products were not reformulated regarding their sugar content (Figure 22). A small increase in sugar was found in one product pair (+0.2 g/100 g, couple 2) and six products were found to have a decreased sugar content between T0 and T1. The decreases ranged from -0.1 g/100 g (couple 13) to -3.5 g/100 g (couple 7). Out of the paired products, the product with the highest sugar content by far at T0 remained as high at T1.

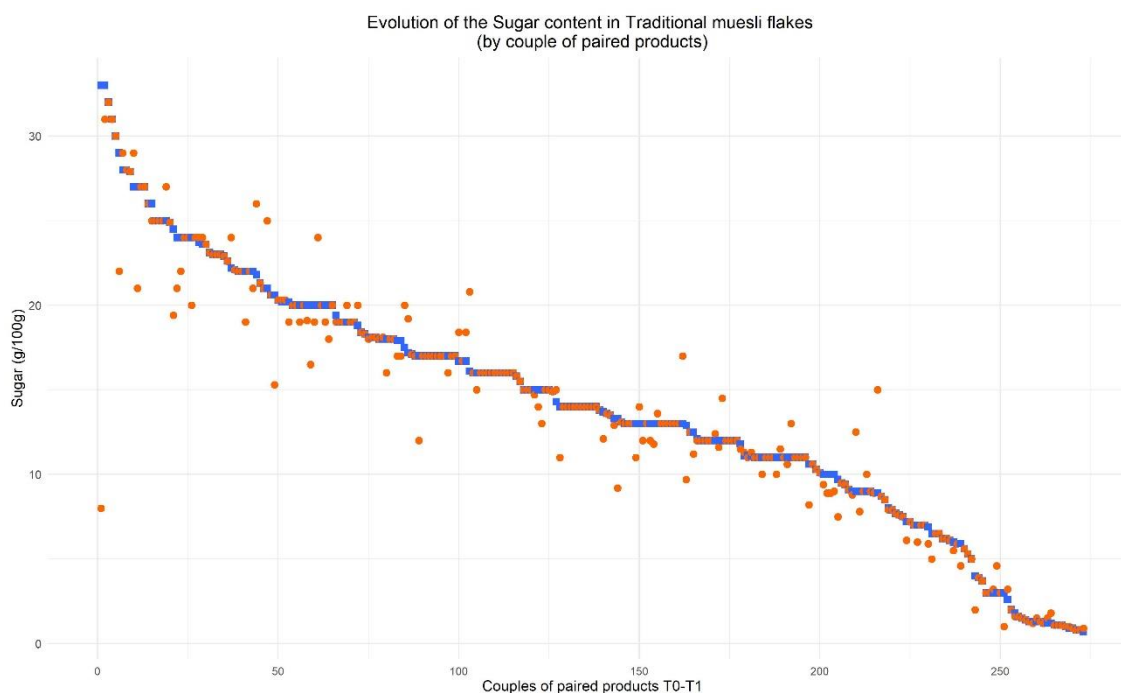


Figure 23: Sugar content evolution between 2019 and 2022 by couple of paired products for Traditional muesli flakes subcategory

In the Traditional muesli flakes subcategory, 273 pairs of products were identified (Figure 23). 167 product pairs were not reformulated in their sugar content, 40 products were found with an increased sugar content at T1, and a decrease in sugar was observed in 66 products. The increases ranged from +0.1 g/100 g (couples 51, 52, 82 and 270) to +6.1 g/100 g (couple 215). The decreases were in a range between -0.1 g/100 g (couples 75, 166, 179, 219 and 259) and -25.0 g/100 g (couple 1). The product with the highest sugar content in T0 (couple 1) is a gluten-free muesli which was reformulated from containing dried fruits as the first two listed ingredients to being based mainly on gluten-free and pseudo grains, nuts, and seeds.

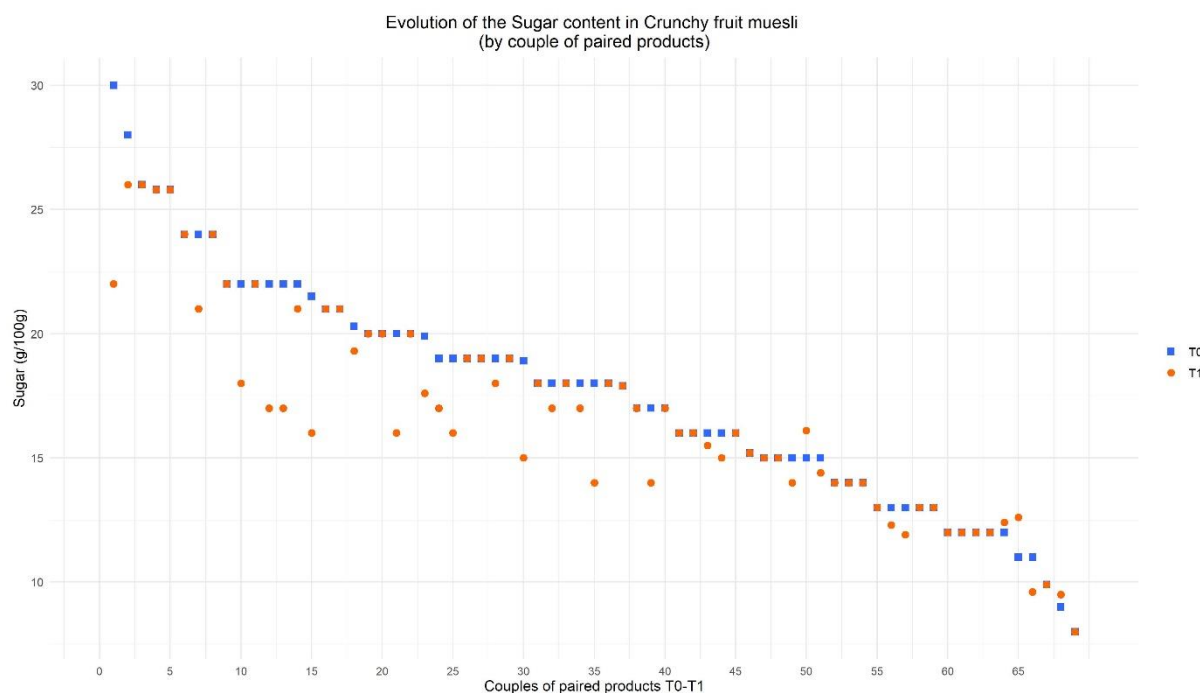


Figure 24: Sugar content evolution between 2019 and 2022 by couple of paired products for Crunchy fruit muesli subcategory

In the subcategory Crunchy fruit muesli, the sugar content for 39 out of 69 paired products remained the same between 2019 (T0) and 2022 (T1), as seen in Figure 24. An increase between +0.4 g/100 g (couple 64) and +1.6 g/100 g (couple 65) was found in four products. Out of the 26 products where a decreased sugar content was observed, the largest decrease was found in couple 1 (−8.0 g/100 g) and the lowest in couple 43 (−0.5 g/100 g). The majority of the decreases were observed in the product pairs with a higher sugar content in T0 (> 15 g/100 g), while increases were only found in product pairs with a sugar content ≤ 15 g/100 g during T0.

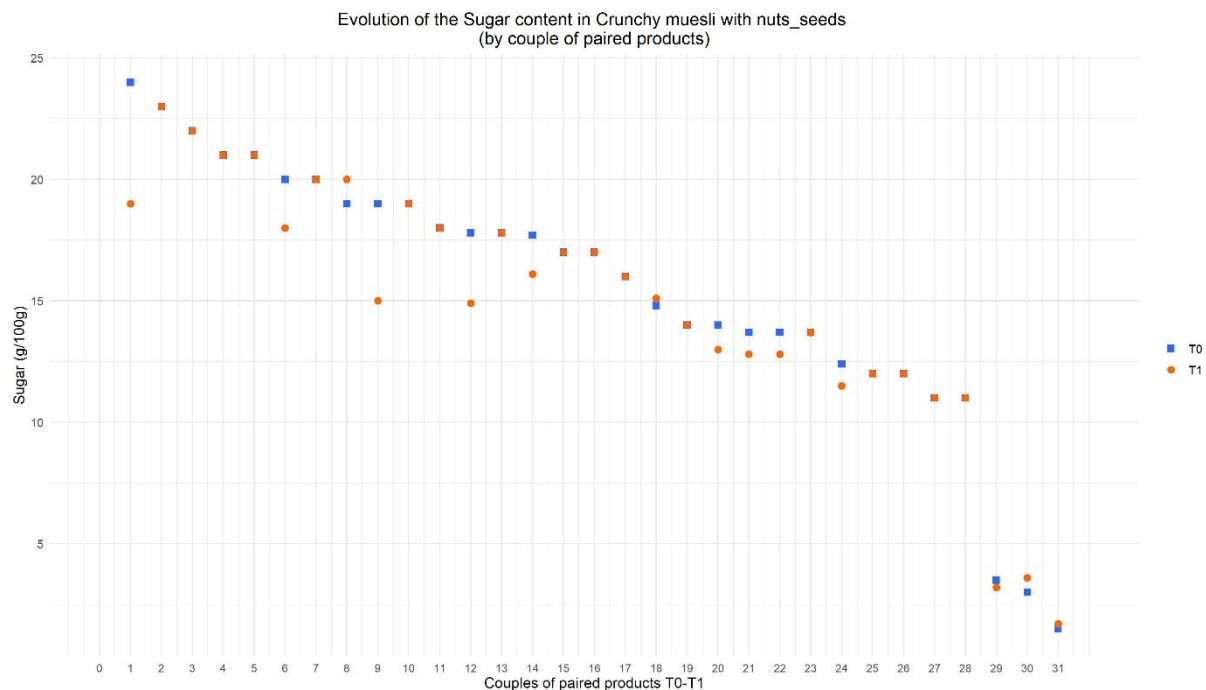


Figure 25: Sugar content evolution between 2019 and 2022 by couple of paired products for Crunchy muesli with nuts_seeds subcategory

The majority (17 out of 31 product pairs) of paired products in the subcategory Crunchy muesli with nuts_seeds were not reformulated in regards to their sugar content between T0 and T1 (Figure 25). 10 products were found with a decreased sugar content between -0.3 g/100 g (couple 29) and -5.0 g/100 g (couple 1), while an increase in the range of $+0.2$ g/100 g (couple 31) and $+1.0$ g/100 g (couple 8) was found in four product pairs.

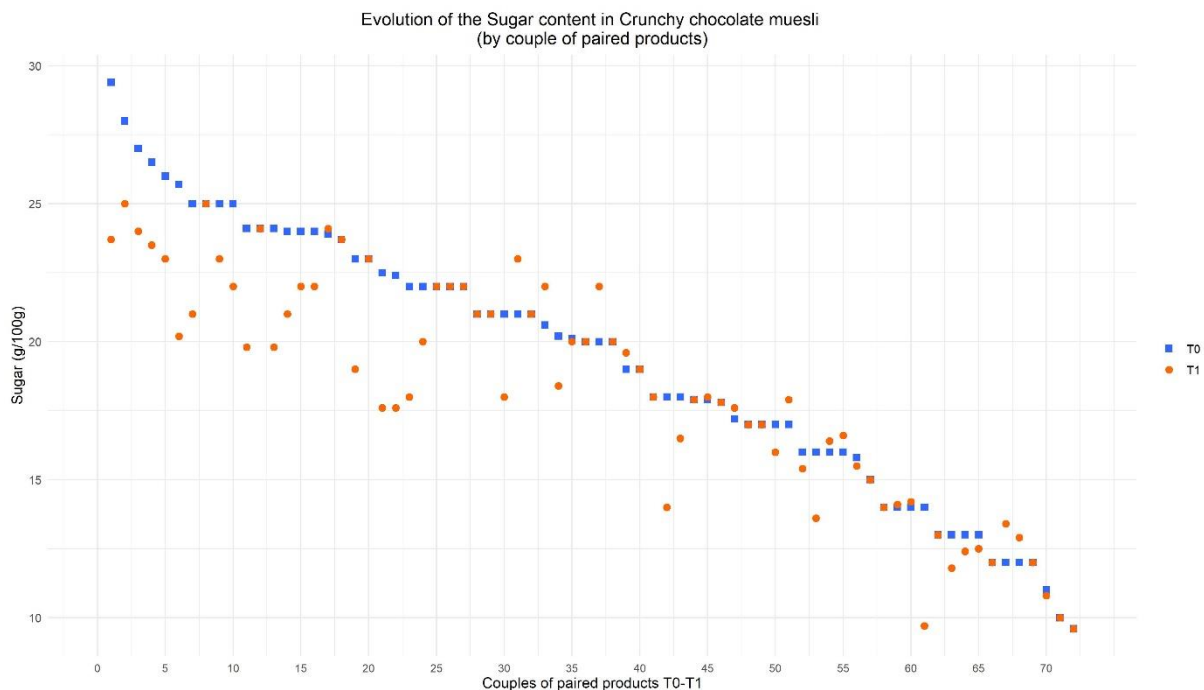


Figure 26: Sugar content evolution between 2019 and 2022 by couple of paired products for Crunchy chocolate muesli subcategory

Of the 72 product pairs found in the subcategory Crunchy chocolate muesli, the sugar content remained the same for 25 paired products found between T0 and T1 (Figure 26). An increase between +0.1 g/100 g (couples 45 and 59) and +2.0 g/100 g (couples 31 and 37) was found in 14 products, while 33 products were observed with a decreased sugar content in a range from -0.1 g/100 g (couple 35) and -5.7 g/100 g (couple 1). Overall, products with a higher sugar content in T0 (> 20 g/100 g) seem to have dropped in sugar by a larger degree than products with a lower sugar content in T0 (\leq 20 g/100 g).

3.2.1.7 Evolution of the fibre content among the subcategories of Breakfast cereals

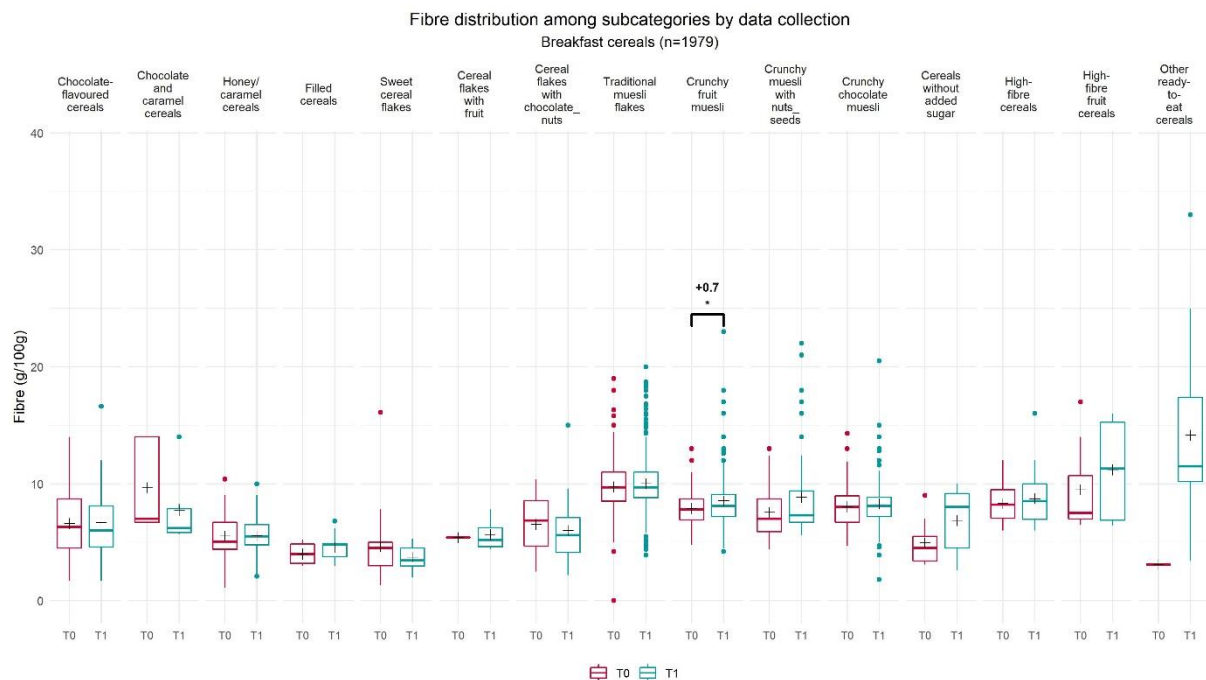


Figure 27: Fibre distribution among subcategories of Breakfast cereals¹

As seen in Figure 27, the fibre content increased significantly between 2019 and 2022 for one subcategory out of 15: Crunchy fruit muesli (+0.7* g/100 g; +8.5%).

The biggest variability is seen in the subcategory Other ready-to-eat cereals during T1 because it is a subcategory containing all sorts of non-grain cereals based on soy, seeds, nuts and dried fruits. Due to a low sample size (n = 1) in T0 for Other ready-to-eat cereals and Cereal flakes with fruit, a comparison is not possible.

The subcategories Traditional muesli flakes (T0, n = 436; T1, n = 749), Crunchy muesli with nuts_seeds (T0, n = 42; T1, n = 59) and Crunchy chocolate muesli (T0, n = 103; T1, n = 202) show a high variability with a lot of outliers on the upper end, indicating the possibility to increase the fibre content for products in these subcategories.

¹Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.2.8 Evolution of the fibre content for paired products of Breakfast cereals

The mean values for fibre and the evolutions in the nutrient content between T0 and T1 in all subcategories of Breakfast cereals are summarised in Table 7. Among the paired products, there were no significant differences between the two snapshots. The largest increase in mean fibre content was found in the subcategory Crunchy muesli with nuts_seeds (+0.9 g/100 g; +11.2 %), while the largest decrease was observed in High-fibre fruit cereals (−0.8 g/100 g; −6.7 %).

Table 7: Summary of the evolution of the average fibre content for Breakfast cereals, by subcategory¹

	Fibre							
	All products				Paired products			
Subcategory_name	Sample size (n)	Mean.T1 (g/100 g)	Mean value difference (g/100 g)	Mean value evolution (%)	Sample size (n)	Mean.T1 (g/100 g)	Mean value difference (g/100 g)	Mean value evolution (%)
Chocolate-flavoured cereals	49	6.7	+0.07	+1.1 %	24	6.8	−0.02	−0.2 %
Chocolate and caramel cereals	6	7.7	−2.0	−20.5 %	3	8.6	−0.7	−7.2 %
Honey/caramel cereals	52	5.6	+0.03	+0.6 %	22	5.7	−0.07	−1.2 %
Filled cereals	18	4.6	+0.6	+14.1 %	7	4.4	+0.07	+1.7 %
Sweet cereal flakes	20	3.7	−0.9	−19.5 %	9	3.9	+0.03	+0.9 %
Cereal flakes with fruit	4	5.7	+0.2	+4.6 %	0			
Cereal flakes with chocolate_nuts	22	6.0	−0.5	−8.0 %	7	5.9	−0.3	−4.8 %
Traditional muesli flakes	650	10.0	+0.3	+2.7 %	233	9.6	−0.03	−0.3 %
Crunchy fruit muesli	164	8.6	+0.7*	+8.5 %	50	8.3	+0.6	+7.8 %
Crunchy muesli with nuts_seeds	50	8.9	+1.3	+17.2 %	20	8.5	+0.9	+11.2 %
Crunchy chocolate muesli	64	8.3	+0.3	+3.3 %	46	8.0	+0.1	+1.4 %
Cereals without added sugar	31	6.9	+1.9	+38.1 %	7	4.9	0.0	0.0 %
High-fibre cereals	27	8.7	+0.4	+5.0 %	15	8.5	+0.4	+5.5 %
High-fibre fruit cereals	8	11.2	+1.7	+17.8 %	4	10.4	−0.8	−6.7 %
Cereal preparation to drink	subcategory outside scope of our product monitoring. hence no products							
Other ready-to-eat cereals	20	14.2	+11.1	+356.8 %	1	3.4	+0.3	+9.7 %

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.1.9 Evolution of the salt content among the subcategories of Breakfast cereals

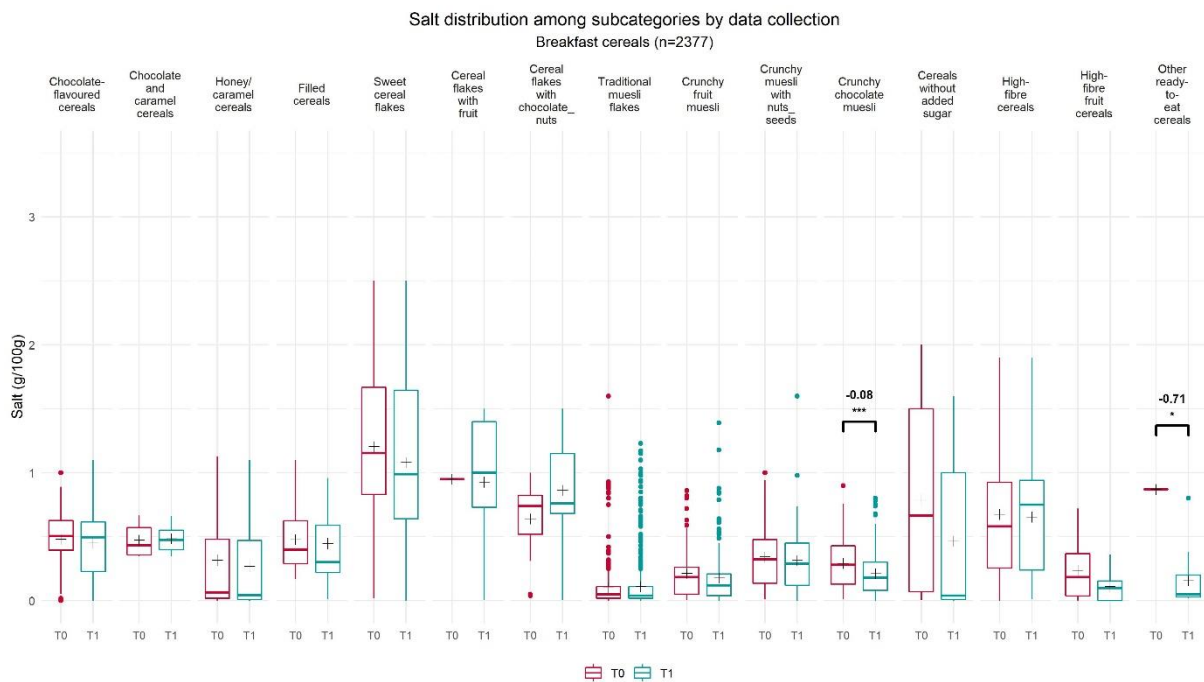


Figure 28: Salt distribution among subcategories of Breakfast cereals¹

Figure 28 depicts the salt distribution for Breakfast cereals. Two significant but minor decreases in salt content were found among the 15 subcategories: Crunchy chocolate muesli (-0.08^{***} g/100 g; -27.26%) and Other ready-to-eat cereals (-0.71^{*} g/100 g; -81.94%). The significant result for the subcategory Other ready-to-eat cereals is to be treated with caution, as a comparison due to the low sample size in T0 ($n = 1$) is hardly possible.

The largest variabilities are found in the subcategories Sweet cereal flakes (T0, $n = 34$; T1, $n = 27$), Cereals without added sugar (T0, $n = 12$; T1, $n = 38$) and High-fibre cereals (T0, $n = 19$; T1, $n = 27$). These are also the subcategories containing products with the highest amount of salt. The large variability suggests there is ample room for reformulation in order to reduce the salt content of products with a high salt content.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.1.10 Evolution of the salt content for paired products of Breakfast cereals

Table 8 summarises the mean content and value differences between T0 and T1 of salt for all subcategories in Breakfast cereals. Among the paired products observed in both snapshots, significant differences were found in two subcategories out of 14: Sweet cereal flakes (−0.38** g/100 g; −26.01 %) and Crunchy muesli with nuts_seeds (−0.044* g/100 g; −12.16 %).

Table 8: Summary of the evolution of the average salt content for Breakfast cereals, by subcategory¹

	Salt							
	All products				Paired products			
Subcategory_name	Sample size (n)	Mean.T1 (g/100 g)	Mean value difference (g/100 g)	Mean value evolution (%)	Sample size (n)	Mean.T1 (g/100 g)	Mean value difference (g/100 g)	Mean value evolution (%)
Chocolate-flavoured cereals	54	0.45	−0.03	−6.21 %	31	0.42	−0.033	−7.32 %
Chocolate and caramel cereals	6	0.48	+0.012	+2.46 %	3	0.43	−0.07	−13.91 %
Honey/caramel cereals	63	0.27	−0.048	−15.07 %	34	0.28	−0.0084	−2.92 %
Filled cereals	23	0.45	−0.031	−6.49 %	11	0.46	−0.042	−8.3 %
Sweet cereal flakes	27	1.08	−0.12	−10.21 %	17	1.07	−0.38**	−26.01 %
Cereal flakes with fruit	5	0.93	−0.023	−2.42 %	0			
Cereal flakes with chocolate_nuts	26	0.86	+0.23	+35.21 %	8	0.76	−0.0087	−1.14 %
Traditional muesli flakes	749	0.11	+0.0076	+7.39 %	273	0.11	+0.014	+14.39 %
Crunchy fruit muesli	182	0.18	−0.038	−17.49 %	69	0.19	−0.019	−8.92 %
Crunchy muesli with nuts_seeds	59	0.32	−0.026	−7.71 %	31	0.32	−0.044*	−12.16 %
Crunchy chocolate muesli	202	0.21	−0.079***	−27.26 %	72	0.26	−0.033	−11.1 %
Cereals without added sugar	38	0.46	−0.32	−41.07 %	9	0.58	−0.075	−11.48 %
High-fibre cereals	27	0.65	−0.02	−2.91 %	16	0.66	−0.11	−14.41 %
High-fibre fruit cereals	8	0.11	−0.13	−53.44 %	4	0.10	0.00	0.0 %
Cereal preparation to drink	subcategory outside scope of our product monitoring. hence no products							
Other ready-to-eat cereals	21	0.16	−0.71*	−81.94 %	1	0.80	−0.07	−8.05 %

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

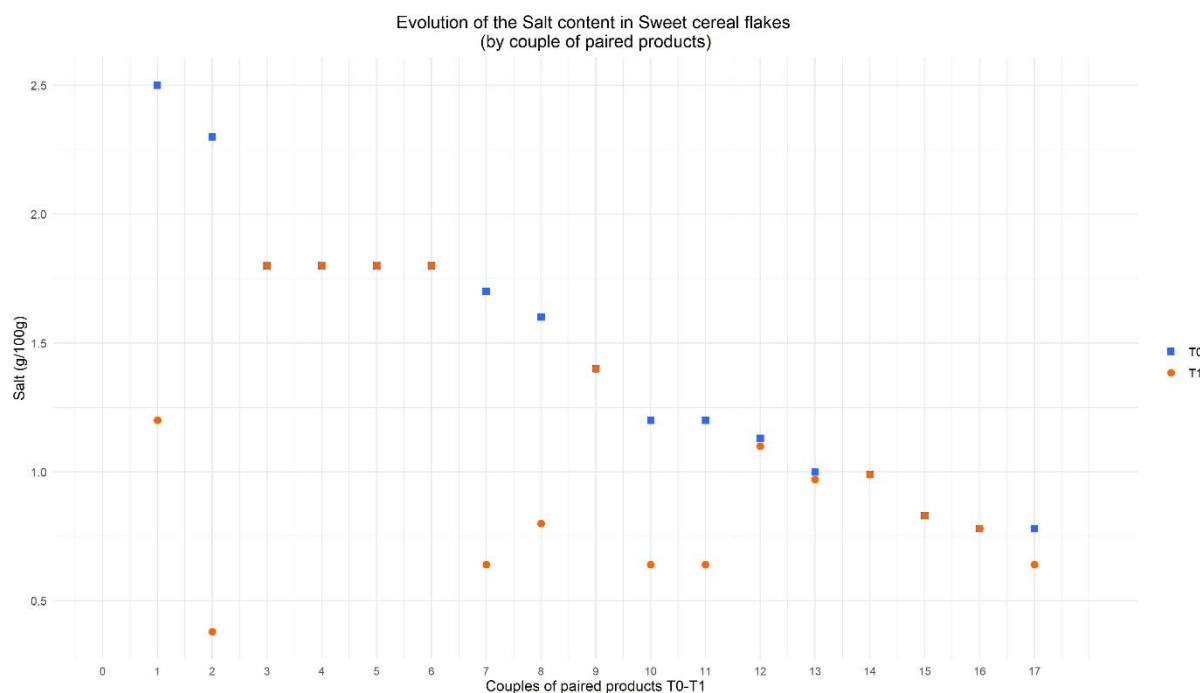


Figure 29: Salt content evolution between 2019 and 2022 by couple of paired products for Sweet cereal flakes subcategory

Out of the 17 product pairs in the Sweet cereal flakes subcategory, no change in salt content between T0 and T1 was observed in eight product pairs (Figure 29). No products increased in their salt content, while a decrease in a range between -0.03 g/100 g (couples 12 and 13) and -1.92 g/100 g (couple 2) was observed for nine products. In the two products with a salt content > 2 g/100 g at T0, a reduction by 52 % (couple 1) and 83 % (couple 2) was observed, respectively.

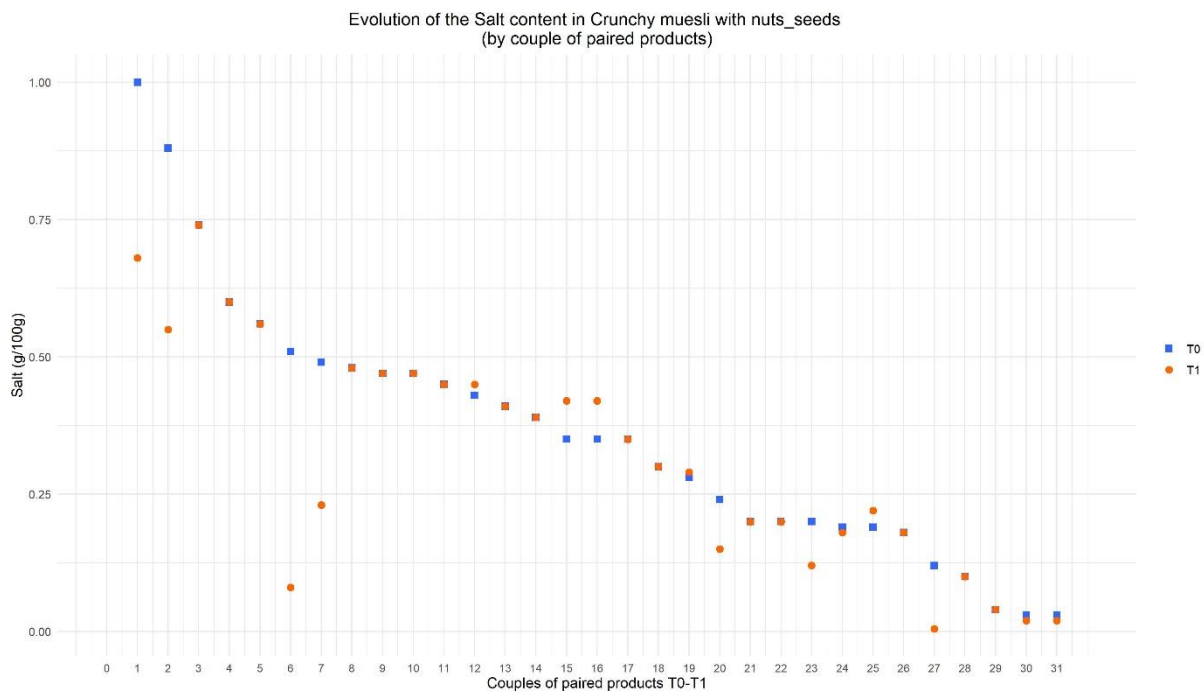


Figure 30: Salt content evolution between 2019 and 2022 by couple of paired products for Crunchy muesli with nuts_seeds

The evolution of salt content in paired products between T0 and T1 for Crunchy muesli with nuts_seeds shows that for 16 out of 31 products, the salt content was not modified (Figure 30). There was a minimal increase observed for five products, ranging between +0.01 g/100 g (couple 19) and +0.07 g/100 g (couples 15 and 16). A decrease in a range between -0.01 g/100 g (couples 20, 30 and 31) and -0.43 g/100 g (couple 6) was found for 10 products.

3.2.2 Fresh dairy products and desserts

In the category Fresh dairy products and desserts, the nutrients protein, fat, saturated fat, sugar, and fibre were selected for analysis in terms of product reformulation.

3.2.2.1 Evolution of the protein content among the subcategories of Fresh dairy products and desserts

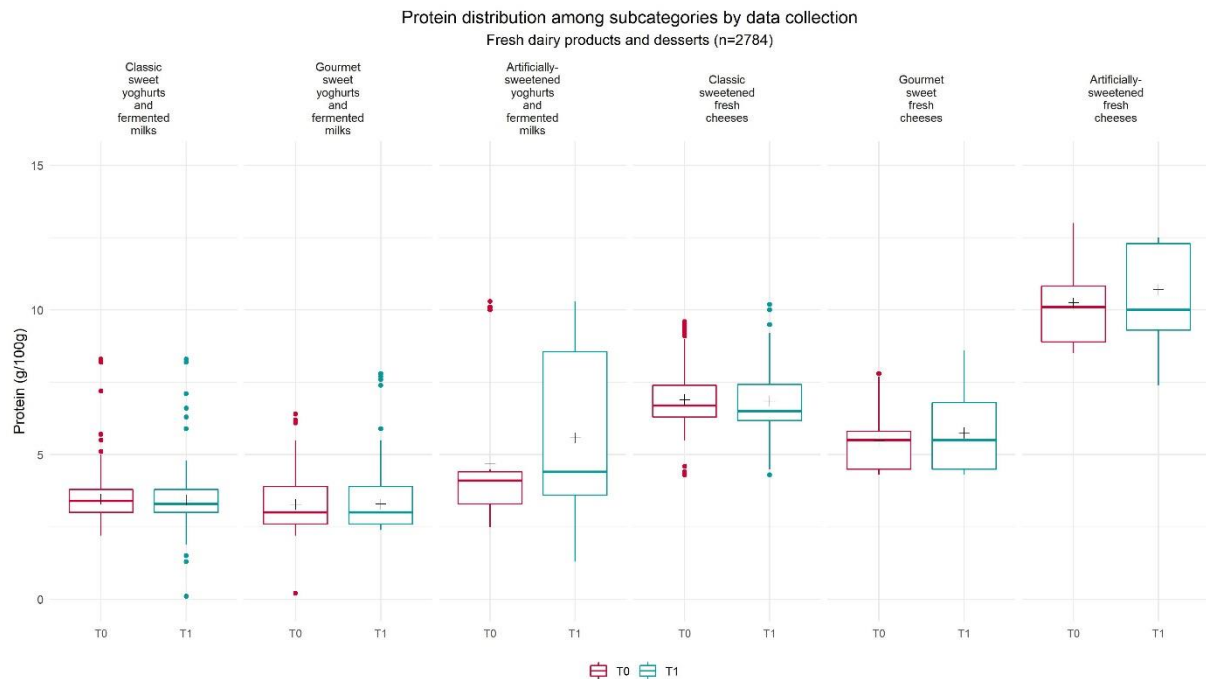


Figure 31: Protein distribution among subcategories of Fresh dairy products and desserts¹

The protein content distribution of the products in the six observed subcategories of Fresh dairy products and desserts is shown in Figure 31. There were no significant differences between 2019 (T0) and 2022 (T1). The subcategory with the highest protein content in both T0 and T1 was Artificially-sweetened fresh cheeses.

The largest variability in protein content was found in the subcategory Artificially-sweetened yoghurts and fermented milks (T0, n = 51; T1, n = 63). Products in the subcategory Artificially-sweetened yoghurts and fermented milks were often marketed as high-protein, low-fat, low-sugar, low-calorie, or a combination of those. The large variability can be explained by the different kinds of products in this subcategory.

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.2.2 Evolution of the protein content for paired products of Fresh dairy products and desserts

The observed mean values and differences between T0 (2019) and T1 (2022) in protein for products in the Fresh dairy products and desserts category are summarised in Table 9. Among the paired products found in T0 and T1, there were significant, yet small reductions observed in the subcategory Classic sweet yoghurts and fermented milks (-0.02^* g/100 g; -0.7%) and Classic sweetened fresh cheeses (-0.05^* g/100 g; -0.7%). A similarly minor significant increase in protein content was found for paired products in the subcategory Gourmet sweet yoghurts and fermented milks ($+0.03^{**}$ g/100 g; $+1.0\%$). The following nutrient evolution charts for subcategories with significant differences in paired products show the individual change in protein content between T0 and T1 in each product pair (Figure 32, Figure 33 and Figure 34).

Table 9: Summary of the evolution of the average protein content for Fresh dairy products and desserts, by subcategory¹

	Protein							
	All products				Paired products			
Subcategory_name	Sample size (n)	Mean.T1 (g/100 g)	Mean difference (g/100 g)	Mean evolution (%)	Sample size (n)	Mean.T1 (g/100 g)	Mean difference (g/100 g)	Mean evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	subcategory outside scope of MRI product monitoring, hence no products							
Gourmet plain yoghurts and fermented milks with no added sugar	subcategory outside scope of MRI product monitoring, hence no products							
Classic sweet yoghurts and fermented milks	724	3.4	-0.03	-0.9 %	392	3.4	-0.02*	-0.7 %
Gourmet sweet yoghurts and fermented milks	326	3.3	+0.02	+0.5 %	193	3.2	+0.03**	+1.0 %
Artificially-sweetened yoghurts and fermented milks	63	5.6	+0.9	+18.6 %	37	4.5	+0.005	+0.1 %
Classic plain fresh cheeses with no added sugar	subcategory outside scope of our product monitoring. hence no products							
Gourmet plain fresh cheeses with no added sugar	subcategory outside scope of our product monitoring. hence no products							
Classic sweetened fresh cheeses	68	6.8	-0.05	-0.7 %	36	6.6	-0.05*	-0.7 %
Gourmet sweet fresh cheeses	77	5.8	+0.3	+5.0 %	46	5.5	-0.009	-0.2 %
Artificially-sweetened fresh cheeses	25	10.7	+0.5	+4.5 %	7	9.5	-0.2	-1.8 %
Dessert creams and jellied milks	subcategory outside scope of MRI product monitoring, hence no products							
Liégeois desserts and similar	subcategory outside scope of MRI product monitoring, hence no products							

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

Curdled milks	subcategory outside scope of MRI product monitoring, hence no products
Fresh desserts with cereals	subcategory outside scope of MRI product monitoring, hence no products
Fresh mousse-type desserts	subcategory outside scope of MRI product monitoring, hence no products
Egg-based fresh desserts	subcategory outside scope of MRI product monitoring, hence no products
Fresh light and/or artificially-sweetened desserts	subcategory outside scope of MRI product monitoring, hence no products
Fresh plain unsweetened soy desserts	subcategory outside scope of MRI product monitoring, hence no products
Fresh sweetened soy desserts	subcategory outside scope of MRI product monitoring, hence no products
Other fresh plant-based desserts	subcategory outside scope of MRI product monitoring, hence no products
Other dairy products	subcategory outside scope of MRI product monitoring, hence no products

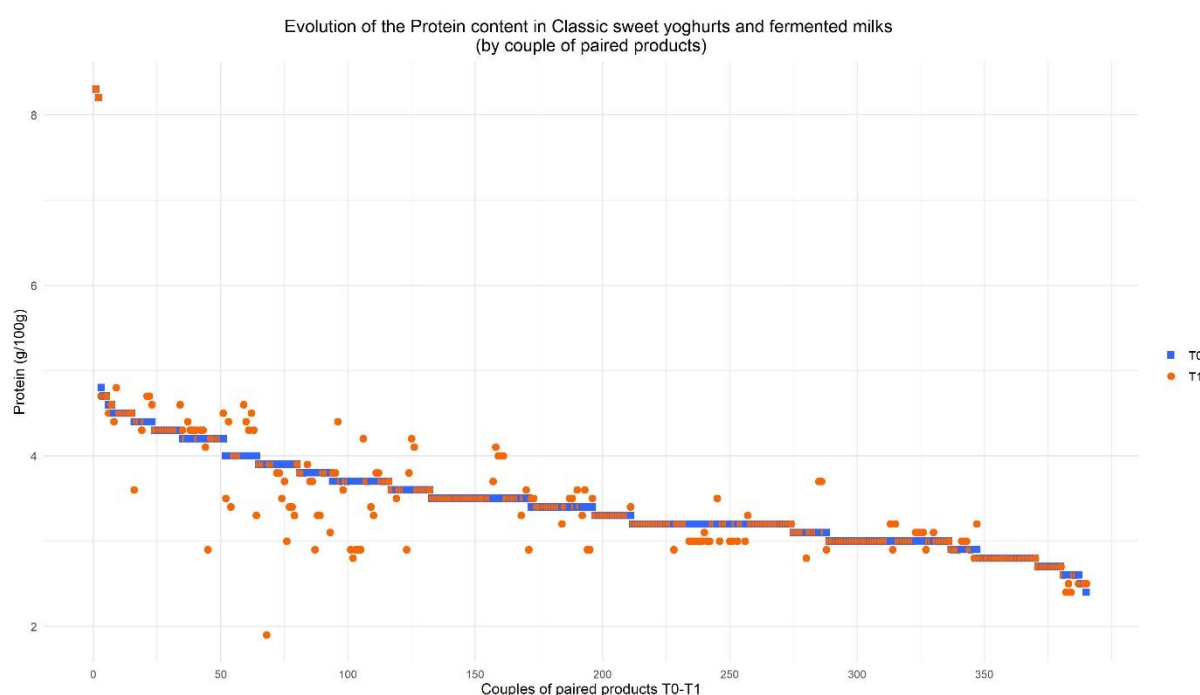


Figure 32: Protein content evolution between 2019 and 2022 by couple of paired products for Classic sweet yoghurts and fermented milks subcategory

In the subcategory Classic sweet yoghurts and fermented milks, 392 products pairs were found between T0 and T1 (Figure 32). 266 products did not change in protein content between the two snapshots. In 59 products, an increase in protein in a range between +0.1 g/100 g (28 couples) and +0.7 g/100 g (couple 98) was found, while a decrease was found in 67 products, ranging from -0.1 g/100 g (19 couples) to -2.0 g/100 g (couple 70).

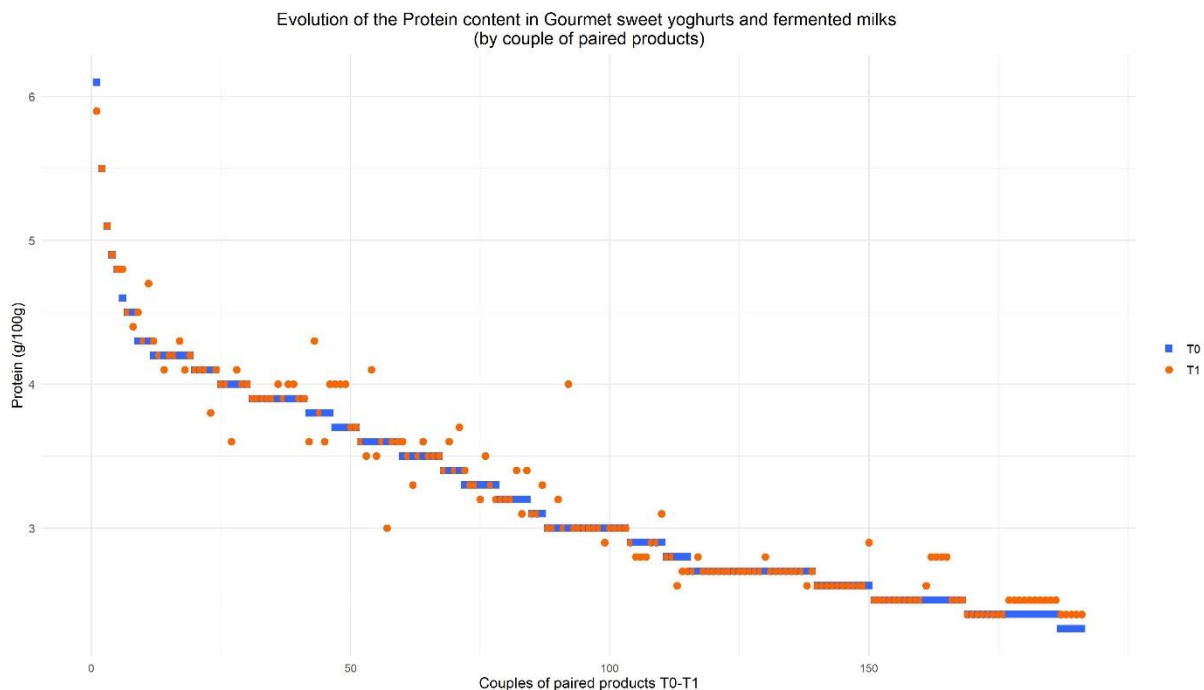


Figure 33: Protein content evolution between 2019 and 2022 by couple of paired products for Gourmet sweet yoghurts and fermented milks subcategory

Out of 193 couples of paired products in the subcategory Gourmet sweet yoghurts and fermented milks, no reformulation in protein content was observed for 119 products between the two snapshots in T0 and T1 (Figure 33). In T1, an increase was observed for 50 products, ranging from +0.1 g/100 g (27 couples) to +1.0 g/100 g (couple 93). 24 products decreased in protein content, in a range between -0.1 g/100 g (16 couples) and -0.6 g/100 g (couple 60). Overall, if a change in protein content was observed for products with a protein content in T0 on the lower end (≤ 2.6 g/100 g), the change was an increase.

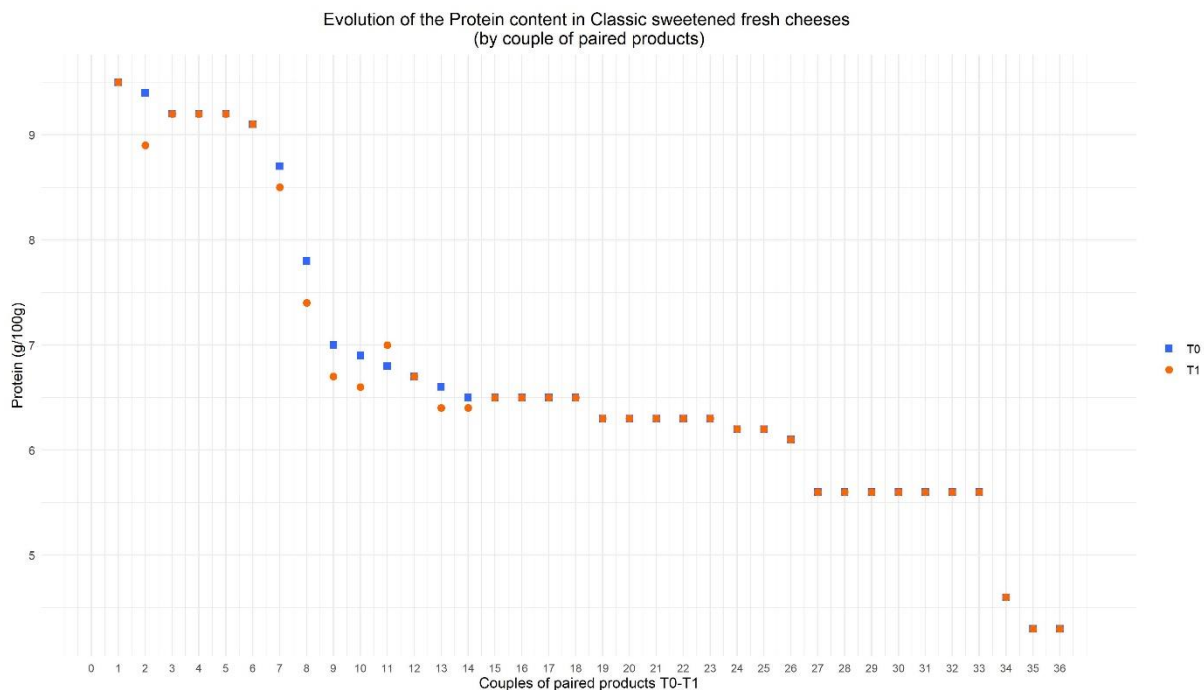


Figure 34: Protein content evolution between 2019 and 2022 by couple of paired products for Classic sweetened fresh cheeses subcategory

Figure 34 depicts the protein content evolution in the subcategory Classic sweetened fresh cheeses between T0 and T1 for 36 paired products. For the majority (28 products), no change in protein content was found. While one product showed an increased protein content by +0.2 g/100 g (couple 11), seven products had a decreased protein content at T1, ranging between -0.1 g/100 g (couple 14) and -0.5 g/100 g (couple 2).

There appear to be three subgroups in this subcategory, with cut-off points at 8 g/100 g and 5 g/100 g. Products with a protein content > 8 g/100 g were shown to be Skyr products while products with a protein content ≤ 5 g/100 g were shown to contain a mixture of fresh cheese and yoghurt. However, not all products containing mixtures of cream cheese or curd with yoghurt were found in the subgroup with the lowest protein content.

3.2.2.3 Evolution of the fat content among the subcategories of Fresh dairy products and desserts

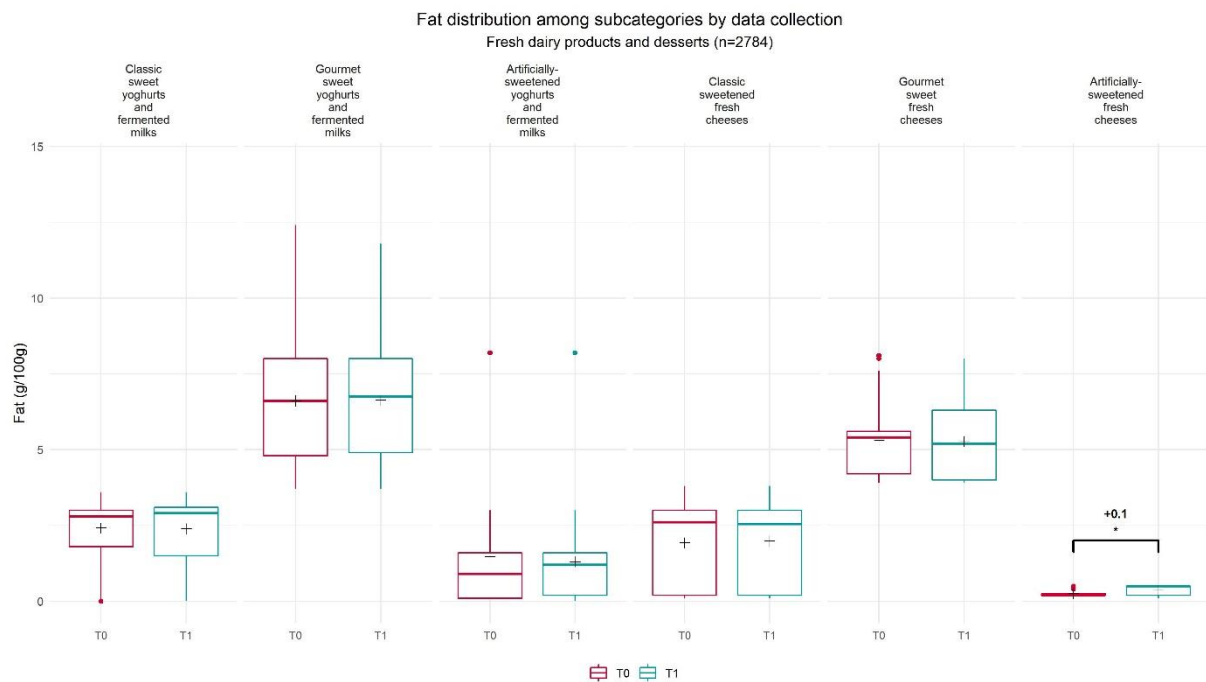


Figure 35: Fat distribution among subcategories of Fresh dairy products and desserts¹

The fat content distribution in products of Fresh dairy products and desserts is shown in Figure 35. A small significant increase was found for one subcategory out of six: Artificially-sweetened fresh cheeses (+0.1* g/100 g; +36.9 %).

The highest variability was found in the subcategory Gourmet sweet yoghurts and fermented milks (T0, n = 359; T1, n = 326). The subcategories Gourmet sweet yoghurts and fermented milks and Gourmet sweet fresh cheeses have the highest fat content. This is due to the definition of these subcategories, where a differentiation between classic and gourmet products is made based on the total fat content. Products in the gourmet subcategories fall under this category for different reasons: either they contain heavy cream or have a high fat content in the milk base itself, or have added chocolate or nuts which increase the fat content of the product.

¹Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.2.4 Evolution of the fat content for paired products of Fresh dairy products and desserts

The mean values for fat in products of each subcategory and the differences in mean in comparison to T0 are shown in Table 10. One subcategory out of six showed a significant, yet minimal decrease in fat content among paired products found in both T0 and T1: Gourmet sweet fresh cheeses (-0.04^* g/100 g; -0.7%).

Table 10: Summary of the evolution of the average fat content for Fresh dairy products and desserts, by subcategory¹

	Fat							
	All products				Paired products			
Subcategory_name	Sample size (n)	Mean.T1 (g/100 g)	Mean difference (g/100 g)	Mean evolution (%)	Sample size (n)	Mean.T1 (g/100 g)	Mean difference (g/100 g)	Mean evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	subcategory outside scope of MRI product monitoring, hence no products							
Gourmet plain yoghurts and fermented milks with no added sugar	subcategory outside scope of MRI product monitoring, hence no products							
Classic sweet yoghurts and fermented milks	724	2.4	-0.02	-1.0 %	392	2.5	+0.009	+0.3 %
Gourmet sweet yoghurts and fermented milks	326	6.6	+0.01	+0.2 %	193	6.6	+0.02	+0.2 %
Artificially-sweetened yoghurts and fermented milks	63	1.3	-0.2	-11.5 %	37	1.5	+0.002	+0.1 %
Classic plain fresh cheeses with no added sugar	subcategory outside scope of our product monitoring. hence no products							
Gourmet plain fresh cheeses with no added sugar	subcategory outside scope of our product monitoring. hence no products							
Classic sweetened fresh cheeses	68	2.0	+0.06	+3.0 %	36	2.2	+0.02	+0.9 %
Gourmet sweet fresh cheeses	77	5.3	-0.04	-0.7 %	46	5.4	-0.04*	-0.7 %
Artificially-sweetened fresh cheeses	25	0.4	+0.1*	+36.9 %	7	0.2	0.0	0.0 %
Dessert creams and jellied milks	subcategory outside scope of MRI product monitoring, hence no products							
Liégeois desserts and similar	subcategory outside scope of MRI product monitoring, hence no products							
Curdled milks	subcategory outside scope of MRI product monitoring, hence no products							
Fresh desserts with cereals	subcategory outside scope of MRI product monitoring, hence no products							
Fresh mousse-type desserts	subcategory outside scope of MRI product monitoring, hence no products							
Egg-based fresh desserts	subcategory outside scope of MRI product monitoring, hence no products							

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

Fresh light and/or artificially-sweetened desserts	subcategory outside scope of MRI product monitoring, hence no products
Fresh plain unsweetened soy desserts	subcategory outside scope of MRI product monitoring, hence no products
Fresh sweetened soy desserts	subcategory outside scope of MRI product monitoring, hence no products
Other fresh plant-based desserts	subcategory outside scope of MRI product monitoring, hence no products
Other dairy products	subcategory outside scope of MRI product monitoring, hence no products

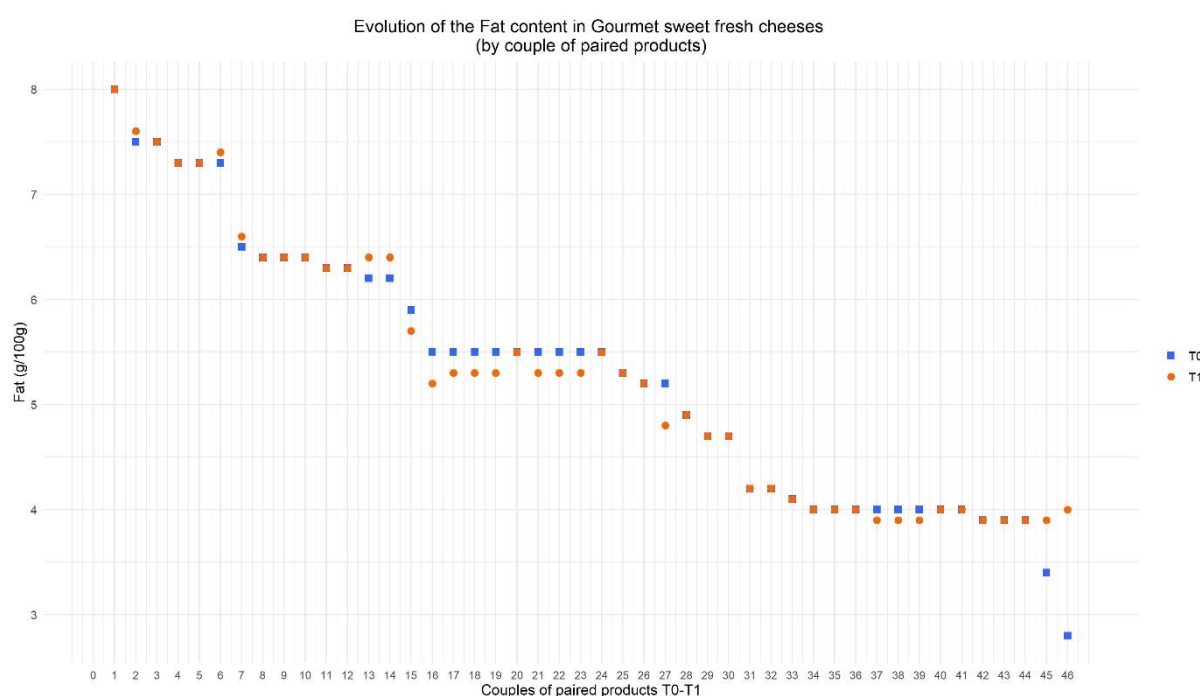


Figure 36: Fat content evolution between 2019 and 2022 by couple of paired products for Gourmet sweet fresh cheeses subcategory

46 product pairs were collected in the subcategory Gourmet sweet fresh cheeses between T0 and T1 (Figure 36). For 27 products, no reformulation in fat content was observed between the two data collection points. An increase in fat content was found in seven products within a range of +0.1 g/100 g (couples 2, 6 and 7) and +1.2 g/100 g (couple 46), while decreases ranging between -0.1 g/100 g (couples 37, 38 and 39) and -0.4 g/100 g (couple 27) were found for 12 products.

3.2.2.5 Evolution of the saturated fat content among the subcategories of Fresh dairy products and desserts

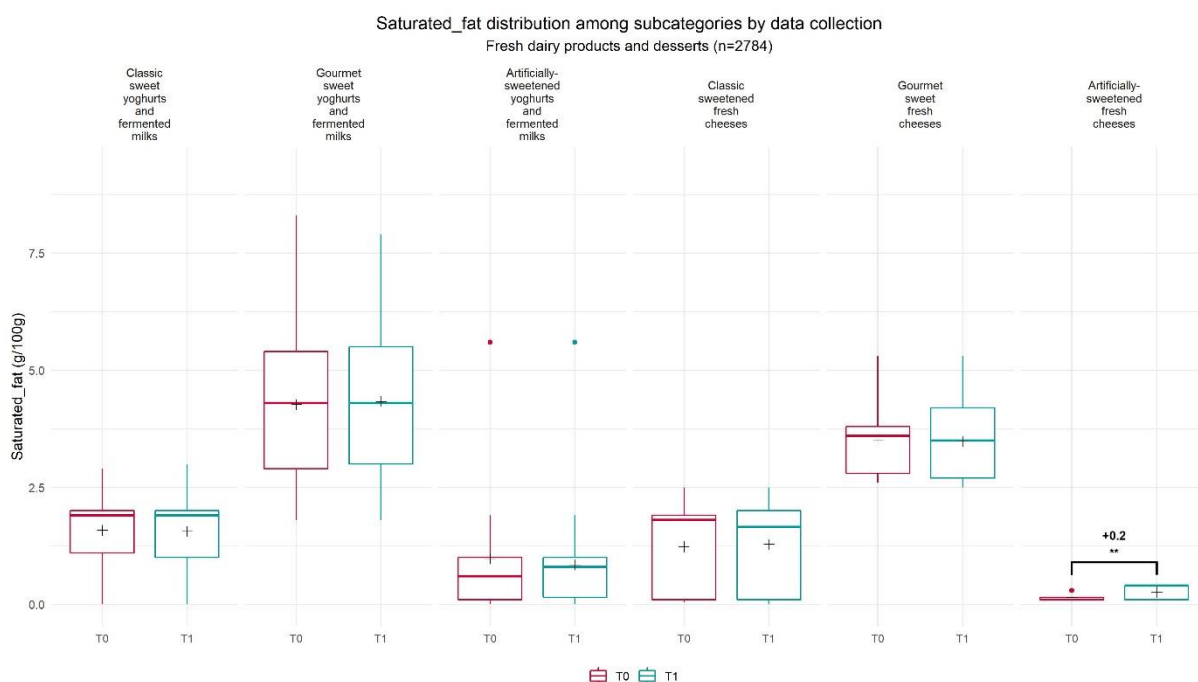


Figure 37: Saturated fat distribution among subcategories of Fresh dairy products and desserts¹

Figure 37 shows the saturated fat content distribution of products found in the category Fresh dairy products and desserts. One subcategory out of six was found to have significantly increased in saturated fat between T0 and T1 at a low level: Artificially-sweetened fresh cheeses (+0.1** g/100 g; +76.0 %). The boxplot shows a contrasting mean difference due to another rounding method for generating figures.

The highest variability in saturated fat was found in the subcategory Gourmet sweet yoghurts and fermented milks. This is also the subcategory containing products with the highest content of saturated fat. The sources for saturated fat in this category are cream yoghurts or other yoghurt products enriched with chocolate, nuts or coconut, for example.

While there was no overlap in the boxes between the classic and gourmet subcategories for the nutrient fat (Figure 35), for the nutrient saturated fat, one observable between Classic sweet yoghurts and fermented milks and Gourmet sweet yoghurts and fermented milks. This is because the saturated fat content is not proportional to the total fat content. Products with a lower saturated fat content in the subcategory Gourmet sweet yoghurts and fermented milks were predominantly yoghurts with nuts, such as almond, walnuts and hazelnut, which increase the total fat in the product but have a high amount of unsaturated fatty acids. A majority of products with a high saturated fat content in the subcategory Classic sweet yoghurts and fermented milks were products containing mascarpone, coconut, chocolate or cookie chunks.

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

These ingredients have a high saturated fat content, leading to an overlap in these two subcategories of Fresh dairy products and desserts.

3.2.2.6 Evolution of the saturated fat content for paired products of Fresh dairy products and desserts

The mean saturated fat contents as well as the mean differences in comparison to T0 in the six observed subcategories are shown in Table 11. For the paired products, the subcategory Gourmet sweet yoghurts and fermented milks showed a minimal significant increase in saturated fat between T0 and T1 (+0.08*** g/100 g; +1.8 %).

Table 11: Summary of the evolution of the average saturated fat content for Fresh dairy products and desserts, by subcategory¹

	Saturated fat							
	All products				Paired products			
Subcategory_name	Sample size (n)	Mean.T1 (g/100 g)	Mean difference (g/100 g)	Mean evolution (%)	Sample size (n)	Mean.T1 (g/100 g)	Mean difference (g/100 g)	Mean evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	subcategory outside scope of MRI product monitoring, hence no products							
Gourmet plain yoghurts and fermented milks with no added sugar	subcategory outside scope of MRI product monitoring, hence no products							
Classic sweet yoghurts and fermented milks	724	1.6	-0.02	-1.3 %	392	1.7	+0.01	+0.6 %
Gourmet sweet yoghurts and fermented milks	326	4.3	+0.07	+1.5 %	193	4.4	+0.08***	+1.8 %
Artificially-sweetened yoghurts and fermented milks	63	0.8	-0.1	-13.5 %	37	1.0	-0.006	-0.6 %
Classic plain fresh cheeses with no added sugar	subcategory outside scope of our product monitoring. hence no products							
Gourmet plain fresh cheeses with no added sugar	subcategory outside scope of our product monitoring. hence no products							
Classic sweetened fresh cheeses	68	1.3	+0.05	+4.0 %	36	1.4	+0.02	+1.2 %
Gourmet sweet fresh cheeses	77	3.5	-0.01	-0.4 %	46	3.6	-0.02	-0.4 %
Artificially-sweetened fresh cheeses	25	0.3	+0.1**	+76.0 %	7	0.1	0.0	0.0 %
Dessert creams and jellied milks	subcategory outside scope of MRI product monitoring, hence no products							
Liégeois desserts and similar	subcategory outside scope of MRI product monitoring, hence no products							
Curdled milks	subcategory outside scope of MRI product monitoring, hence no products							
Fresh desserts with cereals	subcategory outside scope of MRI product monitoring, hence no products							
Fresh mousse-type desserts	subcategory outside scope of MRI product monitoring, hence no products							
Egg-based fresh desserts	subcategory outside scope of MRI product monitoring, hence no products							

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

Fresh light and/or artificially-sweetened desserts	subcategory outside scope of MRI product monitoring, hence no products
Fresh plain unsweetened soy desserts	subcategory outside scope of MRI product monitoring, hence no products
Fresh sweetened soy desserts	subcategory outside scope of MRI product monitoring, hence no products
Other fresh plant-based desserts	subcategory outside scope of MRI product monitoring, hence no products
Other dairy products	subcategory outside scope of MRI product monitoring, hence no products

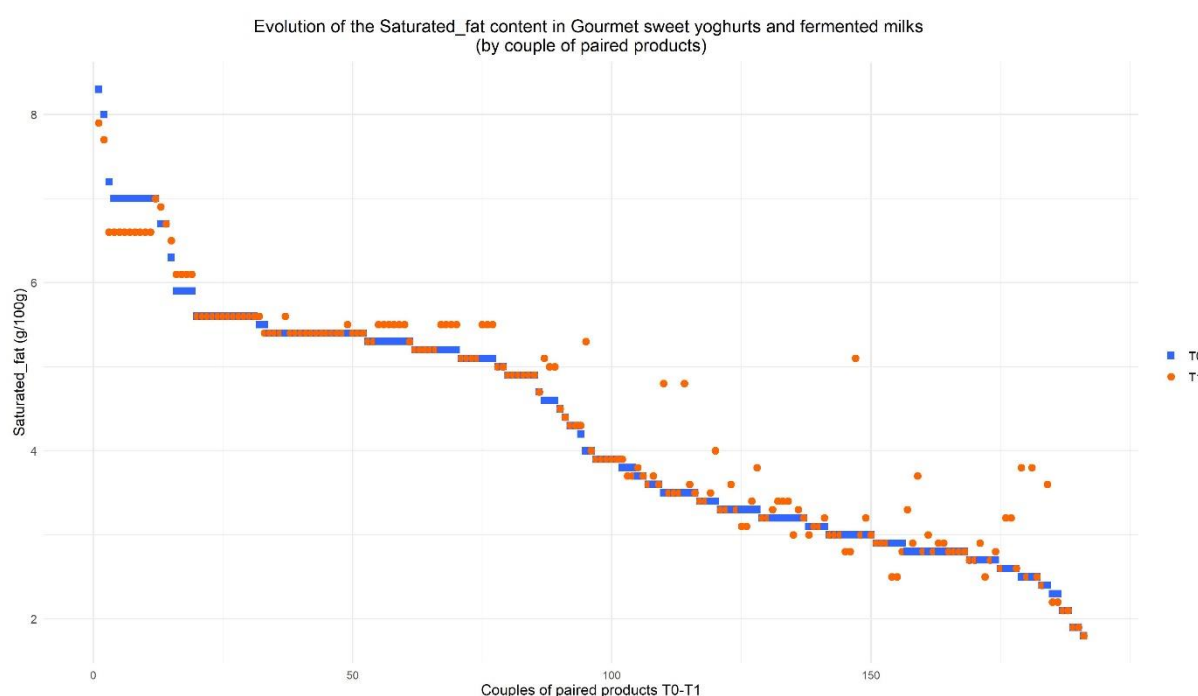


Figure 38: Saturated fat content evolution between 2019 and 2022 by couple of paired products for Gourmet sweet yoghurts and fermented milks subcategory

As illustrated in Figure 38, out of 193 product pairs found between T0 and T1 in the subcategory Gourmet sweet yoghurts and fermented milks, 107 products did not show any change in their saturated fat content between T0 and T1. An increase in a range between +0.1 g/100 g (16 couples) and +2.1 g/100 g (couple 147) was observed for 60 products. 26 products were found with a decreased saturated fat content between -0.1 g/100 g (7 couples) and -0.6 g/100 g (couple 3). While more products were found with increases than decreases in saturated fat content, the increases were mainly in products with a saturated fat content at T0 at the lower end of the spectrum (≤ 5.5 g/100 g).

3.2.2.7 Evolution of the sugar content among the subcategories of Fresh dairy products and desserts

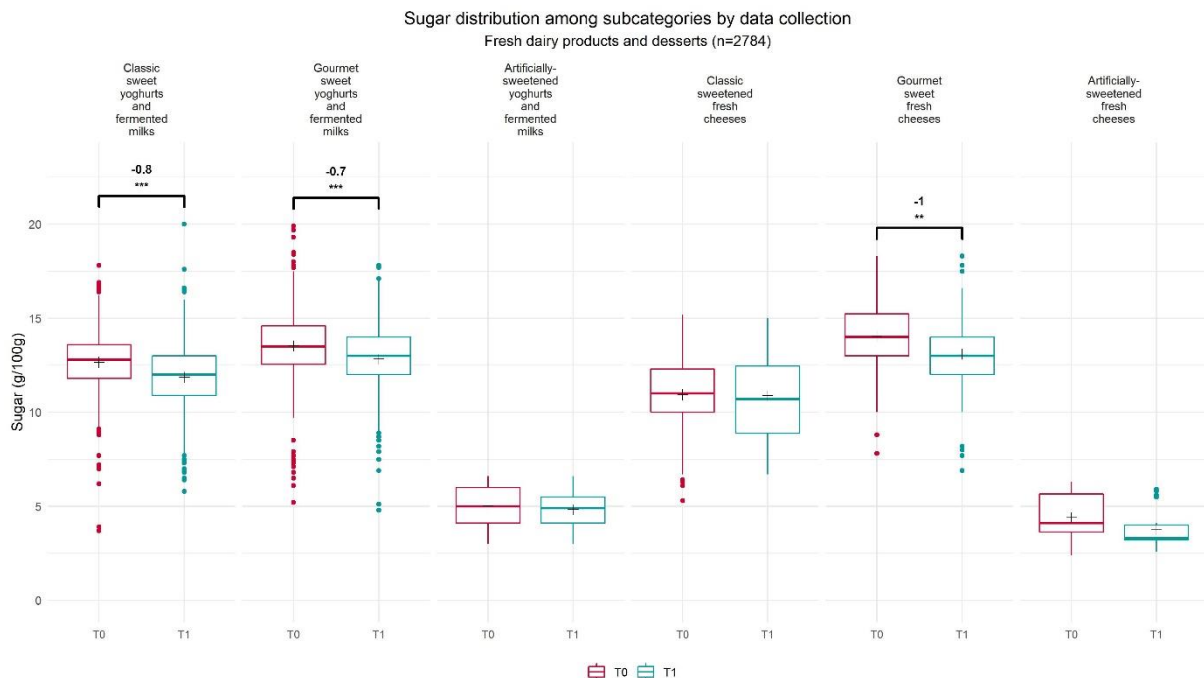


Figure 39: Sugar distribution among subcategories of Fresh dairy products and desserts¹

As seen in Figure 39, a significant reduction in sugar content was observed in three subcategories out of six: Classic sweet yoghurts and fermented milks (-0.8^{***} g/100 g; -6.2%), Gourmet sweet yoghurts and fermented milks (-0.7^{***} g/100 g; -5.2%) and Gourmet sweet fresh cheeses (-1.0^{**} g/100 g; -6.8%).

The three subcategories with significant reductions in sugar content are also those with the highest variability. This suggests that there is still room for reformulation efforts in order to reduce the sugar content of products in the subcategories Classic sweet yoghurts and fermented milks, Gourmet sweet yoghurts and fermented milks and Gourmet sweet fresh cheeses.

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.2.8 Evolution of the sugar content for paired products of Fresh dairy products and desserts

The mean sugar contents and the differences between T0 and T1 of all products found in the subcategories of Fresh dairy products and desserts are shown in Table 12. For paired products, a significant decrease in sugar was found in three subcategories out of six: Classic sweet yoghurts and fermented milks (-0.6^{***} g/100 g; -4.7 %), Gourmet sweet yoghurts and fermented milks (-0.6^{***} g/100 g; -4.6 %) and Gourmet sweet fresh cheeses (-0.6^{**} g/100 g; -4.1 %).

Table 12: Summary of the evolution of the average sugar content for Fresh dairy products and desserts, by subcategory¹

Subcategory_name	Sugar							
	All products				Paired products			
	Sample size (n)	Mean.T1 (g/100 g)	Mean difference (g/100 g)	Mean evolution (%)	Sample size (n)	Mean.T1 (g/100 g)	Mean difference (g/100 g)	Mean evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	subcategory outside scope of MRI product monitoring, hence no products							
Gourmet plain yoghurts and fermented milks with no added sugar	subcategory outside scope of MRI product monitoring, hence no products							
Classic sweet yoghurts and fermented milks	724	11.9	-0.8^{***}	-6.2 %	392	12.3	-0.6^{***}	-4.7 %
Gourmet sweet yoghurts and fermented milks	326	12.8	-0.7^{***}	-5.2 %	193	13.0	-0.6^{***}	-4.6 %
Artificially-sweetened yoghurts and fermented milks	63	4.8	-0.2	-3.6 %	37	5.0	-0.01	-0.2 %
Classic plain fresh cheeses with no added sugar	subcategory outside scope of our product monitoring. hence no products							
Gourmet plain fresh cheeses with no added sugar	subcategory outside scope of our product monitoring. hence no products							
Classic sweetened fresh cheeses	68	10.9	-0.07	-0.6 %	36	11.0	-0.04	-0.3 %
Gourmet sweet fresh cheeses	77	13.1	-1.0^{**}	-6.8 %	46	13.3	-0.6^{**}	-4.1 %
Artificially-sweetened fresh cheeses	25	3.8	-0.6	-14.3 %	7	4.9	0.0	0.0 %
Dessert creams and jellied milks	subcategory outside scope of MRI product monitoring, hence no products							
Liégeois desserts and similar	subcategory outside scope of MRI product monitoring, hence no products							
Curdled milks	subcategory outside scope of MRI product monitoring, hence no products							
Fresh desserts with cereals	subcategory outside scope of MRI product monitoring, hence no products							
Fresh mousse-type desserts	subcategory outside scope of MRI product monitoring, hence no products							

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

Egg-based fresh desserts	subcategory outside scope of MRI product monitoring, hence no products
Fresh light and/or artificially-sweetened desserts	subcategory outside scope of MRI product monitoring, hence no products
Fresh plain unsweetened soy desserts	subcategory outside scope of MRI product monitoring, hence no products
Fresh sweetened soy desserts	subcategory outside scope of MRI product monitoring, hence no products
Other fresh plant-based desserts	subcategory outside scope of MRI product monitoring, hence no products
Other dairy products	subcategory outside scope of MRI product monitoring, hence no products

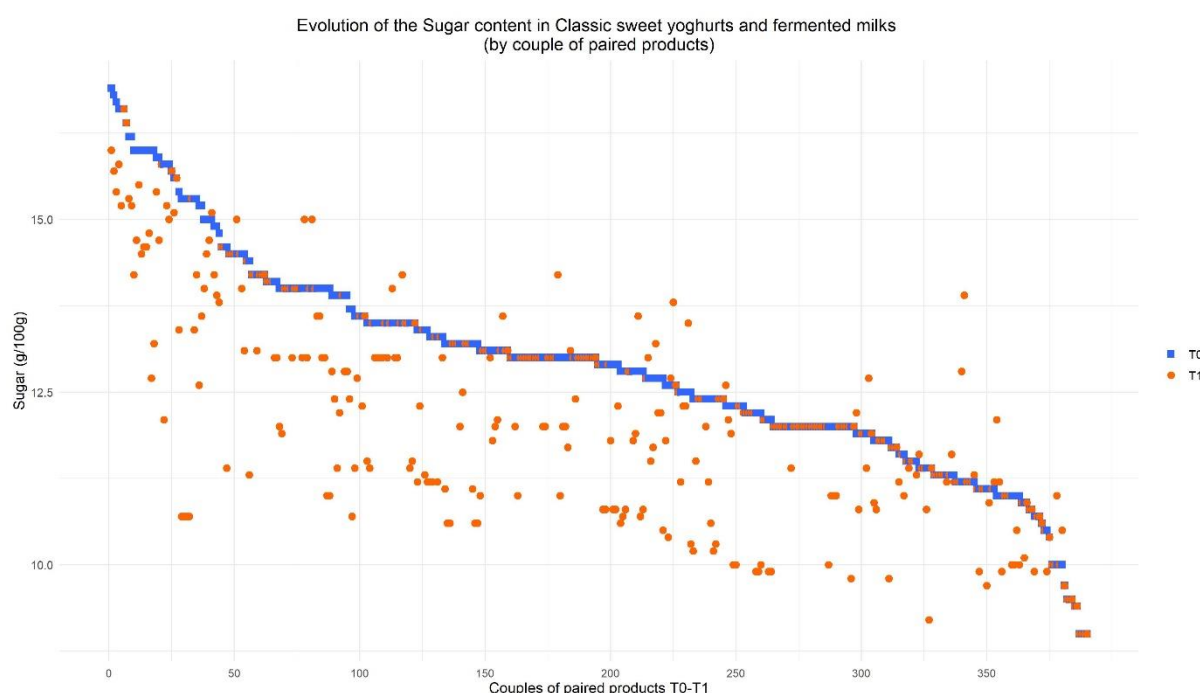


Figure 40: Sugar content evolution between 2019 and 2022 by couple of paired products for Classic sweet yoghurts and fermented milks subcategory

The evolution of sugar content between the two data collection points T0 and T1 in the subcategory Classic sweet yoghurts and fermented milks is shown in Figure 40. 392 paired products were observed, of which 184 were found to retain the sugar levels from T0. 29 products had an increased sugar content in the second snapshot, ranging from +0.1 g/100 g (5 couples) to +2.7 g/100 g (couple 343). A decrease in sugar content within a range of -0.1 g/100 g (6 couples) and -4.6 g/100 g (couples 29, 30, 31 and 32) was observed in 179 products.

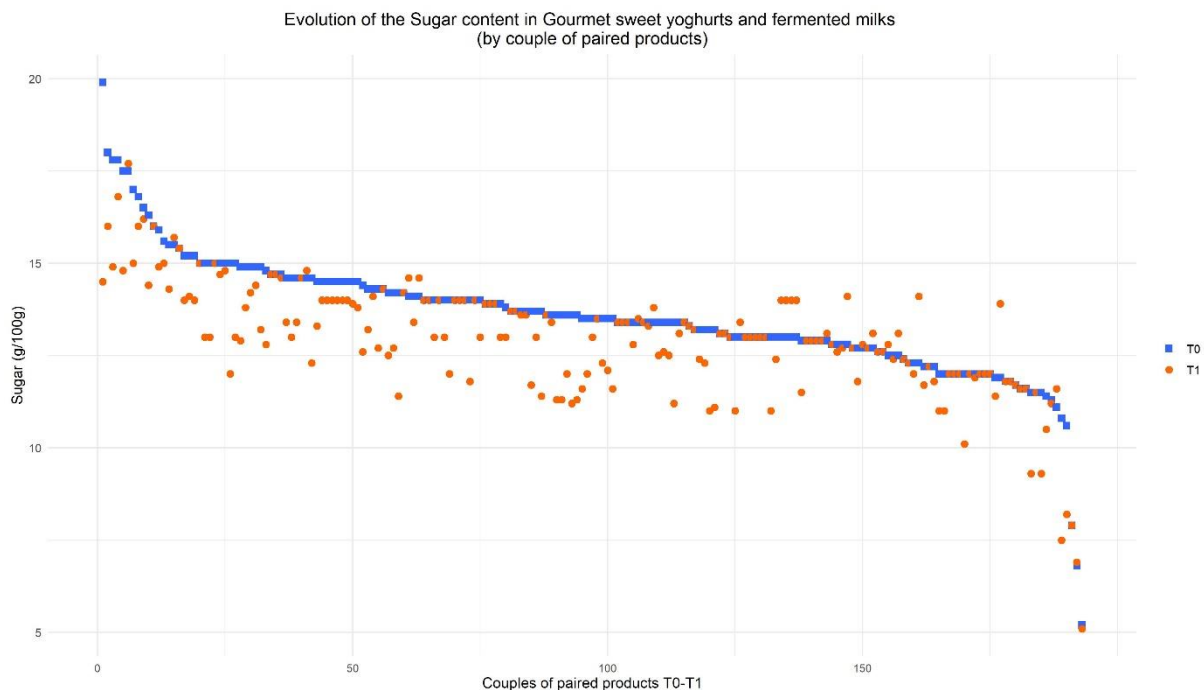


Figure 41: Sugar content evolution between 2019 and 2022 by couple of paired products for Gourmet sweet yoghurts and fermented milks subcategory

In the subcategory Gourmet sweet yoghurts and fermented milks, no change in sugar content was observed between T0 and T1 for 64 out of 193 paired products (Figure 41). 22 products were found to have an increased sugar content between +0.1 g/100 g (couples 108, 150 and 192) and +2.0 g/100 g (couple 177). The majority of products (107 pairs) showed a decrease in sugar content between the two snapshots, ranging from -0.1 g/100 g (9 couples) to -5.4 g/100 g (couple 1).

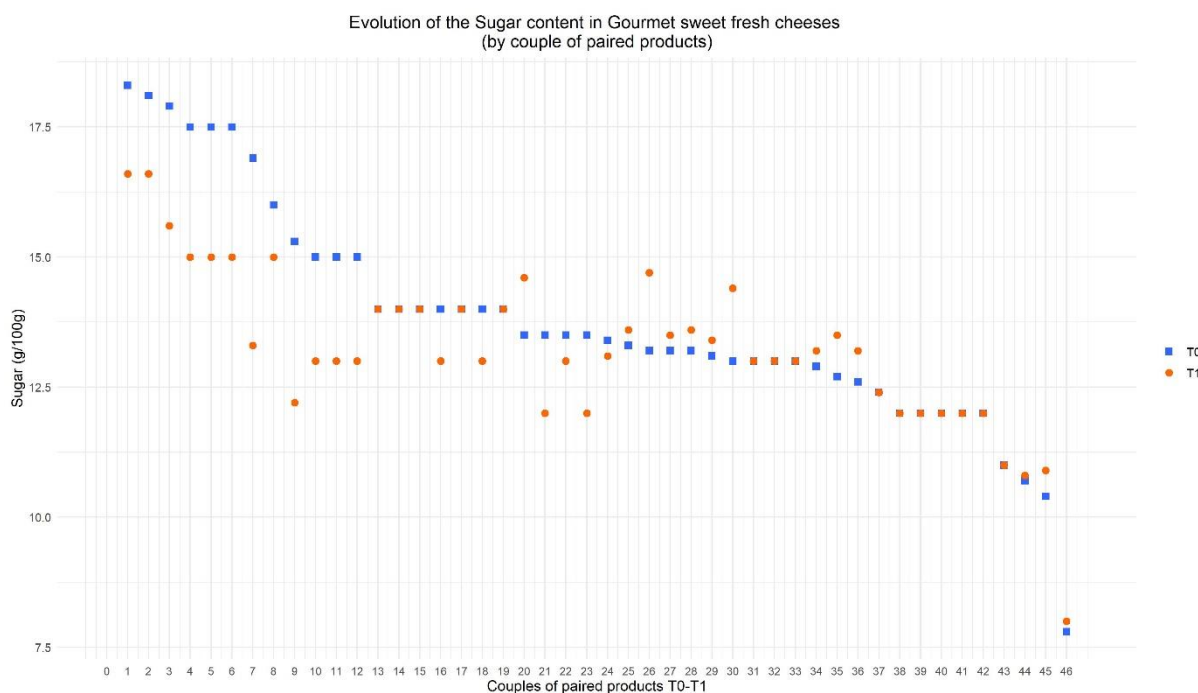


Figure 42: Sugar content evolution between 2019 and 2022 by couple of paired products for Gourmet sweet fresh cheeses subcategory

Figure 42 shows the sugar content evolution between T0 and T1 for 46 product pairs found in the subcategory Gourmet sweet fresh cheeses. For 15 products, the sugar content was not changed. An increase between +0.1 g/100 g (couple 44) and +1.5 g/100 g (couple 26) was observed in 13 products, while 18 products were found with a decreased sugar content in a range from -0.3 g/100 g (couple 24) and -3.6 g/100 g (couple 7). All decreases were found in products with a sugar content in T0 at the higher end of the spectrum (> 13.3 g/100 g) while all increases but one (couple 20) were observed in products with a sugar content in T0 at the lower end (≤ 13.3 g/100 g).

3.2.2.9 Evolution of the fibre content among the subcategories of Fresh dairy products and desserts

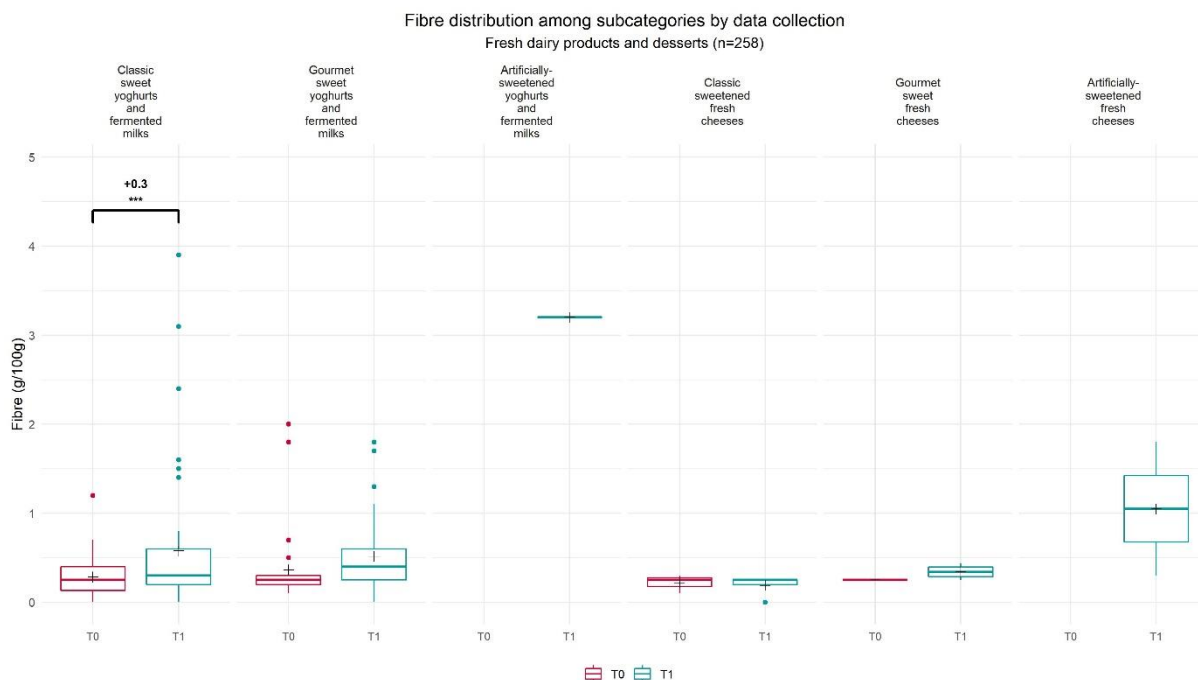


Figure 43: Fibre distribution among subcategories of Fresh dairy products and desserts¹

Figure 43 shows the distribution of fibre in the products found in Fresh dairy products and desserts. In the subcategory Classic sweet yoghurts and fermented milks, the fibre content increased significantly, yet minimally between T0 and T1 (+0.3*** g/100 g; +104.0 %). The high outliers are due to yoghurts containing dried fruits, flax seeds, or oats.

The labelling frequency of fibre in Fresh dairy products and desserts is 10 % (Table 3). Hence, there are only few data points for the subcategories Artificially-sweetened yoghurts and fermented milks (T0, n = 0; T1, n = 1), Gourmet sweet fresh cheeses (T0, n = 1; T1, n = 4), and Artificially-sweetened fresh cheeses (T0, n = 0; T1, n = 2). With this little data, a conclusion cannot be made for the fibre content of products in these subcategories.

¹Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.2.10 Evolution of the fibre content for paired products of Fresh dairy products and desserts

Table 13 summarises the means in fibre content and mean differences between T0 and T1 in products surveyed in the subcategories of Fresh dairy products and desserts. Among the paired products, there was a significant, yet small increase observed in the subcategory Gourmet sweet yoghurts and fermented milks (+0.09* g/100 g; +27.2 %).

Table 13: Summary of the evolution of the average fibre content for Fresh dairy products and desserts, by subcategory¹

	Fibre							
	All products				Paired products			
Subcategory_name	Sample size (n)	Mean.T1 (g/100 g)	Mean difference (g/100 g)	Mean evolution (%)	Sample size (n)	Mean.T1 (g/100 g)	Mean difference (g/100 g)	Mean evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	subcategory outside scope of MRI product monitoring, hence no products							
Gourmet plain yoghurts and fermented milks with no added sugar	subcategory outside scope of MRI product monitoring, hence no products							
Classic sweet yoghurts and fermented milks	77	0.6	+0.3***	+104.0%	28	0.4	+0.2	+63.3 %
Gourmet sweet yoghurts and fermented milks	37	0.5	+0.2	+42.0 %	18	0.4	+0.09*	+27.2 %
Artificially-sweetened yoghurts and fermented milks	1	3.2			0			
Classic plain fresh cheeses with no added sugar	subcategory outside scope of our product monitoring. hence no products							
Gourmet plain fresh cheeses with no added sugar	subcategory outside scope of our product monitoring. hence no products							
Classic sweetened fresh cheeses	10	0.2	-0.03	-12.3 %	1	0.2	0.0	0.0 %
Gourmet sweet fresh cheeses	4	0.3	+0.09	+37.0 %	0			
Artificially-sweetened fresh cheeses	2	1.0			0			
Dessert creams and jellied milks	subcategory outside scope of MRI product monitoring, hence no products							
Liégeois desserts and similar	subcategory outside scope of MRI product monitoring, hence no products							
Curdled milks	subcategory outside scope of MRI product monitoring, hence no products							
Fresh desserts with cereals	subcategory outside scope of MRI product monitoring, hence no products							
Fresh mousse-type desserts	subcategory outside scope of MRI product monitoring, hence no products							
Egg-based fresh desserts	subcategory outside scope of MRI product monitoring, hence no products							
Fresh light and/or artificially-sweetened desserts	subcategory outside scope of MRI product monitoring, hence no products							

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

Fresh plain unsweetened soy desserts	subcategory outside scope of MRI product monitoring, hence no products
Fresh sweetened soy desserts	subcategory outside scope of MRI product monitoring, hence no products
Other fresh plant-based desserts	subcategory outside scope of MRI product monitoring, hence no products
Other dairy products	subcategory outside scope of MRI product monitoring, hence no products

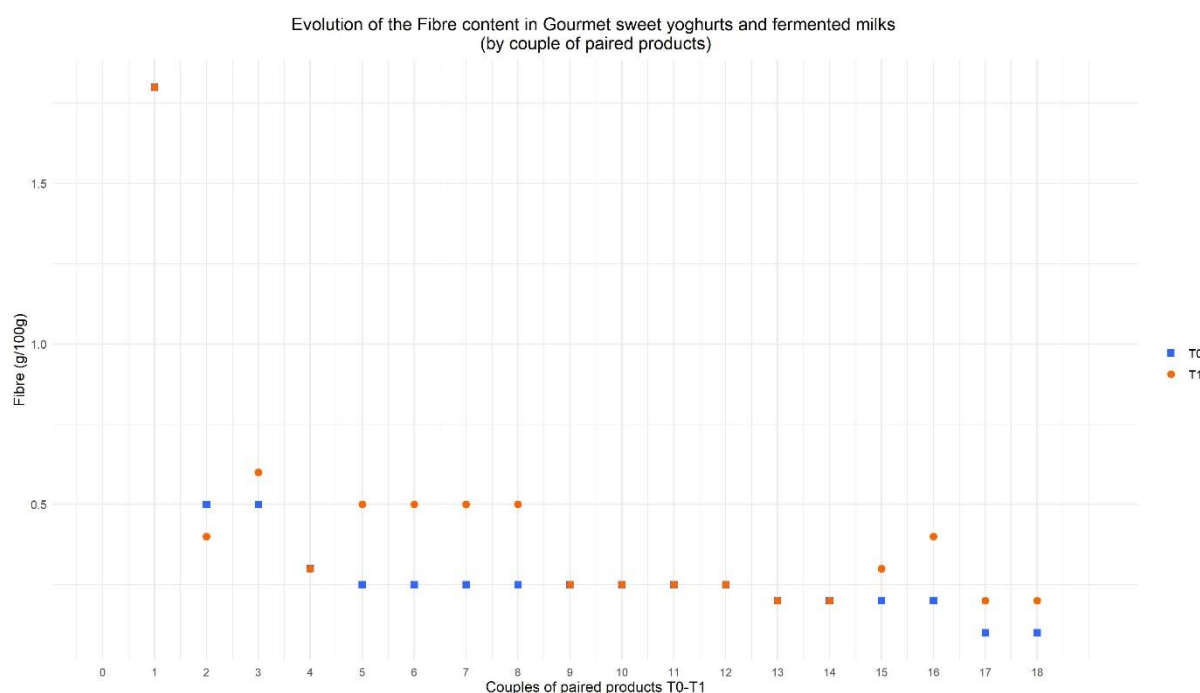


Figure 44: Fibre content evolution between 2019 and 2022 by couple of paired products for Gourmet sweet yoghurts and fermented milks subcategory

18 product pairs were identified in the subcategory Gourmet sweet yoghurts and fermented milks (Figure 44). Of those, the fibre content of eight products remained the same between T0 and T1. Increases, minor as they were, were found for nine products, ranging between +0.1 g/100 g (couples 3, 15, 17 and 18) and +0.25 g/100 g (couples 5 to 8). A small decrease was found for one product at -0.1 g/100 g (couple 2).

The increases by 0.25 g/100 g are not necessarily a result of reformulation or an actual increase in fibre content of the product. During T0, couples 5 to 8 were labelled with <0.5 g/100 g fibre, while in T1, the fibre content was labelled with 0.5 g/100 g. The difference of +0.25 g/100 g is calculated because "<" values are treated as half the given value. Due to the inaccuracy of values with "<", the real increase in fibre is unknown.

3.2.3 Soft drinks

In the Soft drink category, the changes in the nutrients sugar, salt, and fibre were considered for analysis. In the subcategory Flavoured milk beverages, the nutrients fat and saturated fat were additionally analysed.

3.2.3.1 Evolution of the sugar content among the subcategories of Soft drinks

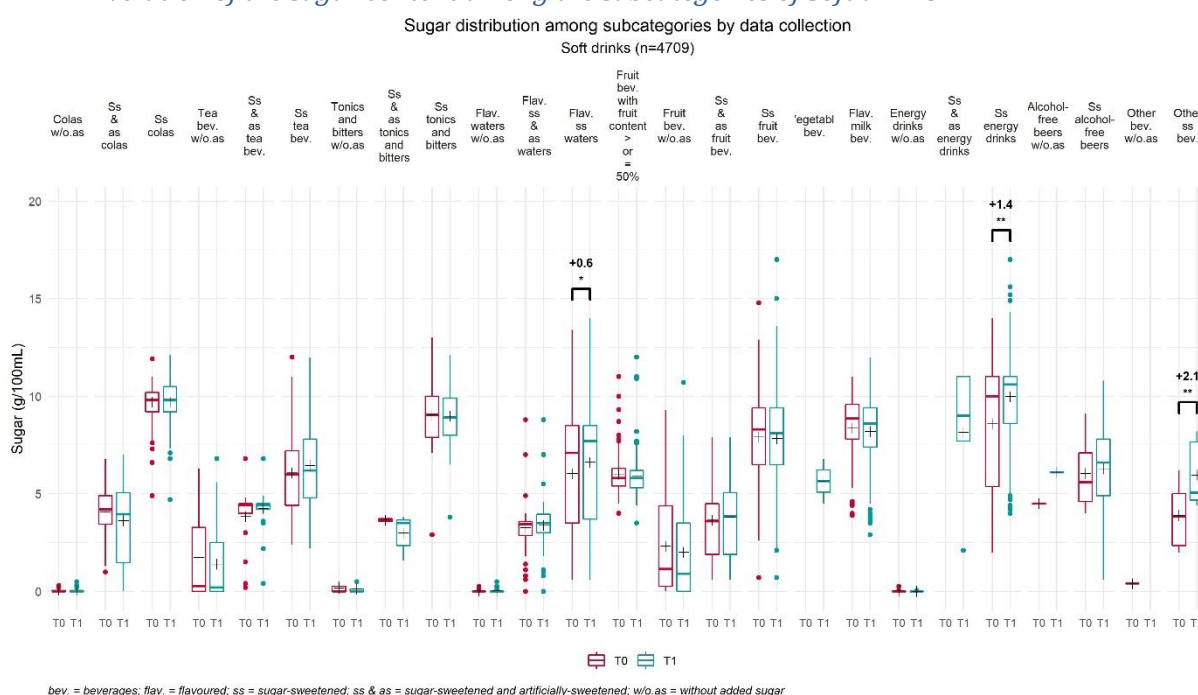


Figure 45: Sugar distribution among subcategories of Soft drinks¹

The sugar content between 2019 (T0) and 2022 (T1) of the 25 observed subcategories of Soft drinks is shown in Figure 45. Three subcategories showed a significant increase in sugar content: Flavoured sugar-sweetened waters (+0.6* g/100 g; +9.6 %), Sugar-sweetened energy drinks (+1.4** g/100 g; +16.2 %) and Other sugar-sweetened beverages (+2.1** g/100 g; +53.2 %).

Products in the subcategories without any added sugar all show a low sugar content as well as low variability, apart from two subcategories: Tea beverages without added sugar (T0, n = 20; T1, n = 33) and Fruit beverages without added sugar (T0, n = 162; T1, n = 217). Both of these subcategories contain products with fruit juice as an ingredient and hence, have a higher sugar content in comparison to other products without added sugar.

The variability increased from T0 to T1 for two subcategories: Sugar-sweetened and artificially-sweetened tonics and bitters (T0, n = 2; T1, n = 7) and Sugar-sweetened alcohol-free beers (T0, n = 41; T1, n = 81). Given the lower sample sizes in T0, the higher variability in T1 can be explained, at least partly, by including a broader range of products in the second snapshot.

¹Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

The subcategories with the highest variability in sugar content are Flavoured sugar-sweetened waters (T0, n = 173; T1, n = 254), Sugar-sweetened fruit beverages (T0, n = 545; T1, n = 782), and Sugar-sweetened energy drinks (T0, n = 76; T1, n = 127). These are all subcategories containing products with added sugar. The high variability suggests the possibility of reducing the sugar content in the offered products.

3.2.3.2 Evolution of the sugar content for paired products of Soft drinks

The means in sugar content of all subcategories for Soft drinks and the mean differences in comparison to T0 are found in Table 14. Among the paired products observed in both T0 and T1, one subcategory out of 22 was found to have a slightly increased sugar content: Sugar-sweetened tea beverages (+0.3*** g/100 g; +5.5 %). Significant, yet small decreases were observed for four subcategories: Flavoured sugar-sweetened waters (−0.04** g/100 g; −0.7 %), Fruit beverages without added sugar (−0.02** g/100 g; −1.3 %), Sugar-sweetened fruit beverages (−0.1*** g/100 g; −1.2 %) and Flavoured milk beverages (−0.06* g/100 g; −0.7 %). The detailed comparison between T0 and T1 for each product pair in the subcategories with significant results is shown in Figure 46 to Figure 50.

Table 14: Summary of the evolution of the average sugar content for Soft drinks, by subcategory¹

Subcategory_name	Sugar							
	All products				Paired products			
	Sample size (n)	Mean.T1 (g/100 g)	Mean difference (g/100 g)	Mean evolution (%)	Sample size (n)	Mean.T1 (g/100 g)	Mean difference (g/100 g)	Mean evolution (%)
Colas without added sugar	68	0.1	+0.002	+3.8 %	43	0.1	+0.008	+16.8 %
Sugar-sweetened and artificially-sweetened colas	18	3.6	−0.4	−10.7 %	10	3.8	0.0	0.0 %
Sugar-sweetened colas	173	9.7	+0.003	+0.03 %	73	9.8	−0.003	−0.03 %
Tea beverages without added sugar	33	1.4	−0.3	−19.7 %	4	1.7	+0.05	+3.0 %
Sugar-sweetened and artificially-sweetened tea beverages	30	4.2	+0.4	+10.7 %	15	4.0	−0.05	−1.2 %
Sugar-sweetened tea beverages	196	6.5	+0.4	+6.2 %	54	6.5	+0.3***	+5.5 %
Tonics and bitters without added sugar	4	0.1	−0.04	−25.0 %	3	0.2	0.0	0.0 %
Sugar-sweetened and artificially-sweetened tonics and bitters	7	3.0	−0.7	−18.2 %	2	3.6	0.0	0.0 %
Sugar-sweetened tonics and bitters	53	9.0	−0.07	−0.7 %	29	8.9	+0.09	+1.0 %
Flavoured waters without added sugar	90	0.0	−0.009	−20.5 %	28	0.0	−0.01	−39.4 %
Flavoured sugar-sweetened and artificially-sweetened waters	55	3.4	+0.1	+3.6 %	27	3.1	0.0	0.0 %
Flavoured sugar-sweetened waters	254	6.6	+0.6*	+9.6 %	121	6.1	−0.04**	−0.7 %

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

Fruit beverages with fruit content > or = 50%	221	5.9	-0.1	-2.1 %	110	5.8	-0.03	-0.4 %
Fruit beverages without added sugar	217	2.0	-0.3	-13.2 %	107	1.8	-0.02**	-1.3 %
Sugar-sweetened and artificially-sweetened fruit beverages	144	3.8	+0.1	+4.0 %	57	3.9	-0.004	-0.09 %
Sugar-sweetened fruit beverages	782	7.8	-0.07	-0.9 %	328	8.0	-0.1***	-1.2 %
Vegetable beverages	2	5.7			0			
Flavoured milk beverages	250	8.2	-0.2	-1.9 %	77	8.3	-0.06*	-0.7 %
Plant-based beverages without added sugar	subcategory outside scope of our product monitoring. hence no products							
Sugar-sweetened plant-based beverages	subcategory outside scope of our product monitoring. hence no products							
Energy drinks without added sugar	48	0.0	-0.03	-93.8 %	7	0.0	0.0	0.0 %
Sugar-sweetened and artificially-sweetened energy drinks	9	8.2			0			
Sugar-sweetened energy drinks	127	10.0	+1.4**	+16.2 %	44	8.5	-0.1	-1.2 %
Alcohol-free beers without added sugar	1	6.1	+1.6	+35.6 %	1	6.1	+2.0	+35.6 %
Sugar-sweetened alcohol-free beers	81	6.3	+0.2	+4.0 %	35	5.7	+0.04	+0.7 %
Other beverages without added sugar	0				0			
Other sugar-sweetened beverages	10	6.0	+2.1**	+53.2 %	3	4.8	+0.03	+0.7 %

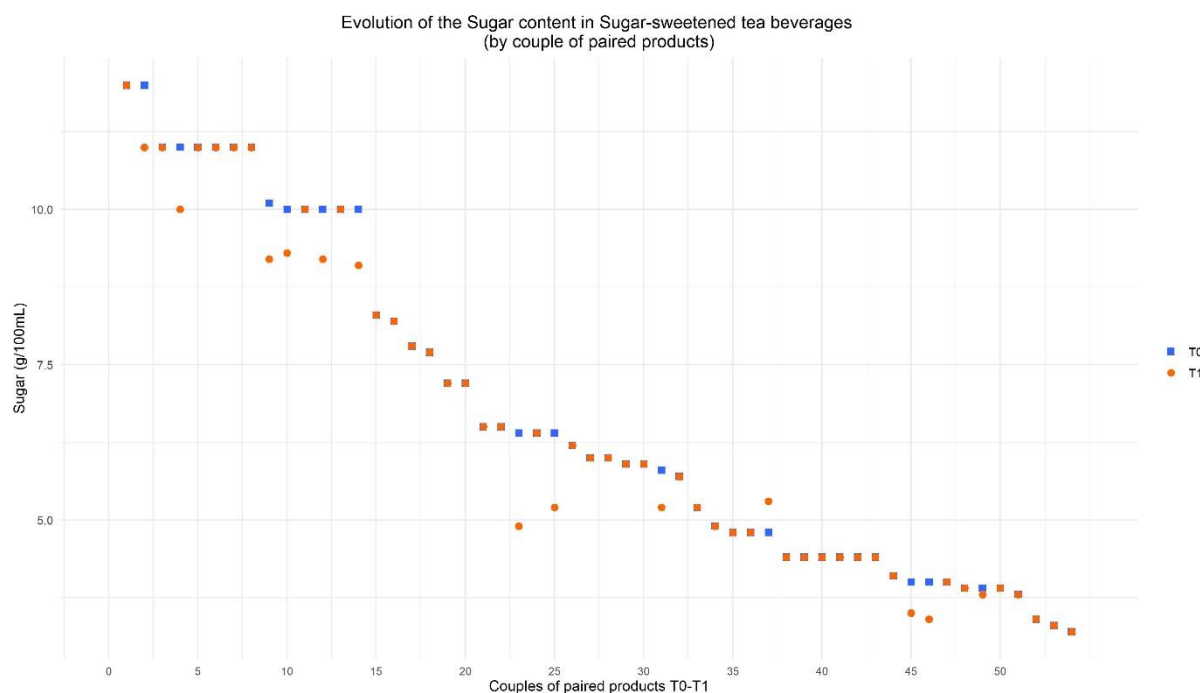


Figure 46: Sugar content evolution between 2019 and 2022 by couple of paired products for Sugar-sweetened tea beverages subcategory

Of the 54 product pairs found in the subcategory Sugar-sweetened tea beverages, no change was observed for 41 products in terms of the sugar content (Figure 46). One product's sugar content increased by +0.5 g/100 g (couple 37) and a decrease was observed for 12 products, ranging from -0.1 g/100 g (couple 49) to -1.5 g/100 g (couple 23).

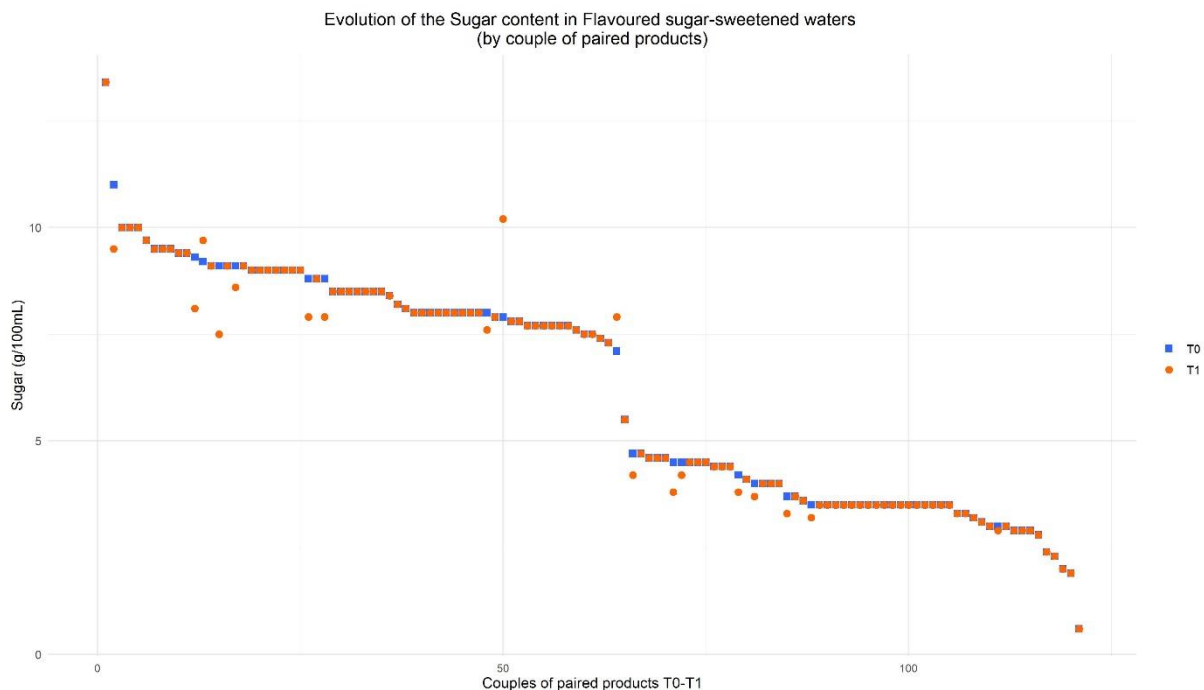


Figure 47: Sugar content evolution between 2019 and 2022 by couple of paired products for Flavoured sugar-sweetened waters subcategory

Figure 47 shows the sugar content in the subcategory Flavoured sugar-sweetened waters between product pairs found in both T0 and T1. 103 out of 121 products did not show a change in their sugar content. Three products with an increased sugar content were found, ranging from +0.5 g/100 g (couple 13) to +2.3 g/100 g (couple 50), while 15 products with a decreased sugar content within a range of -0.1 g/100 g (couple 112) and -1.6 g/100 g (couple 15) were identified.

There appear to be two subgroups within this subcategory. The first group (≥ 6 g/100 g) encompasses all ginger beers and herbal lemonades, most lemon-flavoured waters (40 products) and four berry-flavoured waters. The second group (< 6 g/100 g) contains soft drinks with other fruity flavours such as apple, cherry, raspberry and peach. Five lemon-flavoured soft drinks were also found in the second group.

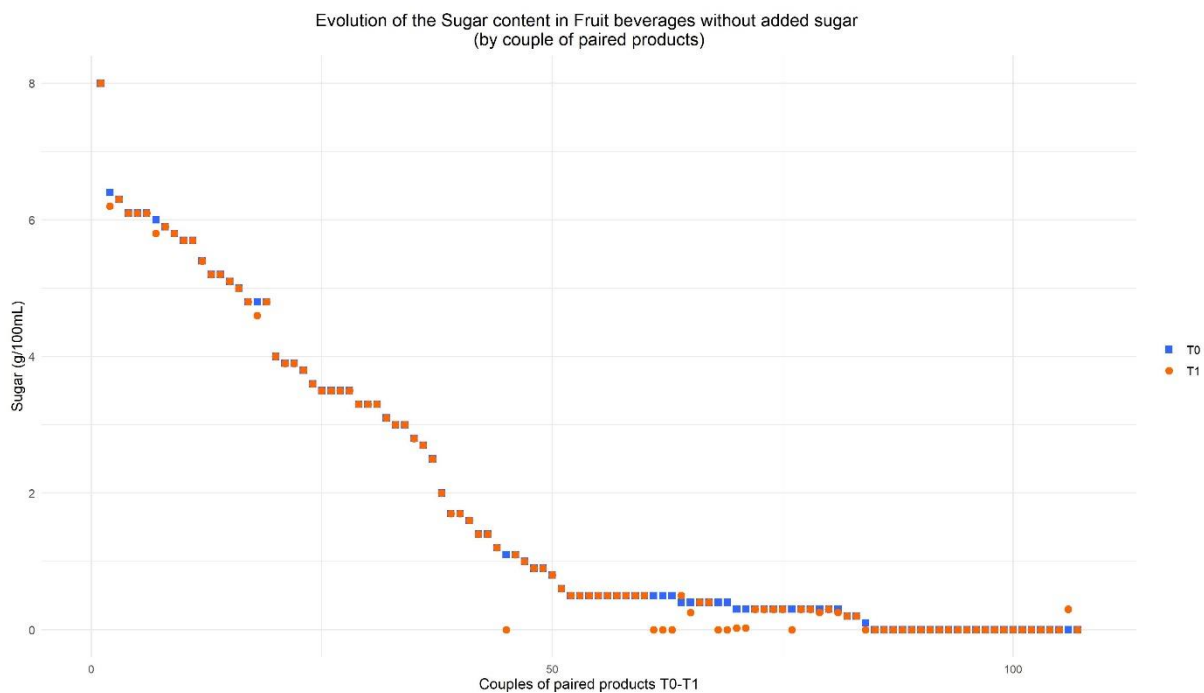


Figure 48: Sugar content evolution between 2019 and 2022 by couple of paired products for Fruit beverages without added sugar subcategory

107 product pairs were identified in the subcategory Fruit beverages without added sugar (Figure 48). Of those, no change in sugar content was observed for 89 products. For two products, a small increase between T0 and T1 was found: couple 64 by +0.1 g/100 g and couple 106 by +0.3 g/100 g. 16 products were found to have a decreased sugar content by T1. The decreases ranged from -0.05 g/100 g (couples 79 and 81) to -1.1 g/100 g (couple 45).

Some decreases were likely due to a change in labelling, not due to reformulation. For example, while couples 79 and 81 were labelled with 0.3 g/100 g sugar in T0, the labelling was changed to <0.5 g/100 g for both in T1. Values using "<" are treated as half the value given, so <0.5 g/100 g was treated as 0.25 g/100 g, leading to a decrease in sugar in the context of this analysis. This possible false positive applies to six product pairs found in this subcategory.

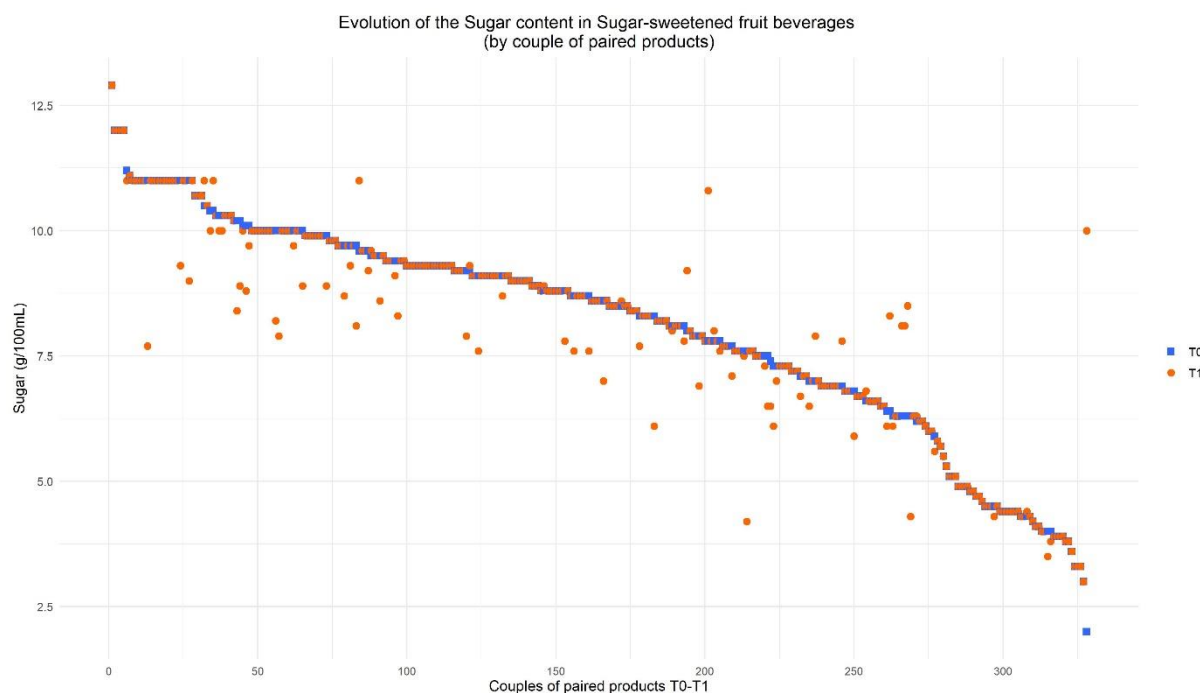


Figure 49: Sugar content evolution between 2019 and 2022 by couple of paired products for Sugar-sweetened fruit beverages subcategory

The subcategory Sugar-sweetened fruit beverages contains 328 product pairs (Figure 49). Of those, no change was observed in the sugar content for 253 products. An increase between +0.1 (6 couples) and +8.0 g/100 g (couple 328) was found for 20 products. For 55 products, the sugar content decreased, ranging from -0.1 g/100 g (couples 46, 189 and 215) to -3.4 g/100 g (couple 216).

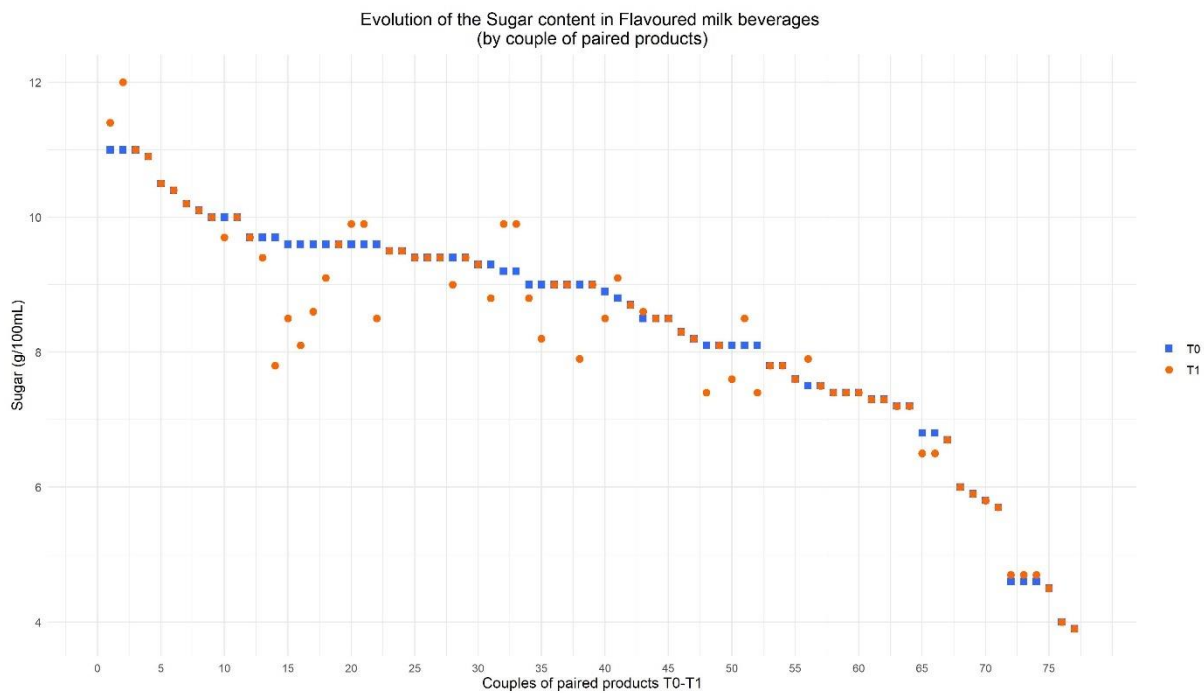


Figure 50: Sugar content evolution between 2019 and 2022 by couple of paired products for Flavoured milk beverages subcategory

Figure 50 shows the 77 product pairs found in the subcategory Flavoured milk beverages. 45 products remained unchanged in regards to the sugar content between T0 and T1. An increase in sugar content was found for 13 products, ranging from +0.1 g/10 g (couples 43, 72, 73 and 74) to +1.0 g/100 g (couple 2). For 19 products, the sugar content was decreased within a range of -0.2 g/100 g (couple 34) and -1.9 g/100 g (couple 14).

3.2.3.3 Evolution of the salt content among the subcategories of Soft drinks

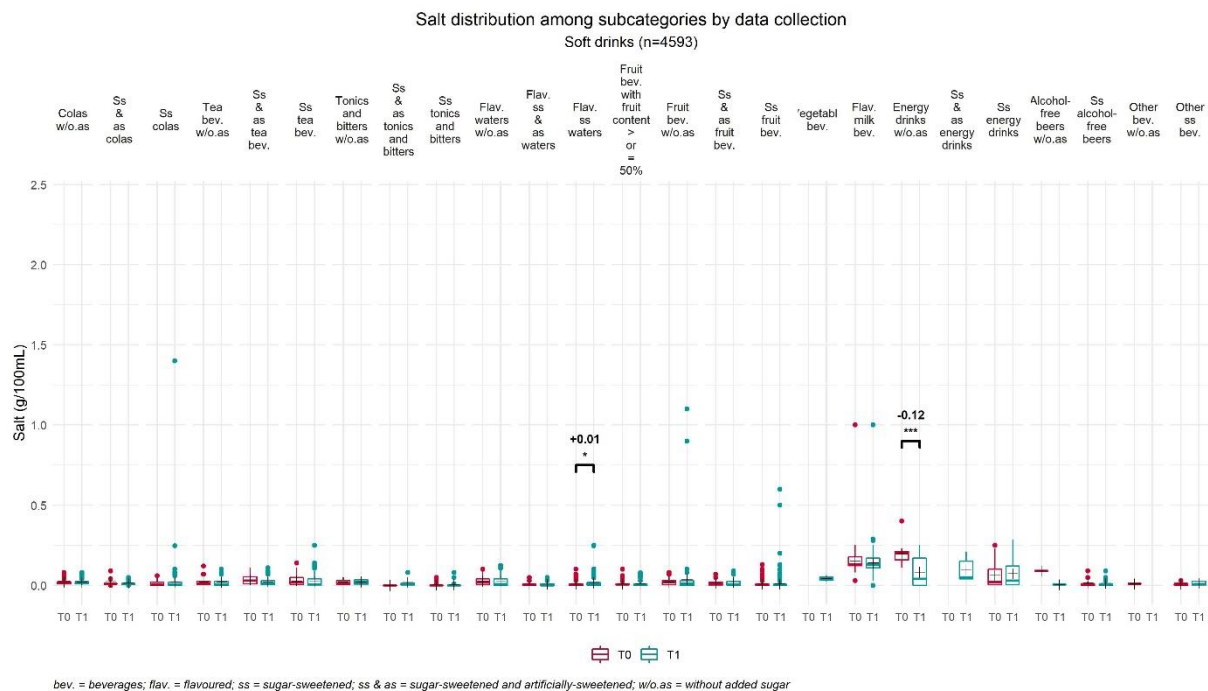


Figure 51: Salt distribution among subcategories of Soft drinks¹

In the Soft drinks category, Figure 51 shows that a minor, yet significant change in salt content between T0 and T1 was observed for two subcategories out of 25: a small increase in Flavoured sugar-sweetened waters (+0.01* g/100 g, +77.44 %) and a decrease in Energy drinks without added sugar (−0.12*** g/100 g; −58.78 %). Overall, Figure 51 highlights that salt is a negligible component in the majority of products in most subcategories of soft drinks.

The largest variability in salt content is found in the subcategories Flavoured milk beverages (T0, n = 142; T1, n = 250), Energy drinks without added sugar (T0, n = 9; T1, n = 48), Sugar-sweetened and artificially-sweetened energy drinks (T0, n = 0; T1, n = 9) and Sugar-sweetened energy drinks (T0, n = 73; T1, n = 126). A majority of products with a high sodium content in all three subcategories of energy drinks contain the acidity regulators sodium citrate or trisodium citrate. Since the declared salt content calculated via the sodium content, the high variability in salt can be explained by varying concentrations of acidity regulators.

¹Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.3.4 Evolution of the salt content for paired products of Soft drinks

The means in salt content in the subcategories of Soft drinks and the mean differences to T0 are shown in Table 15. Three subcategories out of 22 were found to have a significantly, yet minimally decreased salt content among paired products: Sugar-sweetened tea beverages (−0.0097*** g/100 g; −29.48 %), Fruit beverages with fruit content > or = 50% (−0.0018*** g/100 g; −16.89 %) and Sugar-sweetened alcohol-free beers (−0.0077* g/100 g; −51.15 %).

The mean evolution (%) for Sugar-sweetened and artificially-sweetened tonics and bitters is missing because at T0, the mean in this subcategory was 0 g/100 g. A division by 0 is not possible, hence the blank value.

Table 15: Summary of the evolution of the average salt content for Soft drinks, by subcategory¹

Subcategory_name	Salt							
	All products				Paired products			
	Sample size (n)	Mean.T1 (g/100 g)	Mean difference (g/100 g)	Mean evolution (%)	Sample size (n)	Mean.T1 (g/100 g)	Mean difference (g/100 g)	Mean evolution (%)
Colas without added sugar	66	0.02	−0.002	−9.38 %	42	0.02	−0.0011	−5.07 %
Sugar-sweetened and artificially-sweetened colas	18	0.01	−0.0093	−39.62 %	10	0.01	−0.00056	−4.76 %
Sugar-sweetened colas	166	0.02	+0.0086	+68.96 %	70	0.01	−0.00082	−7.72 %
Tea beverages without added sugar	31	0.02	−0.0012	−5.53 %	4	0.02	0.00	0.00 %
Sugar-sweetened and artificially-sweetened tea beverages	30	0.02	−0.013	−35.72 %	15	0.04	−0.0018	−4.30 %
Sugar-sweetened tea beverages	195	0.02	−0.0049	−17.36 %	53	0.02	−0.0097***	−29.48 %
Tonics and bitters without added sugar	4	0.02	+0.0025	+12.50 %	3	0.02	0.00	0.00 %
Sugar-sweetened and artificially-sweetened tonics and bitters	7	0.02	+0.018		2	0.00	0.00	
Sugar-sweetened tonics and bitters	53	0.00	+0.00084	+22.79 %	29	0.00	−0.00036	−30.92 %
Flavoured waters without added sugar	87	0.02	−0.0041	−14.89 %	28	0.03	−0.001	−3.50 %
Flavoured sugar-sweetened and artificially-sweetened waters	49	0.01	−0.0039	−34.88 %	26	0.01	+0.00016	+1.80 %
Flavoured sugar-sweetened waters	233	0.02	+0.0072*	+77.44 %	110	0.01	−0.00052	−5.63 %

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

Fruit beverages with fruit content > or = 50%	219	0.01	-0.0015	-14.96 %	100	0.01	-0.0018***	-16.89 %
Fruit beverages without added sugar	211	0.04	+0.017	+83.1 %	103	0.02	-0.00057	-2.77 %
Sugar-sweetened and artificially-sweetened fruit beverages	139	0.02	+0.0048	+35.93 %	56	0.01	+0.00068	+5.43 %
Sugar-sweetened fruit beverages	760	0.01	+0.00098	+11.01 %	316	0.01	+0.0014	+15.58 %
Vegetable beverages	2	0.04			0			
Flavoured milk beverages	250	0.14	-0.0099	-6.58 %	77	0.14	+0.0058	+4.15 %
Plant-based beverages without added sugar	subcategory outside scope of our product monitoring. hence no products							
Sugar-sweetened plant-based beverages	subcategory outside scope of our product monitoring. hence no products							
Energy drinks without added sugar	48	0.08	-0.12***	-58.78 %	7	0.16	-0.059	-26.97 %
Sugar-sweetened and artificially-sweetened energy drinks	9	0.10			0			
Sugar-sweetened energy drinks	126	0.07	+0.011	+17.82 %	42	0.08	+0.0087	+12.76 %
Alcohol-free beers without added sugar	1	0.00	-0.085	-94.44 %	1	0.00		
Sugar-sweetened alcohol-free beers	79	0.01	-0.0027	-18.46 %	31	0.01	-0.0077*	-51.15 %
Other beverages without added sugar	0				0			
Other sugar-sweetened beverages	10	0.01	+0.0042	+54.29 %	2	0.01	-0.005	-33.33 %

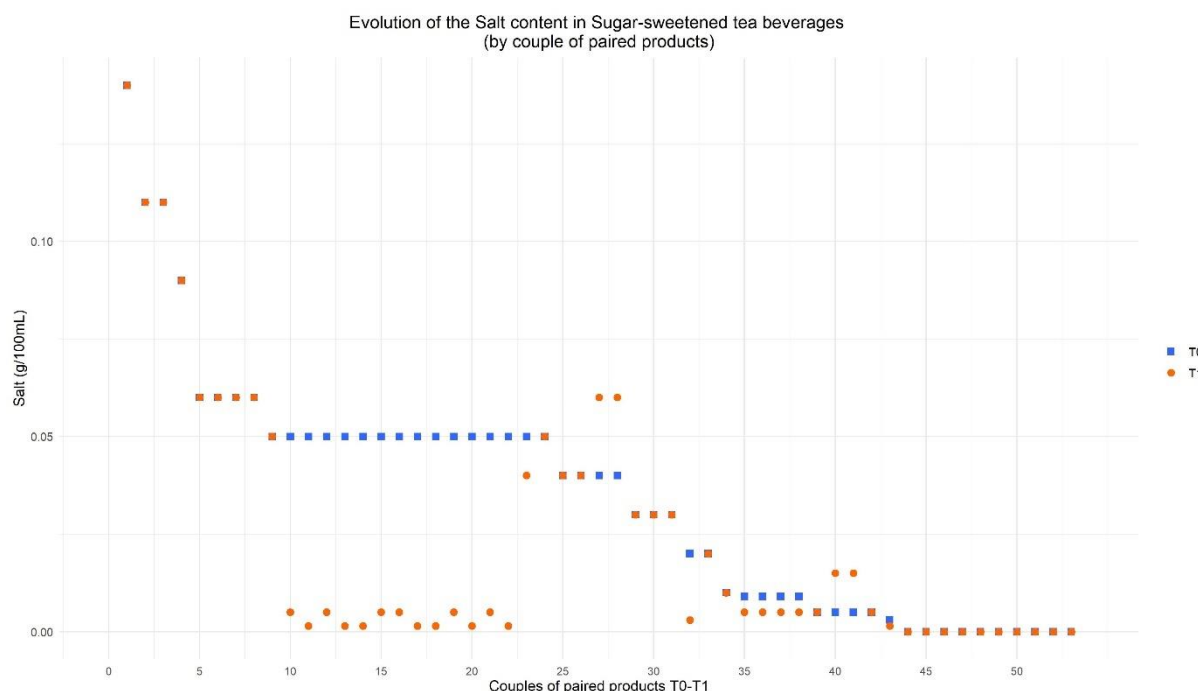


Figure 52: Salt content evolution between 2019 and 2022 by couple of paired products for Sugar-sweetened tea beverages subcategory

Of the 53 product pairs found in the subcategory Sugar-sweetened tea beverages, the salt content between T0 and T1 remained unchanged for 29 products (Figure 52). A small increase from +0.01 g/100 g (couples 40 and 41) to +0.02 g/100 g (couples 27 and 28) was observed in four products. Decreases, albeit at a low level, were found for 20 products, ranging from −0.0015 g/100 g (couple 43) to −0.0485 g/100 g (7 couples). The largest decreases were found for product couples 10 to 22, which are all tea products from the same manufacturer.

The treatment of “<” values (e.g. <0.5 g/100 g or <0.01 g/100 g) in this analysis can lead to false positives, as discussed for the nutrient evolution of sugar in Fruit beverages without added sugar (Figure 48). In this subcategory, 23 product pairs were identified with “<” values for either T0, T1, or both. As an example, the declared salt content for couples 35 to 39 was 0.009 g/100 g in T0 and <0.01 g/100 g in T1, which was subsequently treated as 0.005 g/100 g in T1. This leads to a calculated decrease by 0.004 g/100 g, while in fact there was potentially no decrease in salt content. As none of the products in this subcategory contain salt in their ingredients list, the calculated decreases in salt content are more likely due to uncertainties in measurement or variations in the natural salt content of the water used.

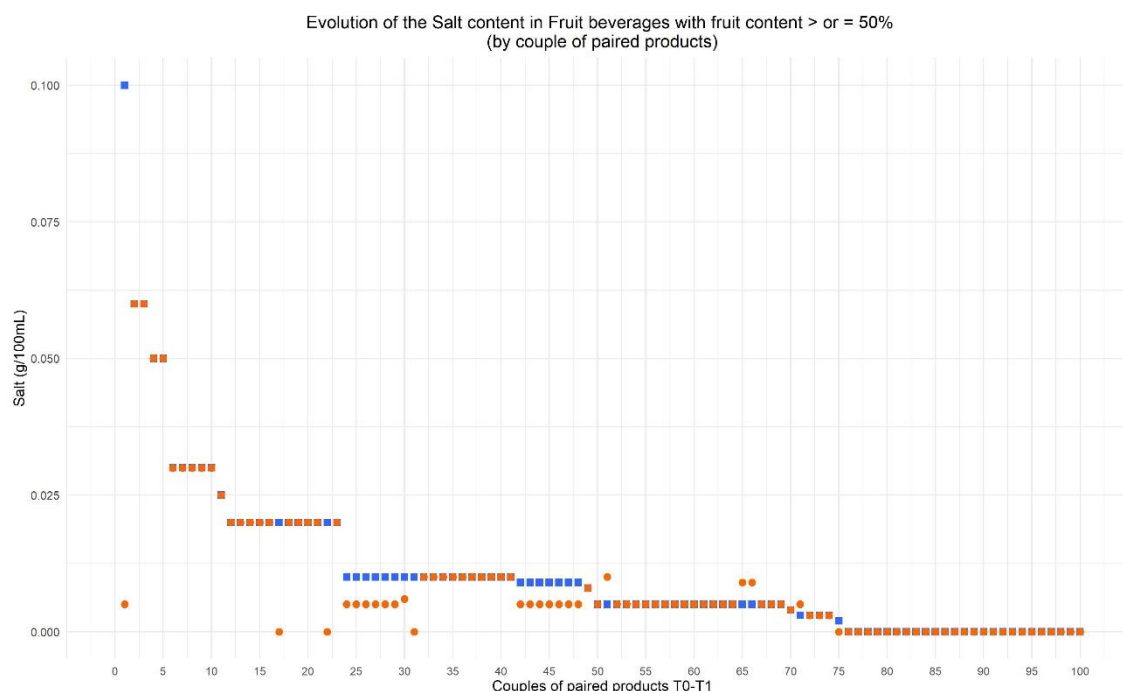


Figure 53: Salt content evolution between 2019 and 2022 by couple of paired products for Fruit beverages with fruit content $\geq 50\%$ subcategory

100 product pairs were identified in the subcategory Fruit beverages with fruit content $\geq 50\%$ (Figure 53). For 77 products, no change in salt content between T0 and T1 was identified. A minimal increase within a range from $+0.002$ g/100 g (couple 71) and $+0.005$ g/100 g (couple 51) was found for four products, while minor decreases ranging from -0.002 g/100 g (couple 75) to -0.095 g/100 g (couple 1) were observed in 19 products.

In this subcategory, 42 products were found with “<” values in either T0, T1, or both. None of the products contain salt in their list of ingredients and thus, the changes in salt content could be due to natural changes in the mineral content of the water or measuring uncertainties. The largest decrease in salt content (couple 1) could be a false positive – it was labelled as <0.2 g/100 g in T0 and <0.01 g/100 g in T1. The difference in declaration might be largely due to a change in measuring accuracy. Product pairs 42 to 48 are listed with a salt content of 0.009 g/100 g in T0 and <0.01 g/100 g in T1, which was subsequently treated as 0.005 g/100 g, causing a calculated decrease by 0.004 g/100 g. For products 65 and 66, the reverse is true (<0.01 g/100 g in T0 and 0.009 g/100 g in T1), leading to an increase by 0.004 g/100 g.

Upon considering the minimal reduction (-0.0018 g/100 g; -16.89%) and the highly significant result ($p < 0.001$), in combination with the fact that almost half of the products were labelled with an uncertain salt content (“<” values), the consistency of analysing the changes in salt content for soft drinks can be discussed.

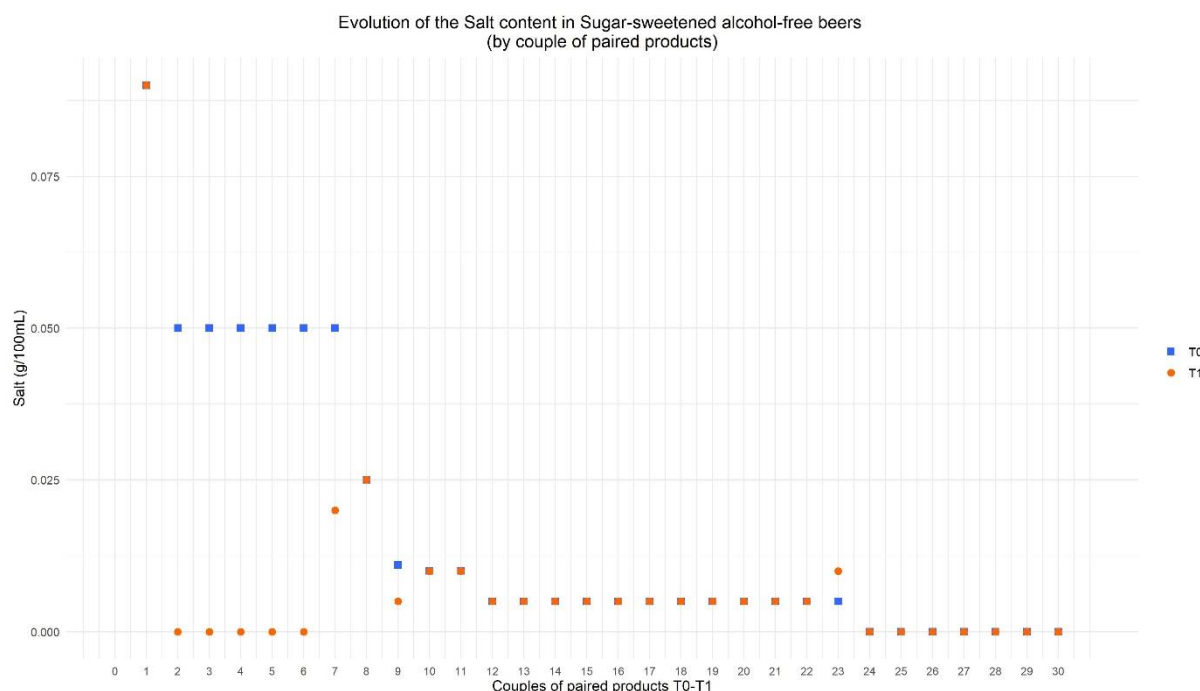


Figure 54: Salt content evolution between 2019 and 2022 by couple of paired products for Sugar-sweetened alcohol-free beers subcategory

For the 30 product pairs found in the subcategory Sugar-sweetened alcohol-free beers, 22 products were found with an unchanged salt content between T0 and T1 (Figure 54). A minimal increase by +0.005 g/100 g was observed for couple 23. Seven products were observed to have a minimally decreased salt content, ranging from -0.006 g/100 g (couple 9) to -0.05 g/100 g (couples 2 to 6).

18 product pairs in this subcategory were found with "<" values in either T0, T1, or both. Of those, 12 products were labelled with the same salt content in both T0 and T1. For couple 23, the salt content was declared at <0.01 g/100 g in T0 and 0.01 g/100 g in T1, leading to a calculated increase by 0.005 g/100 g, as values with "<" are treated as half the maximum value. No change in ingredients was registered between the two snapshots and thus, the increase in salt content could potentially be caused by a change in measuring uncertainty and not by reformulation.

3.2.3.5 Evolution of the fibre content among the subcategories of Soft drinks

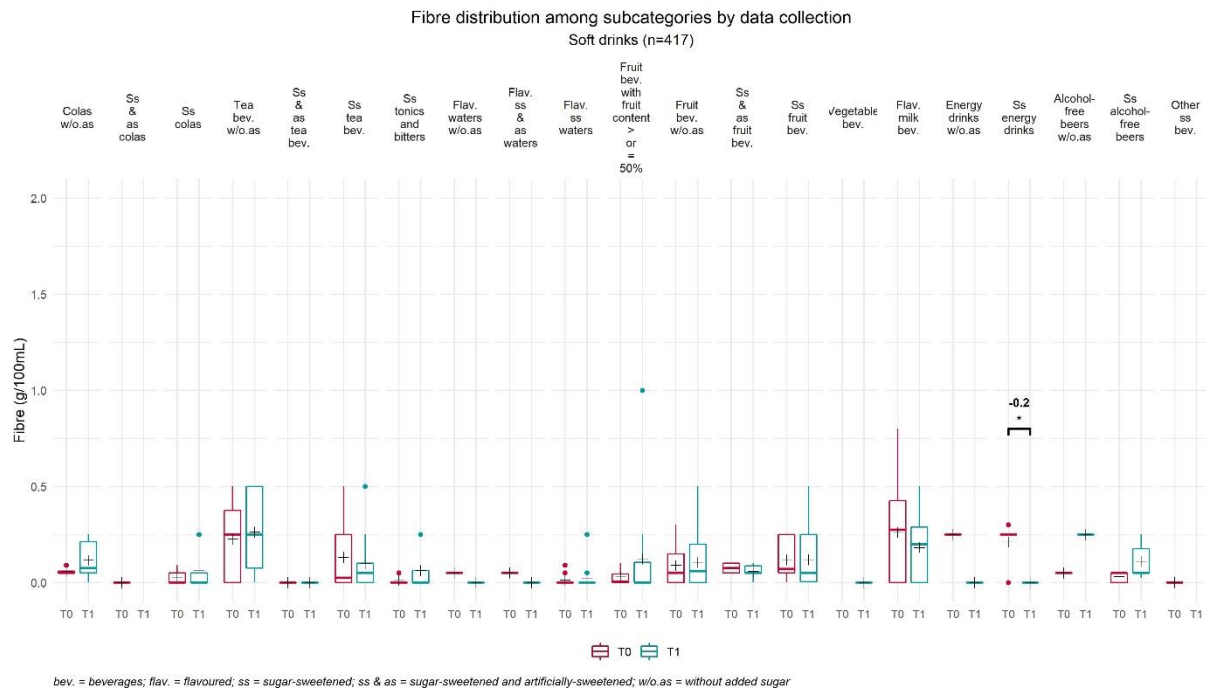


Figure 55: Fibre distribution among subcategories of Soft drinks¹

One subcategory out of 21 subcategories of Soft drinks showed a small, yet significant decrease in fibre content between 2019 (T0) and 2022 (T1): Sugar-sweetened energy drinks (-0.2^* g/100 g ; -100.0%). Within this subcategory, the fibre content was labelled as $< 0.5 \text{ g/100 g}$, 0 g/100 g or 0.3 g/100 g ($n = 5$) in T0, while all soft drinks in the same category in T1 had a fibre content of 0 g/100 g ($n = 4$). Due to the low sample size and the imprecision in the labelled values, this significant change needs to be evaluated with caution.

The largest variabilities were found in the subcategories Tea beverages without added sugar (T0, $n = 11$; T1, $n = 8$), Sugar-sweetened tea beverages (T0, $n = 8$; T1, $n = 22$), Fruit beverages without added sugar (T0, $n = 15$; T1, $n = 23$), Sugar-sweetened fruit beverages (T0, $n = 30$; T1, $n = 62$), and Flavoured milk beverages (T0, $n = 24$; T1, $n = 42$). The biggest outlier with 1 g/100 g fibre in the subcategory Fruit beverages with fruit content $\geq 50\%$ is a product which contains oat fibre in its ingredients list.

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.6 Evolution of the fibre content for paired products of Soft drinks

Table 16 summarises the means in fibre content and the mean differences to T0 in all subcategories of Soft drinks. Among the subcategories with paired products, none showed a significant change in fibre content. The largest increases, small as they were, were found in the subcategories Sugar-sweetened colas (+0.1 g/100 g; +391.2 %) and Alcohol-free beers without added sugars (+0.2 g/100 g; +400 %).

For Sugar-sweetened and artificially-sweetened tea beverages, a mean evolution (%) couldn't be calculated, as the mean in T0 for this subcategory was 0 g/100 g and division by 0 is not possible.

Table 16: Summary of the evolution of the average fibre content for Soft drinks, by subcategory¹

	Fibre							
	All products				Paired products			
Subcategory_name	Sample size (n)	Mean.T1 (g/100 g)	Mean difference (g/100 g)	Mean evolution (%)	Sample size (n)	Mean.T1 (g/100 g)	Mean difference (g/100 g)	Mean evolution (%)
Colas without added sugar	6	0.1	+0.06	+94.4 %	4	0.1	+0.09	+150.0 %
Sugar-sweetened and artificially-sweetened colas	0				0			
Sugar-sweetened colas	14	0.1	+0.04	+154.0 %	6	0.1	+0.1	+391.2 %
Tea beverages without added sugar	8	0.3	+0.04	+15.5 %	2	0.4	0.0	0.0 %
Sugar-sweetened and artificially-sweetened tea beverages	3	0.0	0.0		0			
Sugar-sweetened tea beverages	22	0.1	-0.03	-25.5 %	4	0.2	+0.1	+154.5 %
Tonics and bitters without added sugar	0				0			
Sugar-sweetened and artificially-sweetened tonics and bitters	0				0			
Sugar-sweetened tonics and bitters	8	0.1	+0.05	+462.5 %	5	0.0	-0.01	-100.0 %
Flavoured waters without added sugar	13	0.0	-0.05	-100.0 %	0			
Flavoured sugar-sweetened and artificially-sweetened waters	2	0.0	-0.05	-100.0 %	0			
Flavoured sugar-sweetened waters	17	0.0	+0.008	+61.8 %	9	0.0	-0.009	-59.8 %

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

Fruit beverages with fruit content > or = 50%	15	0.1	+0.1	+331.3 %	3	0.1	+0.08	+204.3 %
Fruit beverages without added sugar	23	0.1	+0.02	+17.3 %	12	0.1	+0.02	+25.9 %
Sugar-sweetened and artificially-sweetened fruit beverages	6	0.1	-0.02	-22.2 %	1	0.1	0.0	0.0 %
Sugar-sweetened fruit beverages	62	0.1	+0.0007	+0.6 %	11	0.1	-0.009	-6.5 %
Vegetable beverages	1	0.0			0			
Flavoured milk beverages	42	0.2	-0.08	-30.1 %	9	0.1	+0.02	+18.6 %
Plant-based beverages without added sugar	subcategory outside scope of our product monitoring. hence no products							
Sugar-sweetened plant-based beverages	subcategory outside scope of our product monitoring. hence no products							
Energy drinks without added sugar	13	0.0	-0.2	-100.0 %	0			
Sugar-sweetened and artificially-sweetened energy drinks	0				0			
Sugar-sweetened energy drinks	4	0.0	-0.2*	-100.0 %	1	0.0	-0.2	-100.0 %
Alcohol-free beers without added sugar	1	0.2	+0.2	+400.0 %	1	0.2	+0.2	+400.0 %
Sugar-sweetened alcohol-free beers	5	0.1	+0.08	+266.7 %	2	0.1	+0.06	+120.0 %
Other beverages without added sugar	0				0			
Other sugar-sweetened beverages	0				0			

3.2.3.5 Evolution of the fat content among the subcategories of Soft drinks

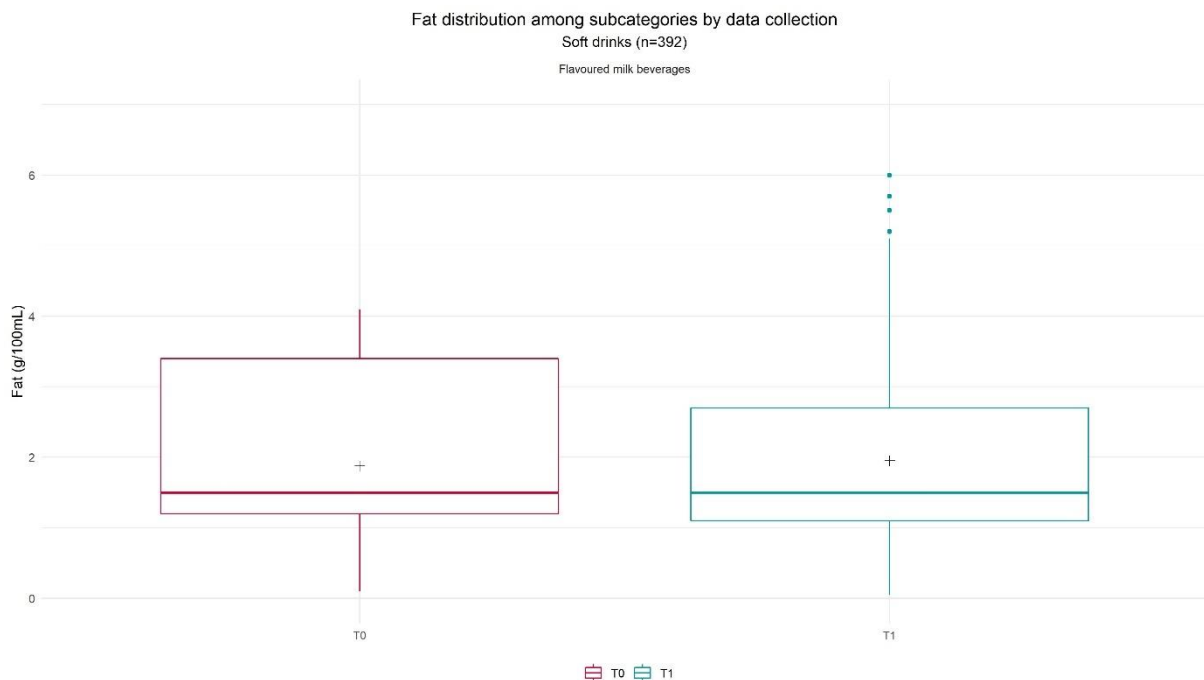


Figure 56: Fat distribution among subcategories of Soft drinks¹

Figure 56 shows the distribution of fat between 2019 (T0) and 2022 (T1) for the subcategory Flavoured milk beverages. As plant-based beverages were outside of the scope of the monitoring carried out by MRI, this analysis only entails one subcategory.

There was no significant difference in fat content found for the subcategory Flavoured milk beverages. The variability increased in T1 (T0, n = 142; T1, n = 250), with more outliers in T1 on the upper end. However, the interquartile range of fat decreased in T1. This suggests that in T1, more products were found with a fat content below 3 g/100 g than in T0 but the number of outliers with a high fat content has increased substantially.

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.6 Evolution of the fat content for paired products of Soft drinks

The mean in fat content for the subcategory Flavoured milk beverages and the mean difference to T0 is shown in Table 17. The paired products found in this subcategory did not differ significantly between T0 and T1. The mean increased slightly by 0.07 g/100 g, likely due to the increase in products with a high fat content.

Table 17: Summary of the evolution of the average fat content for Soft drinks, by subcategory¹

	Fat							
	All products				Paired products			
Subcategory_name	Sample size (n)	Mean.T1 (g/100 g)	Mean difference (g/100 g)	Mean evolution (%)	Sample size (n)	Mean.T1 (g/100 g)	Mean difference (g/100 g)	Mean evolution (%)
Flavoured milk beverages	250	2.0	+0.08	+4.0 %	77	1.7	+0.07	+4.0 %
Plant-based beverages without added sugar	subcategory outside scope of our product monitoring. hence no products							
Sugar-sweetened plant-based beverages	subcategory outside scope of our product monitoring. hence no products							

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)
 Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.3.5 Evolution of the saturated fat content among the subcategories of Soft drinks

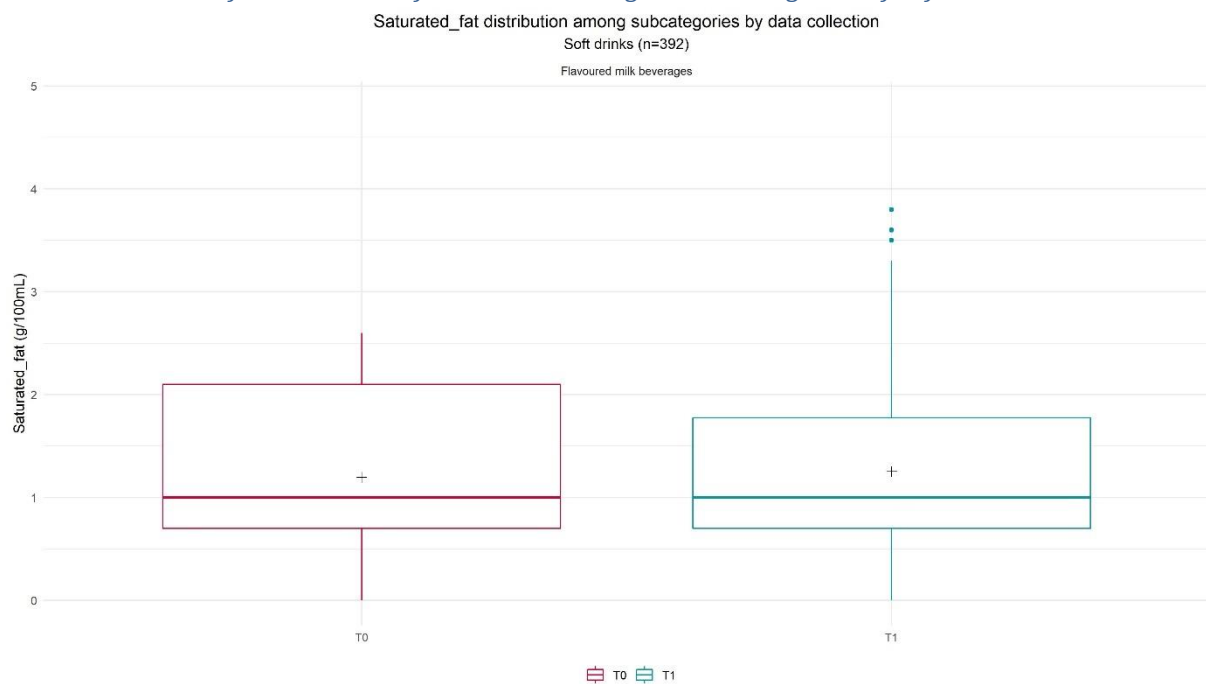


Figure 57: Saturated fat distribution among subcategories of Soft drinks¹

There were no significant differences found in saturated fat content between T0 and T1 for the subcategory Flavoured milk beverages (Figure 57). While the interquartile range decreased in T1, overall, the variability increased as there were more outliers on the higher end.

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.6 Evolution of the saturated fat content for paired products of Soft drinks

Table 18 shows the mean difference in saturated fat between T0 and T1 for all and for paired products. There were no significant differences found in saturated fat between both snapshots among the paired products.

Table 18: Summary of the evolution of the average saturated fat content for Soft drinks, by subcategory¹

	Saturated fat							
	All products				Paired products			
Subcategory_name	Sample size (n)	Mean.T1 (g/100 g)	Mean difference (g/100 g)	Mean evolution (%)	Sample size (n)	Mean.T1 (g/100 g)	Mean difference (g/100 g)	Mean evolution (%)
Flavoured milk beverages	250	1.3	+0.06	+4.9 %	77	1.1	+0.05	+4.7 %
Plant-based beverages without added sugar	subcategory outside scope of our product monitoring. hence no products							
Sugar-sweetened plant-based beverages	subcategory outside scope of our product monitoring. hence no products							

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

4 References

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Best-ReMaP

Healthy Food for a Healthy Future

Hungary T1 statistics report

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National Institute of Pharmacy and Nutrition – WP5

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1 Description of the food offer

1.1 Presentation of data collected

In Hungary, the first comprehensive wave of data collection on branded food took place in 2020. In this report, the data collected in 2020 is considered “pre-existing data” and denoted with “T0”.

A wide range of food categories were included in the snapshot of 2020 but for the Best-ReMaP project only part of this dataset (Bread products, Breakfast cereals, Fresh dairy products and desserts, Delicatessen meats and similar, Soft drinks) was considered as pre-existing data, and data have been categorized according to the food classification system developed for the Best-ReMaP project. In the 2020 snapshot, all information on branded food products was collected manually from online shops of the largest national supermarkets, as online shops were available. In 2020, we collected the food information from the following retailers: Lidl, Spar, Tesco, Coop, CBA, Auchan.

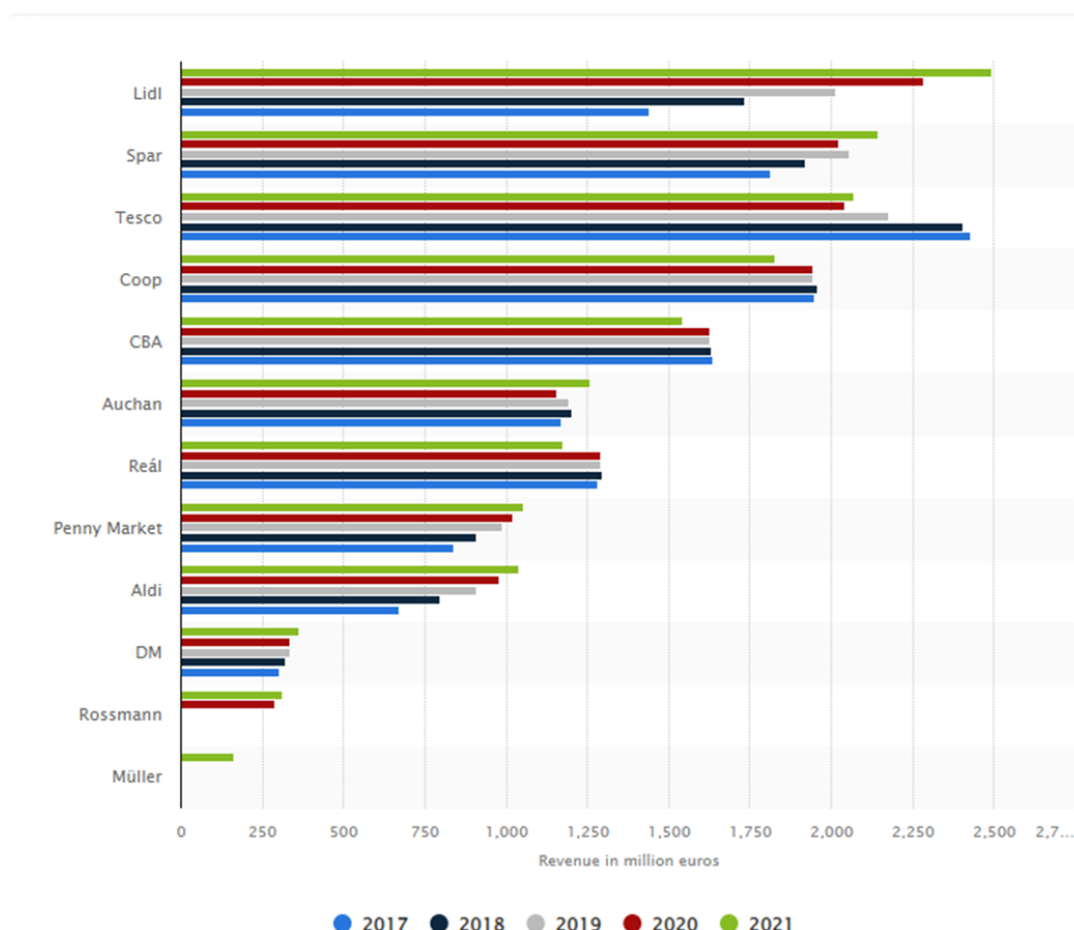


Figure 1 : Gross annual revenue of the largest FMCG retail chains in Hungary from 2017 to 2021 (in million euros) [<https://www.statista.com/statistics/1100362/hungary-turnover-of-the-largest-fmcg-retail-chains/> - accessed in 2021]

In Hungary, the second wave of data collection on branded food took place in 2022. In this report, the data collected in 2022 is considered as “Best-ReMaP data collection” and denoted with “T1”. The 5 food categories identified and prioritised for the Best-ReMaP project (Bread products, Breakfast cereals, Fresh dairy products and desserts, Delicatessen meats and similar, Soft drinks) were collected in 2022. Based on gross annual revenue and the number of stores in Hungary in 2021, the following leading retail chains were selected for fieldwork: Lidl, Spar, Tesco, Coop, CBA (Figure 1). We do not know the exact market coverage of these five retailers, but, by selecting the largest stores with the biggest gross annual revenues, we assume to have a good coverage of the market. From each retail chain, one large store was visited and several photographs were taken per products. According to the protocol in the two biggest stores, (Tesco and Spar) all products belonging to the 5 food categories were photographed and recorded and, in the other stores, only the retailer brand products were collected and recorded to avoid redundancy in food product collection. In the 2022 snapshot, all the recorded products were collected in stores with the above-described method.

Since neither the food classification nor food information required by Best-ReMaP project had been known at that time of the 2020 snapshot (pre-existing data), the methodological differences present a limitation for T0 vs. T1 comparison. Nevertheless, the method described in this report will be applied to later national food information collection snapshots and will be highly valuable in carrying out food reformulation monitoring.

Table 1 shows the data collection years for each food category considered in this report for both pre-existing data (T0) and Best-ReMaP data collection (T1)

Table 1 : Years of data collections

Category name	T0 data collection year	T1 data collection year
Bread products	2020	2022
Breakfast cereals	2020	2022
Delicatessen meats and similar	2020	2022
Fresh dairy products and desserts	2020	2022
Soft drinks	2020	2022

1.2 Evolution of the food offer

1.2.1 Evolution of the food offer, by category

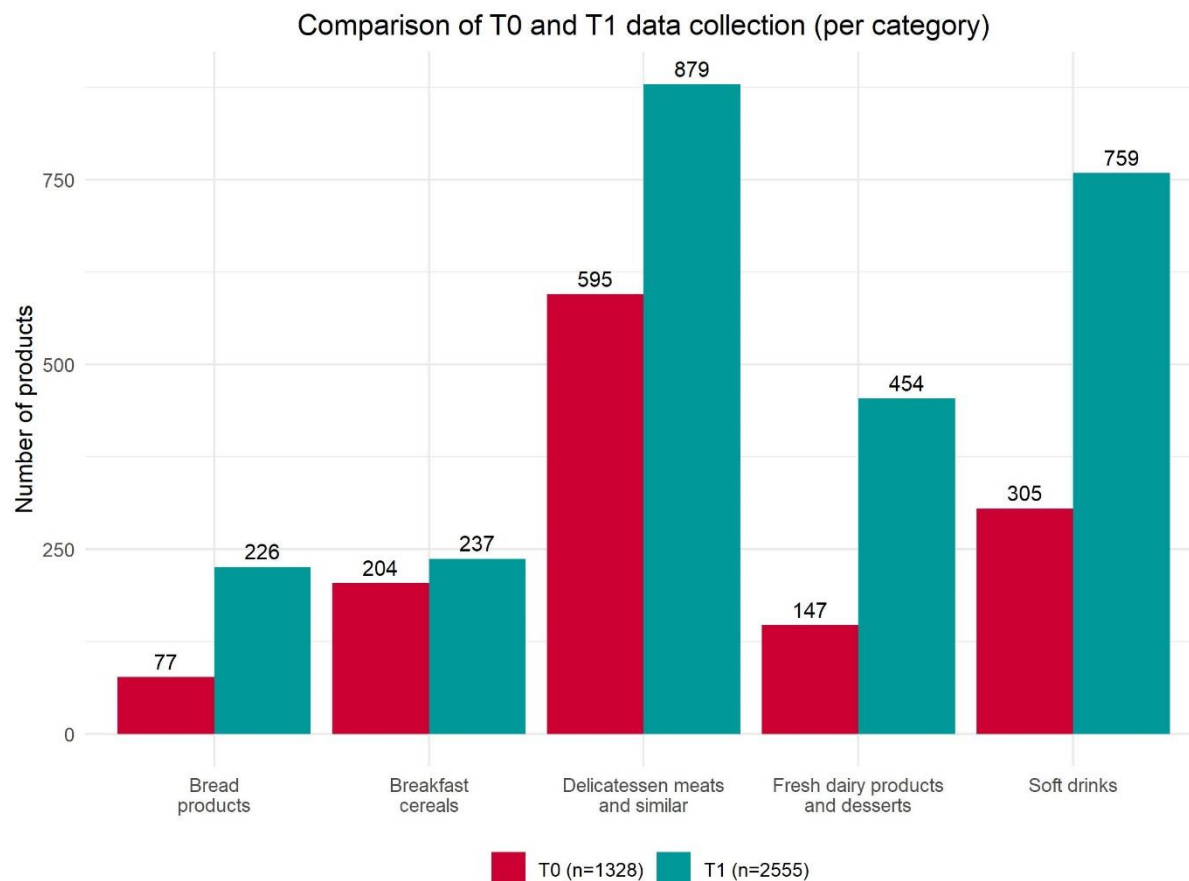


Figure 2: Comparison of the number of references collected between preexisting (2020=T0) and Best-ReMaP (2022=T1) data collection, per category

The number of products collected at T1 is greater than the number of products collected at T0 (1328 during T0 vs. 2555 during T1) for all categories collected (Bread products: 77 vs. 226 T1; Breakfast cereals: 204 vs. 237; Delicatessen meats and similar: 595 vs. 879; Fresh dairy products and desserts: 147 vs. 454; Soft drinks: 305 vs. 759) (Figure).

1.2.2 Evolution of the food offer, by subcategory

1.2.2.1 Bread products

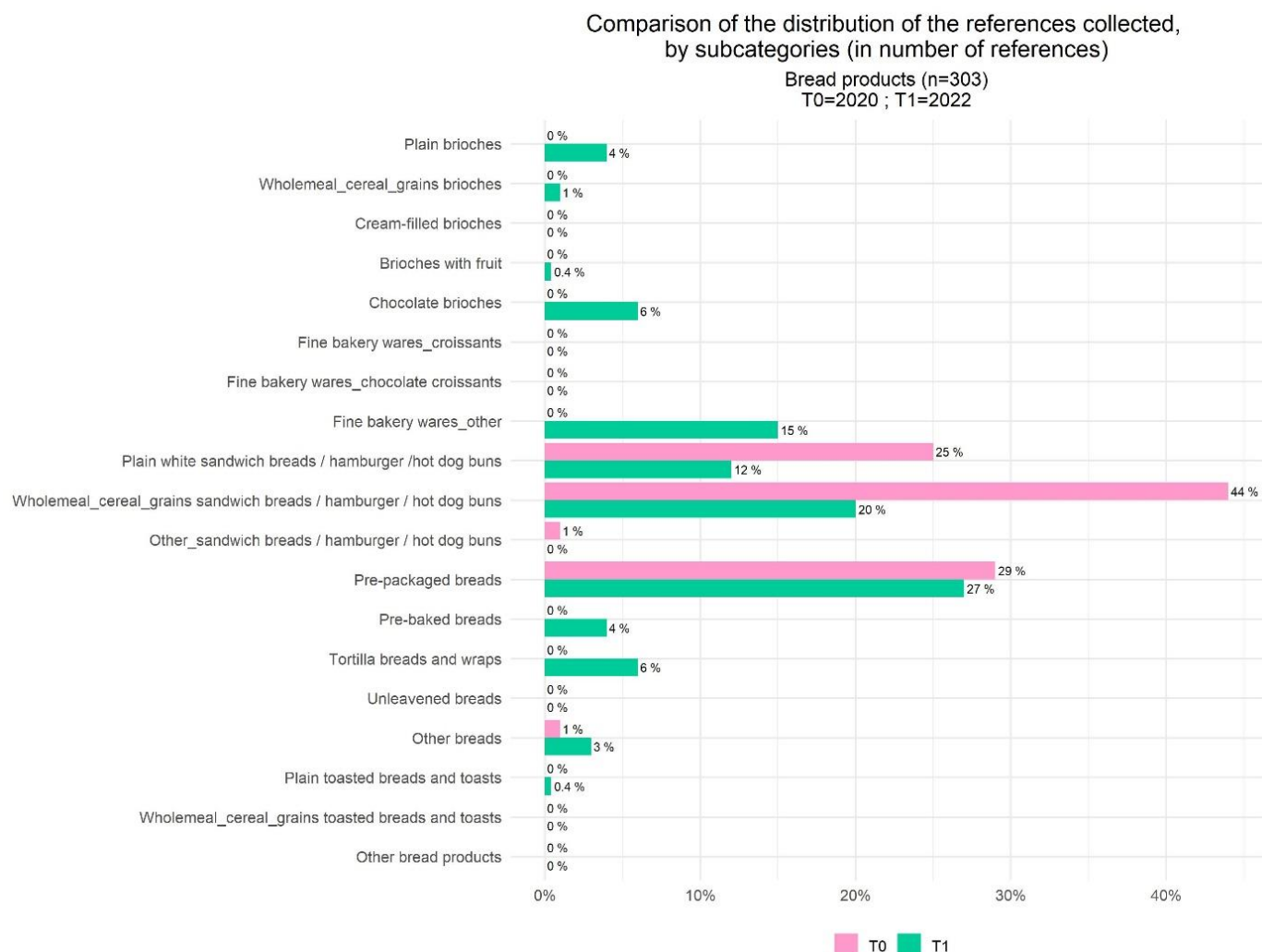


Figure 3 : Comparison of the distribution of the references collected, by subcategories (in number of references) among Bread products

The comparison of product distribution between 2020 (T0) and 2022 (T1) (Figure) shows that the percentage of collected products is:

- Higher at T1 for 9 sub-categories out of 19 (Plain brioches, Wholemeal_cereal_grains brioches, Brioches with fruit, Chocolate brioches, Fine bakery wares_others, Pre-baked breads, Tortilla breads and wraps, Other breads, Plain toasted breads and toasts).
- Higher at T0 in 4 sub-categories out of 19 (Plain white sandwich breads /hamburger/ hot dog buns, Wholemeal_cereal_grains sandwich breads /hamburger/ hot dog buns, Other_sandwich breads/ hamburger/ hot dog buns, Pre-packaged breads).

No products have been collected in either T0 or T1 for 6 sub-categories out of 19 (Cream-filled brioches, Fine bakery wares_croissant, Fine bakery wares_chocolate croissant, Unleavened breads, Wholemeal_cereal_grains toasted breads and toasts, Other bread products).

1.2.2.2 Breakfast cereals

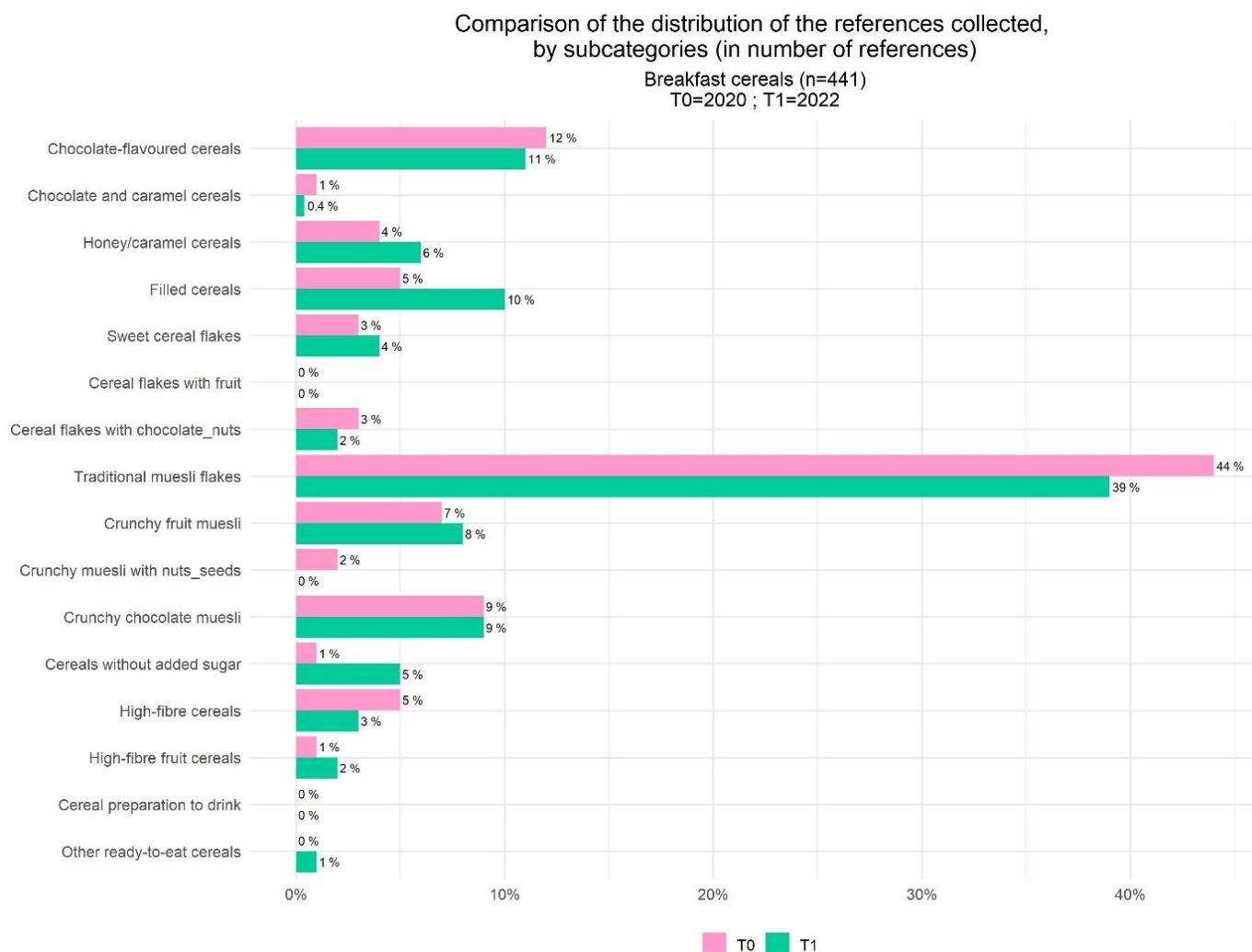


Figure 4: Comparison of the distribution of the references collected, by subcategories (in number of references) among Breakfast cereals

The comparison of product distribution between 2020 (T0) and 2022 (T1) (Figure 4) shows that the percentage of collected products is:

- Higher at T1 for 7 sub-categories out of 16 (Honey/caramel cereals, Filled cereals, Sweet cereal flakes, Crunchy fruit muesli, Cereals without added sugar, High-fibre fruit cereals, Other ready-to-eat cereals).
- Higher at T0 in 6 sub-categories out of 16 (Chocolate-flavoured cereals, Chocolate and caramel cereals, Cereal flakes with chocolate_nuts, Traditional muesli flakes, Crunchy muesli with nuts and seeds, High-fibre cereals).
- Identical for 1 sub-category out of 16 (Crunchy chocolate muesli).

No products have been collected in either T0 or T1 for 2 sub-categories out of 16 (Cereal flakes with fruit and Cereal preparation to drink).

1.2.2.3 Delicatessen meats and similar

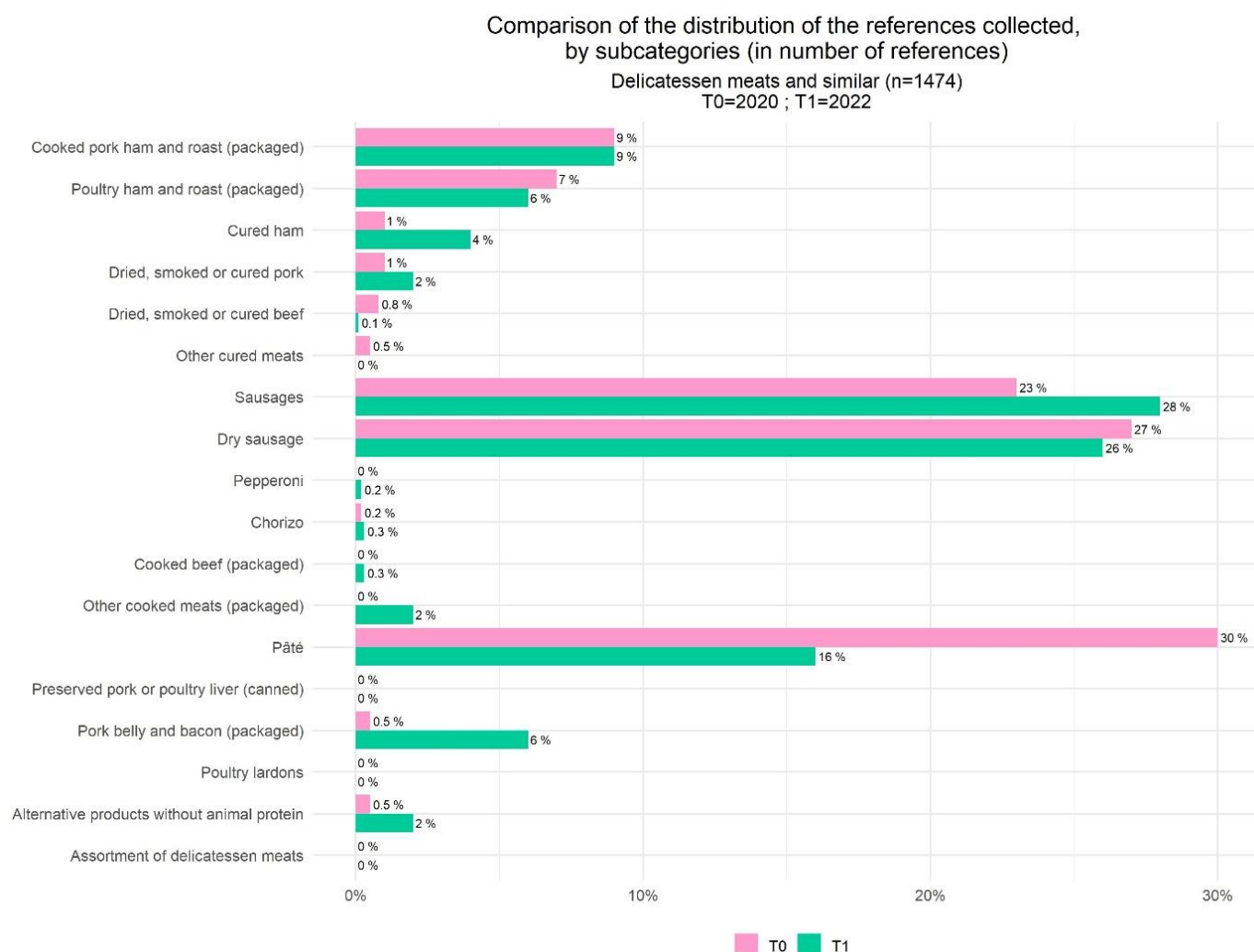


Figure 5 : Comparison of the distribution of the references collected, by subcategories (in number of references) among Delicatessen meats and similar

The comparison of product distribution between 2020 (T0) and 2022 (T1) (Figure 5) shows that the percentage of collected products is:

- Higher at T1 for 9 sub-categories out of 18 (Cured ham, Dried, smoked or cured pork, Sausages, Pepperoni, Chorizo, Cooked beef (packaged), Other cooked meats (packaged), Pork belly and bacon (packaged), Alternative products without animal protein).
- Higher at T0 in 5 sub-categories out of 18 (Poultry ham and roast (packaged), Dried, smoked or cured beef, Other cured meats, Dry sausage, Pâté).
- Identical for 1 sub-category out of 18 (Cooked pork ham and roast (packaged)).

No products have been collected in either T0 or T1 for 3 sub-categories out of 18 (Preserved pork or poultry liver (canned), Poultry lardons, Assortment of delicatessen meats).

1.2.2.4 Fresh dairy products and desserts

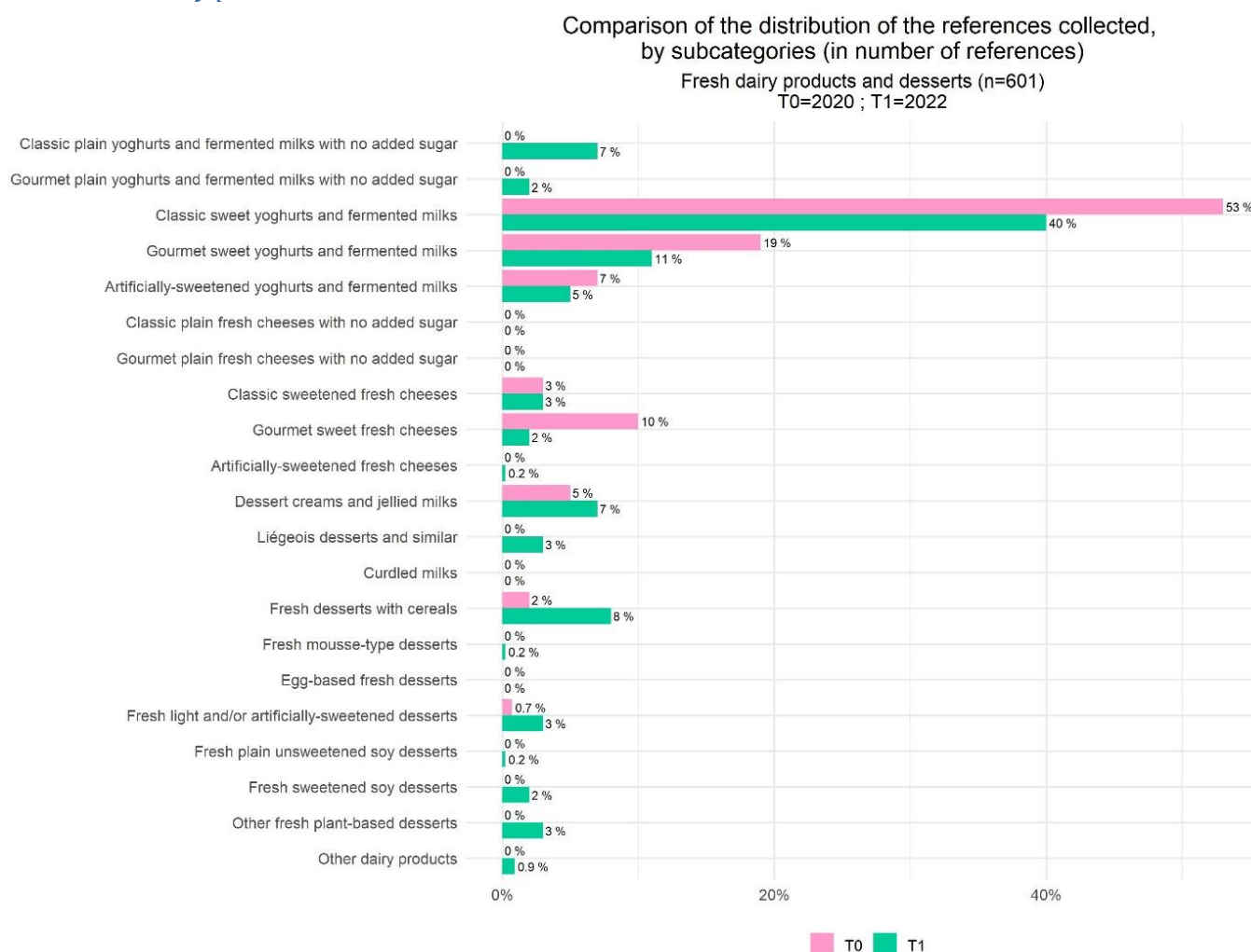


Figure 6: Comparison of the distribution of the references collected, by subcategories (in number of references) among Fresh dairy products and desserts

The comparison of product distribution between 2020 (T0) and 2022 (T1) (Figure 6) shows that the percentage of collected products is:

- Higher at T1 for 12 sub-categories out of 21 (Classic plain yoghurts and fermented milks with no added sugar, Gourmet plain yoghurts and fermented milks with no added sugar, Artificially sweetened fresh cheeses, Dessert creams and jellied milks, Liégeois desserts and similar, Fresh desserts with cereals, Fresh mousse-type desserts, Fresh light and/or artificially-sweetened desserts, Fresh plain unsweetened soy desserts, Fresh sweetened soy desserts, Other fresh plant-based desserts, Other dairy products).
- Higher at T0 in 4 sub-categories out of 21 (Classic sweet yoghurts and fermented milks, Gourmet sweet yoghurts and fermented milks, Artificially sweetened yoghurts and fermented milks, Gourmet sweet fresh cheeses).
- Identical for 1 sub-category out of 21 (Classic sweetened fresh cheeses).

No products have been collected in either T0 or T1 for 4 sub-categories out of 21 (Classic plain fresh cheeses with no added sugar, Gourmet plain fresh cheeses with no added sugar, Curdled milks, Egg based fresh desserts).

1.2.2.5 Soft drinks

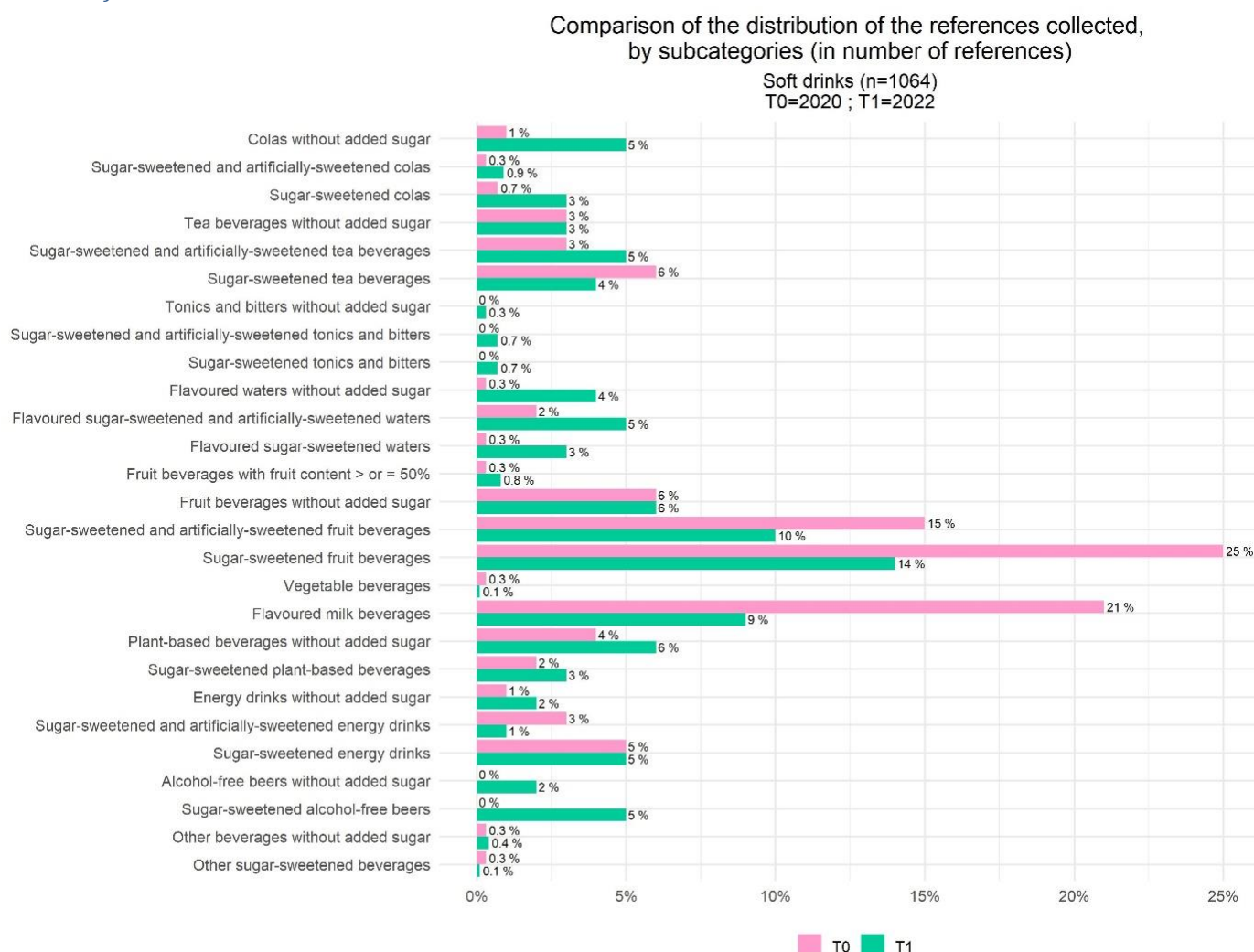


Figure 7 : Comparison of the distribution of the references collected, by subcategories (in number of references) among Soft drinks

The comparison of product distribution between 2020 (T0) and 2022 (T1) (Figure 7) shows that the percentage of collected products is:

- Higher at T1 for 17 sub-categories out of 27 (Colas without added sugar, Sugar-sweetened and artificially sweetened colas, Sugar-sweetened colas, Sugar-sweetened and artificially-sweetened tea beverages, Tonics and bitters without added sugar, Sugar-sweetened and artificially-sweetened tonics and bitters, Sugar-sweetened tonics and bitters, Flavoured waters without added sugar, Flavoured sugar-sweetened and artificially-sweetened waters, Flavoured sugar-sweetened waters, Fruit beverages with fruit content > or = 50%, Plant-based beverages without added sugar, Sugar-sweetened plant-based beverages, Energy drinks without added sugar, Alcohol-free beers without added sugar, Sugar-sweetened alcohol-free beers, Other beverages without added sugar).
- Higher at T0 in 7 sub-categories out of 27 (Sugar-sweetened tea beverages, Sugar-sweetened and artificially-sweetened fruit beverages, Sugar-sweetened fruit beverages, Vegetable beverages, Flavoured milk beverages, Sugar-sweetened and artificially-sweetened energy drinks, Other sugar-sweetened beverages).

- Identical for 3 sub-categories out of 27 (Tea beverages without added sugar, Fruit beverages without added sugar, Sugar-sweetened energy drinks).

1.2.3 Analysis of the evolution of the food offer

1.2.3.1 Bread products

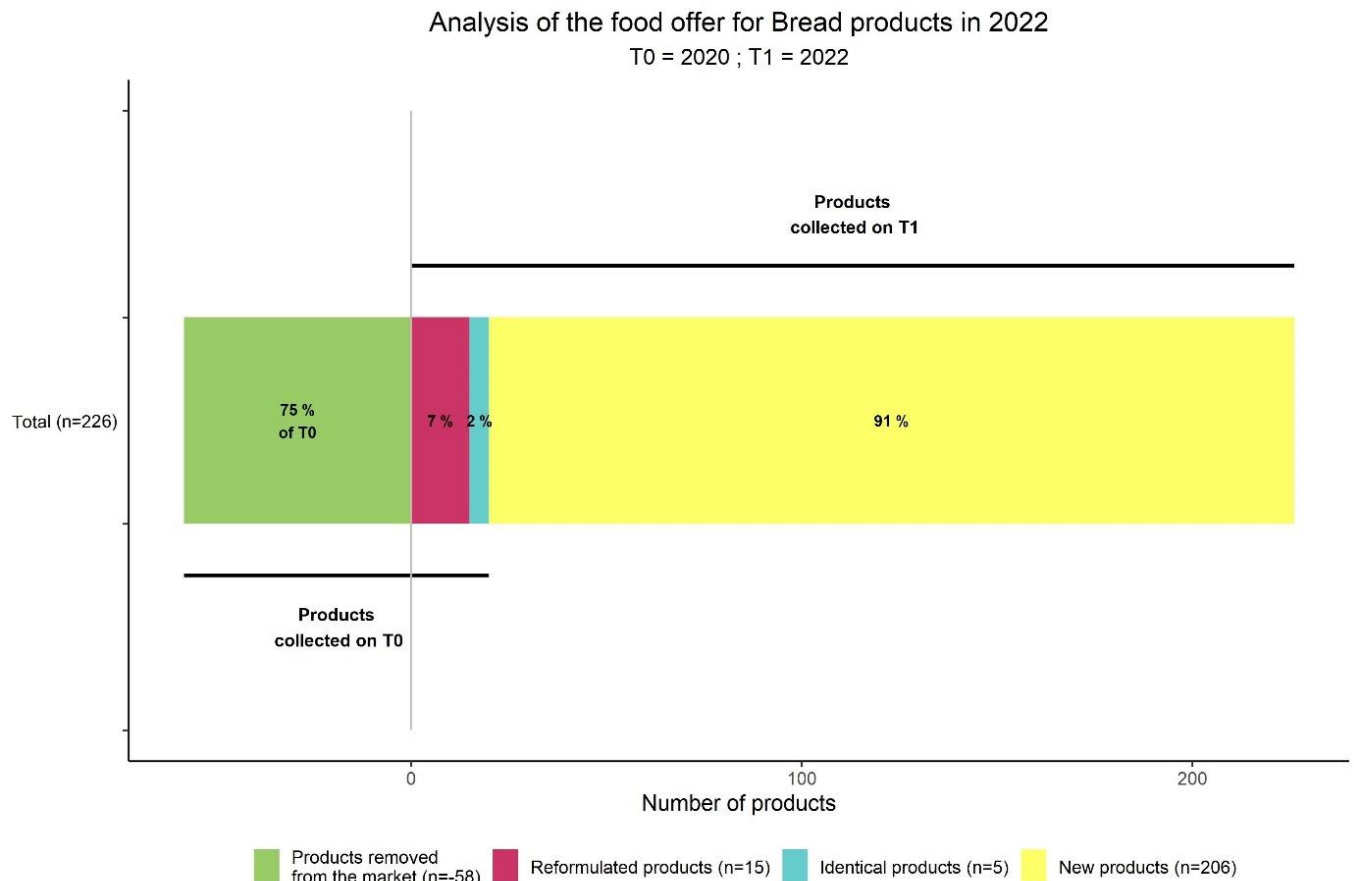


Figure 8 : Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Bread products

The comparison of the data collected between the two times among Bread products category (Figure 8) shows that:

- Products added to the market represent the majority of the data collected in 2022 (T1) (91% of T1 data collection), which may reflect a strong renewal of the offer. However, it may also be caused by the fact that a different method was used in the previous snapshot which may not enable to have all the products available on the market at T0,
- 75% of the products collected in 2020 (T0) are not found in data collected in 2022 (T1), therefore are considered as removed from the market, but these can also be products that were not available at the time of the second snapshot data collection,
- 7% of the products were already present in 2020 (T0) but have been reformulated in 2022 (T1),

- Only 2% of the products are identical in the 2 data collections. This can be explained by the fact that not all the subcategories of Bread products were collected during the data collection in 2020, since it was carried out prior to Best ReMaP and multiple subcategories that are to be monitored in Best-ReMaP were not part of the T0 data collection.

1.2.3.2 Breakfast cereals

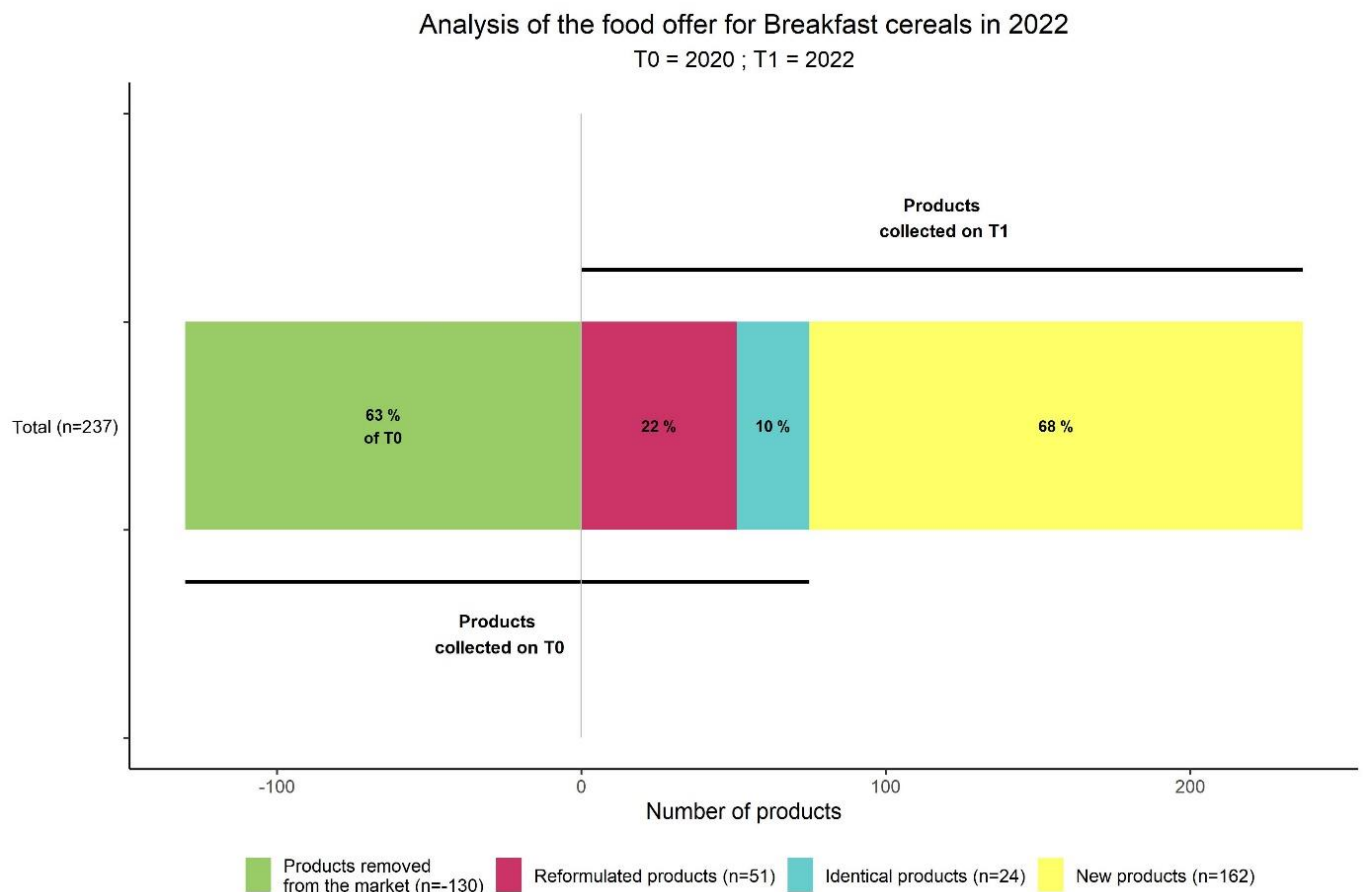


Figure 9 : Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Breakfast cereals

The comparison of the data collected between the two times among Breakfast cereals category (Figure 9) shows that:

- Products added to the market represent the majority of the data collected in 2022 (T1) (68% of T1 data collection), reflecting a strong renewal of the offer (it may also be caused by the fact that the previous snapshot could not cover all the products available on the market),
- 63% of the products collected in 2020 (T0) are not found in data collected in 2022 (T1), therefore are considered as removed from the market, but it can also be products that were not available at the time of the second snapshot data collection,

- 22% of the products were already present in 2020 (T0) but have been reformulated in 2022 (T1).

-10% of the products are identical in the 2 data collections. This low percentage of products can be explained by the fact that not all the subcategories of Breakfast cereals were collected during the data collection in 2020, since it was carried out prior to Best ReMaP and multiple subcategories that are involved in WP5 were not part of the T0 data collection.

1.2.3.3 Delicatessen meats and similar

Analysis of the food offer for Delicatessen meats and similar in 2022

T0 = 2020 ; T1 = 2022

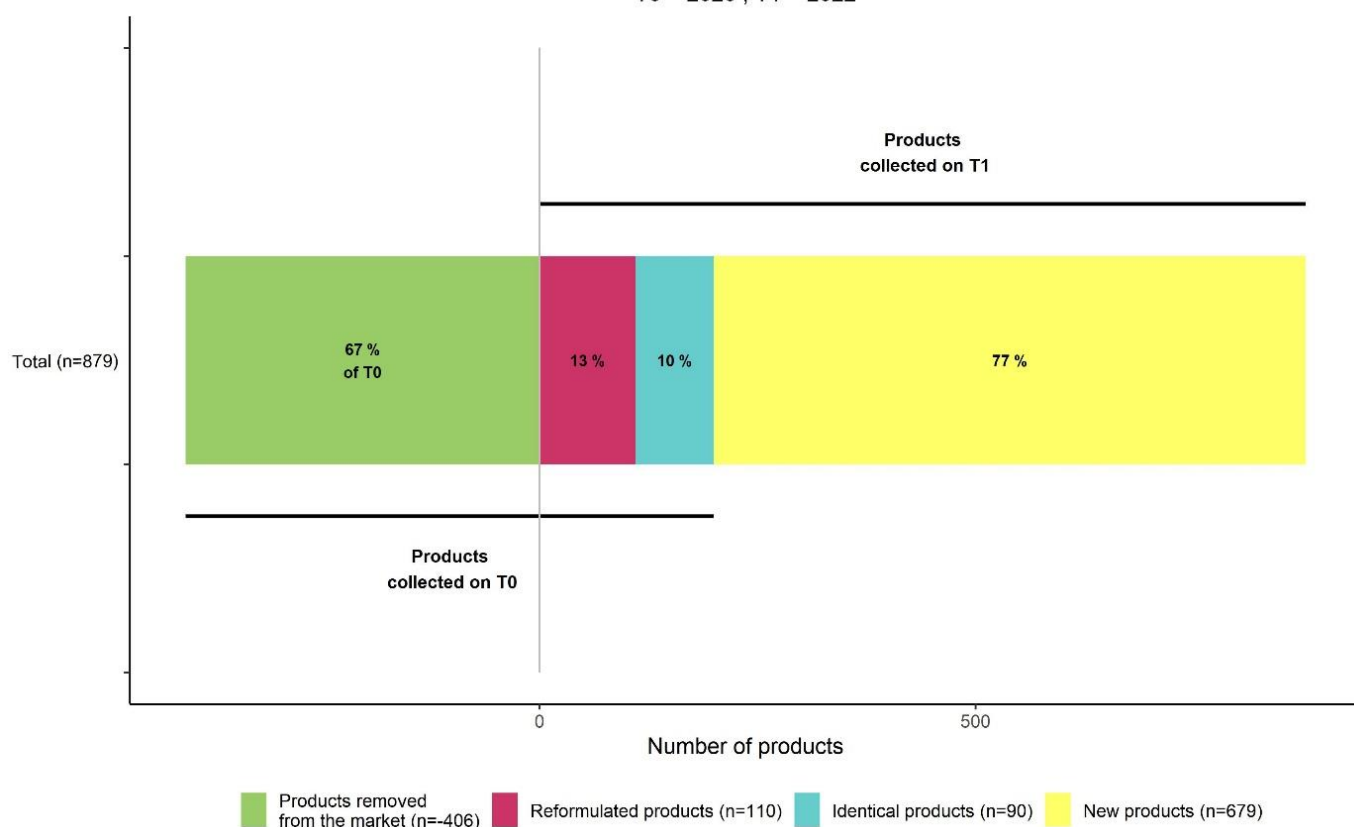


Figure 10 : Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Delicatessen meats and similar

The comparison of the data collected between the two times among Delicatessen meats and similar category (Figure 10) shows that:

- Products added to the market represent the majority of the data collected in 2022 (T1) (77% of T1 data collection), reflecting a strong renewal of the offer (it may also be caused by the fact that the previous snapshot could not cover all the products available on the market),

- A majority of products collected in 2020 (T0) are not found in data collected in 2022 (T1), therefore are considered as removed from the market (67 % of T0 data collection), but they can also be products that were not available at the time of the second snapshot data collection,
- 13% of the products were already present in 2020 (T0) but have been reformulated in 2022 (T1),
- Only 10% of the products are identical between the 2 data collections. This low percentage of products can be explained by the fact that not all the subcategories of Delicatessen meats and similar were collected during the data collection in 2020, since it was carried out prior to Best ReMaP and multiple subcategories that are involved in WP5 were not part of the T0 data collection.

1.2.3.4 Fresh dairy products and desserts

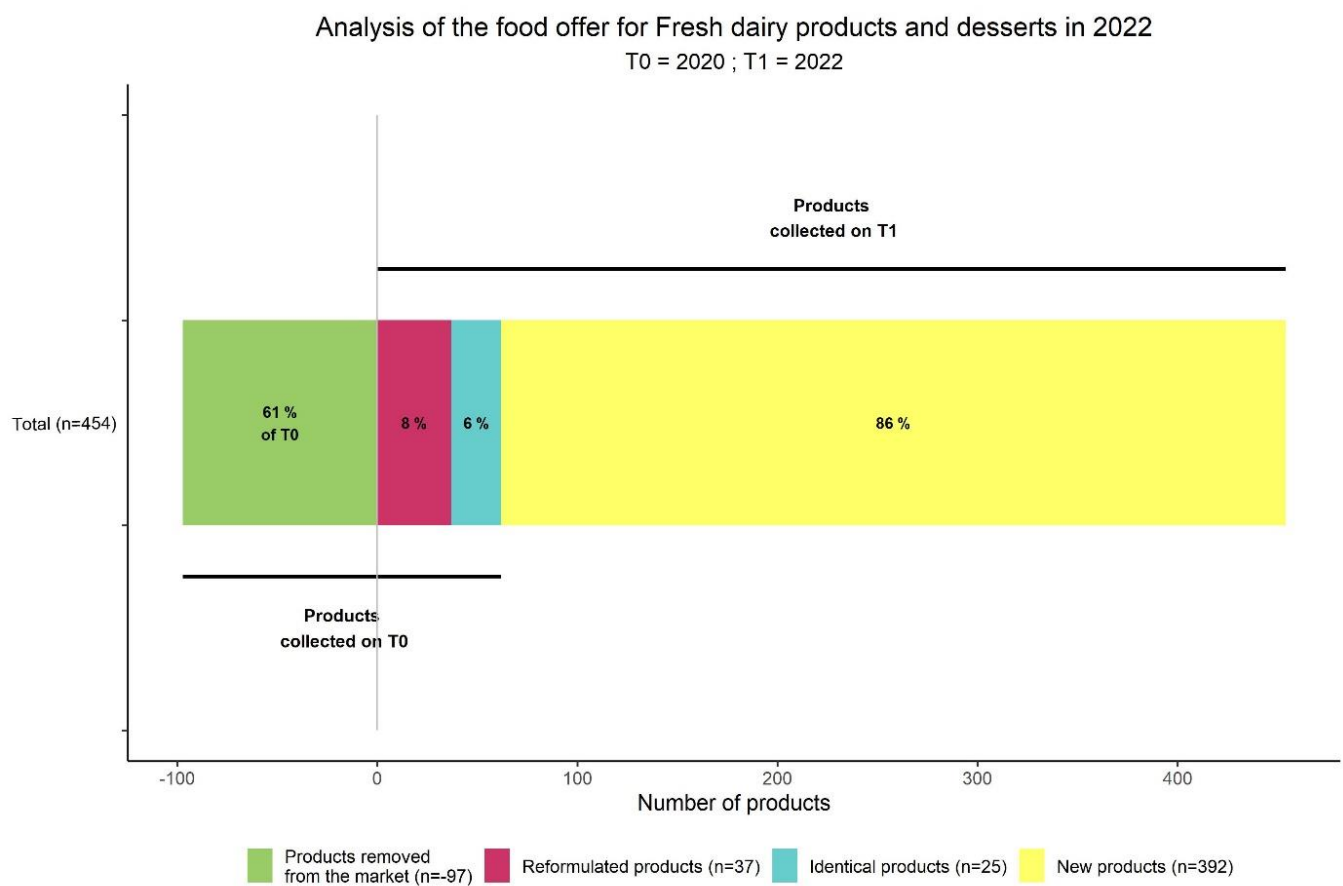


Figure 11 : Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Fresh dairy products and desserts

The comparison of the data collected between the two times among Fresh dairy products and desserts category (Figure 11) shows that:

- Products added to the market represent the majority of the data collected in 2022 (T1) (86% of T1 data collection), reflecting a strong renewal of the offer (it may also be caused by the fact that the previous snapshot could not cover all the products available on the market),
- A majority of products collected in 2020 (T0) are not found in data collected in 2022 (T1), therefore are considered as removed from the market (61% of T0 data collection), but they can also be products that were not available at the time of the second snapshot data collection,
- 8 % of the products were already present in 2020 (T0) but have been reformulated in 2022 (T1),
- Only 6 % of the products are identical between the 2 data collections. This low percentage of products can be explained by the fact that not all the subcategories of Fresh dairy products and desserts were collected during the data collection in 2020, since it was carried out prior to Best ReMaP and multiple subcategories that are to be monitored in Best-ReMaP were not part of the T0 data collection.

1.2.3.5 Soft drinks

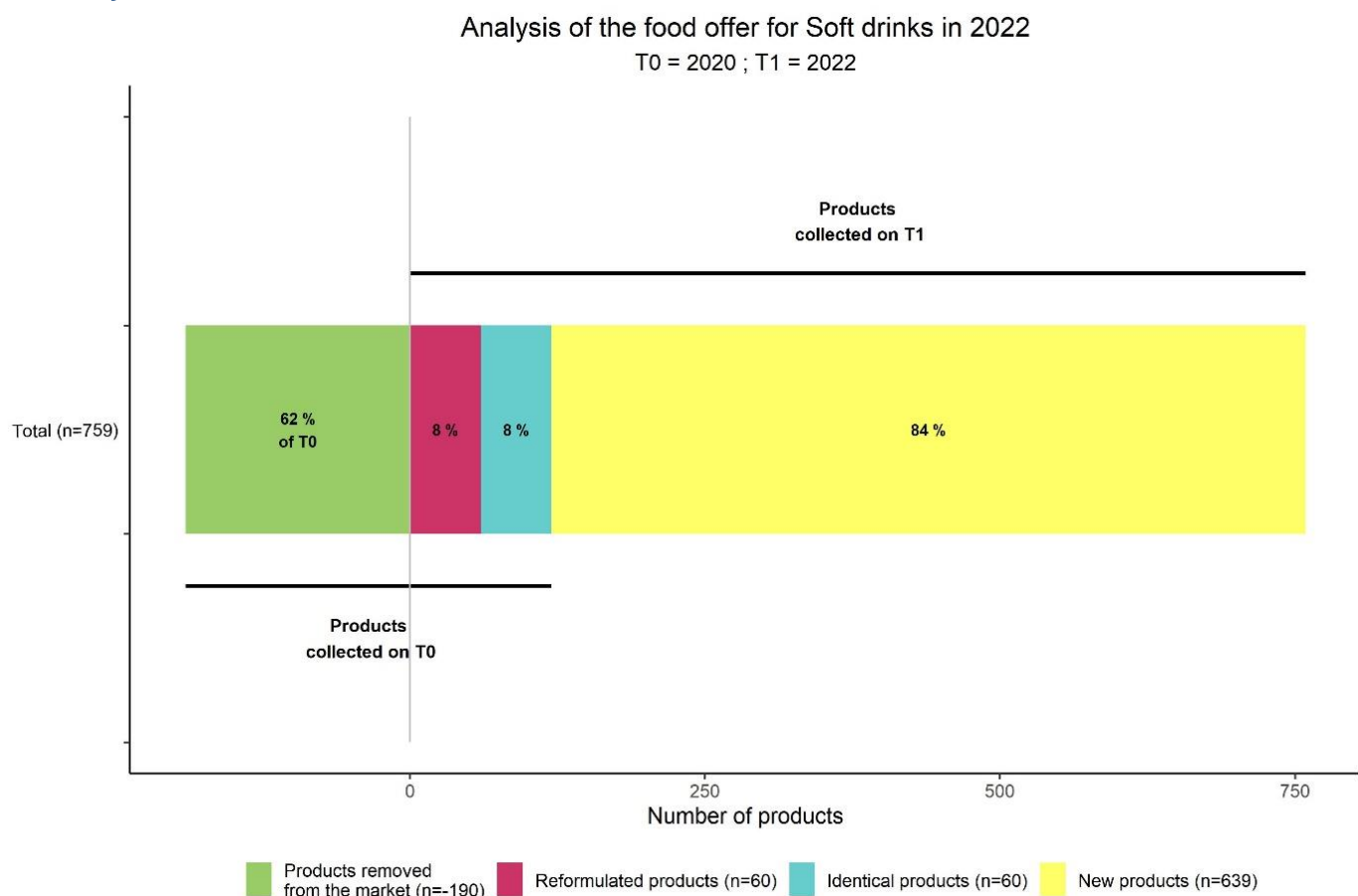


Figure 12 : Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Soft drinks

The comparison of the data collected between the two times among Soft drinks category (Figure 12) shows that:

- Products added to the market represent the majority of the data collected in 2022 (T1) (84% of T1 data collection), which may reflect a strong renewal of the offer. However, it may also be caused by the fact that a different method was used in the previous snapshot which may not enable to have all the products available on the market at T0,
- 62% of the products collected in 2020 (T0) are not found in data collected in 2022 (T1), therefore are considered as removed from the market, but these can also be products that were not available at the time of the second snapshot data collection,
- 8% of the products were already present in 2020 (T0) but have been reformulated in 2022 (T1),
- Only 8% of the products were identical in the 2 data collections. This low percentage of products can be explained by the fact that not all the subcategories of Soft drinks were collected during the data collection in 2020, since it was carried out prior to Best ReMaP and multiple subcategories that are involved in WP5 were not part of the T0 data collection.

2 Analysis of labelling parameters

2.1 Front of pack labelling, state of play of T1 data, per category

It should be noted that only data collected during Best-Remap are described in this section because the presence or absence of a front of pack labelling is a parameter that was not always available in pre-existing data. Therefore, this section (2.1) will only describe 2022 (T1) data.

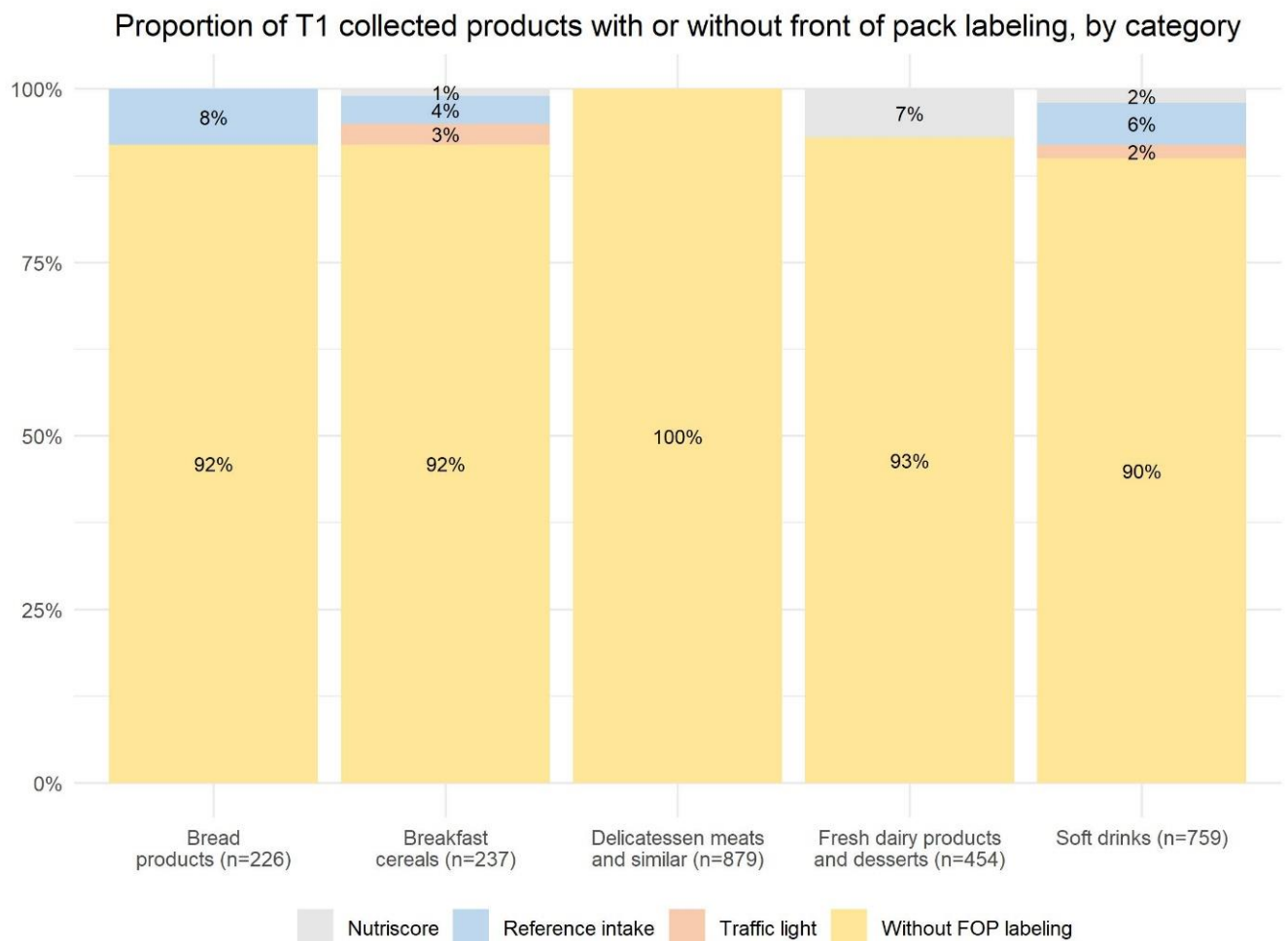


Figure 13 : Proportion of products with or without front of pack labelling, by category

Figure 13 shows the distribution of front-of-pack labelling by category across data collected in 2022 (T1). For all categories, only a few or no products are with FOP labelling (between 90 and 100% of products are without FOP labelling, depending on the category).

8% of Bread products and Breakfast cereals, 7% of Fresh dairy products and desserts and 10% of Soft drinks have FOP labelling while in the category Delicatessen meats and similar no products have. The low proportion of products with FOP labelling can be explained by the fact that FOP labelling is not mandatory in Hungary and there is no nationally accepted FOP labelling system.

For 3 categories out of the 5 collected, the Reference intake logo is the most common label found on the front of packages: Bread products (8% of products); Breakfast cereals (4%) and Soft drinks (6%).

The Reference intake logo is the only type of FOP labelling that appears on the Bread products (8% of products), while the only FOP labelling type found on Fresh dairy products and desserts is the Nutriscore (7% of products).

2.2 Evolution of the quantified portion size

2.2.1 Evolution of the proportion of products with or without quantified portion size

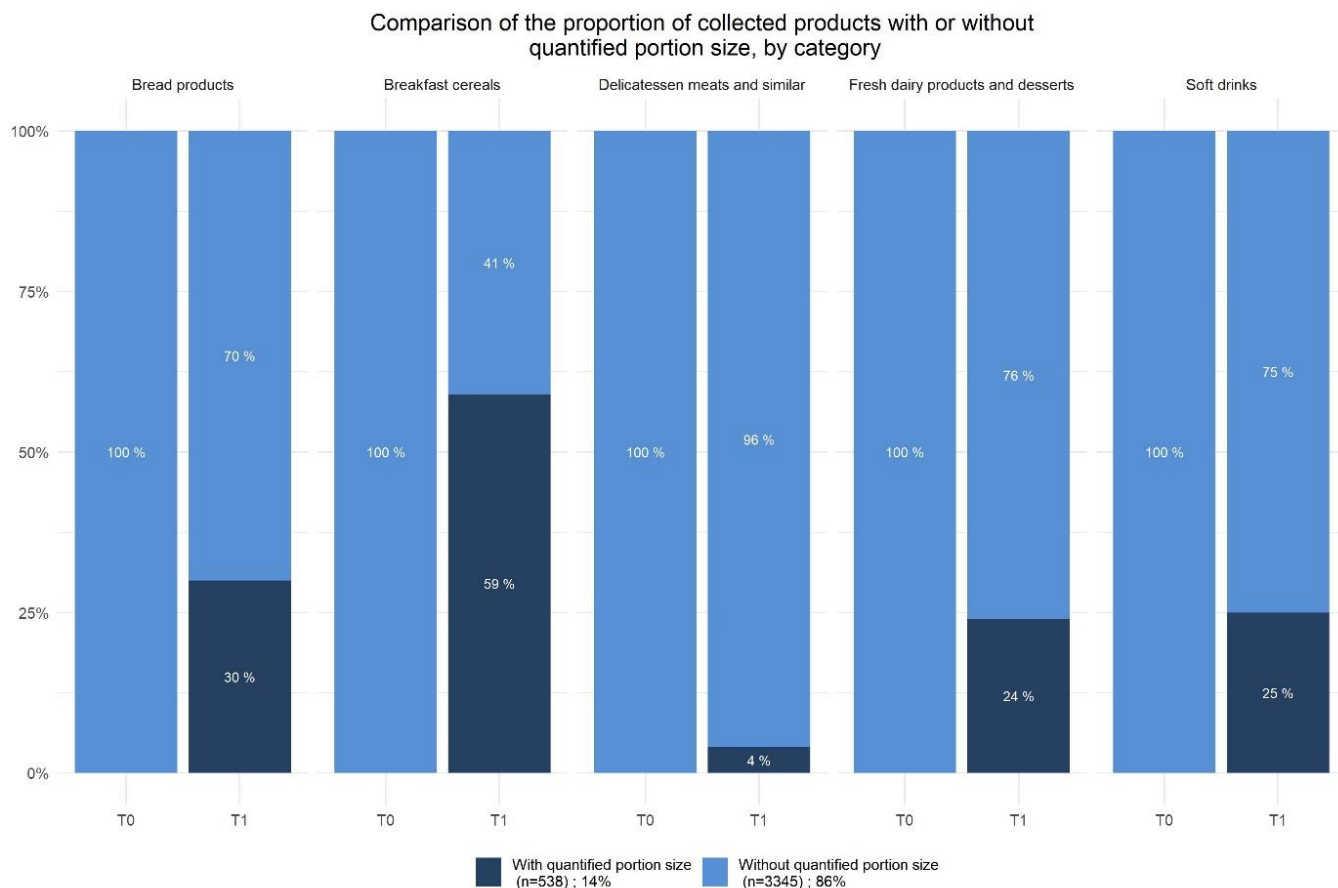


Figure 14 : Evolution of the proportion of collected products with or without quantified portion size, between T0 and T1, per category

It should be noted that quantified portion size was not collected for T0, meaning that comparisons between T0 and T1 are not relevant.

In 2022 (T1 data collection) Breakfast cereals has the highest percentage of products with a quantified portion size (59%). Almost a third of the Bread products (30%) and a quarter of the Soft drinks (25%) and Fresh dairy products and desserts (24%) have a portion size indicated on the product packaging. The food category with the least percent of quantified portion size is the Delicatessen meats and similar (Figure 14).

2.2.2 Proportion of the most represented portion sizes, per category

The study of the size of quantified labelled portion sizes at both times is an indicator of the evolution of the serving sizes indicated by the manufacturers. The evolution of this parameter can potentially influence the quantities consumed and therefore the intake of nutrients.

2.2.2.1 Bread products

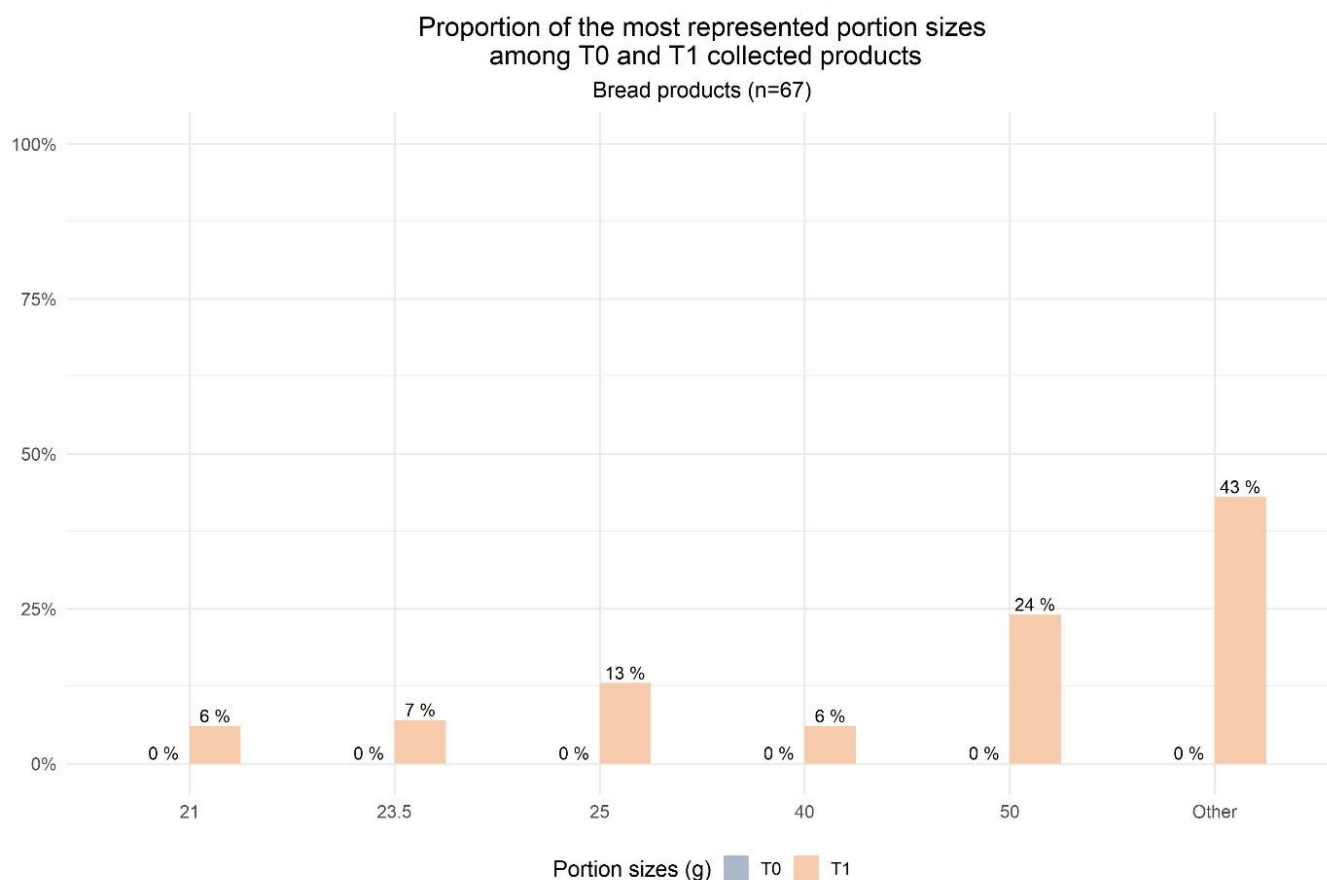


Figure 15 : Distribution of the size of the 5 most represented quantified portions in 2020 (T0) and 2022 (T1) in Bread products category

In the pre-existing data, portion sizes were not available; therefore, the comparisons between the two snapshots cannot be carried out.

In 2022 for Bread products, the 5 most frequent portion sizes ranged from 21g to 50g. The most common portion size among the 5 most frequent is 50g (24% of products) (Figure 15).

2.2.2.2 Breakfast cereals

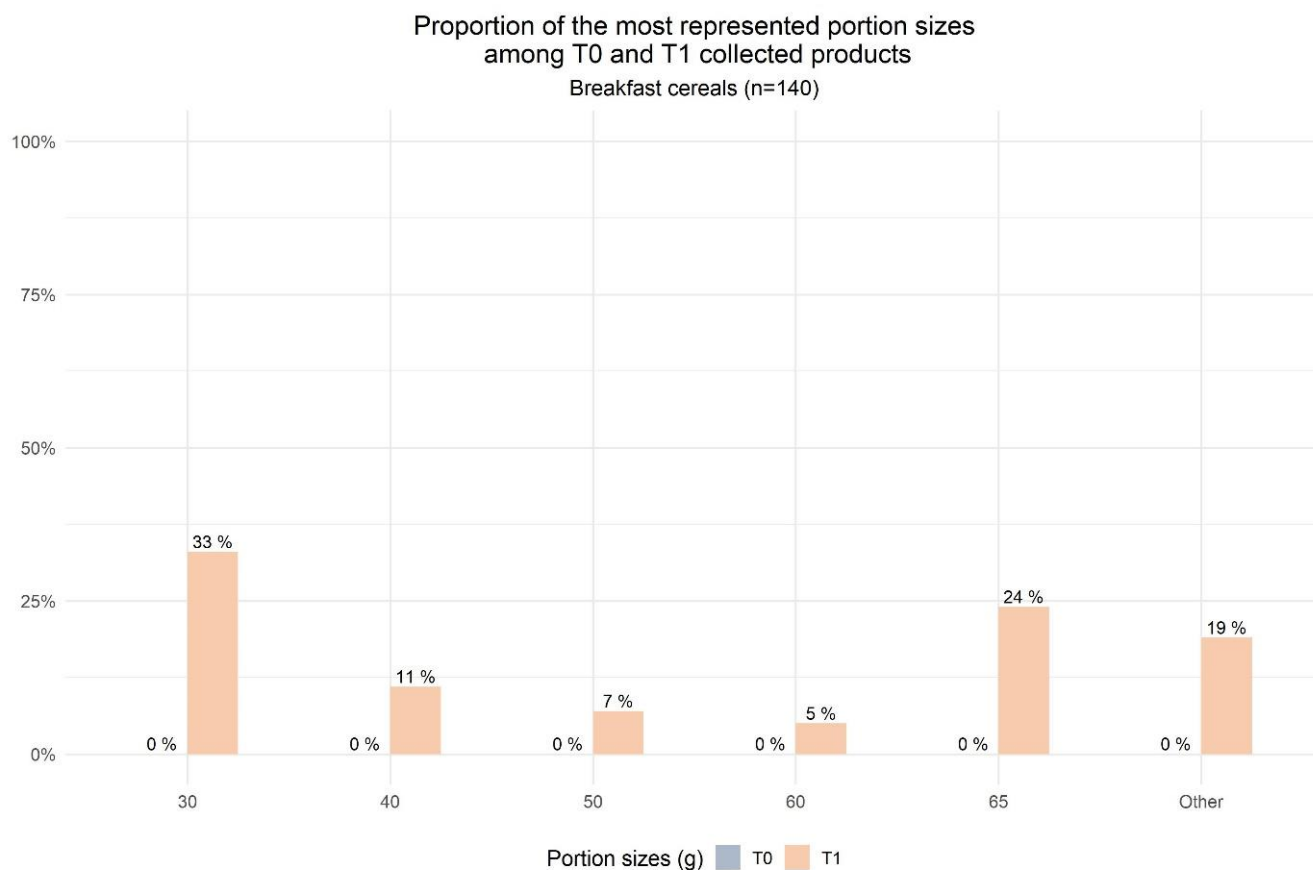


Figure 16 : Distribution of the size of the 5 most represented quantified portions in 2020 (T0) and 2022 (T1) in Breakfast cereals category

In the pre-existing data, portion sizes were not available; therefore, the comparisons between the two snapshots cannot be carried out.

In 2022, the 5 most frequent portions ranged from 30g to 65g. The most common portion size among the 5 most frequent is 30g (33% of products) (Figure 16).

2.2.2.3 Delicatessen meats and similar

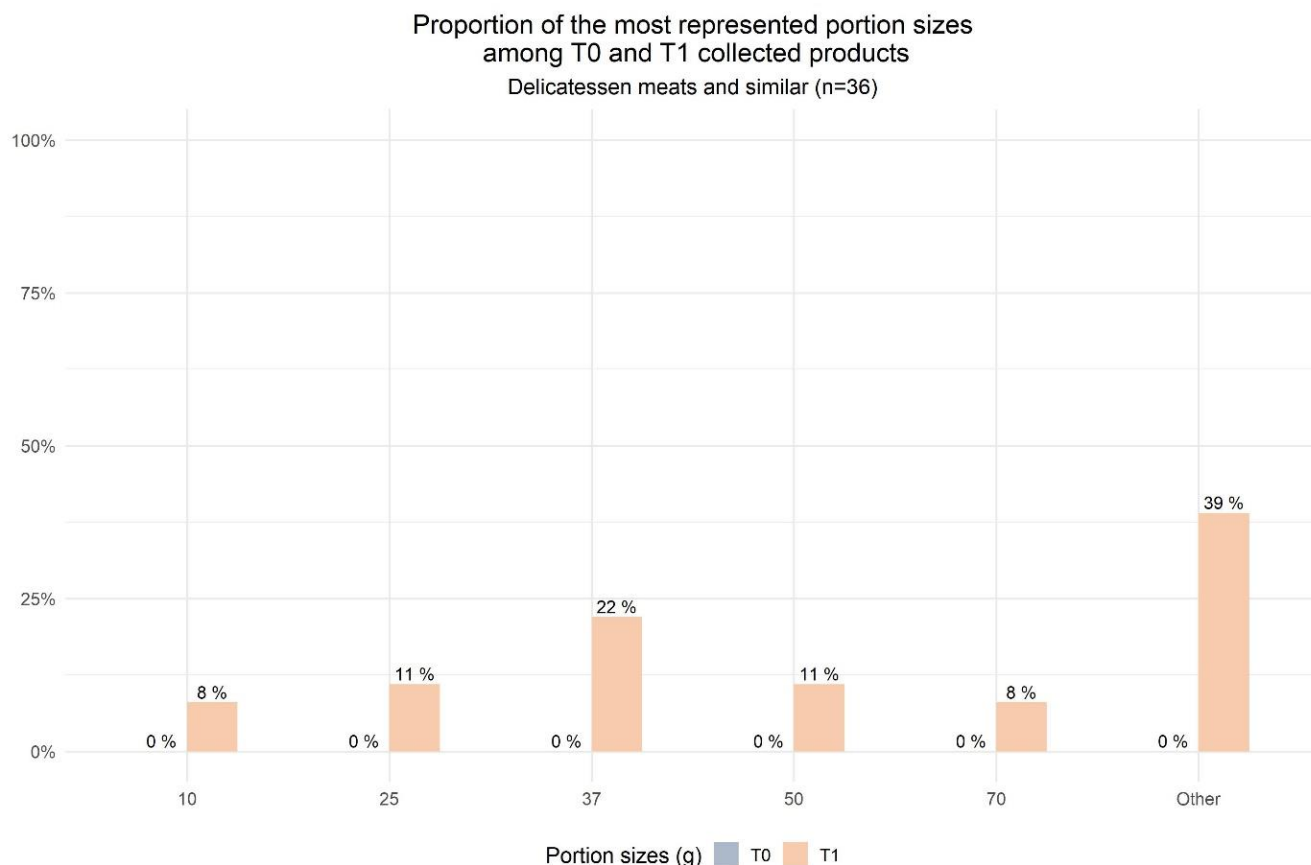


Figure 17 : Distribution of the size of the 5 most represented quantified portions in 2020 (T0) and 2022 (T1) in Delicatessen meats and similar category

In the pre-existing data, portion sizes were not available; therefore, the comparisons between the two snapshots cannot be carried out.

Overall, it appears that the five most represented portion sizes are ranging from 10 to 70 g in 2022 (T1) for Delicatessen meats and similar. The most common portion size among the 5 most frequent is 37g (22% of products) (Figure 17).

2.2.2.4 Fresh dairy products and desserts

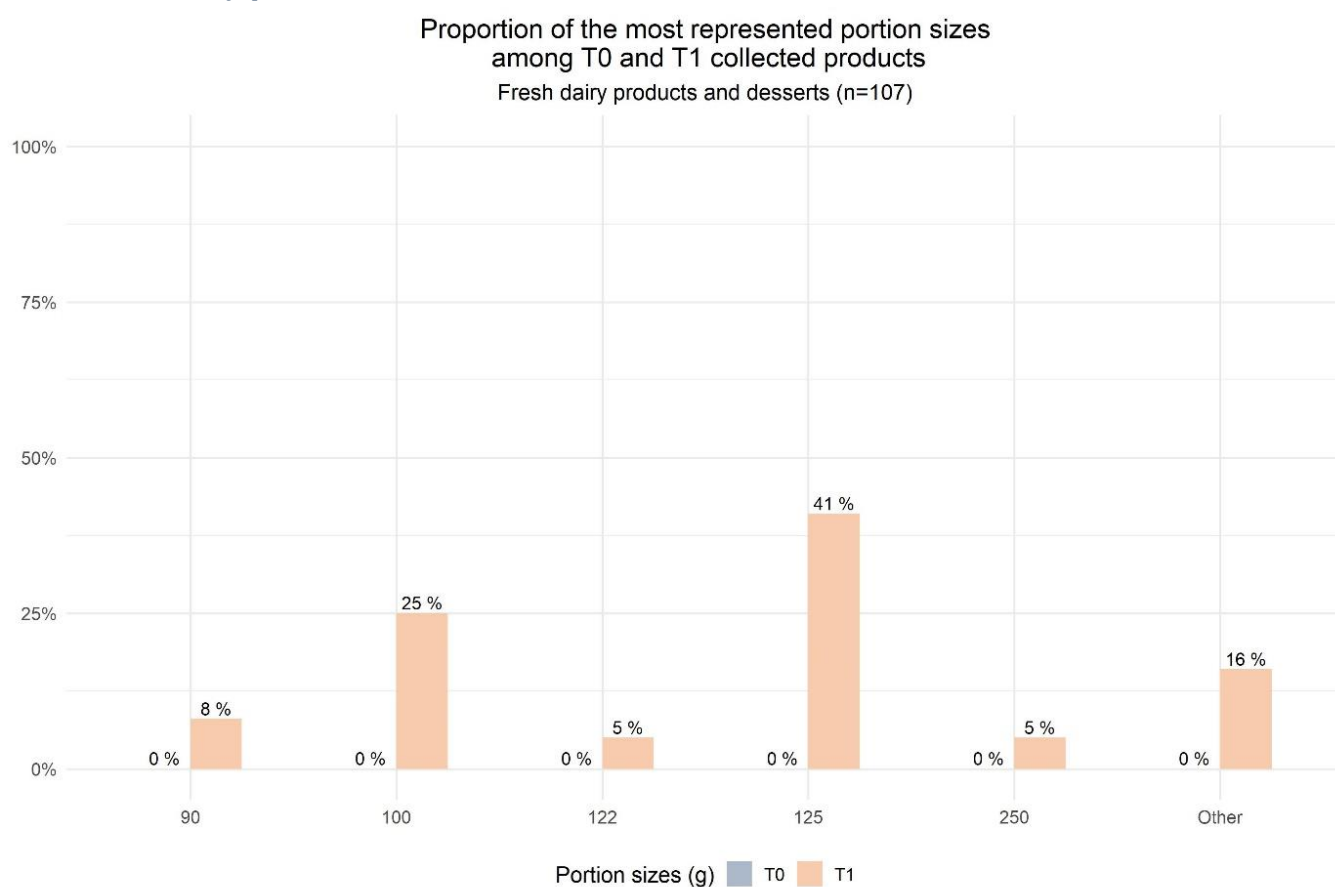


Figure 18 : Distribution of the size of the 5 most represented quantified portions in 2020 (T0) and 2022 (T1) in Fresh dairy products and desserts category

In the pre-existing data, portion sizes were not available; therefore, the comparisons between the two snapshots cannot be carried out.

Overall, it appears that the five most represented portion sizes are ranging from 90 to 250 g in 2022 (T1) for Fresh dairy products and desserts. The most common portion size among the 5 most frequent is 125g (41% of products) (Figure 18).

2.2.2.5 Soft drinks

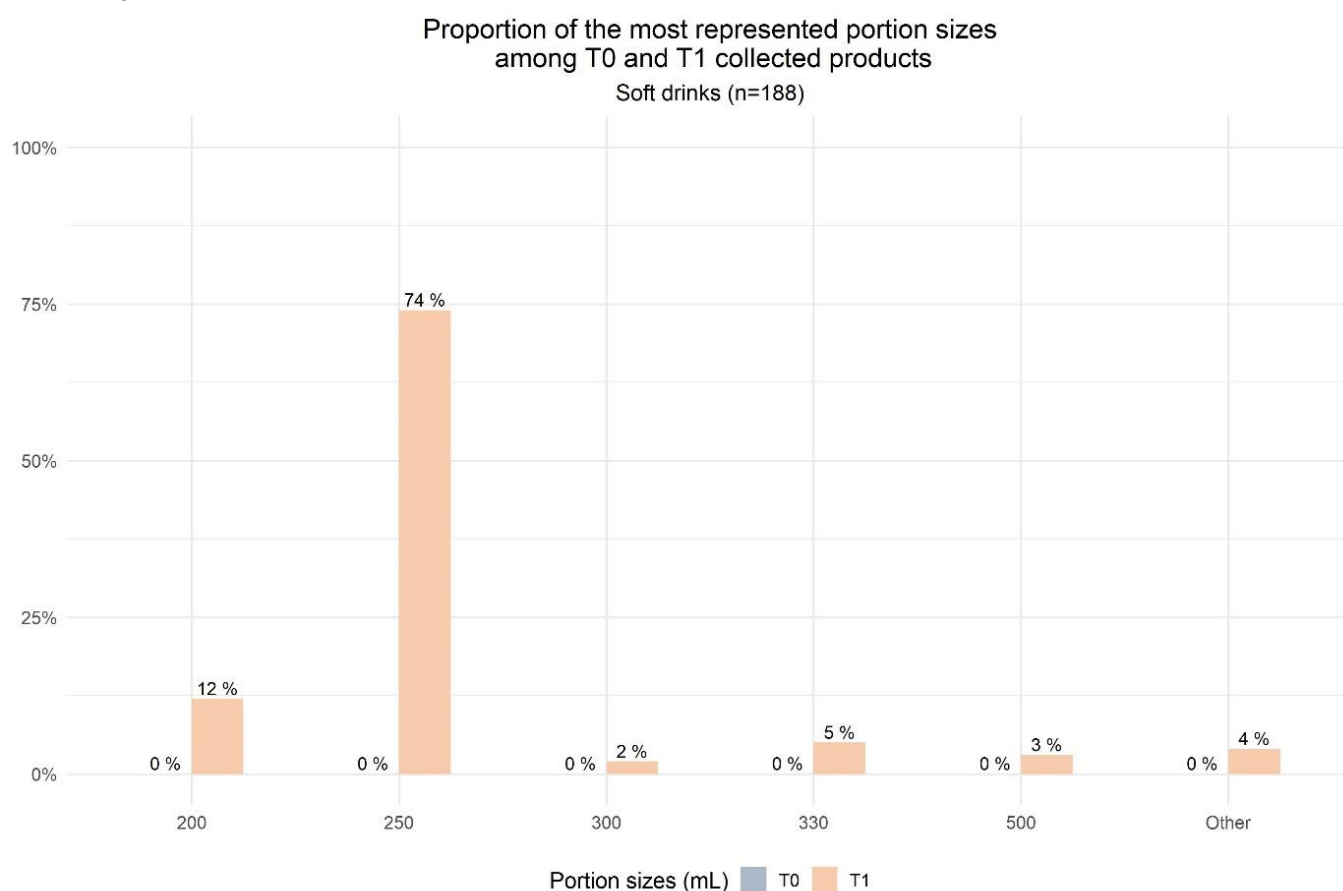


Figure 19 : Distribution of the size of the 5 most represented quantified portions in 2020 (T0) and 2022 (T1) in Soft Drink

In the pre-existing data, portion sizes were not available, therefore the comparisons between the two snapshots cannot be carried out.

The five most represented portion sizes are ranging from 200 to 500 ml in 2022 (T1) for Soft drinks. The most common portion size among the 5 most frequent is 250 mL (74% of products) (Figure 19).

3 Evolution of labelled nutritional values

3.1 Evolution of the labelling frequency

The first parameter examined is the frequency of nutritional values on the packages. The proportion of products with a nutritional value per nutrient and per category in the 2 collections is presented in Table 2.

Between the 2 data collections (T0:2020-T1:2022), the frequency of labelling remains systematic and constant for Protein, Fat, Saturated fat, Carbohydrates, Sugars and Salt For 4 categories: Bread products, Breakfast cereals, Delicatessen meats and similar, Fresh dairy products and desserts.

For the Soft drinks category, the lower percentage of labelled fat, saturated fat and protein content in T0 (2020) is because low nutritional values ("traces", "<0,01g", etc.) were not recorded during T0, therefore now in the analysis they are detected as missing label.

For fibre, the labelling is not mandatory and the lower labelling frequency in both snapshots reflect this fact. It is still possible to observe a decreasing trend in its labelling between T0 and T1 (-2% to -14%) for all categories except Bread products (Delta = 0).

Table 2 : Evolution of the frequency of nutrient labelling among the categories

	Fat			Saturated fat			Sugar		
Category_name	T0	T1	Delta	T0	T1	Delta	T0	T1	Delta
Bread products (T0 : n=77 ; T1 : n=226)	100%	99%	-1	100%	99%	-1	100%	99%	-1
Breakfast cereals (T0 : n=204 ; T1 : n=237)	100%	96%	-4	100%	96%	-4	100%	96%	-4
Delicatessen meats and similar (T0 : n=595 ; T1 : n=879)	100%	100%	0	100%	99%	-1	100%	99%	-1
Fresh dairy products and desserts (T0 : n=147 ; T1 : n=454)	100%	100%	0	100%	100%	0	100%	100%	0
Soft drinks (T0 : n=305 ; T1 : n=759)	89%	100%	+11	89%	100%	+11	99%	100%	+1

	Protein			Salt			Fibre		
Category_name	T0	T1	Delta	T0	T1	Delta	T0	T1	Delta
Bread products (T0 : n=77 ; T1 : n=226)	100%	99%	-1	100%	99%	-1	77%	77%	0
Breakfast cereals (T0 : n=204 ; T1 : n=237)	100%	96%	-4	100%	96%	-4	95%	93%	-2
Delicatessen meats and similar (T0 : n=595 ; T1 : n=879)	100%	99%	-1	100%	99%	-1	15%	1%	-14
Fresh dairy products and desserts (T0 : n=147 ; T1 : n=454)	100%	100%	0	100%	100%	0	17%	13%	-4
Soft drinks (T0 : n=305 ; T1 : n=759)	89%	100%	+11	94%	100%	+6	19%	10%	-9

3.2 Evolution of the nutritional composition, by category

3.2.1 Bread products

The nutrients considered for the analysis of the evolution of the nutritional content of the Bread products are: Fat, Saturated fat, Sugar, Salt and Fibre.

3.2.1.1 Evolution of the fat content among the subcategories

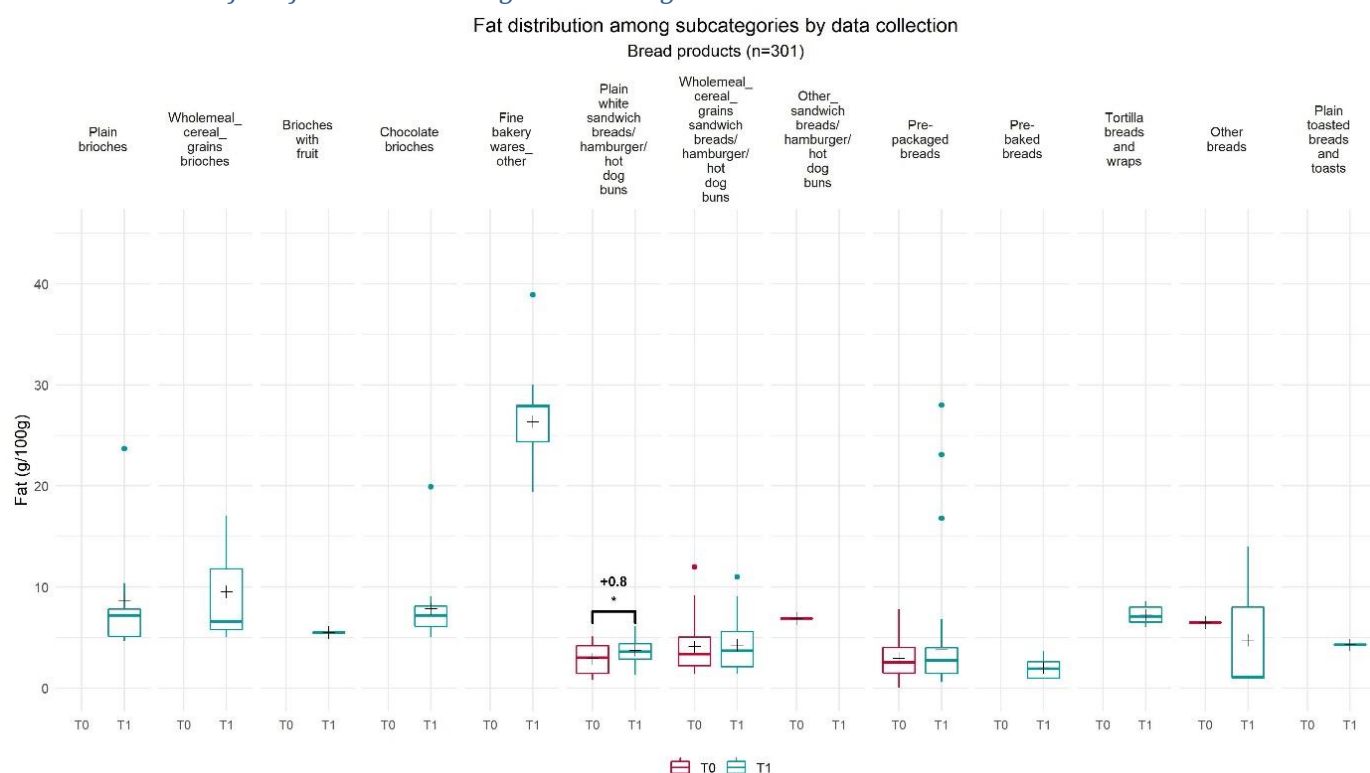


Figure 20 : Evolution of fat distribution among subcategories of Bread products¹

Figure 20 shows the fat distribution of Bread products between 2020 (T0) and 2022 (T1) by subcategories. Regarding the 13 subcategories, the average fat content has significantly increased in only one subcategory: Plain white sandwich breads/hamburger/hot dog buns (+0.8g/100g; +27.9%).

The subcategories including products with the most variable fat content in 2022 (T1), meaning room for reformulation, are: Pre-packaged breads (n=60); Fine bakery wares_other (n=34); Plain brioches (n=9); Chocolate brioches (n=13); Wholemeal_cereal_grains brioches (n=3); Other breads (n=6).

It has to be mentioned that, in the pre-existing data (T0), only a small number of subcategories are represented because data collection in 2020 (T0) was carried out in the framework of another project which had different aims and methods than in Best-ReMaP. This is the explanation for the fact that there was no data in some subcategories in 2020 (T0).

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.1.2 Evolution of the fat content for paired products

Table 3 summarizes the difference in the average fat content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation). No significant difference is observed at the level of paired products.

Subcategory_name	Fat					
	All products			Paired products		
	Mean T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Plain brioches	8.7					
Wholemeal_cereal_grains brioches	9.5					
Cream-filled brioches						
Brioches with fruit	5.5					
Chocolate brioches	7.9					
Fine bakery wares_croissants						
Fine bakery wares_chocolate croissants						
Fine bakery wares_other	26.4					
Plain white sandwich breads / hamburger /hot dog buns	3.7	+0.8*	+27.9 %	3.4	+0.02	+0.7 %
Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns	4.2	+0.1	+3.4 %	3.5	-0.5	-11.6 %
Other_sandwich breads / hamburger / hot dog buns						
Pre-packaged breads	3.9	+0.9	+31%	2.3	-0.5	-19.5 %
Pre-baked breads	2					
Tortilla breads and wraps	7.2					
Unleavened breads						
Other breads	4.8	-2	-26.9 %			
Plain toasted breads and toasts	4.3					
Wholemeal_cereal_grains toasted breads and toasts						

Table 3 : Summary of the evolution of the average fat content for Bread products, by subcategory ¹

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.1.3 Evolution of the saturated fat content among the subcategories

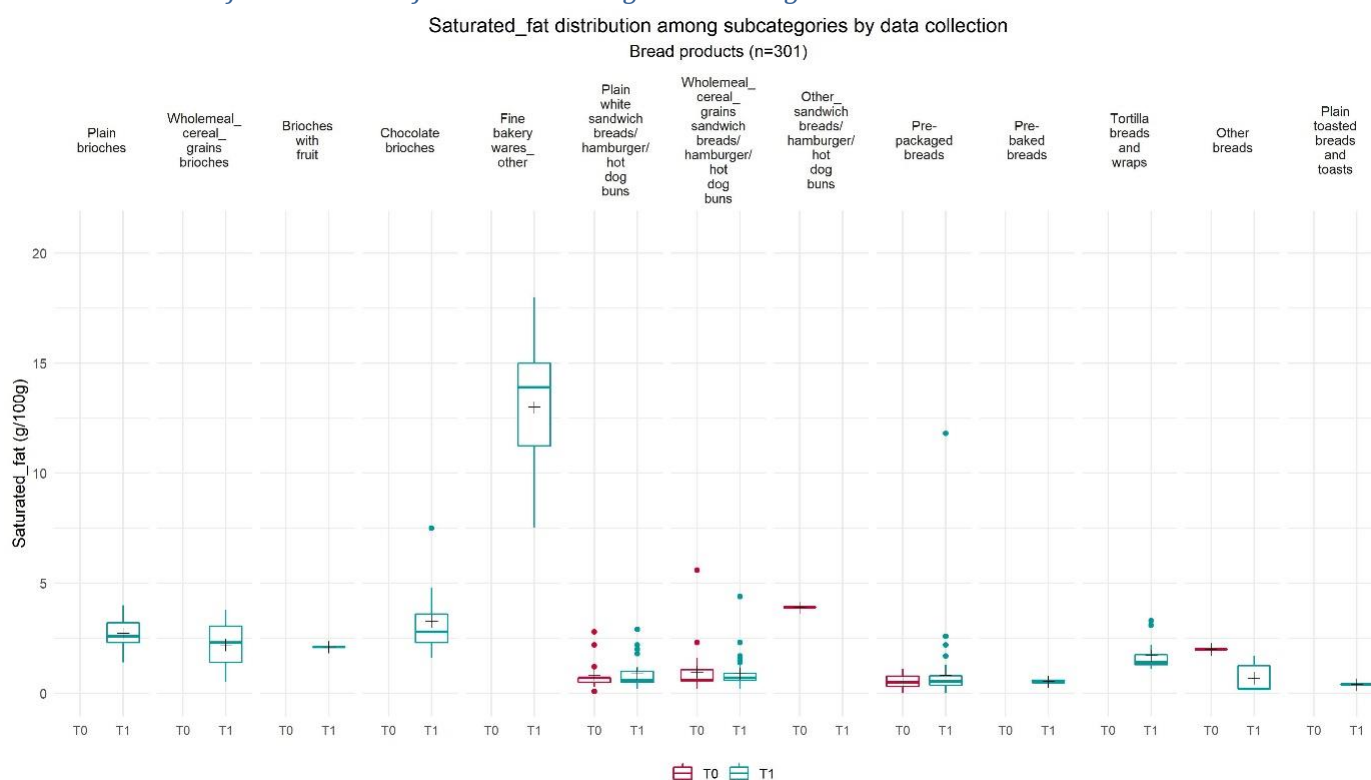


Figure 21 : Saturated fat distribution among subcategories of Bread products¹

Figure 21 shows the saturated fat distribution of Bread products between 2020 (T0) and 2022 (T1) by subcategories. Regarding the 13 subcategories, the average saturated fat content has not changed significantly.

The subcategory including products with the most variable saturated fat content in 2022 (T1), meaning room for reformulation, are: Pre-packaged breads (n=60) and Fine bakery wares_other (n=34).

In the pre-existing data (T0), only a small number of subcategories are represented because the data collection in 2020 (T0) was carried out in the framework of another project which had different aims and methods. This is the explanation for the fact that there was no data in some subcategories in 2020 (T0).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.1.4 Evolution of the saturated fat content for paired products

Table 34 summarizes the difference in the average saturated fat content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation). No significant

Subcategory_name	Saturated fat					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Plain brioches	2.7					
Wholemeal_cereal_grains brioches	2.2					
Cream-filled brioches						
Brioches with fruit	2.1					
Chocolate brioches	3.3					
Fine bakery wares_croissants						
Fine bakery wares_chocolate croissants						
Fine bakery wares_other	13					
Plain white sandwich breads / hamburger /hot dog buns	0.9	+0.05	+6.1 %	1.3	+0.1	+8.3 %
Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns	0.9	-0.07	-7.3 %	0.8	-0.1	-11%
Other_sandwich breads / hamburger / hot dog buns						
Pre-packaged breads	0.8	+0.3	+58.1 %	0.8	+0.1	+21.2 %
Pre-baked breads	0.5					
Tortilla breads and wraps	1.7					
Unleavened breads						
Other breads	0.7	-1	-65.8 %			
Plain toasted breads and toasts	0.4					
Wholemeal_cereal_grains toasted breads and toasts						

difference is observed at the level of paired products.

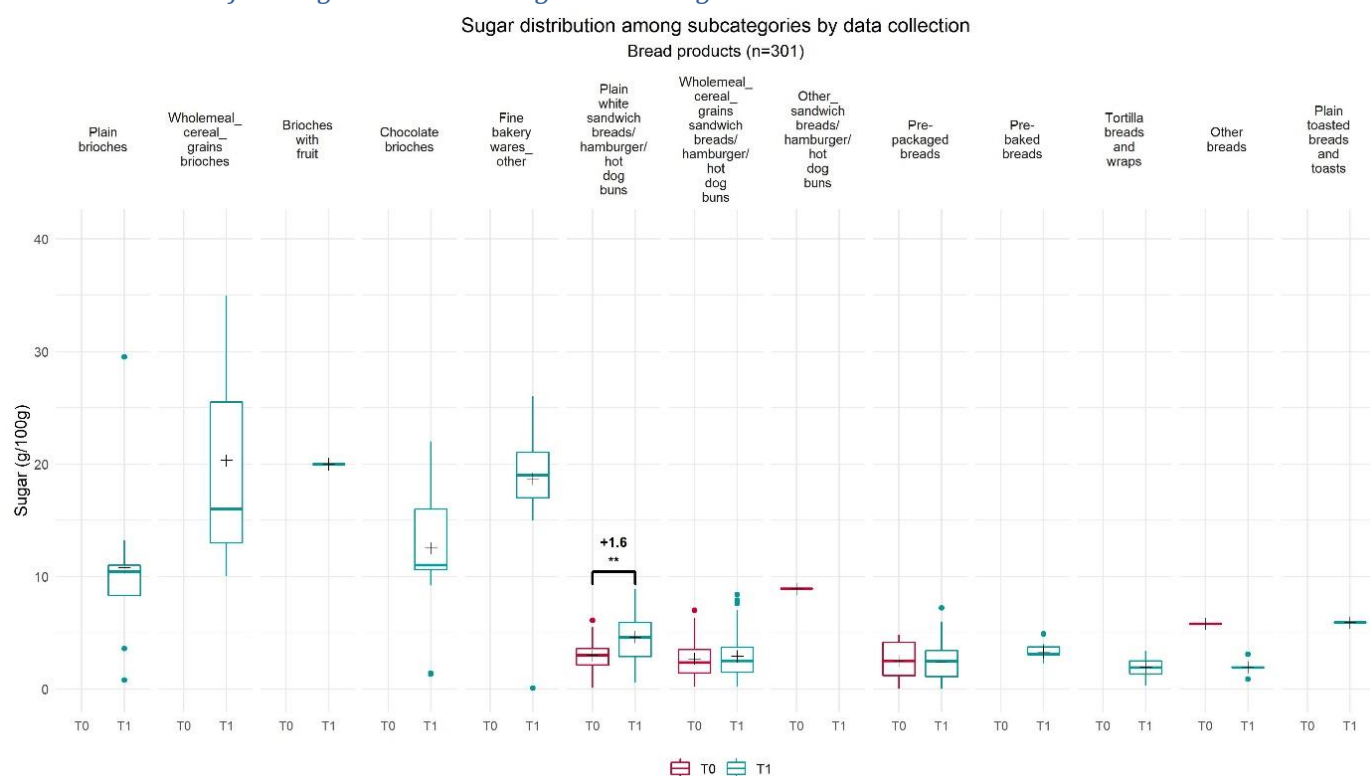
Table 4 : Summary of the evolution of the average saturated fat content for Bread products, by subcategory¹**3.2.1.5 Evolution of the sugar content among the subcategories****Figure 22 : Sugar distribution among subcategories of Bread products²**

Figure 22 shows the sugar distribution of Bread products between 2020 (T0) and 2022 (T1) by subcategories. Among the 13 subcategories considered, the average sugar content has significantly increased for one subcategory: Plain white sandwich breads / hamburger /hot dog buns (+1.6g/100g; +54.5%).

The variability differs according to the subcategories but remains globally constant between the two times (when data from both data collection is available) within a same subcategory. The subcategories including products with the most variable sugar content in 2022 (T1), meaning room for reformulation, are: Wholemeal_cereal_grains brioches (n=3); Chocolate brioches (n=13); Fine bakery wares_other (n=34); Plain brioches (n=9).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)
 Purple box: significant decrease in average content ; Yellow box : significant increase in average content

² Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.1.6 Evolution of the sugar content for paired products

Table 35 summarizes the difference in the average sugar content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation). No significant difference is observed at the level of paired products.

Table 5 : Summary of the evolution of the average sugar content for Bread products, by subcategory¹

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)
Purple box: significant decrease in average content ; Yellow box : significant increase in average content

	Sugar					
	All products			Paired products		
Subcategory_name	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean value evolution (%)
Plain brioches	10.8					
Wholemeal_cereal_grains brioches	20.3					
Cream-filled brioches						
Brioches with fruit	20					
Chocolate brioches	12.5					
Fine bakery wares_croissants						
Fine bakery wares_chocolate croissants						
Fine bakery wares_other	18.7					
Plain white sandwich breads / hamburger /hot dog buns	4.6	+2**	+54.5 %	3.1	-0.1	-3.1 %
Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns	2.9	+0.2	+8.4 %	2.8	+0.6	+25.6 %
Other_sandwich breads / hamburger / hot dog buns						
Pre-packaged breads	2.4	-0.1	-5.6 %	2	+0.7	+46.8 %
Pre-baked breads	3.3					
Tortilla breads and wraps	1.9					
Unleavened breads						
Other breads	2	-4	-66.4 %			
Plain toasted breads and toasts	5.9					
Wholemeal_cereal_grains toasted breads and toasts						

3.2.1.7 Evolution of the fibre content among the subcategories

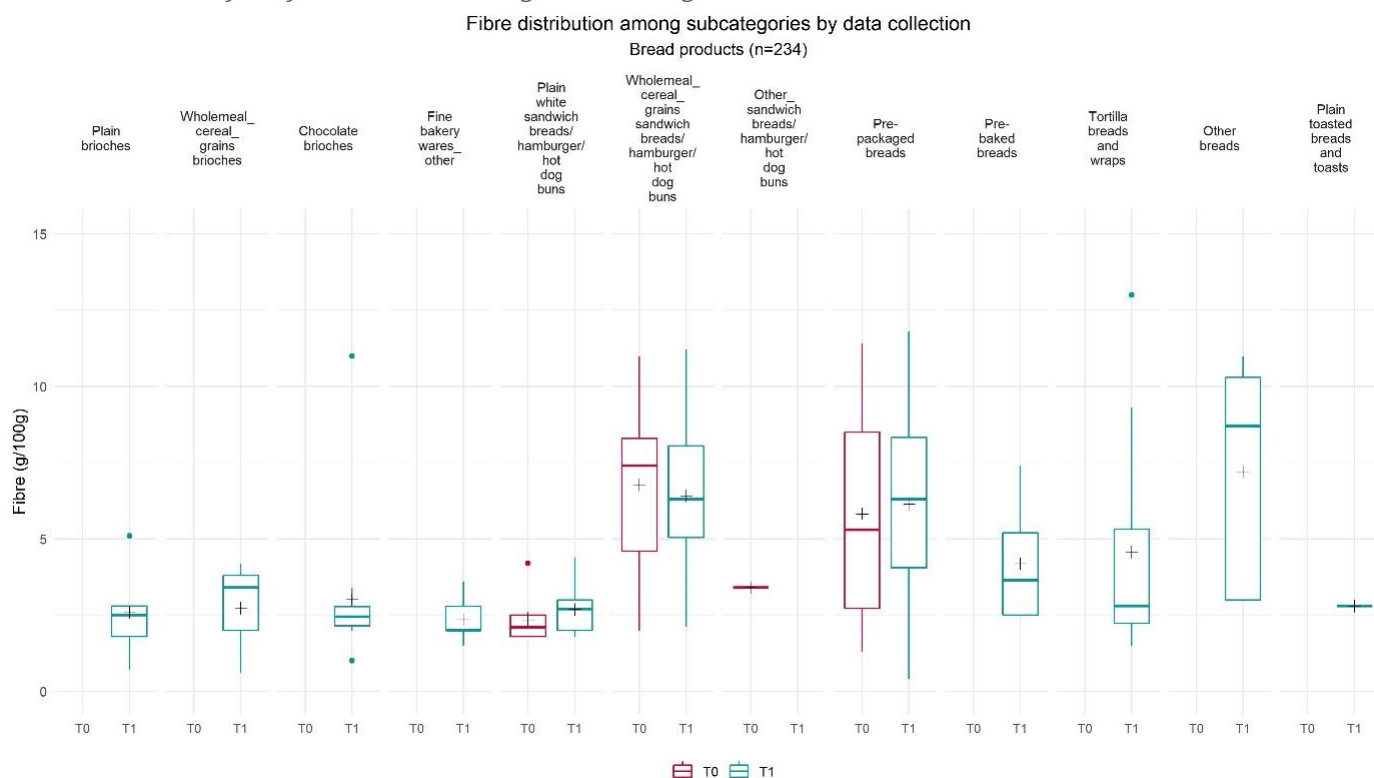


Figure 23 : Fibre distribution among subcategories of Bread products¹

Figure 23 shows the fibre distribution of Bread products between 2020 (T0) and 2022 (T1) by subcategories. Regarding the 13 subcategories, the average fibre content has not changed significantly.

The variability differs according to the subcategories but remains globally constant between the two times (where we had data from both data collection) within a same subcategory. The subcategories including products with the most variable fibre content in 2022 (T1), meaning room for reformulation, are: Wholemeal_cereal_grains sandwich breads/hamburger/hot dog buns (n=43); Pre-packaged breads (n=52); Tortilla breads and wraps (n=10); Other breads (n=5); Chocolate brioches (n=12). Pre-packaged breads (n=18) and Wholemeal_cereal_grains sandwich breads/hamburger/hot dog buns (n=29) are also part of the sub-categories with the most variable fibre content in 2020 (T0).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.1.8 Evolution of the fibre content for paired products

The

Table 3 summarizes the difference in the average fibre content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

Subcategory_name	Fibre					
	All products			Paired products		
	Mean.T 1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T 1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Plain brioches	2.6					
Wholemeal_cereal_grains brioches	2.7					
Cream-filled brioches						
Brioches with fruit						
Chocolate brioches	3					
Fine bakery wares_croissants						
Fine bakery wares_chocolate croissants						
Fine bakery wares_other	2.4					
Plain white sandwich breads / hamburger / hot dog buns	2.7	+0.4	+16.6 %	2.1	-0.08	-3.4 %
Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns	6.4	-0.4	-5.4 %	7.7	-0.6	-7.5 %
Other_sandwich breads / hamburger / hot dog buns						
Pre-packaged breads	6.1	+0.3	+5.5 %	6	+2	+69.5 %
Pre-baked breads	4.2					
Tortilla breads and wraps	4.6					
Unleavened breads						
Other breads	7.2					
Plain toasted breads and toasts	2.8					
Wholemeal_cereal_grains toasted breads and toasts						
Other bread products						

No significant difference is observed at the level of paired products.

Table 6 : Summary of the evolution of the average fibre content for Bread products, by subcategory ¹

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.1.9 Evolution of the salt content among the subcategories

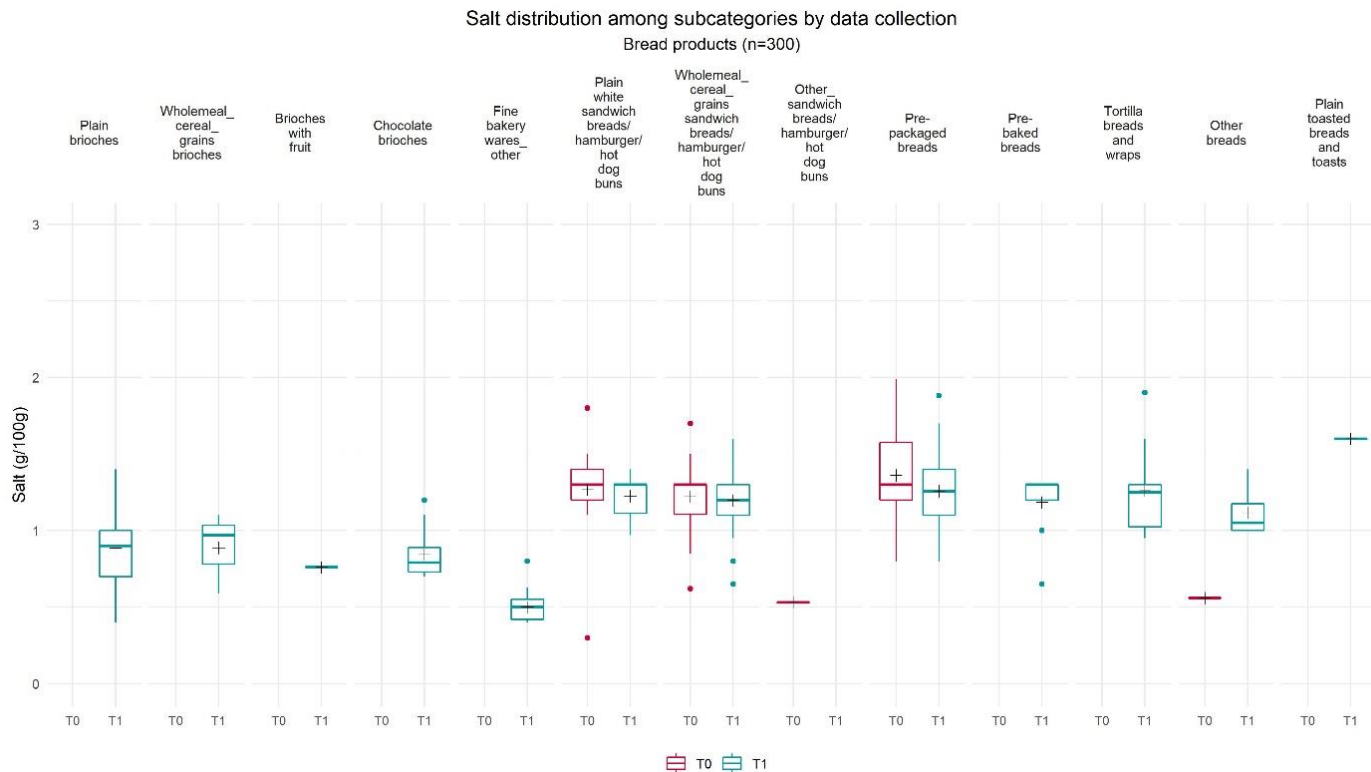


Figure 24 : Salt distribution among subcategories of Bread products¹

Figure 24 shows the salt distribution of Bread products between 2020 (T0) and 2022 (T1) by subcategories. The average salt content has not changed significantly in any subcategory of the Bread products category.

The subcategories including products with the most variable salt content in 2022 (T1), meaning room for reformulation, are: Plain brioches (n=9); Wholemeal_cereal_grains sandwich breads/hamburger/hot dog buns (n=44); Pre-packaged breads (n=60); Tortilla breads and wraps (n=14). Pre-packaged breads (n=22) and Wholemeal_cereal_grains sandwich breads/hamburger/hot dog buns (n=33) are also part of the sub-categories with the most variable fibre content in 2020 (T0).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.1.10 Evolution of the salt content for paired products

Table 37 summarizes the difference in the average salt content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation). No significant difference is observed at the level of paired products.

Subcategory_name	Salt					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Plain brioches	0.88					
Wholemeal_cereal_grains brioches	0.89					
Cream-filled brioches						
Brioches with fruit	0.76					
Chocolate brioches	0.84					
Fine bakery wares_croissants						
Fine bakery wares_chocolate croissants						
Fine bakery wares_other	0.5					
Plain white sandwich breads / hamburger /hot dog buns	1.23	-0.042	-3.34 %	1.27	-0.02	-1.54 %
Wholemeal_cereal_grains sandwich breads / hamburger / hot	1.2	-0.024	-1.95 %	1.23	-0.053	-4.12 %
Other_sandwich breads / hamburger / hot dog buns						
Pre-packaged breads	1.26	-0.1	-7.51 %	1.33	-0.27	-16.77 %
Pre-baked breads	1.19					
Tortilla breads and wraps	1.26					
Unleavened breads						
Other breads	1.12	+0.56	+99.4 %			
Plain toasted breads and toasts	1.6					
Wholemeal_cereal_grains toasted breads and toasts						

Table 7 : Summary of the evolution of the average salt content for Bread products, by subcategory ¹

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.2 Breakfast cereals

The nutrients considered for the analysis of the evolution of Breakfast cereals category are: Fat, Saturated fat, Sugars, Salt and Fibre.

3.2.2.1 Evolution of the fat content among the subcategories

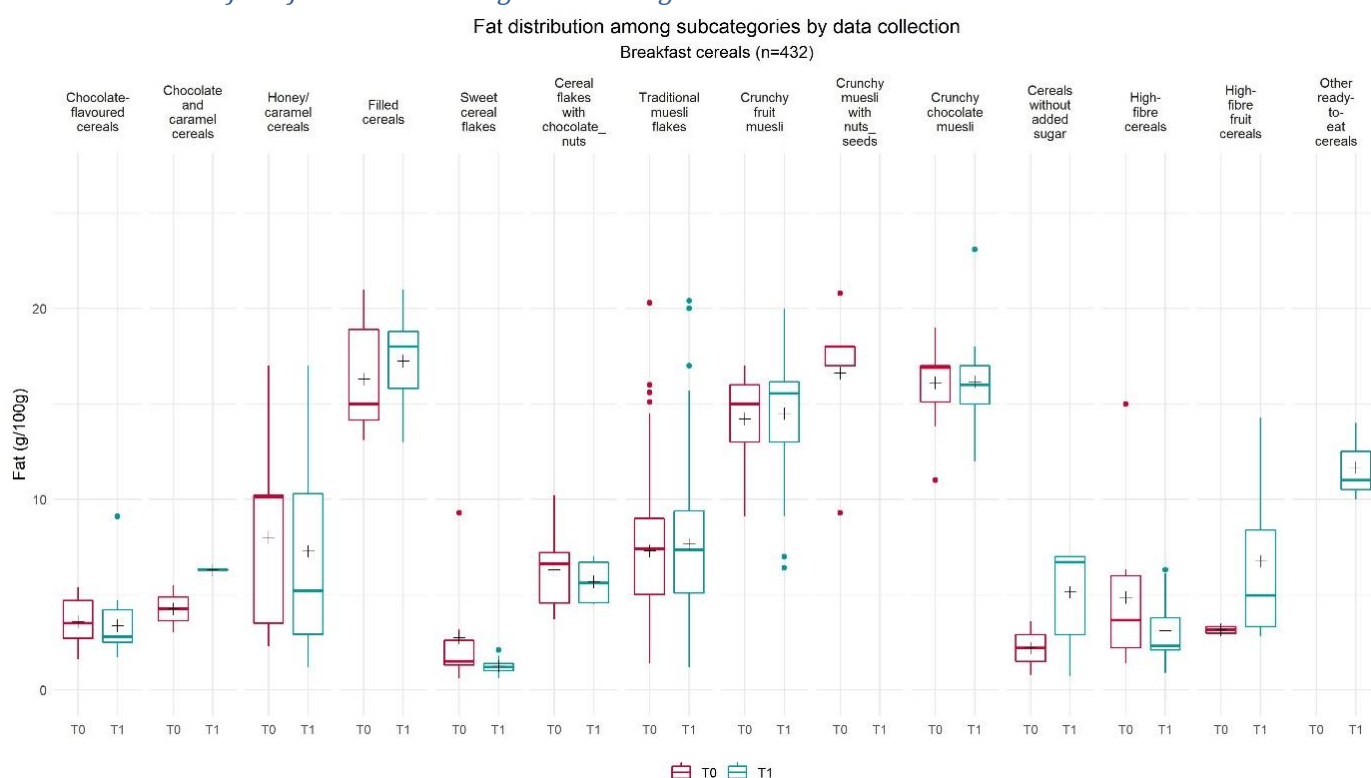


Figure 25 : Fat distribution among subcategories of Breakfast cereals¹

Figure 25 shows the fat distribution of Breakfast cereals between 2020 (T0) and 2022 (T1) by subcategories. The average fat content has not changed significantly in any subcategory of the Breakfast cereals.

The subcategories including products with the most variable fat content at both times, meaning room for reformulation, are: Honey/caramel cereals (2020, n=9; 2022, n=14); Traditional muesli flakes (2020, n=89; 2022, n=84); Crunchy fruit muesli (2020, n=15; 2022, n=20).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Cereals without added sugar (2020, n=3; 2022, n=11); High-fibre fruit cereals (2020, n=2; 2022: n=4).

Purple box: significant decrease in average content ; Yellow box : significant increase in average content
¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.2.2 Evolution of the fat content for paired products

The

Table 38 summarizes the difference in the average fat content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Subcategory_name	Fat					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	3.4	-0.2	-5.9 %	3.6	-0.1	-3%
Chocolate and caramel cereals	6.3	+2	+48.2 %	6.3	+0.8	+14.5 %
Honey/caramel cereals	7.3	-0.7	-9%	8.2	-0.5	-5.7 %
Filled cereals	17.2	+0.9	+5.8 %	15.9	+0.3	+1.8 %
Sweet cereal flakes	1.2	-1	-54.6 %			
Cereal flakes with fruit						
Cereal flakes with chocolate_nuts	5.7	-0.6	-9.7 %	7	-0.6	-7.9 %
Traditional muesli flakes	7.6	+0.3	+4.7 %	7.1	+0.3	+3.8 %
Crunchy fruit muesli	14.5	+0.3	+2%	15.7	0	0%
Crunchy muesli with nuts_seeds						
Crunchy chocolate muesli	16.2	0.04	+0.3 %	16	-0.3	-1.5 %
Cereals without added sugar	5.1	+3	+133.5 %	2.2	0	0%
High-fibre cereals	3.1	-2	-35.8 %	6.3	0.3	5%
High-fibre fruit cereals	6.8	+4	+114.3 %	3.5	0	0%
Cereal preparation to drink						
Other ready-to-eat cereals	11.7					

Table 8 : Summary of the evolution of the average fat content for Breakfast cereals, by subcategory¹

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.2.3 Evolution of the saturated fat content among the subcategories

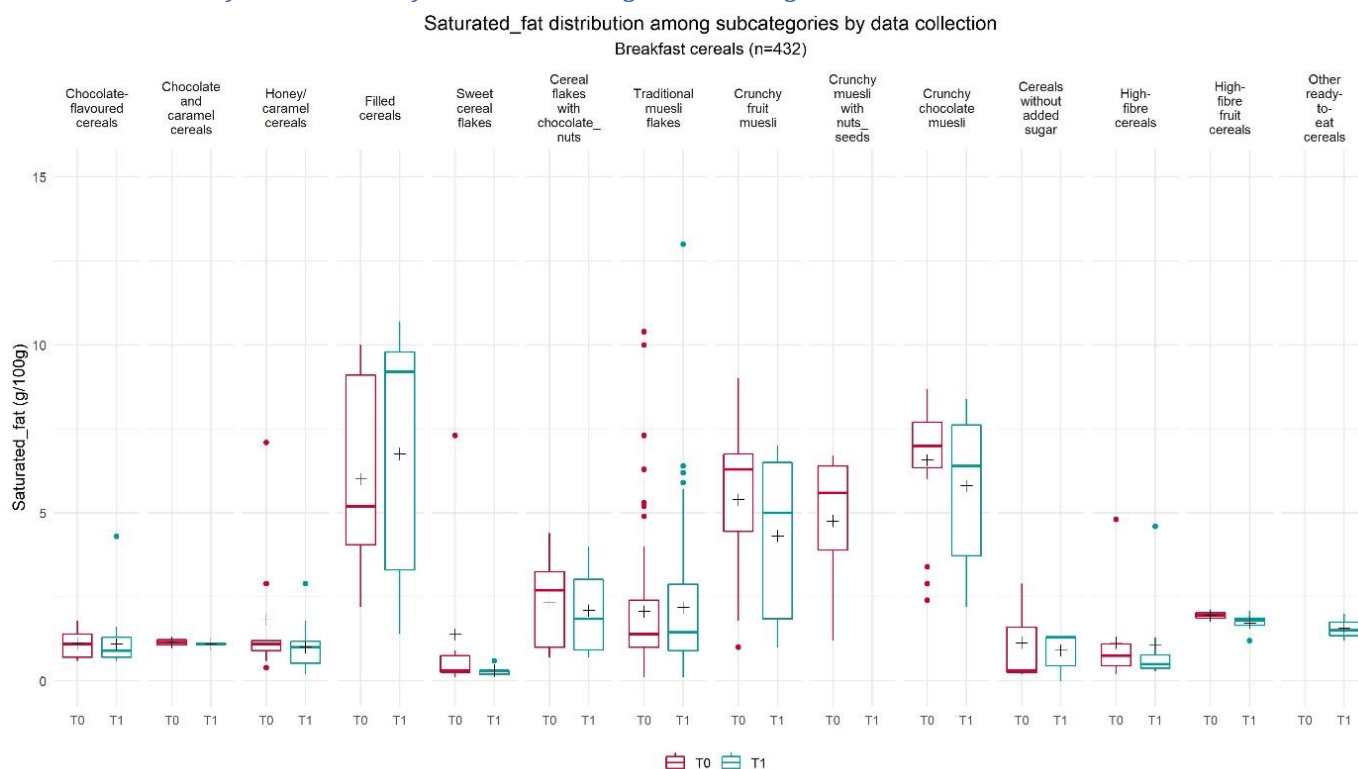


Figure 26 : Saturated fat distribution among subcategories of Breakfast cereals¹

Figure 26 shows the saturated fat distribution of Breakfast cereals between 2020 (T0) and 2022 (T1) by subcategories. The average saturated fat content has not changed significantly in any subcategory of the Breakfast cereals.

The subcategories including products with the most variable saturated fat content at both times, meaning room for reformulation, are: Filled cereals (2020, n=11; 2022, n=23); Traditional muesli flakes (2020, n=89; 2022, n=84); Crunchy fruit muesli (2020, n=15; 2022, n=20); Crunchy chocolate muesli (2020, n=19; 2022, n=22).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.2.4 Evolution of the saturated fat content for paired products

Table 39 summarizes the difference in the average saturated fat content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

	Saturated fat					
	All products			Paired products		
Subcategory_name	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	1.1	-0.03	-2.5 %	1.1	+0.02	+2.4 %
Chocolate and caramel cereals	1.1	-0.05	-4.3 %	1.1	+0.1	+10%
Honey/caramel cereals	1	-0.8	-44.7 %	1	-0.3	-25.8 %
Filled cereals	6.8	+0.8	+12.5 %	6	-0.08	-1.3 %
Sweet cereal flakes	0.3	-1	-76.7 %			
Cereal flakes with fruit						
Cereal flakes with chocolate_nuts	2.1	-0.2	-9.8 %	4	-0.4	-9.1 %
Traditional muesli flakes	2.2	+0.1	+6%	1.9	-0.02	-0.9 %
Crunchy fruit muesli	4.3	-1	-20.1 %	5.2	-0.03	-0.6 %
Crunchy muesli with nuts_seeds						
Crunchy chocolate muesli	5.8	-0.8	-11.6 %	6.5	-0.2	-3.1 %
Cereals without added sugar	0.9	-0.2	-19.5 %	0.3	0	0%
High-fibre cereals	1.1	-0.08	-6.8 %	1.3	0.2	18.2 %
High-fibre fruit cereals	1.7	-0.2	-11.5 %	2.1	0	0%
Cereal preparation to drink						
Other ready-to-eat cereals	1.6					

Table 9 : Summary of the evolution of the average saturated fat content for Breakfast cereals, by subcategory¹

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.2.5 Evolution of the sugar content among the subcategories

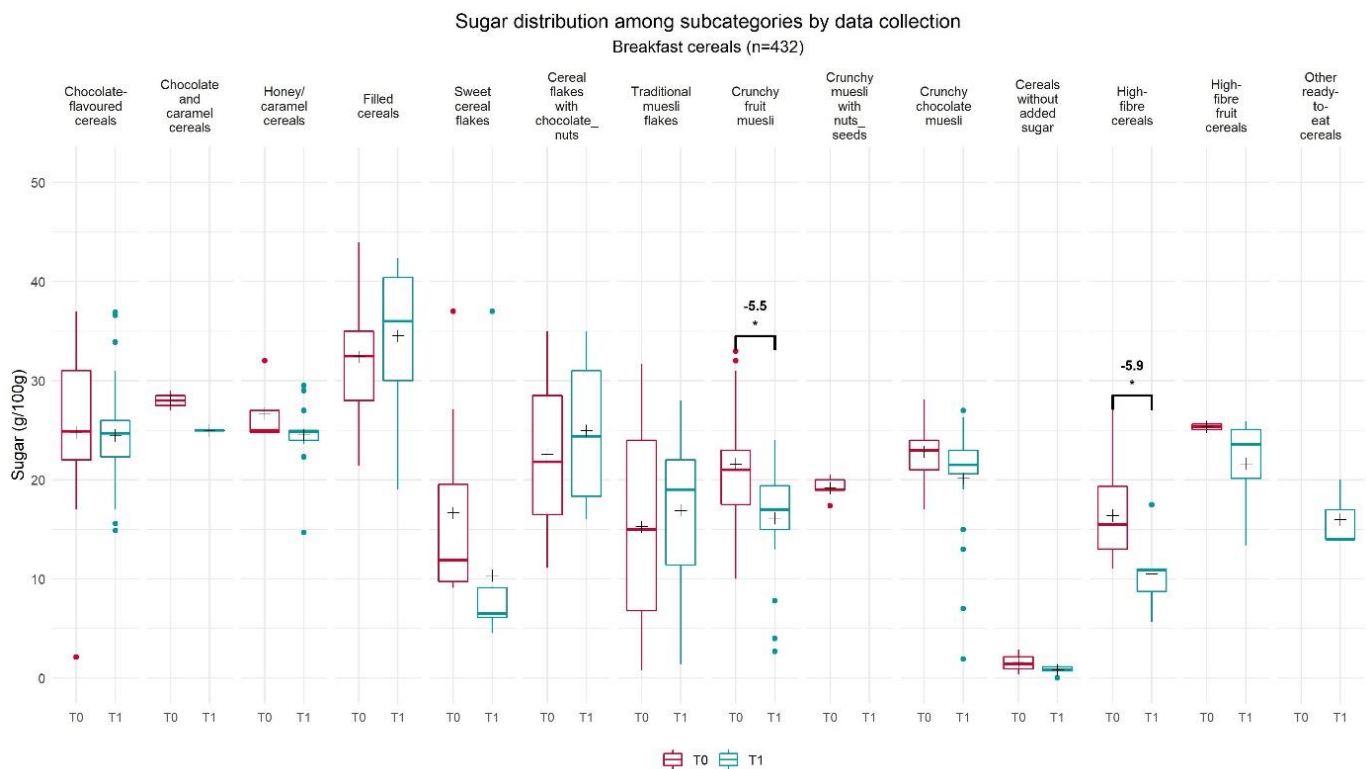


Figure 27 : Sugar distribution among subcategories of Breakfast cereals¹

Figure 27 shows the sugar distribution of Breakfast cereals between 2020 (T0) and 2022 (T1) by subcategories. Among the 14 subcategories considered, the average sugar content has significantly decreased for two subcategories: Crunchy fruit muesli (-5.5g/100g; -25.3%); High-fibre cereals (-5.9g/100g; -35.9%).

The subcategories including products with the most variable sugar content at both times, meaning room for reformulation, are: Sweet cereal flakes (2020, n=7; 2022, n=9); Traditional muesli flakes (2020, n=89; 2022, n=84); Filled cereals (2020, n=11; 2022, n=23); Chocolate-flavoured cereals (2020, n=25; 2022, n=25); Cereal flakes with chocolate_nuts (n=4); Crunchy fruit muesli (2020, n=15; 2022, n=20).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.2.6 Evolution of the sugar content for paired products

Table 310 summarizes the difference in the average sugar content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

A significant decrease is observed at the level of paired products for the subcategory Traditional muesli flakes (-0.02g/100g; -0.1%). For Crunchy fruit muesli and High-fibre cereals, a significant decrease of mean sugar content is observed at the subcategory level but the decrease observed for paired products is not significant.

Subcategory_name	Sugar					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	24.5	-0.3	-1.3 %	25.5	0	0%
Chocolate and caramel cereals	25	-3	-10.7 %	25	-2	-7.4 %
Honey/caramel cereals	24.5	-2	-8.1 %	24.2	-1	-4.3 %
Filled cereals	34.5	+2	+6.5 %	35.6	+1	+3.9 %
Sweet cereal flakes	10.3	-6	-38%			
Cereal flakes with fruit						
Cereal flakes with chocolate_nuts	25	+2	+10.6 %	19.1	-0.9	-4.5 %
Traditional muesli flakes	16.9	+2	+10.7 %	16.2	-0.02***	-0.1 %
Crunchy fruit muesli	16.1	-5*	-25.3 %	20.7	+0.3	+1.6 %
Crunchy muesli with nuts_seeds						
Crunchy chocolate muesli	20.1	-3	-11.8 %	21.8	-1	-4.4 %
Cereals without added sugar	0.8	-0.7	-47.2 %	1.4	0	0%
High-fibre cereals	10.5	-6*	-35.9 %	9	-10	-55%
High-fibre fruit cereals	21.6	-4	-14.7 %	25.9	0	0%
Cereal preparation to drink						
Other ready-to-eat cereals	16					

Table 10 : Summary of the evolution of the average sugar content for Breakfast cereals, by subcategory ¹

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

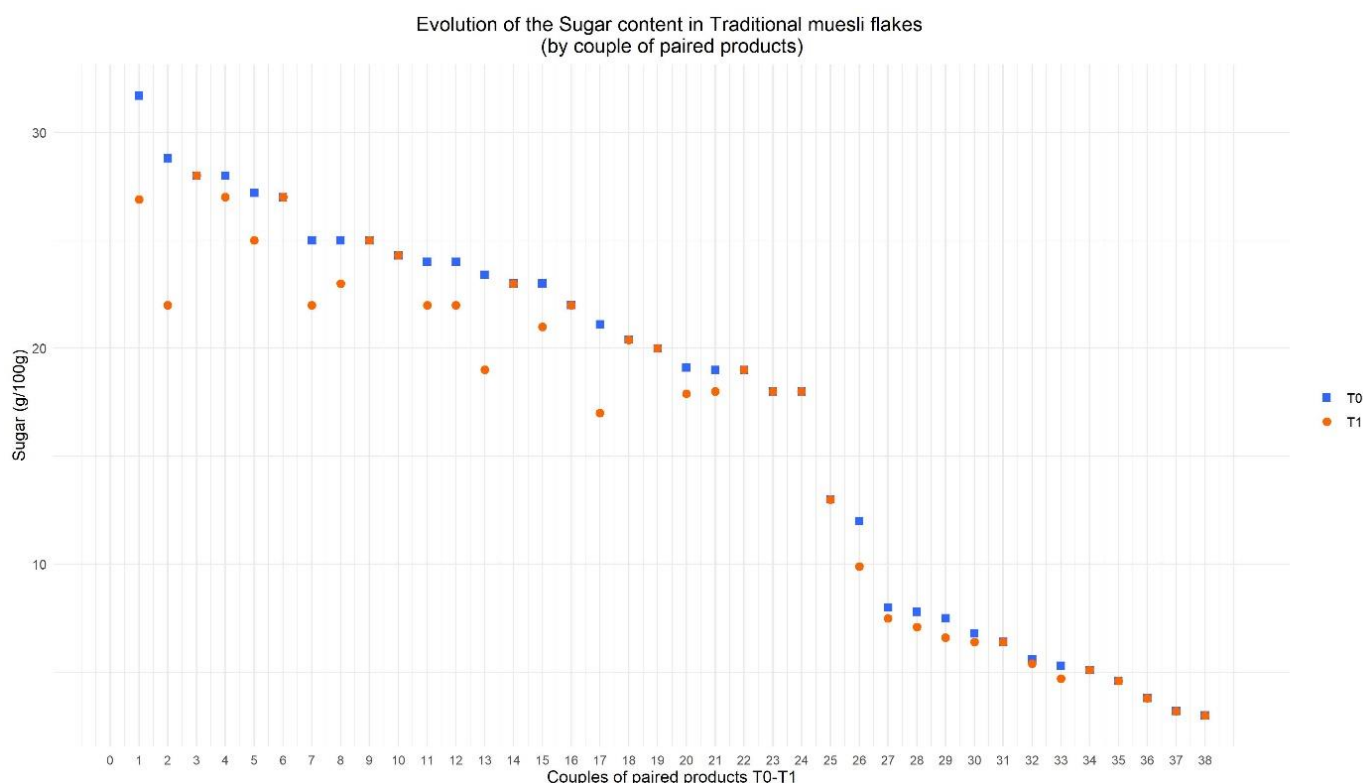


Figure 28 : Sugar content evolution between 2020 and 2022 by couple of paired product for Cereal flakes with chocolate_nuts subcategory

Of the 38 couples of paired products in the subcategory Traditional muesli flakes, the majority have a lower sugar content in 2022 (T1) than in 2020 (T0) (Figure 28 **Erreur ! Source du renvoi introuvable.**). The greatest reduction is observed for products that had more than 20g of sugar in 2020. 50% of the products with more than 20g of sugar have been reformulated by decreasing the sugar content. Paired products with 20g or less sugar either have an identical sugar content or a slightly reduced content. None of the products has a higher sugar content in 2022 than in 2020.

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.2.7 Evolution of the fibre content among the subcategories

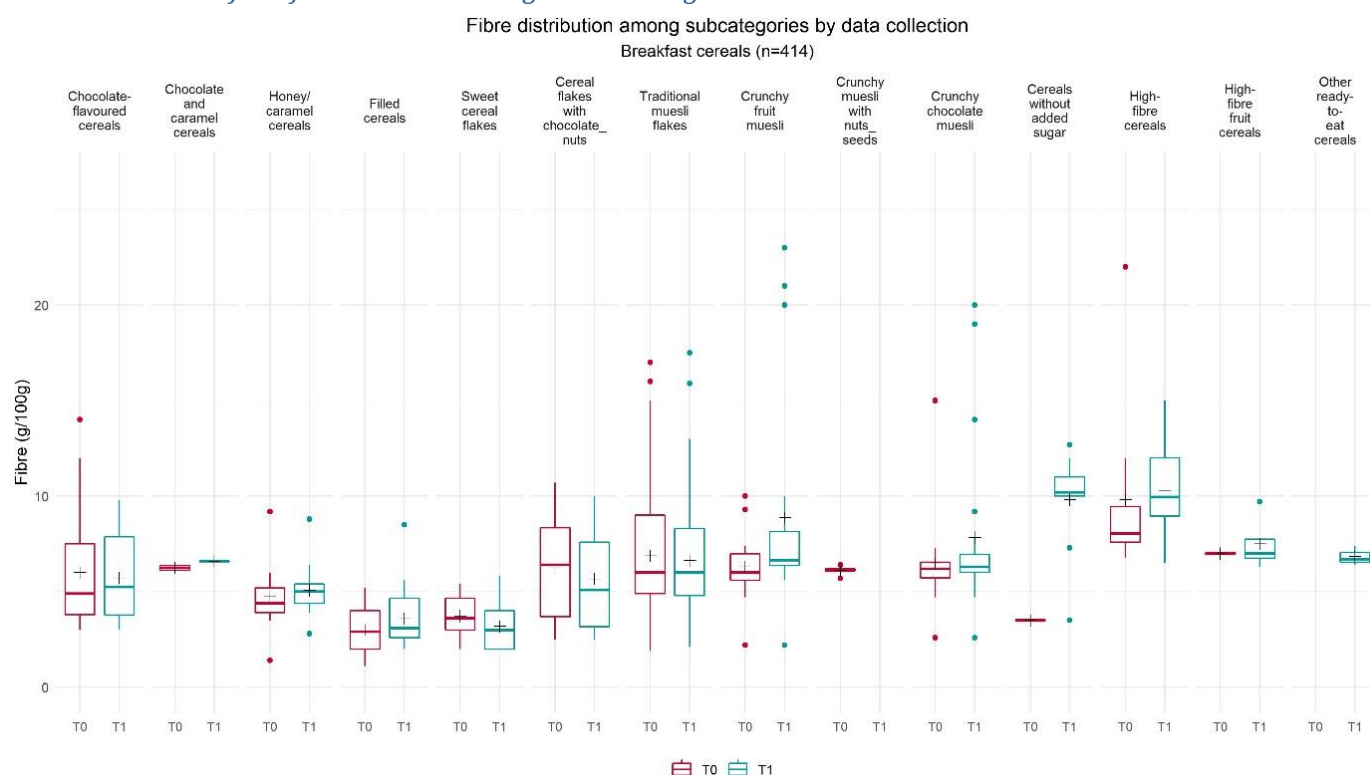


Figure 29 : Fibre distribution among subcategories of Breakfast cereals¹

Figure 29 shows the fibre distribution of Breakfast cereals between 2020 (T0) and 2022 (T1) by subcategories. Among the 14 subcategories considered, the average fibre content has not changed significantly in any of the subcategories.

The subcategories including products with the most variable fibre content at both times, meaning room for reformulation, are: Traditional muesli flakes (2020; n=88; 2022, n=81); Crunchy chocolate muesli (2020, n=18; 2022, n=22), Crunchy fruit muesli (2020, n=14; 2022, n=20).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.2.8 Evolution of the fibre content for paired products

Table 311 summarizes the difference in the average fibre content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

	Fibre					
	All products			Paired products		
Subcategory_name	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	5.7	-0.3	-4.6 %	5	+0.01	+0.3 %
Chocolate and caramel cereals	6.6	+0.3	+5.6 %	6.6	+0.1	+1.5 %
Honey/caramel cereals	5.1	+0.3	+6.3 %	5.5	+0.3	+5.8 %
Filled cereals	3.6	+0.6	+19%	3.3	+0.5	+17.7 %
Sweet cereal flakes	3.2	-0.5	-14.6 %			
Cereal flakes with fruit						
Cereal flakes with chocolate_nuts	5.7	-0.6	-9.1 %	6.8	+0.1	+1.5 %
Traditional muesli flakes	6.6	-0.2	-3.6 %	5.6	+0.03	+0.5 %
Crunchy fruit muesli	8.9	+3	+40.8 %	4.9	+0.1	+2.8 %
Crunchy muesli with nuts_seeds						
Crunchy chocolate muesli	7.8	+1	+21.3 %	6.6	-0.04	-0.6 %
Cereals without added sugar	9.8	+6	+180.3 %	3.5	0	0%
High-fibre cereals	10.3	+0.5	+5%	10.3	+2	+28.8 %
High-fibre fruit cereals	7.5	+0.5	+7.1 %	7.1	0	0%
Cereal preparation to drink						
Other ready-to-eat cereals	6.8					

No significant difference is observed at the level of paired products.

Table 11 : Summary of the evolution of the average fibre content for Breakfast cereals, by subcategory¹

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.2.9 Evolution of the salt content among the subcategories

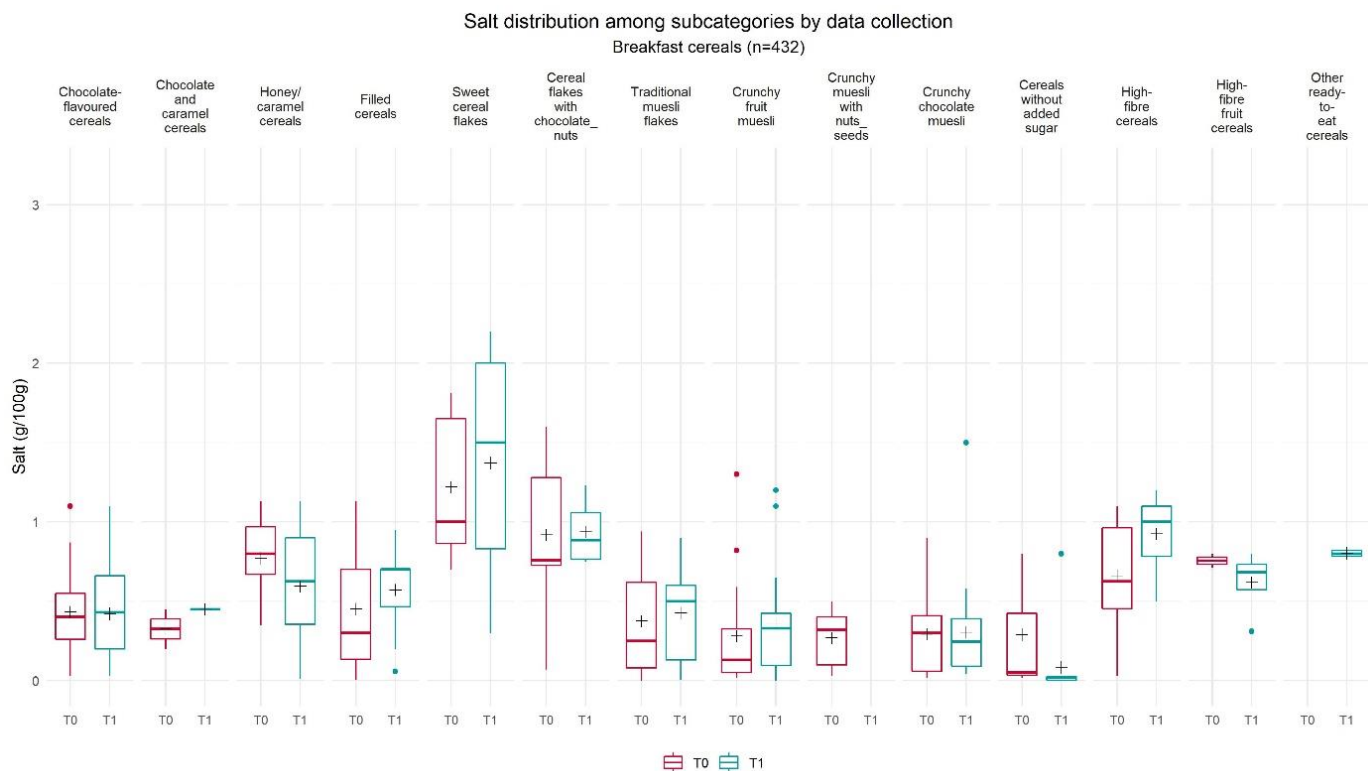


Figure 30 : Salt distribution among subcategories of Breakfast cereals¹

Figure 30 shows the salt distribution of Breakfast cereals between 2020 (T0) and 2022 (T1) by subcategories. The average salt content has not changed significantly in any subcategory of the Breakfast cereals.

The subcategories including products with the most variable salt content at both times, meaning room for reformulation, are: Chocolate-flavoured cereals (2020, n=25; 2022, n=25); Honey/caramel cereals (2020, n=9; 2022, n=14); Sweet cereal flakes (2020, n=7; 2022, n=9); Crunchy chocolate muesli (2020, n=19; 2022, n=22); Crunchy fruit muesli (2020, n=15; 2022, n=20). Notable is the relative high salt content of the Sweet cereal flakes. In this subcategory in 2022 (T1), although it does not include a large number of products, a difference of more than 1g/100g can be observed between salt content of products in the lower and higher quartiles.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.2.10 Evolution of the salt content for paired products

Table 312 summarizes the difference in the average salt content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

	Salt					
	All products			Paired products		
Subcategory_name	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	0.42	-0.01	-2.31 %	0.49	-0.024	-4.65 %
Chocolate and caramel cereals	0.45	+0.12	+38.46 %	0.45	0	0%
Honey/caramel cereals	0.6	-0.18	-22.95 %	0.79	-0.026	-3.19 %
Filled cereals	0.57	+0.12	+26.67 %	0.71	+0.27	+61.54 %
Sweet cereal flakes	1.37	+0.15	+12.48 %			
Cereal flakes with fruit						
Cereal flakes with chocolate_nuts	0.94	+0.017	+1.9 %	0.77	+0.01	+1.32 %
Traditional muesli flakes	0.43	+0.051	+13.66 %	0.48	+0.028	+6.1 %
Crunchy fruit muesli	0.36	+0.081	+28.8 %	0.18	-0.053	-23.19 %
Crunchy muesli with nuts_seeds						
Crunchy chocolate muesli	0.3	+0.012	+4.23 %	0.23	-0.0063	-2.67 %
Cereals without added sugar	0.09	-0.2	-70.69 %	0.8	0	0%
High-fibre cereals	0.93	+0.27	+40.34 %	0.7	+0.07	+11.11 %
High-fibre fruit cereals	0.62	-0.14	-17.88 %	0.8	0	0%
Cereal preparation to drink						
Other ready-to-eat cereals	0.8					

Table 12 : Summary of the evolution of the average salt content for Breakfast cereals, by subcategory¹

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.3 Delicatessen meats and similar

The nutrients considered for the analysis of the evolution of the nutritional content of the Delicatessen meats and similar products are: Protein, Fat, Saturated fat, Sugar and Salt.

3.2.3.1 Evolution of the protein content among the subcategories

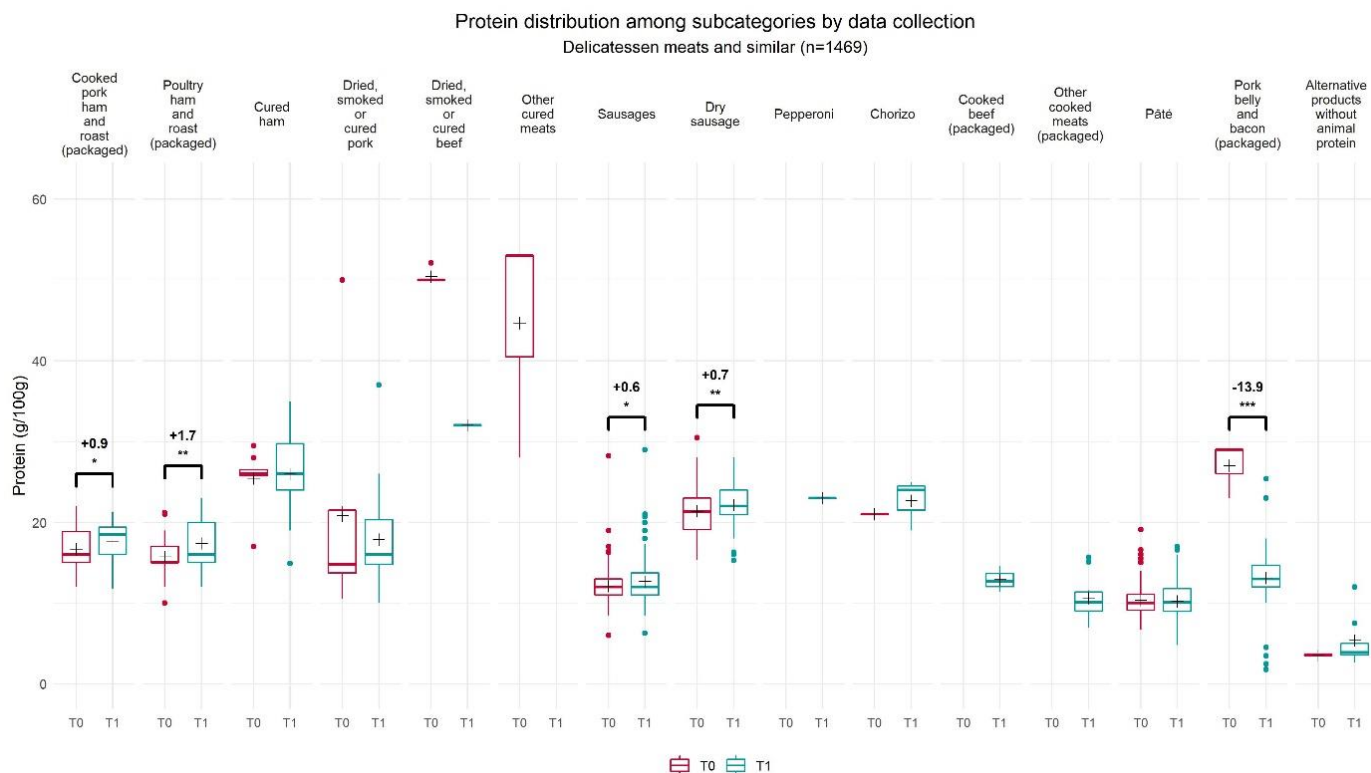


Figure 31 : Protein distribution among subcategories of Delicatessen meats and similar

Figure 31 shows the protein distribution of Delicatessen meats and similar between 2020 (T0) and 2022 (T1) by subcategories. Among the 15 subcategories considered, the average protein content has significantly decreased for one subcategory only: Pork belly and bacon (packaged) (-13.9g/100g; -51.5%). Among the 15 subcategories the average protein content has significantly increased for four subcategories: Cooked pork ham and roast (packaged) (+0.9g/100g; +5.8%), Poultry ham and roast (packaged) (+1.7g/100g; +10.7%), Sausages (+0.6g/100g; +4.8%), Dry sausages (+0.7g/100g; +3.6%).

The subcategories including products with the most variable protein content in 2022, meaning room for reformulation, are: Cured ham (n=31); Dried smoked or cured pork (n=16); Sausages (n=247); Pork belly and bacon (n=52). Dried, smoked or cured pork and Sausages are also part of the sub-categories with the most variable protein content in 2020 (T0).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Pork belly and bacon (packaged) (2020, n=3; 2022, n=52); Cured ham (2020, n=8; 2023, n=31).

It has to be mentioned that, in the pre-existing data, only a small number of subcategories are represented because the data collection in 2020 (T0) was carried out in the framework of another project which had different aims and methods than in Best-ReMaP. This is the explanation for the fact that there was no data in some subcategories in 2020 (T0).

3.2.3.2 Evolution of the protein content for paired products

Table 3 summarizes the difference in the average protein content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation). No significant difference is observed at the level of paired products.

	Protein					
	All products			Paired products		
Subcategory_name	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Cooked pork ham and roast (packaged)	17.6	+1*	+5.8 %	17.6	+0.1	+0.6 %
Poultry ham and roast (packaged)	17.4	+2**	+10.7 %	14.9	-0.2	-1.1 %
Cured ham	26	+0.5	+2.1 %	26	0	0%
Dried, smoked or cured pork	17.9	-3	-14.2 %	14.5	0	0%
Dried, smoked or cured beef	32	-20	-36.5 %			
Other cured meats						
Sausages	12.7	+0.6*	+4.8 %	11.5	+0.05	+0.4 %
Dry sausage	22.1	+0.8**	+3.6 %	21.7	+0.3	+1.6 %
Pepperoni	23					
Chorizo	22.7	+2	+7.9 %			
Cooked beef (packaged)	12.9					
Other cooked meats (packaged)	10.6					
Pâté	10.2	-0.1	-1.3 %	10.2	-0.07	-0.7 %
Preserved pork or poultry liver (canned)						
Pork belly and bacon (packaged)	13.1	-10***	-51.5 %			
Poultry lardons						
Alternative products without animal protein	5.4	+2	+52%	3.5	0	0%
Assortment of delicatessen meats						

Table 13 : Summary of the evolution of the average protein content for Delicatessen meats and similar, by subcategory¹

3.2.3.3 Evolution of the fat content among the subcategories

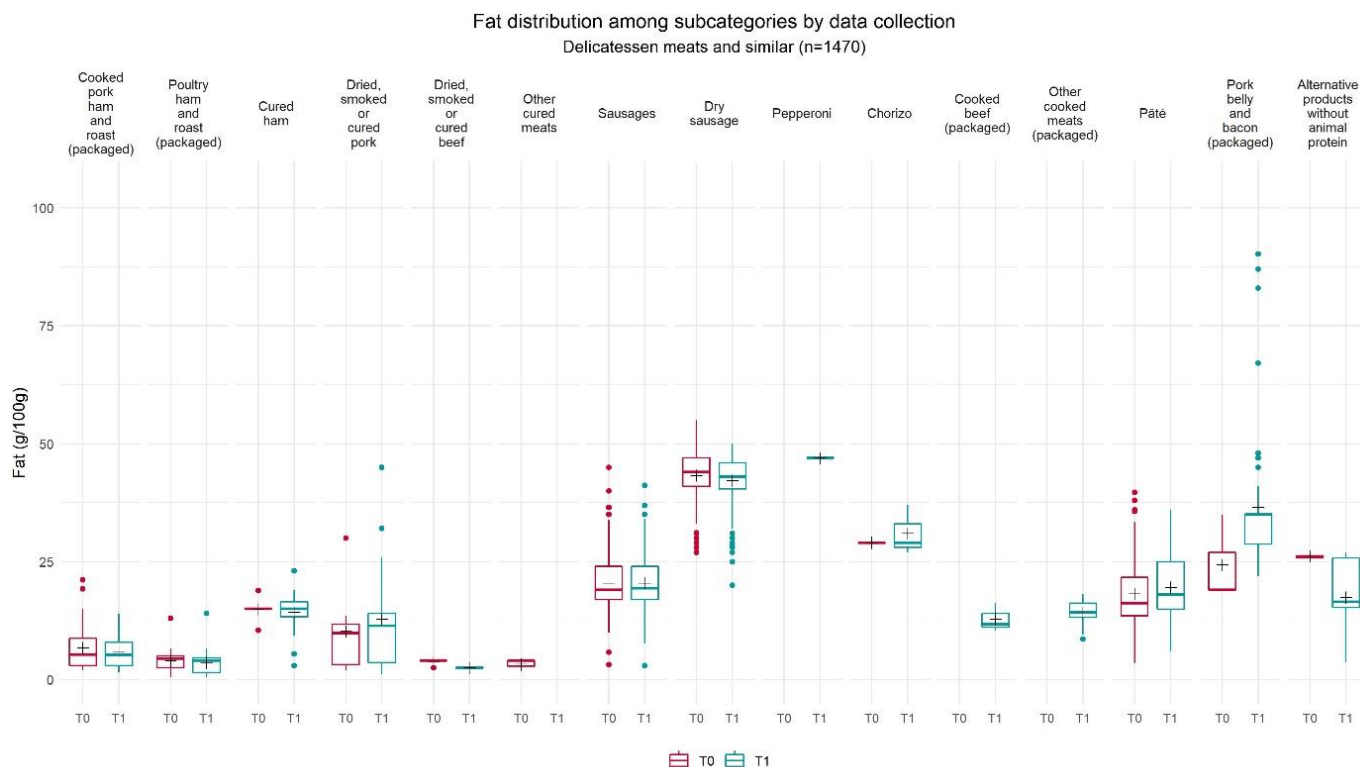


Figure 32 : Fat distribution among subcategories of Delicatessen meats and similar²

Figure 32 shows the fat distribution of Delicatessen meats and similar products between 2020 (T0) and 2022 (T1) by subcategories. Among the 15 subcategories considered, the average fat content has not changed significantly.

The subcategories including products with the most variable fat content at both times, meaning room for reformulation, are: Dried smoked or cured pork (2020, n=7; 2022, n=17); Sausages (2020, n=135; 2022, n=247); Dry sausage (2020, n=159; 2022, n=228); Pâté (2020, n=177; 2022, n=137). In 2022 (T1), Pork belly and bacon (n=52) is the subcategory with the most variable fat content. The difference of variability in fat content for this subcategory between T0 and T1 may be explained by the fact that a greater number of products have been collected for T1 (2020, n=3; 2022, n=52).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)
 Purple box: significant decrease in average content ; Yellow box : significant increase in average content

² Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.4 Evolution of the fat content for paired products

Table 3 summarizes the difference in the average fat content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

	Fat					
	All products			Paired products		
Subcategory_name	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Cooked pork ham and roast (packaged)	5.8	-0.9	-14.1 %	4.7	+0.08	+1.7 %
Poultry ham and roast (packaged)	3.6	-0.3	-8.8 %	4.8	+0.2	+4.2 %
Cured ham	14.2	-0.7	-4.5 %	15	0	0%
Dried, smoked or cured pork	12.8	+2	+24.4 %	2.4	0	0%
Dried, smoked or cured beef	2.5	-1	-32.4 %			
Other cured meats						
Sausages	20.5	+0.05	+0.2 %	20.1	-0.09	-0.5 %
Dry sausage	42.2	-1	-2.5 %	43.7	-0.2	-0.4 %
Pepperoni	47					
Chorizo	31	+2	+6.9 %			
Cooked beef (packaged)	12.8					
Other cooked meats (packaged)	14.1					
Pâté	19.5	+1	+7.1 %	18	-0.3	-1.9 %
Preserved pork or poultry liver (canned)						
Pork belly and bacon (packaged)	36.5	+10	+50.1 %			
Poultry lardons						
Alternative products without animal protein	17.4	-9	-33.3 %	26.1	0	0%
Assortment of delicatessen meats						

Table 14 : Summary of the evolution of the average fat content for Delicatessen meats and similar, by subcategory¹

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.5 Evolution of the saturated fat content among the subcategories

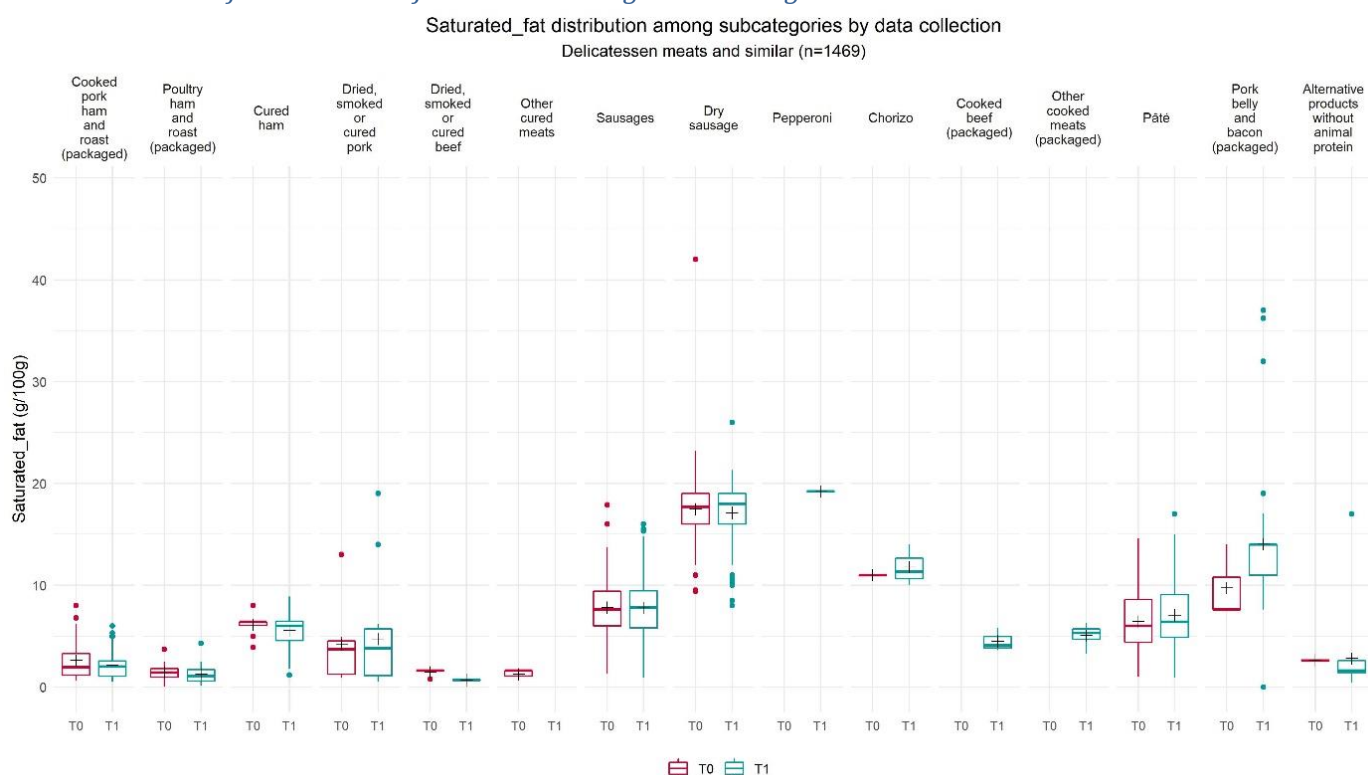


Figure 33 : Saturated fat distribution among subcategories of Delicatessen meats and similar¹

Figure 33 shows the saturated fat distribution of Delicatessen meats and similar between 2020 (T0) and 2022 (T1) by subcategories. Among the 15 subcategories considered, the average saturated fat distribution has no significantly decreases or increases.

The subcategories including products with the most variable saturated fat content in 2022, meaning room for reformulation, are: Dry sausage (2020, n=159; 2022, n=228); Pork belly and bacon (2020, n=3; 2022, n=52); Dried smoked or cured pork (2020, n=7; 2022, n=16); Alternative products without animal protein (2020, n=3; 2022, n=13). Dried, smoked or cured pork and Dry sausage are also part of the subcategories with the most variable saturated fat content in 2020 (T0).

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.6 Evolution of the saturated fat content for paired products

Table 3 summarizes the difference in the average saturated fat content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Subcategory_name	Saturated fat					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Cooked pork ham and roast (packaged)	2.1	-0.5	-18.8 %	1.9	+0.04	+2%
Poultry ham and roast (packaged)	1.3	-0.2	-11.3 %	1.8	+0.01	+0.6 %
Cured ham	5.5	-0.6	-9.2 %	6.4	0	0%
Dried, smoked or cured pork	4.7	+0.5	+13.1 %	0.9	0	0%
Dried, smoked or cured beef	0.7	-0.7	-51.4 %			
Other cured meats						
Sausages	7.8	-0.03	-0.3 %	7.5	-0.002	-0.03 %
Dry sausage	17.1	-0.4	-2.2 %	17.7	+0.1	+0.7 %
Pepperoni	19.2					
Chorizo	11.8	+0.8	+7%			
Cooked beef (packaged)	4.5					
Other cooked meats (packaged)	5.1					
Pâté	7	+0.6	+9.5 %	6.2	-0.2	-3.5 %
Preserved pork or poultry liver (canned)						
Pork belly and bacon (packaged)	14	+4	+44.3 %			
Poultry lardons						
Alternative products without animal protein	2.8	+0.2	+6.7 %	2.6	0	0%
Assortment of delicatessen meats						

Table 15 : Summary of the evolution of the average saturated fat content for Delicatessen meats and similar, by subcategory¹

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.7 Evolution of the sugar content among the subcategories

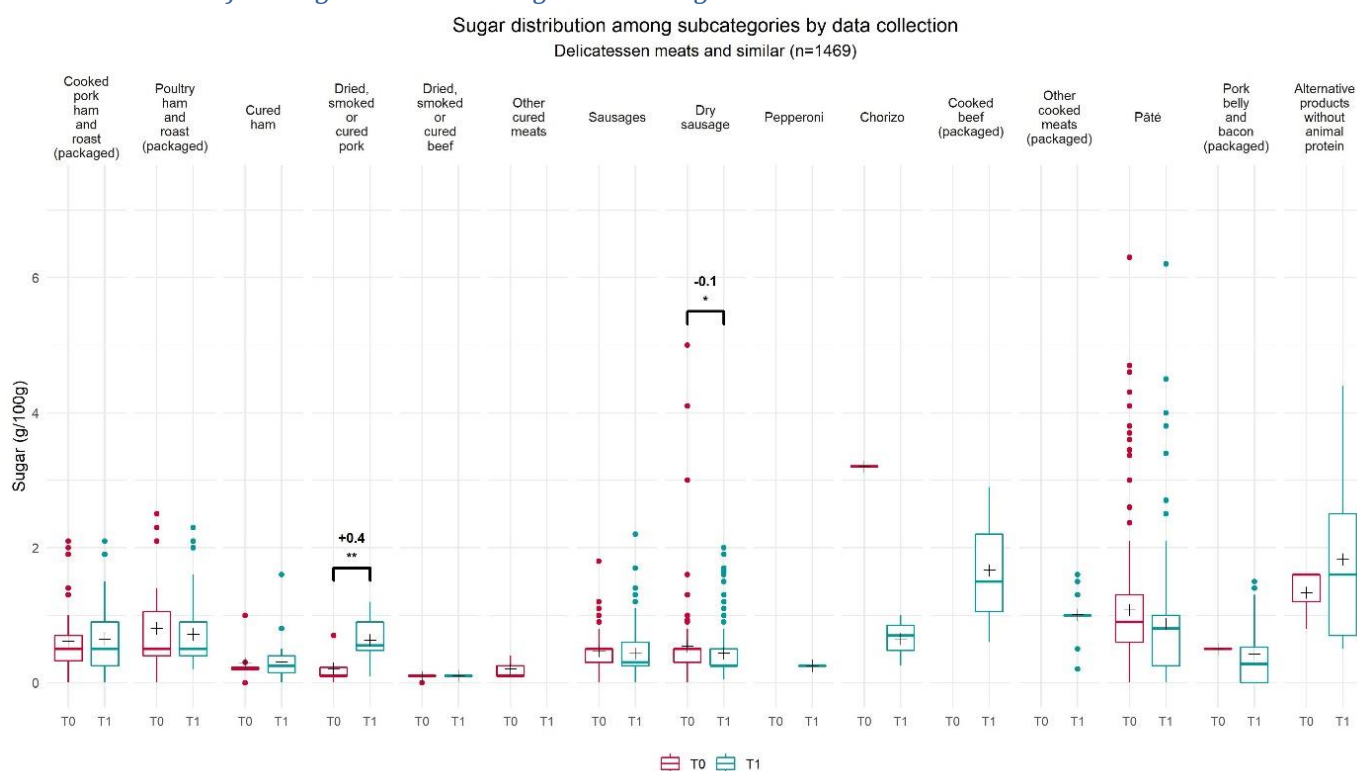


Figure 34 : Sugar distribution among subcategories of Delicatessen meats and similar¹

Figure 34 shows the sugar distribution of Delicatessen meats and similar between 2020 (T0) and 2022 (T1) by subcategories. Among the 15 subcategories considered, the average sugar content has significantly decreased for one subcategory only: Dry sausage (-0.1g/100g; -19%) and has significantly increased for one subcategory: Dry smoked or cured pork (+0.4g/100g; +204.7%).

The subcategories including products with the most variable sugar content in 2022, meaning room for reformulation, are: Pâté (2020, n=177; 2022, n=137) and Alternative products without animal protein (2020, n=3; 2022, n=13). Pâté is also of the subcategory with the most variable sugar content in 2020 (T0).

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.8 Evolution of the sugar content for paired products

Table 3 summarizes the difference in the average sugar content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

A significant decrease in the mean sugar content of paired products is observed for the subcategory Dry sausage (-0.1g/100g; -25.9%). This can be linked to the significant decrease of the mean sugar content observed at the subcategory level, meaning that this evolution can in part be explained by reformulations.

A significant decrease in the mean sugar content of paired products is also observed for the subcategory Cooked pork ham and roast (packaged) (-0.1g/100g; -15.1%) but there was no significant change at the subcategory level.

	Sugar					
	All products			Paired products		
Subcategory_name	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Cooked pork ham and roast (packaged)	0.6	+0.03	+4.6 %	0.6	-0.1*	-15.1 %
Poultry ham and roast (packaged)	0.7	-0.09	-10.8 %	1.1	-0.1	-9.6 %
Cured ham	0.3	+0.02	+6%	0.2	+0.02	+12.5 %
Dried, smoked or cured pork	0.6	+0.4**	+204.7 %	0.2	0	0%
Dried, smoked or cured beef	0.1	+0.02	+25%			
Other cured meats						
Sausages	0.4	-0.04	-7.7 %	0.5	-0.05	-10.8 %
Dry sausage	0.4	-0.1*	-19%	0.4	-0.1***	-25.9 %
Pepperoni	0.2					
Chorizo	0.7	-3	-79.7 %			
Cooked beef (packaged)	1.7					
Other cooked meats (packaged)	1					
Pâté	0.9	-0.2	-19%	0.9	-0.2	-21.3 %
Preserved pork or poultry liver (canned)						
Pork belly and bacon (packaged)	0.4	-0.07	-14.9 %			
Poultry lardons						

Alternative products without animal protein	1.8	+0.5	+37.3 %	1.3	0	0%
Assortment of delicatessen meats						

Table 16 : Summary of the evolution of the average sugar content for Delicatessen meats and similar, by subcategory¹

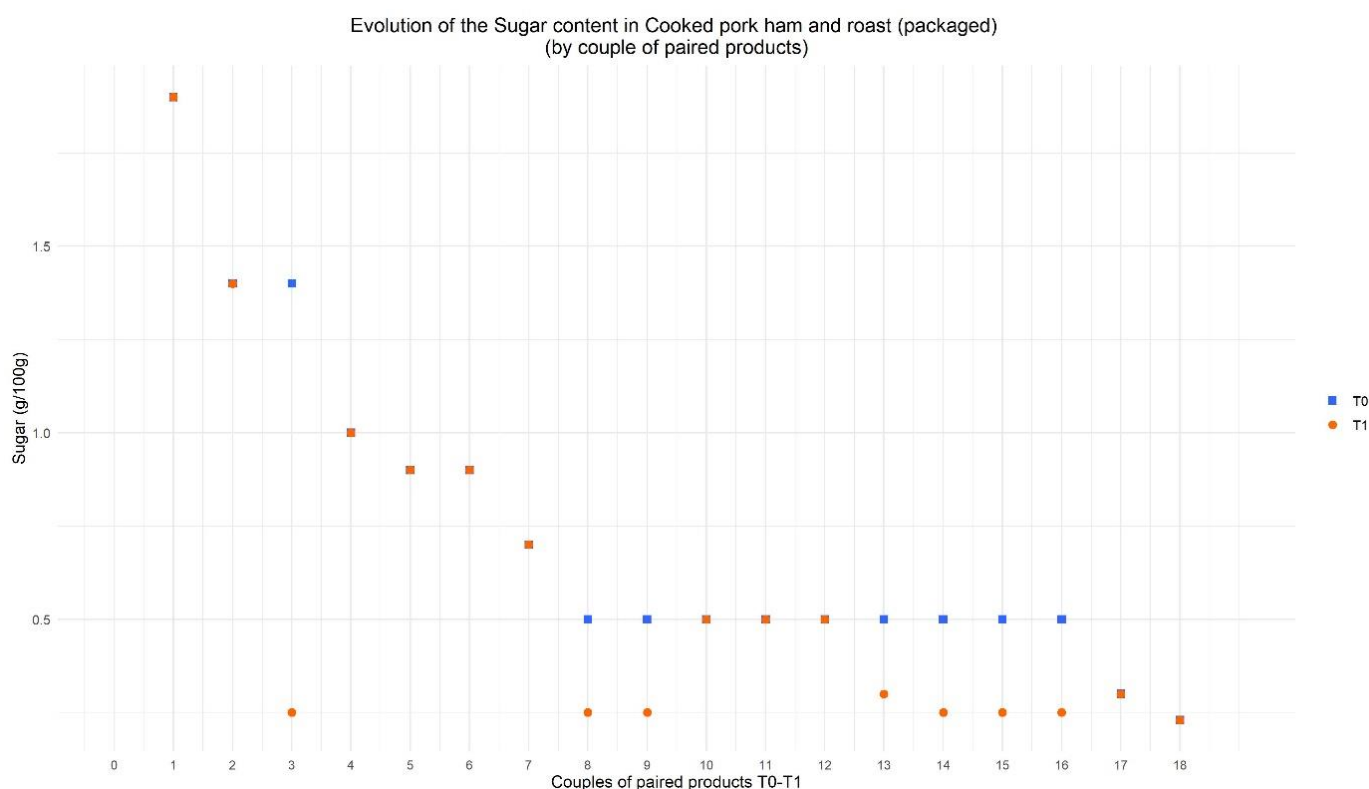


Figure 35 : Sugar content evolution between 2020 and 2022 by couple of paired product for Cooked pork ham and roast subcategory

Of the 18 couples of paired products in the subcategory Cooked pork ham and roast (packaged) 7 had lower sugar content in 2022 (T1) than in 2020 (T0). The greatest reduction is observed for a product that had more than 1g of sugar in 2020. None of the products had a higher sugar content in 2022 than in 2020 (Figure 35 **Erreur ! Source du renvoi introuvable.**).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

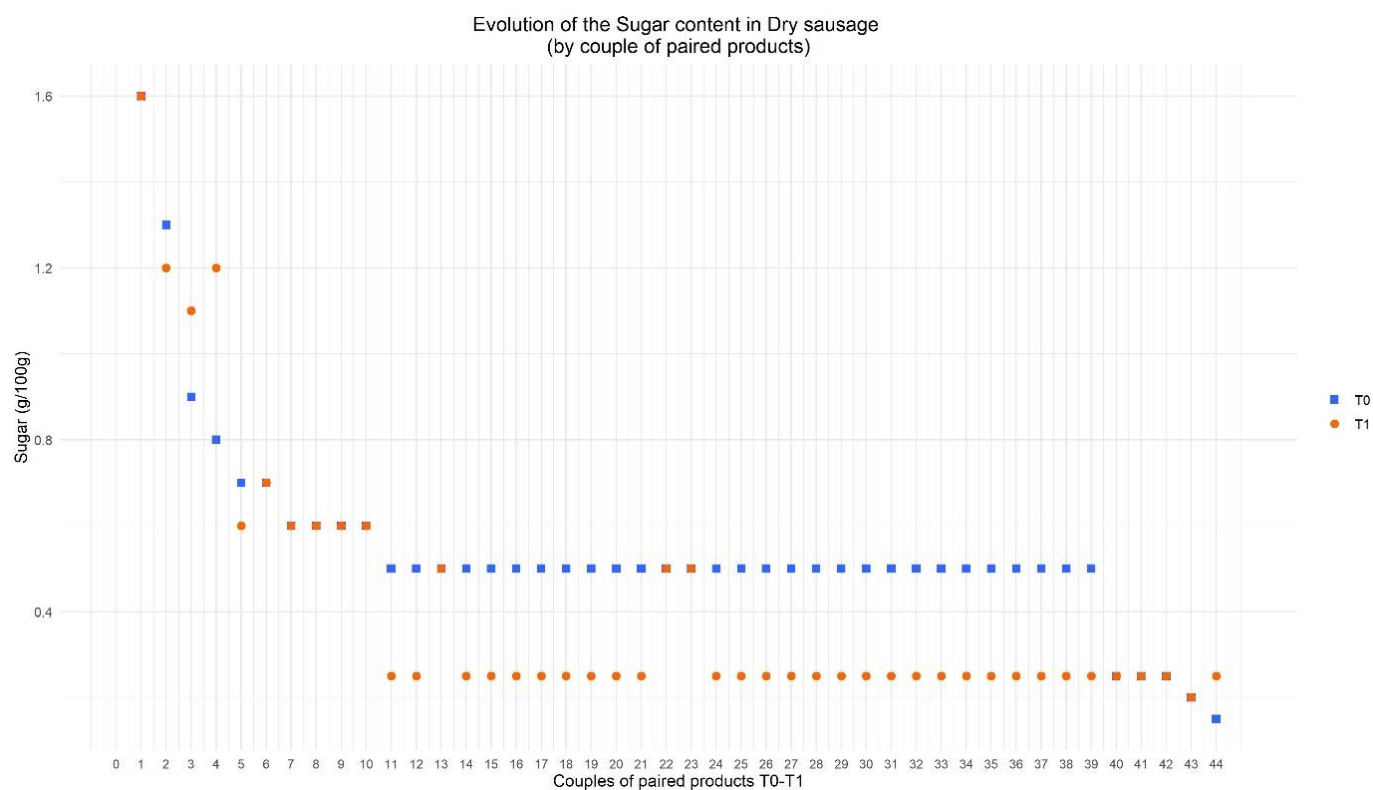


Figure 36 : Sugar content evolution between 2020 and 2022 by couple of paired product for Dry sausage subcategory

Among the 44 paired products in the Dry sausage subcategory, the sugar content decreased in 28 of the paired products. 13 paired products have an identical sugar content, and only three products had an increase in sugar content between 2020 (T0) and 2022 (T1) (Figure 36 **Erreur ! Source du renvoi introuvable.**).

3.2.3.9 Evolution of the salt content among the subcategories

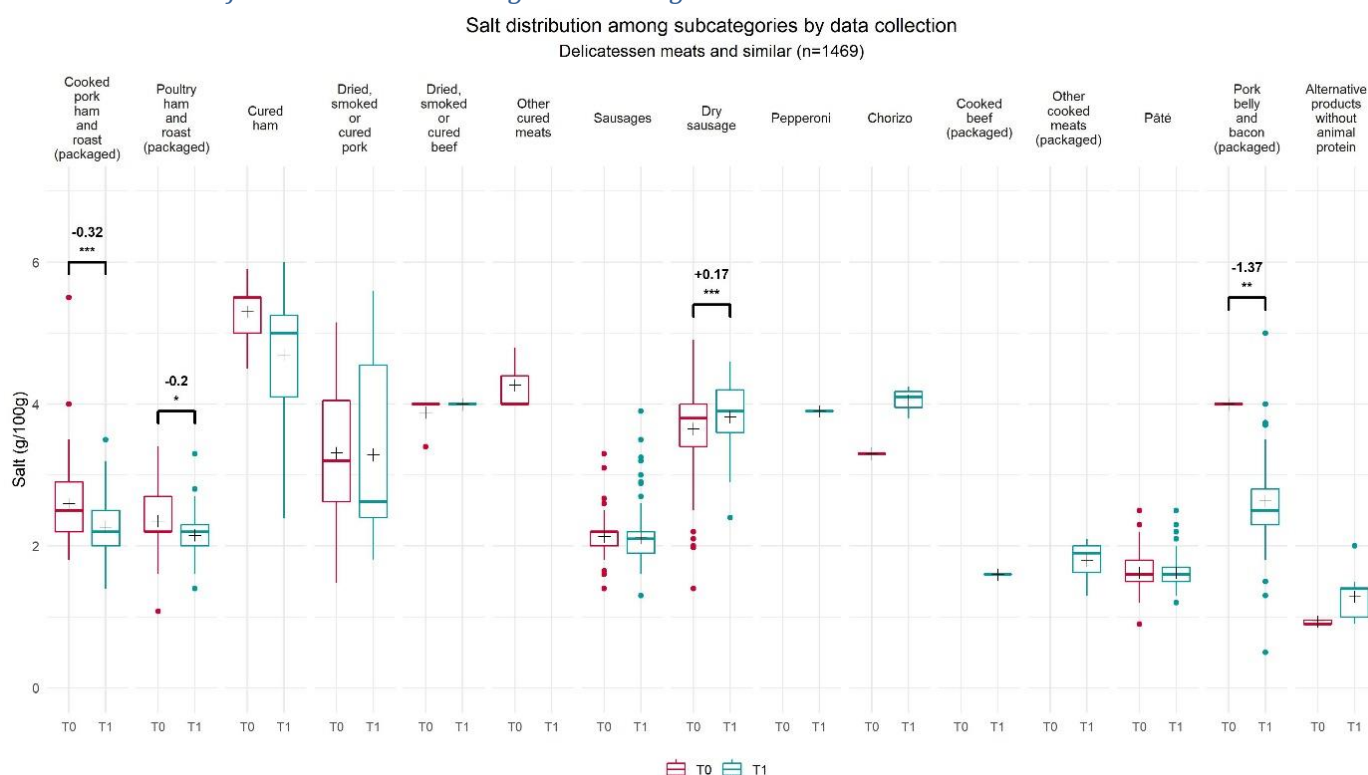


Figure 37 : Salt distribution among subcategories of Delicatessen meats and similar¹

Figure 37 shows the salt distribution of Delicatessen meats and similar between 2020 (T0) and 2022 (T1) by subcategories. Among the 15 subcategories considered, the average salt content has significantly decreased for three subcategories: Cooked pork ham and roast (packaged) (-0.32g/100g; -12.6%), Poultry ham and roast (packaged) (-0.2g/100g; -8.4%) and Pork belly and bacon (packaged) (-1.37g/100g; -34.2%); and increased for one subcategory: Dry sausage (+0.17g/100g; +4.7%).

The subcategories including products with the most variable salt content in 2022, meaning room for reformulation, are: Cured ham (2020, n=8; 2022, n=31); Dried, smoked or cured pork (2020, n=7; 2022, n=16); and Pork belly and bacon (packaged) (2020, n=3; 2022, n=52). Dried, smoked or cured pork is also part of the subcategories with the most variable salt content in 2020 (T0).

¹Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.3.10 Evolution of the salt content for paired products

The

Table 3 summarizes the difference in the average salt content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

A significant decrease in the mean salt content of paired products is observed for the subcategory Cooked pork ham and roast (packaged) (-0.34g/100g; -12.5%).

This can be linked to the significant decrease of the mean salt content observed at the subcategory level, meaning that this evolution can in part be explained by reformulations. A significant decrease in the mean salt content of paired products is also observed for the subcategory Dry sausage (-0.11g/100g; -2.8%) whereas a significant increase was observed at the subcategory level for this subcategory.

Subcategory_name	Salt					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Cooked pork ham and roast (packaged)	2.27	-0.33***	-12.63 %	2.35	-0.34**	-12.5 %
Poultry ham and roast (packaged)	2.15	-0.2*	-8.44 %	2.36	-0.038	-1.6 %
Cured ham	4.69	-0.61	-11.43 %	5.25	-0.25	-4.55 %
Dried, smoked or cured pork	3.29	-0.023	-0.7 %	2.75	0	0%
Dried, smoked or cured beef	4	+0.12	+3.09 %			
Other cured meats						
Sausages	2.12	-0.018	-0.9 %	2.04	-0.021	-1%
Dry sausage	3.82	+0.17***	+4.68 %	3.81	-0.11***	-2.79 %
Pepperoni	3.9					
Chorizo	4.05	+0.75	+22.73 %			
Cooked beef (packaged)	1.6					
Other cooked meats (packaged)	1.8					
Pâté	1.62	-0.00062	-0.04 %	1.58	-0.015	-1%
Preserved pork or poultry liver (canned)						
Pork belly and bacon (packaged)	2.63	-1.4**	-34.22 %			
Poultry lardons						

Alternative products without animal protein	1.28	+0.35	+37.64 %	0.93	0	0%
Assortment of delicatessen meats						

Table 17 : Summary of the evolution of the average salt content for Delicatessen meats and similar, by subcategory¹

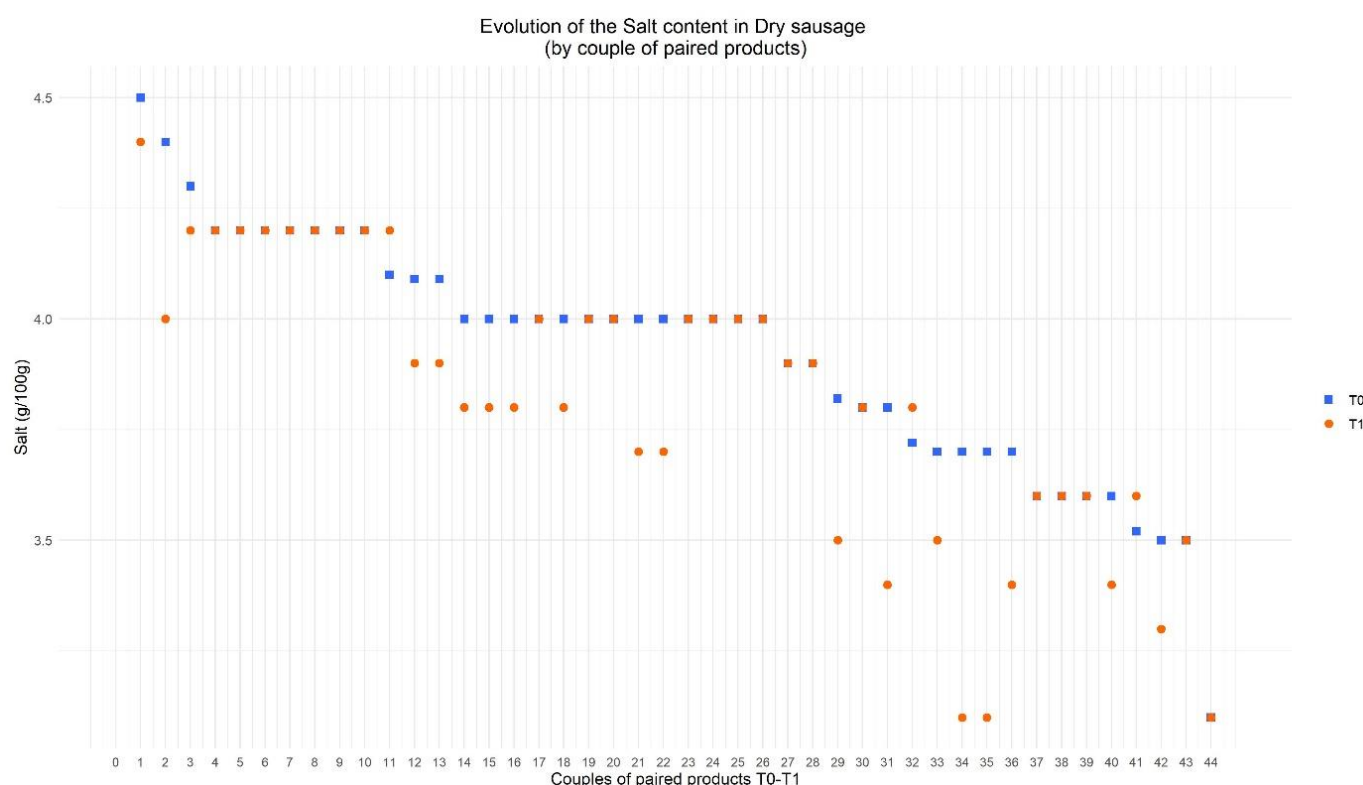


Figure 38 : Evolution of the Salt content in Dry sausage subcategory

Among the 44 paired products in the Dry sausage subcategory, the salt content did not change in half of the paired products. In 43% of the products, the salt content decreased between 2020 and 2022 (Figure 38). The biggest decrease observed was 0.5g/100g. Only three products had an increase in salt content between 2020 and 2022.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

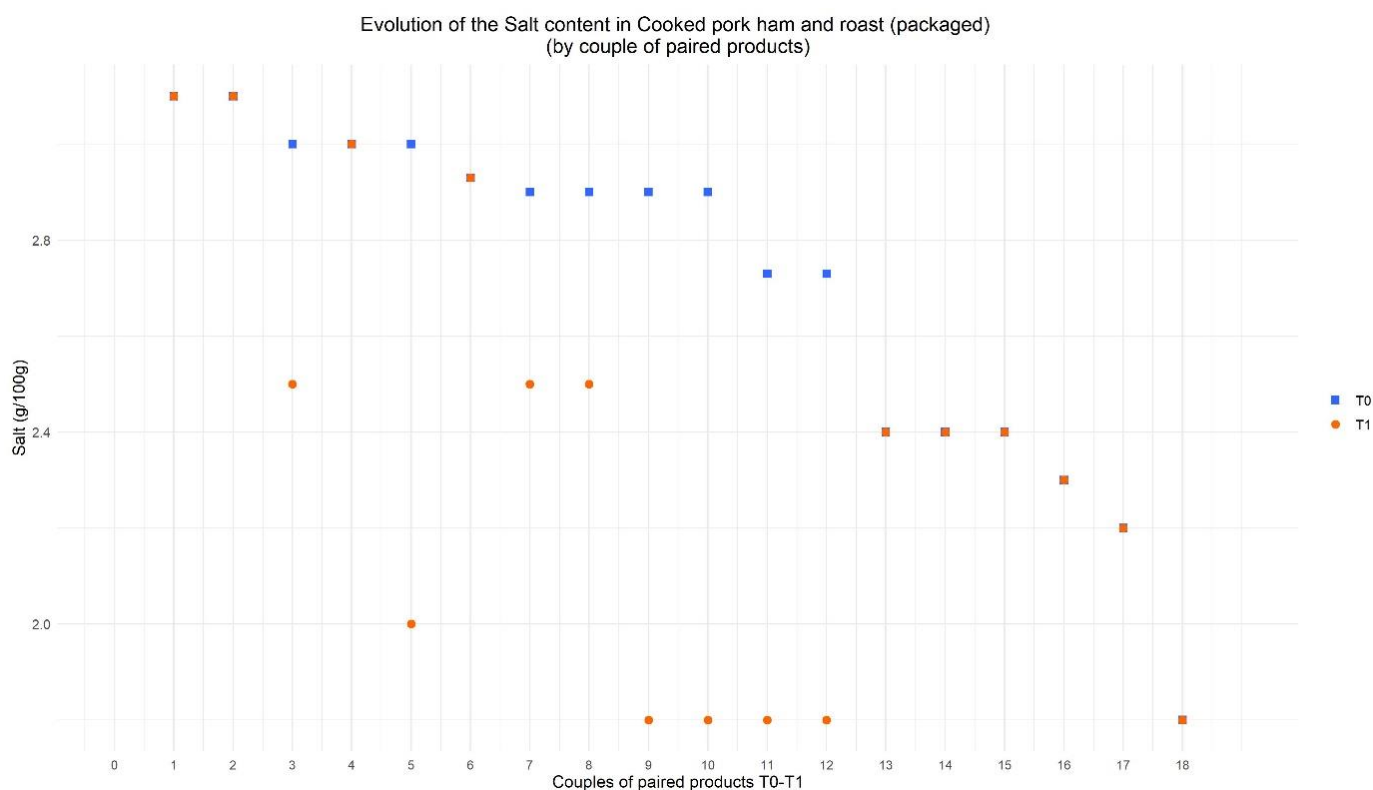


Figure 39 : Evolution of the Salt content in Cooked pork ham and roast (packaged) subcategory

Of the 18 couples of paired products in the subcategory Cooked pork ham and roast (packaged), 10 paired products had an identical and 8 had lower salt content in 2022 (T1) than in 2020 (T0) (Figure 39). None of the products had a higher salt content in 2022 than in 2020.

3.2.4 Fresh dairy products and desserts

The nutrients considered for the analysis of the evolution of the nutritional content of the Fresh dairy products and desserts are: Protein, Fat, Saturated fat, Sugar and Fibre.

3.2.4.1 Evolution of the protein content among the subcategories

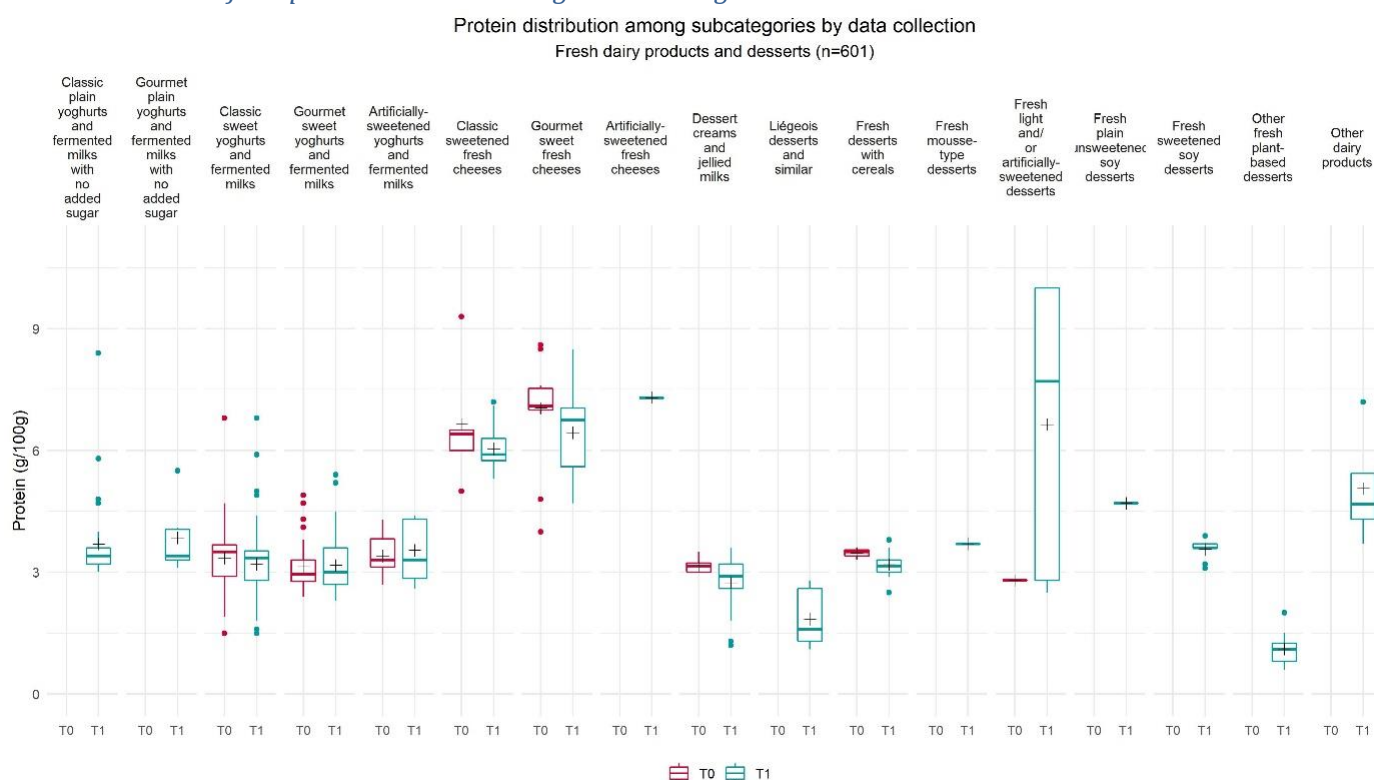


Figure 40 : Protein distribution among subcategories of Fresh dairy products and desserts¹

Figure 40 shows the protein distribution of Fresh dairy products and desserts between 2020 (T0) and 2022 (T1) by subcategories. Among the 17 subcategories considered, the average protein content has not changed significantly.

The subcategories including products with the most variable protein content in 2022, meaning room for reformulation, are: Classic sweet yoghurts and fermented milks (2020, n=78; 2022, n=184); Classic plain yoghurts and fermented milks with no added sugar (2020, n=0; 2022, n=33) and Fresh light and/or artificially-sweetened desserts (2020, n=1; 2022, n=13). Classic sweet yoghurts and fermented milks is also part of the subcategories with the most variable protein content in 2020 (T0).

It has to be mentioned that, in the pre-existing data, only a small number of subcategories are represented because the data collection in 2020 (T0) was carried out in the framework of another project which had different aims and methods than in Best-ReMaP. This is the explanation for the fact that there was no data in some subcategories in 2020 (T0).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.4.2 Evolution of the protein content for paired products

The

Table 3 summarizes the difference in the average protein content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

A significant decrease in the mean protein content of paired products is observed for the subcategory Classic sweet yoghurts and fermented milks (-0.2g/100g; -5.5%) whereas there was no significant change observed at the subcategory level for this subcategory.

Subcategory_name	Protein					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	3.7					
Gourmet plain yoghurts and fermented milks with no added sugar	3.8					
Classic sweet yoghurts and fermented milks	3.2	-0.1	-4.4 %	3.4	-0.2**	-5.5 %
Gourmet sweet yoghurts and fermented milks	3.2	+0.04	+1.2 %	3	-0.02	-0.7 %
Artificially-sweetened yoghurts and fermented milks	3.5	+0.1	+4.1 %	3.6	0	0%
Classic plain fresh cheeses with no added sugar						
Gourmet plain fresh cheeses with no added sugar						
Classic sweetened fresh cheeses	6	-0.6	-9%	6.3	-0.1	-1.6 %
Gourmet sweet fresh cheeses	6.4	-0.6	-8.6 %	6.8	-2	-20.2 %
Artificially-sweetened fresh cheeses	7.3					
Dessert creams and jellied milks	2.7	-0.4	-13.3 %	3.3	+0.2	+6.5 %
Liégeois desserts and similar	1.8					
Curdled milks						
Fresh desserts with cereals	3.2	-0.3	-8.2 %			
Fresh mousse-type desserts	3.7					
Egg-based fresh desserts						
Fresh light and/or artificially-sweetened desserts	6.6	+4	+137.1 %			
Fresh plain unsweetened soy desserts	4.7					
Fresh sweetened soy desserts	3.6					
Other fresh plant-based desserts	1.1					
Other dairy products	5.1					

Table 18 : Summary of the evolution of the average protein content for Fresh dairy products and desserts, by subcategory¹

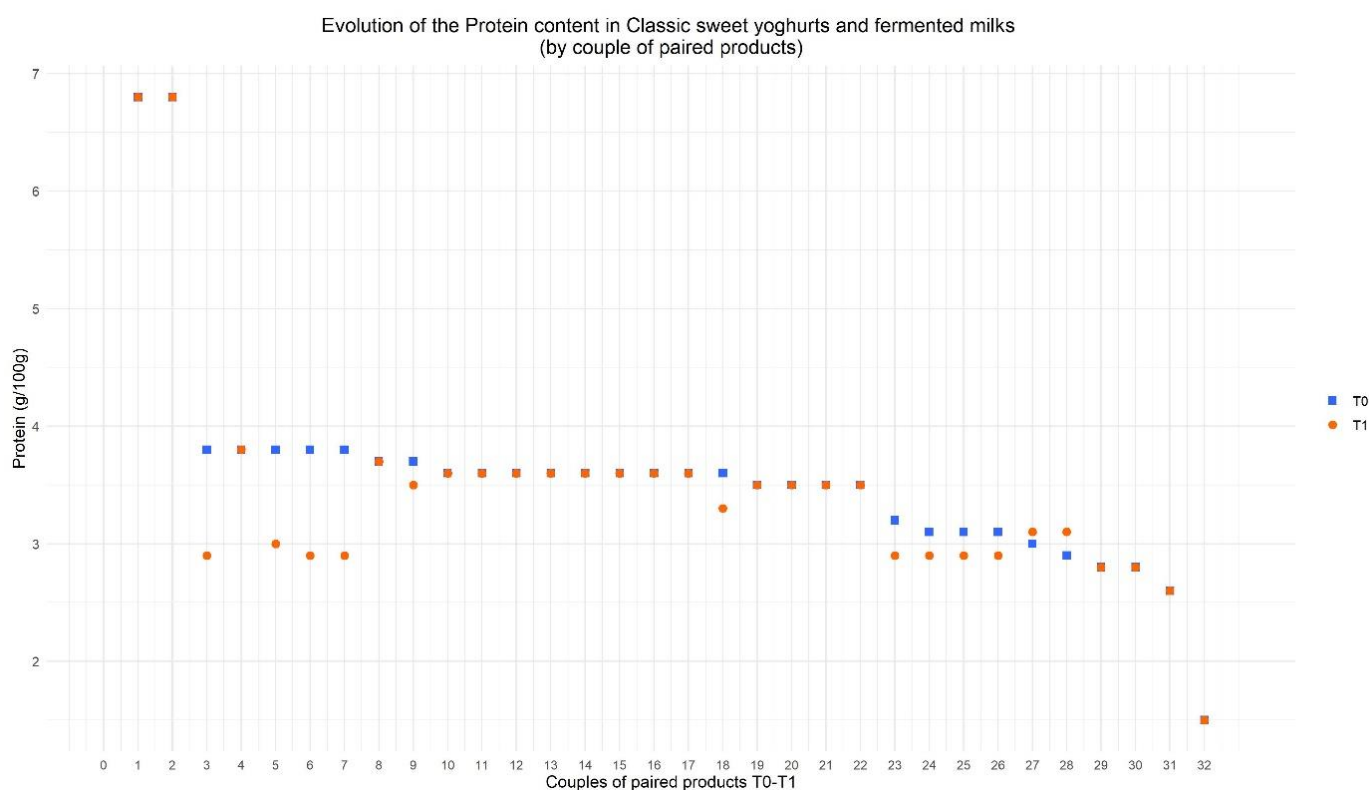


Figure 41 : Evolution of the Protein content in Classic sweet yoghurts and fermented milk subcategory

Of the 32 couples of paired products in the subcategory Classic sweet yoghurts and fermented milks 20 **Erreur ! Source du renvoi introuvable.** paired products had an identical, 10 had a lower, and 2 had a higher protein content in 2022 (T1) than in 2020 (T0) (Figure 41 **Erreur ! Source du renvoi introuvable.**).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.4.3 Evolution of the fat content among the subcategories

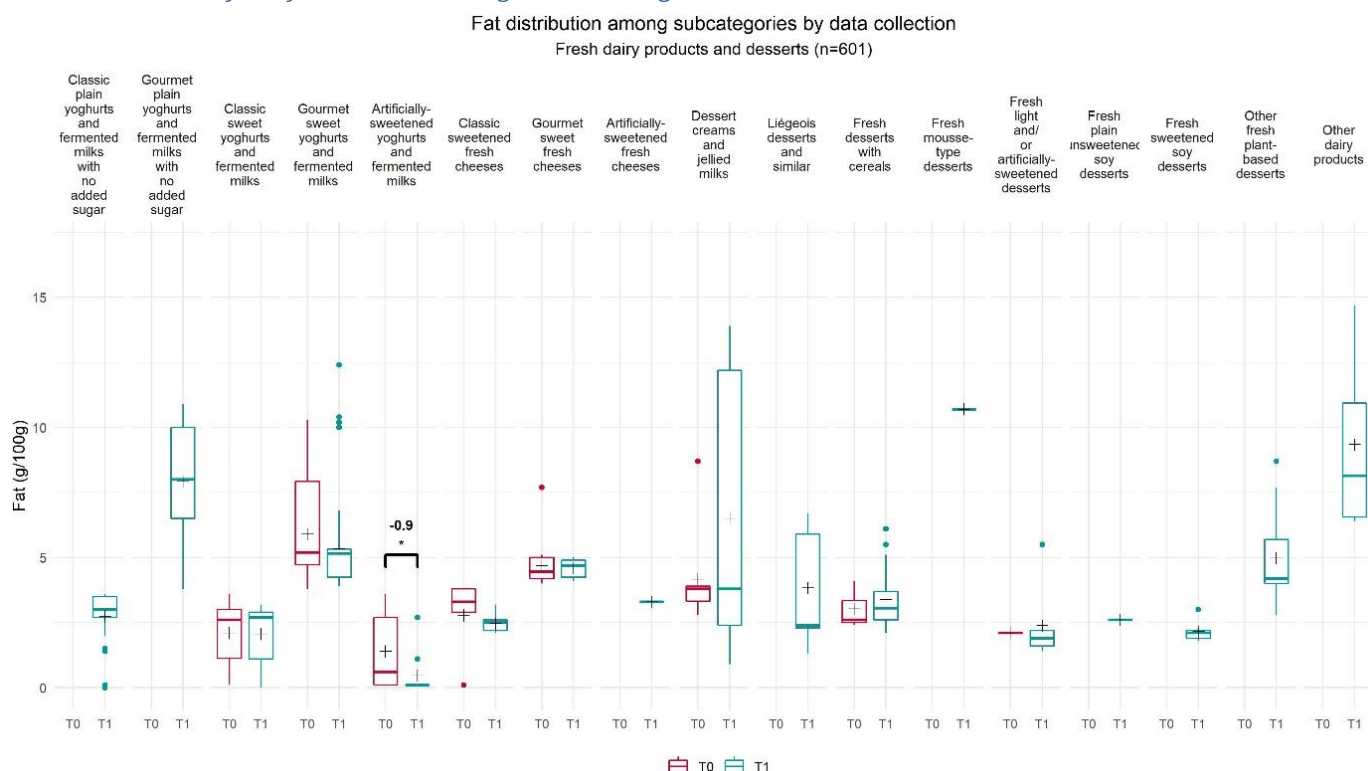


Figure 42 : Fat distribution among subcategories of Fresh dairy products and desserts¹

Figure 42 shows the fat distribution of Fresh dairy products and desserts between 2020 (T0) and 2022 (T1) by subcategories. Among the 17 subcategories considered, the average fat content has significantly decreased for one subcategory only: Artificially-sweetened yoghurts and fermented milks (-0.9g/100g; -67.4%).

The subcategories including products with the most variable fat content in 2022, meaning room for reformulation, are: Gourmet plain yoghurts and fermented milks with no added sugar (2020, n=0; 2022, n=11); Dessert creams and jellied milks (2020, n=8; 2022, n=33); Gourmet sweet yoghurts and fermented milks (2020, n=28; 2022, n=52) and Other dairy products (2020, n=0; 2022, n=4). Desserts creams and jellied milks and Gourmet sweet yoghurts and fermented milks are also the subcategories with the most variable fat content in 2020 (T0).

¹Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.4.4 Evolution of the fat content for paired products

The

Table 3 summarizes the difference in the average fat content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Subcategory_name	Fat					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	2.7					
Gourmet plain yoghurts and fermented milks with no added sugar	7.9					
Classic sweet yoghurts and fermented milks	2.1	-0.03	-1.5 %	2.1	+0.03	+1.3 %
Gourmet sweet yoghurts and fermented milks	5.3	-0.6	-9.6 %	4.9	-0.08	-1.7 %
Artificially-sweetened yoghurts and fermented milks	0.5	-0.9*	-67.4 %	1	0	0%
Classic plain fresh cheeses with no added sugar						
Gourmet plain fresh cheeses with no added sugar						
Classic sweetened fresh cheeses	2.5	-0.3	-11.3 %	2.5	-0.4	-13.8 %
Gourmet sweet fresh cheeses	4.6	-0.1	-2.4 %	4.9	-0.07	-1.3 %
Artificially-sweetened fresh cheeses	3.3					
Dessert creams and jellied milks	6.5	+2	+55.8 %	3.5	-0.4	-10.4 %
Liégeois desserts and similar	3.8					
Curdled milks						
Fresh desserts with cereals	3.4	+0.3	+11.5 %			
Fresh mousse-type desserts	10.7					
Egg-based fresh desserts						
Fresh light and/or artificially-sweetened desserts	2.4	+0.3	+13.6 %			
Fresh plain unsweetened soy desserts	2.6					
Fresh sweetened soy desserts	2.2					
Other fresh plant-based desserts	5					
Other dairy products	9.3					

Table 19 : Summary of the evolution of the average fat content for Fresh dairy products and desserts, by subcategory¹

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.4.5 Evolution of the saturated fat content among the subcategories

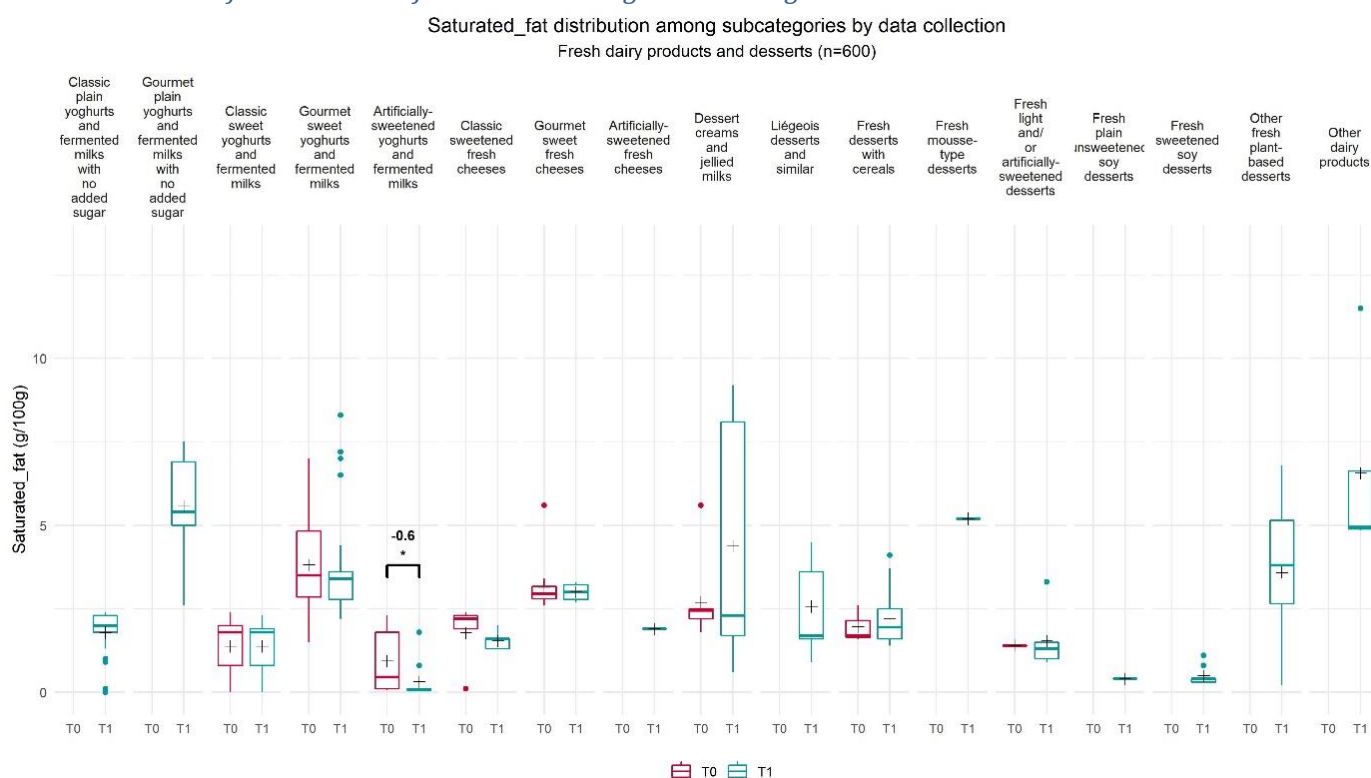


Figure 43 : Saturated fat distribution among subcategories of Fresh dairy products and desserts¹

Figure 43 shows the saturated fat distribution of Fresh dairy products and desserts between 2020 (T0) and 2022 (T1) by subcategories. Among the 17 subcategories considered, the saturated fat content has significantly decreased for one subcategory only: Artificially-sweetened yoghurts and fermented milks (-0.6g/100g; -67%).

The subcategories including products with the most variable saturated fat content in 2022, meaning room for reformulation, are: Gourmet sweet yoghurts and fermented milks (2020, n=28; 2022, n=52); Dessert creams and jellied milks (2020, n=8; 2022, n=32); Other fresh plant-based desserts (2020, n=0; 2022, n=15) and Other dairy products (2020, n=0; 2022, n=4). Dessert creams and jellied milks and Gourmet sweet yoghurts and fermented milks are also part of the subcategories with the most variable saturated fat content in 2020 (T0).

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.4.6 Evolution of the saturated fat content for paired products

The

Table 3 summarizes the difference in the average saturated fat content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Subcategory_name	Saturated fat					
	All product			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	1.8					
Gourmet plain yoghurts and fermented milks with no added sugar	5.6					
Classic sweet yoghurts and fermented milks	1.4	-0.005	-0.3 %	1.4	+0.09	+7.1 %
Gourmet sweet yoghurts and fermented milks	3.6	-0.3	-6.6 %	3.3	-0.05	-1.4 %
Artificially-sweetened yoghurts and fermented milks	0.3	-0.6*	-67%	0.7	+0	+0%
Classic plain fresh cheeses with no added sugar						
Gourmet plain fresh cheeses with no added sugar						
Classic sweetened fresh cheeses	1.5	-0.2	-13.9 %	1.6	-0.3	-15.8 %
Gourmet sweet fresh cheeses	3	-0.1	-4.5 %	3.3	-0.07	-2%
Artificially-sweetened fresh cheeses	1.9					
Dessert creams and jellied milks	4.4	+2	+62.7 %	2.2	-0.2	-10.2 %
Liégeois desserts and similar	2.6					
Curdled milks						
Fresh desserts with cereals	2.2	+0.2	+12.3 %			
Fresh mousse-type desserts	5.2					
Egg-based fresh desserts						
Fresh light and/or artificially-sweetened desserts	1.5	+0.1	+9.3 %			
Fresh plain unsweetened soy desserts	0.4					
Fresh sweetened soy desserts	0.5					
Other fresh plant-based desserts	3.6					
Other dairy products	6.6					

Table 20 : Summary of the evolution of the average saturated fat content for Fresh dairy products and desserts, by subcategory¹

3.2.4.7 Evolution of the sugar content among the subcategories

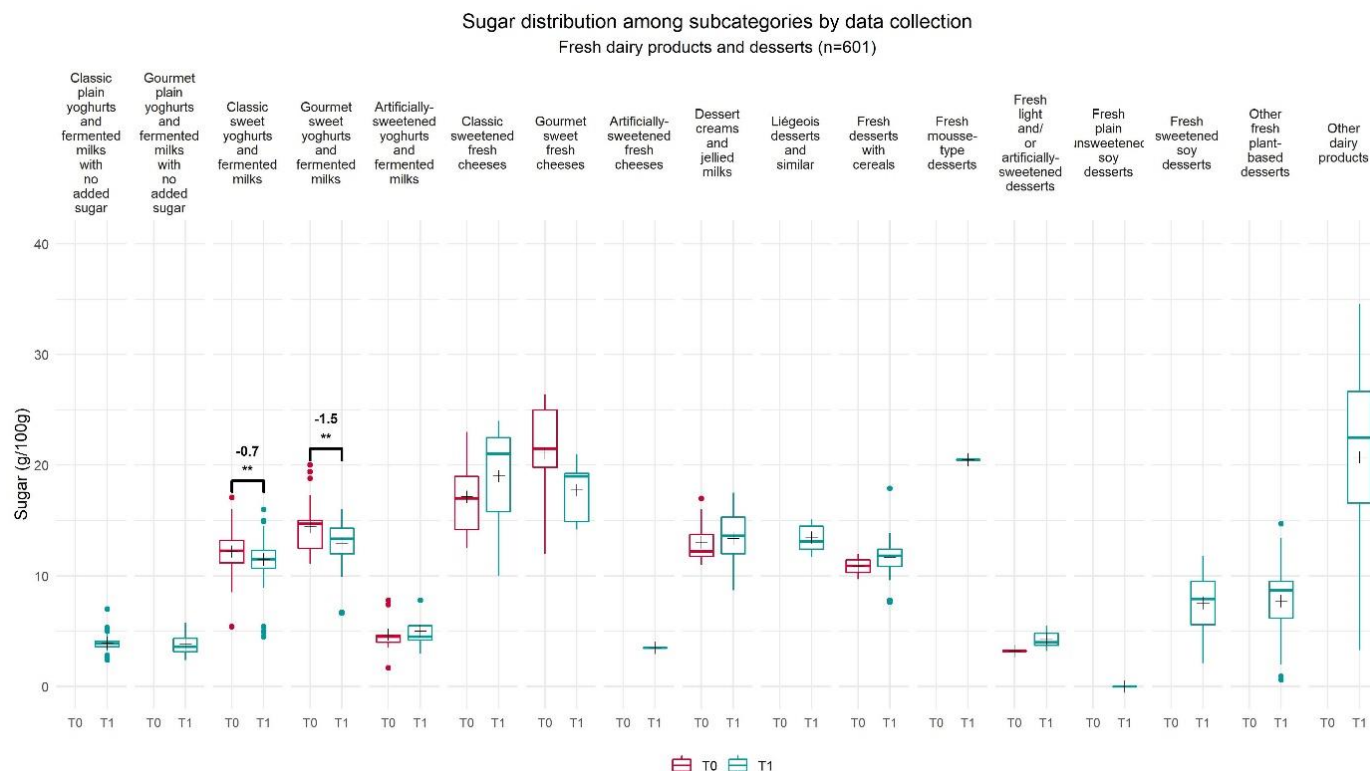


Figure 44 : Sugar distribution among subcategories of Fresh dairy products and desserts²

Figure 44 shows the sugar distribution of Fresh dairy products and desserts between 2020 (T0) and 2022 (T1) by subcategories. Among the 17 subcategories considered, the average sugar content has significantly decreased for two subcategory only: Classic sweet yoghurts and fermented milks (-0.7g/100g; -5.9%); and Gourmet sweet yoghurts and fermented milks (-1.5g/100g; -10.4%).

The subcategories including products with the most variable sugar content in 2022, meaning room for reformulation, are: Classic sweetened fresh cheeses (2020, n=5; 2022, n=15); Classic sweet yoghurts and fermented milks (2020, n=78; 2022, n=184); Other fresh plant-based desserts (2020, n=0; 2022, n=15) and Other dairy products (2020, n=0; 2022, n=4). Classic sweetened fresh cheeses and Classic sweet yoghurts and fermented milks are also part of the subcategories with the most variable sugar content in 2020 (T0).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)
 Purple box: significant decrease in average content ; Yellow box : significant increase in average content

² Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.4.8 Evolution of the sugar content for paired products

The

Table 3 summarizes the difference in the average sugar content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

A significant decrease in the mean sugar content of paired products is observed for the subcategory Classic sweet yoghurts and fermented milks (-0.9g/100g; -7%). This can be linked to the significant decrease of the mean sugar content observed at the subcategory level, meaning that this evolution can in part be explained by reformulations.

Subcategory_name	Sugar					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Classic plain yoghurts and fermented milks with no added sugar	3.9					
Gourmet plain yoghurts and fermented milks with no added sugar	3.8					
Classic sweet yoghurts and fermented milks	11.5	-0.7**	-5.9 %	11.3	-0.9**	-7%
Gourmet sweet yoghurts and fermented milks	12.9	-1**	-10.4 %	13.7	-0.7	-4.9 %
Artificially-sweetened yoghurts and fermented milks	5	+0.3	+7.1 %	4.3	0	0%
Classic plain fresh cheeses with no added sugar						
Gourmet plain fresh cheeses with no added sugar						
Classic sweetened fresh cheeses	19	+2	+11%	10.5	-2	-16%
Gourmet sweet fresh cheeses	17.7	-3	-15.8 %	19	-2	-9.5 %
Artificially-sweetened fresh cheeses	3.5					
Dessert creams and jellied milks	13.4	+0.3	+2.5 %	11.5	0	0%
Liégeois desserts and similar	13.5					
Curdled milks						
Fresh desserts with cereals	11.7	+0.8	+7.4 %			
Fresh mousse-type desserts	20.5					
Egg-based fresh desserts						
Fresh light and/or artificially-sweetened desserts	4.3	+1	+34.6 %			
Fresh plain unsweetened soy desserts	0					
Fresh sweetened soy desserts	7.6					
Other fresh plant-based desserts	7.7					

Other dairy products	20.7					
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Table 21 : Summary of the evolution of the average sugar content for Fresh dairy products and desserts, by subcategory¹

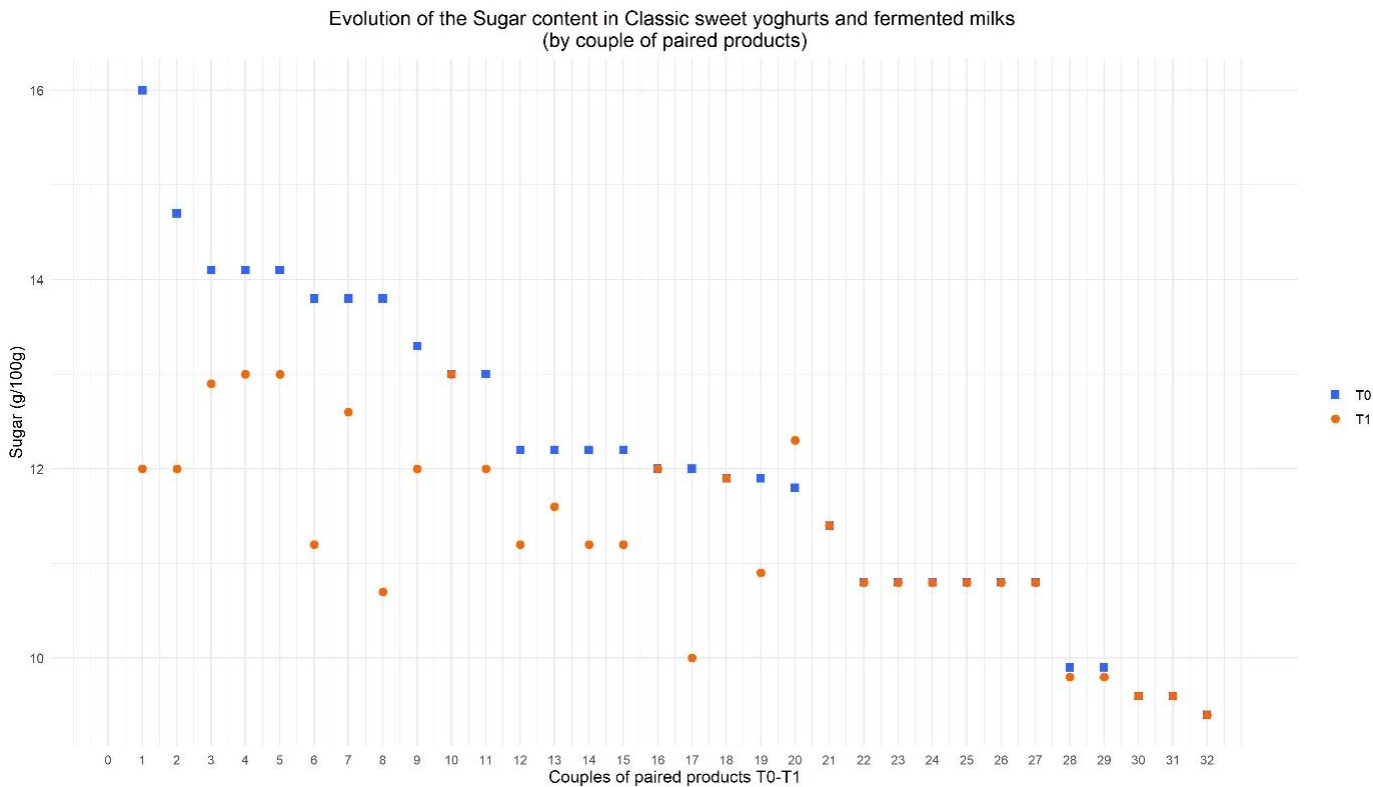


Figure 45 : Evolution of the Sugar content in Classic sweet yoghurts and fermented milk subcategory

Among the 32 couples of paired products in the sub-category of Classic sweet yoghurts and fermented milks, the majority (18 products) had lower sugar content in 2022 (T1) than in 2020 (T0). 16 out of 21 products that had more than 11g of sugar per 100g product in 2020 have been reformulated by decreasing the sugar content. Only one product had a higher sugar content in 2022 than in 2020 (Figure 45Erreur ! Source du renvoi introuvable.).

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)
Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.4.9 Evolution of the fibre content among the subcategories

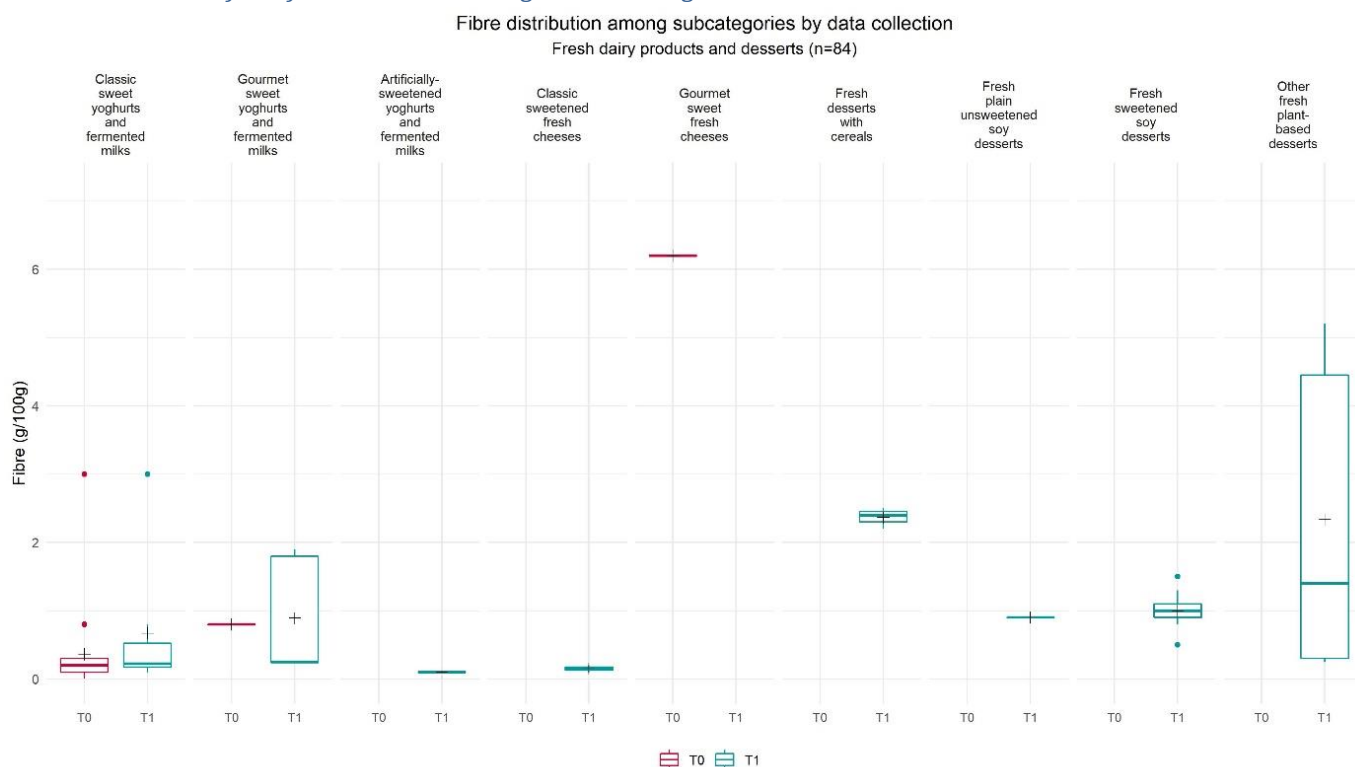


Figure 46 : Fibre distribution among subcategories of Fresh dairy products and desserts¹

Figure 46 shows the fibre distribution of Fresh dairy products and desserts between 2020 (T0) and 2022 (T1) by subcategories. Among the 9 subcategories considered, the average fibre content has not significantly changed.

The subcategories including products with the most variable fibre content in 2022, meaning room for reformulation, are: Gourmet sweet yoghurts and fermented milks (2020, n=1; 2022, n=5); Other fresh plant-based desserts (2020, n=0; 2022, n=7); Classic sweet yoghurts and fermented milks (2020, n=21; 2022, n=28) and Fresh sweetened soy desserts (2020, n=0; 2022, n= 9). Classic sweet yoghurts and fermented milks is also the only subcategory that shows variability in its fibre content in 2020 (T0).

It has to be mentioned that labelling of fibre content is not mandatory, which explains why the number of products and subcategories is lower in the analysis of fibre content.

3.2.4.10 Evolution of the fibre content for paired products

The

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Table 3 summarizes the difference in the average fibre content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

	Fibre					
	All products			Paired products		
Subcategory_name	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Classic plain yoghurts and fermented milks with no added sugar						
Gourmet plain yoghurts and fermented milks with no added sugar						
Classic sweet yoghurts and fermented milks	0.7	+0.3	+84.1 %	0.2	+0.2	
Gourmet sweet yoghurts and fermented milks	0.9	+0.09	+11.2 %			
Artificially-sweetened yoghurts and fermented milks	0.1			0.1		
Classic plain fresh cheeses with no added sugar						
Gourmet plain fresh cheeses with no added sugar						
Classic sweetened fresh cheeses	0.1			0.2		
Gourmet sweet fresh cheeses						
Artificially-sweetened fresh cheeses						
Dessert creams and jellied milks						
Liégeois desserts and similar						
Curdled milks						
Fresh desserts with cereals	2.4					
Fresh mousse-type desserts						
Egg-based fresh desserts						
Fresh light and/or artificially-sweetened desserts						
Fresh plain unsweetened soy desserts	0.9					
Fresh sweetened soy desserts	1					
Other fresh plant-based desserts	2.3					
Other dairy products						

Table 22 : Summary of the evolution of the average fibre content for Fresh dairy products and desserts, by subcategory¹

3.2.5 Soft drinks

The nutrients considered for the analysis of the evolution of the nutritional content of the Soft drinks are: Sugar, Salt, Fat and Saturated fat.

3.2.5.1 Evolution of the sugar content among the subcategories

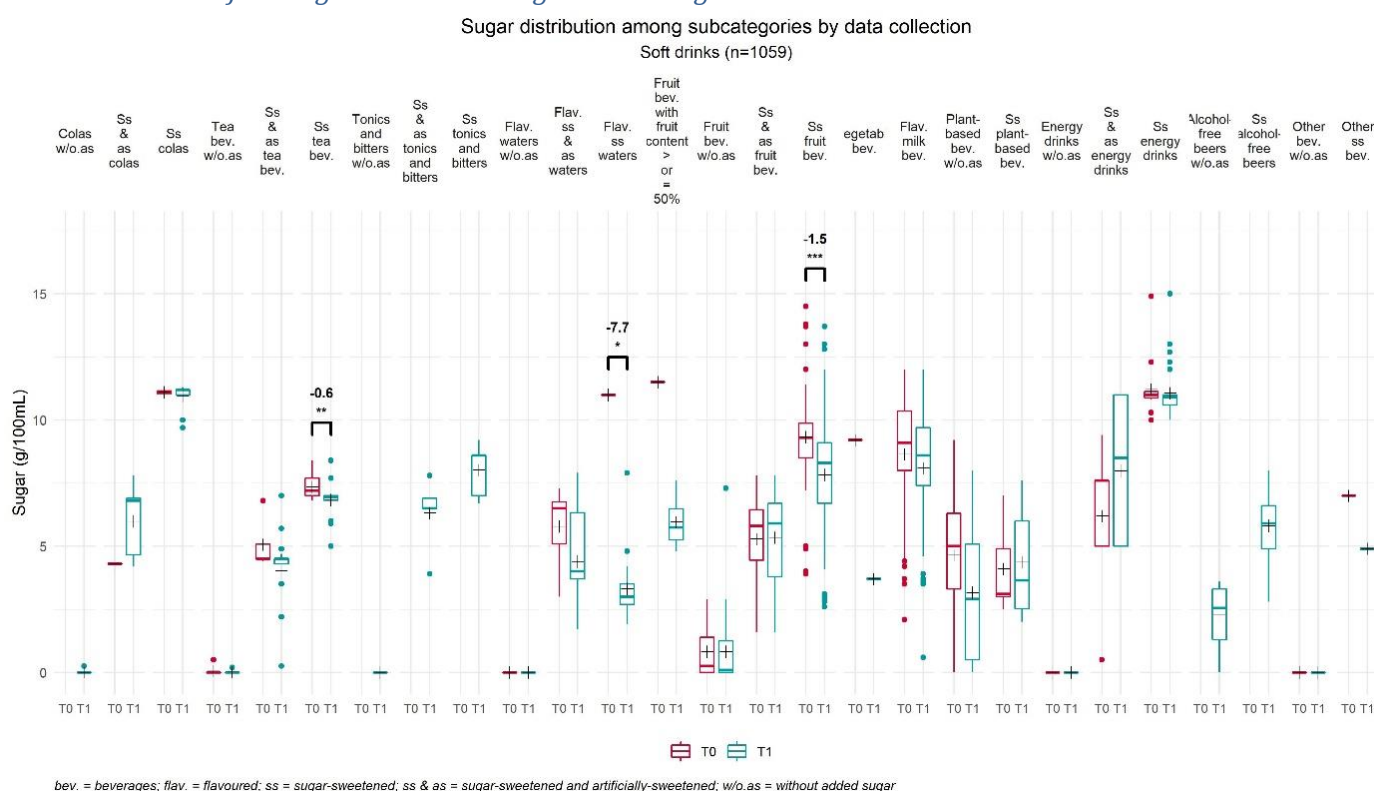


Figure 47 : Sugar distribution among subcategories of Soft drinks²

Figure 47 shows the sugar distribution of Soft drinks between 2020 (T0) and 2022 (T1) by subcategories. Among the 27 subcategories considered, the average sugar content has significantly decreased for three subcategories: Sugar-sweetened tea beverages (-0.6g/100g; -7.3%), Flavoured sugar-sweetened waters (-7.7g/100g; -69.9%), Sugar-sweetened fruit beverages (-1.5g/100g; -16.1%). Although in the flavoured sugar-sweetened waters subcategory the sugar reduction was big and significant but the small number of products in this subcategory at 2020 (T0, n=1) limits the interpretation of this change.

The subcategories including products with the most variable sugar content at both times, meaning room for reformulation, are: Sugar-sweetened fruit beverages (2020, n=76; 2022,

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

² Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

n=109), Flavoured milk beverages (2020, n=63; 2022, n=68) and Plant-based beverages without added sugar (2020, n=13; 2022, n=46).

The fact that higher variability is found in certain subcategories in 2022 (T1) may be explained in part by a greater number of products collected for some subcategories: Flavoured sugar-sweetened waters (2020, n=1; 2022, n=25); Sugar-sweetened and artificially sweetened tea beverages (2020, n=8; 2022, n=39).

3.2.5.2 Evolution of the sugar content for paired products

The Table 23 summarizes the difference in the average sugar content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

A significant decrease in the mean sugar content of paired products is observed for the subcategory Sugar-sweetened fruit beverages (-0.5g/100g; -5.4). This can be linked to the significant decrease of the mean sugar content observed at the subcategory level, meaning that this evolution can in part be explained by reformulations.

Subcategory_name	Sugar					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Colas without added sugar	0					
Sugar-sweetened and artificially-sweetened colas	6	+2	+39.2 %			
Sugar-sweetened colas	11	-0.1	-1.3 %	11	0	0%
Tea beverages without added sugar	0	-0.04	-82.6 %	0	-0.07	-100%
Sugar-sweetened and artificially-sweetened tea beverages	4	-1	-20.2 %	4.8	-0.3	-5.7 %
Sugar-sweetened tea beverages	6.8	-0.5**	-7.3 %	6.9	-0.1	-1.9 %
Tonics and bitters without added sugar	0					
Sugar-sweetened and artificially-sweetened tonics and bitters	6.3					
Sugar-sweetened tonics and bitters	8					
Flavoured waters without added sugar	0	0				
Flavoured sugar-sweetened and artificially-sweetened waters	4.4	-1	-24.1 %	4.9	-1	-21.2 %

Flavoured sugar-sweetened waters	3.3	-8*	-69.9 %			
Fruit beverages with fruit content > or = 50%	6	-6	-48.3 %			
Fruit beverages without added sugar	0.8	-0.002	-0.2 %	1.8	0	0%
Sugar-sweetened and artificially-sweetened fruit beverages	5.3	+0.05	+1%	5.4	+0.04	+0.8 %
Sugar-sweetened fruit beverages	7.8	-1***	-16.1 %	8.9	-0.5***	-5.4 %
Vegetable beverages	3.7	-5	-59.8 %			
Flavoured milk beverages	8.1	-0.5	-6.3 %	7.7	-0.2	-2.5 %
Plant-based beverages without added sugar	3.2	-1	-32%	5.8	+0.1	+2.2 %
Sugar-sweetened plant-based beverages	4.4	+0.3	+6.5 %	2.5	-0.5	-16.7 %
Energy drinks without added sugar	0	0				
Sugar-sweetened and artificially-sweetened energy drinks	8	+2	+28.7 %	5	0	0%
Sugar-sweetened energy drinks	11.1	-0.1	-1.3 %	11.4	-0.04	-0.4 %
Alcohol-free beers without added sugar	2.3					
Sugar-sweetened alcohol-free beers	5.8					
Other beverages without added sugar	0	0				
Other sugar-sweetened beverages	4.9	-2	-30%			

Table 23 : Summary of the evolution of the average sugar content for soft drinks, by subcategory¹

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

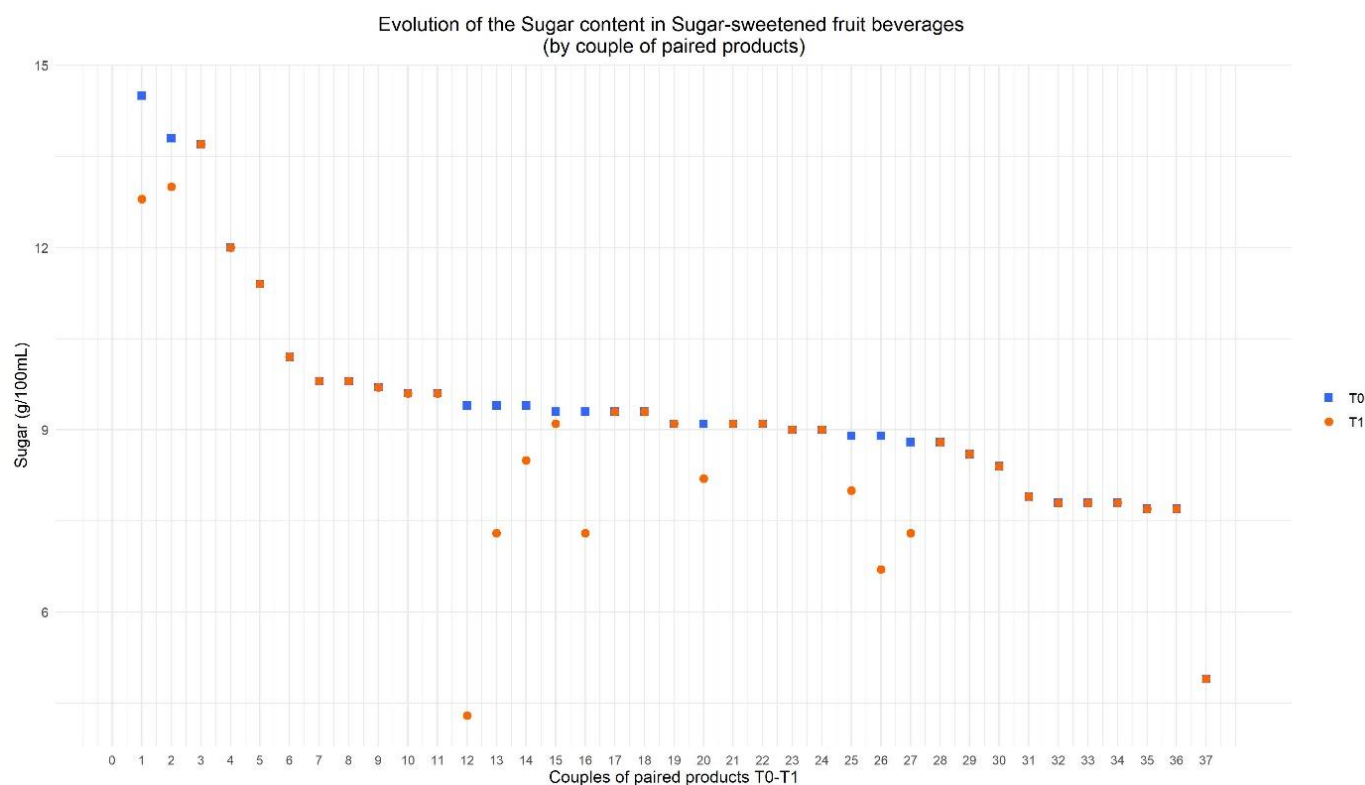


Figure 48 : Evolution of the Sugar content in Sugar-sweetened fruit beverages subcategory

Among the 37 paired products in the Sugar-sweetened fruit beverages subcategory, the sugar content did not change in 70% of the paired products. 11 products had a decrease in sugar content, the biggest decrease observed was 5.2g/100g between 2020 and 2022 (Figure 48).

3.2.5.3 Evolution of the salt content among the subcategories

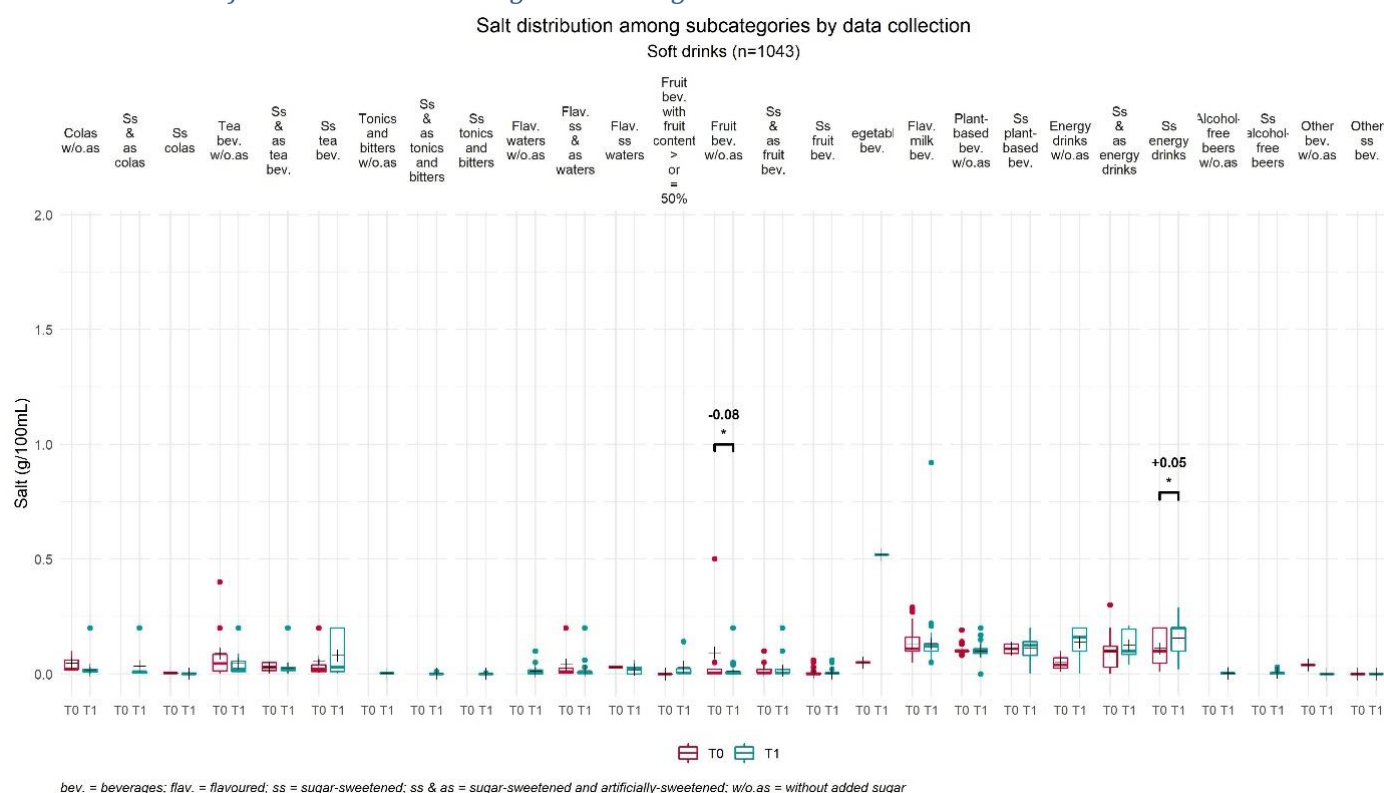


Figure 49 : Salt distribution among subcategories of Soft drinks¹

Figure 49 shows the salt distribution of Soft drinks between 2020 (T0) and 2022 (T1) by subcategories. Among the 27 subcategories considered, the average salt content has significantly decreased for one subcategory: Fruit beverages without added sugar (-0.08g/100g; -85.71%) and increased for one subcategory: Sugar-sweetened energy drinks (+0.05g/100g; +42.19%).

The subcategories including products with the most variable salt content at both times, meaning room for reformulation, are: Flavoured milk beverages (2020, n=63; 2022, n=68); Sugar-sweetened energy drinks (2020, n=16; 2022, n=37); Fruit beverages without added sugar (2020, n=18; 2022, n=43) and Tea beverages without added sugar (2020, n=10; 2022, n=23). Energy drinks without added sugar (n=15) is also part of the subcategories with the most variable salt content in 2022 (T1).

¹Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.5.4 Evolution of the salt content for paired products

The Table 24 summarizes the difference in the average salt content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Subcategory_name	Salt					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Colas without added sugar	0.02	-0.029	-62.5 %			
Sugar-sweetened and artificially-sweetened colas	0.03					
Sugar-sweetened colas	0	-0.0032	-65%	0	0	0%
Tea beverages without added sugar	0.05	-0.044	-48.75 %	0.05	-0.069	-56.34 %
Sugar-sweetened and artificially-sweetened tea beverages	0.03	-0.0022	-7.69 %	0.02	-0.0063	-21.74 %
Sugar-sweetened tea beverages	0.08	+0.026	+48.36 %	0.12	-0.001	-0.8 %
Tonics and bitters without added sugar	0					
Sugar-sweetened and artificially-sweetened tonics and bitters	0					
Sugar-sweetened tonics and bitters	0					
Flavoured waters without added sugar	0.01					
Flavoured sugar-sweetened and artificially-sweetened waters	0.02	-0.027	-63.71 %	0.01	+0.0025	+25%
Flavoured sugar-sweetened waters	0.02	-0.012	-39.33 %			
Fruit beverages with fruit content > or = 50%	0.03	+0.031				
Fruit beverages without added sugar	0.01	-0.079*	-85.71 %	0.01	0	0%
Sugar-sweetened and artificially-sweetened fruit beverages	0.01	+0.00025	+1.74 %	0.01	-0.0032	-26.81 %
Sugar-sweetened fruit beverages	0	-0.0017	-29.66 %	0	-0.0002	-4.61 %
Vegetable beverages	0.52	+0.47	+940%			
Flavoured milk beverages	0.13	-0.00026	-0.2 %	0.12	+0.0013	+1.1 %

Plant-based beverages without added sugar	0.1	-0.009	-8.24 %	0.09	-0.005	-5.13 %
Sugar-sweetened plant-based beverages	0.11	0.00077	0.7 %	0.13	-0.01	-7.14 %
Energy drinks without added sugar	0.14	0.088	176.67 %			
Sugar-sweetened and artificially-sweetened energy drinks	0.12	+0.025	+24.55 %	0.15	0	0%
Sugar-sweetened energy drinks	0.16	+0.047*	+42.19 %	0.11	+0.039	+51.92 %
Alcohol-free beers without added sugar	0					
Sugar-sweetened alcohol-free beers	0.01					
Other beverages without added sugar	0	-0.04	-100%			
Other sugar-sweetened beverages	0	0				

Table 24 : Summary of the evolution of the average salt content for soft drinks, by subcategory¹

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)
 Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.5.5 Evolution of the fat content among the subcategories

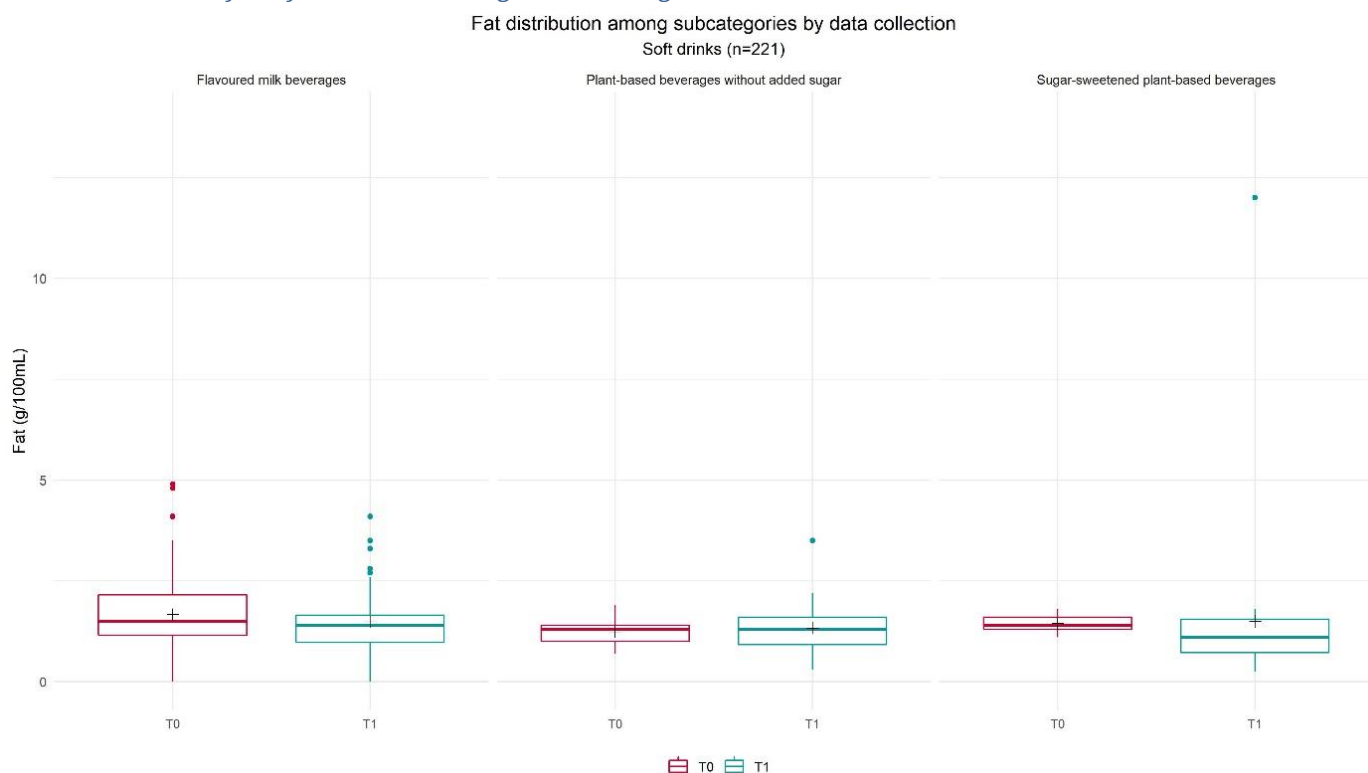


Figure 50 : Fat distribution among subcategories of Soft drinks¹

Figure 50 shows the fat distribution of Soft drinks between 2020 (T0) and 2022 (T1) by subcategories. Among the 3 subcategories considered, the average fat content has not significantly changed.

The subcategory including products with the most variable fat content at both times, meaning room for reformulation, is: Flavoured milk beverages (2020, n=63; 2022, n=68).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.5.6 Evolution of the fat content for paired products

The Table 25 summarizes the difference in the average fat content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Subcategory_name	Fat					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Flavoured milk beverages	1.5	-0.2	-10.9 %	1.6	+0.03	+1.6 %
Plant-based beverages without added sugar	1.3	+0.09	+7.4 %	1.6	+0.05	+3.2 %
Sugar-sweetened plant-based beverages	1.5	+0.06	+4%	0.9	-0.2	-18.2 %

Table 25 : Summary of the evolution of the average fat content for soft drinks, by subcategory¹

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)
 Purple box: significant decrease in average content ; Yellow box : significant increase in average content

3.2.5.7 Evolution of the saturated fat content among the subcategories

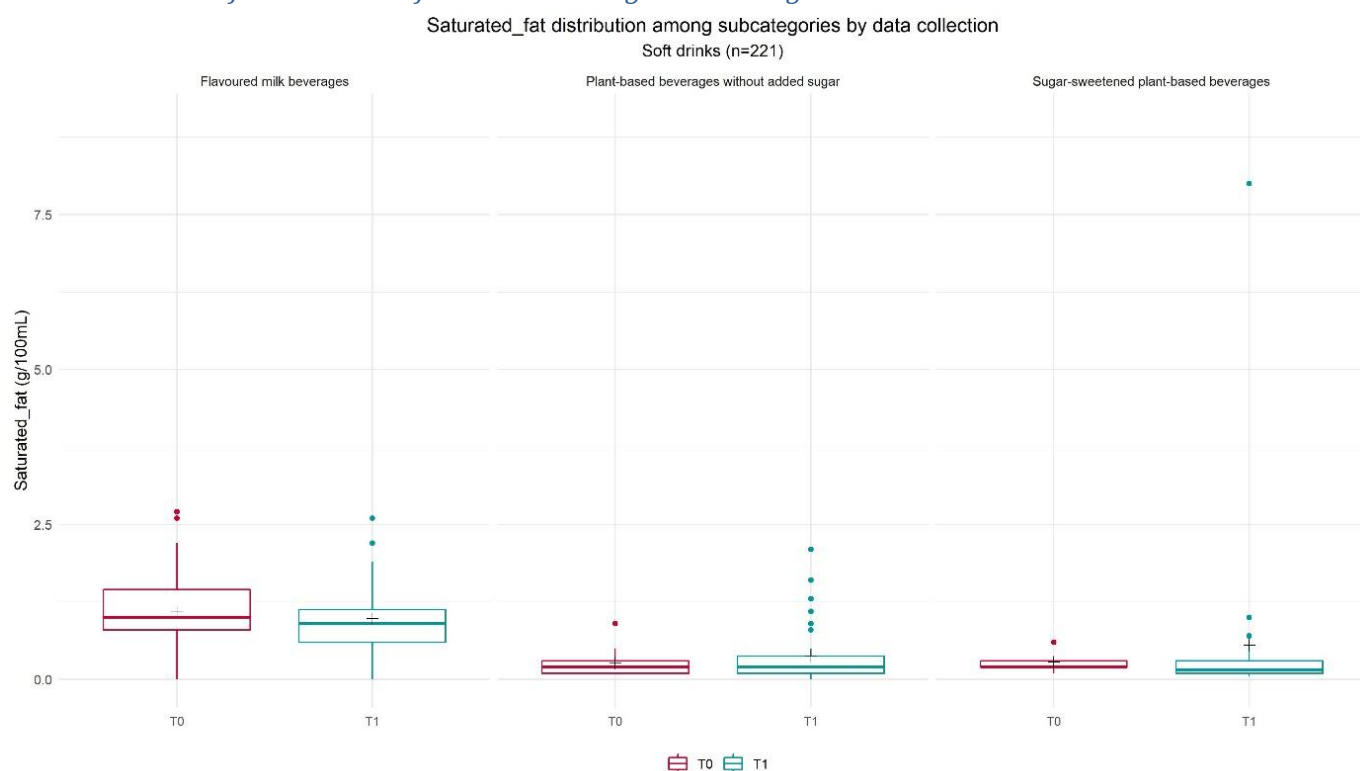


Figure 51 : Saturated fat distribution among subcategories of Soft drinks¹

Figure 51 shows the saturated fat distribution of Soft drinks between 2020 (T0) and 2022 (T1) by subcategories. Among the 3 subcategories considered, the average saturated fat content has not significantly changed.

The subcategories including products with the most variable saturated fat content at both times, meaning room for reformulation, is: Flavoured milk beverages (2020, n=63; 2022, n=68). Plant-based beverages without added sugar is also part of the part of the subcategories with the most variable saturated fat content in 2020 (T0, n=13).

¹Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.5.8 Evolution of the saturated fat content for paired products

The Table 26 summarizes the difference in the average saturated fat content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

No significant difference is observed at the level of paired products.

Subcategory_name	Saturated fat					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Flavoured milk beverages	1	-0.1	-10.1 %	1.1	+0.01	+1.2 %
Plant-based beverages without added sugar	0.4	+0.1	+42.1 %	0.2	-0.1	-35.7 %
Sugar-sweetened plant-based beverages	0.6	+0.3	+97.1 %	0.1	0	0%

Table 26 : Summary of the evolution of the average saturated fat content for soft drinks, by subcategory¹

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.5.9 Evolution of the fibre content among the subcategories

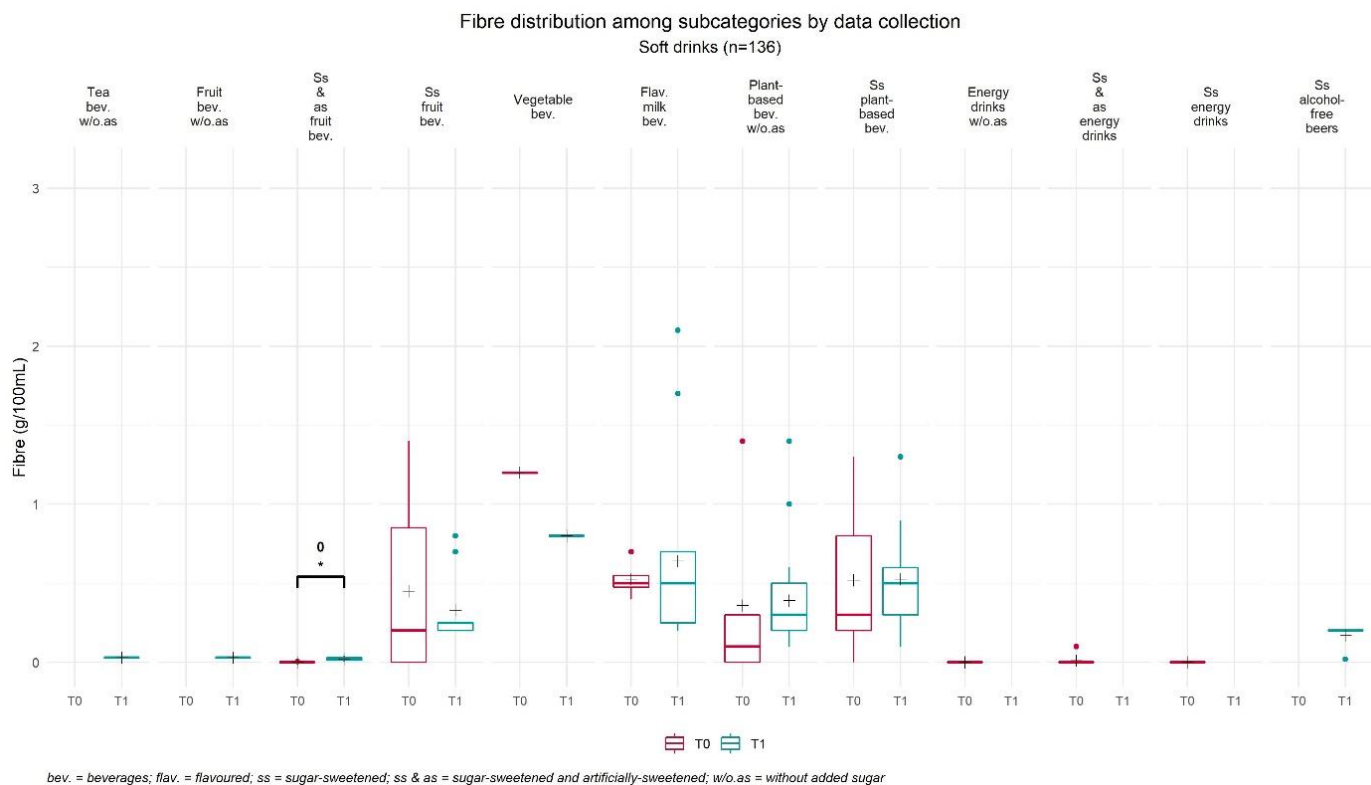


Figure 52 : Fibre distribution among subcategories of Soft drinks¹

Figure 52 shows the fibre distribution of Soft drinks between 2020 (T0) and 2022 (T1) by subcategories. Among the 12 subcategories considered, the average fibre content has significantly changed increased for one subcategory: Sugar-sweetened and artificially-sweetened fruit beverages (+0.02g/100g; +2066.7%). The increase in Sugar-sweetened and artificially-sweetened fruit beverages is that high (+2066.7%) because the labelling of fibre from one collection (T0) to another (T1) have changed on the products (from "traces" to "<0.5g", for example), which can lead to very large differences given the way in which these non-quantifiable values are transformed into numerical values.

The subcategories including products with the most variable fibre content at both times, meaning room for reformulation, are: Plant-based beverages without added sugar (2020, n=5; 2022, n=23) and Sugar sweetened plant-based beverages (2020, n=5; 2022, n=19). Flavoured milk beverages (n=13) is the subcategory with the most variable fibre content in 2022, and Sugar sweetened fruit beverages (n=8) was the subcategory with the most variable fibre content in 2020.

It has to be mentioned that labelling of fibre content is not mandatory, which explains why the number of products and subcategories are lower in the analysis of fibre content in Soft drinks compared to the other nutrient analyses in the same food category.

3.2.5.10 Evolution of the fibre content for paired products

Table 27 summarizes the difference in the average fibre content observed between 2020 (T0) and 2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation). No significant difference is observed at the level of paired products.

Subcategory_name	Fibre					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Colas without added sugar						
Sugar-sweetened and artificially-sweetened colas						
Sugar-sweetened colas						
Tea beverages without added sugar	0					
Sugar-sweetened and artificially-sweetened tea beverages						
Sugar-sweetened tea beverages						
Tonics and bitters without added sugar						
Sugar-sweetened and artificially-sweetened tonics and bitters						
Sugar-sweetened tonics and bitters						
Flavoured waters without added sugar						
Flavoured sugar-sweetened and artificially-sweetened waters						
Flavoured sugar-sweetened waters						
Fruit beverages with fruit content > or = 50%						
Fruit beverages without added sugar	0					
Sugar-sweetened and artificially-sweetened fruit beverages	0	0.02*	+2066.7%			
Sugar-sweetened fruit beverages	0.3	-0.1	-26.7%	0.4	0	0%
Vegetable beverages	0.8	-0.4	-33.3%			
Flavoured milk beverages	0.6	0.1	21.9%	1	0.4	61.10%

Plant-based beverages without added sugar	0.4	0.03	8.7%			
Sugar-sweetened plant-based beverages	0.5	0.006	1.2%	0.3	0.1	50%
Energy drinks without added sugar						
Sugar-sweetened and artificially-sweetened energy drinks						
Sugar-sweetened energy drinks						
Alcohol-free beers without added sugar						
Sugar-sweetened alcohol-free beers	0.2					
Other beverages without added sugar						
Other sugar-sweetened beverages						

Table 27 : Summary of the evolution of the average fibre content for soft drinks, by subcategory¹

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content



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Healthy Food for a Healthy Future

Ireland T1 statistics report

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1 Description of the food offer

1.1 Presentation of data collected

Ireland participated in the Best-ReMaP first snapshot of T0 data collection in 2021 and collected the following food categories: Breakfast cereals, Bread products, Delicatessen meats and similar products, Fresh dairy products and desserts and Soft drinks. In addition, Ireland collected data on Baby food (between 2021 and 2022). Although Baby food category was not part of the priority food categories for the Best-ReMaP project it was collected as extra data for inclusion in the T+1 report. As Ireland had pre-existing data for three categories (Baby food, Breakfast cereals, and yogurts) the data collected at T0 for three food categories (Baby food, Breakfast cereals, and Fresh dairy products and desserts) is considered as T+1 data in this report and compared against the pre-existing data collected by the FSAI on Baby food (collected in 2017), Breakfast cereals (collected in 2016-2017) and yoghurts (forming part of the category: Fresh dairy products and desserts) (collected in 2016-2017).

For the T0 report, only statistical description of the food categories collected for the first time (T0) was included (Bread products, Delicatessen meats and similar products, Fresh dairy products and desserts and Soft drinks). Note that details of the food offer collected for the Breakfast cereals category (type of brand, portion size, nutritional values...) is therefore not included in the T0 report.

Between June 2021 and November 2021, n=3471 (n=3114 excluding baby foods which were collected in 2021-2022) products were collected in four Irish supermarkets including Tesco Ireland, SuperValu, Lidl, and Aldi. Detailed market shares of collected products were not purchased, however according to Kantar (2022) these 4 supermarkets represent 68.8% of market share (Kantar, 2022)¹. National and retailer brand food products were collected in all retailers. All pre-packaged labelled food products (100%) available on shelves in the supermarkets on days of data collection for the priority food categories were collected (photographs of products packaging were taken in stores): (Breakfast cereals (10.6% n=367), Bread products (15.49%, n=538), Delicatessen meats and similar products (20.33%, n=706), Fresh dairy products and desserts (20.54%, n=713), Soft drinks (22.76%, n=790)) plus additional food category Baby food (10.28%, n=357).

¹Kantar's Grocery Market Share data is derived from Worldpanel's research covering the household grocery purchasing habits of 5,000 demographically representative households in Ireland. All data is based on the value of items being purchased by these consumers. Kantar only supports data published in the context in which it was originally presented and does not endorse any other interpretation of the data.

The T1 report included Fresh dairy and desserts²Breakfast cereals and Baby food (foods targeting infants (0-12 months) and young children (12-36 months)). Ireland had pre-existing data on breakfast cereals (2016-2017), yogurts (2016-2017) (part of the Fresh dairy products and desserts category), and foods targeting infants (0-12months) and young children (12-36 months) (2017). It should be emphasised that this data collection was conducted prior to engagement with, and initiation of the Best ReMaP project, therefore the methodology for this data collection (T0: 2016-2017) differed to the T1 (2021-2022) data collection methodology.

Between 2016-2017 products within categories Breakfast cereals and Fresh dairy products and desserts (yoghurts) were collected from all grocery outlets, including retailers and health food stores, in Dublin. A comprehensive survey of commercially available baby foods marketed in Ireland was also conducted between August and November 2017. Detailed market shares of collected products were not purchased. National and retailer brand food products were collected in all retailers. All pre-packaged labelled food products (100%) available on shelves in the supermarkets on days of data collection for the food categories (Breakfast cereals (n=452), Fresh dairy products and desserts* (yoghurts) (n=573), and Baby food (n=604) were collected (photographs of products packaging were taken in stores). It is important to note that, no information on barcodes was collected in 2016-2017 (as part of the historic data collection of Baby food, Breakfast cereals and Yoghurts). This means product matching (coupling of products based on father product code) was done using manufacturer and brand name. Although we are confident that product matches that have been identified are correct, it is not possible to say with certainty, that all product pairs have been identified, and that the pairing is exhaustive.

Table 1 : Years of data collections

Category name	T0 data collection year	T1 data collection year
Bread products	2021	None
Breakfast cereals	2016-2017	2021
Delicatessen meats and similar	2021	None
Fresh dairy products and desserts ²	2016-2017	2021
Soft drinks	2021	None
Baby food	2017	2021-2022

² For T0 data collection (2016-2017) only data on yoghurts available on the Irish market was collected within the category Fresh dairy products and desserts.

1.2 Evolution of the food offer

1.2.1 Evolution of the food offer, by category

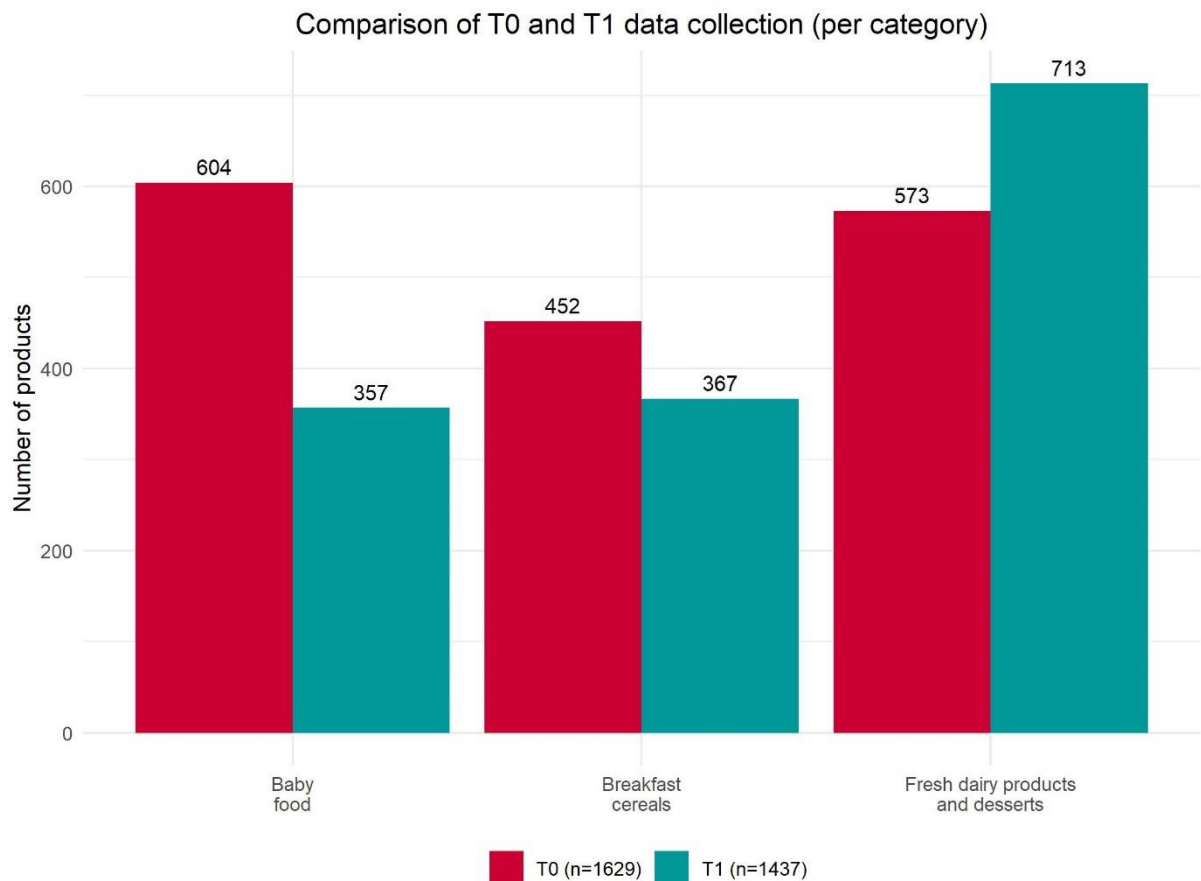


Figure 1 : Comparison of the number of references collected between preexisting (2016-2017=T0) and Best-ReMaP (2021-2022=T1) data collection, per category

The number of products collected at T1 is less than the number of products collected at T0 (1629 during T0 vs. 1437 during T1) for two of the three categories collected (Baby food: 604 vs. 357 T1; Breakfast cereals: 452 vs. 367), (Figure 1). It is greater at T1 compared to T0 for the category Fresh dairy products and desserts (573 during T0 vs. 713 during T1). Within the category Fresh dairy products and desserts, data at T0 was collected as part of a market snapshot only on yoghurts for sale on the Irish market. Therefore, data collected at T1 included a wider variety of product subcategories within the category Fresh dairy products and desserts (T0: 11 subcategories collected compared to T1: 20 subcategories collected).

1.2.2 Evolution of the food offer, by subcategory

1.2.2.1 Baby food

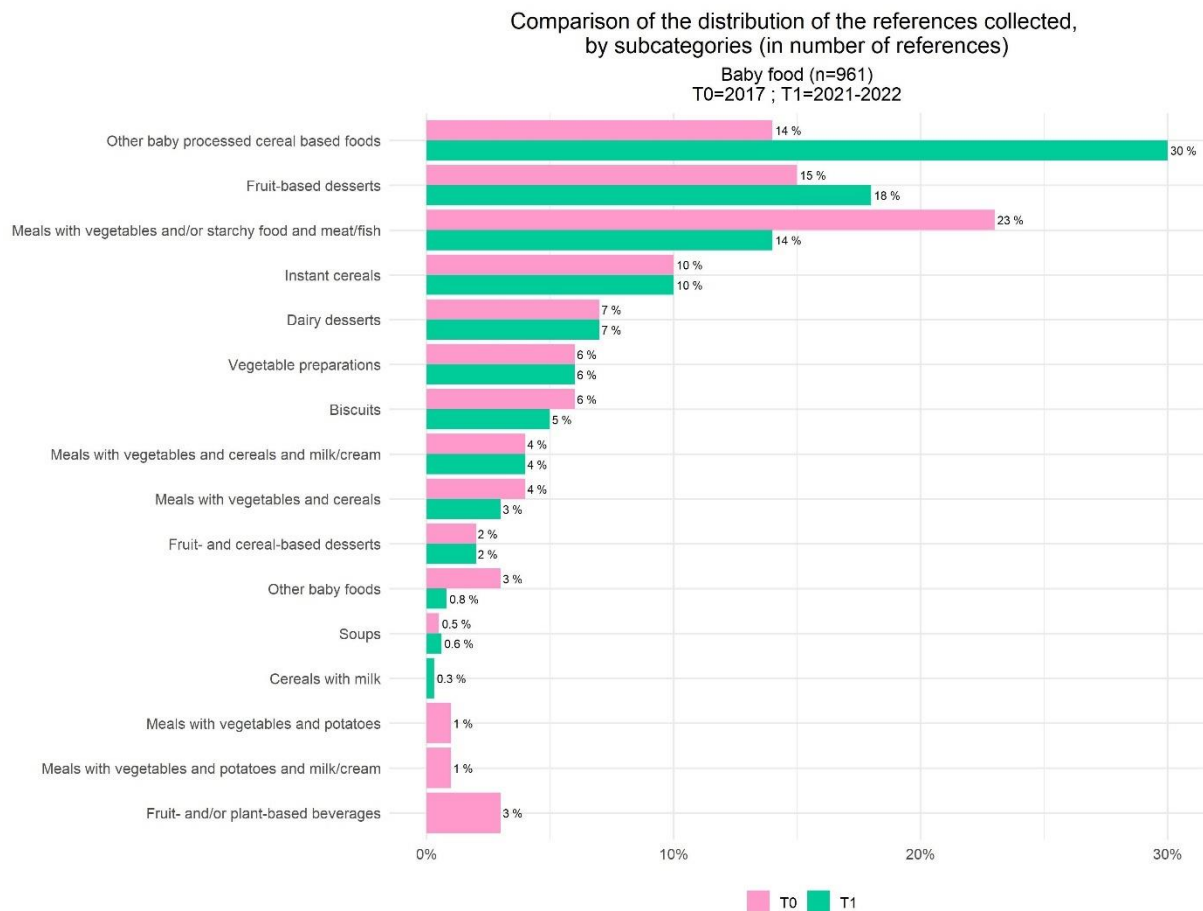


Figure 2 : Comparison of the distribution of the references collected, by subcategories (in number of references) among Baby food products.

The comparison of product distribution between 2017 (T0) and 2021-2022 (T1) (Figure 2) shows that the percentage of collected products is:

- Higher at T1 for 3 subcategories out of 16 (Other baby processed cereal based foods, Fruit-based desserts, and Soups).
- Higher at T0 in 4 subcategories out of 16 (Meals with vegetables and/or starchy food and meat/fish, Biscuits, Meals with vegetables and cereals, Other baby foods).
- Identical for 5 subcategories out of 16 (Instant cereals, Dairy desserts, Vegetable preparations, Meals with vegetables and cereals and milk/cream, and Fruit- and cereal-based desserts).
- Note that for 4 subcategories out of 16, product data was available/ collected for one time point only (Cereals with milk, Meals with vegetables and potatoes, Meals with vegetables and potatoes and milk/cream, and Fruit-and/or plant-based beverages).

1.2.2.2 Breakfast cereals

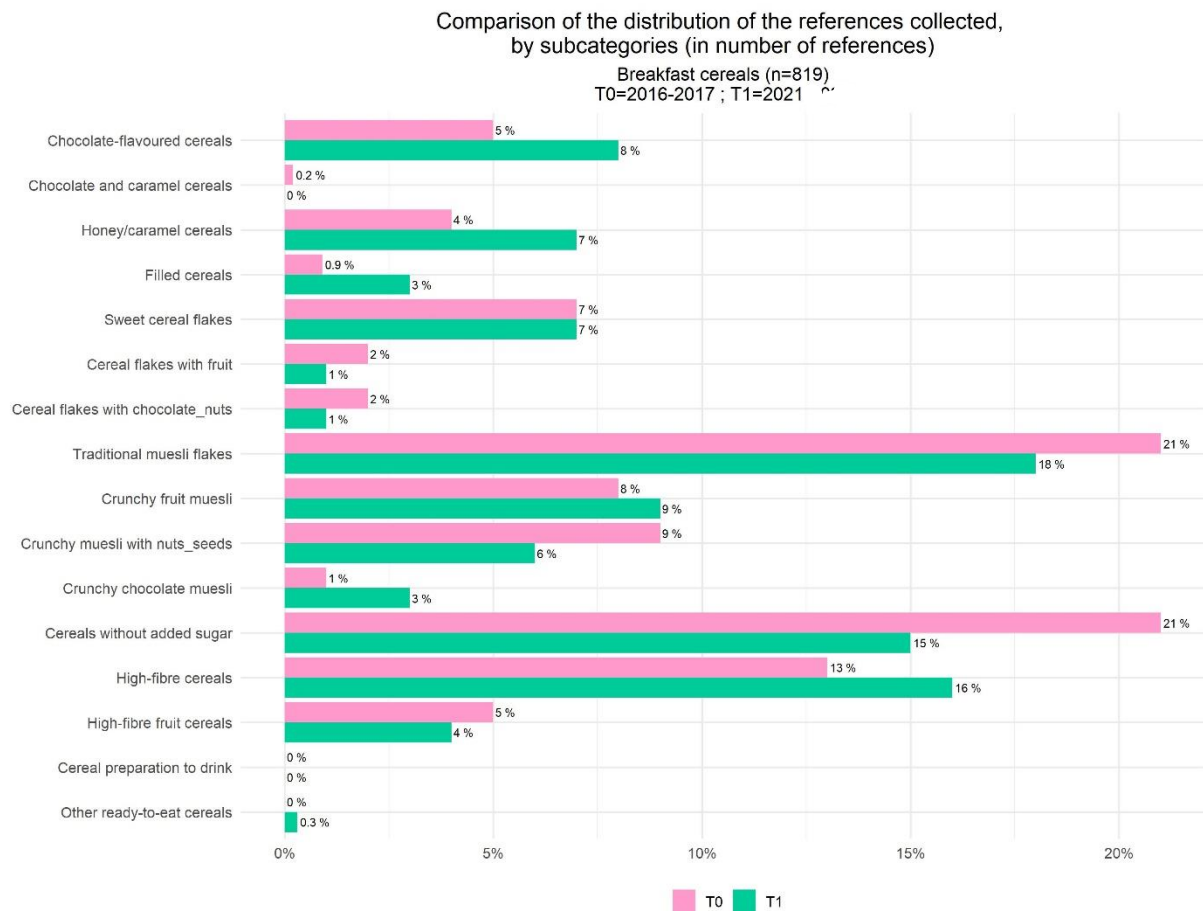


Figure 3: Comparison of the distribution of the references collected, by subcategories (in number of references) among Breakfast cereals.

The comparison of product distribution between 2016-2017 (T0) and 2021 (T1) (Figure 3) shows that the percentage of collected products is:

- Higher at T1 for 6 subcategories out of 16 (Chocolate-flavoured cereals, Honey/caramel cereals, Filled cereals, Crunchy fruit muesli, Crunchy chocolate muesli, and High-fibre cereals).
- Higher at T0 in 6 subcategories out of 16 (Cereal flakes with fruit, Cereal flakes with chocolate_nuts, Crunchy muesli with nuts_seeds, Traditional muesli flakes, Cereals without added sugar, and High-fibre fruit cereals).
- Identical for 1 subcategory out of 16 (Sweet cereal flakes).
- No products were collected for the subcategory Cereal preparation to drink at either timepoint (T0 and T1).
- For 2 out of 16 subcategories, product data was available/ collected for one timepoint only (Chocolate and caramel cereals, and Other ready-to-eat cereals).

1.2.2.3 Fresh dairy products and desserts

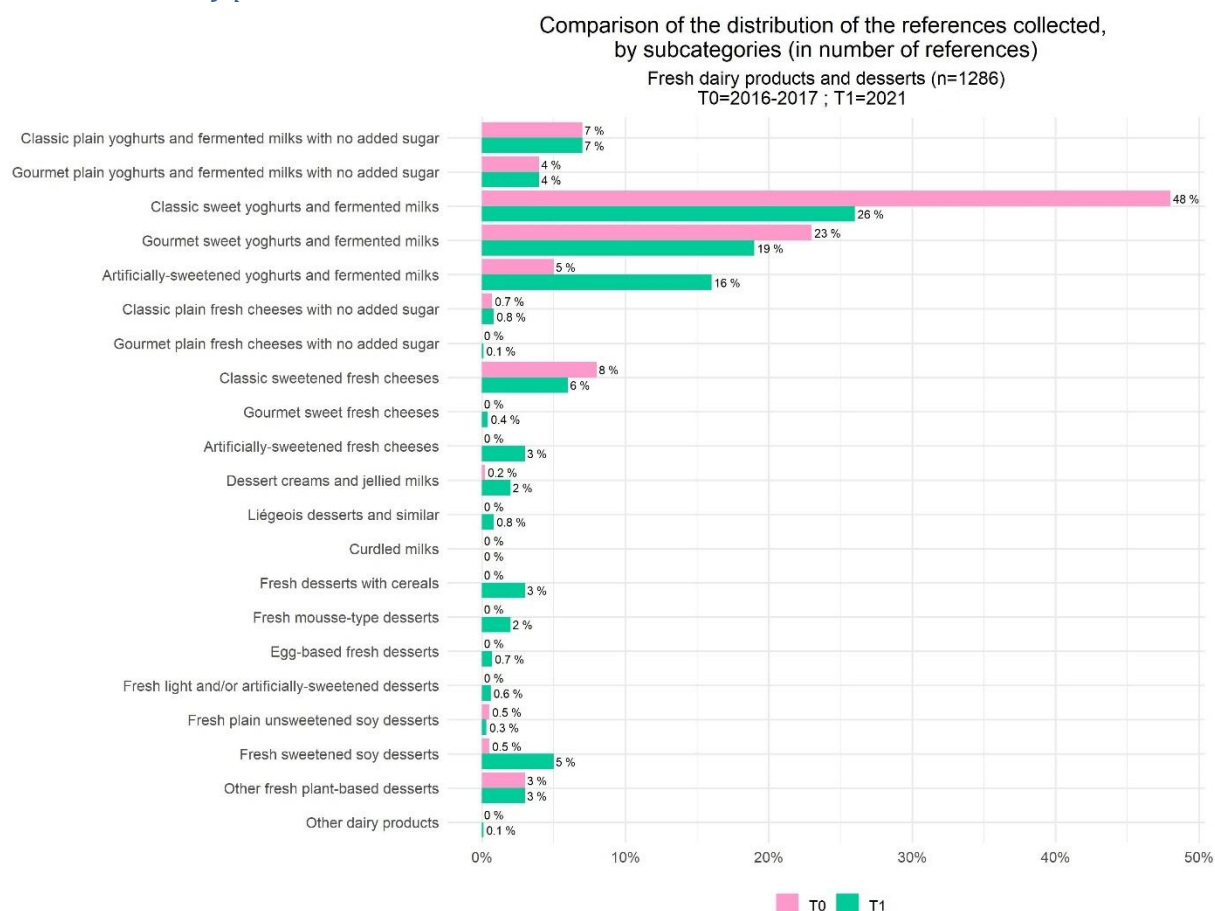


Figure 4 : Comparison of the distribution of the references collected, by subcategories (in number of references) among Fresh dairy products and desserts

The comparison of product distribution between 2016-2017³ (T0) (this data set contained 11 of the 20 Fresh dairy products and desserts subcategories) and 2021 (T1) (Figure 4) shows that the percentage of collected products is:

- Higher at T1 for 4 subcategories out of 21 (Artificially-sweetened yoghurts with fermented milks, Classic plain fresh cheeses with no added sugar, Dessert creams and jellied milks, and Fresh sweetened soy desserts).
- Higher at T0 in 4 subcategories out of 21 (Classic sweet yoghurts and fermented milks, Gourmet sweet yoghurts and fermented milks, Classic sweetened fresh cheeses, Fresh plain unsweetened soy desserts).
- Identical for 3 subcategories out of 21 (Classic plain yoghurts and fermented milks with no added sugar, Gourmet plain yoghurts and fermented milks with no added sugar, and Other fresh plant-based desserts).

³ For T0 data collection (2016-2017) only data on yoghurts available on the Irish market was collected within the category Fresh dairy products and desserts resulting in the representation of a fewer number of subcategories.

- For 9 subcategories (Gourmet plain fresh cheeses with no added sugar, Gourmet sweet fresh cheeses, Artificially-sweetened fresh cheeses, Liégeois desserts and similar, Fresh desserts with cereals, Fresh mousse-type desserts, Egg-based fresh desserts, Fresh light and/or artificially-sweetened desserts, and Other dairy products) product data was available/ collected for one time point. This was because T0 data was collected prior to Best ReMaP Project commencement, and these product subcategories were not in scope of the data collection.
- No products were collected for Curdled milks at either time point.

1.2.3 Analysis of the evolution of the food offer

This section describes the analysis of the evolution of the food offer. It should be considered that the interpretation of this data should be done with caution due to differences in the methodology followed for data collection at T0 and T1 (section 1.1). The methodology followed for pre-existing data collection in 2016/2017, (referred to in this report as T0), did not include the collection of barcode information. This means product matching (coupling of products based on father product code) was done using manufacturer and brand name. Although we are confident that product matches that have been identified are correct, it is not possible to say with certainty, that all product pairs have been identified, and that the pairing is exhaustive.

1.2.3.1 Baby food

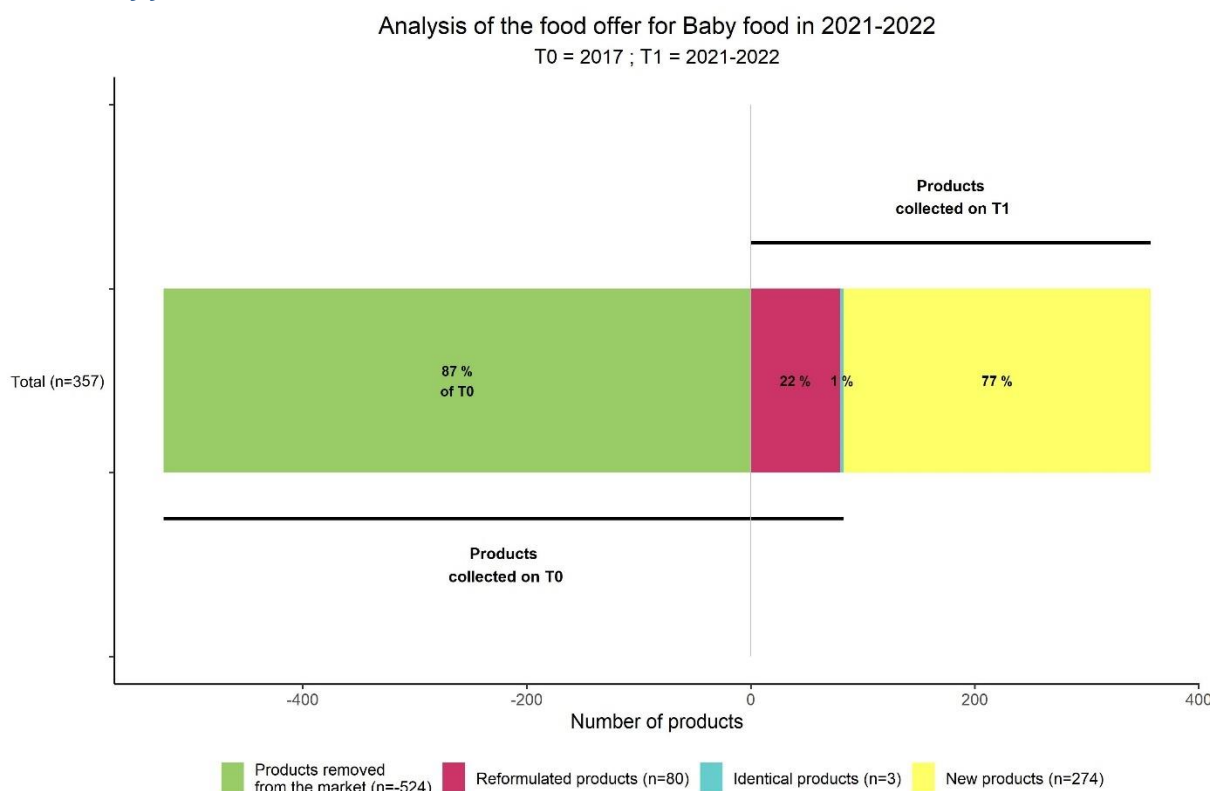


Figure 5: Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Baby food.

The comparison of the data collected between the two time points among Baby food category (Figure 5) shows that:

- Products added to the market represent 77% of the data collected in 2021-2022 (T1), reflecting a strong renewal of the offer. It may also be because previous snapshots did not capture all products available on the market. There could be numerous reasons accounting for the differences in products collected at both time points, for example,

this can be related to seasonal variation of product offering, the different retailers visited, or stock status of products on the day of data collection.

- A majority of products collected in 2017 (T0) are not found in data collected in 2021-2022 (T1), therefore are considered as removed from the market (87% of T0 data collection), but it can also be that products were not available at the time of the second snapshot data collection. This is possible considering data collected at T1 was from 4 retailers only (representing 68.8% of market share (Kantar, 2022), compared to at T0 where product data was collected from all grocery outlets in Dublin region.

- 22% of the products were already present in 2017 (T0) but have been reformulated in 2021-2022 (T1).

- 1% (n=3) of the products are identical between the 2 data collections, meaning that these products were available and/ or collected at both time points with no change in composition between the two time points.

1.2.3.2 Breakfast cereals

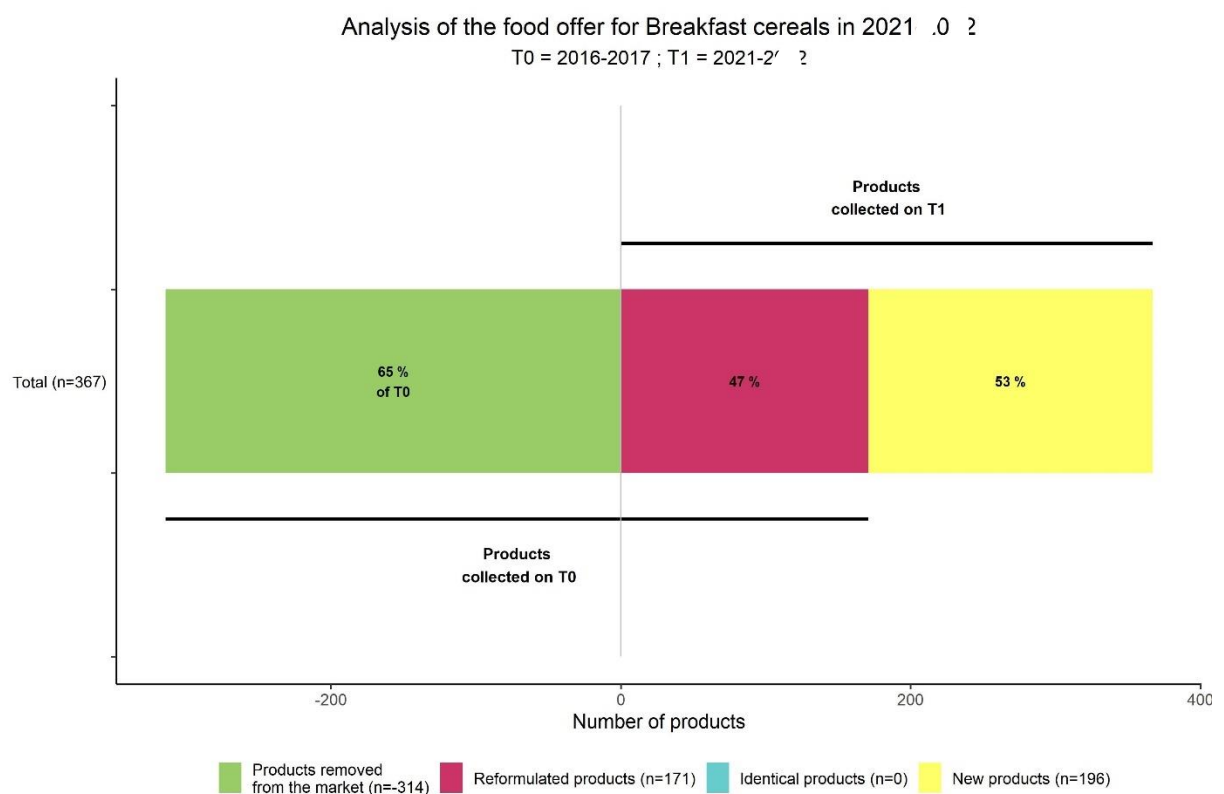


Figure 6: Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Breakfast cereals.

The comparison of the data collected between the two times among Breakfast cereals category (Figure 6) shows that:

- Products added to the market represent 53% of the data collected in 2021 (T1), reflecting a moderate renewal of the offer. It may also be because previous snapshots did not capture all products available on the market. There could be numerous reasons

accounting for the differences in products collected at both time points, for example, this can be related to seasonal variation of product offering, the different retailers visited, or stock status of products on the day of data collection.

- A majority of products collected in 2016-2017 (T0) are not found in data collected in 2021 (T1), therefore are considered as removed from the market (65% of T0 data collection), but it can also be that products were not available at the time of the second snapshot data collection. This is possible considering data collected at T1 was from 4 retailers only (representing 68.8% of market share (Kantar, 2022), compared to at T0 where product data was collected from all grocery outlets in Dublin region.

-47% of the products were already present in 2016-2017 (T0) but have been reformulated in 2021 (T1).

-No products are identical between the 2 data collections, meaning that no products were available and/ or collected, at both time points that had maintained their composition between the two time points.

1.2.3.3 Fresh dairy products and desserts

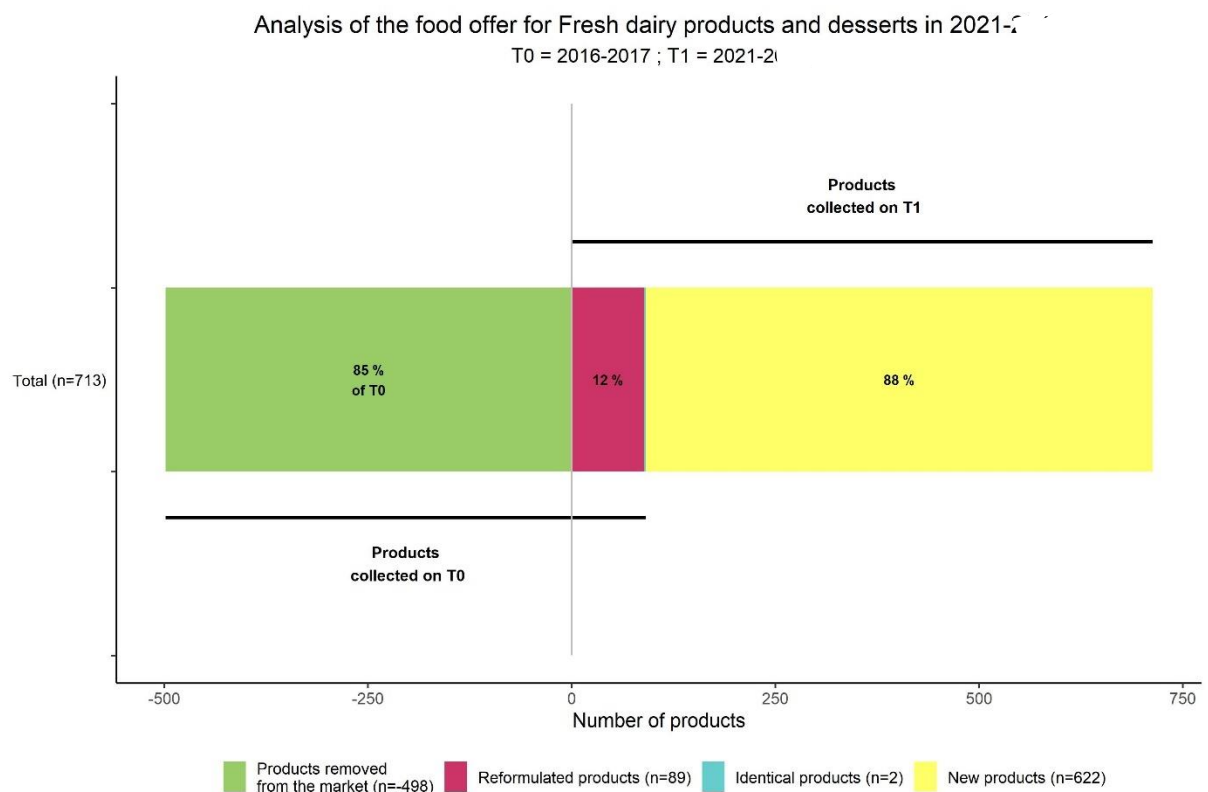


Figure 7: Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Fresh dairy products and desserts.

The comparison of the data collected between the two times among Fresh dairy products and desserts category (Figure 7) shows that:

- Products added to the market represent the majority of the data collected in 2021 (T1) (88% of T1 data collection), reflecting a strong renewal of the offer (it may also be caused by the fact that the previous snapshot did not capture all products available on the market). This is particularly relevant for this category as the data collection at T0 focused only on yoghurt products available on the Irish market, with T1 data collection collecting a wider variety of subcategories within Fresh dairy products and desserts.
- A majority of products collected in 2016-2017 (T0) are not found in data collected in 2021 (T1), therefore are considered as removed from the market (85% of T0 data collection), but it can also be that products were not available at the time of the second snapshot data collection. This is possible considering data collected at T1 was from 4 retailers only (representing 68.8% of market share (Kantar, 2022), compared to at T0 where product data was collected from all grocery outlets in Dublin region.
- 12% of the products were already present in 2016-2017 (T0) but have been reformulated in 2021 (T1).
- A small number of products (n=2) are identical between the 2 data collections, meaning that these products were available and/ or collected at both time points with no change in composition between the two time points.

2 Analysis of labeling parameters

2.1 Front of pack labeling, state of play of T1 data, per category

It should be noted that only data collected during Best-Remap are described in this section because the presence or absence of a front of pack labeling is a parameter that was not always available in preexisting data. Therefore, this section (2.1) will only describe 2021-2022 (T1) data.

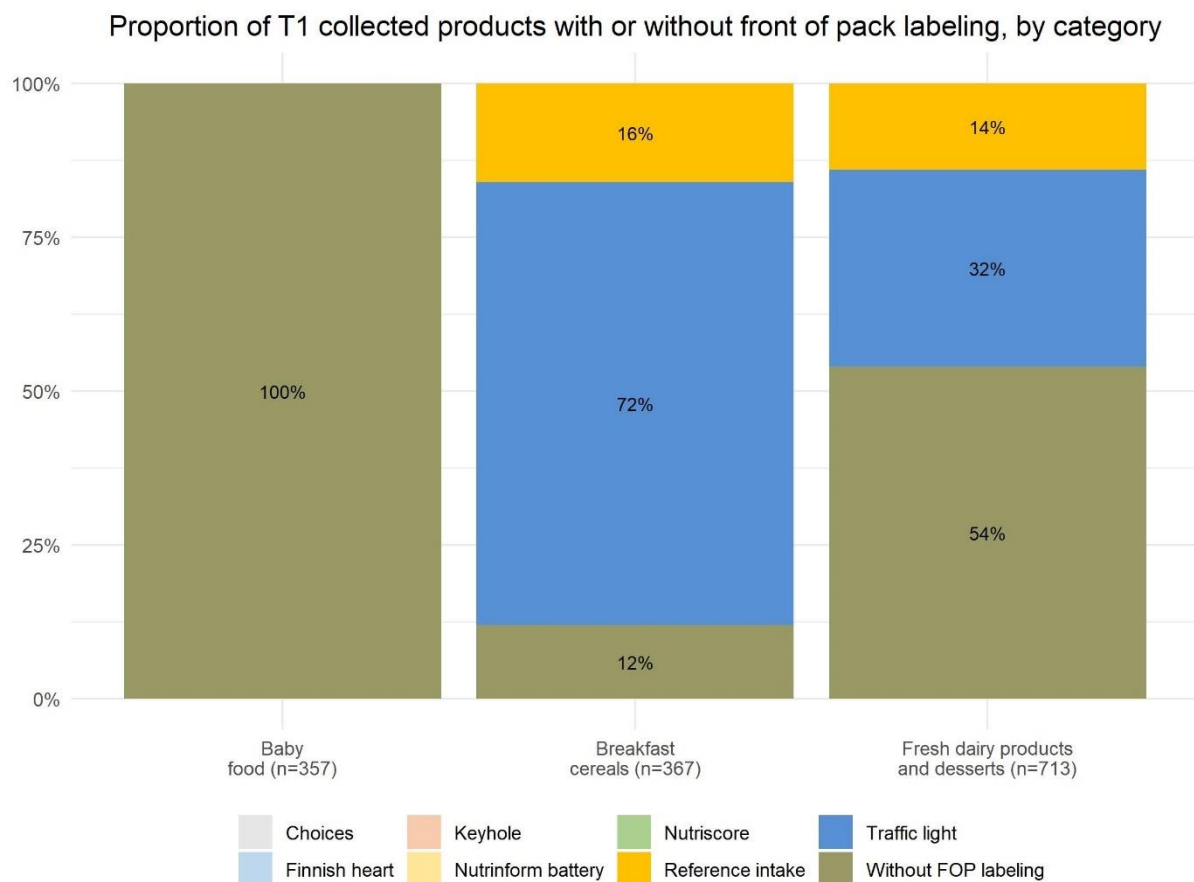


Figure 8: Proportion of products with or without front of pack labeling, by category

- Figure 8 shows the distribution of front-of-pack labelling by category across data collected at T1. For Baby food category, all products (100%) are without FOP labelling. 54% of products collected for the Fresh dairy products and desserts category are without FOP labelling. A small number (12 %) of products within the Breakfast cereals category are without FOP labelling.
- For 2 categories out of the 3 collected, Traffic light labelling is the most common label found on the front of packages: Breakfast cereals (72%) and Fresh dairy products and desserts (32%).
- Reference intake also appears on a smaller proportion of products (16% of the Breakfast cereals and 14% of the Fresh dairy products and desserts).

2.2 Evolution of the quantified portion size

2.2.1 Evolution of the proportion of products with or without quantified portion size

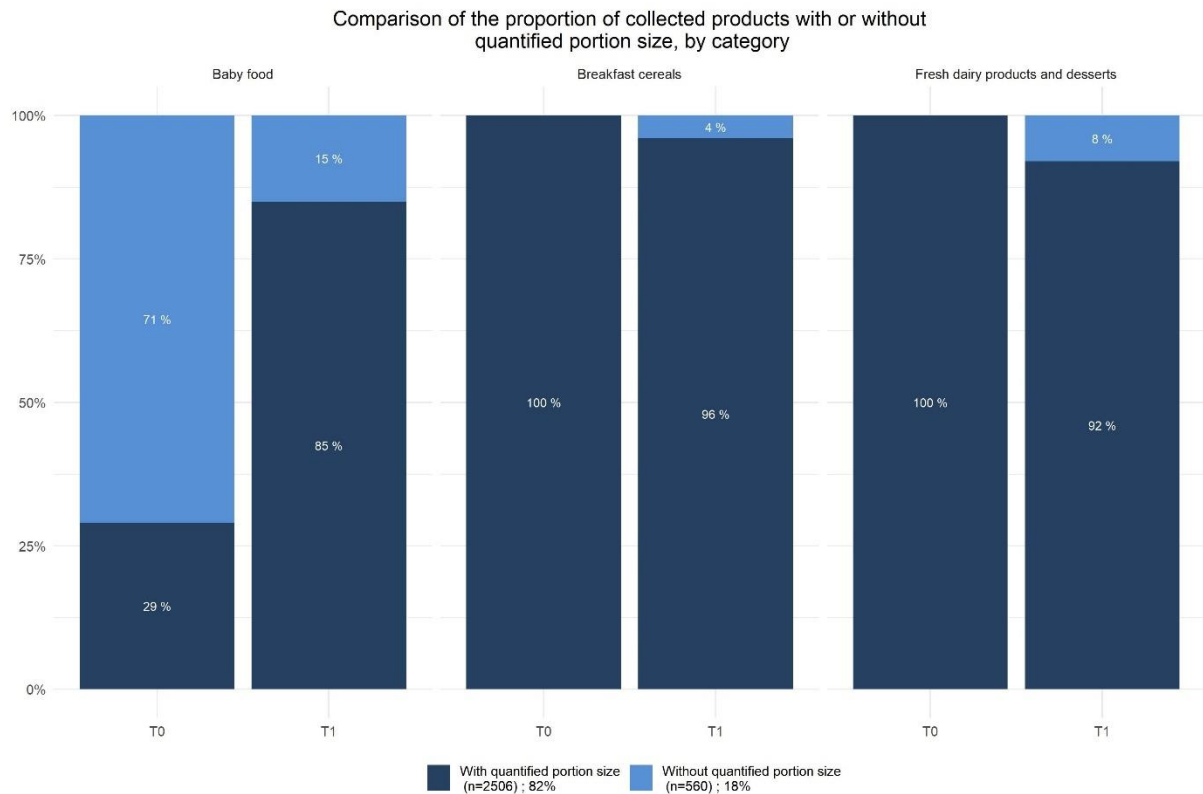


Figure 9 : Evolution of the proportion of collected products with or without quantified portion size, between T0 and T1, per category.

Between T0 and T1, the number of products with a quantified portion size has decreased slightly for Breakfast cereals (100% of products with quantified portion size in 2016-2017 (T0) vs. 96% in 2021 (T1)) and Fresh dairy products and desserts (100% in 2016-2017 (T0) vs. 92% in 2021 (T1)). On the other hand, it has increased for Baby Food (29% of products with quantified portion size in 2017 (T0) vs. 85% in 2021-2022 (T1)). It is worth noting that the increase in the number of products with quantified portion size within Baby food category may reflect the methodology adopted for data collection at T0 (2017), which was not as exhaustive as the Best ReMaP methodology.

2.2.2 Proportion of the most represented portion sizes, per category

The study of the size of quantified labelled portion sizes at both times is an indicator of the evolution of the serving sizes indicated by the manufacturers. The evolution of this parameter can potentially influence the quantities consumed and therefore the intake of nutrients.

2.2.2.1 Baby food

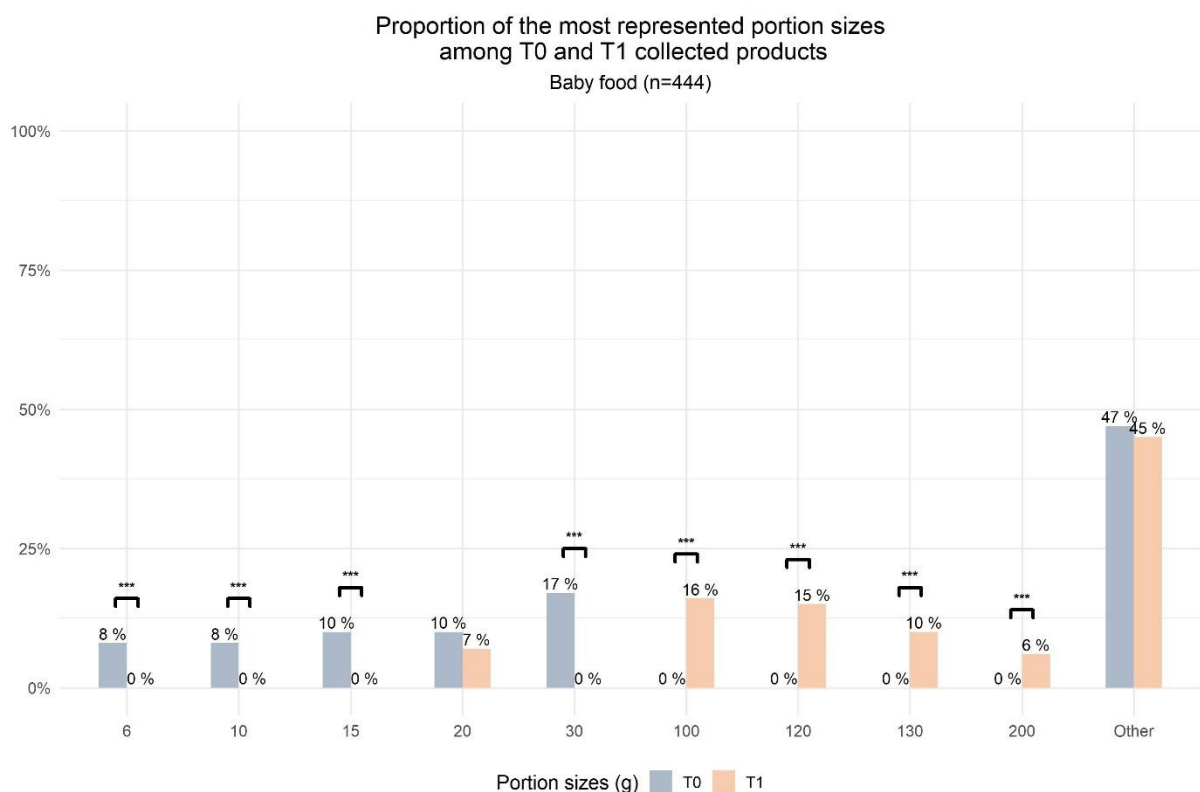


Figure 10 : Distribution of the size of the 5 most represented quantified portions in 2017 (T0) and 2021-2022 (T1) in Baby food category⁴

Between 2017 and 2021-2022, the most represented indicated portion sizes for Baby food category differ.. Product portion sizes of the five most represented quantified portion sizes were diversified at both time points, ranging from 6g to 30g at T0, and 20g to 200g at T1. Of the products collected in 2017 (T0) with quantified portion size (29% of Baby food collected in 2017 (Figure 10), the majority (53%) of these products, had a value of 30g or less. This does not include product portion sizes that fall into the category “Other”, which also may include portion sizes that are less than 30 g. For 2021-2022 (T1) at least 47% of products that had a listed nominated portion size, were greater than 100g. This demonstrates that the most

⁴ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

commonly suggested portion size for the range of product collected, was greater in T1 than in T0. This may reflect the variety of products collected within the two time points.

2.2.2.2 Breakfast cereals

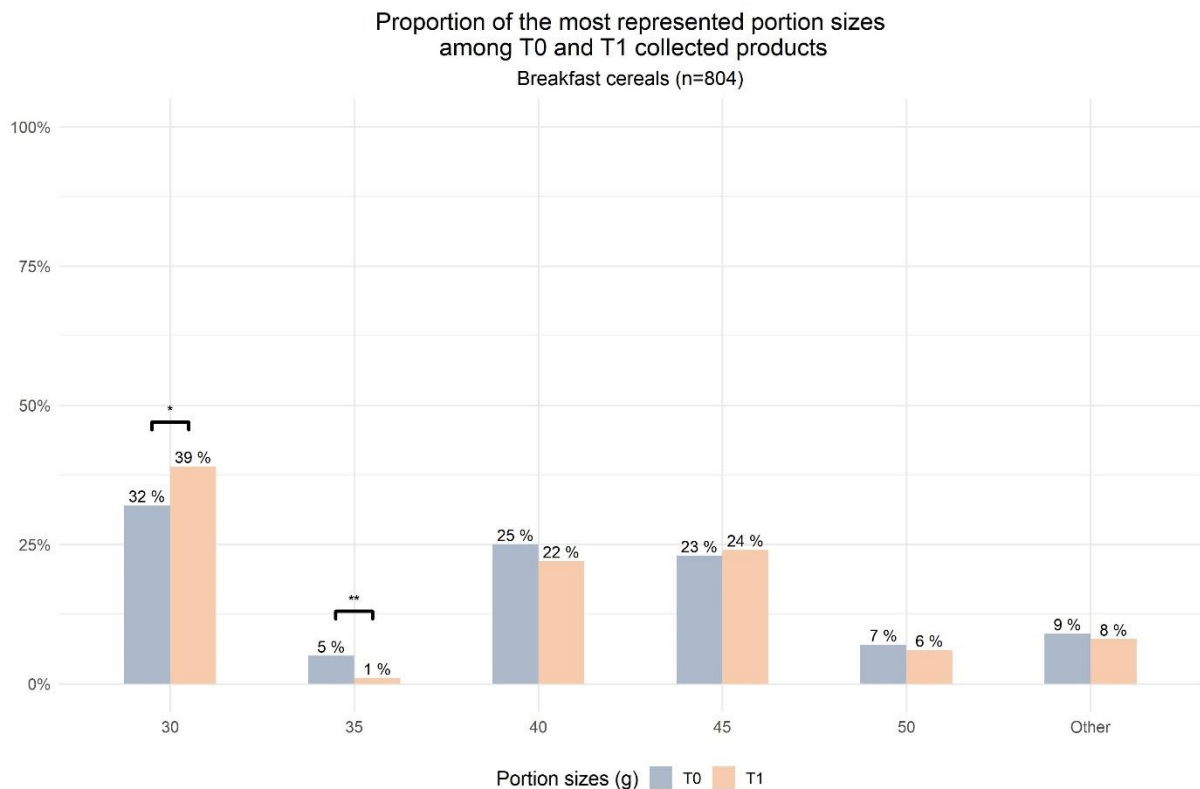


Figure 11: Distribution of the size of the 5 most represented quantified portions in 2016-2017 (T0) and 2021 (T1) in Breakfast cereals category⁵

Figure 11 shows the most common portion sizes found in the two data collections. Overall, it appears that the five most represented portion sizes are consistent across the two time points. At both time points, product portion sizes are diverse, ranging from 30g to 50g. There is a statistically significant¹ difference between the number of products with a portion size of 30 g (32% (T0), versus 39% (T1)), and 35g (5 % (T0) versus 1% (T1)).

It is interesting that at T1, for the majority of nominated portions there is a decrease in the proportion of products for the portion sizes: 35 g (T0 (5%) compared to T1 (1%)), 40g (T0 (25%) compared to T1 (22%)), 50g (T0 (7% compared to T1 (6%)). Considering the statistically significant¹ increase in the proportion of products with a portion size of 30g (T1 (32%) compared to T1 (39%)), it could suggest that there is a tendency that Breakfast cereal manufacturers are favouring a quantified portion size of 30g at T1.

⁵ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

2.2.2.3 Fresh dairy products and desserts

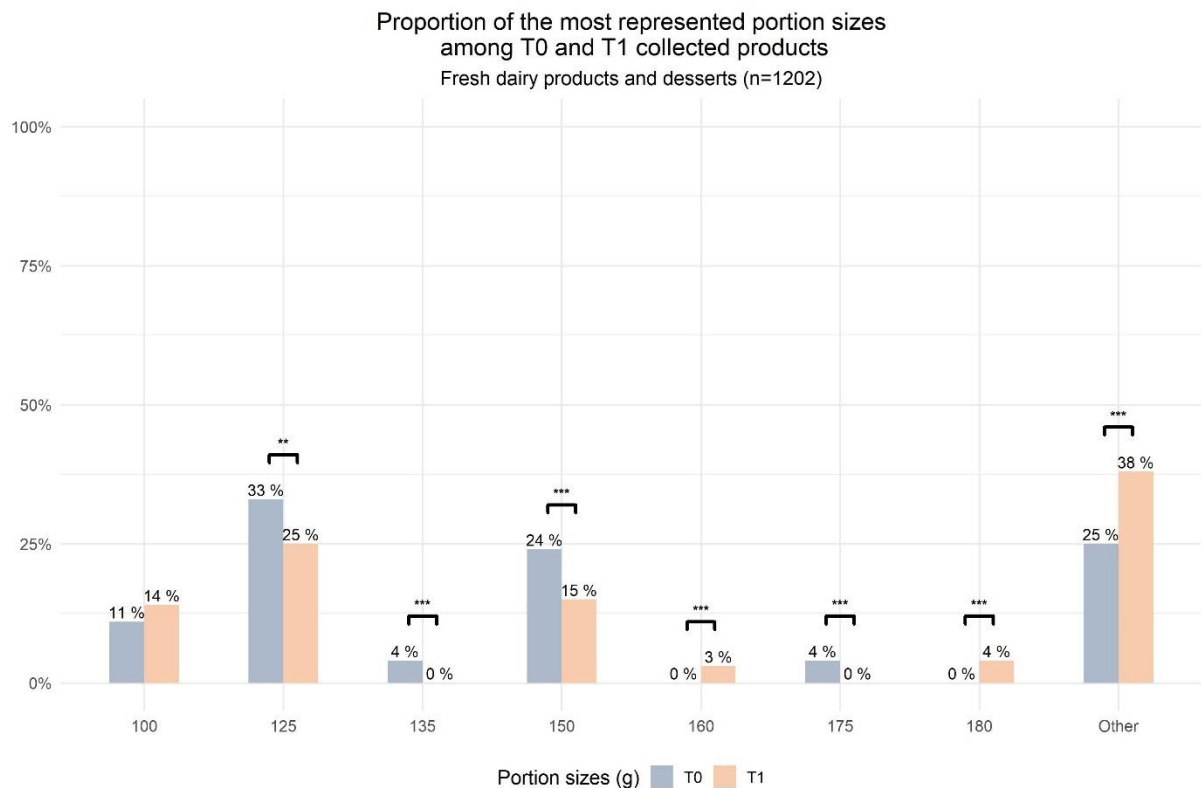


Figure 12: Distribution of the size of the 5 most represented quantified portions in 2016-2017 (T0) and 2021 (T1) in Fresh dairy products and desserts category⁶

Figure 12 shows the most common portion sizes found in the two data collections. It is important to note within the category Fresh dairy products and desserts, data at T0 was collected as part of a market snapshot on yoghurts for sale on the Irish market. Therefore, data collected at T1 included a wider variety of product subcategories within the category Fresh dairy products and desserts (T0: 11 subcategories collected compared to T1: 20 subcategories collected). There may be differences in typical portion sizes of products between the subcategories.

The five most represented quantified portions for Fresh dairy products and desserts at T0 and T1 are diverse, ranging from 100g to 175g (T0) and 100g to 180g (T1). The most represented portion size at both time points (with statistically significant more at T0 (33%) compared to T1 (25%) had a portion size of 125g. It is to be expected that a greater proportion of products had a portion size of 125g at T0 compared to T1, as T0 data collection focused on yoghurts available on the Irish market. This portion size (125g) is reflective of a standard yoghurt pot in Ireland. The second most represented portion size at both time points was 150 g (24 % at T0, and 15% at T1) followed by 100g (11% at T0, versus 14% at T1).

⁶ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

3 Evolution of labeled nutritional values

3.1 Evolution of the labelling frequency

The first parameter examined is the frequency of nutritional values on the packages. The proportion of products with a nutritional value per nutrient and per category in the 2 collections is presented in Table 2.

Despite mandatory labelling requirements, no category reported 100% labelling frequency for Protein, Fat, Saturated fat, Carbohydrates and Salt at T1. At T0 for the Breakfast cereal category, frequency of nutritional labelling was 100% for Fat and Protein. At T0 for Fresh dairy products and desserts category, frequency of nutritional labelling was 100% for Fat and Saturated fat.

There was an increase in the frequency of labelling of Salt between T0 and T1 for all categories ranging from +2% (Baby food, and Breakfast cereals) to +99% (Fresh dairy products and desserts). The increase (+99%) in the frequency of salt labelling for Fresh dairy and desserts, can be attributed to the fact that salt data was not collected for this category in 2016-2017, therefore inferences on the frequency of labelling of salt cannot be made for this category.

There are small differences (-1% to +4%) in the frequency of nutritional labelling between the two data collections (between 2016-2017 (T0 Breakfast cereals, and T0 Fresh dairy products and desserts) / 2017 (T0 Baby food) and 2021 (T1 Breakfast cereals, Fresh dairy and desserts) / 2021-2022 (T1 Baby food) across the nutrients: Protein, Fat, Saturated fat, and Carbohydrates except for in the Baby food category (Fat, 0% fat delta).

Between the two data collections (2016-2017 (T0 Breakfast cereals, and T0 Fresh dairy products and desserts) / 2017 (T0 Baby food) and 2021 (T1 Breakfast cereals, Fresh dairy and desserts) / 2021-2022 (T1 Baby food), the frequency of labeling ($\geq 98\%$) remains constant for Sugar for all categories.

For Fibre, even though nutritional labelling is not mandatory in Europe according to INCO regulation⁷, there is an increasing trend in its labelling (+1% to +4%) for all categories for which fibre is monitored. A high proportion of products within the categories Baby food (98% (T0) and 99% (T1)), and Breakfast cereals (94% (T0) and 98% (T1)) provided nutritional labelling for Fibre. This trend could be explained by consumer's interest in fibre content of foods and the use of nutrition claims related to fibre content of food.

⁷ Regulation (EU) No 1169/2011 of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers, amending Regulations (EC) No 1924/2006 and (EC) No 1925/2006 of the European Parliament and of the Council, and repealing Commission Directive 87/250/EEC, Council Directive 90/496/EEC, Commission Directive 1999/10/EC, Directive 2000/13/EC of the European Parliament and of the Council, Commission Directives 2002/67/EC and 2008/5/EC and Commission Regulation (EC) No 608/2004 (Text with EEA relevance)

Table 2 : Evolution of the frequency of nutrient labeling among the categories

	Fat			Saturated fat			Sugar		
Category_name	T0	T1	Delta	T0	T1	Delta	T0	T1	Delta
Baby food (T0: n=604 ; T1 : n=357)	99%	99%	0%	97%	99%	+2%	99%	99%	0%
Breakfast cereals (T0: n=452; T1: n=367)	100%	98%	-2%	99%	98%	-1%	98%	98%	0%
Fresh dairy products and desserts (T0: n=573; T1: n=713)	100%	99%	-1%	100%	99%	-1%	99%	99%	0%

¹ Value reflects that data on salt labelling within category Fresh dairy products and desserts (T0) was not collected rather than percentage of labels with salt labelling.

	Protein			Salt			Fibre		
Category_name	T0	T1	Delta	T0	T1	Delta	T0	T1	Delta
Baby food (T0: n=604; T1: n=357)	98%	99%	+1%	97%	99%	+2%	98%	99%	+1%
Breakfast cereals (T0: n=452; T1: n=367)	100%	98%	-2%	96%	98%	+2%	94%	98%	+4%
Fresh dairy products and desserts (T0: n=573; T1: n=713)	98%	99%	+1%	0% ¹	99%	+99%	63%	66%	+3%

3.2 Evolution of the nutritional composition, by category

Mean nutritional content presented in the tables and the text may differ slightly due to rounding rules applied to the data for the generation of the figures (boxplots).

3.2.1 Baby food

The nutrients considered for the analysis of the evolution of the nutritional content of the Baby food category are: Fat, Saturated fat, Sugar, Salt and Fibre.

3.2.1.1 Evolution of the fat content among the subcategories

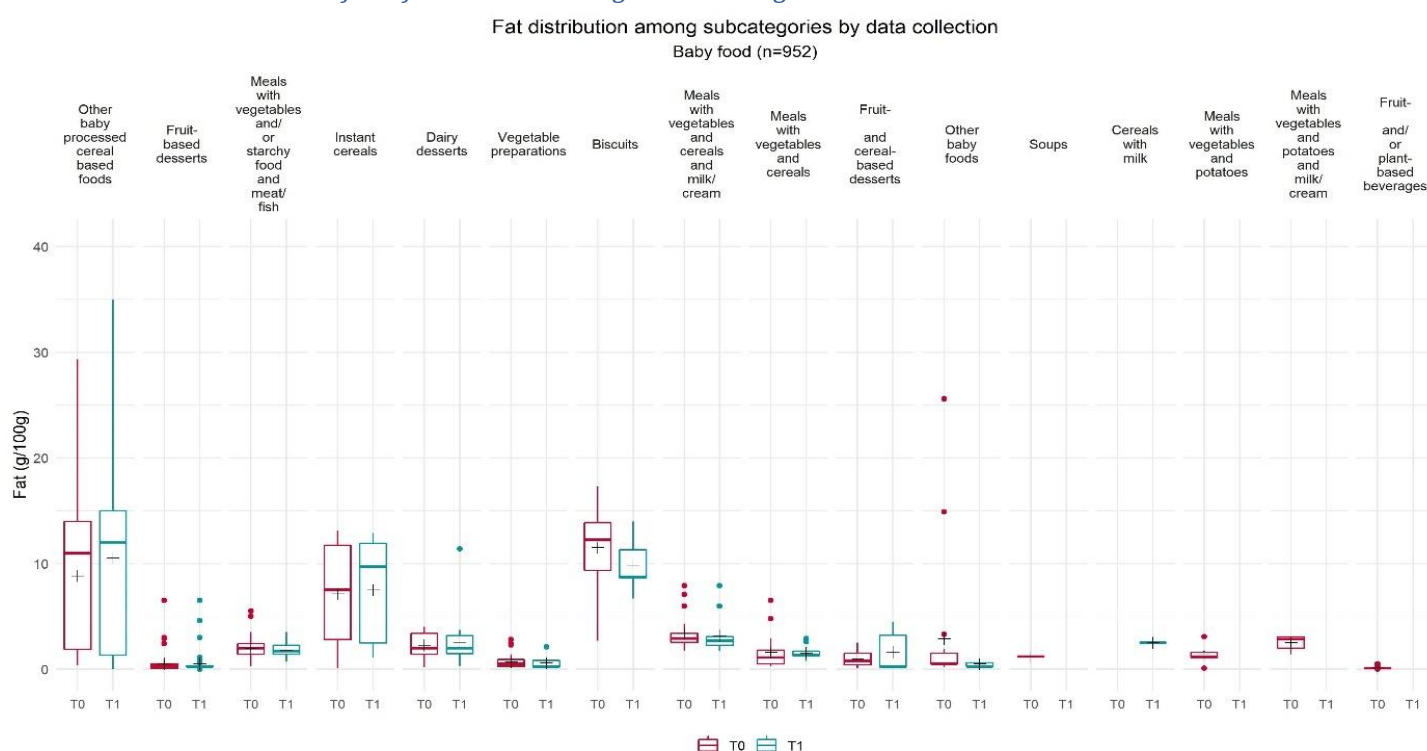


Figure 13 : Evolution of fat distribution among subcategories of Baby food⁸

It should be noted that fat is an important nutrient within the diets of babies and toddlers, and therefore it may not be appropriate to reduce fat in all food products aimed at this group. The type of fat is particularly important, such as Docosahexaenoic Acid (DHA) and Eicosapentaenoic Acid (EPA), which are omega -3 polyunsaturated fatty acids (PUFA's) with important functions. Research shows that in Ireland 1–4-year-olds do not meet the recommended intakes of EPA and DHA⁹.

Figure 13 shows the fat distribution of Baby food between 2017 (T0) and 2021-2022 (T1) by subcategories. Among the 16 subcategories considered, the average fat content has not statistically significantly decreased or increased for any of the subcategories.

The variability differs according to the subcategories but remains constant between the two times within the same subcategory for most subcategories. There is greater variability at T0 compared to T1 for Biscuits. The subcategories including products with the most variable fat

⁸ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

⁹ FSAI, 2020. Scientific recommendations for Food-based dietary guidelines for 1- to 5-year-olds in Ireland

content at both time points, meaning room for reformulation, are: Other baby processed cereal based foods (T0 n= 86, 0.4 g/100g to 29.3 g/100g, T1 n= 105, 0 g/100g to 35 g/100g) Instant cereals (T0 n= 60, 0.1 g/100g to 13.1 g/100g, T1 n= 36, 1.1 g/100g to 12.9 g/100g), and Biscuits (T0 n= 38, 2.7 g/100g to 17.3 g/100g, T1 n= 19, 6.7 g/100g to 14 g/100g).

The fact that higher variability is found in certain subcategories at different time points may be explained in part by a greater number of products, or diversification of products collected for some subcategories: Biscuits (T0 n = 38 compared to T1 n = 19) and Fruit and cereal based desserts (T0 n = 15 compared to T1 n = 6).

Outliers within the subcategories can be explained by the composition of the certain products within the subcategory. For example, higher fat content of products in the subcategory Other baby foods can be attributed to ingredients such as coconut or cheese within a small number of products, which are ingredients that naturally high in fat. Similarly, within subcategory Fruit based desserts, a small number of products contain coconut, contributing to a higher fat content. Within Dairy desserts, one product contains a high quantity (7%) of added vegetable fat within its composition.

3.2.1.2 Evolution of the fat content for paired products

Table 3 summarizes the difference in the average fat content observed between 2017 (T0) and 2021-2022 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable conclusions on reformulation).

No statistically significant difference is observed at the level of paired products within the category Baby food.

Table 3 : Summary of the evolution of the average fat content for Baby food, by subcategory ¹⁰

Subcategory_name	Fat					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Other baby processed cereal based foods	10.5	+ 1.7	+ 18.80 %	9.1	0.02	0.20 %
Fruit-based desserts	0.5	+ 0.003	+ 0.5 %	0.5	- 0.06	- 11.30 %
Meals with vegetables and/or starchy food and meat/fish	1.8	- 0.2	- 8.90 %	1.6	- 0.1	- 7.20 %
Instant cereals	7.5	+ 0.4	+ 5.0 %	9.7	+ 0.5	+ 4.90 %
Dairy desserts	2.5	+ 0.3	+ 12.40 %	2.5	- 0.07	- 2.80 %
Vegetable preparations	0.6	- 0.09	- 12.90 %	0.6	- 0.06	-10.00 %
Biscuits	9.8	- 1.7	- 14.60 %	8.1	- 0.4	- 5.30%
Meals with vegetables and cereals and milk/cream	3.2	- 0.2	- 5.30 %	4.5	0	0 %
Meals with vegetables and cereals	1.5	- 0.07	- 4.10 %	1.1	+ 0.3	+30.80 %
Fruit- and cereal-based desserts	1.6	+ 0.7	+ 69.60 %			
Other baby foods	0.5	- 2.4	- 82.60 %			
Soups						
Cereals with milk	2.5					
Meals with vegetables and potatoes						
Meals with potatoes and milk/cream						
Fruit–and/or plant-based beverages						

¹⁰ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.1.3 Evolution of the saturated fat content among the subcategories

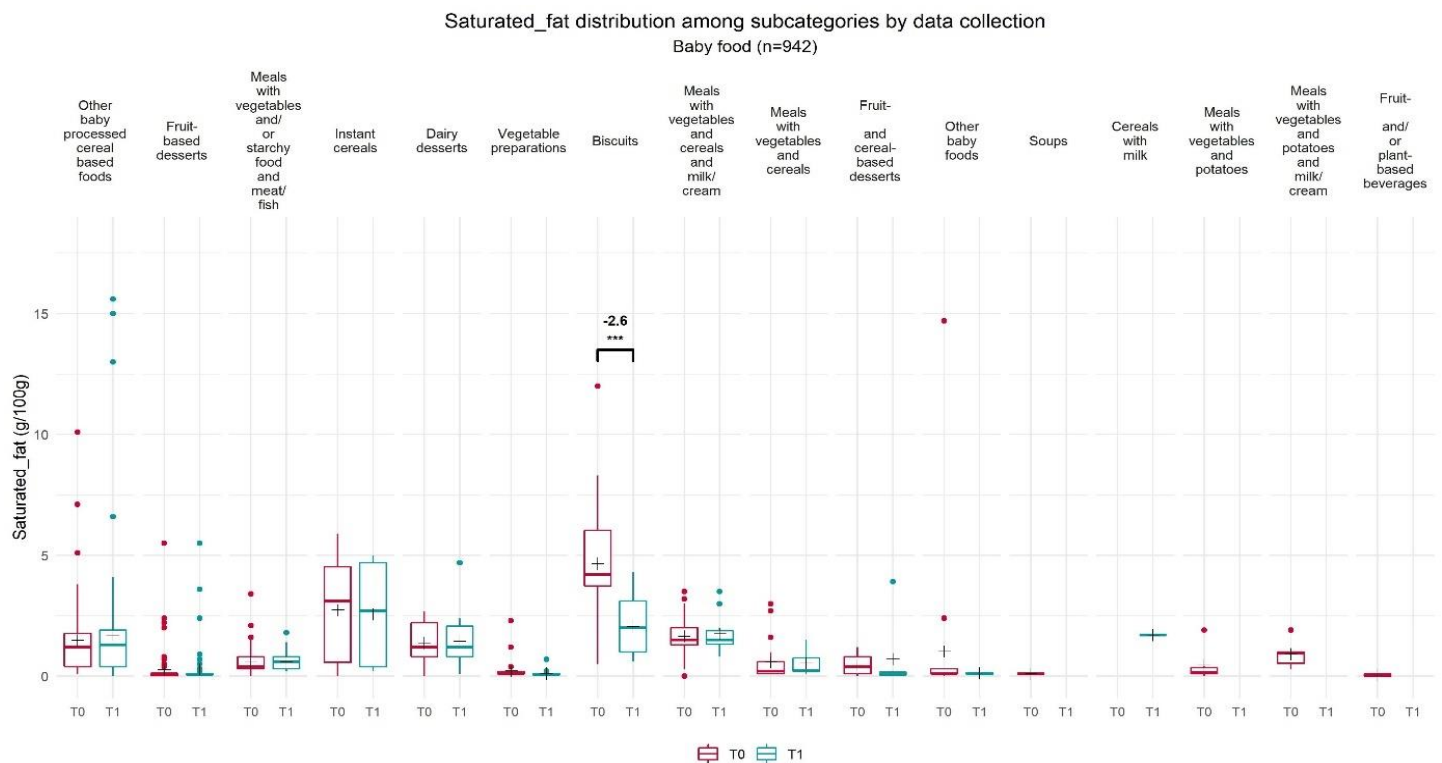


Figure 14: Saturated fat distribution among subcategories of Baby food¹¹

Within a nutritionally adequate diet saturated fat intake should be kept as low as possible. However, it is recognized that the diet of a one-year-old is naturally high in saturated fat, but that by the age of 5 years, saturated fat intakes should approach the goal of <10%².

Figure 14 shows the Saturated fat distribution of Baby food between 2017 (T0) and 2021-2022 (T1) by subcategories. Among the 16 subcategories considered, the average Saturated fat content has statistically significantly decreased for one subcategory only: Biscuits (-2.6g/100g***; - 55.80%).

The variability differs according to the subcategories but remains constant between the two times within the same subcategory, for most subcategories. There is greater variability in saturated fat at T0 compared to T1 for Biscuits, Instant cereals, and Meals with vegetables and cereals and milk/cream. The subcategories including products with the most variable fat content at both times, meaning room for reformulation, are: Other baby processed cereal based foods (T0 n= 86, 0.1 g/100g to 10.1 g/100g, T1 n= 105, 0 g /100g to 15.6g/100g) and Biscuits (T0 n= 38, 0.5 g/100g to 12.0 g/100g, T1 n= 19, 0.6 g /100g to 4.3 g/100g).

¹¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

² FSAI, 2020. Scientific recommendations for Food-based dietary guidelines for 1- to 5-year-olds in Ireland

The fact that higher variability is found in certain subcategories at different time points may be explained in part by a greater number of products collected for some subcategories: Biscuits (T0 n = 38, compared to T1 n = 19), Meals with vegetables and cereals and milk/cream, (T0 n = 23, compared to T1 n = 14) and Instant cereals (T0 n= 60, compared to T1 n = 36).

Outliers within the subcategories can be explained by the composition of the certain products within the subcategory. For example, the higher saturated fat content of products in the subcategory Biscuits can be attributed to certain products containing ingredients naturally high in saturated fat such as coconut. Similarly, within subcategory Fruit based desserts, a small number of products contain coconut, contributing to a higher saturated fat content. Subcategory Other baby processed cereal based foods, includes a large variety of products, with different composition.

3.2.1.4 Evolution of the saturated fat content for paired products

Table 4 summarizes the difference in the average saturated fat content observed between 2017 (T0) and 2021-2022 (T1) for all products and for paired products (products available both at the first and second snapshot and therefore allow conclusions on reformulation).

No statistically significant difference is observed at the level of paired products.

Table 4 : Summary of the evolution of the average saturated fat content for Baby food, by subcategory¹²

Subcategory_name	Saturated Fat					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Other baby processed cereal based foods	1.7	+ 0.2	+ 15.10 %	1.2	- 0.05	- 4.20 %
Fruit-based desserts	0.3	+ 0.01	+ 5.20 %	0.2	+ 0.006	+ 3.30 %
Meals with vegetables and/or starchy food and meat/fish	0.6	+ 0.02	+ 3.70 %	0.5	- 0.04	- 7.10 %
Instant cereals	2.6	- 0.2	- 6.20 %	4	- 0.05	- 1.20 %
Dairy desserts	1.4	+ 0.07	+ 5.30 %	1.6	- 0.05	- 2.80 %
Vegetable preparations	0.1	- 0.1	- 49.30 %	0.2	+ 0.05	+ 50.0 %
Biscuits	2.1	- 2.6***	- 55.80 %	1.8	- 1.0	- 45.0 %
Meals with vegetables and cereals and milk/cream	1.8	+ 0.1	+ 5.90 %	2.4	+ 0.4	+ 18.0 %
Meals with vegetables and cereals	0.5	- 0.05	- 8.80 %	0.2	+ 0.05	+ 37.50 %
Fruit- and cereal-based desserts	0.7	+ 0.3	+ 60.60 %			
Other baby foods	0.1	- 0.9	- 88.60 %			
Soups						
Cereals with milk	1.7					
Meals with vegetables and potatoes						
Meals with potatoes and milk/cream						
Fruit-and/or plant-based beverages						

¹² Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.1.5 Evolution of the sugar content among the subcategories

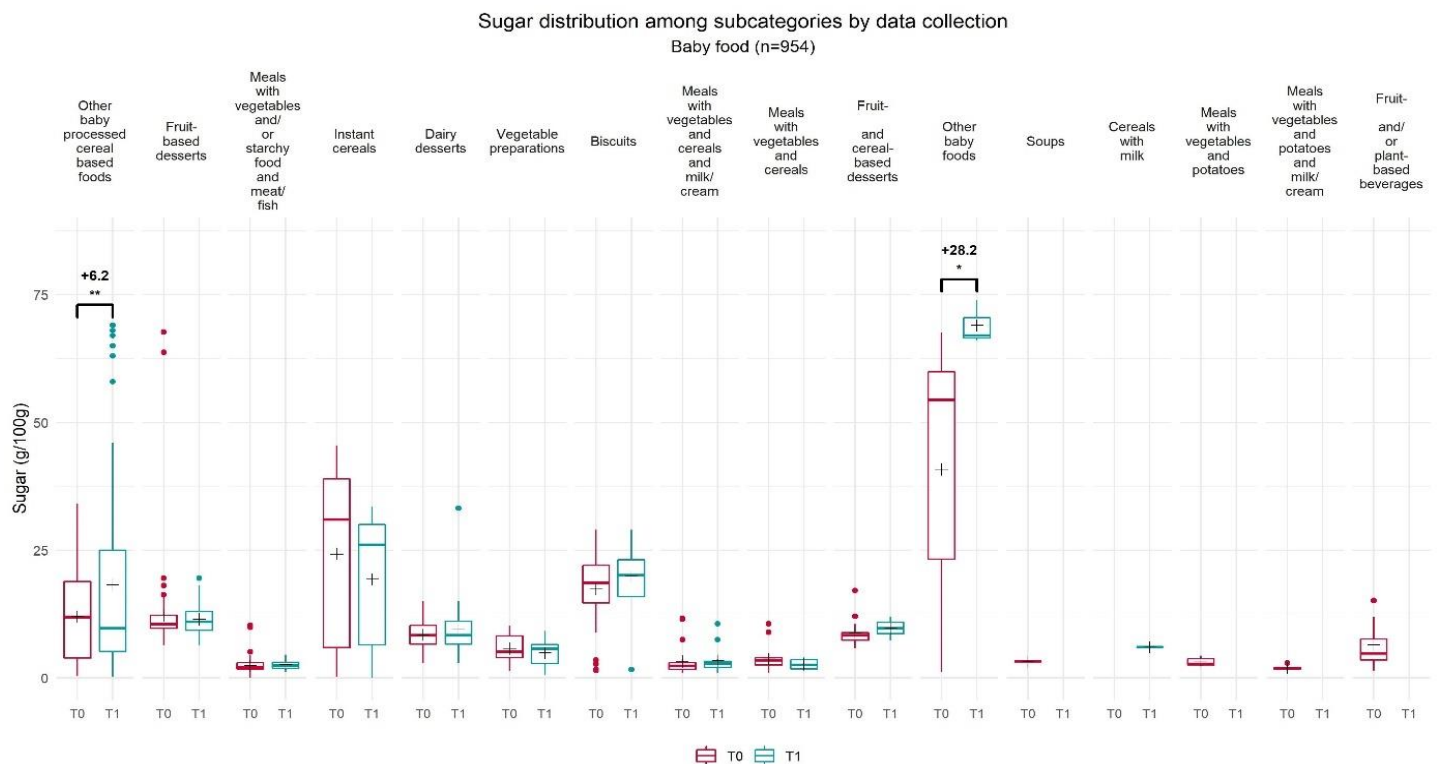


Figure 15: Sugar distribution among subcategories of Baby food¹³

Figure 15 shows the sugar distribution of Baby food between 2017 (T0) and 2021-2022 (T1) by subcategories.

Among all the products collected within Baby food category, there is a statistically significant increase between both data collections in the average sugar content for two subcategories out of 16: Other baby processed cereal based foods (+ 6.2g/100g between 2017 and 2021-2022, + 51.50 %), and Other baby foods (+ 28.2g/100g between 2017 and 2021-2022, + 69.10 %).

The variability of the sugar content is mostly constant between the subcategories at the two time points, with the exception of subcategories, Other baby foods (T0 , n= 19; 1.1 g to 67.5 g per 100 g and T1, n = 3, 66 g to 74 g per 100 g), Other baby processed cereal based foods (T0 , n= 84 0.3 to 34.1 g per 100g; T1 , n = 105, 0.2 g to 69 g per 100g). This can be partly explained by the difference in the number of products collected at each time point. Within subcategory Other baby foods, there is a large difference in the number of products collected with T1 containing a small number of products (n = 3) which are largely composed of dried/ concentrated fruit products thus contributing high sugar. Similarly, subcategory Other baby processed cereal based foods, contain a cluster of products, which are based on dried/ concentrated fruit thus contributing high sugar.

¹³ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.1.6 Evolution of the sugar content for paired products

Table 5 summarizes the difference in the average sugar content observed between 2017 (T0) and 2021-2022 (T1) for all products and for paired products.

Despite there being a statistically significant increase in the average sugar content for all products within subcategory Other baby processed cereal based foods, once evaluated for paired products only, the direction of this difference changed. This is likely to be reflective of the difference in types of products collected at the two time points, within this subcategory.

Within the analysis for paired products, a statistically significant decrease in the mean sugar content is observed for one subcategory out of 16: Other baby processed cereal based foods (-2.0 **, - 18.50 %), meaning that this evolution can in part be explained by reformulations.

Of note, there was a statistically significant increase in sugar within the subcategory Other baby foods (+ 28.2 *, + 69.10 %) for all products, however there were no pairs available between the two time points, reflecting the different products collected within this category at the two time points.

Table 5 : Summary of the evolution of the average sugar content for Baby food, by subcategory¹⁴

Subcategory_name	Sugar					
	All products			Paired products		
Subcategory_name	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Other baby processed cereal based foods	18.2	+ 6.2 **	+ 51.50 %	10	- 2.0 **	-18.50 %
Fruit-based desserts	11.5	- 0.6	- 5.20 %	11.6	+ 0.1	+ 1.0 %
Meals with vegetables and/or starchy food and meat/fish	2.6	+ 0.2	+ 6.80 %	2.4	- 0.05	- 2.20 %
Instant cereals	19.3	- 4.9	- 20.40 %	30.9	- 5.0	-13.60 %
Dairy desserts	9.6	+ 1.2	+ 14.10 %	6.7	+ 0.05	+ 0.70 %
Vegetable preparations	4.9	- 0.9	- 15.20 %	3.6	0	0 %
Biscuits	19.9	+ 2.5	+ 14.20 %	21.1	- 2.0	- 8.30 %
Meals with vegetables and cereals and milk/cream	3.4	+ 0.1	+ 3.40 %	4.9	- 0.2	- 3.10 %
Meals with vegetables and cereals	2.7	- 1.0	- 26.60 %	3.8	+ 0.07	+ 1.80 %
Fruit- and cereal-based desserts	9.7	+ 0.9	+ 10.50 %			
Other baby foods	69.0	+ 28.2 *	+ 69.10 %			
Soups						
Cereals with milk	6.0					
Meals with vegetables and potatoes						
Meals with potatoes and milk/cream						
Fruit-and/or plant-based beverages						

¹⁴ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

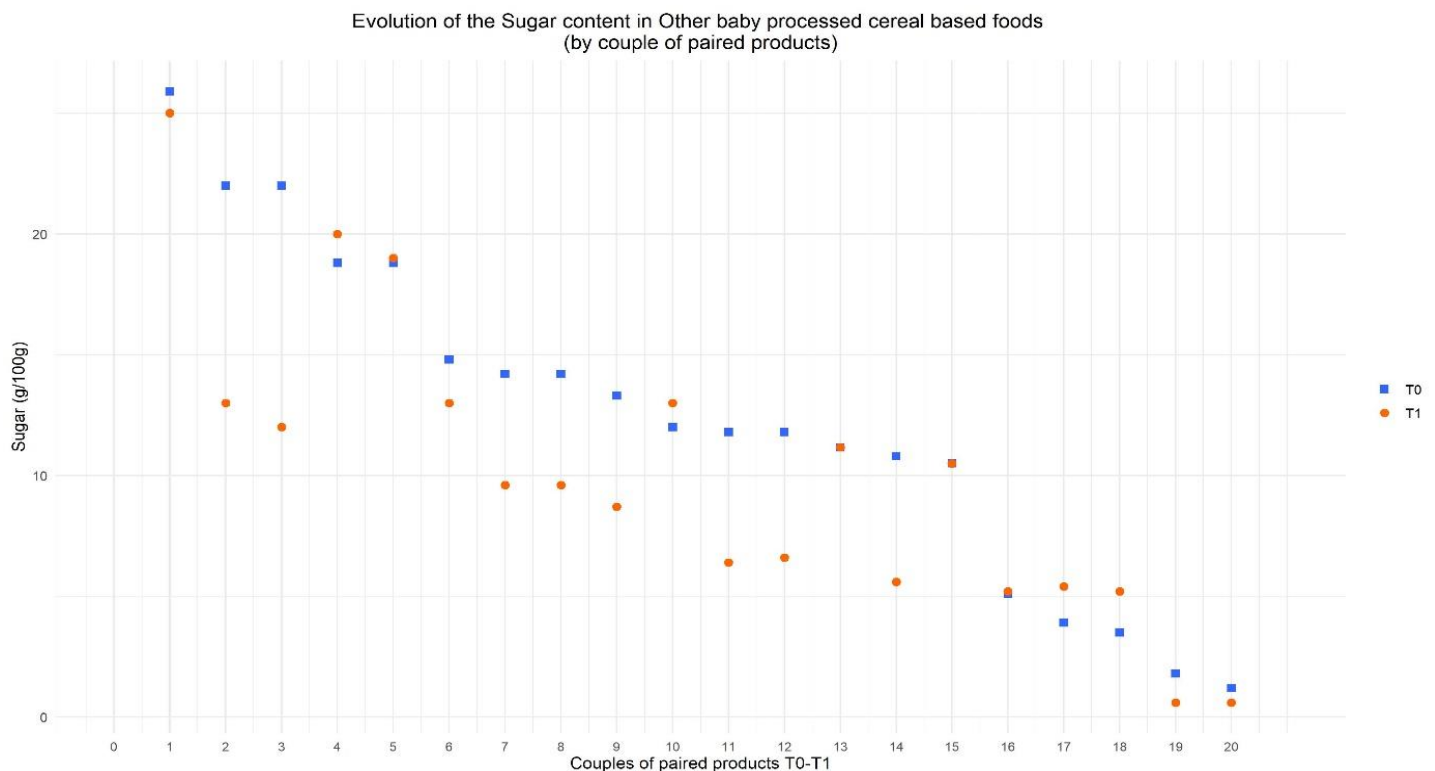


Figure 16: Sugar content evolution between 2017 and 2021-2022 by couple of paired products (n=20) for Other baby processed cereal based foods

Of the 20 couples of paired products in subcategory Other baby processed cereal based foods, the majority (12 out of 20) have a lower sugar content in 2021-2022 (T1) than in 2017 (T0). It should be noted that three products with the highest sugar content in 2017 (T0) have experienced a decrease in their sugar content in 2021-2022 (T1) (Figure 16).

A minority of paired product couples (6 out of 20) show higher sugar values in 2021-2022 than in 2017 (Figure 16).

3.2.1.7 Evolution of the fibre content among the subcategories

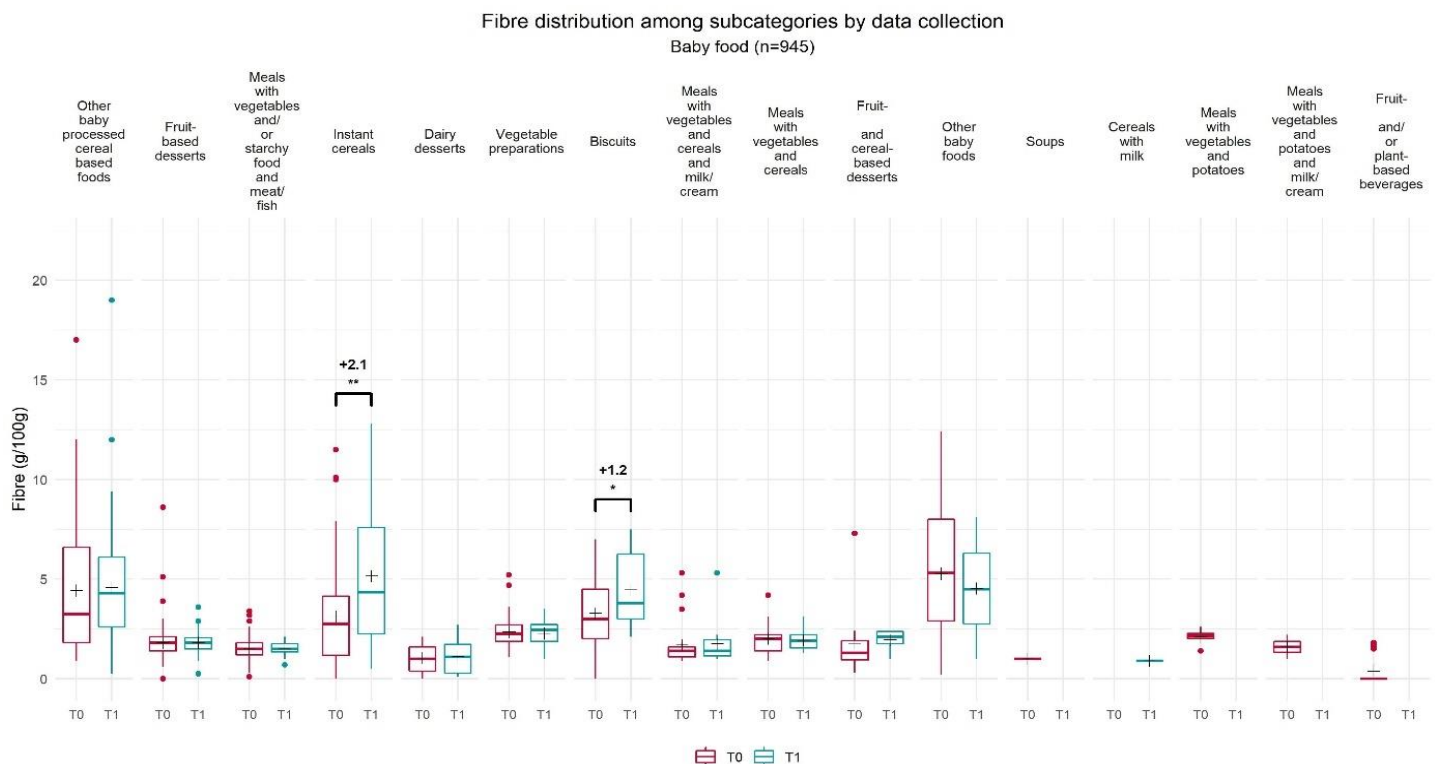


Figure 17: Fibre distribution among subcategories of Baby food¹⁵

Figure 17 shows the fibre distribution of Baby food between 2017 (T0) and 2021-2022 (T1) by subcategories.

Among all the products collected within Baby food category, there is a statistically significant increase between both data collections in the average fibre content for two subcategories out of 16: Instant cereals (+ 2.0 g/100g ** between 2017 and 2021-2022, +65.50%), and Biscuits (+ 1.2g/100g ** between 2017 and 2021-2022, +36.0%).

The variability of the fibre content across the subcategories differs, however is mostly constant between the subcategories at the two timepoints. There is large variability within subcategories Other baby processed cereal based foods (T0 n= 84, 0.9 g/100g to 17 g/100g, T1 n= 105, 0.2 g/100g to 19.0 g/100g), Instant cereals (T0 n= 58, 0 g/100g to 11.5 g/100g, T1 n= 36, 0.5 g/100g to 12.8 g/100g), Biscuits (T0, n= 37, 0 g/100g to 7.0 g/100g, T1 n= 19, 2.1 g/100g to 7.5 g/100g) and Other baby foods (T0 n= 19, 0.2 g/100g to 12.4 g/100g, T1 n= 3, 1.0 g/100g to 8.1 g/100g). Within these categories there are differences in the amount of variation observed at the two time points which may be in part explained by the difference in the number of products collected: Other baby processed cereal based foods (2017, n= 84; 2021-2022, n = 105), Instant cereals (2017, n= 58; 2021-2022, n = 36), Biscuits (2017, n= 37; 2021-2022, n = 19) and Other baby foods (2017, n= 19; 2021-2022, n = 3).

¹⁵Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.1.8 Evolution of the fibre content for paired products

Table 6 summarizes the difference in the average fibre content observed between 2017 (T0) and 2021-2022 (T1) for all products, and for paired products.

No statistically significant difference is observed at the level of paired products for fibre with the category Baby food.

Table 6 : Summary of the evolution of the average fibre content for Baby food, by subcategory ¹⁶

Subcategory_name	Fibre					
	All products			Paired products		
Subcategory_name	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Other baby processed cereal based foods	4.6	+ 0.1	+ 3.20%	3.5	- 0.8	- 18.50 %
Fruit-based desserts	1.8	+ 0.006	+ 0.30 %	1.7	- 0.01	- 0.06 %
Meals with vegetables and/or starchy food and meat/fish	1.5	+ 0.006	+ 0.40 %	1.5	+ 0.2	+ 14.0 %
Instant cereals	5.2	+ 2.0**	+ 65.50 %	4.8	+ 1.0	+ 36.60 %
Dairy desserts	1.1	+ 0.07	+ 6.90 %	0.7	- 0.3	- 27.30 %
Vegetable preparations	2.3	- 0.08	- 3.30 %	1.9	0	0%
Biscuits	4.5	+ 1.2*	+ 36.0 %	4.2	+ 0.7	+ 18.60 %
Meals with vegetables and cereals and milk/cream	1.8	+ 0.05	+ 3.20 %	2.2	- 0.3	- 10.50 %
Meals with vegetables and cereals	1.9	- 0.09	- 4.40 %	2.2	+ 0.03	+ 1.60 %
Fruit- and cereal-based desserts	2.0	+ 0.2	+ 10.0 %			
Other baby foods	4.5	- 0.7	- 14.0 %			
Soups						
Cereals with milk	0.9					
Meals with vegetables and potatoes						
Meals with potatoes and milk/cream						
Fruit-and/or plant-based beverages						

¹⁶ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box : significant increase in average content

3.2.1.9 Evolution of the salt content among the subcategories

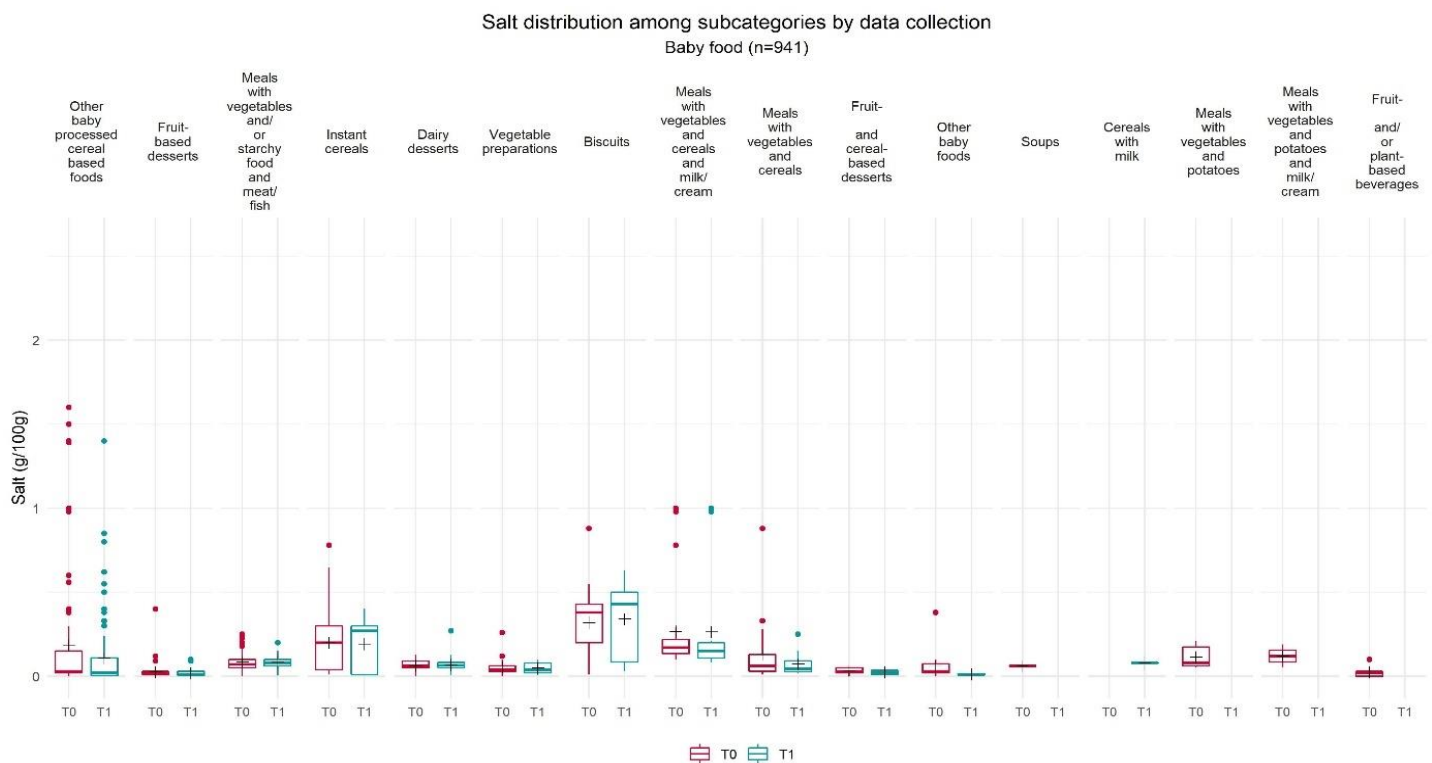


Figure 18: Salt distribution among subcategories of Baby food¹⁷

Figure 18 shows the salt distribution of Baby food between 2017 (T0) and 2021-2022 (T1) by subcategories. Among all the products collected within Baby food category, there is no statistically significant difference between both data collections in the average salt content for any subcategories.

The variability of the salt content across the subcategories differs, however is mostly constant between the subcategories at the two time points. The largest variability in salt content can be observed within subcategories Instant cereals (T0 n= 57, 0.01 g/ 100g to 0.78 g/100g, T1 n= 36, 0 g/100g to 0.4 g/100g), Biscuits (T0 n= 38, 0.01 g/100g to 0.88 g/100g, T1 n= 19, 0.03 g/100g to 0.63 g/100g) and Meals with vegetables and cereals (T0 n= 21, 0.01 g/100g to 0.88 g/100g, T1 n= 12, 0.02 g/100g to 0.25 g/100g). In these subcategories, there is difference in the variability between the time points, which may in part be explained by the number of products collected: Instant cereals (T0 (2017), n= 57; T1 (2021-2022), n = 36), Biscuits (T0 (2017), n= 38; T1 (2021-2022), n = 19), and Meals with vegetables and cereals (T0 (2017), n= 21; T1 (2021-2022), n = 12).

3.2.1.10 Evolution of the salt content for paired products

¹⁷ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Table 7 summarizes the difference in the average salt content observed between 2017 (T0) and 2021-2022 (T1) for all products, and for paired products.

There is a statistically significant decrease in the salt content for paired products within the subcategory Other baby processed cereal based foods (-0.14 g/100g *, - 49.86 %).

Table 7 : Summary of the evolution of the average salt content for Baby food, by subcategory ¹⁸

Subcategory_name	Salt					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Other baby processed cereal based foods	0.11	- 0.079	- 42.16 %	0.14	- 0.14*	- 49.86 %
Fruit-based desserts	0.02	- 0.0076	- 30.15 %	0.02	- 0.0089	- 34.78 %
Meals with vegetables and/or starchy food and meat/fish	0.09	+ 0.00098	+ 1.15 %	0.08	+ 0.005	+ 6.29 %
Instant cereals	0.19	- 0.0082	- 4.08 %	0.29	+ 0.058	+ 25.0 %
Dairy desserts	0.07	+ 0.0059	+ 9.44 %	0.08	+ 0.0013	+ 1.56 %
Vegetable preparations	0.05	- 0.0027	- 5.21 %	0.04	- 0.0013	- 2.94 %
Biscuits	0.34	+ 0.023	+ 7.14 %	0.23	- 0.11	- 31.34 %
Meals with vegetables and cereals and milk/cream	0.26	- 0.023	- 0.90%	0.49	0	0 %
Meals with vegetables and cereals	0.07	- 0.058	- 44.87 %	0.04	0	0 %
Fruit- and cereal-based desserts	0.02	- 0.0081	- 25.20 %			
Other baby foods	0.01	- 0.046	- 79.85 %			
Soups						
Cereals with milk	0.08					
Meals with vegetables and potatoes						
Meals with potatoes and milk/cream						
Fruit-and/or plant-based beverages						

¹⁸ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

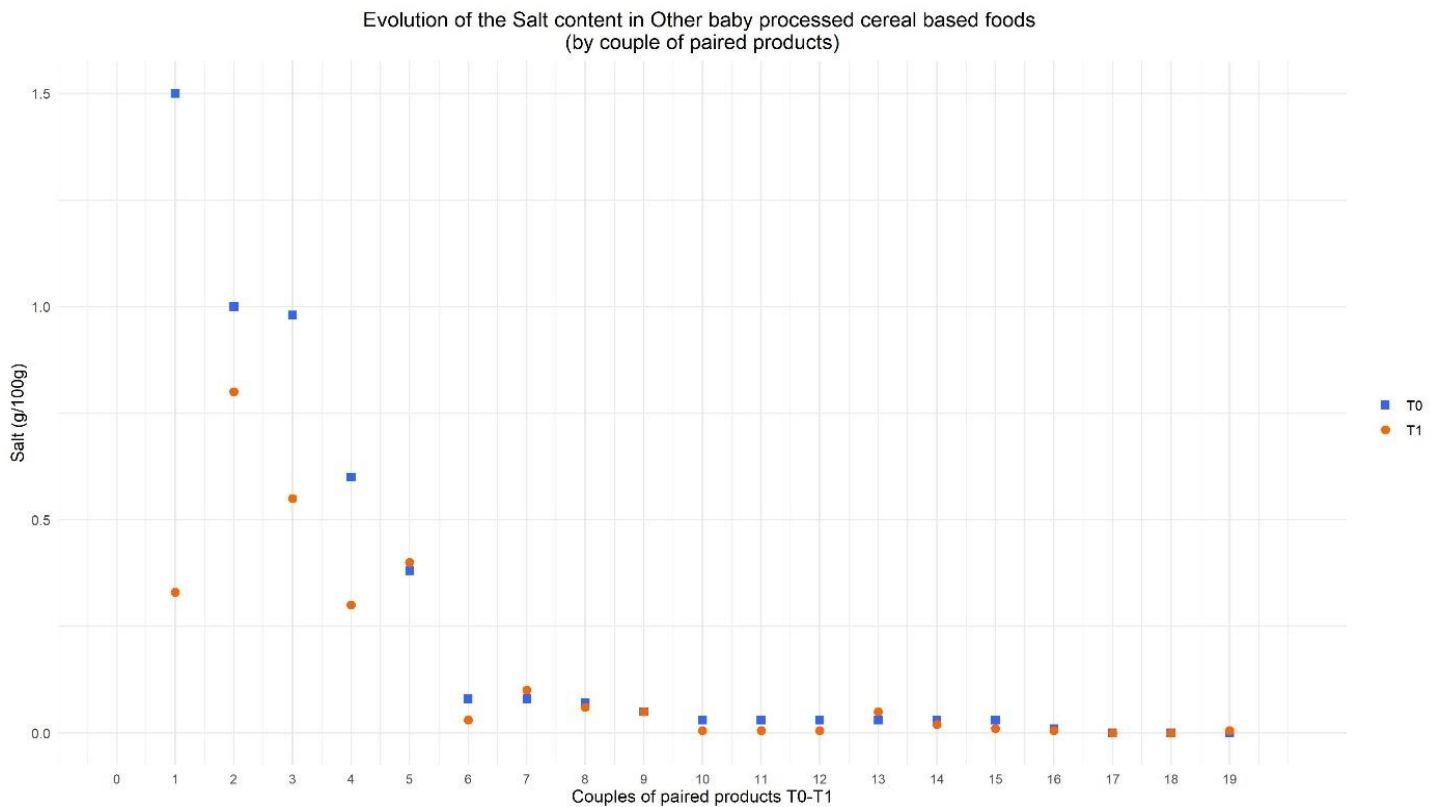


Figure 19 : Salt content evolution between 2017 and 2021-2022 by couple of paired products (n=19) Other baby processed cereal based foods subcategory

Of the 19 couples of paired products in subcategory Other baby processed cereal based foods, the majority have a lower salt content in 2021-2022 (T1) than in 2017 (T0). It should be noted that the products with the highest salt content in 2017 (T0) have experienced a decrease in their salt content in 2021-2022 (T1). A minority (4 out of 19) of couples show higher salt values in 2021-2022 than in 2017 (Figure 19).

3.2.2 Breakfast cereals

The nutrients considered for the analysis of the evolution of Breakfast cereals category are: Fat, Saturated fat, Sugars, Salt and Fibre.

3.2.2.1 Evolution of the fat content among the subcategories

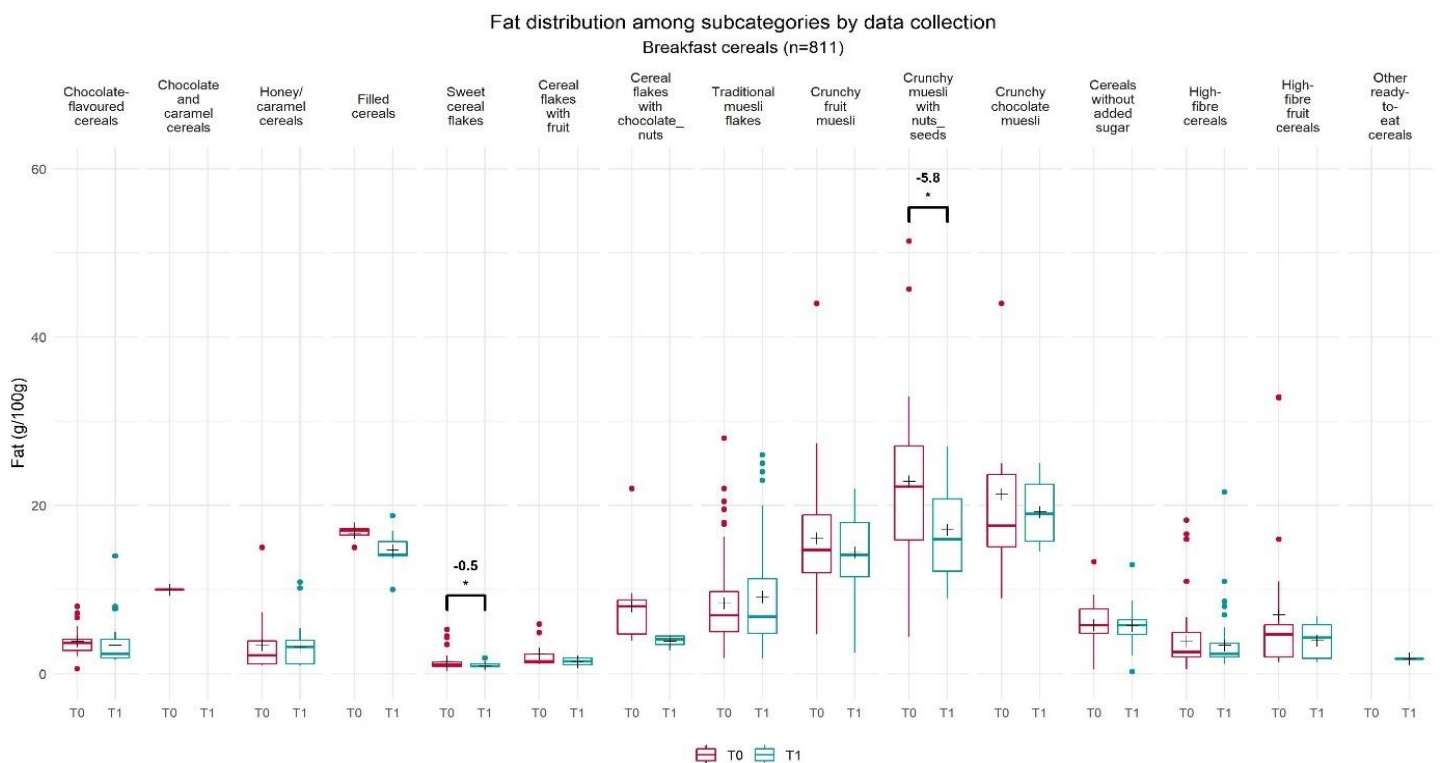


Figure 20: Fat distribution among subcategories of Breakfast cereals¹⁹

Figure Figure 20 shows the fat distribution of Breakfast cereals between 2016-2017 (T0) and 2021 (T1) by subcategories.

Among all the products collected within Breakfast cereals category, there is a statistically significant decrease between both data collections in the average fat content for two subcategories out of 16: Crunchy muesli with nuts_seeds (-5.8g/100g* between 2016-2017 and 2021, - 25.20%) and Sweet cereal flakes (-0.5g/100g * between 2016-2017 ad 2021, - 32.0%).

Overall, the variability of the fat content differs between the subcategories. The products with the largest variability are Traditional muesli flakes (T0 n = 96, 1.9 g /100g to 28.0 g/100g and T1 n= 61, 1.8 g fat/100g to 26.0 g fat /100g), Crunchy fruit muesli (T0 n = 38, 4.7 g /100g to 44.0 g/100g and T1 n= 34, 2.5 g fat/100g to 22.0 g fat /100g), and Crunchy muesli with nuts_seeds (T0 n = 40, 4.4 g /100g to 51.4 g/100g and T1 n= 23, 9.0 g fat/100g to 27.0 g fat /100g).

¹⁹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Outliers within the subcategories can be attributed to the composition of the products, which differ depending on the manufacturer and product formulation. Several breakfast cereals, across the subcategories contain various added ingredients such as nuts and seeds, which are high in fat and therefore contribute to the fat content.

3.2.2.2 Evolution of the fat content for paired products

Table 8 summarizes the difference in the average fat content observed between 2016-2017 (T0) and 2021 (T1) for all products and for paired products.

No statistically significant difference is observed at the level of paired products for the average fat content in Breakfast cereals.

Table 8 : Summary of the evolution of the average fat content for Breakfast cereals, by subcategory²⁰

Subcategory_name	Fat					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	3.4	- 0.5	- 13.0 %	3.1	- 0.02	- 0.60 %
Chocolate and caramel cereals						
Honey/caramel cereals	3.2	- 0.2	- 7.10 %	2.0	- 2.0	- 44.70 %
Filled cereals	14.7	- 2.1	- 12.20 %	12.3	- 5.0	- 29.40 %
Sweet cereal flakes	1.0	- 0.5*	- 32.0 %	1.0	- 0.004	- 0.40 %
Cereal flakes with fruit	1.5	- 0.9	- 38.80 %	1.1	- 0.4	- 24.40 %
Cereal flakes with chocolate_nuts	3.9	- 4.20	- 51.80 %	4.5	0	0%
Traditional muesli flakes	9.2	+ 0.8	+ 9.70 %	6.5	- 0.2	- 2.30 %
Crunchy fruit muesli	14.4	- 1.7	- 10.50 %	16.2	+ 0.7	+ 4.30 %
Crunchy muesli with nuts_seeds	17.1	- 5.8*	- 25.20 %	17.6	- 0.6	- 3.60 %
Crunchy chocolate muesli	19.2	- 2.1	- 10.0 %	25	0	0 %
Cereals without added sugar	5.7	- 0.05	- 0.90 %	6.1	- 0.4	- 5.90 %
High-fibre cereals	3.4	- 0.5	- 13.10 %	2.8	- 0.3	- 10.80 %
High-fibre fruit cereals	4.0	- 3.0	- 43.40 %	4.5	+ 0.3	+ 7.30 %
Cereal preparation to drink						
Other ready-to-eat cereals	1.8					

²⁰ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box : significant increase in average content

3.2.2.3 Evolution of the saturated fat content among the subcategories

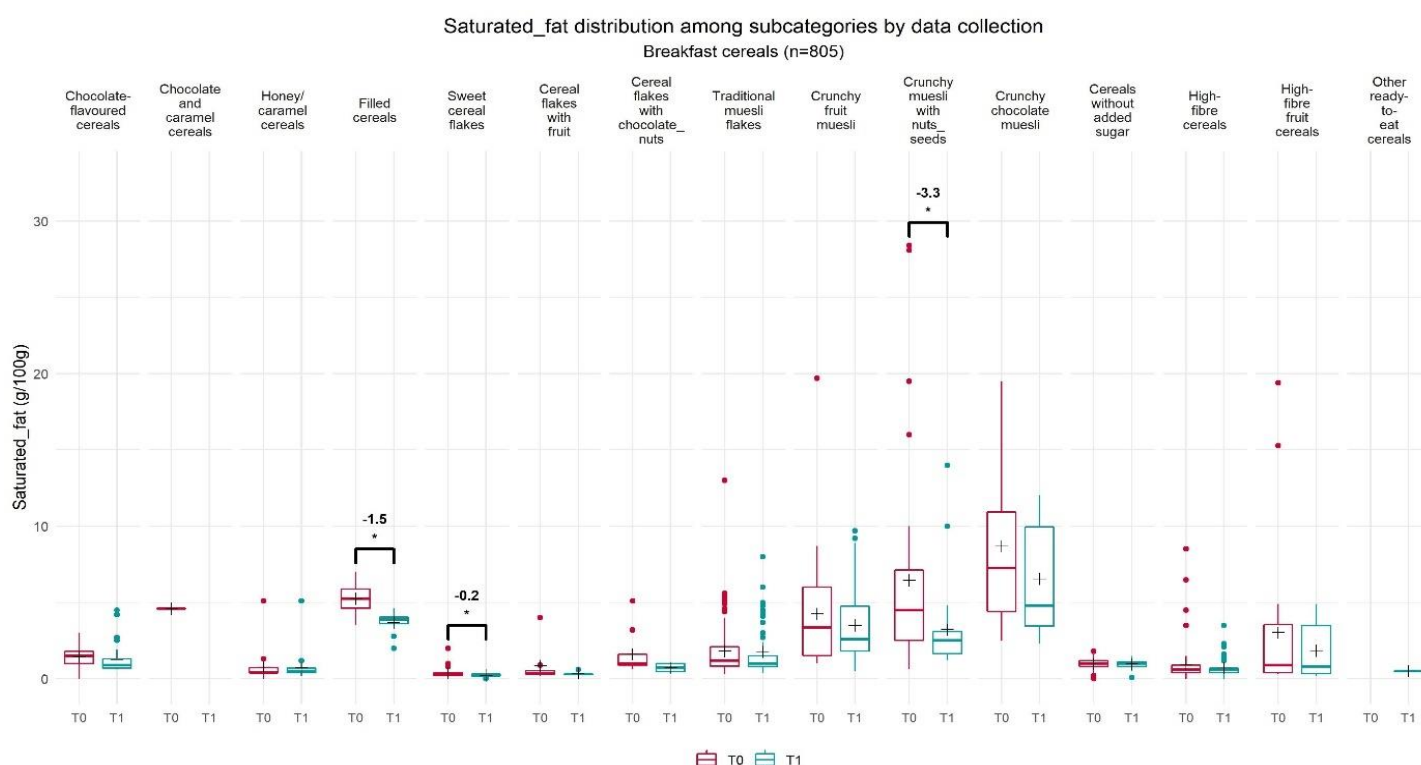


Figure 21: Saturated fat distribution among subcategories of Breakfast cereals²¹

Figure 21 shows the saturated fat distribution of Breakfast cereals between 2016-2017 (T0) and 2021 (T1) by subcategories.

Among all the products collected within Breakfast cereals category, there is a statistically significant decrease between both data collections in the average saturated fat content for three subcategories out of 16: Crunchy muesli with nuts_seeds (-3.2/100g* between 2016-2017 and 2021, -50.0%). Filled cereals (-1.6g/100g * between 2016-2017 and 2021, -29.70%) and Sweet cereal flakes (-0.2g/100g * between 2016-2017 and 2021, -41.50 %).

The variability of the saturated fat content differs between the subcategories and remains constant across the two timepoints for the majority of the subcategories. The products with the largest variability are Traditional muesli flakes (T0 n = 94, 0.3 g /100g to 13.0 g/100g and T1 n= 61, 0.4 g fat/100g to 8.0 g fat /100g), Crunchy fruit muesli (T0 n = 38, 1.0 g /100g to 19.7 g/100g and T1 n= 34, 0.5 g fat/100g to 9.7 g fat /100g), Crunchy muesli with nuts_seeds (T0 n = 40, 0.6 g /100g to 28.4 g/100g and T1 n= 23, 1.2 g fat/100g to 14.0 g fat /100g), Crunchy chocolate muesli (T0 n= 6, 2.5 g fat/ 100g to 19.5 g /100g and T1 n = 11, 2.3 g/100g to 12.0 g/100g) and High fibre cereals (T0 n = 56, 0 g /100g to 8.5 g/100g and T1 n= 59, 0 g fat/100g to 3.5 g fat /100g).

²¹Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Outliers within the subcategories can be attributed to the composition of the products which differ depending on the manufacturer and product formulation. Several breakfast cereals, across the subcategories contain ingredients such as nuts and coconut-based ingredients which are high in saturated fat and therefore contribute to the saturated fat content.

3.2.2.4 Evolution of the saturated fat content for paired products

Table 9 summarizes the difference in the average fat content observed between 2016-2017 (T0) and 2021 (T1) for all products, and for paired products.

No statistically significant difference is observed at the level of paired products for the average saturated fat content within the subcategory Breakfast cereals.

Table 9 : Summary of the evolution of the average saturated fat content for Breakfast cereals, by subcategory²²

Subcategory_name	Saturated Fat					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	1.3	- 0.2	- 11.90%	1.2	- 0.07	- 5.50 %
Chocolate and caramel cereals						
Honey/caramel cereals	0.7	- 0.04	- 4.90 %	0.5	- 0.7	- 58.90 %
Filled cereals	3.7	- 1.6 *	- 29.70 %	3.1	- 3.0	- 50.40 %
Sweet cereal flakes	0.2	- 0.2*	- 41.50 %	0.2	- 0.05	- 19.90%
Cereal flakes with fruit	0.4	- 0.5	- 57.60 %	0.3	- 0.07	- 18.20 %
Cereal flakes with chocolate nuts	0.7	- 0.9	- 54.70 %	1.0	0	0%
Traditional muesli flakes	1.8	- 0.04	- 2.0 %	1.1	- 0.2	- 17.80 %
Crunchy fruit muesli	3.5	- 0.8	- 17.80 %	3.9	- 0.6	- 14.30 %
Crunchy muesli with nuts_seeds	3.2	- 3.2 *	- 50.0 %	5.7	- 0.5	- 8.80%
Crunchy chocolate muesli	6.5	- 2.1	- 24.60 %	12.0	0	0 %
Cereals without added sugar	1.0	+ 0.006	+ 0.6 %	1.0	- 0.06	- 5.90 %
High-fibre cereals	0.7	- 0.3	- 26.80 %	0.5	- 0.2	- 24.80 %
High-fibre fruit cereals	1.8	-1.2	- 39.40 %	2.2	+ 0.2	+ 12.20 %
Cereal preparation to drink						
Other ready-to-eat cereals	0.5					

²² Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.2.5 Evolution of the sugar content among the subcategories

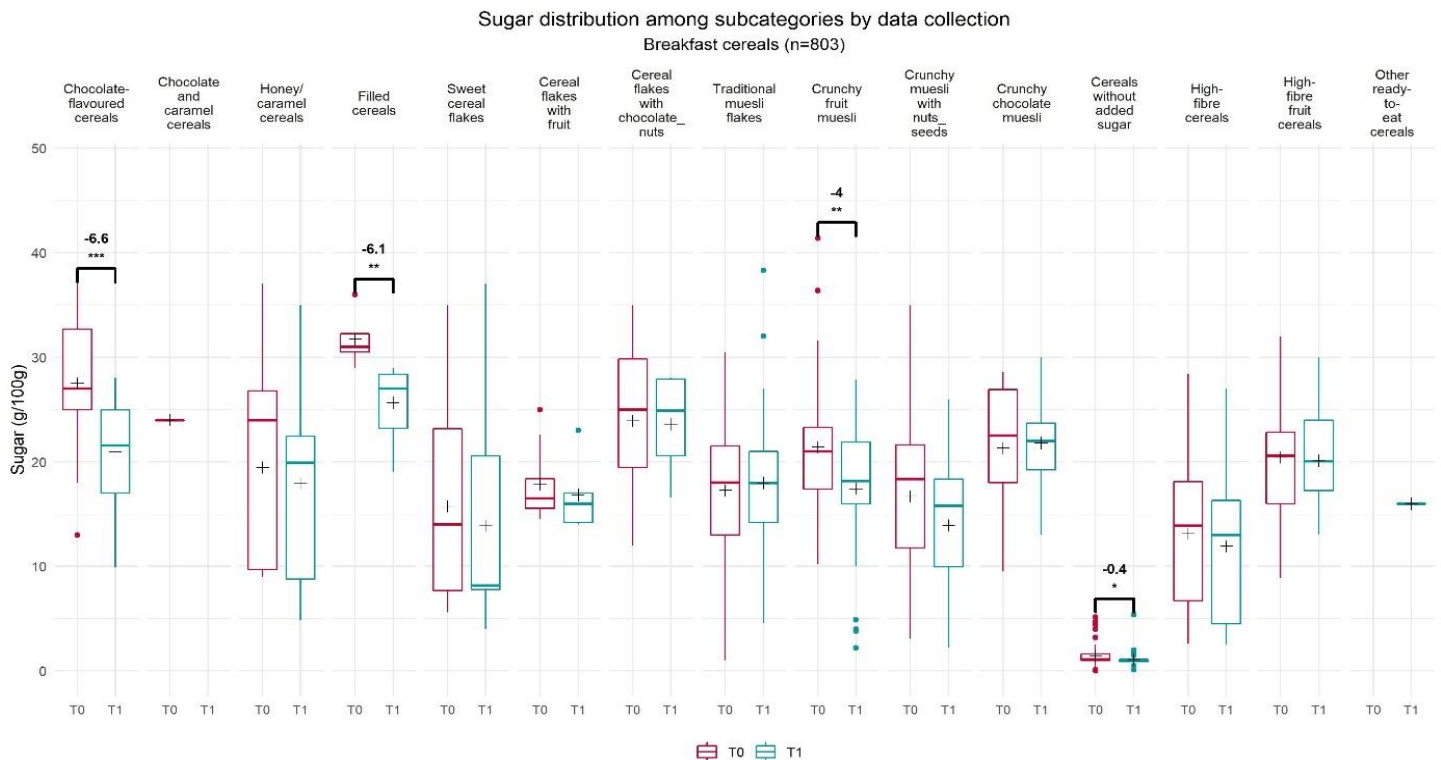


Figure 22: Sugar distribution among subcategories of Breakfast cereals²³

Figure Figure 22 shows the sugar distribution of Breakfast cereals between 2016-2017 (T0) and 2021 (T1) by subcategories.

Among all the products collected within Breakfast cereals category, there is a statistically significant decrease between both data collections in the average sugar content for four subcategories out of 16: Chocolate-flavoured cereals (-6.6g/100g *** between 2016-2017 and 2021, -23.90 %), Filled cereals (-6.1 g/100g ** between 2016-2017 and 2021, -19.20 %), Crunchy fruit muesli (- 4.0 g/100g ** between 2016-2017 and 2021, - 18.70 %) and Cereals without added sugar (-0.4 g/100g between 2016-2017 and 2021, - 25.90%).

The variability of the sugar content differs between the subcategories; however, the majority of the subcategories show large variability in sugar, that is fairly consistent across the two time points. There are differences in the variability of sugar content between the two time points for subcategories: Chocolate-flavoured cereals (T0 n = 21 ,13g /100g to 37g/100g and T1 n = 30, 9.9g /100g to 28.0g/100g), Filled cereals (T0 n = 4 , 29.0 g /100g to 36.0 g/100g and T1 n =

²³Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

11 , 19.0 g /100g to 29.0 g/100g) and Cereal flakes with fruit (T0 n = 8 , 14.5 g /100g to 25.0 g/100g and T1 n= 5, 14.0 g /100g to 23.0 g/100g).

A cluster of products within the subcategory Crunchy fruit muesli appear as outliers relating to low sugar values, however these have been attributed to products which have been specifically developed and described as products with “low sugar” which is defined by Regulation (EC) No 1924/2006²⁴ with a condition of use of no more than 5g of sugar per 100 g for solids or 2.5 g of sugar per 100 ml for liquid. Similarly, outliers relating to higher sugar content than the majority of products within the subcategory, Traditional muesli flakes can be attributed to products containing dried fruit, which add to the sugar content as they are high in sugar.

²⁴ Regulation (EC) N° 1924/2006 of the European Parliament and of the Council on nutrition and health claims made on foods.

3.2.2.6 Evolution of the sugar content for paired products

Table 10 summarizes the difference in the average sugar content observed between 2016-2017 (T0) and 2021 (T1) for all products, and for paired products.

There is a statistically significant decrease in the sugar content at the level of paired products within three subcategories: Chocolate-flavoured cereals (- 7.0g/100g *** between 2016-2017 and 2021, -24.20%), Honey/caramel cereals (- 3.0 g/100g *** between 2016-2017 and 2021, - 17.70%) and High-fibre cereals (-2.0 g /100g ** between 2016-2017 and 2021, - 16.20 %).

Table 10 : Summary of the evolution of the average sugar content for Breakfast cereals, by subcategory ²⁵

Subcategory_name	Sugar					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	20.9	- 6.6 ***	- 23.90 %	21.7	- 7.0***	- 24.20 %
Chocolate and caramel cereals						
Honey/caramel cereals	18	- 1.5	- 7.70%	12.8	- 3.0 ***	- 17.70 %
Filled cereals	25.7	- 6.1 **	- 19.20 %	21.2	- 10.0	- 31.50 %
Sweet cereal flakes	13.9	- 1.8	- 11.70 %	14.1	- 3.0	- 16.10 %
Cereal flakes with fruit	16.8	- 1.0	- 5.90 %	15.7	- 0.5	- 2.90 %
Cereal flakes with chocolate_nuts	23.6	- 0.3	- 1.30 %	28	- 4.0	- 12.20 %
Traditional muesli flakes	18	+ 0.7	+ 4.10	19.4	+ 0.8	+ 4.50 %
Crunchy fruit muesli	17.4	- 4.0 **	- 18.70 %	21.7	- 2.0	- 9.70 %
Crunchy muesli with nuts_seeds	13.9	- 2.8	- 16.50 %	20.4	+ 0.2	+ 1.0 %
Crunchy chocolate muesli	21.8	+ 0.5	+ 2.20%	21.0	0	0
Cereals without added sugar	1.1	- 0.4*	- 25.90 %	1.0	- 0.4	- 26.50 %
High-fibre cereals	11.9	- 1.2	- 8.90 %	11.5	- 2.0 **	- 16.20 %
High-fibre fruit cereals	20.1	- 0.3	- 1.50 %	21.4	+ 0.6	+ 2.90 %
Cereal preparation to drink						
Other ready-to-eat cereals	16					

²⁵ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

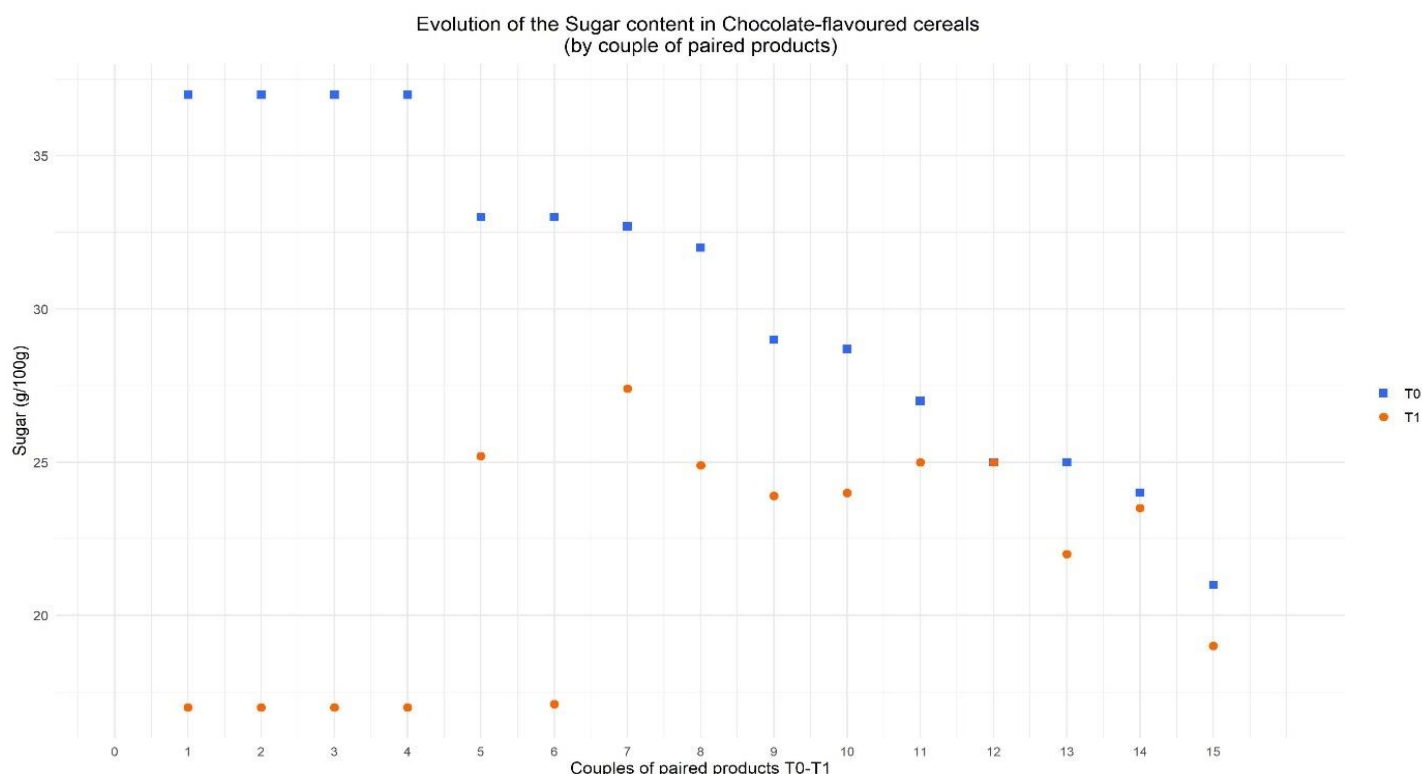


Figure 23: Sugar content evolution between 2016-2017 and 2021 by couple of paired products (n=15) for Chocolate-flavoured cereals subcategory

Of the 15 couples of paired products in subcategory Chocolate-flavoured cereals, the majority have a lower sugar content in 2021 (T1) than in 2016-2017 (T0). Of the 15 couples, all appear to be reformulated to result in a reduction of sugar, with the exception of one reference, which has maintained its sugar content at both time points. No couples show higher sugar values in 2021 than in 2016-2017 (Figure 23). It is possible that the observed reduction in sugar content within this subcategory has been partially driven by the voluntary sugar reformulation programme in the UK which includes target % reductions in sugar for breakfast cereals²⁶ as manufacturers often supply both (UK and Ireland) markets.

²⁶ Office for Health Improvement and Disparities (formerly Public Health England), 2017: Sugar, salt and calorie reductions and reformulation

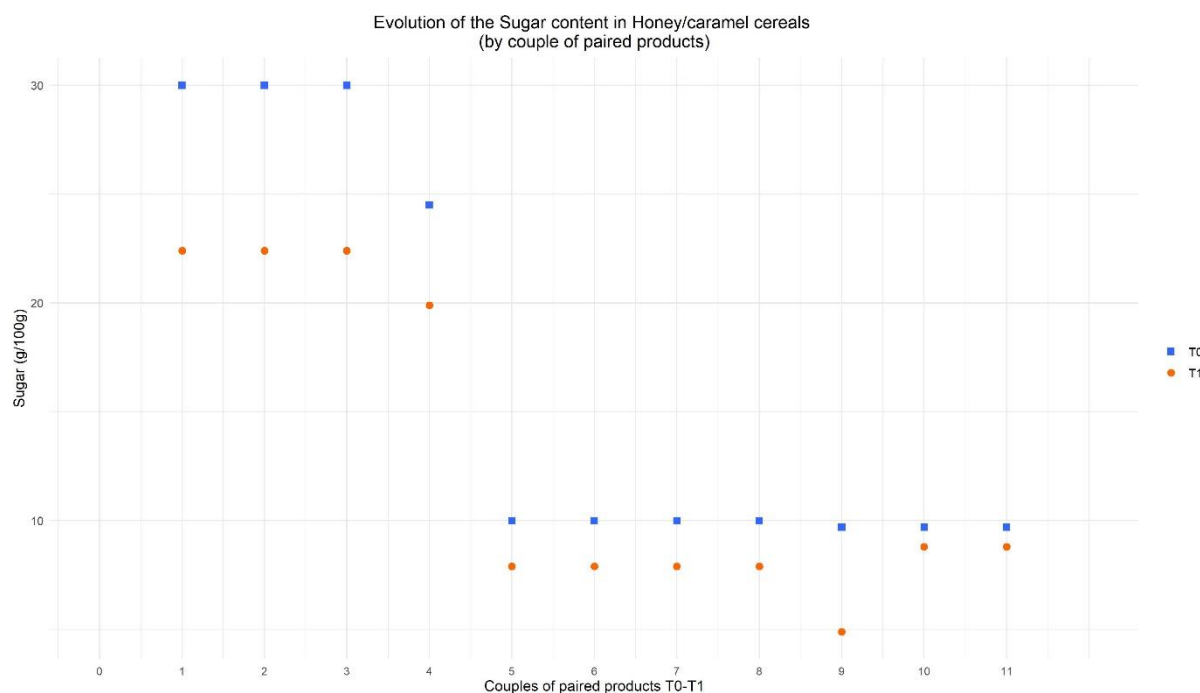


Figure 24: Sugar content evolution between 2016-2017 and 2021 by couple of paired products (n=11) for honey caramel cereals

Of the 11 couples of paired products in subcategory honey/caramel cereals, all products had a lower sugar content in 2021 (T1) than in 2016-2017 (T0) (Figure 24).

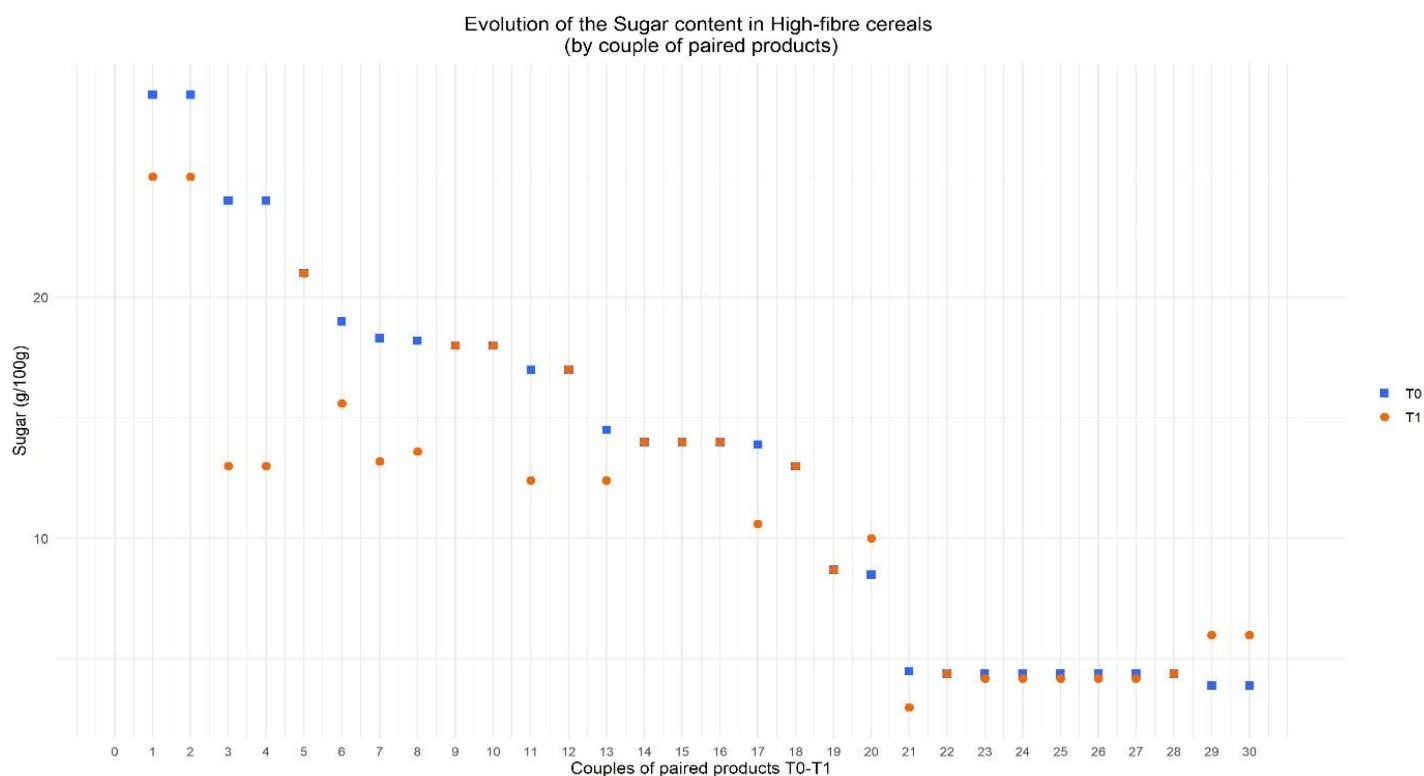


Figure 25: Sugar content evolution between 2016-2017 and 2021 by couple of paired products (n=30) for High-fibre cereals subcategory

Of the 30 couples of paired products in subcategory High-fibre cereals, the majority have a lower sugar content in 2021 (T1) than in 2016-2017 (T0). It should be noted that products with the highest sugar content (>24 g/100g) in 2016-2017 (T0) have experienced a decrease in their sugar content in 2021 (T1). Three couples show higher sugar values in 2021 than in 2016-2017. Eleven couples have maintained their sugar value at both time points (Figure 25 25).

3.2.2.7 Evolution of the fibre content among the subcategories

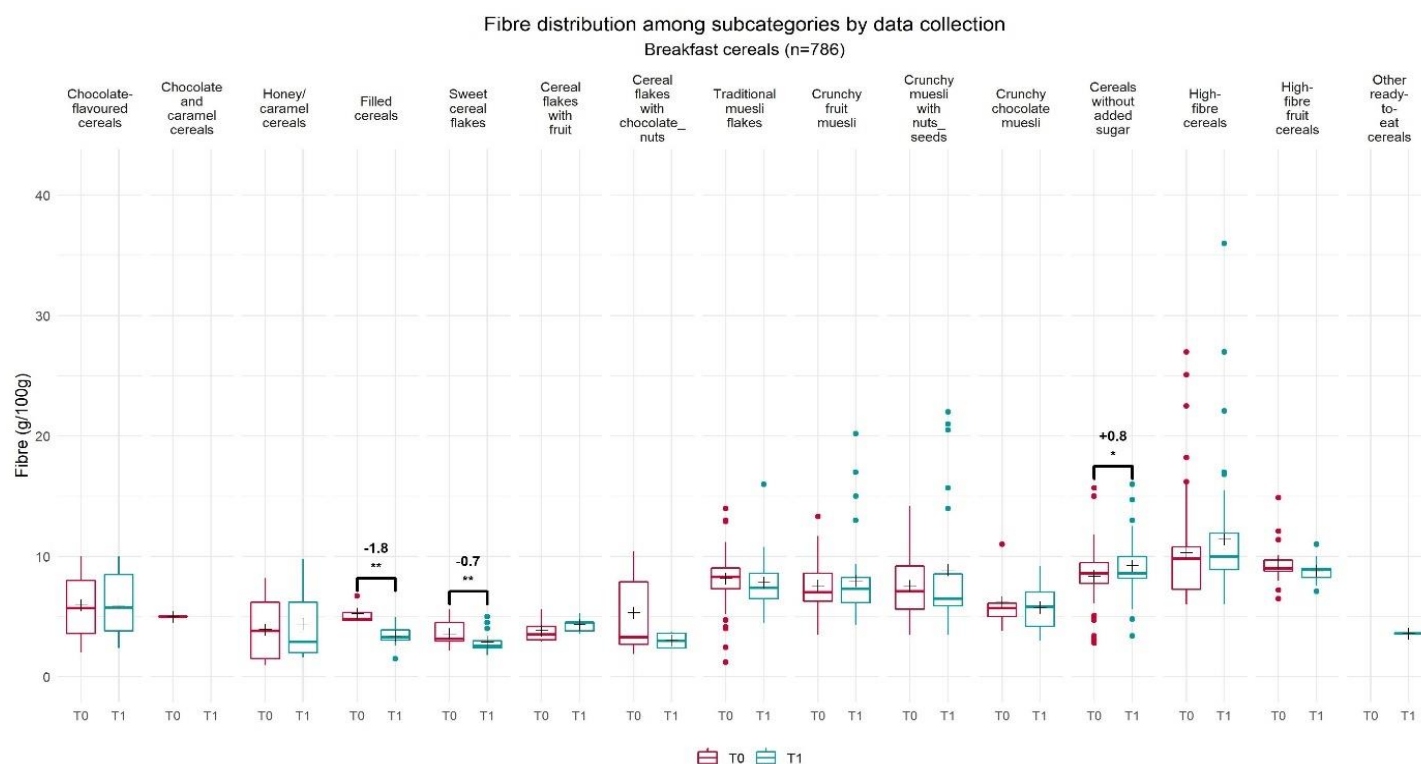


Figure 26: Fibre distribution among subcategories of Breakfast cereals²⁷

Figure 26 shows the fibre distribution of Breakfast cereals between 2016-2017 (T0) and 2021 (T1) by subcategories.

Among all the products collected within Breakfast cereals category, there is a statistically significant decrease between both data collections in the average fibre content for two subcategories out of 16: Filled cereals (- 1.8 g/100g ** between 2016-2017 and 2021, - 34.80%), and Sweet cereal flakes (- 0.7 g/100g ** between 2016-2017 and 2021, -19.0%). There is a statistically significant increase between both data collections in the average fibre content for one subcategory out of 15: Cereals without added sugar (+ 0.9 g/100g * between 2016-2017 and 2021, +10.30%).

There are differences in the variability within the subcategories, between the two timepoints for subcategories: Filled cereals (T0 n = 4, 4.6 g /100g to 6.7g/100g and T1 n= 11, 1.5 g /100g to 5.0g/100g), Sweet cereal flakes (T0 n = 32, 2.2 g /100g to 5.6 g/100g and T1 n= 26, 1.8 g /100g to 5.0g/100g), Crunchy fruit muesli (T0 n = 38, 3.5 g /100g to 13.3 g/100g and T1 n= 34, 4.3 g /100g to 20.2 g/100g), Crunchy muesli with nuts_seeds (T0 n = 38 , 3.5 g /100g to 14.2 g/100g and T1 n= 23, 3.5 g /100g to 22.0 g/100g), and Crunchy chocolate muesli (T0 n = 6, 3.8 g /100g to 11.0 g/100g and T1 n= 11, 3.0 g /100g to 9.2 g/100g).

²⁷Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.2.8 Evolution of the fibre content for paired products

Table 11 summarizes the difference in the average fibre content observed between 2016-2017 (T0) and 2021 (T1) for all products, and for paired products.

There is a statistically significant increase in the fibre content for paired products within two subcategories: Chocolate-flavoured cereals (+ 0.2g/100g ** between 2016-2017 and 2021, + 3.80 %), and Honey/caramel cereals (+ 2.0 g/100g ** between 2016-2017 and 2021, + 64.40%).

There is a statistically significant decrease in the fibre content for paired products within one subcategory: Sweet cereal flakes (- 0.4 g/100g * between 2016-2017 and 2021, - 12.10 %),

Table 11 : Summary of the evolution of the average fibre content for Breakfast cereals, by subcategory²⁸

Subcategory_name	Fibre					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	5.9	- 0.07	- 1.30 %	4.9	+ 0.2 **	+ 3.80 %
Chocolate and caramel cereals						
Honey/caramel cereals	4.4	+ 0.4	+ 11.10 %	4.2	+ 2.0 **	+ 64.40 %
Filled cereals	3.4	- 1.8 **	- 34.80 %	4.7	- 1.0	- 17.70 %
Sweet cereal flakes	2.9	- 0.7 **	- 19.0 %	2.8	- 0.4 *	- 12.10 %
Cereal flakes with fruit	4.3	+ 0.5	+ 13.10 %	4.2	+ 0.1	+ 3.30 %
Cereal flakes with chocolate_nuts	3.0	- 2.3	- 43.0 %	2.4	- 0.3	- 11.10 %
Traditional muesli flakes	7.8	- 0.3	- 4.0 %	7.8	+ 0.003	+ 0.04 %
Crunchy fruit muesli	8.0	+ 0.4	+ 5.20 %	6.2	- 0.8	- 11.40 %
Crunchy muesli with nuts_seeds	8.9	+ 1.3	+ 17.50 %	5.8	- 0.1	- 1.70 %
Crunchy chocolate muesli	5.8	- 0.4	- 7.20 %	5.8	0	0 %
Cereals without added sugar	9.2	+ 0.9 *	+ 10.30 %	9.3	+ 0.2	+ 2.40 %
High-fibre cereals	11.4	+ 1.1	+ 10.90 %	12	+ 0.7	+ 6.20 %
High-fibre fruit cereals	8.8	- 0.6	- 6.20 %	9.0	- 0.6	- 6.10 %
Cereal preparation to drink						
Other ready-to-eat cereals	3.6					

²⁸ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

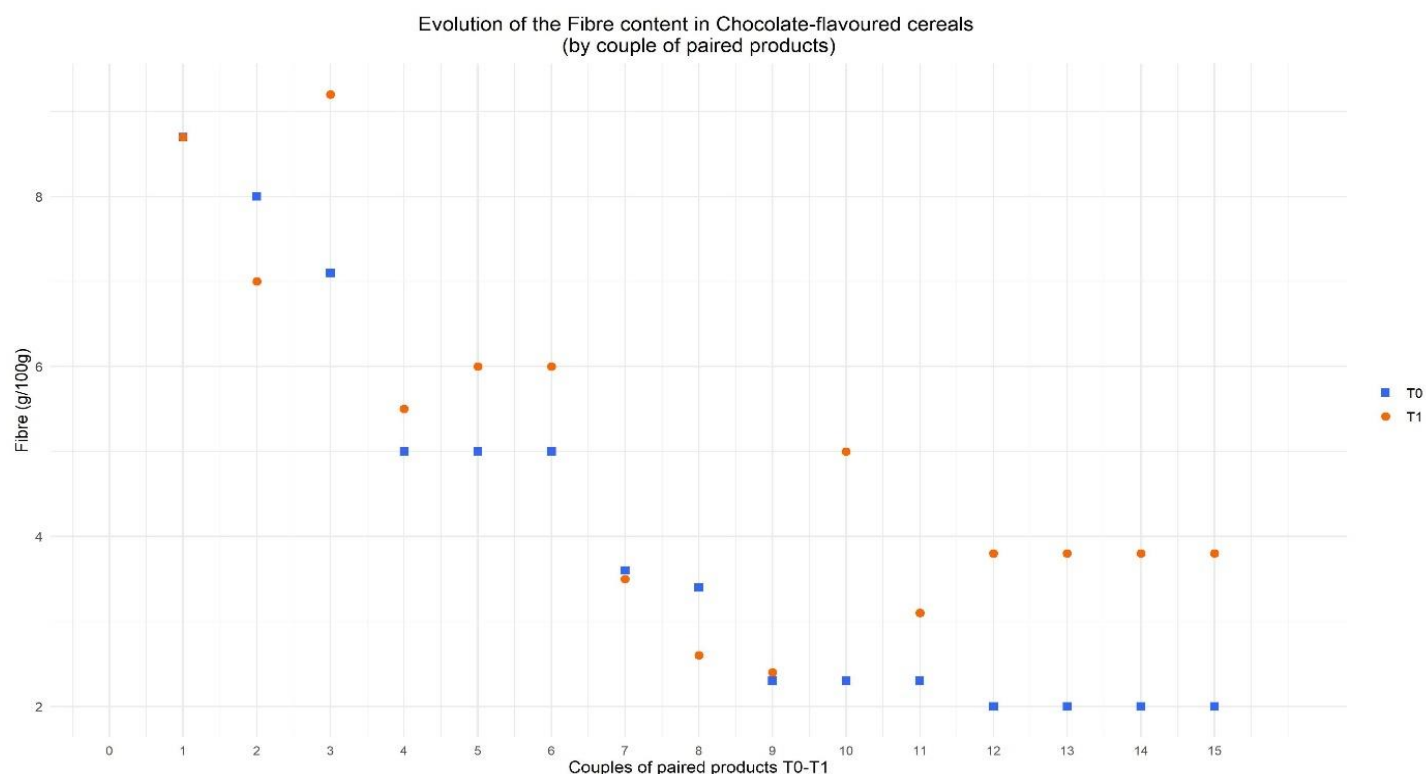


Figure 27: Fibre content evolution between 2016-2017 and 2021 by couple of paired products (n=15) for Chocolate-flavoured cereals subcategory

Of the 15 couples of paired products in subcategory Chocolate-flavoured cereals, the majority (11 out of 15 couples) have a higher fibre content in 2021 (T1) than in 2016-2017 (T0). Three couples show lower fibre values in 2021 than in 2016-2017 (Figure 27).

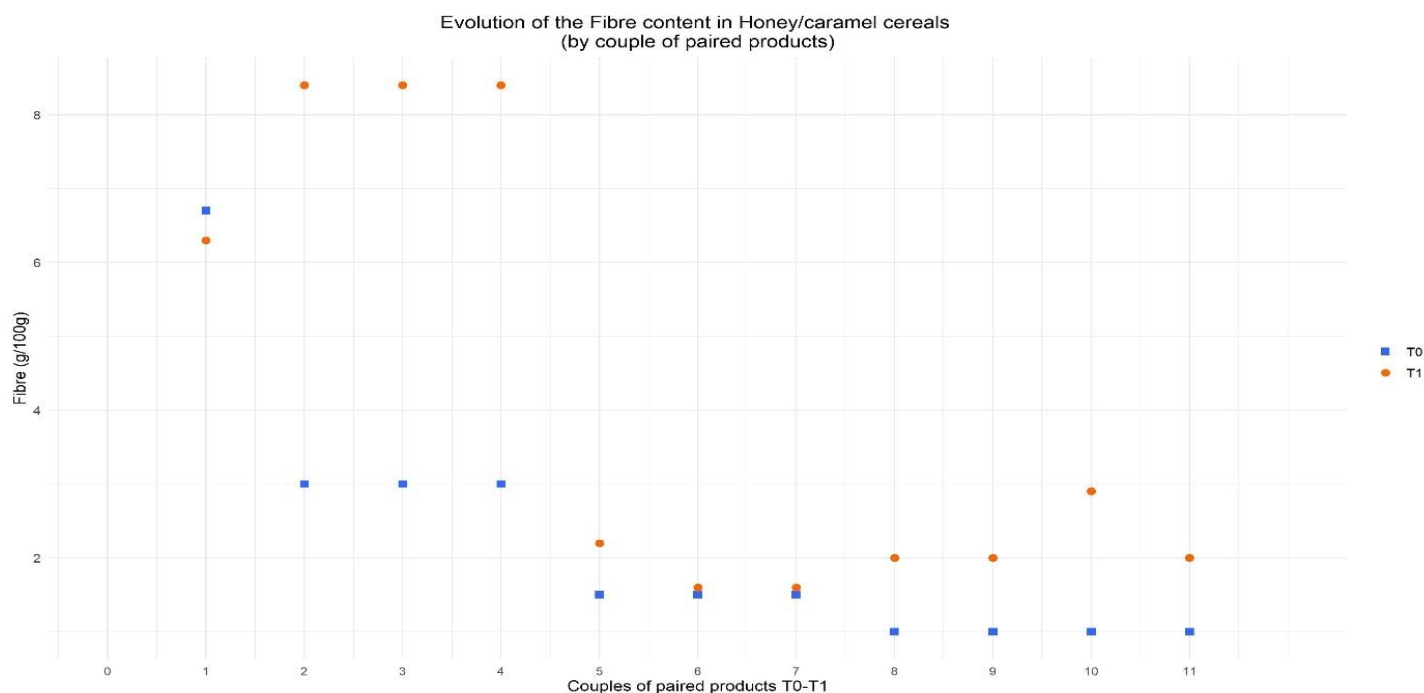


Figure 28 : Fibre content evolution between 2016-2017 and 2021 by couple of paired products (n=11) for Honey/caramel cereals subcategory

Of the 11 couples of paired products in subcategory Honey/caramel cereals, the majority (10 out of 11 couples) have a higher fibre content in 2021 (T1) than in 2016-2017 (T0) (Figure 28).

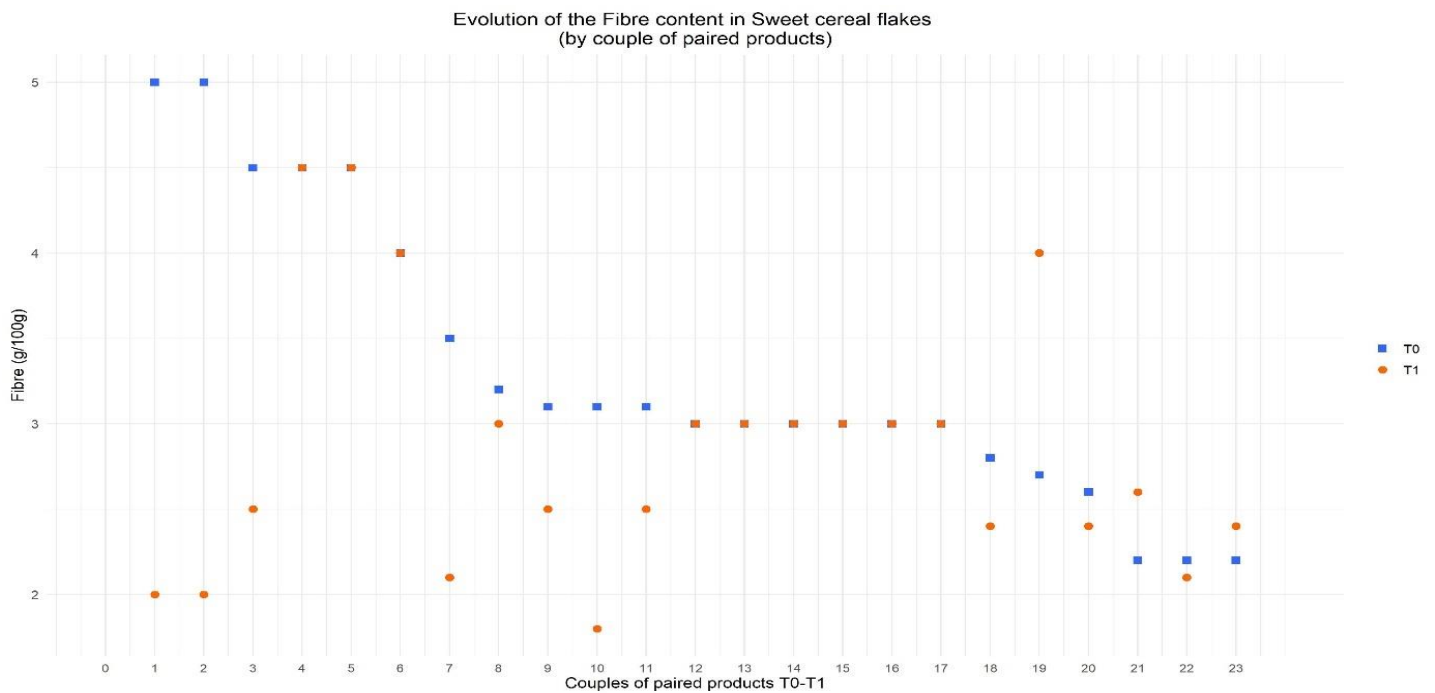


Figure 29 : Fibre content evolution between 2016-2017 and 2021 by couple of paired products (n=23) for Sweet cereal flakes subcategory

Of the 23 couples of paired products in subcategory Sweet cereal flakes, 11 products have a lower fibre content in 2021 (T1) than in 2016-2017 (T0). Three couples show higher fibre values in 2021 than in 2016-2017. Nine couples show no change in fibre content between the two timepoints. (Figure 29).

3.2.2.9 Evolution of the salt content among the subcategories

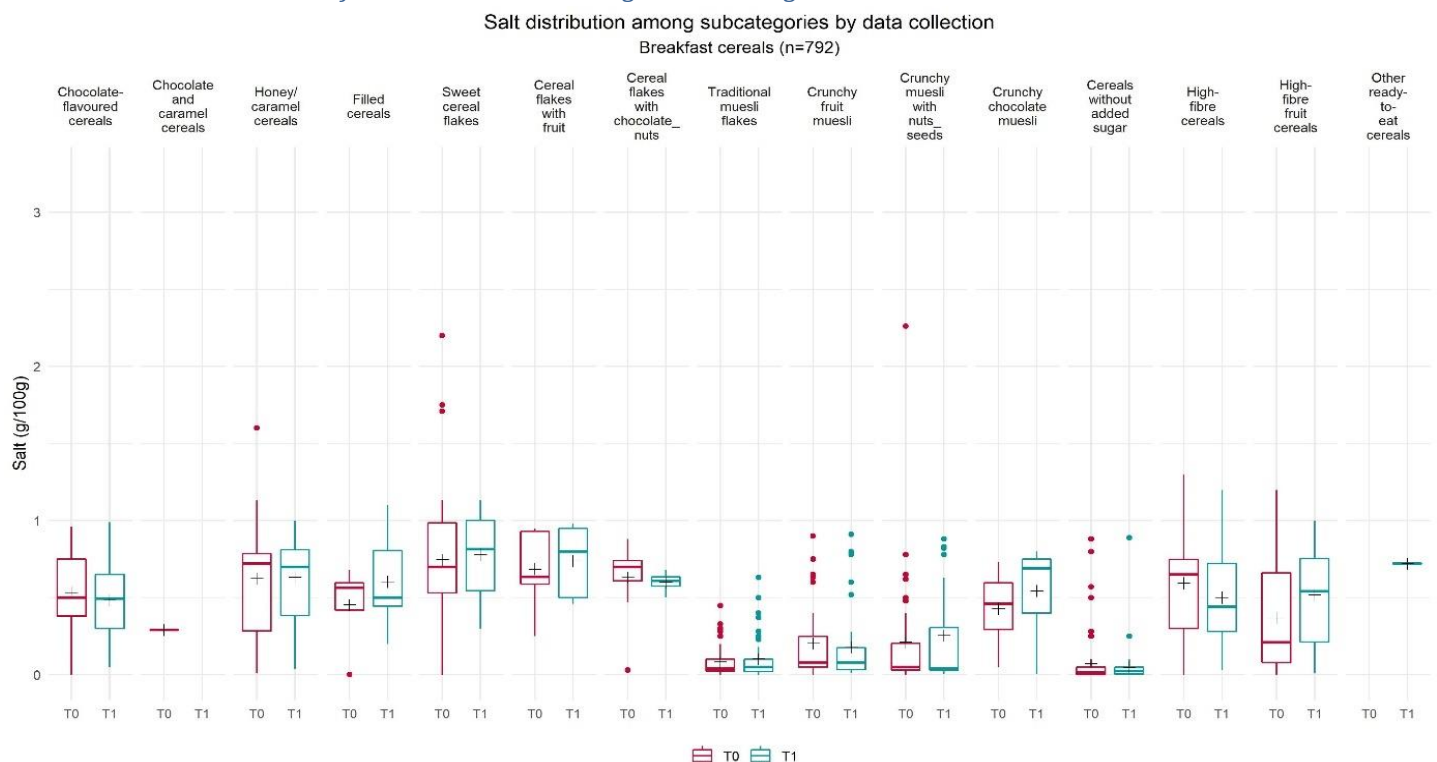


Figure 30: Salt distribution among subcategories of Breakfast cereals²⁹

Figure 30 shows the salt distribution of Breakfast cereals between 2016-2017 (T0) and 2021 (T1) by subcategories.

Among all the products collected within Breakfast cereals category, there is no statistically significant difference between both data collections in the average salt content.

The variability of the salt content across the subcategories differs, however is mostly constant between the subcategories at the two timepoints. The variation of salt content in these subcategories may be explained by the variation of the types of products in each subcategory which are manufactured by different types of brands. The largest variability in salt content at both timepoints can be observed within subcategories High-fibre cereals (T0 n= 54, 0g/100g to 1.3g/100g, T1 n= 59, 0.03 g/100g to 1.2 g/100g), High-fibre fruit cereals (T0 n= 23 , 0 g/100g to 1.2 g/100g, T1 n= 14, 0.01 g/100g to 1.0 g/100g), Sweet cereal flakes (T0 n= 32 , 0 g/100g to 2.2 g/100g, T1 n= 26, 0.3 g/100g to 1.13 g/100g), Honey/caramel cereals (T0 n= 18 , 0.01 g/100g to 1.6 g/100g, T1 n= 27, 0.04 g/100g to 1.0 g/100g), Chocolate-flavoured cereals (T0 n= 21 , 0 g/100g to 0.96 g/100g, T1 n= 30, 0.05 g/100g to 0.99 g/100g). Variability within a given subcategory, means there is room for reformulation.

²⁹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.2.10 Evolution of the salt content for paired products

Table 12 summarizes the difference in the average salt content observed between 2016-2017 (T0) and 2021 (T1) for all products, and for paired products.

There is a statistically significant decrease in the salt content for paired products within two subcategories: Chocolate-flavoured cereals (- 0.085 g/100g *** between 2016-2017 and 2021, - 13.24%), and Honey/caramel cereals (- 0.041 g/100g ** between 2016-2017 and 2021, - 4.90%).

Table 12 : Summary of the evolution of the average salt content for Breakfast cereals, by subcategory³⁰

Subcategory_name	Salt					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	0.48	- 0.048	- 9.07 %	0.56	- 0.085***	- 13.24 %
Chocolate and caramel cereals						
Honey/caramel cereals	0.63	+ 0.0085	+ 1.36 %	0.79	- 0.041 **	- 4.90 %
Filled cereals	0.6	+ 0.15	+ 33.20 %	0.44	+ 0.095	+ 27.94 %
Sweet cereal flakes	0.78	+ 0.035	+ 4.65 %	0.8	+ 0.1	+ 15.03 %
Cereal flakes with fruit	0.74	+ 0.053	+ 7.74 %	0.64	- 0.087	- 11.98 %
Cereal flakes with chocolate_nuts	0.6	- 0.031	- 4.90 %	0.61	- 0.09	- 12.86 %
Traditional muesli flakes	0.1	+ 0.017	+ 20.04 %	0.1	+ 0.0031	+ 3.28 %
Crunchy fruit muesli	0.18	- 0.026	- 12.56 %	0.14	- 0.039	- 21.26 %
Crunchy muesli with nuts_seeds	0.26	+ 0.044	+ 21.06 %	0.41	0	0
Crunchy chocolate muesli	0.54	+ 0.11	+ 26.53 %	0.63	0	0
Cereals without added sugar	0.05	- 0.023	- 32.43 %	0.03	- 0.026	- 50.16 %
High-fibre cereals	0.5	- 0.093	- 15.67 %	0.54	- 0.09	- 14.39 %
High-fibre fruit cereals	0.52	+ 0.15	+ 40.07 %	0.54	+ 0.15	+ 37.36 %
Cereal preparation to drink						
Other ready-to-eat cereals	0.72					

³⁰ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

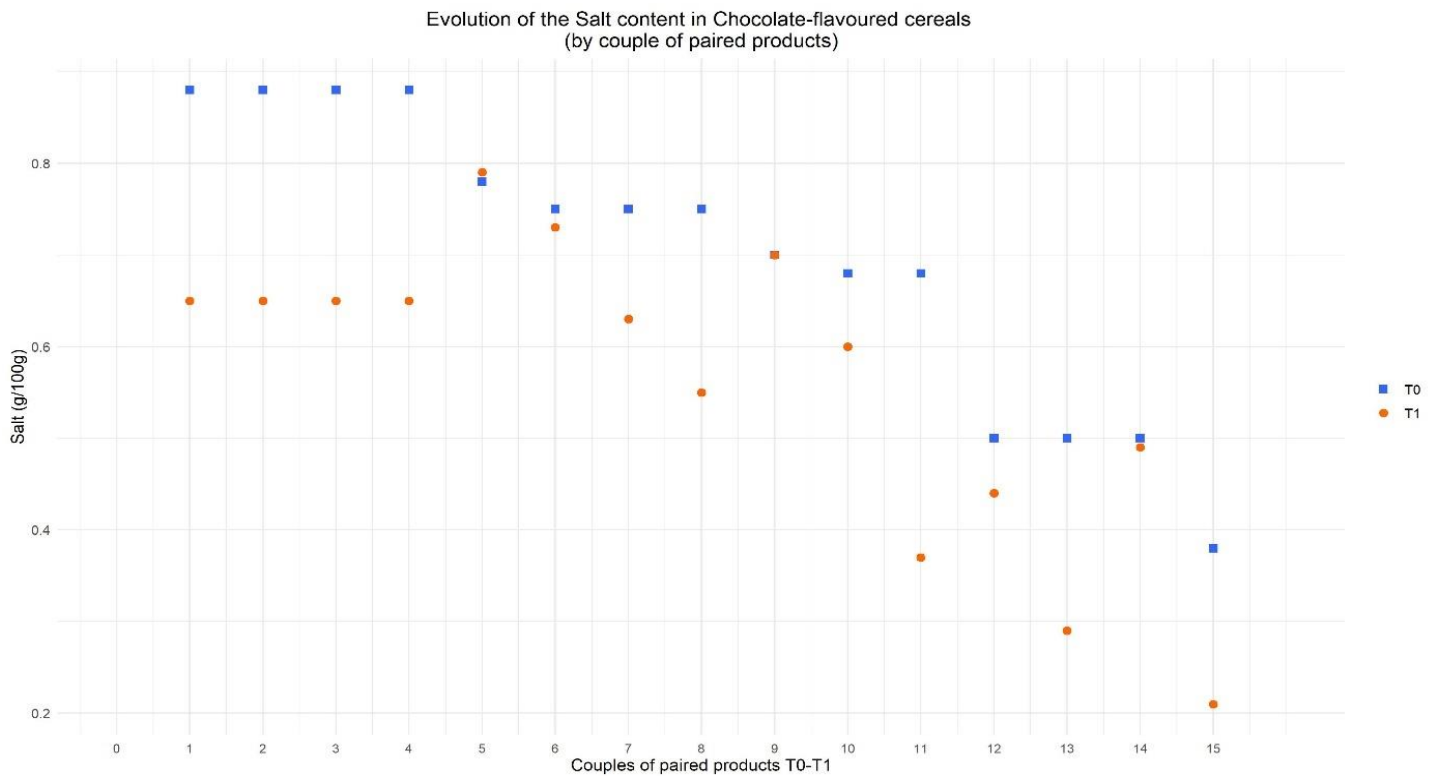


Figure 31: Salt content evolution between 2016-2017 and 2021 by couple of paired products (n=15) for Chocolate-flavoured cereals subcategory

Of the 15 couples of paired products in subcategory Chocolate-flavoured cereals, the majority (13 out of 15 couples) have a lower salt content in 2021 (T1) than in 2016-2017 (T0). One paired product (couple 5) has a higher salt content in 2021 (T1) than in 2016-2017 (T0). One paired product (couple 9) had no change (Figure 31).

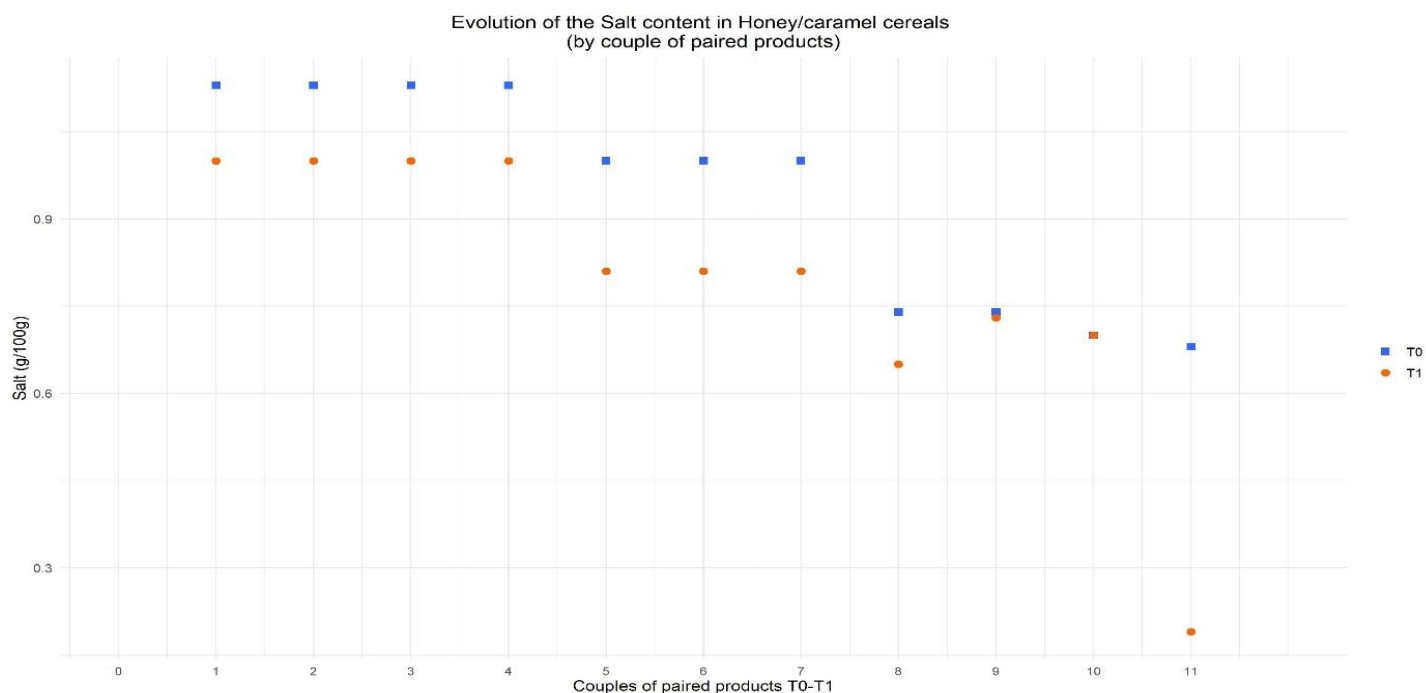


Figure 32: Salt content evolution between 2016-2017 and 2021 by couple of paired products (n=11) for Honey/caramel cereals subcategory

Of the 11 couples of paired products in subcategory Honey/caramel cereals, the majority (10 out of 11 couples) have a lower salt content in 2021 (T1) than in 2016-2017 (T0). One product pair (couple 10) has maintained the salt content across the two timepoints (Figure 32).

3.2.3 Fresh dairy products and desserts

3.2.3.1 Evolution of the Fat content among the subcategories

Fat distribution among subcategories by data collection
 Fresh dairy products and desserts (n=1279)

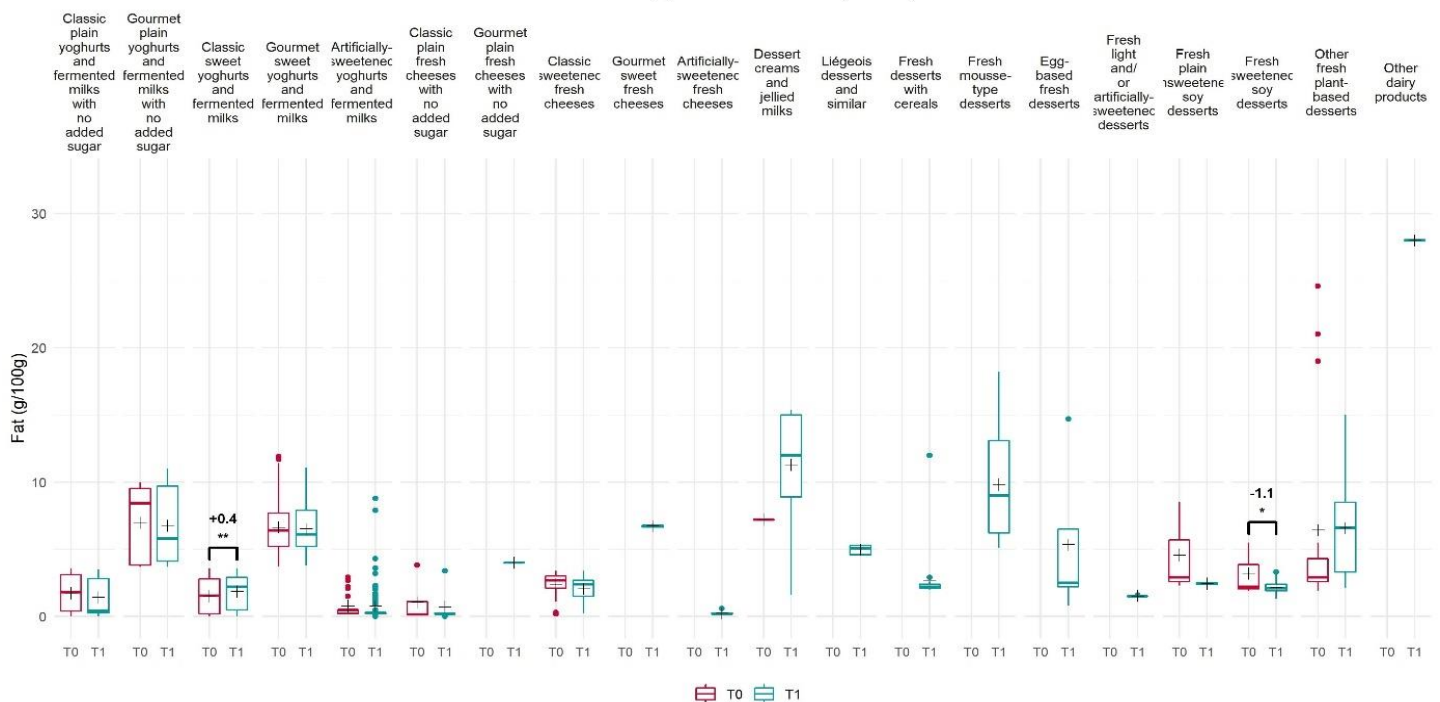


Figure 33 :Fat distribution among subcategories of Fresh dairy products and desserts

Figure 33 shows the fat distribution of Fresh dairy products and desserts between 2016-2017 (T0) and 2021 (T1) by subcategories. Among the 21 subcategories considered, the average fat content has statistically significantly increased for one of the subcategories: Classic sweet yoghurts and fermented milks (+ 0.3 g/100g ** between 2016-2017 and 2021, + 23.10%). The average fat content has statistically significantly decreased in one of the 20 subcategories: Fresh sweetened soy desserts (-1.1 g/100 g * between 2016-2017 and 2021, - 33.10 %).

The variability differs according to the subcategories but remains constant between the two times within the same subcategory for most subcategories (where data from both timepoints is available). There is greater variability at T0 compared to T1 for Fresh plain unsweetened soy desserts (T0, n= 3, 2.3g/100g to 8.5 g/100g, T1 n= 2, 2.3 g/100g to 2.6 g 100g) and Fresh sweetened soy desserts (T0, n= 3, 1.9 g/100g to 5.5 g/100g, T1 n= 34, 1.3 g/100g to 3.3 g/100g). The variation of fat content in these subcategories may be explained by the variation of the types of products collected at the different time points, in each subcategory. It may also be partly explained by the difference in the number of products collected at the timepoints, as with Fresh sweetened soy desserts (T0 n= 3, compared to T1 n= 34). The subcategory Gourmet sweet yoghurts and fermented milks has the most variable fat content at both times (T0 n=130, 3.7g/100g to 11.9 g/100g, T1 n=138, 3.8 g/100g to 11.1 g/100g) translating to room for reformulation.

Outliers within the subcategories can be explained by the composition of the certain products within the subcategory. For example, higher fat content of products in the subcategory Other fresh plant-based desserts can be attributed to ingredients such as coconut within a small number of products, which are naturally high in fat.

3.2.3.2 Evolution of the fat content for paired products

Table 13 summarizes the difference in the average fat content observed between 2016-2017 (T0) and 2021 (T1) for all products, and for paired products.

There is a statistically significant decrease in the fat content for paired products within one subcategory: Artificially-sweetened yoghurts and fermented milks (- 0.2 g/100g * between 2016-2017 and 2021, - 42.90 %).

The number of paired products within the subcategory Artificially-sweetened yoghurts and fermented milks is less than n=10 (n=6) therefore the graph displaying the evolution of fat content in Artificially-sweetened yoghurts and fermented milks, by couple of paired products has not been included in this report.

Table 13 : Summary of the evolution of the average fat content for Fresh dairy products and desserts, by subcategory³¹

Subcategory_name	Fat					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Classic Plain yoghurts and fermented milks with no added sugar	1.4	- 0.3	- 18.0 %	2	+ 0.08	+ 4.30 %
Gourmet plain yoghurts and fermented milks with no added sugar	6.8	- 0.2	- 3.20 %	9.6	+ 0.3	+ 2.90 %
Classic sweet yoghurts and fermented milks	1.9	+ 0.3 **	+ 23.10 %	2.8	- 0.09	- 3.0 %
Gourmet sweet yoghurts and fermented milks	6.5	- 0.1	- 1.80 %	5.8	+ 0.1	+ 1.90 %
Artificially-sweetened yoghurts and fermented milks	0.8	- 0.02	- 2.40 %	0.3	- 0.2 *	- 42.90 %
Classic plain fresh cheeses with no added sugar	0.7	- 0.3	- 32.50 %			
Gourmet plain fresh cheeses with no added sugar	4.0					
Classic sweetened fresh cheeses	2.1	- 0.3	- 14.40 %	1.9	- 0.3	- 14.50 %
Gourmet sweet fresh cheeses	6.7					
Artificially-sweetened fresh cheeses	0.2					
Dessert creams and jellied milk	11.3	+ 4.1	+ 56.80 %			
Liégeois desserts and similar	5.0					
Curdled milks						
Fresh desserts with cereals	2.7					
Fresh mousse-type desserts	9.8					
Egg-based fresh desserts	5.3					
Fresh light and/or artificially-sweetened desserts	1.5					
Fresh plain unsweetened soy desserts	2.5	- 2.1	- 46.40 %			
Fresh sweetened soy desserts	2.1	- 1.1 *	- 33.10 %			
Other fresh plant-based desserts	6.6	+ 0.2	+ 2.50 %			
Other dairy products	28.0					

³¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.3.3 Evolution of the saturated fat content among the subcategories

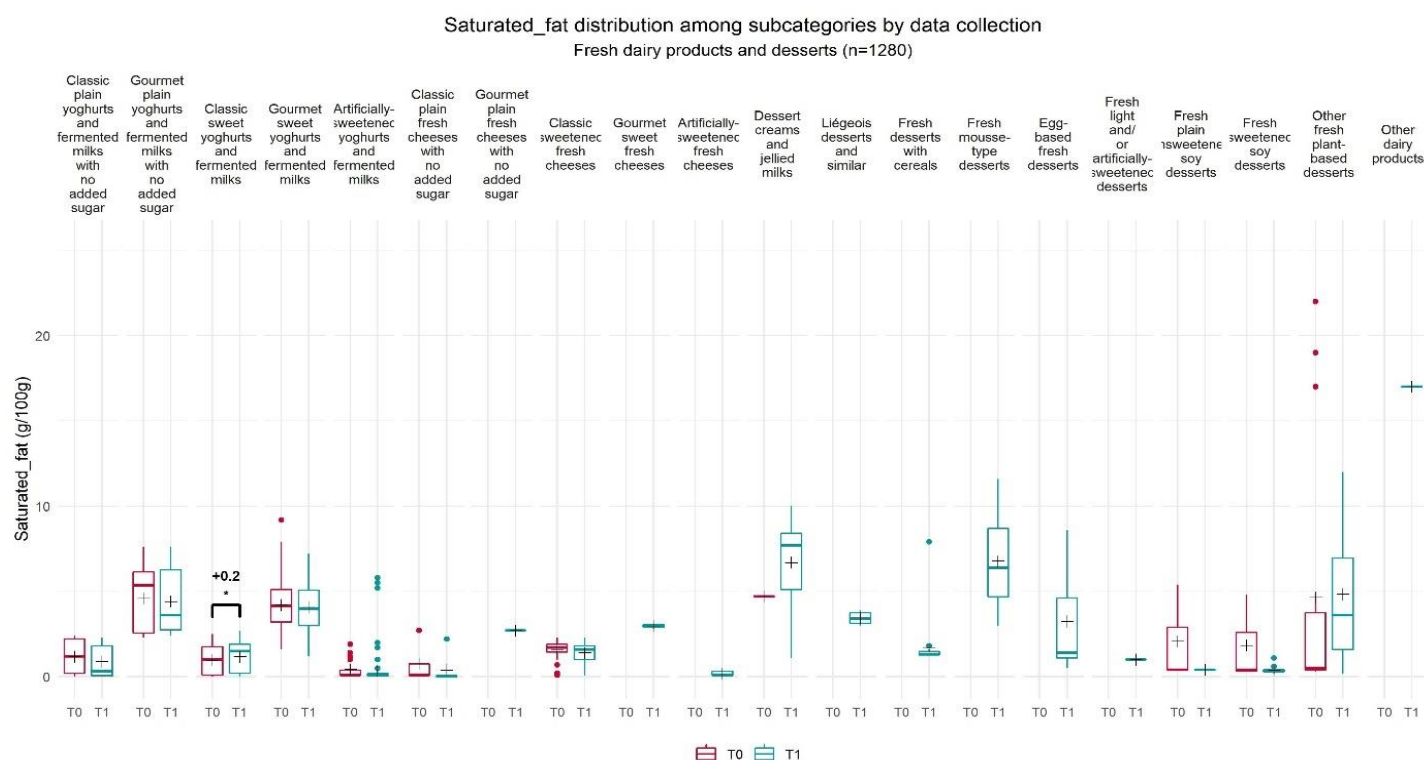


Figure 34 : Saturated fat distribution among subcategories of Fresh dairy products and desserts³²

Figure 34 shows the saturated fat distribution of Fresh dairy products and desserts between 2016-2017 (T0) and 2021 (T1) by subcategories. Among the 21 subcategories considered, the average saturated fat content has statistically significantly increased for one of the subcategories: Classic Sweet yoghurts and fermented milks (+ 0.2 g/100g ** between 2016-2017 and 2021, + 20.30%).

The variability differs according to the subcategories but remains constant between the two times within the same subcategory for most subcategories (where data from both timepoints is available). There is greater variability at T0 compared to T1 for Fresh plain unsweetened soy desserts (T0, n= 3, 0.4 g/100g to 5.4 g/100g, T1 n= 2, 0.4 g/100g to 0.4 g/100g) and Fresh sweetened soy desserts (T0, n= 3, 0.3 g/100g to 4.8 g/100g, T1 n= 34, 0.2 g/100g to 1.1 g/100g). There is greater variability at T1 compared to T0 for Dessert creams and jellied milks (T0 n= 1, 4.7 g/100g to 4.7 g/100g, T1 n= 17, 1.1 g/100g to 10.0 g/100g) and Other fresh plant-based desserts (T0 n= 16, 0.3 g/100g to 22.0 g/100g, T1 n= 19, 0.2 g/100g to 12.0 g/100g). The variation of saturated fat content in these subcategories may be explained by the variation of the types of products, and number of products collected at the different time points, in each subcategory.

³²Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

The subcategory Gourmet sweet yoghurts and fermented milks has the most variable saturated fat content at both times (T0 1.6 g/100g to 9.2 g/100g, T1, 1.2 g/100g to 7.2 g/100g) translating to room for reformulation.

Outliers within the subcategories can be explained by the composition of the certain products within the subcategory. For example, higher saturated fat content of products in the subcategory Other fresh plant-based desserts can be attributed to ingredients such as coconut within a small number of products, which is high in saturated fat.

3.2.3.4 Evolution of the saturated fat content for paired products

Table 14 summarizes the difference in the average saturated fat content observed between 2016-2017 (T0) and 2021 (T1) for all products, and for paired products.

There is no statistically significant change in saturated fat content observed at the level of paired products.

Table 14 : Summary of the evolution of the average saturated fat content for Fresh dairy products and desserts, by subcategory³³

Subcategory_name	Saturated Fat					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Classic Plain yoghurts and fermented milks with no added sugar	0.9	- 0.3	- 24.30 %	1.2	- 0.02	- 1.60 %
Gourmet plain yoghurts and fermented milks with no added sugar	4.4	- 0.2	- 3.90 %	6.0	- 0.03	- 0.40 %
Classic sweet yoghurts and fermented milks	1.2	+ 0.2 *	+ 20.30 %	1.8	- 0.06	- 3.0 %
Gourmet sweet yoghurts and fermented milks	4.1	- 0.1	- 3.30 %	3.7	+ 0.1	+ 2.80 %
Artificially-sweetened yoghurts and fermented milks	0.4	- 0.07	- 16.90 %	0.2	-0.09	- 37.10 %
Classic plain fresh cheeses with no added sugar	0.4	- 0.4	- 47.80 %			
Gourmet plain fresh cheeses with no added sugar	2.7					
Classic sweetened fresh cheeses	1.4	- 0.2	- 13.0 %	1.3	+ 0.08	+ 6.70 %
Gourmet sweet fresh cheeses	3.0					
Artificially-sweetened fresh cheeses	0.2					
Dessert creams and jellied milks	6.7	+ 2.0	+ 42.30 %			
Liégeois desserts and similar	3.4					
Curdled milks						
Fresh desserts with cereals	1.7					
Fresh mousse-type desserts	6.8					
Egg-based fresh desserts	3.2					
Fresh light and/or artificially-sweetened desserts	1.0					
Fresh plain unsweetened soy desserts	0.4	- 1.7	- 80.60			
Fresh sweetened soy desserts	0.4	- 1.5	- 79.90			
Other fresh plant-based desserts	4.8	+ 0.2	+ 4.20			
Other dairy products	17.0					

³³ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

3.2.3.5 Evolution of the sugar content among the subcategories

Sugar distribution among subcategories by data collection
 Fresh dairy products and desserts (n=1276)

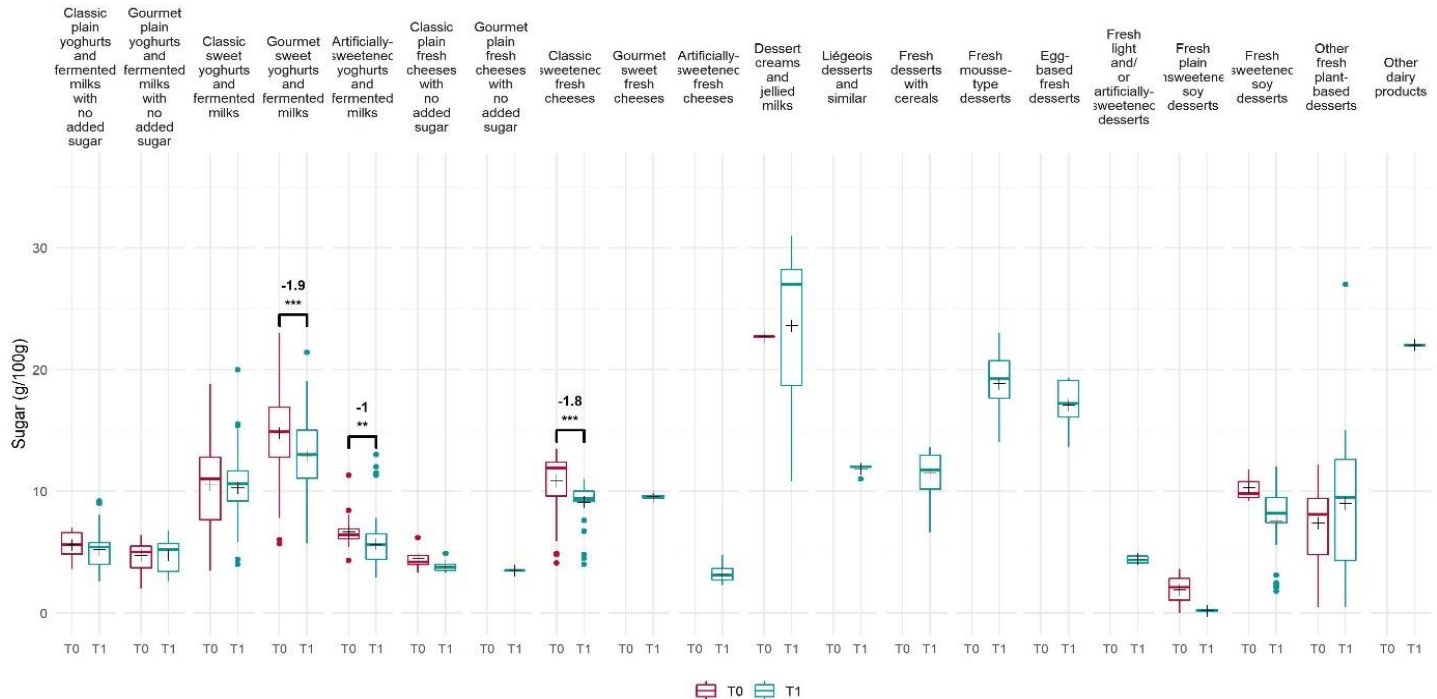


Figure 35: Sugar distribution among subcategories of Fresh dairy products and desserts³⁴

Figure 35 shows the sugar distribution of Fresh dairy products and desserts between 2016-2017 (T0) and 2021 (T1) by subcategories.

Among all the products collected within Fresh dairy products and desserts category, there is a statistically significant¹ decrease between both data collections in the average sugar content for three subcategories out of 21: Gourmet sweet yoghurts and fermented milks (- 1.9 g/100g *** between 2016-2017 and 2021, -12.60%), Artificially-sweetened yoghurts and fermented milks (- 1.0 g/100g ** between 2016-2017 and 2021, - 15.20%), and Classic sweetened fresh cheeses (- 1.8 g/100g *** between 2016-2017 and 2021, - 16.30 %).

There is large variability in sugar content within the subcategories at both timepoints, meaning there is opportunity for sugar reformulation in the following subcategories: Classic sweet yoghurts and fermented milks (T0 n= 275, 3.5 g/100g to 18.8 g/100g, T1 n= 183, 4.0 g/100g to 20.0 g/100g), Gourmet sweet yoghurts and fermented milks (T0 n=129, 5.7 g /100g to 23.0 g/100g, T1 n= 138, 5.7 g/100g to 21.4 g/100g), and Other fresh plant-based desserts (T0 n= 15, 0.5 g/100g to 12.2 g/100g, T1 n= 19, 0.5 g/100g to 27.0 g/100g).

³⁴Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

3.2.3.6 Evolution of the sugar content for paired products

Table 15 summarizes the difference in the average sugar content observed between 2016-2017 (T0) and 2021 (T1) for all products, and for paired products.

There is a statistically significant decrease in the sugar content for paired products within two subcategories out of 21: Gourmet sweet yoghurts and fermented milks (- 2.0 g/100g *** between 2016-2017 and 2021, - 12.30 %), and Artificially-sweetened yoghurts and fermented milks (- 1.0 g/100g * between 2016-2017 and 2021, - 16.60%) These can be linked to the statistically significant¹ decrease of the sugar content observed at the subcategory level meaning that these evolutions can partially be explained by reformulation.

The number of paired products within the subcategory Artificially-sweetened yoghurts and fermented milks is less than n=10 (n=6) therefore the graph displaying the evolution of sugar content in Artificially-sweetened yoghurts and fermented milks, by couple of paired products has not been included in this report.

Table 15 : Summary of the evolution of the average sugar content for Fresh dairy products and desserts, by subcategory³⁵

Subcategory_name	Sugar					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Classic Plain yoghurts and fermented milks with no added sugar	5.2	- 0.40	- 6.60 %	5.3	- 0.20	- 3.30 %
Gourmet plain yoghurts and fermented milks with no added sugar	4.8	+ 0.04	+ 0.80 %	5.0	- 0.1	- 2.40 %
Classic sweet yoghurts and fermented milks	10.3	- 0.20	- 1.90 %	11.1	- 0.8	- 6.50 %
Gourmet sweet yoghurts and fermented milks	12.9	- 1.9 ***	- 12.60 %	14.1	- 2.0 ***	- 12.30 %
Artificially-sweetened yoghurts and fermented milks	5.6	- 1.0 **	- 15.20 %	6.0	- 1.0 *	- 16.60 %
Classic plain fresh cheeses with no added sugar	3.9	- 0.60	- 13.60 %			
Gourmet plain fresh cheeses with no added sugar	3.5					
Classic sweetened fresh cheeses	9.1	- 1.8 ***	- 16.30%	9.5	- 2.0	- 20.50 %
Gourmet sweet fresh cheeses	9.6					
Artificially-sweetened fresh cheeses	3.2					
Dessert creams and jellied milks	23.6	+ 0.90	+ 3.90 %			
Liégeois desserts and similar	11.8					
Curdled milks						
Fresh desserts with cereals	11.5					
Fresh mousse-type desserts	18.8					
Egg-based fresh desserts	17.1					
Fresh light and/or artificially-sweetened desserts	4.4					
Fresh plain unsweetened soy desserts	0.2	- 1.7	- 89.50 %			
Fresh sweetened soy desserts	7.5	- 2.8	- 26.80 %			
Other fresh plant-based desserts	9	+ 1.6	+ 21.80			
Other dairy products	22.0					

³⁵ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

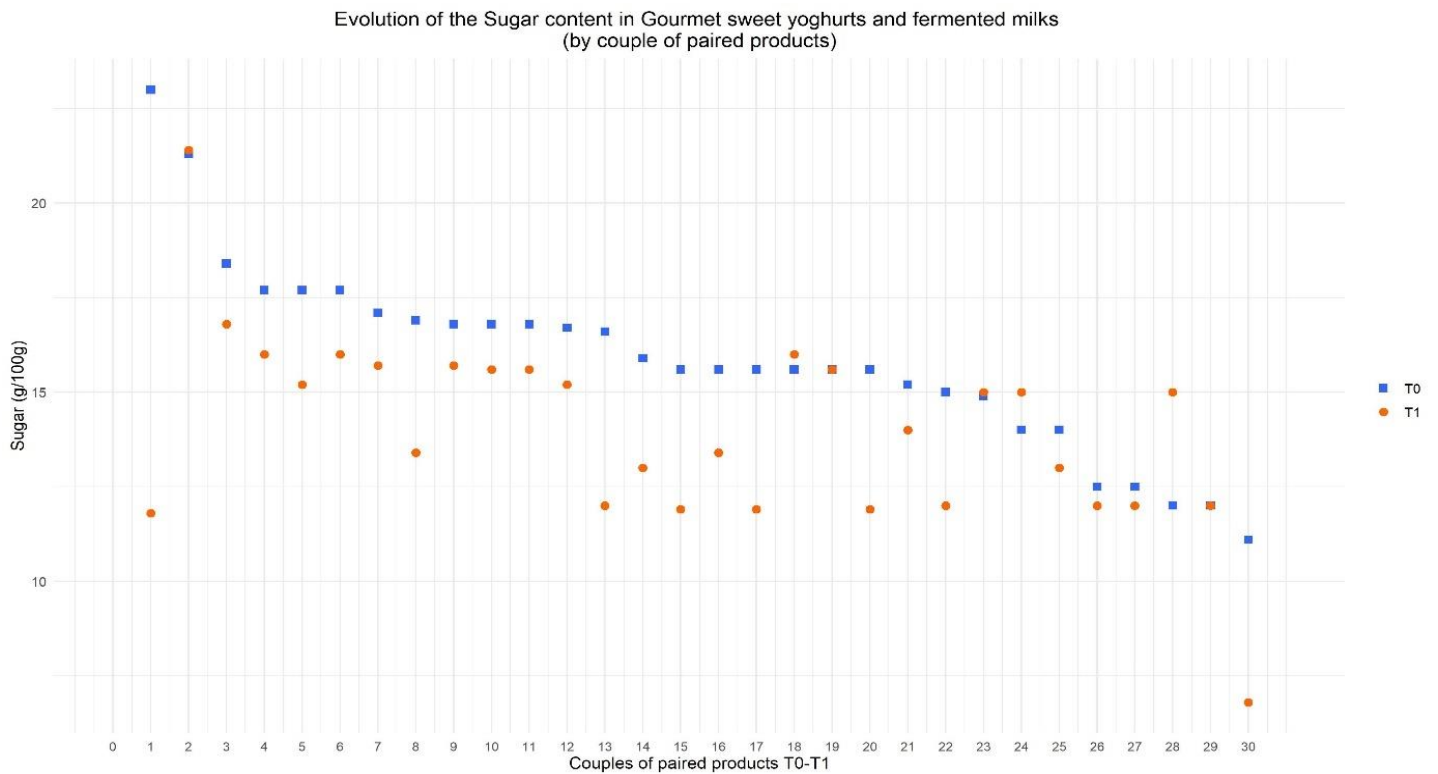


Figure 36 :Sugar content evolution between 2016-2017 and 2021 by couple of paired products (n=30) for Gourmet sweet yoghurts and fermented milks subcategory

Of the 30 couples of paired products in subcategory Gourmet sweet yoghurts and fermented milks, the majority (23 out of 30 couples) have a lower sugar content in 2021 (T1) than in 2016-2017 (T0). Five couples have a higher sugar content in 2021 (T1) than 2017-2016 (T0). Two couples have maintained the sugar content across the two timepoints (Figure 36).

3.2.3.7 Evolution of the protein content among the subcategories

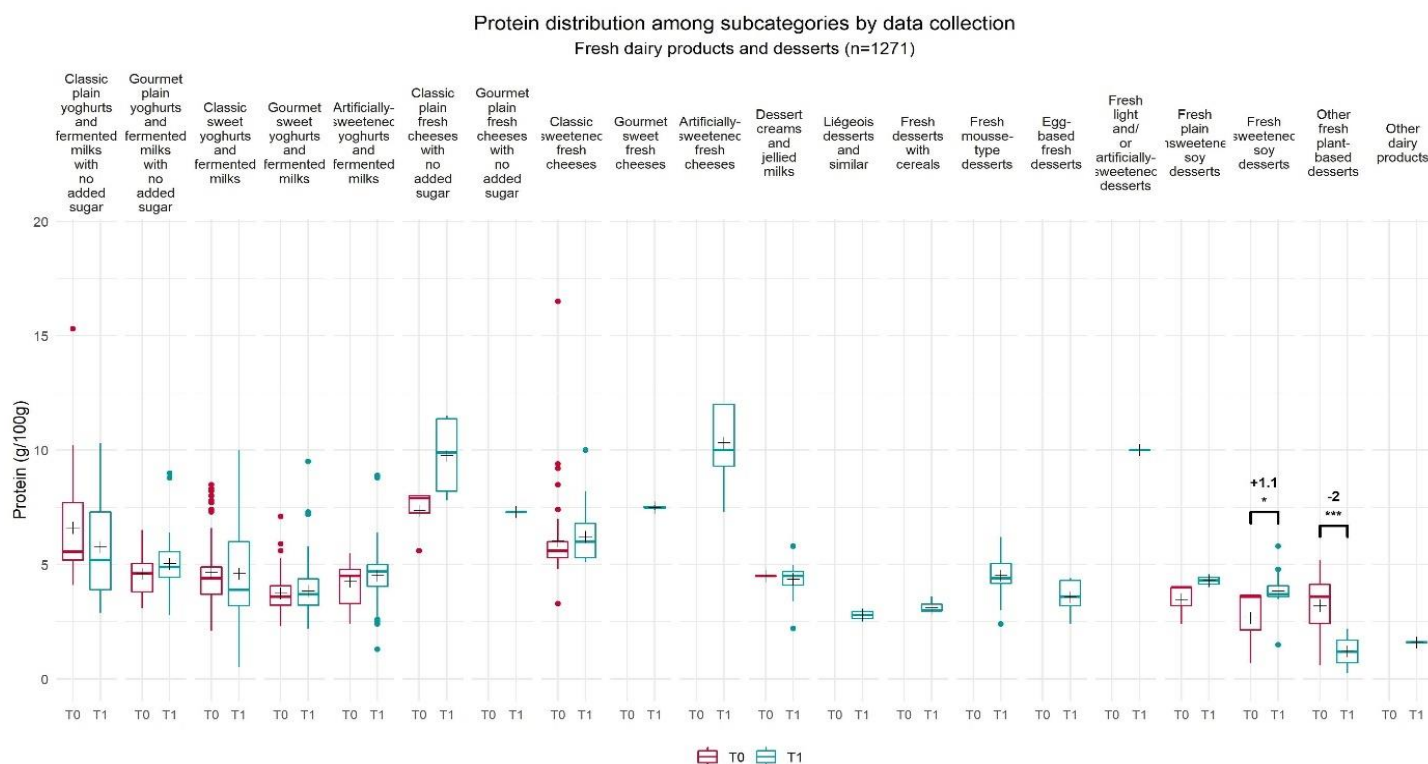


Figure 37: Protein distribution among subcategories of Fresh dairy products and desserts³⁶

Figure 37 shows the protein distribution of Fresh dairy products and desserts between 2016-2017 (T0) and 2021 (T1) by subcategories.

Among all the products collected within Fresh dairy products and desserts category, there is a statistically significant decrease between both data collections in the average protein content for one subcategory: Other fresh plant-based desserts (- 2.0 g/100g *** between 2016-2017 and 2021-, -62.20 %).

There is a statistically significant increase between both data collections in the average protein content for one subcategory: Fresh sweetened soy desserts (+ 1.2 g/100g *between 2016-2017 and 2021, +44.20%).

Within subcategories where products are available at both timepoints there are differences in the variability of protein between the two data collections. For example, Classic sweet yoghurts and fermented milks (T0, n= 269, 2.1 g/100g to 8.5 g/100g, T1, n= 183, 0.5 g/100g to 10.0 g/100g), Fresh plain unsweetened soy desserts (T0, n= 3, 2.4 g/100g to 4.0 g/100g, T1, n= 2, 4.0 g/100g to 4.6 g/100g), and Fresh sweetened soy desserts (T0, n= 3, 0.7 g/100g to 3.7

³⁶Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

g/100g, T1, n= 34, 1.5 g/100g to 5.8 g/100g). This may be due to the difference in the types of products collected at the two data collections.

3.2.3.8 Evolution of the protein content for paired products

Table 16 summarizes the difference in the average protein content observed between 2016-2017 (T0) and 2021 (T1) for all products, and for paired products.

There is a statistically significant increase in the protein content for paired products within two subcategories out of 21: Gourmet sweet yoghurts and fermented milks (+ 0.2g/100g ** between 2016-2017 and 2021, + 6.50%) and Artificially-sweetened yoghurts and fermented milks (+ 0.9 g/100g * between 2016-2017 and 2021, - 19.30 %).

The number of paired products within the subcategory Artificially-sweetened yoghurts and fermented milks is less than n=10 (n=6) therefore the graph displaying the evolution of protein content in Artificially-sweetened yoghurts and fermented milks, by couple of paired products has not been included in this report.

Table 16 : Summary of the evolution of the average protein content for Fresh dairy products and desserts, by subcategory³⁷

Subcategory_name	Protein					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Classic Plain yoghurts and fermented milks with no added sugar	5.8	- 0.80	- 12.50 %	5.8	- 0.04	- 0.7 %
Gourmet plain yoghurts and fermented milks with no added sugar	5.0	+ 0.40	+ 9.40 %	3.8	- 0.03	- 0.70%
Classic sweet yoghurts and fermented milks	4.6	- 0.04	- 0.80 %	3.6	- 0.06	- 1.70 %
Gourmet sweet yoghurts and fermented milks	3.8	+ 0.10	+ 3.0 %	3.9	+ 0.20 **	+ 6.50 %
Artificially-sweetened yoghurts and fermented milks	4.5	+ 0.3	+ 6.30 %	5.5	+ 0.90 *	+ 19.30%
Classic plain fresh cheeses with no added sugar	9.8	+ 2.40	+ 32.90%			
Gourmet plain fresh cheeses with no added sugar	7.3					
Classic sweetened fresh cheeses	6.2	+ 0.20	+ 2.80 %	6.2	- 0.6	- 8.70 %
Gourmet sweet fresh cheeses	7.5					
Artificially-sweetened fresh cheeses	10.3					
Dessert creams and jellied milks	4.4	- 0.10	- 3.0 %			
Liégeois desserts and similar	2.8					
Curdled milks						
Fresh desserts with cereals	3.1					
Fresh mousse-type desserts	4.5					
Egg-based fresh desserts	3.6					
Fresh light and/or artificially-sweetened desserts	10.0					
Fresh plain unsweetened soy desserts	4.3	+ 0.80	+ 24.0 %			
Fresh sweetened soy desserts	3.8	+ 1.2 *	+ 44.20 %			
Other fresh plant-based desserts	1.2	- 2.0 ***	- 62.20 %			
Other dairy products	1.6					

³⁷ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content

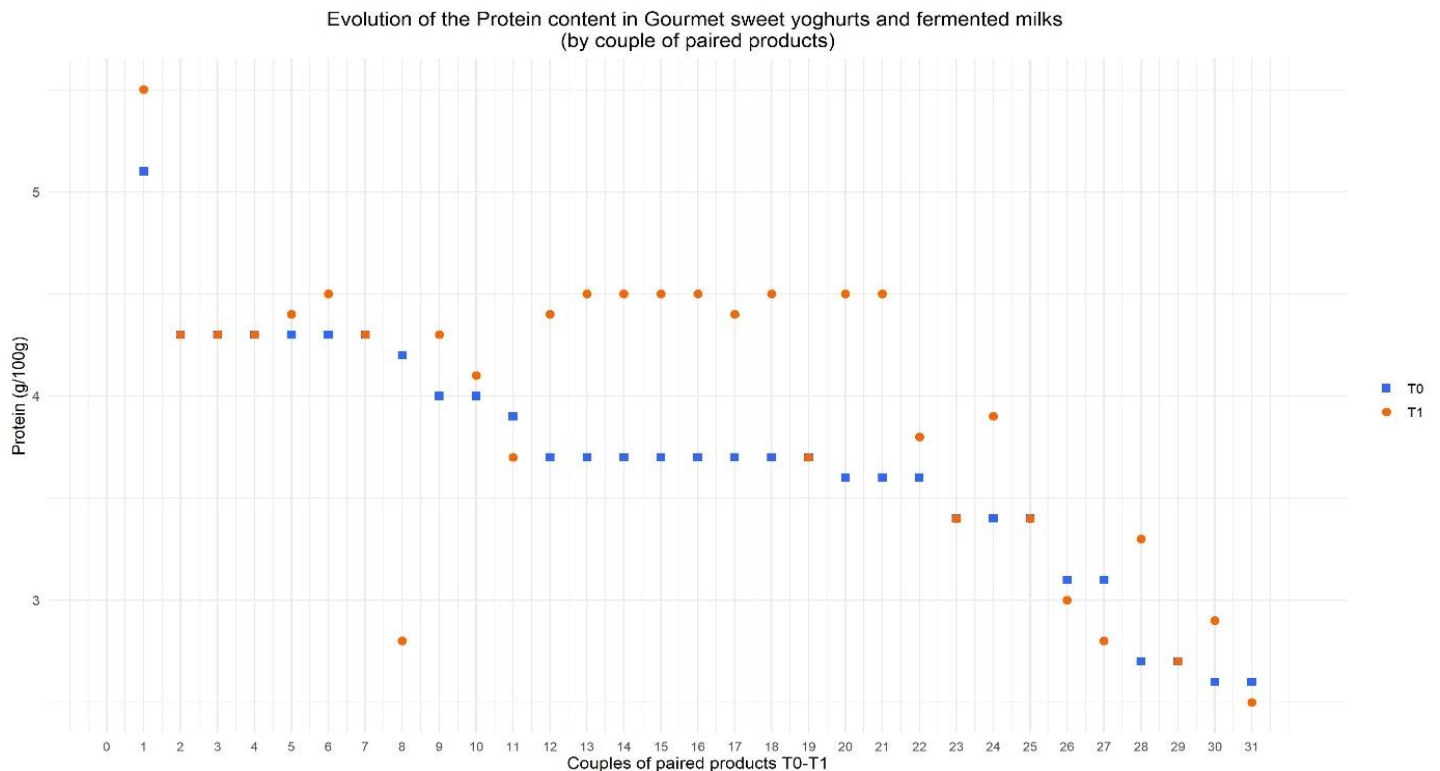


Figure 38: Protein content evolution between 2016-2017 and 2021 by couple of paired products (n=31) for Gourmet sweet yoghurts and fermented milks subcategory

Of the 31 couples of paired products in subcategory Gourmet sweet yoghurts and fermented milks, the majority (18 out of 31 couples) have a higher protein content in 2021 (T1) than in 2016-2017 (T0). Eight couples have maintained the protein content between 2016-2017 and 2021. Five couples of paired products in subcategory Gourmet sweet yoghurts and fermented milks have a lower protein content in 2021 (T1) than in 2016-2017 (T0) (Figure 38).

3.2.3.9 Evolution of the fibre content among the subcategories

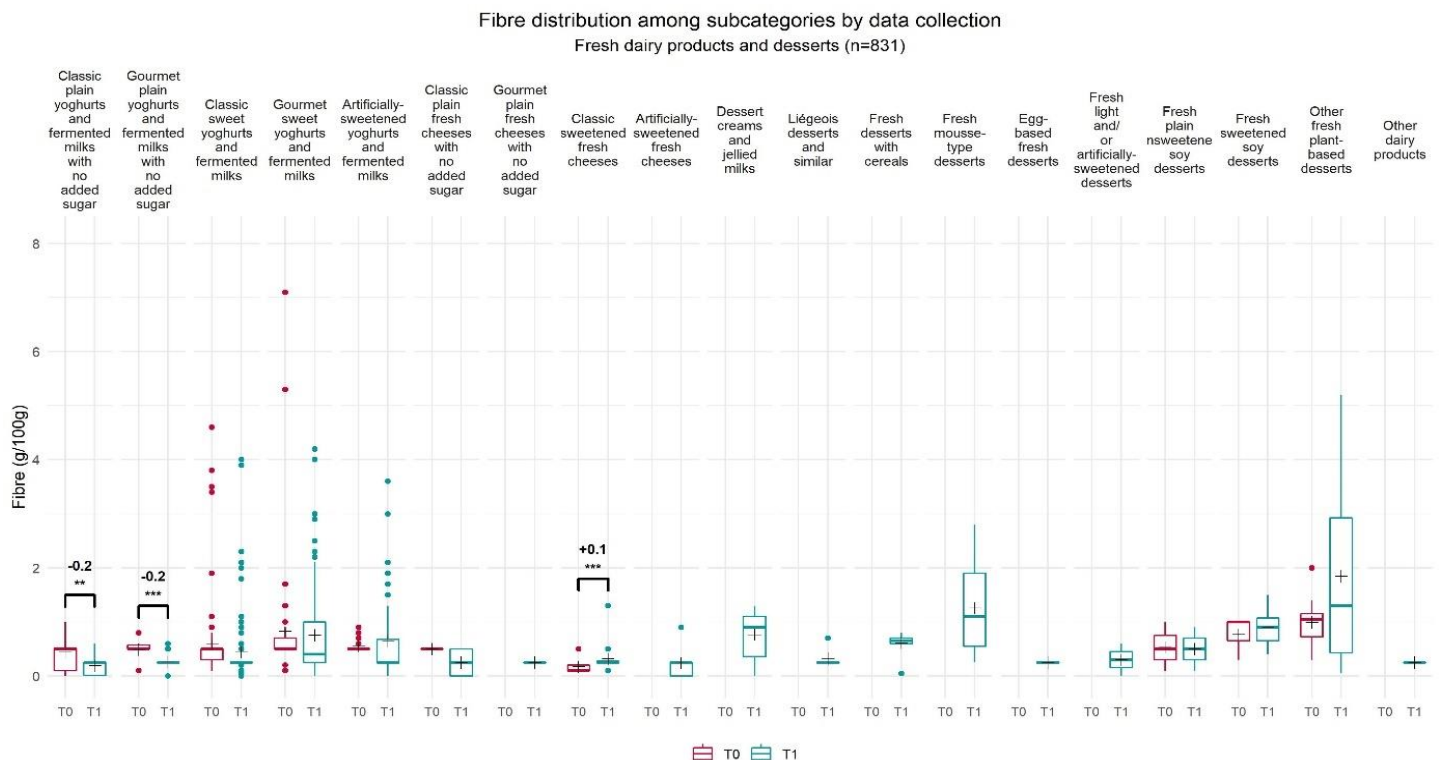


Figure 39: Fibre distribution among subcategories of Fresh dairy products and desserts³⁸

Figure 39 shows the fibre distribution of Fresh dairy products and desserts between 2016-2017 (T0) and 2021 (T1) by subcategories. Among the 21 subcategories considered, the average fibre content has statistically significantly increased for one of the subcategories: Classic sweetened fresh cheeses (+ 0.1 g/100g *** between 2016-2017 and 2021, + 81.0%). The average fibre content has statistically significantly decreased for two of the subcategories: Classic plain yoghurts and fermented milks with no added sugar (- 0.3 g/100g ** between 2016-2017 and 2021, - 56.70%) and Gourmet plain yoghurts and fermented milks with no added sugar (- 0.2 g/100g *** between 2016-2017 and 2021, - 46.70 %).

The variability within each subcategory is not consistent between the two timepoints for some subcategories including: Gourmet sweet yoghurts and fermented milks (T0, n= 83, 0.1g/100g to 7.1 g/100g, T1, n= 107, 0g/100g to 4.2 g/100g), Artificially-sweetened yoghurts and fermented milks (T0, n= 29, 0.5g/100g to 0.9 g/100g, T1, n= 74, 0g/100g to 3.6 g/100g) and Other fresh plant-based desserts (T0, n= 12, 0.3 g/100g to 2.0 g/100g, T1, n= 14, 0 g/100g to 5.2 g/100g) . This may be reflective of the different types and different number of products collected at the two timepoints.

Outliers within the subcategories are due to the composition of individual products with the addition of ingredients such as seeds, fruits, cereals and inulin which contribute to fibre content.

³⁸Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.3.10 Evolution of the fibre content for paired products

Table 17 summarizes the difference in the average fibre content observed between 2016-2017 (T0) and 2021 (T1) for all products, and for paired products.

There is a statistically significant decrease in the fibre content for paired products within one subcategory out of 21: Artificially-sweetened yoghurts and fermented milks (- 0.2g/100g ** between 2016-2017 and 2021, - 40.0 %).

The number of paired products within the subcategory Artificially-sweetened yoghurts and fermented milks is less than n=10 (n=6) therefore the graph displaying the evolution of fibre content in Artificially-sweetened yoghurts and fermented milks, by couple of paired products has not been included in this report.

Table 17 : Summary of the evolution of the average fibre content for Fresh dairy products and desserts, by subcategory³⁹

Subcategory_name	Fibre					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)	Mean.T1 (g/100g)	Mean difference (g/100g)	Mean evolution (%)
Classic Plain yoghurts and fermented milks with no added sugar	0.2	- 0.3**	- 56.70 %	0.60	0	0 %
Gourmet plain yoghurts and fermented milks with no added sugar	0.3	- 0.2 ***	- 46.70 %	0.30	- 0.20	- 43.20 %
Classic sweet yoghurts and fermented milks	0.4	- 0.1	- 24.50 %	0.90	+ 0.30	+ 51.60 %
Gourmet sweet yoghurts and fermented milks	0.8	- 0.07	- 8.70 %	0.60	- 0.06	- 9.40 %
Artificially-sweetened yoghurts and fermented milks	0.6	+ 0.08	+ 14.30 %	0.30	- 0.20 *	- 40.0 %
Classic plain fresh cheeses with no added sugar	0.2	- 0.20	- 50.0 %			
Gourmet plain fresh cheeses with no added sugar	0.2					
Classic sweetened fresh cheeses	0.3	+ 0.1 ***	+ 81.0 %	0.20	- 0.20	- 50.0 %
Gourmet sweet fresh cheeses						
Artificially-sweetened fresh cheeses	0.2					
Dessert creams and jellied milks	0.8					
Liégeois desserts and similar	0.3					
Curdled milks						
Fresh desserts with cereals	0.6					
Fresh mousse-type desserts	1.3					
Egg-based fresh desserts	0.2					
Fresh light and/or artificially-sweetened desserts	0.3					
Fresh plain unsweetened soy desserts	0.5	-0.03	-6.20 %			
Fresh sweetened soy desserts	0.9	+ 0.1	+ 17.0 %			
Other fresh plant-based desserts	1.8	+ 0.9	+ 86.20 %			
Other dairy products	0.2					

³⁹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content; Yellow box: significant increase in average content



Best-ReMaP

Healthy Food for a Healthy Future

Romania T1 statistics report

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1 Description of the food offer

1.1 Presentation of data collected

Collection of pre-existing data (T0) has been carried out in the framework of JANPA project in Romania in 2016, in the city of Cluj and covered only Breakfast cereals and Soft drinks categories. Data collection took place in shops, taking directly photos of labels, or by purchasing some products. In addition, online resources were used for retailers that had no shops in Cluj, city in which the collection was carried out.

For the Best-ReMaP data collection (T1), data was collected during 2023 and more categories were chosen, in order to have a basis for further analysis of the efficacy of reformulation policies and measures. Thus, 5 categories were collected, 2 of them being also included in JANPA (Soft drinks and Breakfast cereals). The other 3 categories have also been identified as major contributors to the intake of salt, sugar and fats among children and adolescents and are: Bread products, Delicatessen meats and Fresh dairy products and desserts.

Retailers considered for gathering information were chosen due to having the highest market share for Romania. Information about market shares was obtained from sources on the internet and the empirical surveillance of the market.*

Five retailers, Carrefour, Kaufland, Megalmage, Auchan and Profi were the selected ones for data collection. Collaboration was rather difficult, with the exception of the first 3 retailers, so some products had to be purchased (around 1.2% of the total). The rest (almost 98.8%) was obtained directly by taking pictures in stores. Web scraping was not used in T1 data collection because product barcodes were not available on websites.

Table 1 : Years of data collections

Category name	T0 data collection year	T1 data collection year
Bread products	-	2022
Breakfast cereals	2016	2022
Delicatessen meats and similar	-	2022
Fresh dairy products and desserts	-	2022
Soft drinks	2016	2022

* <https://www.agroberichtenbuitenland.nl/actueel/nieuws/2021/04/23/romania-top-5-grocery-retailers---82-market-share-by-2024>;
https://www.researchgate.net/figure/fig-no-2-Top-10-Retailers-in-Romania-Gross-retail-sales-in-bln-euro-Source-TopFirme_fig2_335175558;
<https://www.statista.com/statistics/1114791/romania-retail-chains-for-food-shopping-by-annual-turnover/>

1.2 Evolution of the food offer

1.2.1 Evolution of the food offer, by category

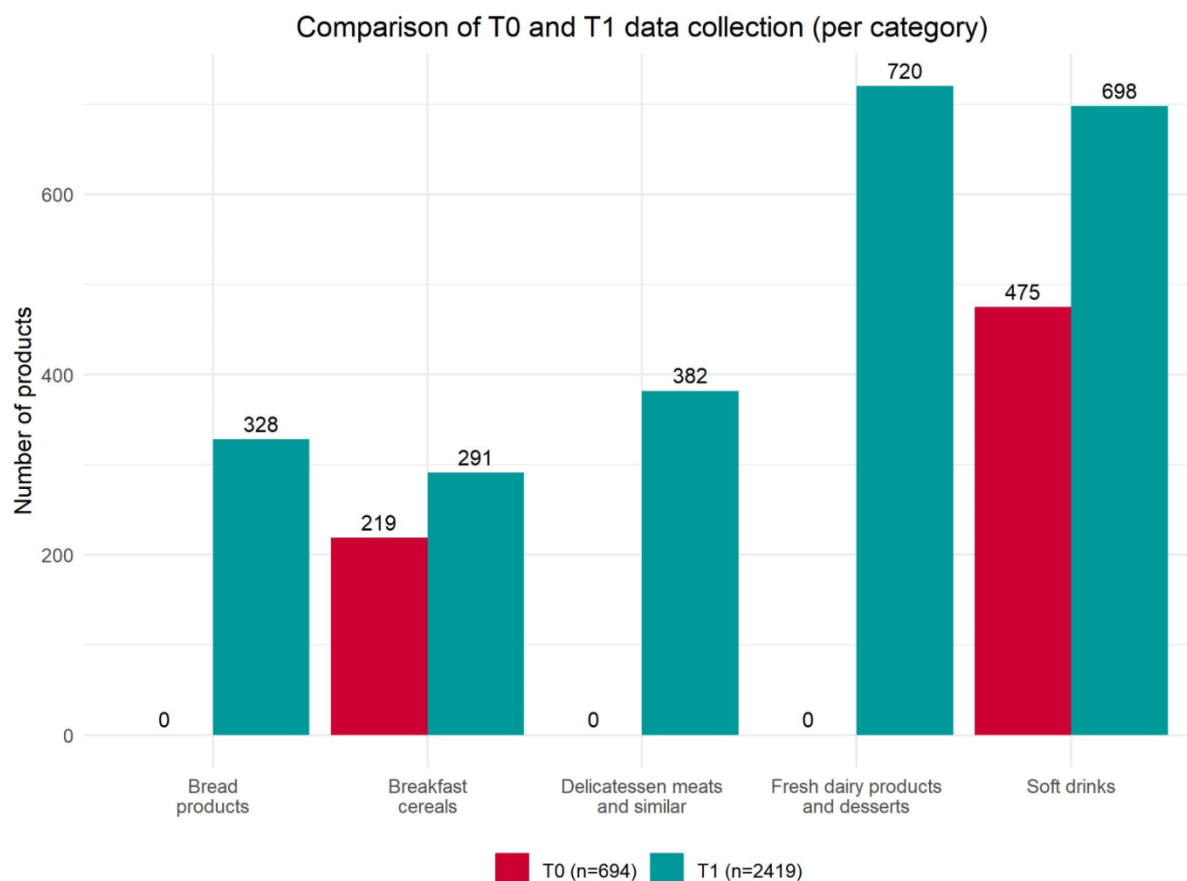


Figure 1 : Comparison of the number of references collected between preexisting (2016=T0) and Best-ReMaP (2023=T1) data collection, per category

The number of products collected at T1 is greater than the number of products collected at T0 for the 2 categories collected in both T0 and T1 collections (Breakfast cereals: 291 in T1 versus 219 in T0; Soft drinks: 698 in T1 versus 475 in T0). For the other 3 categories, there was no pre-existing data (Figure 1).

1.2.2 Evolution of the food offer, by subcategory

1.2.2.1 Breakfast cereals

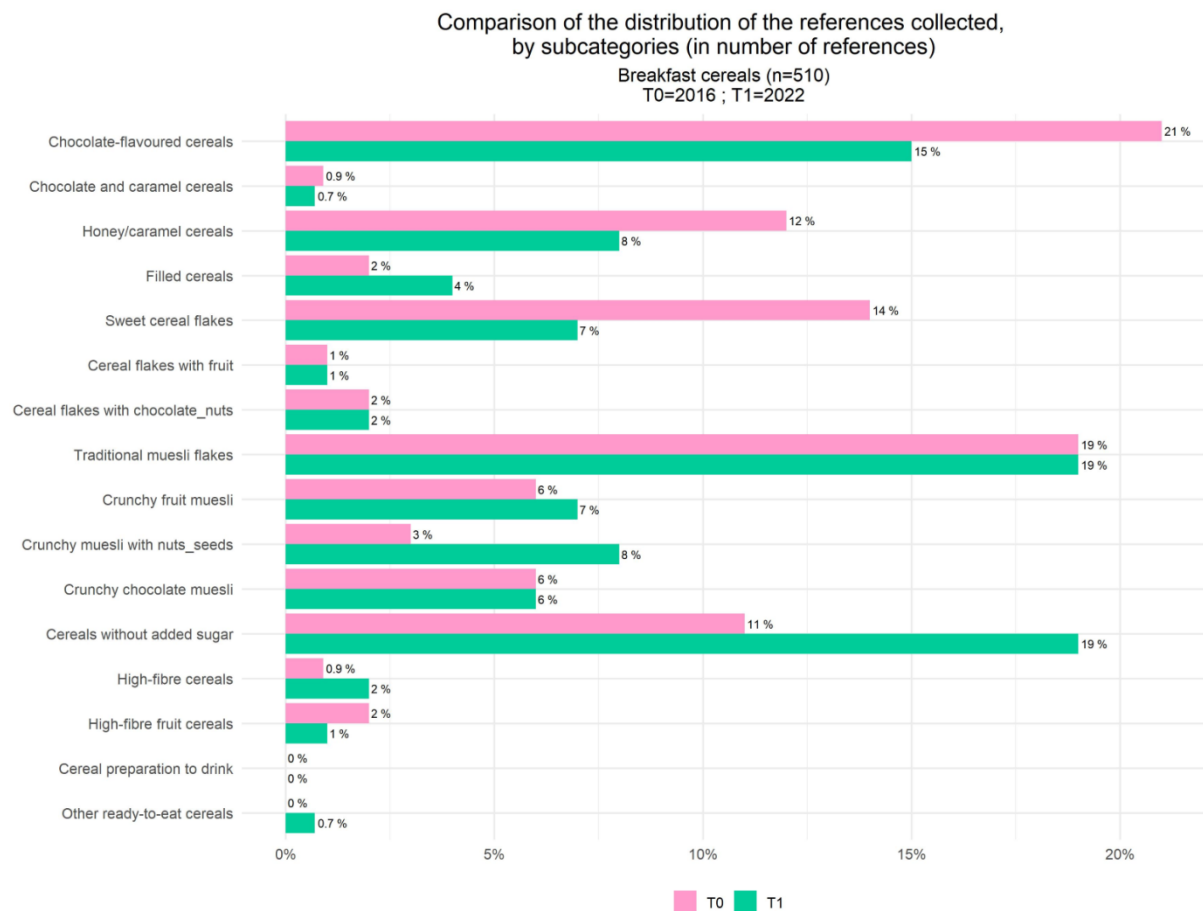


Figure 2 : Comparison of the distribution of the references collected, by subcategories (in number of references) among Breakfast cereals

The comparison of product distribution between 2016 (T0) and 2023 (T1) (Figure 2) shows that the percentage of collected products is:

- Higher at T1 for 5 sub-categories out of 16 (High-fibre cereals, Cereals without added sugar, Crunchy muesli with nuts_seeds, Crunchy fruit muesli, Filled cereals)..
- Higher at T0 in 5 sub-categories out of 16 (High-fibre fruit cereals, Sweet cereal flakes, Honey/caramel cereals, Chocolate and caramel cereals and Chocolate-flavoured cereals).
- Identical for 4 subcategories out of 16 (Crunchy chocolate muesli, Cereal flakes with chocolate_nuts, Cereal flakes with fruit and Traditional muesli flakes)
- Cereal preparation to drink subcategory is absent in both collections, and Other ready to eat cereals subcategory is present only for T1 collection.

1.2.2.2 Soft drinks

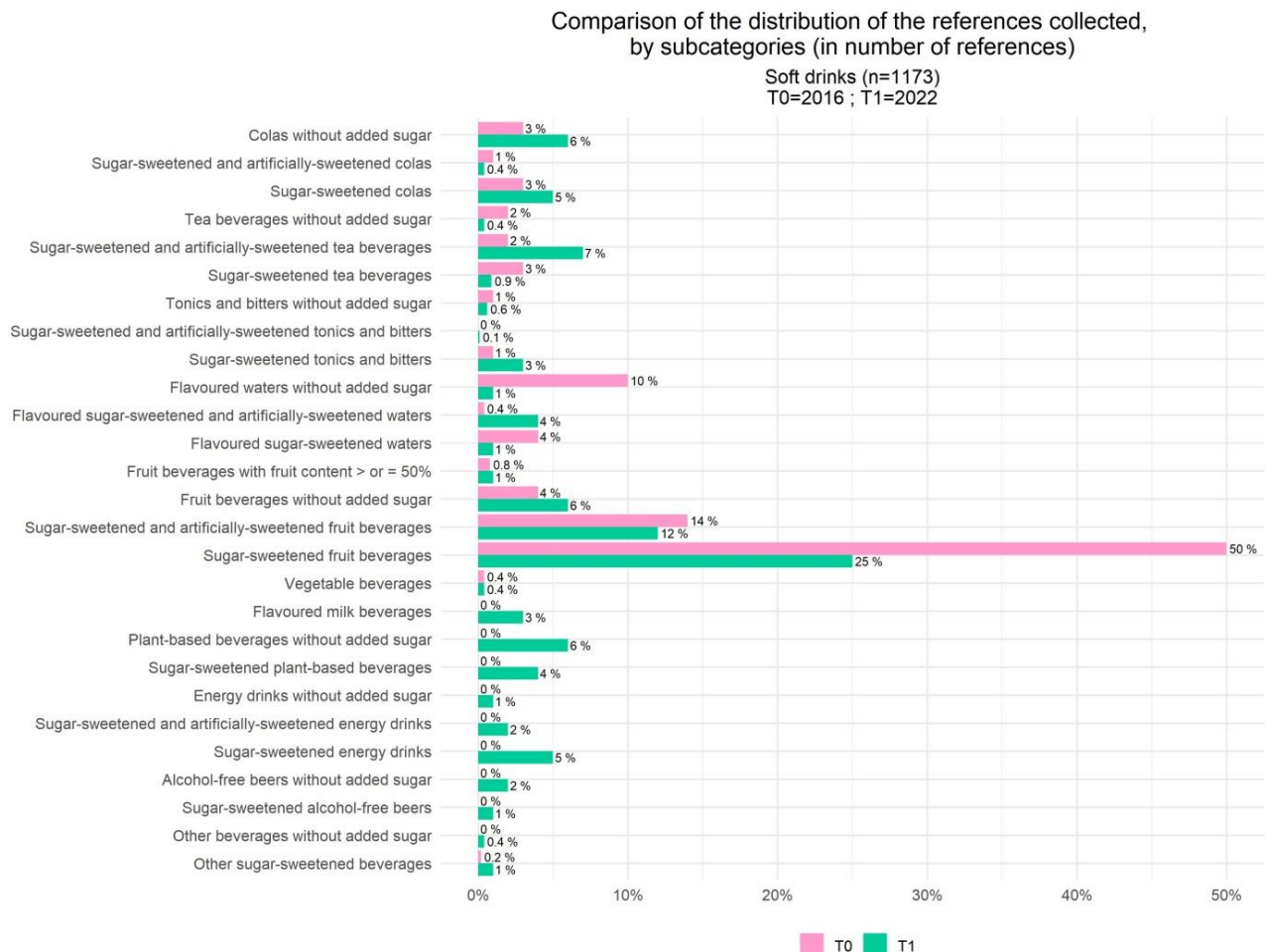


Figure 3 : Comparison of the distribution of the references collected, by subcategories (in number of references) among Soft drinks

The comparison of product distribution between 2016 (T0) and 2023 (T1) (Figure 3) shows that the percentage of collected products is:

- Higher at T1 for 9 sub-categories out of 27 (Colas without added sugar, Sugar-sweetened colas, Sugar-sweetened and artificially-sweetened tea beverages, Sugar sweetened tonics and bitters, Sugar-sweetened and artificially-sweetened tonics and bitters, Flavoured sugar-sweetened and artificially-sweetened waters, marginally for Fruit beverages with fruit content > or = 50%, Fruit beverages without added sugar, Other sugar-sweetened beverages).
- Higher at T0 in 8 sub-categories out of 27 (Sugar-sweetened and artificially-sweetened colas, Tea beverages without added sugar, Sugar-sweetened tea beverages, Tonics and bitters without added sugar, Flavoured waters without added sugar, Flavoured sugar-sweetened waters, Sugar-sweetened and artificially-sweetened fruit beverages, Sugar sweetened fruit beverages).
- Identical for 1 sub-category out of 27 (Vegetable beverages)

The remaining 9 subcategories were only collected in T1.

Major of percentage is observed for Sugar- sweetened fruit beverages (50% of products at T0 and 25% of products at T1).

1.2.3 Analysis of the evolution of the food offer

1.2.3.1 Breakfast cereals

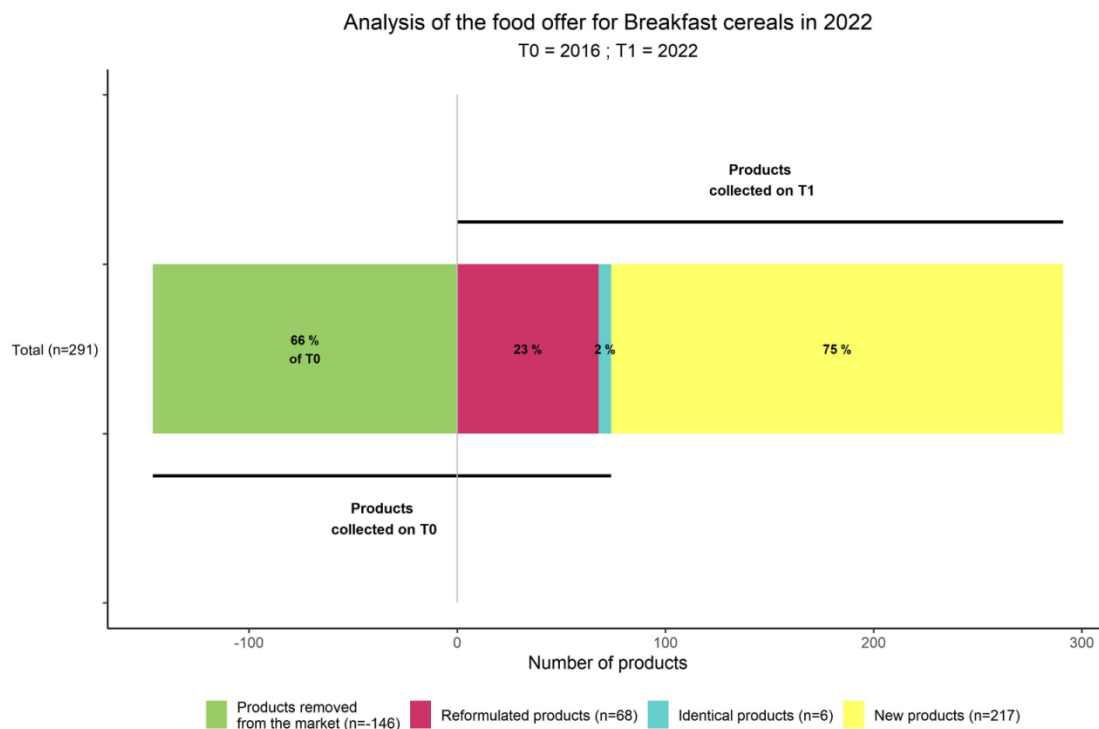


Figure 4 : Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Breakfast cereals

The comparison of the data collected between the two times among Breakfast cereals category (Figure 4) shows that 66% of products collected in 2016 (T0) have been removed from the market in 2023 (T1). 23% of products collected at T0 are still present in a reformulated form in 2023 (T1). 2% of products are identical at both T0 and T1. 75% of the products collected at T1 are new products, reflecting a strong renewal of the offer. It can be seen that this group has a very dynamic evolution, with products going out and being replaced by new ones. The percent of reformulated products is quite small. The conclusion is that this is a group of products that has to be closely followed, in order to evaluate if the new products are better from a nutritional point of view than the old ones.

1.2.3.2 Soft drinks

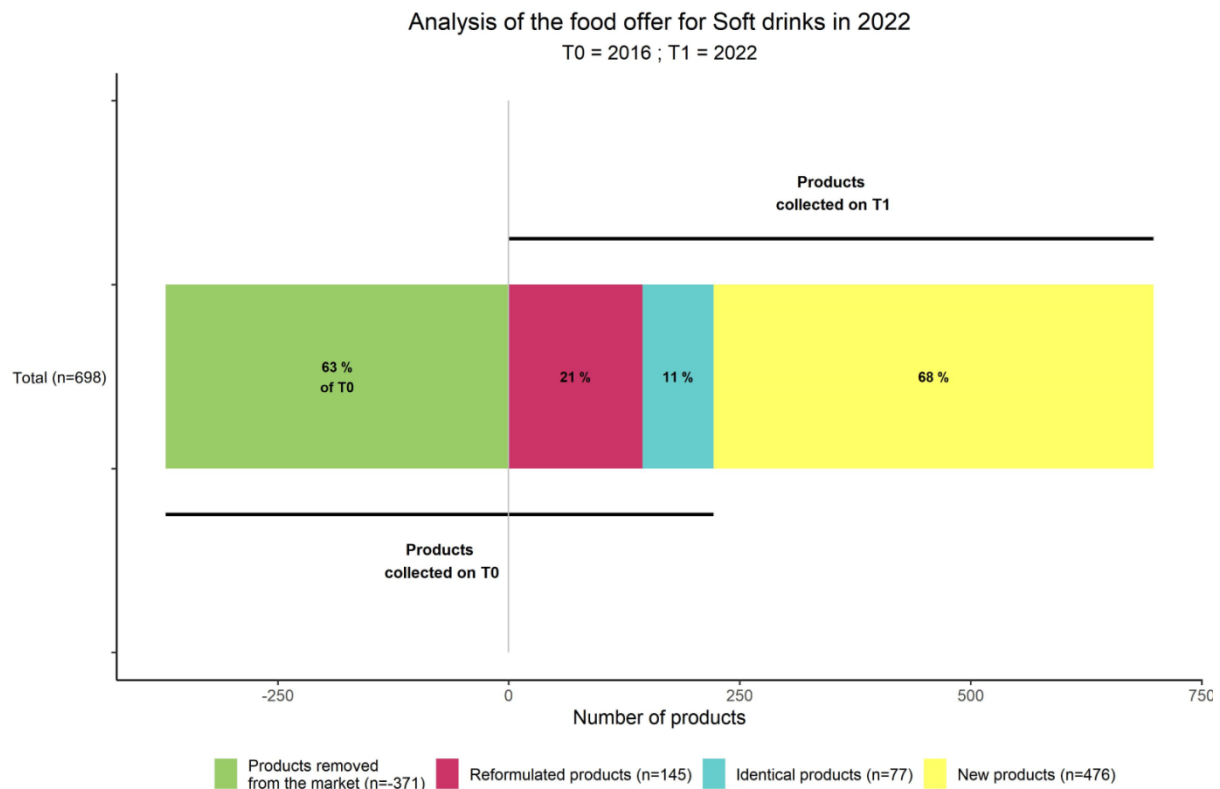


Figure 5 : Decomposition of T1 and T0 collected products into subgroups (products removed from the market, identical products, reformulated products, new products), by comparing each product collected at T0 and T1 (in number of references), among Soft drinks

The comparison of the data collected between the two times among Soft drinks category (Figure 5) shows that 63% of the T0 products have been removed from the market in 2023 (T1). Only 21% of products collected at have been reformulated in 2023 and 11% of products are identical in both collections (T0 and T1). 68% of products collected at T1 are new on the Romanian market in 2023.

2 Analysis of labeling parameters

2.1 Front of pack labeling, state of play of T1 data, per category

It should be noted that only data collected during Best-Remap is described in this section because the presence or absence of a front of pack labeling is a parameter that was not always available in preexisting data. Therefore, this section (2.1) will only describe 2023 (T1) data.

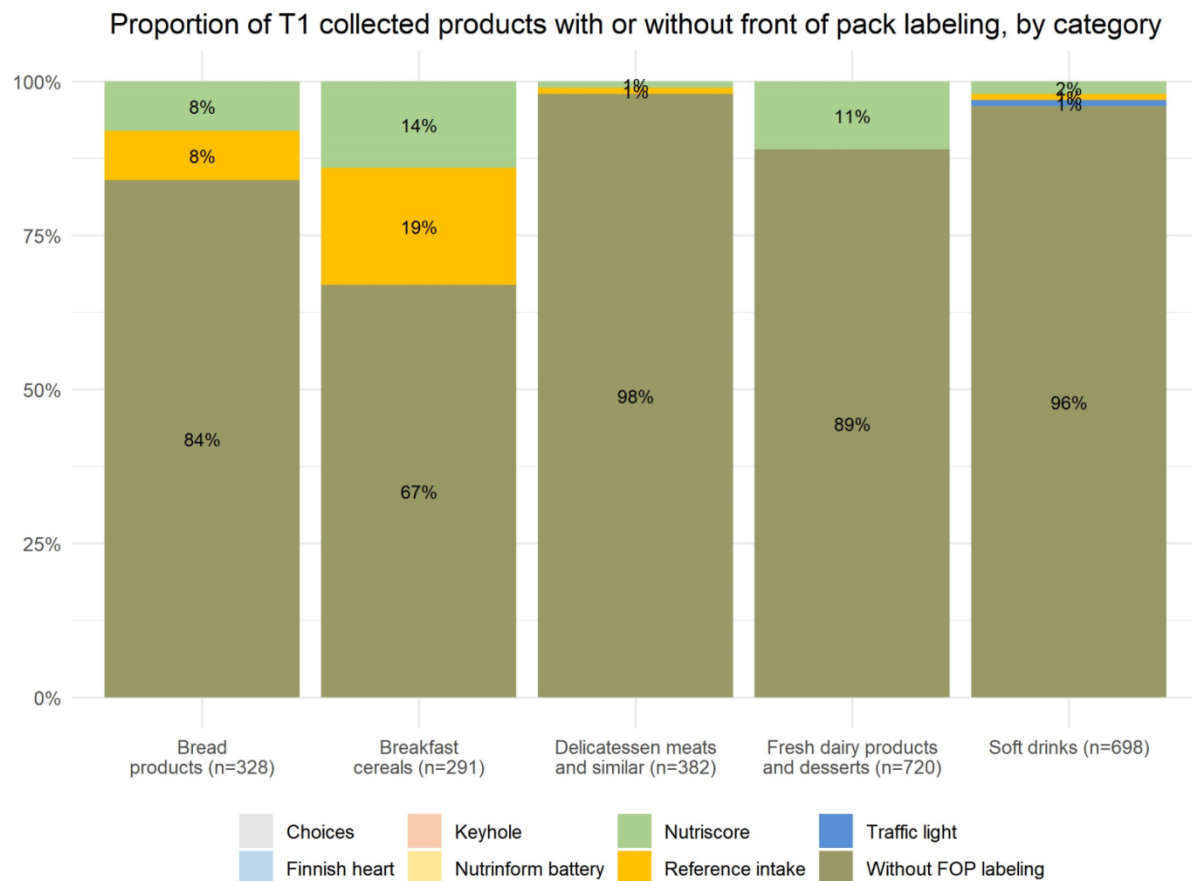


Figure 6 : Proportion of products with or without front of pack labeling, by category

Figure 6 shows the distribution of front-of-pack labeling by category across data collected in 2023 (T1). For all categories, the majority of products are without FOP labeling. Bread products and Breakfast cereals are the categories having the highest number of products with FOP (respectively 16%, and 33% of products in the categories).

The most used FOP labeling is the Nutriscore with 14% of products in the Breakfast cereals category, 11% in the Fresh dairy products and desserts category, 8% in the Bread products category, 2% in the Soft drinks category and 1% in the Delicatessen meats and similar category. Reference intake is the FOP labeling the most used on Breakfast cereals (19% of products) and is also found on Bread products with 8% of products. Traffic light FOP labeling is only present in the Soft drinks category, at a minute percent (1%).

2.2 Evolution of the quantified portion size

2.2.1 Evolution of the proportion of products with or without quantified portion size

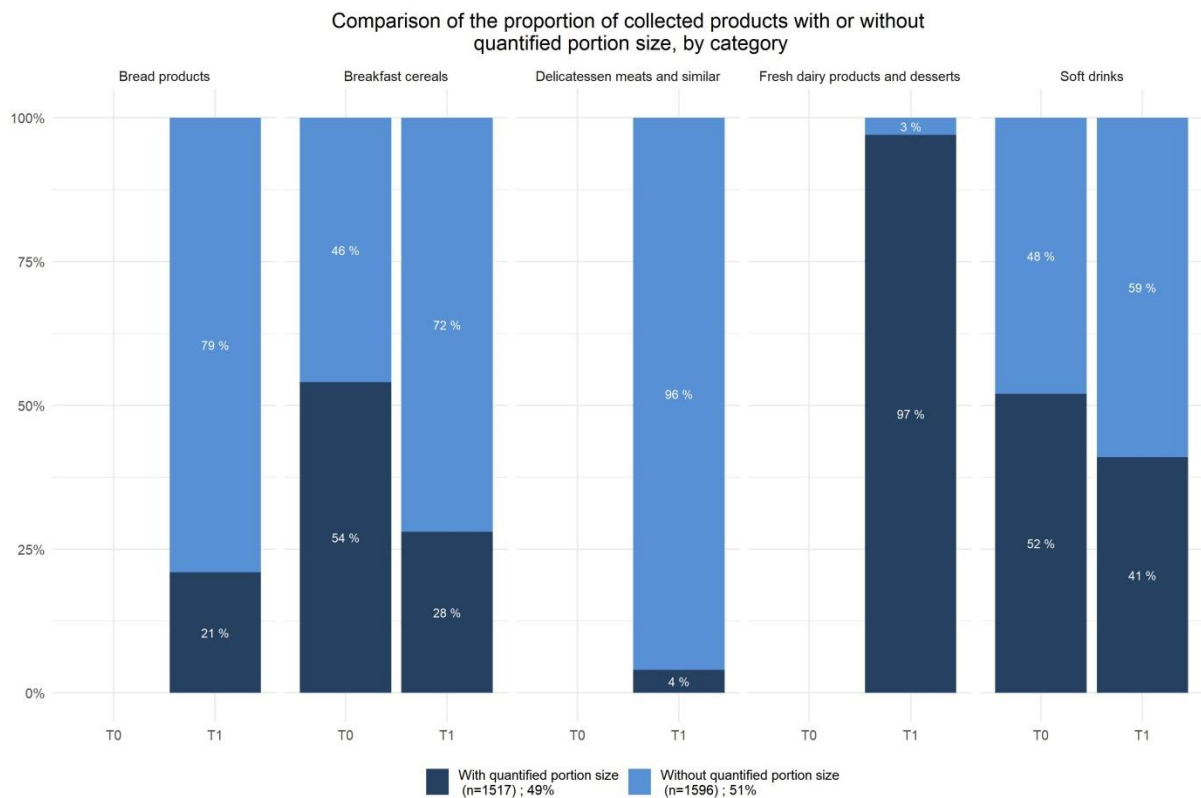


Figure 7 : Evolution of the proportion of collected products with or without quantified portion size, between T0 and T1, per category

It should be noted that quantified portion size is available for T0 only for Breakfast cereals and Soft drinks categories, meaning that comparisons for the other categories are not possible.

Between 2016 (T0) and 2023 (T1), the number of products with a quantified portion size (**Erreur ! Source du renvoi introuvable.**7) has decreased for both Breakfast cereals (54% of products with a quantified portion size in 2016 vs. 28% in 2023) and Soft drinks (52% in 2016 vs. 41% in 2023).

2.2.2 Proportion of the most represented portion sizes, per category

The study of the size of quantified labeled portion sizes at both times is an indicator of the evolution of the serving sizes indicated by the manufacturers. The evolution of this parameter can potentially influence the quantities consumed and therefore the intake of nutrients.

2.2.2.1 Breakfast cereals

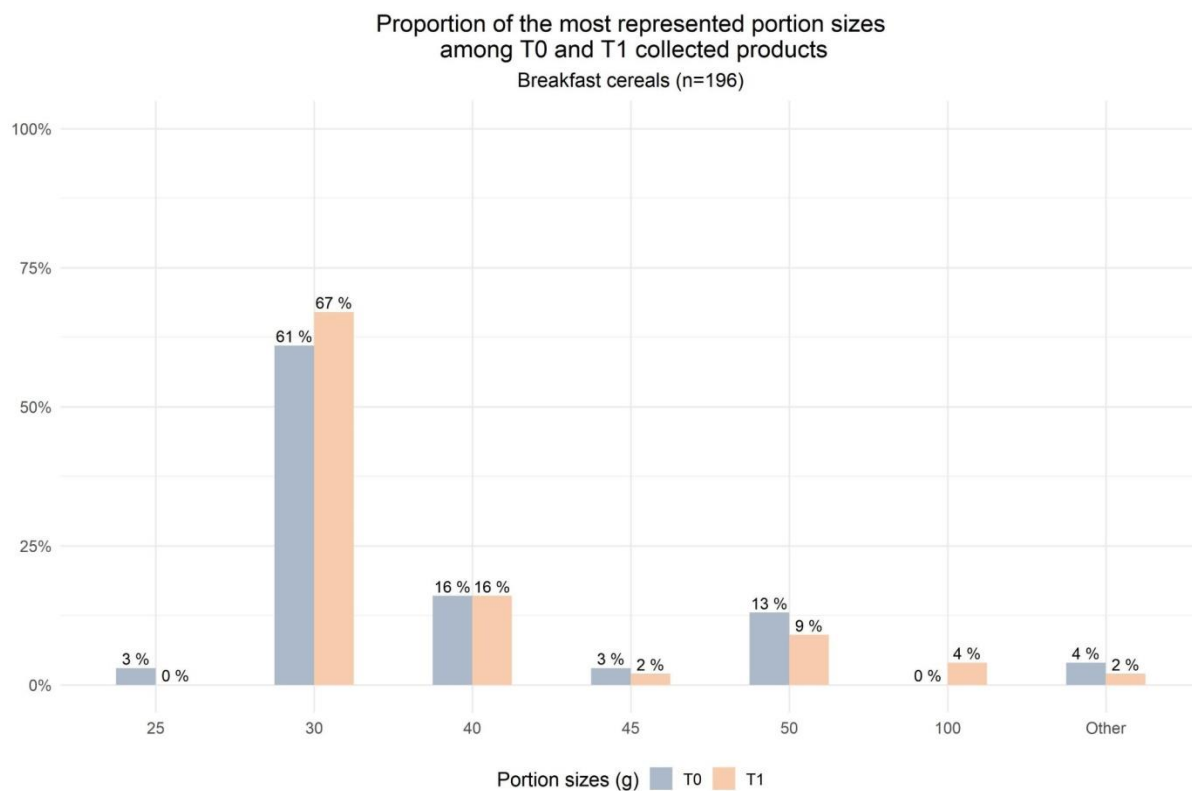


Figure 8 : Distribution of the size of the 5 most represented quantified portions in 2016 (T0) and 2023 (T1) in Breakfast cereals category†

Figure 8 shows the 5 most common portion sizes found in the two data collections for Breakfast cereals. Overall it appears that portion sizes are quite diverse, ranging from 25g, to 100g (and other). 30 g is the most frequent portion size in both T0 data (61% of products) and T1 data (67% of products). For higher portion sizes, it is notable that the percentage of products in T1 is lower than in T0 for portion sizes of 45 g and 50 g.

2.2.2.2 Soft drinks

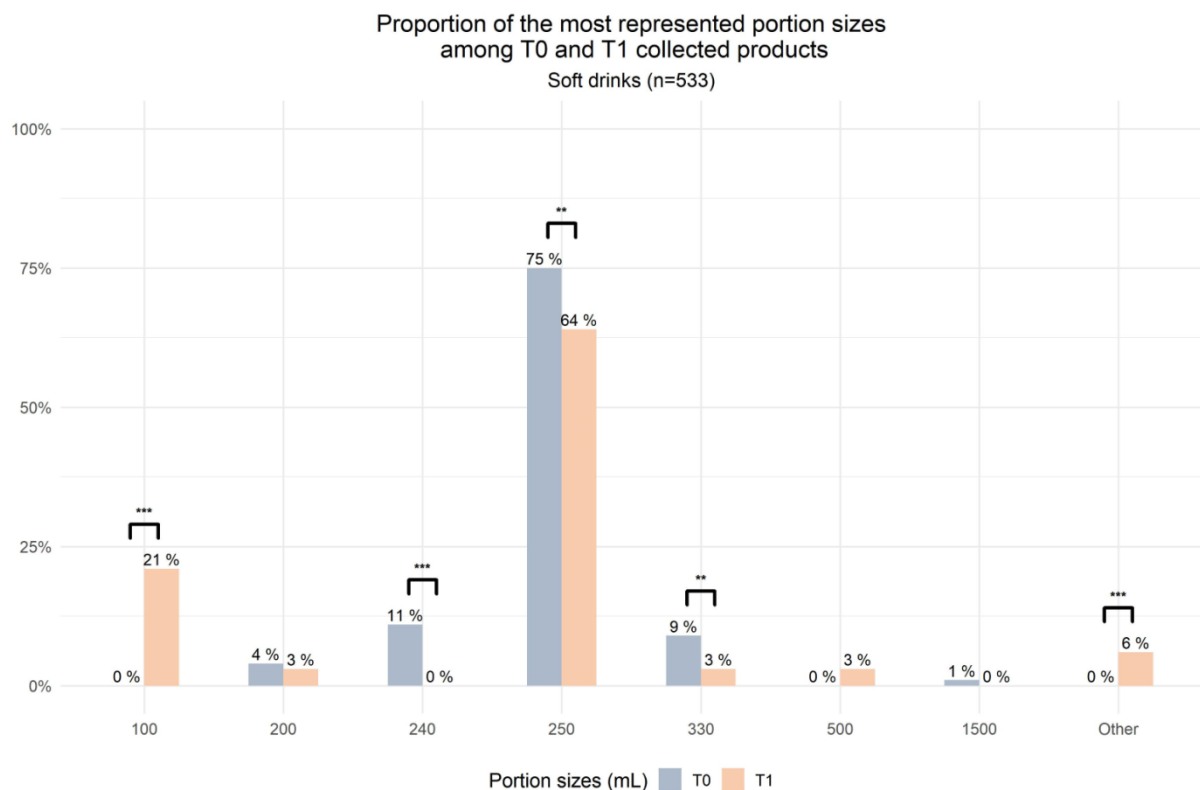


Figure 9 : Distribution of the size of the 5 most represented quantified portions in 2016 (T0) and 2023 (T1) in Soft drinks category[‡]

Figure 9 shows the 5 most common portion sizes found in the two data collections for Soft drinks. Some portion sizes present in 2016 are not found in 2023 (240mL for example). The 100mL portion size applies to 21% of products in 2023, whereas it was not present in 2016 data. There is a significant decrease in the percentage of products with a portion size of 250mL between 2016 and 2023 (75% of products in 2016 vs. 64% of products in 2023). Data are rather scattered and it is difficult to draw a conclusion, but the general tendency is for products to have smaller portion sizes in 2023 (T1) than in 2016 (T0).

[‡] Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: Chi-Squared test)

3 Evolution of labeled nutritional values

3.1 Evolution of the labeling frequency

The first parameter examined is the frequency of nutritional values on the packages. The proportion of products with a nutritional value per nutrient and per category in the 2 collections is presented in Table 2.

It should be noted that the labeling of nutritional values for the 2016 data collection (T0) is only available for the Breakfast cereals and Soft drinks. In the T0 data, only the nutritional values for sugar were collected in the Soft drinks category.

Between the 2 data collections (T0:2016-T1:2023), the frequency of labelling has increased for all nutrients in the Breakfast cereals category. In the Soft drinks category, the frequency of labeling remains systematic and constant for sugar.

For fibre, even if the labeling is not mandatory, there is an increasing trend in its labeling (+4%, between T0 and T1) for Breakfast cereals.

Table 2 : Evolution of the frequency of nutrient labeling among the categories

	Fat			Saturated fat			Sugar		
Category name	T0	T1	Delta	T0	T1	Delta	T0	T1	Delta
Bread products (T0 : n=0 ; T1 : n=328)	-	97%	-	-	96%	-	-	95%	-
Breakfast cereals (T0 : n=219 ; T1 : n=291)	99%	100%	+1%	89%	99%	+10%	90%	98%	+8%
Delicatessen meats and similar (T0 : n=0 ; T1 : n=382)	-	98%	-	-	98%	-	-	98%	-
Fresh dairy products and desserts (T0 : n=0 ; T1 : n=720)	-	99%	-	-	99%	-	-	97%	-
Soft drinks (T0 : n=475 ; T1 : n=698)	-	94%	-	-	94%	-	100%	99%	-1%

	Protein			Salt			Fibre		
Category name	T0	T1	Delta	T0	T1	Delta	T0	T1	Delta
Bread products (T0 : n=0 ; T1 : n=328)	-	98%	-	-	95%	-	-	65%	-
Breakfast cereals (T0 : n=219 ; T1 : n=291)	0%	100%	+100%	92%	99%	+7%	92%	96%	+4%
Delicatessen meats and similar (T0 : n=0 ; T1 : n=382)	-	98%	-	-	98%	-	-	37%	-
Fresh dairy products and desserts (T0 : n=0 ; T1 : n=720)	-	99%	-	-	99%	-	-	20%	-
Soft drinks (T0 : n=475 ; T1 : n=698)	-	94%	-	-	97%	-	-	44%	-

3.2 Evolution of the nutritional composition, by category

3.2.1 Breakfast cereals

The nutrients considered for the analysis of the evolution of Breakfast cereals category are: Fat, Saturated fat, Sugars, Salt and Fibre.

3.2.1.1 Evolution of the fat content among the subcategories



Figure 10 : Fat distribution among subcategories of Breakfast cereals¹

Figure 10 shows the fat distribution of Breakfast cereals between 2016 (T0) and 2023 (T1) by subcategories.

Among the 15 subcategories collected within the Breakfast cereals category, we notice a significant decrease of the mean fat content in the subcategory Chocolate-flavoured cereals (-0.5g/100g; -12.6%) and a substantial and significant increase in the subcategory Filled cereals (+5.4g/100g; +54.5%).

The subcategories including products with the most variable fat content at both times, meaning room for reformulation, are Traditional muesli flakes (2016, n=41; 2023, n=54), Cereals without added sugar (2016, n=24; 2023, n=56), Crunchy chocolate muesli (2016, n=13; 2023, n=17), Honey/caramel cereals (2016, n=25; 2023, n=24). The fact that a higher variability is found in

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

the subcategory Crunchy muesli with nuts_seeds in 2023 (T1) may be explained in part by a greater number of products collected in 2023 (2016, n=6; 2023, n=23).

The lowest mean fat content in both T0 and T1, with minimal dispersion of values is present in the following subcategories: Chocolate-flavoured cereals (2016, n=44; 2023, n=44) and Sweet cereal flakes (2016, n=31; 2023, n=19).

3.2.1.2 Evolution of the fat content for paired products

The

Table 3 summarizes the difference in the mean fat content observed between 2016 (T0) and 2023 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

There is no significant decrease (or increase) in the mean fat content of paired products, but we notice that for the subcategory with the greatest increasing among all products (Filled cereals) there are no paired products so conclusions cannot be drawn.

Table 3 : Summary of the evolution of the average fat content for Breakfast cereals, by subcategory¹

	Fat					
	All products			Paired products		
Subcategory name	Mean.T 1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T 1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	3.4	- 0.5*	-12.60%	3.8	-0.6	-13.50%
Chocolate and caramel cereals	6.3	+1.4	28.60%	6.3	+0.8	+14.50%
Honey/caramel cereals	4.3	-1.1	-21.30%	5.4	+0.2	+2.10%
Filled cereals	15.4	+5.4*	+54.50%			
Sweet cereal flakes	1.5	-0.7	-31.80%	1.9	-0.4	-17.20%
Cereal flakes with fruit	7.3	+3.6	99.80%	6.2	+1.2	+21.80%
Cereal flakes with chocolate_nuts	5.2	+1.2	29.20%	5.7	+1.1	+23.90%
Traditional muesli flakes	7.1	+0.2	2.30%	7.9	0	+0.20%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

Crunchy fruit muesli	12.4	-2	-13.90%	13	-1.4	-9.70%
Crunchy muesli with nuts_seeds	20.2	+1.7	+9.10%	17.7	-0.3	-1.90%
Crunchy chocolate muesli	16.2	+0.6	+3.80%	16.6	1.3	+8.80%
Cereals without added sugar	4.2	-1.4	-26.30%	5.5	1.2	+26%
High-fibre cereals	6.3	+4.5	+247.80%	1.8	0.4	+28.60%
High-fibre fruit cereals	3.7	-1.3	-26.30%	4.7	0.3	+6.80%
Other ready-to-eat cereals	2.6					

3.2.1.3 Evolution of the saturated fat content among the subcategories

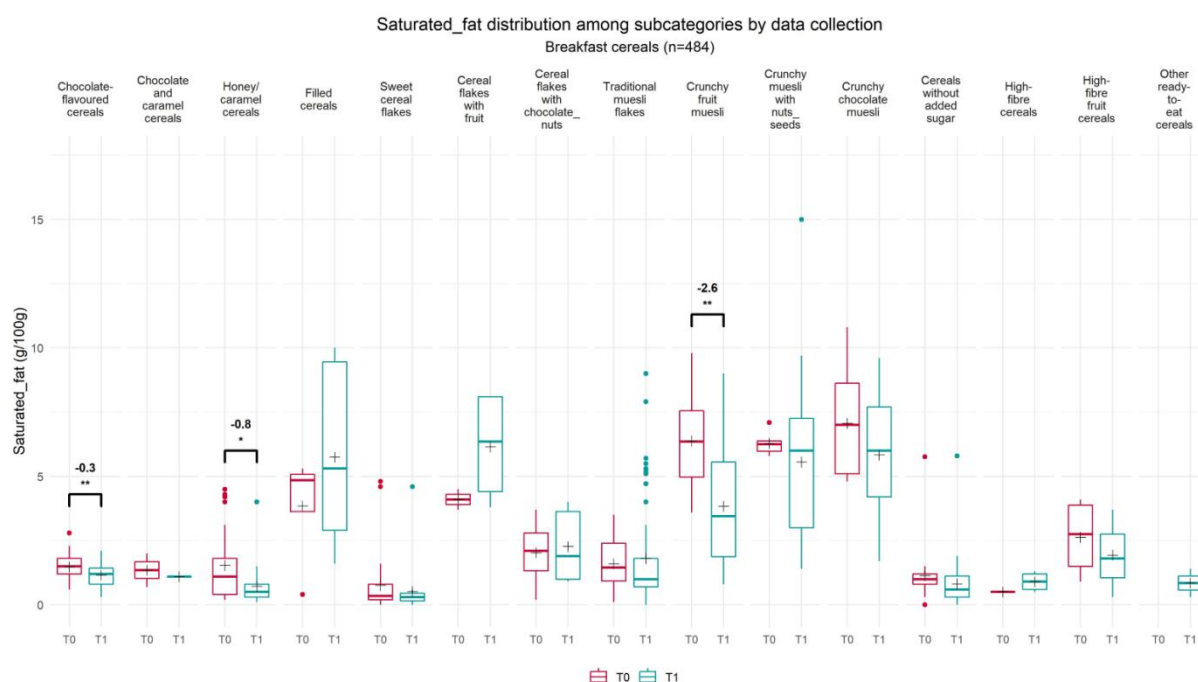


Figure 11 : Saturated fat distribution among subcategories of Breakfast cereals¹

Figure 11 shows the saturated fat distribution of Breakfast cereals between 2016 (T0) and 2023 (T1) by subcategories.

Significant decreases of mean saturated fat content are present for the following subcategories: Chocolate-flavoured cereals (-0.3g/100g; -21.5%), Honey/caramel cereals (-0.8g/100g; -52.8%) and the highest decrease, in Crunchy fruit muesli (-2.6g/100g; -39.9%).

The subcategories including products with the most variable saturated fat content at both times, meaning room for reformulation, are Filled cereals (2016, n=4; 2023, n=11), Crunchy fruit muesli (2016, n=14; 2023, n=20), Crunchy chocolate muesli (2016, n=10; 2023, n=17) and Cereals without added sugar (2016, n=21; 2023, n= 56). The fact that a higher variability is found in the subcategory Crunchy muesli with nuts_seeds in 2023 (T1) may be explained in part by a greater number of products collected in 2023 (2016, n=6; 2023, n=23).

The lowest mean saturated fat contents in both T0 and T1 are found in the subcategories: Sweet cereal flakes (2016, n=2; 2023, n=19), Cereals without added sugar (2016, n=21; 2023, n=56) and High-fibre cereals (2016, n=2; 2023, n=5).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.1.4 Evolution of the saturated fat content for paired products

The Table 4 summarizes the difference in the mean saturated fat content observed between 2016 (T0) and 2023 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation).

A significant decrease in the mean saturated fat content of paired products is observed for one subcategory out of 15: Chocolate-flavoured cereals (-0.4g/100g; -24.6%). This can be linked to the significant decrease of the mean saturated fat content observed at the subcategory level, meaning that this evolution can in part be explained by reformulations.

Table 4 : Summary of the evolution of the average saturated fat content for Breakfast cereals, by subcategory¹

	Saturated fat					
	All products			Paired products		
Subcategory name	Mean.T 1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T 1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	1.2	-0.3**	-21.50%	1.2	-0.4*	-24.60%
Chocolate and caramel cereals	1.1	-0.3	-18.50%	1.1	-0.9	-45%
Honey/caramel cereals	0.7	-0.8*	-52.80%	1.1	-0.9	-45.70%
Filled cereals	5.7	+1.8	+49.20%			
Sweet cereal flakes	0.5	-0.3	-32.10%	0.8	0	-7.70%
Cereal flakes with fruit	6.1	+2	+50%	4.2	+0.1	+2.40%
Cereal flakes with chocolate_nuts	2.3	+0.3	+11.90%	2.8	+0.3	+12%
Traditional muesli flakes	1.8	+0.2	+13.10%	2	+0.8	+62.30%
Crunchy fruit muesli	3.8	-2.6**	-39.90%	4.8	-1.5	-23.70%
Crunchy muesli with nuts_seeds	5.6	-0.7	-11.60%	4	-2.2	-35.70%
Crunchy chocolate muesli	5.8	-1.3	-17.50%	5.7	-0.8	-12.40%
Cereals without added sugar	0.8	-0.3	-28.50%	1.7	-0.1	-5.70%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

High-fibre cereals	0.9	+0.4	+80%	0.6	+0.1	+20%
High-fibre fruit cereals	1.9	-0.7	-26.30%	2.8	0	0%
Other ready-to-eat cereals	0.8					

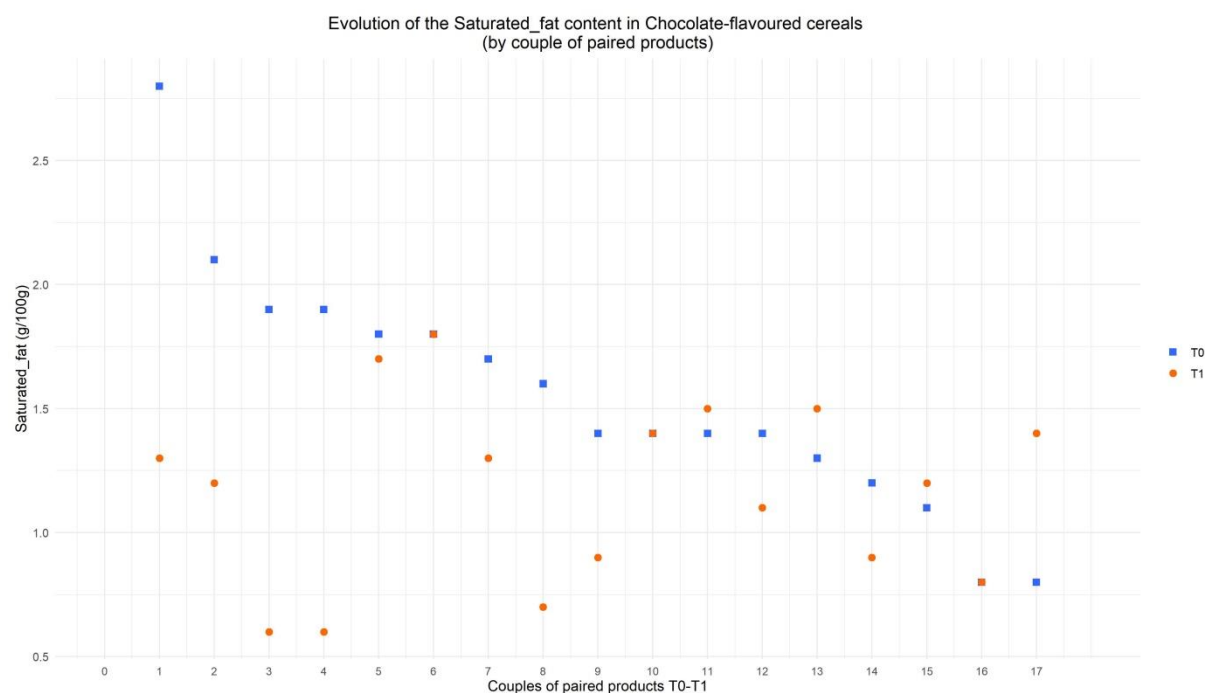


Figure 12 : Saturated fat evolution in chocolate flavoured cereals (paired products) between T0 and T1.

Of the 17 couples of paired products in the subcategory Chocolate-flavoured cereals (figure 12), the majority have a lower saturated fat content in 2023 (T1) than in 2016 (T0). However, one product has significantly increased its saturated fat content in 2023 (product 17) and 3 others (products 11, 13 and 15) have a higher value in T1 than in T0.

3.2.1.5 Evolution of the sugar content among the subcategories

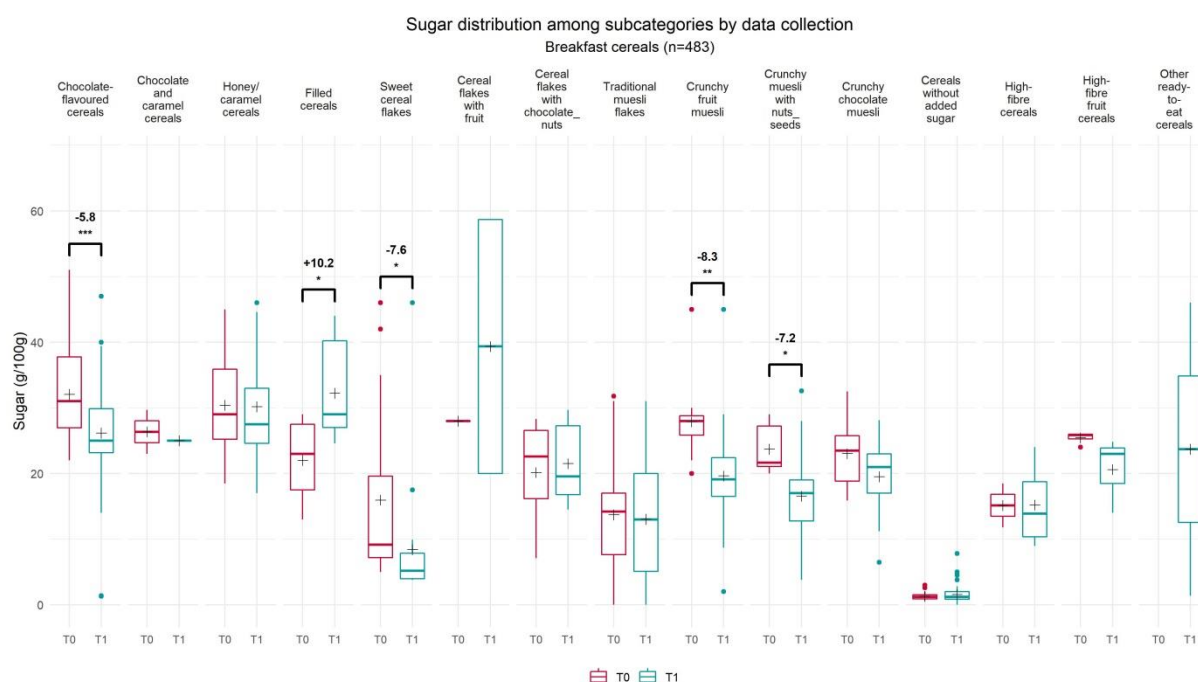


Figure 13 : Sugar distribution among subcategories of Breakfast cereals¹

Evolutions between 2016 (T0) and 2023 (T1) in the mean sugar content are noticeable, with statistically significant differences for some sub-categories. There is a decrease for Chocolate-flavoured cereals (-5.8g/100g; -18.4%), Sweet cereal flakes (-7.6g/100g; -47.3%), Crunchy fruit muesli (-8.3 g/100g; -29.6%) and Crunchy muesli with nuts_seeds (-7.2g/100g; -30.2%). The Filled cereals subcategory is the only one showing a consistent increase of the mean sugar content (+10.2g/100g; +46.4%). The content at T0 shows that there are no technological problems in producing this type of product with less sugar.

The variability differs according to the subcategories but remains globally constant between the two times within a same subcategory except for the Cereal flakes with fruit subcategory for which the variability of sugar content is much higher at T1 than at T0. However, this subcategory includes very few products in both times (2016, n=2; 2023, n=4), so it is difficult to draw any conclusions from these observations.

The subcategories including products with the most variable sugar content at both times, meaning room for reformulation, are: Chocolate-flavoured cereals (2016, n=44; 2023, n=43); Crunchy fruit muesli (2016, n=14; 2023, n=19); Sweet cereal flakes (2016, n=28; 2023, n=19); Traditional muesli flakes (2016, n=31; 2023, n=53); Honey/caramel cereals (2016, n=25; 2023, n=24).

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.1.6 Evolution of the sugar content for paired products

In table 5, data regarding paired products confirms the statistically significant decrease in the mean sugar content between T0 and T1 in the subcategories Chocolate-flavoured cereals

(-3.6g/100g; -11.8%) and Sweet cereal flakes (-3.4g/100g; -32.4%), meaning that this evolution can in part be explained by reformulations. There is a significant decrease in mean sugar content at subcategory level but not at paired product level for the subcategories Crunchy fruit muesli and Crunchy muesli with nuts_seeds. For these subcategories, the reduction in the mean sugar content is rather due to the appearance of new products with a lower sugar content than to the reformulation of products already existing at T0.

Table 5 : Summary of the evolution of the average sugar content for Breakfast cereals, by subcategory ¹

Subcategory name	Sugar					
	All products			Paired products		
	Mean.T 1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T 1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	26.2	-5.8***	-18.40%	26.9	-3.6**	-11.80%
Chocolate and caramel cereals	25	-1.4	-5.10%	25	-4.7	-15.80%
Honey/caramel cereals	30.2	-0.2	-0.80%	27.4	-1.3	-4.70%
Filled cereals	32.2	+10.2*	+46.40%			
Sweet cereal flakes	8.4	-7.6*	-47.30%	7.1	-3.4*	-32.40%
Cereal flakes with fruit	39.4	+11.4	+40.50%	20	-8	-28.60%
Cereal flakes with chocolate_nuts	21.5	+1.4	+6.70%	16	-10	-38.50%
Traditional muesli flakes	13	-0.7	-5%	16.9	+4.8	+39.90%
Crunchy fruit muesli	19.6	-8.3**	-29.60%	28.7	-3.1	-9.90%
Crunchy muesli with nuts_seeds	16.5	-7.2*	-30.20%	20.7	-3.3	-13.90%
Crunchy chocolate muesli	19.5	-3.5	-15.20%	23.4	-2.7	-10.30%
Cereals without added sugar	1.6	+0.3	+21.40%	1.2	-0.2	-13.90%

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

High-fibre cereals	15.2	0	+0.30%	10.8	-1	-8.50%
High-fibre fruit cereals	20.6	-4.8	-19%	23.9	-1	-3.80%
Other ready-to-eat cereals	23.7					

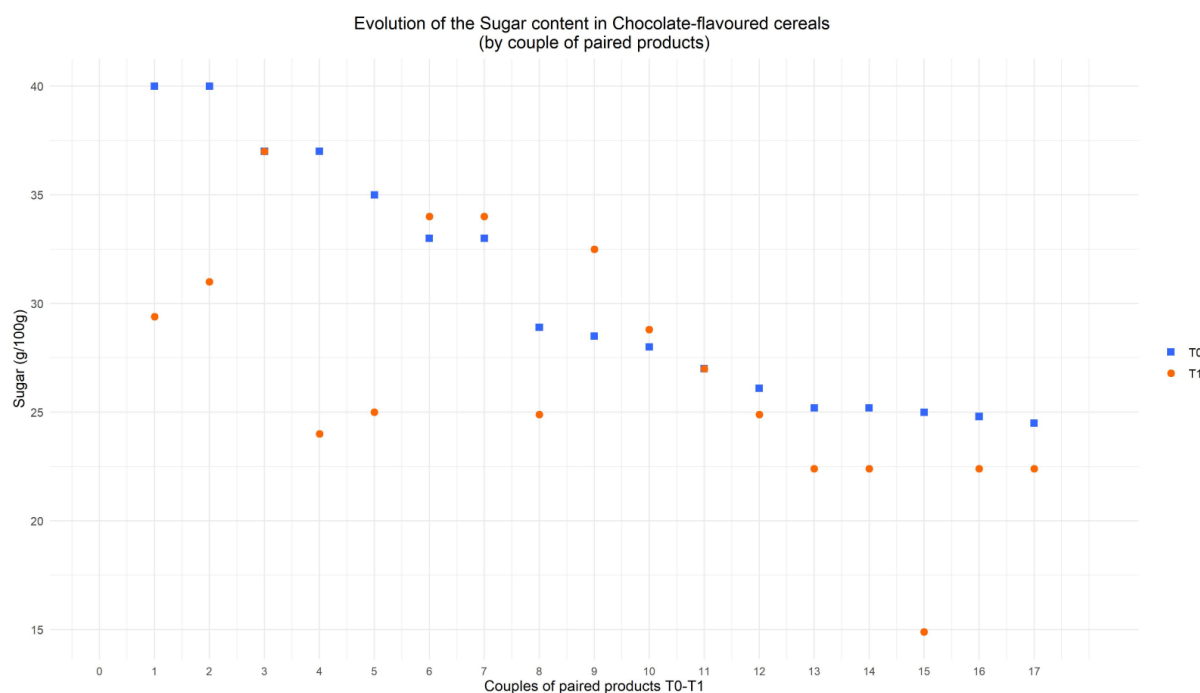


Figure 14 : Sugar content evolution in chocolate flavored cereals (paired products) between T0 and T1.

Of the 17 couples of paired products in subcategory Chocolate-flavoured cereals, 11 have a lower sugar content in 2023 (T1) than in 2016 (T0). It should be noted that the products with the highest sugar content in 2016 (T0) have experienced a decrease in their sugar content in 2023 (T1) (Figure 10). 4 couples show higher sugar values in 2023 than in 2016.

3.2.1.7 Evolution of the fibre content among the subcategories

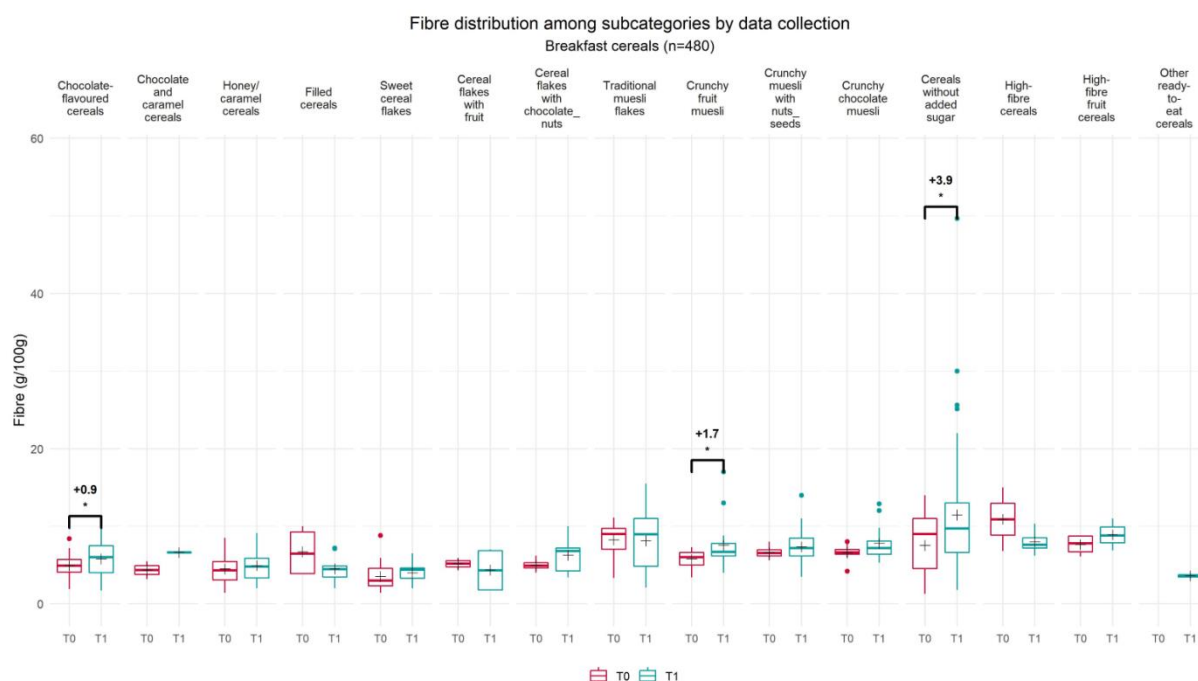


Figure 15 : Fibre distribution among subcategories of Breakfast cereals

Figure 15 shows the fibre distribution of Breakfast cereals between 2016 (T0) and 2023 (T1) by subcategories.

Among all the products collected within Breakfast cereals category, there is a significant increase between both data collections in the mean fibre content for 3 subcategories: Chocolate-flavoured cereals (+0.9g/100g; +18.1%), Crunchy fruit muesli (+1.7 g/100g; +30.8%) and Cereals without added sugar (+3.9g/100g; +52.3%). Though not statistically significant, some sub-categories show a decrease in their mean fibre content between T1 and T0: Filled cereals, Cereal flakes.

Though not statistically significant, some sub-categories show a decrease in their mean fibre content between T1 and T0: Filled cereals, Cereal flakes with fruit, Traditional muesli flakes and High-fibre cereals.

3.2.1.8 Evolution of the fibre content for paired products

Table 6 summarizes the difference in the mean fibre content observed between 2016 (T0) and 2023 (T1) for all products and for paired products (products available both at the first and second snapshot and which enable to conclude on reformulation). A significant increase in the mean fibre content of paired products is observed for the Chocolate-flavoured cereals subcategory (+1.1 g/100 g; +21.1%). This can be linked to the significant increase of the fibre content observed at the subcategory level, meaning that this evolution can in part be explained by reformulations.

Subcategory name	Fibre					
	All products			Paired products		
	Mean.T 1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T 1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	5.8	+0.9*	+18.10%	6.3	+1.1***	+21.10%
Chocolate and caramel cereals	6.6	+2.3	+51.70%	6.6	+1.1	+20%
Honey/caramel cereals	4.9	+0.4	+9.70%	5.9	+1.2	+26.80%
Filled cereals	4.5	-2.2	-32.70%			
Sweet cereal flakes	4	+0.5	+12.50%	4.6	+0.6	+16.30%
Cereal flakes with fruit	4.3	-0.8	-15.30%	6.9	+2.1	+5.30%
Cereal flakes with chocolate nuts	6.3	+1.3	+25.70%	7.3	+2.5	+2.10%
Traditional muesli flakes	8.1	-0.1	-1.60%	8.1	+0.9	+1.80%
Crunchy fruit muesli	7.5	+1.7*	+30.80%	6.3	+0.8	+14.10%
Crunchy muesli with nuts_seeds	7.4	+0.8	+10.80%	6.4	+0.1	+1.60%
Crunchy chocolate muesli	7.8	+1.2	+18%	6.9	+0.7	+11.60%
Cereals without added sugar	11.4	+3.9*	+52.30%	7.7	+1.2	+18.50%
High-fibre cereals	8	-2.9	-27%	7.6	+0.8	+11.80%
High-fibre fruit cereals	8.9	+1.3	+16.70%	8.9	+0.1	+2.30%
Other ready-to-eat cereals	3.6					

Table 6 : Summary of the evolution of the average fibre content for Breakfast cereals, by subcategory¹

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

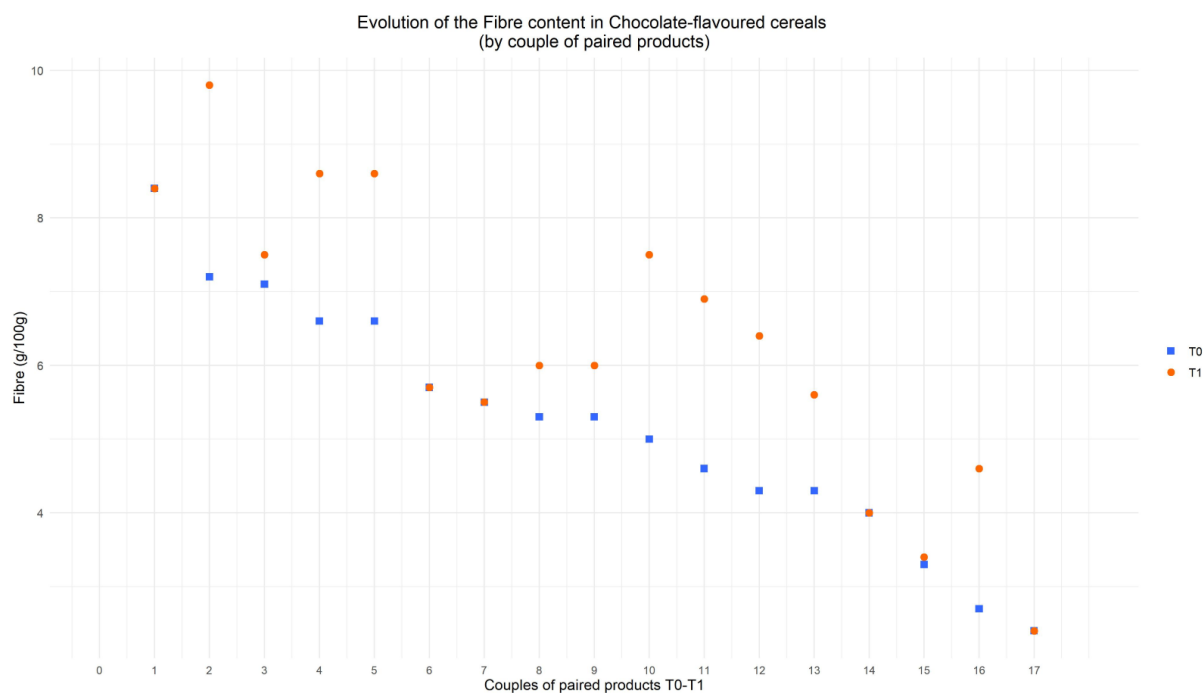


Figure 16 : Fibre content evolution in chocolate flavored cereals (paired products) between T0 and T1

Of the 17 couples of paired products in subcategory Chocolate-flavoured cereals, 12 couples have a higher fibre content in 2023 (T1) than in 2016 (T0) and 5 couples have kept an equal fibre content.

3.2.1.9 Evolution of the salt content among the subcategories

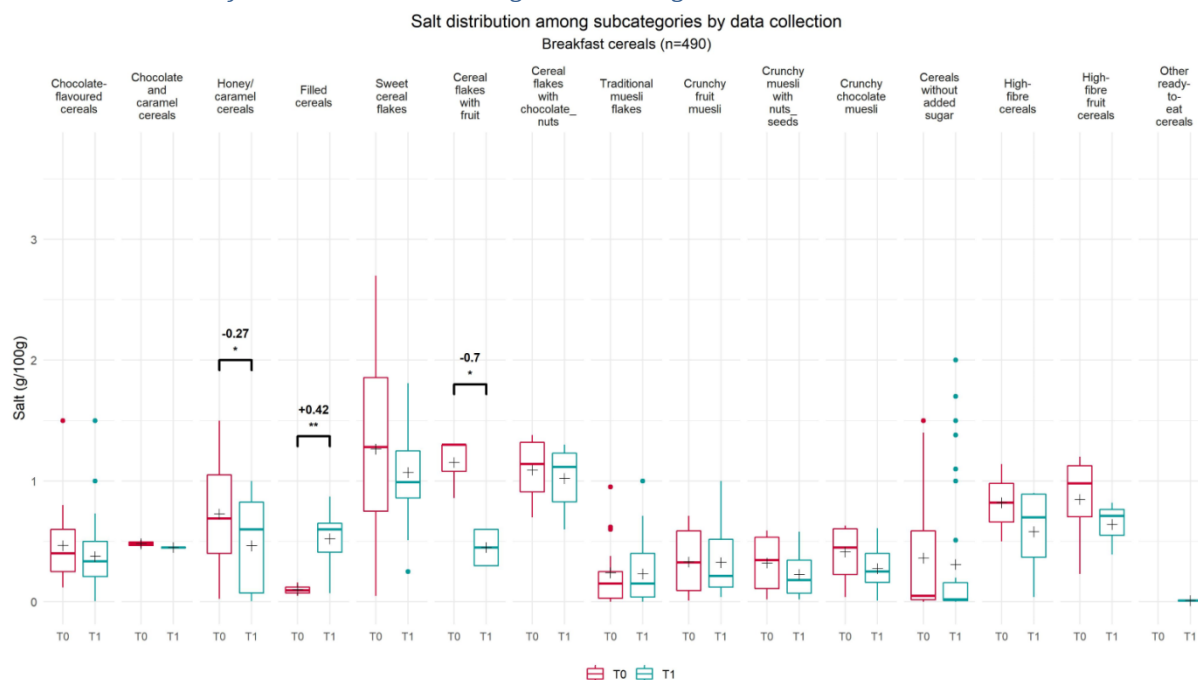


Figure 17 : Salt distribution among subcategories of Breakfast cereals¹

Figure 17 shows the salt distribution of Breakfast cereals between 2016 (T0) and 2023 (T1) by subcategories.

Among the 15 subcategories considered, the mean salt content has significantly decreases for two subcategories: Honey/caramel cereals (-0.27g/100g; -36.2%) and Cereal flakes with fruit (-0.7g/100g; -61%). Only one subcategory shows a significant increase in the mean salt content between T0 and T1: Filled cereals (+0.42g/100g; +421.8%).

The subcategories including products with the most variable fat content at both times, meaning room for reformulation, are: Cereals without added sugar (2016, n=22; 2023, n=56), Sweet cereal flakes (2016, n=30; 2023, n=19), Chocolate-flavoured cereals (2016, n=45; 2023, n=44) and Honey/caramel cereals (2016, n=25; 2023, n=24). Overall, few products have over 1.5g of salt/100 g.

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

3.2.1.10 Evolution of the salt content for paired products

In paired products, a significant decrease in the mean salt content is observed for 3 subcategories: Chocolate-flavoured cereals (-0.15g/100g; -29.8%), Honey/caramel cereals (-0.24g/100g; -29.1%) and Sweet cereal flakes (-0.24g/100g; -17.9%).

For the subcategory Honey/caramel cereals, it can be linked to the significant decrease of the mean salt content observed at the subcategory level, meaning that this evolution can in part be explain by reformulations. For Chocolate-flavoured cereals and Sweet cereal flakes subcategories, a significant decrease of mean salt content is observed for paired products but the decrease observed at the subcategory level is not significant.

Table 7 : Summary of the evolution of the average salt content for Breakfast cereals, by subcategory¹

Subcategory name	Salt					
	All products			Paired products		
	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)	Mean.T1 (g/100g)	Mean value difference (g/100g)	Mean value evolution (%)
Chocolate-flavoured cereals	0.38	-0.09	-19.34%	0.35	-0.15*	-29.84%
Chocolate and caramel cereals	0.45	-0.03	-6.25%	0.45	0	0%
Honey/caramel cereals	0.46	-0.27*	-36.23%	0.57	-0.24*	-29.10%
Filled cereals	0.52	+0.42**	+421.82%			
Sweet cereal flakes	1.07	-0.19	-15.28%	1.09	-0.24**	-17.90%
Cereal flakes with fruit	0.45	-0.7*	-60.98%	0.6	-0.7	-53.85%
Cereal flakes with chocolate_nuts	1.02	-0.07	-6.27%	0.6	-0.7	-53.85%
Traditional muesli flakes	0.23	-0.01	-3.89%	0.2	+0.15	+331.75%
Crunchy fruit muesli	0.32	-0.01	-1.45%	0.32	+0.12	+65.31%
Crunchy muesli with nuts_seeds	0.23	-0.09	-29.44%	0.47	+0.1	+28.18%
Crunchy chocolate muesli	0.27	-0.14	-33.29%	0.27	-0.04	-14.10%
Cereals without added sugar	0.31	-0.05	-14.57%	0.46	-0.05	-8.90%
High-fibre cereals	0.58	-0.24	-29.27%	0.9	-0.24	-21.05%
High-fibre fruit cereals	0.64	-0.21	-24.48%	0.55	-0.43	-43.88%
Other ready-to-eat cereals	0.01					

¹ Significance: ***if p<0.001; **if p<0.01; *if p<0.05 (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

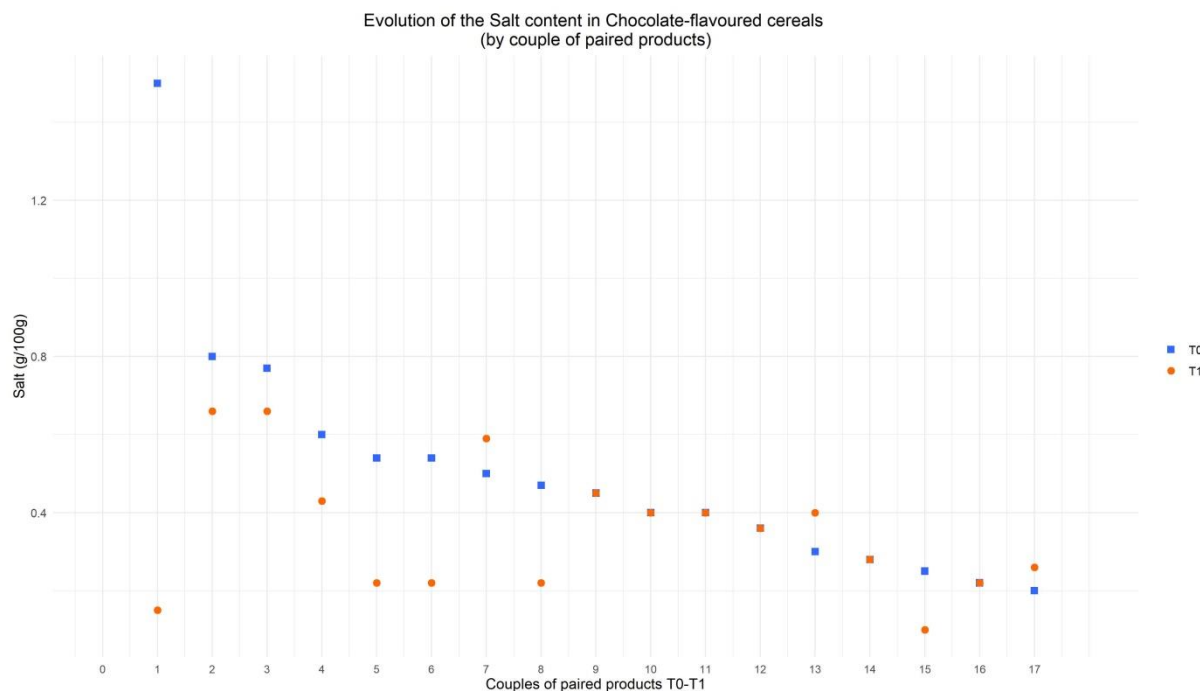


Figure 18 : Salt content evolution between 2016 and 2023 by couple of paired product for Chocolate flavored cereals

Of the 17 couples of paired products in subcategory Chocolate-flavoured cereals, 8 couples have a lower salt content in 2023 (T1) than in 2016 (T0) and 6 couples have kept an equal sugar content. Only 3 couples have a higher salt content in 2023 (T1). It should be noted that the product with the highest salt content in 2016 (product 1) have experienced a major decrease in its salt content in 2023 (T1) (Figure 18).

3.2.2 Soft drinks

The nutrient considered for the analysis of the evolution of Soft drinks category is Sugar as it was the only nutrient available for the Soft drinks category at T0 (2016). It should be noted that only 17 sub-categories are represented in T0 (2016) compared with 26 sub-categories in 2023 (T1). It was therefore only possible to analyse the evolution the sugar content of 17 sub-categories.

3.2.2.1 Evolution of the sugar content among the subcategories

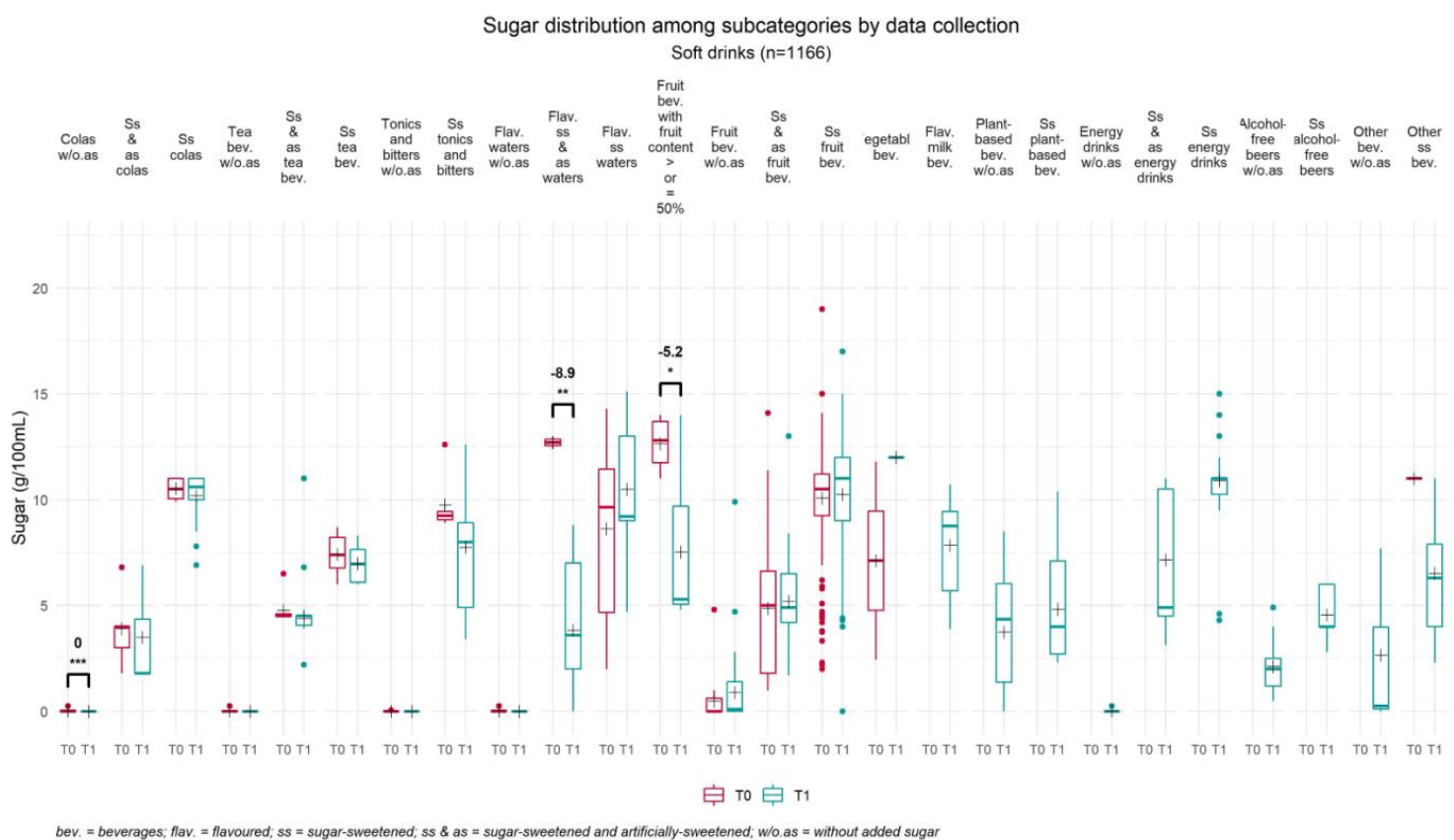


Figure 19 : Sugar distribution among subcategories of Soft drinks

Between 2016 (T0) and 2023 (T1), a significant decrease in the mean sugar content is noticed for the subcategories: Flavoured sugar-sweetened and artificially-sweetened waters (-8.9g/100g; -69.8%) and Fruit beverages with fruit content > or = 50% (-5.2g/100g; -40.5%).

The subcategories including products with the most variable sugar content at both times, meaning room for reformulation, are: Sugar-sweetened fruit beverages (2016, n=235; 2023, n=173), Sugar-sweetened and artificially-sweetened fruit beverages (2016, n=68; 2023, n=83) and Flavoured sugar-sweetened waters (2016, n=18; 2023, n=9). The subcategory, only found at T1 (2023), including products with the most variable sugar content, meaning room for reformulation, is Sugar-sweetened energy drinks (2023, n=35).

3.2.2.2 Evolution of the sugar content for paired products

While looking at paired products, some subcategories show a statistically significant decrease in their mean sugar content between T0 (2016) and T1 (2023) () : Colas without added sugar (-0.03g/100g; -100%), Sugar-sweetened colas (-0.1g/100g; -1%), Sugar-sweetened and artificially-sweetened fruit beverages (-1.7g/100g; -28.5%) and Sugar-sweetened fruit beverages (-0.4g/100g; -3.3%).

For the subcategories Sugar-sweetened colas and Sugar-sweetened fruit beverages, the evolutions in mean sugar content are small but the differences appear to be significant. This may be due to changes in the nutritional labelling of products between T0 and T1.

For Flavoured sugar-sweetened and artificially-sweetened waters and Fruit beverages with fruit content $\geq 50\%$ subcategories, a significant decrease of mean sugar content is observed at the subcategory level but the decrease observed for paired products is not significant.

Table 8 : Summary of the evolution of the average sugar for soft drinks, by subcategory¹

Subcategory name	sugar					
	All products			Paired products		
	Mean. T1 (g/100 ml)	Mean value difference (g/100ml)	Mean value evolution (%)	Mean. T1 (g/100 ml)	Mean value difference (g/100ml)	Mean value evolution (%)
Colas without added sugar	0	0	-100%	0	-0.03***	-100%
Sugar-sweetened and artificially-sweetened colas	3.5	-0.4	-10.70%	1.8	0	0%
Sugar-sweetened colas	10.2	-0.3	-3.20%	10.7	-0.1***	-1%
Tea beverages without added sugar	0	0	-100%			
Sugar-sweetened and artificially-sweetened tea beverages	4.4	-0.4	-8.40%	4.8	+0.3	+5.80%
Sugar-sweetened tea beverages	7	-0.4	-5.90%			
Tonics and bitters without added sugar	0	0	-100%			
Sugar-sweetened and artificially-sweetened tonics and bitters						
Sugar-sweetened tonics and bitters	7.8	-2	-20.50%	9.9	+0.8	+8.70%

¹ Significance: ***if $p < 0.001$; **if $p < 0.01$; *if $p < 0.05$ (Statistical tests performed: permutation test)

Purple box: significant decrease in average content ; Yellow box : significant increase in average content

Flavoured waters without added sugar	0	0	-100%			
Flavoured sugar-sweetened and artificially-sweetened waters	3.8	-8.9**	-69.80%			
Flavoured sugar-sweetened waters	10.5	1.9	+21.60%	11.7	2.7	+29.60%
Fruit beverages with fruit content > or = 50%	7.5	-5.2*	-40.50%	5.2	-8.8	-62.90%
Fruit beverages without added sugar	0.9	0.4	+84.40%	0	0	-100%
Sugar-sweetened and artificially-sweetened fruit beverages	5.2	0.3	+6.60%	4.1	-1.7**	-28.50%
Sugar-sweetened fruit beverages	10.2	0.1	+1.60%	10.3	-0.4*	-3.30%
Vegetable beverages	12	4.9	+68.50%	12	0.2	+1.70%
Flavoured milk beverages	7.8					
Plant-based beverages without added sugar	3.7					
Sugar-sweetened plant-based beverages	4.8					
Energy drinks without added sugar	0					
Sugar-sweetened and artificially-sweetened energy drinks	7.2					
Sugar-sweetened energy drinks	10.9					
Alcohol-free beers without added sugar	2.1					
Sugar-sweetened alcohol-free beers	4.6					
Other beverages without added sugar	2.6					
Other sugar-sweetened beverages	6.5	-4.5				

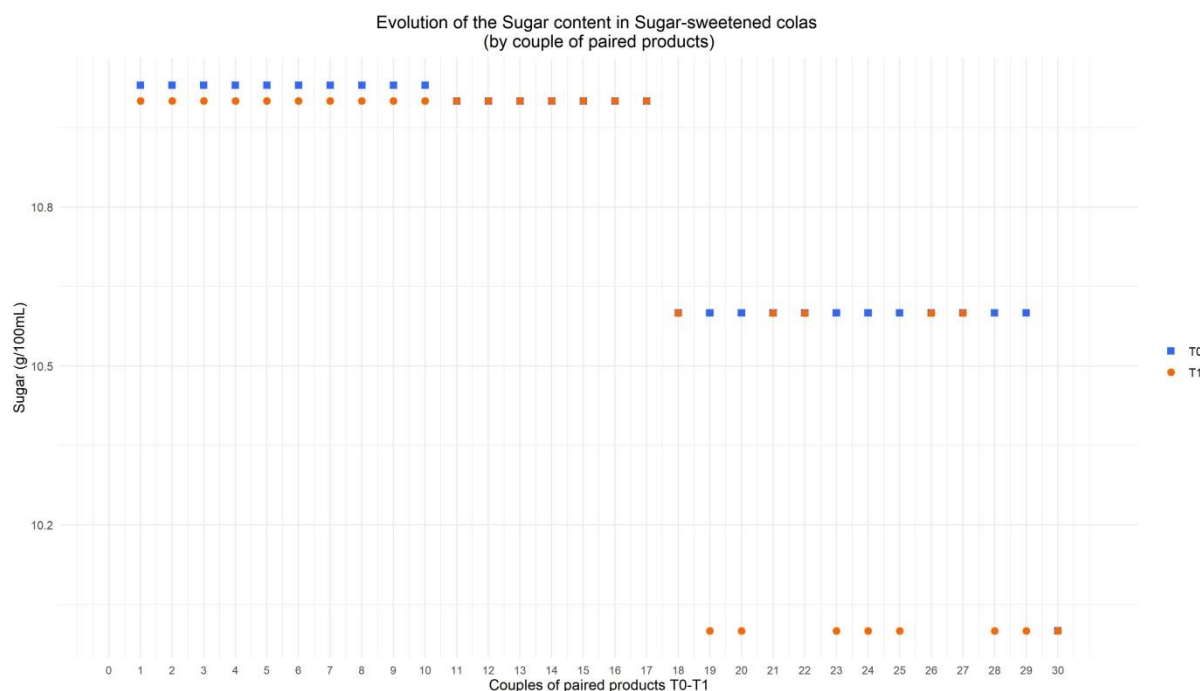


Figure 20 : Sugar content evolution between 2016 and 2023 by couple of paired product for Sugar sweetened colas

Of the 30 couples of paired products in subcategory Sugar-sweetened colas, 17 couples have a lower sugar content in 2023 (T1) than in 2016 (T0) and 13 couples have kept an equal sugar content. It should be noted that the products with the highest sugar content in 2016 (product 1) have experienced a slight decrease in their sugar content in 2023 (T1) (Figure 20).

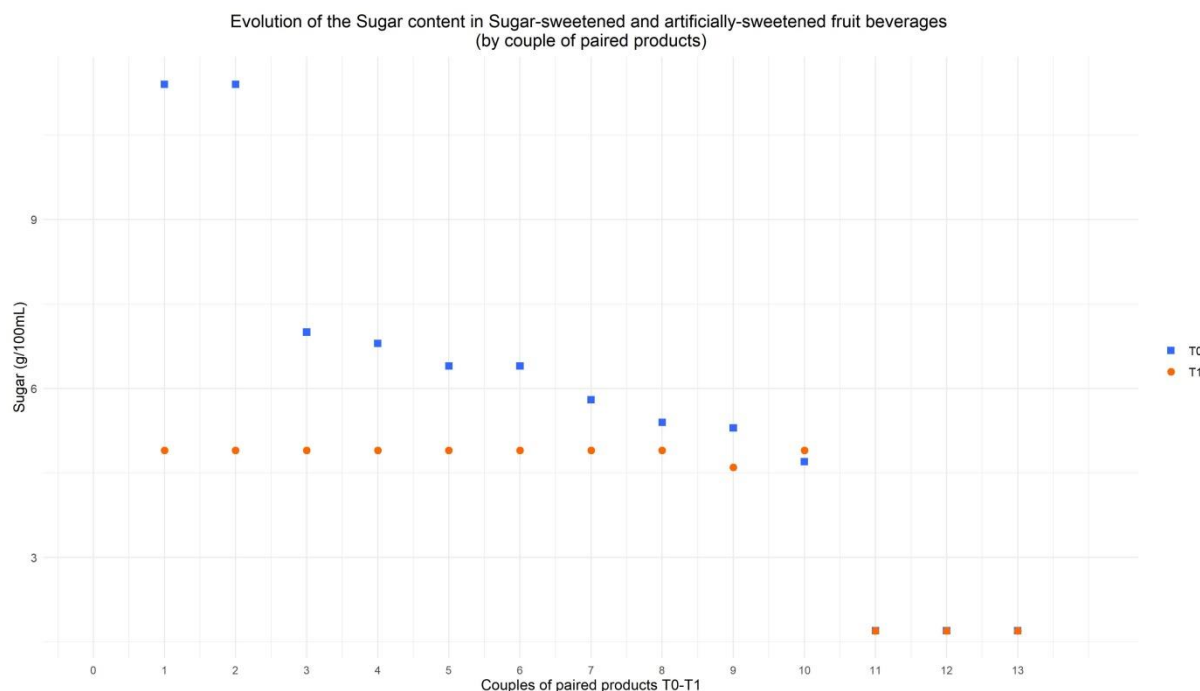


Figure 21 : Sugar content evolution between 2016 and 2023 by couple of paired product for sugar sweetened and artificially sweetened fruit beverages

Of the 13 couples of paired products in subcategory Sugar-sweetened and artificially-sweetened fruit beverages, 9 couples have a lower sugar content in 2023 (T1) than in 2016 (T0) and 3 couples have kept an equal sugar content. Only 1 couple (product 10) has a higher sugar content in 2023 (T1) but the difference is very small. It should be noted that the products with the highest sugar content in 2016 (product 1 and 2) have experienced a major decrease in their sugar content in 2023 (T1) (Figure 21).

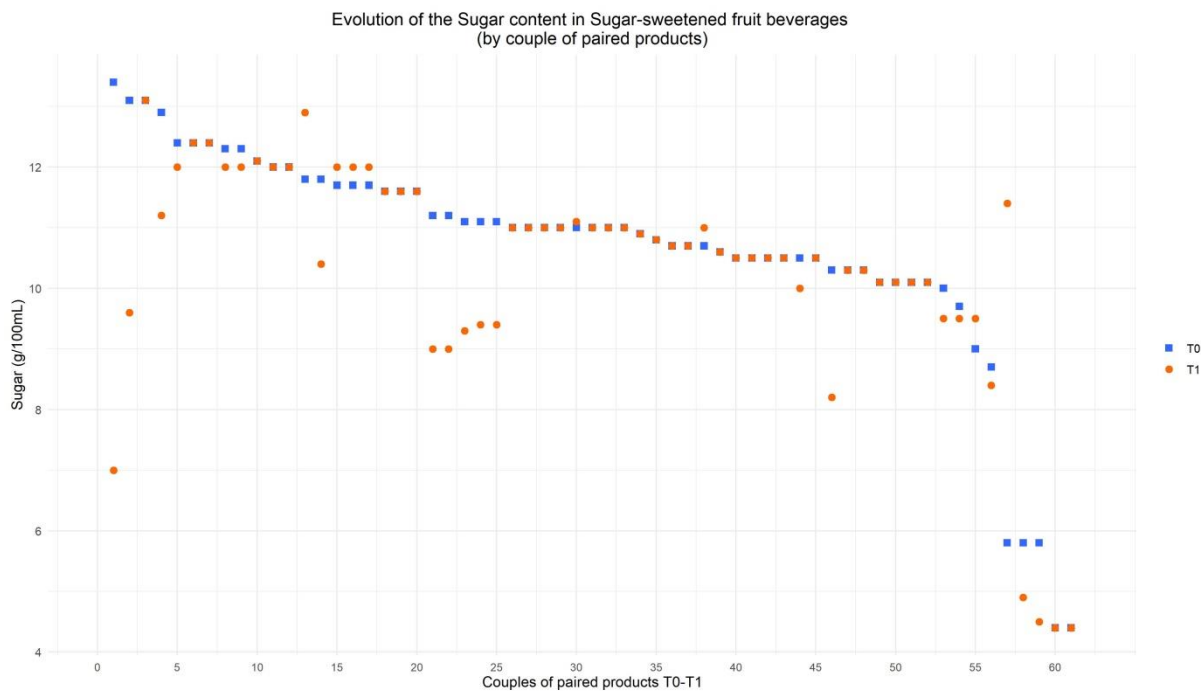


Figure 22 : Sugar content evolution between 2016 and 2023 by couple of paired product for sugar sweetened fruit beverages

Of the 61 couples of paired products in subcategory Sugar-sweetened fruit beverages, 19 couples have a lower sugar content in 2023 (T1) than in 2016 (T0) and 34 couples have kept an equal sugar content. 8 couples have a higher sugar content in 2023 (T1) (Figure 22).

Annex 3: Table of correspondence between Best-ReMaP and FoodEx2 nomenclatures for the five food categories considered during Best-ReMaP

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
read products	18	Breadcrumbs	Grated or crumbled dried bread or rusks	730	A007A	Breadcrumbs
Bread products	18	Brioche with fruit	Brioche and Viennese bread-type products, milk breads or gâches with fruit filling or with fruit (candied or not) inclusions, panettones with fruit, kouglof or similar products.	116	A00BT	Brioche type products
Bread products	18	Chocolate brioche	Brioche and Viennese bread-type products, milk breads or gâches with chocolate filling, all chocolate and/or with chocolate chips, panettones without fruit and with chocolate	119	A00BT	Brioche type products
Bread products	18	Cream-filled brioche	Brioche and Viennese bread-type products, milk breads or gâches with cream filling which may contain inclusions (chocolate, fruits etc.)	115	A00BT	Brioche type products
Bread products	18	Croutons	Small pieces of dry bread, seasoned or unseasoned	729	A007B	Croutons
Bread products	18	Fine bakery wares_chocolate croissants	Chocolate croissants	605	A00CE	Puff-pastry croissant, filled with chocolate
Bread products	18	Fine bakery wares_chocolate croissants	Chocolate croissants	605	A009T	Fine bakery wares
Bread products	18	Fine bakery wares_chocolate croissants	Chocolate croissants	605	A00BN	Croissant, filled with chocolate
Bread products	18	Fine bakery wares_croissants	Croissants	604	A00BM	Croissant
Bread products	18	Fine bakery wares_croissants	Croissants	604	A009T	Fine bakery wares
Bread products	18	Fine bakery wares_croissants	Croissants	604	A00CD	Croissant from puff pastry
Bread products	18	Fine bakery wares_other	Apple turnovers, filled croissants, raisin breads, fruit-filled doughnutss, etc.	603	A00BP	Croissant, filled with cream

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
Bread products	18	Fine bakery wares_other	Apple turnovers, filled croissants, raisin breads, fruit-filled doughnutss, etc.	603	A00BQ	Croissant, filled with jam
Bread products	18	Fine bakery wares_other	Apple turnovers, filled croissants, raisin breads, fruit-filled doughnutss, etc.	603	A00BS	Kringles
Bread products	18	Fine bakery wares_other	Apple turnovers, filled croissants, raisin breads, fruit-filled doughnutss, etc.	603	A00CG	Cream-cheese strudel
Bread products	18	Fine bakery wares_other	Apple turnovers, filled croissants, raisin breads, fruit-filled doughnutss, etc.	603	A00CF	Apple strudel
Bread products	18	Fine bakery wares_other	Apple turnovers, filled croissants, raisin breads, fruit-filled doughnutss, etc.	603	A009T	Fine bakery wares
Bread products	18	Other bread products	Other bread products	51	A004V	Bread and similar products
Bread products	18	Other bread products	Other bread products	51	A0BY0	Leavened bread and similar
Bread products	18	Other bread products	Other bread products	51	A006Z	Additional bread products
Bread products	18	Other breads	Special breads such as pita, kebab bread, Lebanese flatbread, bagel, Swedish bread, etc.	401	A004V	Bread and similar products
Bread products	18	Other breads	Special breads such as pita, kebab bread, Lebanese flatbread, bagel, Swedish bread, etc.	401	A005V	Pretzels
Bread products	18	Other breads	Special breads such as pita, kebab bread, Lebanese flatbread, bagel, Swedish bread, etc.	401	A006S	Pita bread
Bread products	18	Other breads	Special breads such as pita, kebab bread, Lebanese flatbread, bagel, Swedish bread, etc.	401	A0BY0	Leavened bread and similar
Bread products	18	Other breads	Special breads such as pita, kebab bread, Lebanese flatbread, bagel, Swedish bread, etc.	401		

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Bread products	18	Other rusks	Other rusks that do not fit the definition of any of the other rusk subcategories, crackers, crackerbreads and extruded products : rusks covered with chocolate, rusks covered with fruit, crispy crackers, crackerbreads filled with chocolate etc. Includes products without gluten (made from soy flour, rice flour, corn flour, etc.)	744	A004V	Bread and similar products
Bread products	18	Other rusks	Other rusks that do not fit the definition of any of the other rusk subcategories, crackers, crackerbreads and extruded products : rusks covered with chocolate, rusks covered with fruit, crispy crackers, crackerbreads filled with chocolate etc. Includes products without gluten (made from soy flour, rice flour, corn flour, etc.)	744	A00CHT	Crisp bread
Bread products	18	Other rusks	Other rusks that do not fit the definition of any of the other rusk subcategories, crackers, crackerbreads and extruded products : rusks covered with chocolate, rusks covered with fruit, crispy crackers, crackerbreads filled with chocolate etc. Includes products without gluten (made from soy flour, rice flour, corn flour, etc.)	744	A006A	Rye crisp bread
Bread products	18	Other rusks	Other rusks that do not fit the definition of any of the other rusk subcategories, crackers, crackerbreads and extruded products : rusks covered with chocolate, rusks covered with fruit, crispy crackers, crackerbreads filled with chocolate etc. Includes products without gluten (made from soy flour, rice flour, corn flour, etc.)	744	A006B	Crisp bread, rye wholemeal

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Bread products	18	Other rusks	Other rusks that do not fit the definition of any of the other rusk subcategories, crackers, crackerbreads and extruded products : rusks covered with chocolate, rusks covered with fruit, crispy crackers, crackerbreads filled with chocolate etc. Includes products without gluten (made from soy flour, rice flour, corn flour, etc.)	744	A006C	Crisp bread, rye, refined flour
Bread products	18	Other rusks	Other rusks that do not fit the definition of any of the other rusk subcategories, crackers, crackerbreads and extruded products : rusks covered with chocolate, rusks covered with fruit, crispy crackers, crackerbreads filled with chocolate etc. Includes products without gluten (made from soy flour, rice flour, corn flour, etc.)	744	A006D	Wheat crisp bread
Bread products	18	Other rusks	Other rusks that do not fit the definition of any of the other rusk subcategories, crackers, crackerbreads and extruded products : rusks covered with chocolate, rusks covered with fruit, crispy crackers, crackerbreads filled with chocolate etc. Includes products without gluten (made from soy flour, rice flour, corn flour, etc.)	744	A006E	Crisp bread, wheat, wholemeal
Bread products	18	Other rusks	Other rusks that do not fit the definition of any of the other rusk subcategories, crackers, crackerbreads and extruded products : rusks covered with chocolate, rusks covered with fruit, crispy crackers, crackerbreads filled with chocolate etc. Includes products without gluten (made from soy flour, rice flour, corn flour, etc.)	744	A006F	Crisp bread, wheat, refined flour

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Bread products	18	Other_sandwich breads / hamburger / hot dog buns	Sandwich breads, special breads for hamburgers and hot dogs, english muffins, brioche-style or not, with dried fruit inclusions, spicy or seasoning sandwich breads, etc. Includes products without gluten (made from soy flour, rice flour, corn flour, etc.) Cupcake-type muffins are excluded.	400	A004V	Bread and similar products
Bread products	18	Other_sandwich breads / hamburger / hot dog buns	Sandwich breads, special breads for hamburgers and hot dogs, english muffins, brioche-style or not, with dried fruit inclusions, spicy or seasoning sandwich breads, etc. Includes products without gluten (made from soy flour, rice flour, corn flour, etc.) Cupcake-type muffins are excluded.	400	A0BY0	Leavened bread and similar
Bread products	18	Other_sandwich breads / hamburger / hot dog buns	Sandwich breads, special breads for hamburgers and hot dogs, english muffins, brioche-style or not, with dried fruit inclusions, spicy or seasoning sandwich breads, etc. Includes products without gluten (made from soy flour, rice flour, corn flour, etc.) Cupcake-type muffins are excluded.	400	A005K	Bread and rolls with special ingredients added
Bread products	18	Pancakes	Pancake or little thick crepe / crumpet ; plain, with or without chocolate chips, filling or not.	626	A00CL	Pancakes
Bread products	18	Plain brioches	Plain brioches and Viennese bread-type products, plain milk breads or gâches containing wheat flour and without seeds. These products can contain broad beans flour and/or soy flour and/or barley flour in addition to the wheat flour. Includes products with inclusions of sugar, fudge, etc.	112	A00BT	Brioche type products

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Bread products	18	Plain rusks	Plain rusks and plain brioche rusks containing wheat flour and without seeds. These products can contain broad beans flour and/or soy flour and/or barley flour in addition to the wheat flour. Includes products with inclusions of fruit and/or chocolate chips.	117	A004V	Bread and similar products
Bread products	18	Plain rusks	Plain rusks and plain brioche rusks containing wheat flour and without seeds. These products can contain broad beans flour and/or soy flour and/or barley flour in addition to the wheat flour. Includes products with inclusions of fruit and/or chocolate chips.	117	A006N	Rusk, refined flour
Bread products	18	Plain rusks	Plain rusks and plain brioche rusks containing wheat flour and without seeds. These products can contain broad beans flour and/or soy flour and/or barley flour in addition to the wheat flour. Includes products with inclusions of fruit and/or chocolate chips.	117	A006M	Rusk
Bread products	18	Plain toasted breads and toasts	Plain toasted breads and toasts containing wheat flour and without seeds. These products can contain broad beans flour and/or soy flour and/or barley flour in addition to the wheat flour. These products can contain fruit inclusions, chocolate chips, etc.	402	A004V	Bread and similar products
Bread products	18	Plain toasted breads and toasts	Plain toasted breads and toasts containing wheat flour and without seeds. These products can contain broad beans flour and/or soy flour and/or barley flour in addition to the wheat flour. These products can contain fruit inclusions, chocolate chips, etc.	402	A00BL	Buns

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Bread products	18	Plain toasted breads and toasts	Plain toasted breads and toasts containing wheat flour and without seeds. These products can contain broad beans flour and/or soy flour and/or barley flour in addition to the wheat flour. These products can contain fruit inclusions, chocolate chips, etc.	402	A0BY0	Leavened bread and similar
Bread products	18	Plain toasted breads and toasts	Plain toasted breads and toasts containing wheat flour and without seeds. These products can contain broad beans flour and/or soy flour and/or barley flour in addition to the wheat flour. These products can contain fruit inclusions, chocolate chips, etc.	402	A004Y	Wheat bread and rolls, white (refined flour)
Bread products	18	Plain white sandwich breads / hamburger /hot dog buns	Plain sandwich breads, plain special breads for hamburgers and hot dogs, plain english muffins containing wheat flour and without seeds (special breads for hamburger included in this subcategory can contain sesame seeds). These products can contain broad beans flour and/or soy flour and/or barley flour in addition to the wheat flour. Cupcake-type muffins are excluded.	399	A004V	Bread and similar products
Bread products	18	Plain white sandwich breads / hamburger /hot dog buns	Plain sandwich breads, plain special breads for hamburgers and hot dogs, plain english muffins containing wheat flour and without seeds (special breads for hamburger included in this subcategory can contain sesame seeds). These products can contain broad beans flour and/or soy flour and/or barley flour in addition to the wheat flour. Cupcake-type muffins are excluded.	399	A0BB2	Sandwich bread (hamburger roll-type)

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Bread products	18	Plain white sandwich breads / hamburger /hot dog buns	Plain sandwich breads, plain special breads for hamburgers and hot dogs, plain english muffins containing wheat flour and without seeds (special breads for hamburger included in this subcategory can contain sesame seeds). These products can contain broad beans flour and/or soy flour and/or barley flour in addition to the wheat flour. Cupcake-type muffins are excluded.	399	A0BY0	Leavened bread and similar
Bread products	18	Plain white sandwich breads / hamburger /hot dog buns	Plain sandwich breads, plain special breads for hamburgers and hot dogs, plain english muffins containing wheat flour and without seeds (special breads for hamburger included in this subcategory can contain sesame seeds). These products can contain broad beans flour and/or soy flour and/or barley flour in addition to the wheat flour. Cupcake-type muffins are excluded.	399	A00CM	Scones and similar
Bread products	18	Pre-baked breads	Pre-baked breads	405	A004V	Bread and similar products
Bread products	18	Pre-baked breads	Pre-baked breads	405	A0BY0	Leavened bread and similar
Bread products	18	Pre-baked breads	Pre-baked breads	405	A004Y	Wheat bread and rolls, white (refined flour)
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A004V	Bread and similar products

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A004X	Wheat bread and rolls
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A004Y	Wheat bread and rolls, white (refined flour)
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A004Z	Wheat bread and rolls, white with maize
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A005A	Wheat bread and rolls, white with potato
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A005B	Wheat bread and rolls, white with rice

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A005C	Wheat bread and rolls, white with soya
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A005D	Wheat bread and rolls, semi-brown
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A005E	Wheat bread and rolls, brown or wholemeal
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A005F	Rye only bread and rolls
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A005G	Rye bread and rolls, refined flour

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A005H	Rye bread and rolls, wholemeal
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A005J	Pumpernickel
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A005M	Mixed wheat and rye bread and rolls
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A005N	Rye-wheat bread and rolls, refined flour
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A005P	Rye-wheat bread and rolls, wholemeal

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A005Q	Multigrain (not only rye-wheat) bread and rolls
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A005R	Gluten free bread
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A005S	Gluten free bread, white
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A005T	Gluten free bread, brown
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A04KY	Single grain bread and rolls

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex_name
Bread products	18	Pre-packaged breads	Pre-packaged breads made from whole wheat flour and/or cereal flour (rye, barley, buckwheat, etc.), or wheat flour; plain, with or without seed inclusions (sunflower, flax, etc.) and/or dried fruit Includes products without gluten (made from soy flour, rice flour, corn flour, etc.).	406	A0BY0	Leavened bread and similar
Bread products	18	Puffed cakes	Puffed cakes made from rice, corn, spelt, quinoa, buckwheat, cereals; plain, flavored, topped or with filling	288	A004V	Bread and similar products
Bread products	18	Puffed cakes	Puffed cakes made from rice, corn, spelt, quinoa, buckwheat, cereals; plain, flavored, topped or with filling	288	A005Z	Extruded, pressed or puffed bread
Bread products	18	Puffed cakes	Puffed cakes made from rice, corn, spelt, quinoa, buckwheat, cereals; plain, flavored, topped or with filling	288	A005Z	Extruded, pressed or puffed bread
Bread products	18	Puffed cakes	Puffed cakes made from rice, corn, spelt, quinoa, buckwheat, cereals; plain, flavored, topped or with filling	288	A006J	Puffed wheat textured bread
Bread products	18	Puffed cakes	Puffed cakes made from rice, corn, spelt, quinoa, buckwheat, cereals; plain, flavored, topped or with filling	288	A006K	Puffed rice textured bread
Bread products	18	Puffed cakes	Puffed cakes made from rice, corn, spelt, quinoa, buckwheat, cereals; plain, flavored, topped or with filling	288	A006L	Puffed corn textured bread
Bread products	18	Tortilla breads and wraps	Special tortilla breads and wraps	408	A006V	Tortilla
Bread products	18	Unleavened breads	Unleavened breads	396	A006R	Traditional unleavened breads
Bread products	18	Unleavened breads	Unleavened breads	396	A04KZ	Unleavened or flat bread and similar
Bread products	18	Unleavened breads	Unleavened breads	396	A16FV	Flat bread-based pastry
Bread products	18	Unleavened breads	Unleavened breads	396	A006T	Matzo

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Bread products	18	Unleavened breads	Unleavened breads	396	A006X	Roti
Bread products	18	Unleavened breads	Unleavened breads	396	A006Y	Chapati
Bread products	18	Wholemeal_cereal_grains-brioche	Brioche and Viennese bread-type products, milk breads or gâches containing whole wheat flour or with addition of bran/germ/fiber and/or containing at least one cereal flour (apart from wheat, broad beans, soy and barley), with or without seeds. Includes products containing wheat flour with seeds. Includes products without gluten.	114	A00BT	Brioche type products
Bread products	18	Wholemeal_cereal_grains rusks	Rusks containing whole wheat flour or with addition of bran/germ/fiber and/or containing at least one cereal flour (apart from wheat, broad beans, soy and barley), with or without seeds. Includes rusks containing wheat flour with seeds. These products can contain fruit inclusions and/or chocolate chips. Includes products without gluten.	67	A004V	Bread and similar products
Bread products	18	Wholemeal_cereal_grains rusks	Rusks containing whole wheat flour or with addition of bran/germ/fiber and/or containing at least one cereal flour (apart from wheat, broad beans, soy and barley), with or without seeds. Includes rusks containing wheat flour with seeds. These products can contain fruit inclusions and/or chocolate chips. Includes products without gluten.	67	A006P	Rusk, wholemeal

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Bread products	18	Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns	Sandwich breads, special breads for hamburgers and hot dogs, english muffins containing whole wheat flour or with addition of bran/germ/fiber and/or containing at least one cereal flour (apart from wheat, broad beans, soy and barley), with or without seeds. Includes products containing wheat flour with seeds. Includes products without gluten. Cupcake-type muffins and special breads for hamburger containing wheat flour with sesame seeds are excluded.	398	A004V	Bread and similar products
Bread products	18	Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns	Sandwich breads, special breads for hamburgers and hot dogs, english muffins containing whole wheat flour or with addition of bran/germ/fiber and/or containing at least one cereal flour (apart from wheat, broad beans, soy and barley), with or without seeds. Includes products containing wheat flour with seeds. Includes products without gluten. Cupcake-type muffins and special breads for hamburger containing wheat flour with sesame seeds are excluded.	398	A0BB2	Sandwich bread (hamburger roll-type)
Bread products	18	Wholemeal_cereal_grains sandwich breads / hamburger / hot dog buns	Sandwich breads, special breads for hamburgers and hot dogs, english muffins containing whole wheat flour or with addition of bran/germ/fiber and/or containing at least one cereal flour (apart from wheat, broad beans, soy and barley), with or without seeds. Includes products containing wheat flour with seeds. Includes products without gluten. Cupcake-type muffins and special breads for hamburger containing wheat flour with sesame seeds are excluded.	398	A0BY0	Leavened bread and similar

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
Bread products	18	Wholemeal_cereal_grains toasted breads and toasts	Toasted breads and toasts containing whole wheat flour or with addition of bran/germ/fiber and/or containing at least one cereal flour (apart from wheat, broad beans, soy and barley), with or without seeds. Includes products containing wheat flour with seeds. These products can contain fruit inclusions and/or chocolate chips. Includes products without gluten.	403	A004V	Bread and similar products
Bread products	18	Wholemeal_cereal_grains toasted breads and toasts	Toasted breads and toasts containing whole wheat flour or with addition of bran/germ/fiber and/or containing at least one cereal flour (apart from wheat, broad beans, soy and barley), with or without seeds. Includes products containing wheat flour with seeds. These products can contain fruit inclusions and/or chocolate chips. Includes products without gluten.	403	A0BY0	Leavened bread and similar
Bread products	18	Wholemeal_cereal_grains toasted breads and toasts	Toasted breads and toasts containing whole wheat flour or with addition of bran/germ/fiber and/or containing at least one cereal flour (apart from wheat, broad beans, soy and barley), with or without seeds. Includes products containing wheat flour with seeds. These products can contain fruit inclusions and/or chocolate chips. Includes products without gluten.	403	A005L	Multigrain bread and rolls

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Cereal flakes with chocolate_nuts	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated with chocolate and/or plain with pieces of chocolate or nuts (walnuts, hazelnuts, peanuts, almonds, etc.). These products can contain fruits.</p> <p>Example: Rice and wheat flakes with chocolate shavings, Whole wheat, rice and barley flakes coated in sugar with dark chocolate shavings, Rice and wheat flakes with hazelnuts and slivered almonds, etc.</p>	681	A04QY	Cereal flakes and similar
Breakfast cereals	1	Cereal flakes with chocolate_nuts	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated with chocolate and/or plain with pieces of chocolate or nuts (walnuts, hazelnuts, peanuts, almonds, etc.). These products can contain fruits.</p> <p>Example: Rice and wheat flakes with chocolate shavings, Whole wheat, rice and barley flakes coated in sugar with dark chocolate shavings, Rice and wheat flakes with hazelnuts and slivered almonds, etc.</p>	681	A00EM	Processed mixed cereal-based flakes
Breakfast cereals	1	Cereal flakes with chocolate_nuts	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated with chocolate and/or plain with pieces of chocolate or nuts (walnuts, hazelnuts, peanuts, almonds, etc.). These products can contain fruits.</p> <p>Example: Rice and wheat flakes with chocolate shavings, Whole wheat, rice and barley flakes coated in sugar with dark chocolate shavings, Rice and wheat flakes with hazelnuts and slivered almonds, etc.</p>	681	A00DA	Processed barley-based flakes

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Cereal flakes with chocolate_nuts	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated with chocolate and/or plain with pieces of chocolate or nuts (walnuts, hazelnuts, peanuts, almonds, etc.). These products can contain fruits.</p> <p>Example: Rice and wheat flakes with chocolate shavings, Whole wheat, rice and barley flakes coated in sugar with dark chocolate shavings, Rice and wheat flakes with hazelnuts and slivered almonds, etc.</p>	681	A00DD	Processed maize-based flakes
Breakfast cereals	1	Cereal flakes with chocolate_nuts	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated with chocolate and/or plain with pieces of chocolate or nuts (walnuts, hazelnuts, peanuts, almonds, etc.). These products can contain fruits.</p> <p>Example: Rice and wheat flakes with chocolate shavings, Whole wheat, rice and barley flakes coated in sugar with dark chocolate shavings, Rice and wheat flakes with hazelnuts and slivered almonds, etc.</p>	681	A00DN	Processed oat-based flakes
Breakfast cereals	1	Cereal flakes with chocolate_nuts	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated with chocolate and/or plain with pieces of chocolate or nuts (walnuts, hazelnuts, peanuts, almonds, etc.). These products can contain fruits.</p> <p>Example: Rice and wheat flakes with chocolate shavings, Whole wheat, rice and barley flakes coated in sugar with dark chocolate shavings, Rice and wheat flakes with hazelnuts and slivered almonds, etc.</p>	681	A00DK	Oat high-bran flakes

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Cereal flakes with chocolate_nuts	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated with chocolate and/or plain with pieces of chocolate or nuts (walnuts, hazelnuts, peanuts, almonds, etc.). These products can contain fruits.</p> <p>Example: Rice and wheat flakes with chocolate shavings, Whole wheat, rice and barley flakes coated in sugar with dark chocolate shavings, Rice and wheat flakes with hazelnuts and slivered almonds, etc.</p>	681	A00EC	Wheat germs rolled flakes
Breakfast cereals	1	Cereal flakes with chocolate_nuts	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated with chocolate and/or plain with pieces of chocolate or nuts (walnuts, hazelnuts, peanuts, almonds, etc.). These products can contain fruits.</p> <p>Example: Rice and wheat flakes with chocolate shavings, Whole wheat, rice and barley flakes coated in sugar with dark chocolate shavings, Rice and wheat flakes with hazelnuts and slivered almonds, etc.</p>	681	A00ED	Wheat bran rolled flakes
Breakfast cereals	1	Cereal flakes with chocolate_nuts	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated with chocolate and/or plain with pieces of chocolate or nuts (walnuts, hazelnuts, peanuts, almonds, etc.). These products can contain fruits.</p> <p>Example: Rice and wheat flakes with chocolate shavings, Whole wheat, rice and barley flakes coated in sugar with dark chocolate shavings, Rice and wheat flakes with hazelnuts and slivered almonds, etc.</p>	681	A00DS	Processed rice-based flakes

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Cereal flakes with chocolate_nuts	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated with chocolate and/or plain with pieces of chocolate or nuts (walnuts, hazelnuts, peanuts, almonds, etc.). These products can contain fruits.</p> <p>Example: Rice and wheat flakes with chocolate shavings, Whole wheat, rice and barley flakes coated in sugar with dark chocolate shavings, Rice and wheat flakes with hazelnuts and slivered almonds, etc.</p>	681	A00DY	Processed rye-based flakes
Breakfast cereals	1	Cereal flakes with chocolate_nuts	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated with chocolate and/or plain with pieces of chocolate or nuts (walnuts, hazelnuts, peanuts, almonds, etc.). These products can contain fruits.</p> <p>Example: Rice and wheat flakes with chocolate shavings, Whole wheat, rice and barley flakes coated in sugar with dark chocolate shavings, Rice and wheat flakes with hazelnuts and slivered almonds, etc.</p>	681	A00EF	Processed wheat-based flakes
Breakfast cereals	1	Cereal flakes with chocolate_nuts	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated with chocolate and/or plain with pieces of chocolate or nuts (walnuts, hazelnuts, peanuts, almonds, etc.). These products can contain fruits.</p> <p>Example: Rice and wheat flakes with chocolate shavings, Whole wheat, rice and barley flakes coated in sugar with dark chocolate shavings, Rice and wheat flakes with hazelnuts and slivered almonds, etc.</p>	681	A0F4Q	Extruded breakfast cereal products

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
Breakfast cereals	1	Cereal flakes with fruit	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated or plain with pieces of fruit. These products do not contain chocolate and/or cocoa.</p> <p>Flakes with more than 6g of fibre/100g are included in the "High-fibre fruit cereals" subcategory.</p> <p>Examples: Rice and wheat flakes with pieces of red fruit, Whole wheat, rice and barley flakes with fruit, Rice and spelt flakes with mixed red fruit, etc.</p>	683	A00EM	Processed mixed cereal-based flakes
Breakfast cereals	1	Cereal flakes with fruit	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated or plain with pieces of fruit. These products do not contain chocolate and/or cocoa.</p> <p>Flakes with more than 6g of fibre/100g are included in the "High-fibre fruit cereals" subcategory.</p> <p>Examples: Rice and wheat flakes with pieces of red fruit, Whole wheat, rice and barley flakes with fruit, Rice and spelt flakes with mixed red fruit, etc.</p>	683	A00DA	Processed barley-based flakes
Breakfast cereals	1	Cereal flakes with fruit	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated or plain with pieces of fruit. These products do not contain chocolate and/or cocoa.</p> <p>Flakes with more than 6g of fibre/100g are included in the "High-fibre fruit cereals" subcategory.</p> <p>Examples: Rice and wheat flakes with pieces of red fruit, Whole wheat, rice and barley flakes with fruit, Rice and spelt flakes with mixed red fruit, etc.</p>	683	A00DD	Processed maize-based flakes

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Cereal flakes with fruit	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated or plain with pieces of fruit. These products do not contain chocolate and/or cocoa.</p> <p>Flakes with more than 6g of fibre/100g are included in the "High-fibre fruit cereals" subcategory.</p> <p>Examples: Rice and wheat flakes with pieces of red fruit, Whole wheat, rice and barley flakes with fruit, Rice and spelt flakes with mixed red fruit, etc.</p>	683	A00DN	Processed oat-based flakes
Breakfast cereals	1	Cereal flakes with fruit	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated or plain with pieces of fruit. These products do not contain chocolate and/or cocoa.</p> <p>Flakes with more than 6g of fibre/100g are included in the "High-fibre fruit cereals" subcategory.</p> <p>Examples: Rice and wheat flakes with pieces of red fruit, Whole wheat, rice and barley flakes with fruit, Rice and spelt flakes with mixed red fruit, etc.</p>	683	A00DK	Oat high-bran flakes
Breakfast cereals	1	Cereal flakes with fruit	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated or plain with pieces of fruit. These products do not contain chocolate and/or cocoa.</p> <p>Flakes with more than 6g of fibre/100g are included in the "High-fibre fruit cereals" subcategory.</p> <p>Examples: Rice and wheat flakes with pieces of red fruit, Whole wheat, rice and barley flakes with fruit, Rice and spelt flakes with mixed red fruit, etc.</p>	683	A00DS	Processed rice-based flakes

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Cereal flakes with fruit	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated or plain with pieces of fruit. These products do not contain chocolate and/or cocoa.</p> <p>Flakes with more than 6g of fibre/100g are included in the "High-fibre fruit cereals" subcategory.</p> <p>Examples: Rice and wheat flakes with pieces of red fruit, Whole wheat, rice and barley flakes with fruit, Rice and spelt flakes with mixed red fruit, etc.</p>	683	A00DY	Processed rye-based flakes
Breakfast cereals	1	Cereal flakes with fruit	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated or plain with pieces of fruit. These products do not contain chocolate and/or cocoa.</p> <p>Flakes with more than 6g of fibre/100g are included in the "High-fibre fruit cereals" subcategory.</p> <p>Examples: Rice and wheat flakes with pieces of red fruit, Whole wheat, rice and barley flakes with fruit, Rice and spelt flakes with mixed red fruit, etc.</p>	683	A00EF	Processed wheat-based flakes
Breakfast cereals	1	Cereal flakes with fruit	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated or plain with pieces of fruit. These products do not contain chocolate and/or cocoa.</p> <p>Flakes with more than 6g of fibre/100g are included in the "High-fibre fruit cereals" subcategory.</p> <p>Examples: Rice and wheat flakes with pieces of red fruit, Whole wheat, rice and barley flakes with fruit, Rice and spelt flakes with mixed red fruit, etc.</p>	683	A00EC	Wheat germs rolled flakes

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Cereal flakes with fruit	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated or plain with pieces of fruit. These products do not contain chocolate and/or cocoa.</p> <p>Flakes with more than 6g of fibre/100g are included in the "High-fibre fruit cereals" subcategory.</p> <p>Examples: Rice and wheat flakes with pieces of red fruit, Whole wheat, rice and barley flakes with fruit, Rice and spelt flakes with mixed red fruit, etc.</p>	683	A00ED	Wheat bran rolled flakes
Breakfast cereals	1	Cereal flakes with fruit	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated or plain with pieces of fruit. These products do not contain chocolate and/or cocoa.</p> <p>Flakes with more than 6g of fibre/100g are included in the "High-fibre fruit cereals" subcategory.</p> <p>Examples: Rice and wheat flakes with pieces of red fruit, Whole wheat, rice and barley flakes with fruit, Rice and spelt flakes with mixed red fruit, etc.</p>	683	A0F4Q	Extruded breakfast cereal products
Breakfast cereals	1	Cereal flakes with fruit	<p>Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) coated or plain with pieces of fruit. These products do not contain chocolate and/or cocoa.</p> <p>Flakes with more than 6g of fibre/100g are included in the "High-fibre fruit cereals" subcategory.</p> <p>Examples: Rice and wheat flakes with pieces of red fruit, Whole wheat, rice and barley flakes with fruit, Rice and spelt flakes with mixed red fruit, etc.</p>	683	A04QY	Cereal flakes and similar

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A00CV	Breakfast cereals
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A04LH	Breakfast cereals, plain

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A04LJ	Cereal rolled grains
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A00EH	Mixed cereal rolled grains

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A00CY	Barley rolled grains
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A00DF	Millet rolled grains

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A00DH	Oat rolled grains
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A00EA	Spelt rolled grains

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A00EB	Wheat rolled grains
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A00DJ	Rolled oats, instant

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A00DL	Oat rolled grains, wholemeal
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A00DQ	Rice rolled grains

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A00DV	Rye rolled grains
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A00EK	Muesli plain

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A00EN	Porridge (in dry form, to be diluted)
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A00EX	Barley porridge

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A00ET	Cornmeal porridge
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A00EQ	Oat porridge

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A00ER	Rice porridge
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A00ES	Rye porridge

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A00EV	Wheat semolina porridge
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A16GM	Mixed roasted flours for porridge- like food

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A0F0V	Porridge (ready to eat)
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A0F0V	Porridge (ready to eat)

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A0F0T	Porridge milk based (ready to eat)
Breakfast cereals	1	Cereals without added sugar	<p>Cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) without added sugar, caramel, syrup, honey, molasses, glucose, fructose, sucrose, dextrose, or maltodextrins.</p> <p>These products do not contain fruit, dried fruit, nuts or chocolate. This subcategory includes plain porridge mixes without added sugar. Mueslis without added sugar are excluded from this subcategory (they are included in the "Traditional muesli flakes" subcategory).</p> <p>Examples: Oat flakes, 5-cereal flakes, Cornflakes, Buckwheat flakes without added sugar, etc.</p>	739	A0ESM	Porridge water based (ready to eat)

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Chocolate and caramel cereals	Unfilled cereals with caramel and chocolate. They are usually extruded or puffed. Muesli is excluded from this subcategory. For example: Caramel and chocolate cereal mix, Caramel and powdered chocolate puffed cereal, etc.	134	A04LL	Popped cereals
Breakfast cereals	1	Chocolate and caramel cereals	Unfilled cereals with caramel and chocolate. They are usually extruded or puffed. Muesli is excluded from this subcategory. For example: Caramel and chocolate cereal mix, Caramel and powdered chocolate puffed cereal, etc.	134	A00CZ	Barley popped
Breakfast cereals	1	Chocolate and caramel cereals	Unfilled cereals with caramel and chocolate. They are usually extruded or puffed. Muesli is excluded from this subcategory. For example: Caramel and chocolate cereal mix, Caramel and powdered chocolate puffed cereal, etc.	134	A00DM	Oat popped
Breakfast cereals	1	Chocolate and caramel cereals	Unfilled cereals with caramel and chocolate. They are usually extruded or puffed. Muesli is excluded from this subcategory. For example: Caramel and chocolate cereal mix, Caramel and powdered chocolate puffed cereal, etc.	134	A00DR	Rice, popped
Breakfast cereals	1	Chocolate and caramel cereals	Unfilled cereals with caramel and chocolate. They are usually extruded or puffed. Muesli is excluded from this subcategory. For example: Caramel and chocolate cereal mix, Caramel and powdered chocolate puffed cereal, etc.	134	A00DX	Rye popped

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Chocolate and caramel cereals	Unfilled cereals with caramel and chocolate. They are usually extruded or puffed. Muesli is excluded from this subcategory. For example: Caramel and chocolate cereal mix, Caramel and powdered chocolate puffed cereal, etc.	134	A00EE	Wheat, popped
Breakfast cereals	1	Chocolate and caramel cereals	Unfilled cereals with caramel and chocolate. They are usually extruded or puffed. Muesli is excluded from this subcategory. For example: Caramel and chocolate cereal mix, Caramel and powdered chocolate puffed cereal, etc.	134	A0F4Q	Extruded breakfast cereal products
Breakfast cereals	1	Chocolate-flavoured cereals	Cereals with chocolate or cocoa, without filling. They may or may not be mixed with filled cereals (with non-filled cereals in the majority). They are usually extruded or puffed. Chocolate-coated cereal flakes are excluded from this subcategory. Example: Chocolate puffed rice, Chocolate cornflakes, Crispy cocoa cereal rings, etc.	135	A04LL	Popped cereals
Breakfast cereals	1	Chocolate-flavoured cereals	Cereals with chocolate or cocoa, without filling. They may or may not be mixed with filled cereals (with non-filled cereals in the majority). They are usually extruded or puffed. Chocolate-coated cereal flakes are excluded from this subcategory. Example: Chocolate puffed rice, Chocolate cornflakes, Crispy cocoa cereal rings, etc.	135	A00CZ	Barley popped

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Breakfast cereals	1	Chocolate- flavoured cereals	<p>Cereals with chocolate or cocoa, without filling. They may or may not be mixed with filled cereals (with non-filled cereals in the majority). They are usually extruded or puffed.</p> <p>Chocolate-coated cereal flakes are excluded from this subcategory. Example: Chocolate puffed rice, Chocolate cornflakes, Crispy cocoa cereal rings, etc.</p>	135	A00DM	Oat popped
Breakfast cereals	1	Chocolate- flavoured cereals	<p>Cereals with chocolate or cocoa, without filling. They may or may not be mixed with filled cereals (with non-filled cereals in the majority). They are usually extruded or puffed.</p> <p>Chocolate-coated cereal flakes are excluded from this subcategory. Example: Chocolate puffed rice, Chocolate cornflakes, Crispy cocoa cereal rings, etc.</p>	135	A00DR	Rice, popped
Breakfast cereals	1	Chocolate- flavoured cereals	<p>Cereals with chocolate or cocoa, without filling. They may or may not be mixed with filled cereals (with non-filled cereals in the majority). They are usually extruded or puffed.</p> <p>Chocolate-coated cereal flakes are excluded from this subcategory. Example: Chocolate puffed rice, Chocolate cornflakes, Crispy cocoa cereal rings, etc.</p>	135	A00DX	Rye popped
Breakfast cereals	1	Chocolate- flavoured cereals	<p>Cereals with chocolate or cocoa, without filling. They may or may not be mixed with filled cereals (with non-filled cereals in the majority). They are usually extruded or puffed.</p> <p>Chocolate-coated cereal flakes are excluded from this subcategory. Example: Chocolate puffed rice, Chocolate cornflakes, Crispy cocoa cereal rings, etc.</p>	135	A00EE	Wheat, popped

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Chocolate-flavoured cereals	<p>Cereals with chocolate or cocoa, without filling. They may or may not be mixed with filled cereals (with non-filled cereals in the majority). They are usually extruded or puffed.</p> <p>Chocolate-coated cereal flakes are excluded from this subcategory.</p> <p>Example: Chocolate puffed rice, Chocolate cornflakes, Crispy cocoa cereal rings, etc.</p>	135	A0F4Q	Extruded breakfast cereal products
Breakfast cereals	1	Crunchy chocolate muesli	<p>Mixture of cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) in the form of crunchy clusters with chocolate and/or cocoa. May contain fruit and/or nuts.</p> <p>Example: Chocolate caramel muesli, Granola with figs and chocolate, Crunchy muesli with chocolate pieces and hazelnuts, etc.</p>	678	A00EJ	Muesli and similar mixed breakfast cereals
Breakfast cereals	1	Crunchy chocolate muesli	<p>Mixture of cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) in the form of crunchy clusters with chocolate and/or cocoa. May contain fruit and/or nuts.</p> <p>Example: Chocolate caramel muesli, Granola with figs and chocolate, Crunchy muesli with chocolate pieces and hazelnuts, etc.</p>	678	A00EL	Mixed breakfast cereals
Breakfast cereals	1	Crunchy fruit muesli	<p>Mixture of cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) in the form of crunchy clusters with fruit. May contain nuts and/or seeds but not chocolate and/or cocoa.</p> <p>Example: Crunchy muesli with dried fruits, Crunchy apple banana and raisin clusters, Red fruit granola, Crunchy cereal mix with almonds and strawberries, etc.</p>	679	A00EJ	Muesli and similar mixed breakfast cereals

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Crunchy fruit muesli	Mixture of cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) in the form of crunchy clusters with fruit. May contain nuts and/or seeds but not chocolate and/or cocoa. Example: Crunchy muesli with dried fruits, Crunchy apple banana and raisin clusters, Red fruit granola, Crunchy cereal mix with almonds and strawberries, etc.	679	A00EL	Mixed breakfast cereals
Breakfast cereals	1	Crunchy muesli with nuts_seeds	Mixture of cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) in the form of plain crunchy clusters or with only honey/maple syrup or with only nuts (walnuts, hazelnuts, peanuts, almonds, etc.) or seeds. These products do not contain fruit, chocolate and/or cocoa. Example: Crunchy nut muesli, Crunchy flax and pumpkin seed muesli, Crunchy plain muesli, Hazelnut almond and pecan muesli, etc.	680	A00EJ	Muesli and similar mixed breakfast cereals
Breakfast cereals	1	Crunchy muesli with nuts_seeds	Mixture of cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) in the form of plain crunchy clusters or with only honey/maple syrup or with only nuts (walnuts, hazelnuts, peanuts, almonds, etc.) or seeds. These products do not contain fruit, chocolate and/or cocoa. Example: Crunchy nut muesli, Crunchy flax and pumpkin seed muesli, Crunchy plain muesli, Hazelnut almond and pecan muesli, etc.	680	A00EL	Mixed breakfast cereals

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Crunchy muesli with nuts_seeds	Mixture of cereals (oat, wheat, rice, spelt, corn, buckwheat, etc.) in the form of plain crunchy clusters or with only honey/maple syrup or with only nuts (walnuts, hazelnuts, peanuts, almonds, etc.) or seeds. These products do not contain fruit, chocolate and/or cocoa. Example: Crunchy nut muesli, Crunchy flax and pumpkin seed muesli, Crunchy plain muesli, Hazelnut almond and pecan muesli, etc.	680	A00EK	Muesli plain
Breakfast cereals	1	Filled cereals	Cereals filled with chocolate, milk, hazelnut, caramel, vanilla, etc. They may be mixed with unfilled cereals (with filled cereals in the majority). Example: Cereals with milk filling, Cereals with vanilla filling, Cereals with chocolate filling, etc.	138	A0F4Q	Extruded breakfast cereal products
Breakfast cereals	1	High-fibre cereals	Unfilled cereals with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel, chocolate, fruit or nuts. This subcategory includes cereal cake products that may contain chocolate. Cereal flakes without added sugar and muesli (crunchy and flaky) are excluded from this subcategory. Examples: Nature and fibre, Cereals with wheat bran naturally high in fibre, Wheat bran sticks, etc.	143	A00CV	Breakfast cereals

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Breakfast cereals	1	High-fibre cereals	Unfilled cereals with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel, chocolate, fruit or nuts. This subcategory includes cereal cake products that may contain chocolate. Cereal flakes without added sugar and muesli (crunchy and flaky) are excluded from this subcategory. Examples: Nature and fibre, Cereals with wheat bran naturally high in fibre, Wheat bran sticks, etc.	143	A04LH	Breakfast cereals, plain
Breakfast cereals	1	High-fibre cereals	Unfilled cereals with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel, chocolate, fruit or nuts. This subcategory includes cereal cake products that may contain chocolate. Cereal flakes without added sugar and muesli (crunchy and flaky) are excluded from this subcategory. Examples: Nature and fibre, Cereals with wheat bran naturally high in fibre, Wheat bran sticks, etc.	143	A00EM	Processed mixed cereal-based flakes
Breakfast cereals	1	High-fibre cereals	Unfilled cereals with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel, chocolate, fruit or nuts. This subcategory includes cereal cake products that may contain chocolate. Cereal flakes without added sugar and muesli (crunchy and flaky) are excluded from this subcategory. Examples: Nature and fibre, Cereals with wheat bran naturally high in fibre, Wheat bran sticks, etc.	143	A00DA	Processed barley- based flakes

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Breakfast cereals	1	High-fibre cereals	Unfilled cereals with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel, chocolate, fruit or nuts. This subcategory includes cereal cake products that may contain chocolate. Cereal flakes without added sugar and muesli (crunchy and flaky) are excluded from this subcategory. Examples: Nature and fibre, Cereals with wheat bran naturally high in fibre, Wheat bran sticks, etc.	143	A00DD	Processed maize-based flakes
Breakfast cereals	1	High-fibre cereals	Unfilled cereals with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel, chocolate, fruit or nuts. This subcategory includes cereal cake products that may contain chocolate. Cereal flakes without added sugar and muesli (crunchy and flaky) are excluded from this subcategory. Examples: Nature and fibre, Cereals with wheat bran naturally high in fibre, Wheat bran sticks, etc.	143	A00DN	Processed oat-based flakes
Breakfast cereals	1	High-fibre cereals	Unfilled cereals with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel, chocolate, fruit or nuts. This subcategory includes cereal cake products that may contain chocolate. Cereal flakes without added sugar and muesli (crunchy and flaky) are excluded from this subcategory. Examples: Nature and fibre, Cereals with wheat bran naturally high in fibre, Wheat bran sticks, etc.	143	A00DK	Oat high-bran flakes

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Breakfast cereals	1	High-fibre cereals	Unfilled cereals with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel, chocolate, fruit or nuts. This subcategory includes cereal cake products that may contain chocolate. Cereal flakes without added sugar and muesli (crunchy and flaky) are excluded from this subcategory. Examples: Nature and fibre, Cereals with wheat bran naturally high in fibre, Wheat bran sticks, etc.	143	A00DS	Processed rice-based flakes
Breakfast cereals	1	High-fibre cereals	Unfilled cereals with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel, chocolate, fruit or nuts. This subcategory includes cereal cake products that may contain chocolate. Cereal flakes without added sugar and muesli (crunchy and flaky) are excluded from this subcategory. Examples: Nature and fibre, Cereals with wheat bran naturally high in fibre, Wheat bran sticks, etc.	143	A00DY	Processed rye-based flakes
Breakfast cereals	1	High-fibre cereals	Unfilled cereals with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel, chocolate, fruit or nuts. This subcategory includes cereal cake products that may contain chocolate. Cereal flakes without added sugar and muesli (crunchy and flaky) are excluded from this subcategory. Examples: Nature and fibre, Cereals with wheat bran naturally high in fibre, Wheat bran sticks, etc.	143	A00EF	Processed wheat-based flakes

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Breakfast cereals	1	High-fibre cereals	Unfilled cereals with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel, chocolate, fruit or nuts. This subcategory includes cereal cake products that may contain chocolate. Cereal flakes without added sugar and muesli (crunchy and flaky) are excluded from this subcategory. Examples: Nature and fibre, Cereals with wheat bran naturally high in fibre, Wheat bran sticks, etc.	143	A00EC	Wheat germs rolled flakes
Breakfast cereals	1	High-fibre cereals	Unfilled cereals with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel, chocolate, fruit or nuts. This subcategory includes cereal cake products that may contain chocolate. Cereal flakes without added sugar and muesli (crunchy and flaky) are excluded from this subcategory. Examples: Nature and fibre, Cereals with wheat bran naturally high in fibre, Wheat bran sticks, etc.	143	A00ED	Wheat bran rolled flakes
Breakfast cereals	1	High-fibre cereals	Unfilled cereals with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel, chocolate, fruit or nuts. This subcategory includes cereal cake products that may contain chocolate. Cereal flakes without added sugar and muesli (crunchy and flaky) are excluded from this subcategory. Examples: Nature and fibre, Cereals with wheat bran naturally high in fibre, Wheat bran sticks, etc.	143	A0F4Q	Extruded breakfast cereal products

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	High-fibre cereals	<p>Unfilled cereals with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel, chocolate, fruit or nuts. This subcategory includes cereal cake products that may contain chocolate.</p> <p>Cereal flakes without added sugar and muesli (crunchy and flaky) are excluded from this subcategory.</p> <p>Examples: Nature and fibre, Cereals with wheat bran naturally high in fibre, Wheat bran sticks, etc.</p>	143	A04QY	Cereal flakes and similar
Breakfast cereals	1	High-fibre fruit cereals	<p>Unfilled cereals accompanied by fruit and with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel or chocolate but may contain nuts.</p> <p>Cereal flakes without added sugar and muesli (crunchy and flaky) with fruit are excluded from this subcategory.</p> <p>Examples: Fruit and fibre, Whole wheat flakes with fruit, etc.</p>	676	A00EM	Processed mixed cereal-based flakes
Breakfast cereals	1	High-fibre fruit cereals	<p>Unfilled cereals accompanied by fruit and with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel or chocolate but may contain nuts.</p> <p>Cereal flakes without added sugar and muesli (crunchy and flaky) with fruit are excluded from this subcategory.</p> <p>Examples: Fruit and fibre, Whole wheat flakes with fruit, etc.</p>	676	A00DA	Processed barley-based flakes

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	High-fibre fruit cereals	<p>Unfilled cereals accompanied by fruit and with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel or chocolate but may contain nuts.</p> <p>Cereal flakes without added sugar and muesli (crunchy and flaky) with fruit are excluded from this subcategory.</p> <p>Examples: Fruit and fibre, Whole wheat flakes with fruit, etc.</p>	676	A00DD	Processed maize-based flakes
Breakfast cereals	1	High-fibre fruit cereals	<p>Unfilled cereals accompanied by fruit and with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel or chocolate but may contain nuts.</p> <p>Cereal flakes without added sugar and muesli (crunchy and flaky) with fruit are excluded from this subcategory.</p> <p>Examples: Fruit and fibre, Whole wheat flakes with fruit, etc.</p>	676	A00DN	Processed oat-based flakes
Breakfast cereals	1	High-fibre fruit cereals	<p>Unfilled cereals accompanied by fruit and with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel or chocolate but may contain nuts.</p> <p>Cereal flakes without added sugar and muesli (crunchy and flaky) with fruit are excluded from this subcategory.</p> <p>Examples: Fruit and fibre, Whole wheat flakes with fruit, etc.</p>	676	A00DK	Oat high-bran flakes

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	High-fibre fruit cereals	<p>Unfilled cereals accompanied by fruit and with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel or chocolate but may contain nuts.</p> <p>Cereal flakes without added sugar and muesli (crunchy and flaky) with fruit are excluded from this subcategory.</p> <p>Examples: Fruit and fibre, Whole wheat flakes with fruit, etc.</p>	676	A00DS	Processed rice-based flakes
Breakfast cereals	1	High-fibre fruit cereals	<p>Unfilled cereals accompanied by fruit and with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel or chocolate but may contain nuts.</p> <p>Cereal flakes without added sugar and muesli (crunchy and flaky) with fruit are excluded from this subcategory.</p> <p>Examples: Fruit and fibre, Whole wheat flakes with fruit, etc.</p>	676	A00DY	Processed rye-based flakes
Breakfast cereals	1	High-fibre fruit cereals	<p>Unfilled cereals accompanied by fruit and with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel or chocolate but may contain nuts.</p> <p>Cereal flakes without added sugar and muesli (crunchy and flaky) with fruit are excluded from this subcategory.</p> <p>Examples: Fruit and fibre, Whole wheat flakes with fruit, etc.</p>	676	A00EF	Processed wheat-based flakes

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	High-fibre fruit cereals	<p>Unfilled cereals accompanied by fruit and with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel or chocolate but may contain nuts.</p> <p>Cereal flakes without added sugar and muesli (crunchy and flaky) with fruit are excluded from this subcategory.</p> <p>Examples: Fruit and fibre, Whole wheat flakes with fruit, etc.</p>	676	A00EC	Wheat germs rolled flakes
Breakfast cereals	1	High-fibre fruit cereals	<p>Unfilled cereals accompanied by fruit and with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel or chocolate but may contain nuts.</p> <p>Cereal flakes without added sugar and muesli (crunchy and flaky) with fruit are excluded from this subcategory.</p> <p>Examples: Fruit and fibre, Whole wheat flakes with fruit, etc.</p>	676	A00ED	Wheat bran rolled flakes
Breakfast cereals	1	High-fibre fruit cereals	<p>Unfilled cereals accompanied by fruit and with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel or chocolate but may contain nuts.</p> <p>Cereal flakes without added sugar and muesli (crunchy and flaky) with fruit are excluded from this subcategory.</p> <p>Examples: Fruit and fibre, Whole wheat flakes with fruit, etc.</p>	676	A0F4Q	Extruded breakfast cereal products

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	High-fibre fruit cereals	<p>Unfilled cereals accompanied by fruit and with a fibre content greater than or equal to 6g per 100g of product. These products do not contain honey, caramel or chocolate but may contain nuts.</p> <p>Cereal flakes without added sugar and muesli (crunchy and flaky) with fruit are excluded from this subcategory.</p> <p>Examples: Fruit and fibre, Whole wheat flakes with fruit, etc.</p>	676	A04QY	Cereal flakes and similar
Breakfast cereals	1	Honey/caramel cereals	<p>Cereals coated with honey, caramel or any other sweetening ingredient (sugar, cane sugar, sugar syrup, glucose syrup, agave syrup, rice syrup). These are neither chocolate nor filled products. May contain nuts. Sweet puffed cereals like Rice Krispies are included in this subcategory. Muesli and cereal flakes are excluded from this subcategory.</p> <p>Example: Puffed wheat with honey, Corn balls with honey, Puffed rice with agave syrup, Caramel-coated puffed wheat, Cereal rings with a fruity taste, etc.</p>	142	A00CV	Breakfast cereals
Breakfast cereals	1	Honey/caramel cereals	<p>Cereals coated with honey, caramel or any other sweetening ingredient (sugar, cane sugar, sugar syrup, glucose syrup, agave syrup, rice syrup). These are neither chocolate nor filled products. May contain nuts. Sweet puffed cereals like Rice Krispies are included in this subcategory. Muesli and cereal flakes are excluded from this subcategory.</p> <p>Example: Puffed wheat with honey, Corn balls with honey, Puffed rice with agave syrup, Caramel-coated puffed wheat, Cereal rings with a fruity taste, etc.</p>	142	A04LL	Popped cereals

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Breakfast cereals	1	Honey/caramel cereals	Cereals coated with honey, caramel or any other sweetening ingredient (sugar, cane sugar, sugar syrup, glucose syrup, agave syrup, rice syrup). These are neither chocolate nor filled products. May contain nuts. Sweet puffed cereals like Rice Krispies are included in this subcategory. Muesli and cereal flakes are excluded from this subcategory. Example: Puffed wheat with honey, Corn balls with honey, Puffed rice with agave syrup, Caramel-coated puffed wheat, Cereal rings with a fruity taste, etc.	142	A00CZ	Barley popped
Breakfast cereals	1	Honey/caramel cereals	Cereals coated with honey, caramel or any other sweetening ingredient (sugar, cane sugar, sugar syrup, glucose syrup, agave syrup, rice syrup). These are neither chocolate nor filled products. May contain nuts. Sweet puffed cereals like Rice Krispies are included in this subcategory. Muesli and cereal flakes are excluded from this subcategory. Example: Puffed wheat with honey, Corn balls with honey, Puffed rice with agave syrup, Caramel-coated puffed wheat, Cereal rings with a fruity taste, etc.	142	A00DM	Oat popped

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Breakfast cereals	1	Honey/caramel cereals	Cereals coated with honey, caramel or any other sweetening ingredient (sugar, cane sugar, sugar syrup, glucose syrup, agave syrup, rice syrup). These are neither chocolate nor filled products. May contain nuts. Sweet puffed cereals like Rice Krispies are included in this subcategory. Muesli and cereal flakes are excluded from this subcategory. Example: Puffed wheat with honey, Corn balls with honey, Puffed rice with agave syrup, Caramel-coated puffed wheat, Cereal rings with a fruity taste, etc.	142	A00DR	Rice, popped
Breakfast cereals	1	Honey/caramel cereals	Cereals coated with honey, caramel or any other sweetening ingredient (sugar, cane sugar, sugar syrup, glucose syrup, agave syrup, rice syrup). These are neither chocolate nor filled products. May contain nuts. Sweet puffed cereals like Rice Krispies are included in this subcategory. Muesli and cereal flakes are excluded from this subcategory. Example: Puffed wheat with honey, Corn balls with honey, Puffed rice with agave syrup, Caramel-coated puffed wheat, Cereal rings with a fruity taste, etc.	142	A00DX	Rye popped

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Honey/caramel cereals	Cereals coated with honey, caramel or any other sweetening ingredient (sugar, cane sugar, sugar syrup, glucose syrup, agave syrup, rice syrup). These are neither chocolate nor filled products. May contain nuts. Sweet puffed cereals like Rice Krispies are included in this subcategory. Muesli and cereal flakes are excluded from this subcategory. Example: Puffed wheat with honey, Corn balls with honey, Puffed rice with agave syrup, Caramel-coated puffed wheat, Cereal rings with a fruity taste, etc.	142	A00EE	Wheat, popped
Breakfast cereals	1	Honey/caramel cereals	Cereals coated with honey, caramel or any other sweetening ingredient (sugar, cane sugar, sugar syrup, glucose syrup, agave syrup, rice syrup). These are neither chocolate nor filled products. May contain nuts. Sweet puffed cereals like Rice Krispies are included in this subcategory. Muesli and cereal flakes are excluded from this subcategory. Example: Puffed wheat with honey, Corn balls with honey, Puffed rice with agave syrup, Caramel-coated puffed wheat, Cereal rings with a fruity taste, etc.	142	A0F4Q	Extruded breakfast cereal products
Breakfast cereals	1	Other ready-to-eat cereals	Other ready-to-eat cereals Examples : keto granola (granola without cereals), porridge with vegetables, etc.	17	A0F0V	Porridge (ready to eat)
Breakfast cereals	1	Other ready-to-eat cereals	Other ready-to-eat cereals Examples : keto granola (granola without cereals), porridge with vegetables, etc.	17	A0F0T	Porridge milk based (ready to eat)
Breakfast cereals	1	Other ready-to-eat cereals	Other ready-to-eat cereals Examples : keto granola (granola without cereals), porridge with vegetables, etc.	17	A0ESM	Porridge water based (ready to eat)

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Breakfast cereals	1	Sweet cereal flakes	Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with which contains sugar, honey or maple syrup but without pieces of chocolate, fruit or nuts. These products may be coated, frosted, sweetened, etc. Sweet cereal flakes coated with milk are included in this subcategory. Flakes with more than 6g of fibre/100g are included in the "High-fibre cereals" subcategory. Example: Sugar-frosted cornflakes, Maple syrup cornflakes, Plain cornflakes, Plain buckwheat flakes, etc.	745	A00CV	Breakfast cereals
Breakfast cereals	1	Sweet cereal flakes	Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with which contains sugar, honey or maple syrup but without pieces of chocolate, fruit or nuts. These products may be coated, frosted, sweetened, etc. Sweet cereal flakes coated with milk are included in this subcategory. Flakes with more than 6g of fibre/100g are included in the "High-fibre cereals" subcategory. Example: Sugar-frosted cornflakes, Maple syrup cornflakes, Plain cornflakes, Plain buckwheat flakes, etc.	745	A04QY	Cereal flakes and similar

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Breakfast cereals	1	Sweet cereal flakes	Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with which contains sugar, honey or maple syrup but without pieces of chocolate, fruit or nuts. These products may be coated, frosted, sweetened, etc. Sweet cereal flakes coated with milk are included in this subcategory. Flakes with more than 6g of fibre/100g are included in the "High-fibre cereals" subcategory. Example: Sugar-frosted cornflakes, Maple syrup cornflakes, Plain cornflakes, Plain buckwheat flakes, etc.	745	A00EM	Processed mixed cereal-based flakes
Breakfast cereals	1	Sweet cereal flakes	Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with which contains sugar, honey or maple syrup but without pieces of chocolate, fruit or nuts. These products may be coated, frosted, sweetened, etc. Sweet cereal flakes coated with milk are included in this subcategory. Flakes with more than 6g of fibre/100g are included in the "High-fibre cereals" subcategory. Example: Sugar-frosted cornflakes, Maple syrup cornflakes, Plain cornflakes, Plain buckwheat flakes, etc.	745	A00DA	Processed barley- based flakes

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Breakfast cereals	1	Sweet cereal flakes	Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with which contains sugar, honey or maple syrup but without pieces of chocolate, fruit or nuts. These products may be coated, frosted, sweetened, etc. Sweet cereal flakes coated with milk are included in this subcategory. Flakes with more than 6g of fibre/100g are included in the "High-fibre cereals" subcategory. Example: Sugar-frosted cornflakes, Maple syrup cornflakes, Plain cornflakes, Plain buckwheat flakes, etc.	745	A00DD	Processed maize-based flakes
Breakfast cereals	1	Sweet cereal flakes	Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with which contains sugar, honey or maple syrup but without pieces of chocolate, fruit or nuts. These products may be coated, frosted, sweetened, etc. Sweet cereal flakes coated with milk are included in this subcategory. Flakes with more than 6g of fibre/100g are included in the "High-fibre cereals" subcategory. Example: Sugar-frosted cornflakes, Maple syrup cornflakes, Plain cornflakes, Plain buckwheat flakes, etc.	745	A00DN	Processed oat-based flakes

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Breakfast cereals	1	Sweet cereal flakes	Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with which contains sugar, honey or maple syrup but without pieces of chocolate, fruit or nuts. These products may be coated, frosted, sweetened, etc. Sweet cereal flakes coated with milk are included in this subcategory. Flakes with more than 6g of fibre/100g are included in the "High-fibre cereals" subcategory. Example: Sugar-frosted cornflakes, Maple syrup cornflakes, Plain cornflakes, Plain buckwheat flakes, etc.	745	A00DS	Processed rice- based flakes
Breakfast cereals	1	Sweet cereal flakes	Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with which contains sugar, honey or maple syrup but without pieces of chocolate, fruit or nuts. These products may be coated, frosted, sweetened, etc. Sweet cereal flakes coated with milk are included in this subcategory. Flakes with more than 6g of fibre/100g are included in the "High-fibre cereals" subcategory. Example: Sugar-frosted cornflakes, Maple syrup cornflakes, Plain cornflakes, Plain buckwheat flakes, etc.	745	A00DY	Processed rye- based flakes

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Breakfast cereals	1	Sweet cereal flakes	Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with which contains sugar, honey or maple syrup but without pieces of chocolate, fruit or nuts. These products may be coated, frosted, sweetened, etc. Sweet cereal flakes coated with milk are included in this subcategory. Flakes with more than 6g of fibre/100g are included in the "High-fibre cereals" subcategory. Example: Sugar-frosted cornflakes, Maple syrup cornflakes, Plain cornflakes, Plain buckwheat flakes, etc.	745	A00EF	Processed wheat-based flakes
Breakfast cereals	1	Sweet cereal flakes	Cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with which contains sugar, honey or maple syrup but without pieces of chocolate, fruit or nuts. These products may be coated, frosted, sweetened, etc. Sweet cereal flakes coated with milk are included in this subcategory. Flakes with more than 6g of fibre/100g are included in the "High-fibre cereals" subcategory. Example: Sugar-frosted cornflakes, Maple syrup cornflakes, Plain cornflakes, Plain buckwheat flakes, etc.	745	A0F4Q	Extruded breakfast cereal products
Breakfast cereals	1	Cereal preparation to drink	Contains cereal-based products to be reconstituted and whose commercial name or legal name suggests consumption as a beverage. These products contain cereals in powdered, ground form. Conventional porridge mixes are not included in this subcategory. Example: Drinking porridge (porridge in powder form), etc.	796	A00EN	Porridge (in dry form, to be diluted)

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Cereal preparation to drink	Contains cereal-based products to be reconstituted and whose commercial name or legal name suggests consumption as a beverage. These products contain cereals in powdered, ground form. Conventional porridge mixes are not included in this subcategory. Example: Drinking porridge (porridge in powder form), etc.	796	A00EQ	Oat porridge
Breakfast cereals	1	Cereal preparation to drink	Contains cereal-based products to be reconstituted and whose commercial name or legal name suggests consumption as a beverage. These products contain cereals in powdered, ground form. Conventional porridge mixes are not included in this subcategory. Example: Drinking porridge (porridge in powder form), etc.	796	A00ER	Rice porridge
Breakfast cereals	1	Cereal preparation to drink	Contains cereal-based products to be reconstituted and whose commercial name or legal name suggests consumption as a beverage. These products contain cereals in powdered, ground form. Conventional porridge mixes are not included in this subcategory. Example: Drinking porridge (porridge in powder form), etc.	796	A00ES	Rye porridge
Breakfast cereals	1	Cereal preparation to drink	Contains cereal-based products to be reconstituted and whose commercial name or legal name suggests consumption as a beverage. These products contain cereals in powdered, ground form. Conventional porridge mixes are not included in this subcategory. Example: Drinking porridge (porridge in powder form), etc.	796	A00ET	Cornmeal porridge

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Breakfast cereals	1	Cereal preparation to drink	Contains cereal-based products to be reconstituted and whose commercial name or legal name suggests consumption as a beverage. These products contain cereals in powdered, ground form. Conventional porridge mixes are not included in this subcategory. Example: Drinking porridge (porridge in powder form), etc.	796	A00EV	Wheat semolina porridge
Breakfast cereals	1	Cereal preparation to drink	Contains cereal-based products to be reconstituted and whose commercial name or legal name suggests consumption as a beverage. These products contain cereals in powdered, ground form. Conventional porridge mixes are not included in this subcategory. Example: Drinking porridge (porridge in powder form), etc.	796	A00EX	Barley porridge
Breakfast cereals	1	Cereal preparation to drink	Contains cereal-based products to be reconstituted and whose commercial name or legal name suggests consumption as a beverage. These products contain cereals in powdered, ground form. Conventional porridge mixes are not included in this subcategory. Example: Drinking porridge (porridge in powder form), etc.	796	A16GM	Mixed roasted flours for porridge- like food

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Traditional muesli flakes	Mixture of cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with dried fruit, seeds, flakes, added sugar and/or chocolate. This subcategory also includes porridge mixes (plain, with chocolate, fruit or nuts, etc.) except plain porridge mixes without added sugar that are included in the "Cereals without added sugar"(739) subcategory. Example: 7-fruit flaky muesli, Chocolate hazelnut muesli, etc.	386	A00CV	Breakfast cereals
Breakfast cereals	1	Traditional muesli flakes	Mixture of cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with dried fruit, seeds, flakes, added sugar and/or chocolate. This subcategory also includes porridge mixes (plain, with chocolate, fruit or nuts, etc.) except plain porridge mixes without added sugar that are included in the "Cereals without added sugar"(739) subcategory. Example: 7-fruit flaky muesli, Chocolate hazelnut muesli, etc.	386	A04LH	Breakfast cereals, plain
Breakfast cereals	1	Traditional muesli flakes	Mixture of cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with dried fruit, seeds, flakes, added sugar and/or chocolate. This subcategory also includes porridge mixes (plain, with chocolate, fruit or nuts, etc.) except plain porridge mixes without added sugar that are included in the "Cereals without added sugar"(739) subcategory. Example: 7-fruit flaky muesli, Chocolate hazelnut muesli, etc.	386	A00EN	Porridge (in dry form, to be diluted)

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Traditional muesli flakes	Mixture of cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with dried fruit, seeds, flakes, added sugar and/or chocolate. This subcategory also includes porridge mixes (plain, with chocolate, fruit or nuts, etc.) except plain porridge mixes without added sugar that are included in the "Cereals without added sugar"(739) subcategory. Example: 7-fruit flaky muesli, Chocolate hazelnut muesli, etc.	386	A00EX	Barley porridge
Breakfast cereals	1	Traditional muesli flakes	Mixture of cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with dried fruit, seeds, flakes, added sugar and/or chocolate. This subcategory also includes porridge mixes (plain, with chocolate, fruit or nuts, etc.) except plain porridge mixes without added sugar that are included in the "Cereals without added sugar"(739) subcategory. Example: 7-fruit flaky muesli, Chocolate hazelnut muesli, etc.	386	A00ET	Cornmeal porridge
Breakfast cereals	1	Traditional muesli flakes	Mixture of cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with dried fruit, seeds, flakes, added sugar and/or chocolate. This subcategory also includes porridge mixes (plain, with chocolate, fruit or nuts, etc.) except plain porridge mixes without added sugar that are included in the "Cereals without added sugar"(739) subcategory. Example: 7-fruit flaky muesli, Chocolate hazelnut muesli, etc.	386	A00EQ	Oat porridge

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Traditional muesli flakes	Mixture of cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with dried fruit, seeds, flakes, added sugar and/or chocolate. This subcategory also includes porridge mixes (plain, with chocolate, fruit or nuts, etc.) except plain porridge mixes without added sugar that are included in the "Cereals without added sugar"(739) subcategory. Example: 7-fruit flaky muesli, Chocolate hazelnut muesli, etc.	386	A00ER	Rice porridge
Breakfast cereals	1	Traditional muesli flakes	Mixture of cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with dried fruit, seeds, flakes, added sugar and/or chocolate. This subcategory also includes porridge mixes (plain, with chocolate, fruit or nuts, etc.) except plain porridge mixes without added sugar that are included in the "Cereals without added sugar"(739) subcategory. Example: 7-fruit flaky muesli, Chocolate hazelnut muesli, etc.	386	A00ES	Rye porridge
Breakfast cereals	1	Traditional muesli flakes	Mixture of cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with dried fruit, seeds, flakes, added sugar and/or chocolate. This subcategory also includes porridge mixes (plain, with chocolate, fruit or nuts, etc.) except plain porridge mixes without added sugar that are included in the "Cereals without added sugar"(739) subcategory. Example: 7-fruit flaky muesli, Chocolate hazelnut muesli, etc.	386	A00EV	Wheat semolina porridge

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Traditional muesli flakes	Mixture of cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with dried fruit, seeds, flakes, added sugar and/or chocolate. This subcategory also includes porridge mixes (plain, with chocolate, fruit or nuts, etc.) except plain porridge mixes without added sugar that are included in the "Cereals without added sugar"(739) subcategory. Example: 7-fruit flaky muesli, Chocolate hazelnut muesli, etc.	386	A16GM	Mixed roasted flours for porridge-like food
Breakfast cereals	1	Traditional muesli flakes	Mixture of cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with dried fruit, seeds, flakes, added sugar and/or chocolate. This subcategory also includes porridge mixes (plain, with chocolate, fruit or nuts, etc.) except plain porridge mixes without added sugar that are included in the "Cereals without added sugar"(739) subcategory. Example: 7-fruit flaky muesli, Chocolate hazelnut muesli, etc.	386	A0F0V	Porridge (ready to eat)
Breakfast cereals	1	Traditional muesli flakes	Mixture of cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with dried fruit, seeds, flakes, added sugar and/or chocolate. This subcategory also includes porridge mixes (plain, with chocolate, fruit or nuts, etc.) except plain porridge mixes without added sugar that are included in the "Cereals without added sugar"(739) subcategory. Example: 7-fruit flaky muesli, Chocolate hazelnut muesli, etc.	386	A0F0T	Porridge milk based (ready to eat)

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Breakfast cereals	1	Traditional muesli flakes	Mixture of cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with dried fruit, seeds, flakes, added sugar and/or chocolate. This subcategory also includes porridge mixes (plain, with chocolate, fruit or nuts, etc.) except plain porridge mixes without added sugar that are included in the "Cereals without added sugar"(739) subcategory. Example: 7-fruit flaky muesli, Chocolate hazelnut muesli, etc.	386	A0ESM	Porridge water based (ready to eat)
Breakfast cereals	1	Traditional muesli flakes	Mixture of cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with dried fruit, seeds, flakes, added sugar and/or chocolate. This subcategory also includes porridge mixes (plain, with chocolate, fruit or nuts, etc.) except plain porridge mixes without added sugar that are included in the "Cereals without added sugar"(739) subcategory. Example: 7-fruit flaky muesli, Chocolate hazelnut muesli, etc.	386	A00EL	Mixed breakfast cereals
Breakfast cereals	1	Traditional muesli flakes	Mixture of cereal flakes (oat, wheat, rice, spelt, corn, buckwheat, etc.) with dried fruit, seeds, flakes, added sugar and/or chocolate. This subcategory also includes porridge mixes (plain, with chocolate, fruit or nuts, etc.) except plain porridge mixes without added sugar that are included in the "Cereals without added sugar"(739) subcategory. Example: 7-fruit flaky muesli, Chocolate hazelnut muesli, etc.	386	A00EJ	Muesli and similar mixed breakfast cereals
Delicatessen meats and similar	5	Cooked lamb (packaged)	Cooked lamb packaged in trays or packs or canned. Contains similar products reduced in salt.	1	A023Z	Cooked cured (or seasoned) ovine meat

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Other cooked meats (packaged)	Other cooked meats (packaged or canned). Contains similar products reduced in salt.	50	A024B	Canned-tinned meat
Delicatessen meats and similar	5	Other cooked meats (packaged)	Other cooked meats (packaged or canned). Contains similar products reduced in salt.	50	A023V	Corned turkey
Delicatessen meats and similar	5	Other cooked meats (packaged)	Other cooked meats (packaged or canned). Contains similar products reduced in salt.	50	A023M	Corned pork meat, cooked
Delicatessen meats and similar	5	Other cooked meats (packaged)	Other cooked meats (packaged or canned). Contains similar products reduced in salt.	50	A024D	Luncheon spiced ham-type tinned meat
Delicatessen meats and similar	5	Other cooked meats (packaged)	Other cooked meats (packaged or canned). Contains similar products reduced in salt.	50	A024C	Canned meat
Delicatessen meats and similar	5	Cooked beef (packaged)	Cooked beef packaged in trays or packs or canned. Example : corned beef, etc. Contains similar products reduced in salt.	90	A0B9G	Corned beef, cooked
Delicatessen meats and similar	5	Chorizo	Chorizo (sliced or unsliced). Contains similar products reduced in salt.	168	A025C	Chorizo and similar
Delicatessen meats and similar	5	Preserved pork or poultry liver (canned)	Confit of poultry or pork liver. Contains similar products reduced in salt.	177	A026M	Liver based spreadable-textured specialities
Delicatessen meats and similar	5	Preserved pork or poultry liver (canned)	Confit of poultry or pork liver. Contains similar products reduced in salt.	177	A026S	Liver cheese
Delicatessen meats and similar	5	Preserved pork or poultry liver (canned)	Confit of poultry or pork liver. Contains similar products reduced in salt.	177	A026P	Pate, goose liver
Delicatessen meats and similar	5	Preserved pork or poultry liver (canned)	Confit of poultry or pork liver. Contains similar products reduced in salt.	177	A026Q	Pate, chicken liver

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex_name
Delicatessen meats and similar	5	Preserved pork or poultry liver (canned)	Confit of poultry or pork liver. Contains similar products reduced in salt.	177	A026R	Pate, pork liver
Delicatessen meats and similar	5	Preserved pork or poultry liver (canned)	Confit of poultry or pork liver. Contains similar products reduced in salt.	177		
Delicatessen meats and similar	5	Poultry ham and roast (packaged)	Poultry breast or fillet, plain or smoked, golden baked, with herbs, mustard, etc. Poultry roast, poultry breast, cooked poultry meat preparations, in slices or in the form of dice/cube, matchsticks, grated, chopped. Contains similar products reduced in salt.	332	A023T	Cooked turkey meat
Delicatessen meats and similar	5	Poultry ham and roast (packaged)	Poultry breast or fillet, plain or smoked, golden baked, with herbs, mustard, etc. Poultry roast, poultry breast, cooked poultry meat preparations, in slices or in the form of dice/cube, matchsticks, grated, chopped. Contains similar products reduced in salt.	332	A023X	Cooked other poultry meat
Delicatessen meats and similar	5	Cured ham	Dry-cured ham or raw cured ham Contains similar products reduced in salt. Example : Prosciutto, Serrano ham, Iberian ham, Speck, etc.	333	A022T	ham,pork
Delicatessen meats and similar	5	Cured ham	Dry-cured ham or raw cured ham Contains similar products reduced in salt. Example : Prosciutto, Serrano ham, Iberian ham, Speck, etc.	333	A022V	Tiroler, speck
Delicatessen meats and similar	5	Cured ham	Dry-cured ham or raw cured ham Contains similar products reduced in salt. Example : Prosciutto, Serrano ham, Iberian ham, Speck, etc.	333	A04ND	Processed whole meat products
Delicatessen meats and similar	5	Poultry lardons	Lardons or matchsticks made from poultry meat Contains similar products reduced in salt.	342	A0EYN	Preserved/processed fat tissues

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex_name
Delicatessen meats and similar	5	Dry sausage	Dry-cured sausages with or without inclusions (dried fruit, cheese, olives, etc.), salami, danish salami. Does not contain pepperoni and chorizo. Contains similar products reduced in salt.	520	A024Y	Italian-type salami
Delicatessen meats and similar	5	Dry sausage	Dry-cured sausages with or without inclusions (dried fruit, cheese, olives, etc.), salami, danish salami. Does not contain pepperoni and chorizo. Contains similar products reduced in salt.	520	A024Z	Hungarian-type salami
Delicatessen meats and similar	5	Dry sausage	Dry-cured sausages with or without inclusions (dried fruit, cheese, olives, etc.), salami, danish salami. Does not contain pepperoni and chorizo. Contains similar products reduced in salt.	520	A025A	German salami
Delicatessen meats and similar	5	Dry sausage	Dry-cured sausages with or without inclusions (dried fruit, cheese, olives, etc.), salami, danish salami. Does not contain pepperoni and chorizo. Contains similar products reduced in salt.	520	A024X	Salami-type sausage
Delicatessen meats and similar	5	Dried, smoked or cured pork	Dried, smoked or cured pork (coppa, Alsatian Kassler, Corsican Lonzu and other regional specialities of this type). Contains similar products reduced in salt.	628	A04ND	Processed whole meat products
Delicatessen meats and similar	5	Dried, smoked or cured pork	Dried, smoked or cured pork (coppa, Alsatian Kassler, Corsican Lonzu and other regional specialities of this type). Contains similar products reduced in salt.	628	A023J	Spalla cotta
Delicatessen meats and similar	5	Dried, smoked or cured pork	Dried, smoked or cured pork (coppa, Alsatian Kassler, Corsican Lonzu and other regional specialities of this type). Contains similar products reduced in salt.	628	A022P	Pig meat, dried

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex_name
Delicatessen meats and similar	5	Dried, smoked or cured pork	Dried, smoked or cured pork (coppa, Alsatian Kassler, Corsican Lonzu and other regional specialities of this type). Contains similar products reduced in salt.	628	A022S	Cured seasoned pork meat
Delicatessen meats and similar	5	Dried, smoked or cured pork	Dried, smoked or cured pork (coppa, Alsatian Kassler, Corsican Lonzu and other regional specialities of this type). Contains similar products reduced in salt.	628	A023H	Cooked cured (or seasoned) pork meat
Delicatessen meats and similar	5	Dried, smoked or cured pork	Dried, smoked or cured pork (coppa, Alsatian Kassler, Corsican Lonzu and other regional specialities of this type). Contains similar products reduced in salt.	628	A023N	Pastrami, pork
Delicatessen meats and similar	5	Dried, smoked or cured beef	Dried, smoked or cured beef (Bündnerfleisch, bresaola), including halal dry sausages and similar halal products made from beef. Contains similar products reduced in salt.	629	A04ND	Processed whole meat products
Delicatessen meats and similar	5	Dried, smoked or cured beef	Dried, smoked or cured beef (Bündnerfleisch, bresaola), including halal dry sausages and similar halal products made from beef. Contains similar products reduced in salt.	629	A023C	Ham, beef
Delicatessen meats and similar	5	Dried, smoked or cured beef	Dried, smoked or cured beef (Bündnerfleisch, bresaola), including halal dry sausages and similar halal products made from beef. Contains similar products reduced in salt.	629	A023Q	Pastrami, beef
Delicatessen meats and similar	5	Dried, smoked or cured beef	Dried, smoked or cured beef (Bündnerfleisch, bresaola), including halal dry sausages and similar halal products made from beef. Contains similar products reduced in salt.	629	A023P	Cooked cured (or seasoned) bovine meat

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Dried, smoked or cured beef	Dried, smoked or cured beef (Bündnerfleisch, bresaola), including halal dry sausages and similar halal products made from beef. Contains similar products reduced in salt.	629	A023B	Cured seasoned bovine meat
Delicatessen meats and similar	5	Dried, smoked or cured beef	Dried, smoked or cured beef (Bündnerfleisch, bresaola), including halal dry sausages and similar halal products made from beef. Contains similar products reduced in salt.	629	A022M	Bovine meat, dried
Delicatessen meats and similar	5	Boudin, andouille and andouillette	Boudin (white or blood sausage), uncooked andouille and andouillette (chitterling sausage). Contains similar products reduced in salt.	630	A025S	Blood-type sausage
Delicatessen meats and similar	5	Alternative products without animal protein	Alternative products without animal protein (containing tofu, soy, etc.). These products may contain vegetables. Contains similar products reduced in salt.	631	A03TE	Meat imitates
Delicatessen meats and similar	5	Other cured meats	Dried meat other than pork or beef. Veal bacon and poultry bacon are included in this subcategory. Contains similar products reduced in salt.	632	A023G	Cooked cured (or seasoned) meat
Delicatessen meats and similar	5	Other cured meats	Dried meat other than pork or beef. Veal bacon and poultry bacon are included in this subcategory. Contains similar products reduced in salt.	632	A022R	Raw cured (or seasoned) meat
Delicatessen meats and similar	5	Other cured meats	Dried meat other than pork or beef. Veal bacon and poultry bacon are included in this subcategory. Contains similar products reduced in salt.	632	A023E	Cured seasoned poultry meat
Delicatessen meats and similar	5	Other cured meats	Dried meat other than pork or beef. Veal bacon and poultry bacon are included in this subcategory. Contains similar products reduced in salt.	632	A04MP	Mammals or birds dried meat

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Delicatessen meats and similar	5	Other cured meats	Dried meat other than pork or beef. Veal bacon and poultry bacon are included in this subcategory. Contains similar products reduced in salt.	632	A024A	Pastrami, lamb
Delicatessen meats and similar	5	Other cured meats	Dried meat other than pork or beef. Veal bacon and poultry bacon are included in this subcategory. Contains similar products reduced in salt.	632	A022Q	Turkey meat, dried
Delicatessen meats and similar	5	Other cured meats	Dried meat other than pork or beef. Veal bacon and poultry bacon are included in this subcategory. Contains similar products reduced in salt.	632	A023S	Cooked cured (or seasoned) poultry meat
Delicatessen meats and similar	5	Pepperoni	Cured mixture of pork and beef seasoned with paprika or other chili pepper. Contains similar products reduced in salt.	634	A025D	Linguica, sausage
Delicatessen meats and similar	5	Pepperoni	Cured mixture of pork and beef seasoned with paprika or other chili pepper. Contains similar products reduced in salt.	634	A025F	Ripened kolbasz
Delicatessen meats and similar	5	Pepperoni	Cured mixture of pork and beef seasoned with paprika or other chili pepper. Contains similar products reduced in salt.	634	A025B	Pepperoni/paprika-type sausage
Delicatessen meats and similar	5	Pepperoni	Cured mixture of pork and beef seasoned with paprika or other chili pepper. Contains similar products reduced in salt.	634	A025E	Snack sausages (like Cabanos and landjäger)
Delicatessen meats and similar	5	Assortment of delicatessen meats	Assortment of different delicatessen meats with average nutritional values for all the assortment components and consisting of products not belonging to the same families. Contains similar products reduced in salt.	740		
Delicatessen meats and similar	5	Other delicatessen meats based on offal	Other delicatessen meats based on offal : cooked tongue, cooked muzzle, etc. Contains similar products reduced in salt.	741	A025Y	Blood and tongue sausage

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex_name
Delicatessen meats and similar	5	Other delicatessen meats based on offal	Other delicatessen meats based on offal : cooked tongue, cooked muzzle, etc. Contains similar products reduced in salt.	741	A04MQ	Animal offal and other slaughtering products
Delicatessen meats and similar	5	Cooked pork ham and roast (packaged)	Cooked pork ham and roast, plain, smoked, golden baked, with herbs, etc. in slices or in the form of dice/cubes, matchsticks, grated ham, chopped ham. Cooked ham knuckle, all qualities combined Contains similar products reduced in salt.	742	A023K	Cooked pork ham
Delicatessen meats and similar	5	Cooked pork ham and roast (packaged)	Cooked pork ham and roast, plain, smoked, golden baked, with herbs, etc. in slices or in the form of dice/cubes, matchsticks, grated ham, chopped ham. Cooked ham knuckle, all qualities combined Contains similar products reduced in salt.	742	A05QH	Porchetta
Delicatessen meats and similar	5	Pâté	Country-style pâté, with or without mushrooms or herbs. Superior country-style pâté, country terrine, Breton pâté or terrine, with mushrooms or herbs. Pork liver pâté, mousse, terrine or cream, with or without mushrooms and herbs. Pâté or terrine made from game, with or without inclusions (dried fruit, chestnuts, etc.). Pork-based pâté: ham pâté, meat pâté, Ardennes pâté. Pâté or terrine made from poultry (duck, turkey, chicken) or rabbit, with or without inclusions, containing pork. Pork rillettes. Other pork delicatessen specialities similar to rillettes. Chicken, duck or goose rillettes, scratchings (may contain pork). Other poultry-based delicatessen specialities similar to rillettes. Duck mousse of superior quality or not, with or without mushrooms and herbs, regardless of the liver content. Contains similar products reduced in salt.	743	A024E	Tinned bulk sausages

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Pâté	<p>Country-style pâté, with or without mushrooms or herbs. Superior country-style pâté, country terrine, Breton pâté or terrine, with mushrooms or herbs. Pork liver pâté, mousse, terrine or cream, with or without mushrooms and herbs. Pâté or terrine made from game, with or without inclusions (dried fruit, chestnuts, etc.). Pork-based pâté: ham pâté, meat pâté, Ardennes pâté. Pâté or terrine made from poultry (duck, turkey, chicken) or rabbit, with or without inclusions, containing pork. Pork rillettes. Other pork delicatessen specialties similar to rillettes. Chicken, duck or goose rillettes, scratchings (may contain pork). Other poultry-based delicatessen specialties similar to rillettes. Duck mousse of superior quality or not, with or without mushrooms and herbs, regardless of the liver content. Contains similar products reduced in salt.</p>	743	A025K	Spreadable cooked sausages

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Pâté	<p>Country-style pâté, with or without mushrooms or herbs. Superior country-style pâté, country terrine, Breton pâté or terrine, with mushrooms or herbs. Pork liver pâté, mousse, terrine or cream, with or without mushrooms and herbs. Pâté or terrine made from game, with or without inclusions (dried fruit, chestnuts, etc.). Pork-based pâté: ham pâté, meat pâté, Ardennes pâté. Pâté or terrine made from poultry (duck, turkey, chicken) or rabbit, with or without inclusions, containing pork. Pork rillettes. Other pork delicatessen specialties similar to rillettes. Chicken, duck or goose rillettes, scratchings (may contain pork). Other poultry-based delicatessen specialties similar to rillettes. Duck mousse of superior quality or not, with or without mushrooms and herbs, regardless of the liver content. Contains similar products reduced in salt.</p>	743	A025L	Liver-type sausage

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Pâté	<p>Country-style pâté, with or without mushrooms or herbs. Superior country-style pâté, country terrine, Breton pâté or terrine, with mushrooms or herbs. Pork liver pâté, mousse, terrine or cream, with or without mushrooms and herbs. Pâté or terrine made from game, with or without inclusions (dried fruit, chestnuts, etc.). Pork-based pâté: ham pâté, meat pâté, Ardennes pâté. Pâté or terrine made from poultry (duck, turkey, chicken) or rabbit, with or without inclusions, containing pork. Pork rillettes. Other pork delicatessen specialties similar to rillettes. Chicken, duck or goose rillettes, scratchings (may contain pork). Other poultry-based delicatessen specialties similar to rillettes. Duck mousse of superior quality or not, with or without mushrooms and herbs, regardless of the liver content. Contains similar products reduced in salt.</p>	743	A026S	Liver cheese

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Pâté	<p>Country-style pâté, with or without mushrooms or herbs. Superior country-style pâté, country terrine, Breton pâté or terrine, with mushrooms or herbs. Pork liver pâté, mousse, terrine or cream, with or without mushrooms and herbs. Pâté or terrine made from game, with or without inclusions (dried fruit, chestnuts, etc.). Pork-based pâté: ham pâté, meat pâté, Ardennes pâté. Pâté or terrine made from poultry (duck, turkey, chicken) or rabbit, with or without inclusions, containing pork. Pork rillettes. Other pork delicatessen specialties similar to rillettes. Chicken, duck or goose rillettes, scratchings (may contain pork). Other poultry-based delicatessen specialties similar to rillettes. Duck mousse of superior quality or not, with or without mushrooms and herbs, regardless of the liver content. Contains similar products reduced in salt.</p>	743	A025Z	Head cheese

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Pâté	<p>Country-style pâté, with or without mushrooms or herbs. Superior country-style pâté, country terrine, Breton pâté or terrine, with mushrooms or herbs. Pork liver pâté, mousse, terrine or cream, with or without mushrooms and herbs. Pâté or terrine made from game, with or without inclusions (dried fruit, chestnuts, etc.). Pork-based pâté: ham pâté, meat pâté, Ardennes pâté. Pâté or terrine made from poultry (duck, turkey, chicken) or rabbit, with or without inclusions, containing pork. Pork rillettes. Other pork delicatessen specialties similar to rillettes. Chicken, duck or goose rillettes, scratchings (may contain pork). Other poultry-based delicatessen specialties similar to rillettes. Duck mousse of superior quality or not, with or without mushrooms and herbs, regardless of the liver content. Contains similar products reduced in salt.</p>	743	A026J	Meat specialties

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Pâté	<p>Country-style pâté, with or without mushrooms or herbs. Superior country-style pâté, country terrine, Breton pâté or terrine, with mushrooms or herbs. Pork liver pâté, mousse, terrine or cream, with or without mushrooms and herbs. Pâté or terrine made from game, with or without inclusions (dried fruit, chestnuts, etc.). Pork-based pâté: ham pâté, meat pâté, Ardennes pâté. Pâté or terrine made from poultry (duck, turkey, chicken) or rabbit, with or without inclusions, containing pork. Pork rillettes. Other pork delicatessen specialities similar to rillettes. Chicken, duck or goose rillettes, scratchings (may contain pork). Other poultry-based delicatessen specialities similar to rillettes. Duck mousse of superior quality or not, with or without mushrooms and herbs, regardless of the liver content. Contains similar products reduced in salt.</p>	743	A026K	Meat based spreadable-textured specialities

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Pâté	<p>Country-style pâté, with or without mushrooms or herbs. Superior country-style pâté, country terrine, Breton pâté or terrine, with mushrooms or herbs. Pork liver pâté, mousse, terrine or cream, with or without mushrooms and herbs. Pâté or terrine made from game, with or without inclusions (dried fruit, chestnuts, etc.). Pork-based pâté: ham pâté, meat pâté, Ardennes pâté. Pâté or terrine made from poultry (duck, turkey, chicken) or rabbit, with or without inclusions, containing pork. Pork rillettes. Other pork delicatessen specialities similar to rillettes. Chicken, duck or goose rillettes, scratchings (may contain pork). Other poultry-based delicatessen specialities similar to rillettes. Duck mousse of superior quality or not, with or without mushrooms and herbs, regardless of the liver content. Contains similar products reduced in salt.</p>	743	A026M	Liver based spreadable-textured specialities

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Pâté	<p>Country-style pâté, with or without mushrooms or herbs. Superior country-style pâté, country terrine, Breton pâté or terrine, with mushrooms or herbs. Pork liver pâté, mousse, terrine or cream, with or without mushrooms and herbs. Pâté or terrine made from game, with or without inclusions (dried fruit, chestnuts, etc.). Pork-based pâté: ham pâté, meat pâté, Ardennes pâté. Pâté or terrine made from poultry (duck, turkey, chicken) or rabbit, with or without inclusions, containing pork. Pork rillettes. Other pork delicatessen specialties similar to rillettes. Chicken, duck or goose rillettes, scratchings (may contain pork). Other poultry-based delicatessen specialties similar to rillettes. Duck mousse of superior quality or not, with or without mushrooms and herbs, regardless of the liver content. Contains similar products reduced in salt.</p>	743	A026L	Meat spread

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Pâté	<p>Country-style pâté, with or without mushrooms or herbs. Superior country-style pâté, country terrine, Breton pâté or terrine, with mushrooms or herbs. Pork liver pâté, mousse, terrine or cream, with or without mushrooms and herbs. Pâté or terrine made from game, with or without inclusions (dried fruit, chestnuts, etc.). Pork-based pâté: ham pâté, meat pâté, Ardennes pâté. Pâté or terrine made from poultry (duck, turkey, chicken) or rabbit, with or without inclusions, containing pork. Pork rillettes. Other pork delicatessen specialties similar to rillettes. Chicken, duck or goose rillettes, scratchings (may contain pork). Other poultry-based delicatessen specialties similar to rillettes. Duck mousse of superior quality or not, with or without mushrooms and herbs, regardless of the liver content. Contains similar products reduced in salt.</p>	743	A026P	Pate, goose liver

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Pâté	<p>Country-style pâté, with or without mushrooms or herbs. Superior country-style pâté, country terrine, Breton pâté or terrine, with mushrooms or herbs. Pork liver pâté, mousse, terrine or cream, with or without mushrooms and herbs. Pâté or terrine made from game, with or without inclusions (dried fruit, chestnuts, etc.). Pork-based pâté: ham pâté, meat pâté, Ardennes pâté. Pâté or terrine made from poultry (duck, turkey, chicken) or rabbit, with or without inclusions, containing pork. Pork rillettes. Other pork delicatessen specialties similar to rillettes. Chicken, duck or goose rillettes, scratchings (may contain pork). Other poultry-based delicatessen specialties similar to rillettes. Duck mousse of superior quality or not, with or without mushrooms and herbs, regardless of the liver content. Contains similar products reduced in salt.</p>	743	A026Q	Pate, chicken liver

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Pâté	<p>Country-style pâté, with or without mushrooms or herbs. Superior country-style pâté, country terrine, Breton pâté or terrine, with mushrooms or herbs. Pork liver pâté, mousse, terrine or cream, with or without mushrooms and herbs. Pâté or terrine made from game, with or without inclusions (dried fruit, chestnuts, etc.). Pork-based pâté: ham pâté, meat pâté, Ardennes pâté. Pâté or terrine made from poultry (duck, turkey, chicken) or rabbit, with or without inclusions, containing pork. Pork rillettes. Other pork delicatessen specialties similar to rillettes. Chicken, duck or goose rillettes, scratchings (may contain pork). Other poultry-based delicatessen specialties similar to rillettes. Duck mousse of superior quality or not, with or without mushrooms and herbs, regardless of the liver content. Contains similar products reduced in salt.</p>	743	A026R	Pate, pork liver

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Pâté	<p>Country-style pâté, with or without mushrooms or herbs. Superior country-style pâté, country terrine, Breton pâté or terrine, with mushrooms or herbs. Pork liver pâté, mousse, terrine or cream, with or without mushrooms and herbs. Pâté or terrine made from game, with or without inclusions (dried fruit, chestnuts, etc.). Pork-based pâté: ham pâté, meat pâté, Ardennes pâté. Pâté or terrine made from poultry (duck, turkey, chicken) or rabbit, with or without inclusions, containing pork. Pork rillettes. Other pork delicatessen specialties similar to rillettes. Chicken, duck or goose rillettes, scratchings (may contain pork). Other poultry-based delicatessen specialties similar to rillettes. Duck mousse of superior quality or not, with or without mushrooms and herbs, regardless of the liver content. Contains similar products reduced in salt.</p>	743	A026S	Liver cheese

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Pâté	Country-style pâté, with or without mushrooms or herbs. Superior country-style pâté, country terrine, Breton pâté or terrine, with mushrooms or herbs. Pork liver pâté, mousse, terrine or cream, with or without mushrooms and herbs. Pâté or terrine made from game, with or without inclusions (dried fruit, chestnuts, etc.). Pork-based pâté: ham pâté, meat pâté, Ardennes pâté. Pâté or terrine made from poultry (duck, turkey, chicken) or rabbit, with or without inclusions, containing pork. Pork rillettes. Other pork delicatessen specialties similar to rillettes. Chicken, duck or goose rillettes, scratchings (may contain pork). Other poultry-based delicatessen specialties similar to rillettes. Duck mousse of superior quality or not, with or without mushrooms and herbs, regardless of the liver content. Contains similar products reduced in salt.	743	A03XH	Meat terrine
Delicatessen meats and similar	5	Pork belly and bacon (packaged)	Belly, country bacon, pancetta, lardons or matchsticks (allumettes) made from cured pork belly or cuts, slices or matchsticks of pork bacon Contains similar products reduced in salt.	753	A022X	Bacon
Delicatessen meats and similar	5	Pork belly and bacon (packaged)	Belly, country bacon, pancetta, lardons or matchsticks (allumettes) made from cured pork belly or cuts, slices or matchsticks of pork bacon Contains similar products reduced in salt.	753	A022Y	Pancetta
Delicatessen meats and similar	5	Pork belly and bacon (packaged)	Belly, country bacon, pancetta, lardons or matchsticks (allumettes) made from cured pork belly or cuts, slices or matchsticks of pork bacon Contains similar products reduced in salt.	753	A023A	Cured pork fat

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Pork belly and bacon (packaged)	Belly, country bacon, pancetta, lardons or matchsticks (allumettes) made from cured pork belly or cuts, slices or matchsticks of pork bacon Contains similar products reduced in salt.	753	A16EL	Ciccioli and similar
Delicatessen meats and similar	5	Pork belly and bacon (packaged)	Belly, country bacon, pancetta, lardons or matchsticks (allumettes) made from cured pork belly or cuts, slices or matchsticks of pork bacon Contains similar products reduced in salt.	753	A037V	Pork lard
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A024G	Fresh raw sausages

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A024Q	Cured unripened raw sausages
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A024V	Cured ripened raw sausages

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A025J	Cooked sausages (generic)
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A025P	Polish-type cooked sausage

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A025Q	Mortadella-type sausage
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A025R	Bologna-type sausage

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A025V	Cooked salami
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A026F	Beerwurst

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A026G	Bockwurst
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A026H	Cervelat (swiss type)

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A024L	Breakfast-type sausage
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A024M	Chipolata-type sausage

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A024N	Fresh bratwurst
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A024K	Fresh bulk sausages

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A024J	Fresh spiced sausages in casing
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A026E	Cooked bratwurst- type sausage

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A026C	Frankfurter sausage
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A026B	Frankfurt-type sausage

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A025G	Knackwurst-type sausage
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A024R	Mettwurst-type sausage

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A025T	Miscellaneous cooked sausages
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A0EYP	Preserved or partly preserved sausages

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A024F	Sausages
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A025N	Sliceable or firm cooked sausages

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A024S	Teewurst-type sausage
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A024P	Thuringian sausage

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A025X	Weisswurst
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A026D	Wiener sausage

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Delicatessen meats and similar	5	Sausages	All types of sausages. Sausages with smooth homogeneous filling, from pork or other meat (poultry, beef...) like sausages from Alsace, Strasbourg or Frankfurt, cocktail sausages, sausages with cheese inclusions. Saveloys, sausages for slicing with smooth homogeneous filling (roulades), fine Lyon sausages, cooked sausages with garlic, Paris sausages. Mortadella, with or without pistachios. Sausage specialties such as chipolatas, merguez or sausages with Provençal herbs, coarse minced sausages (Morteau, Montbéliard, etc.). Cachir sausages are included in this subcategory. Contains similar products reduced in salt.	795	A026A	Pre-cooked sausages to be cooked before consumption
Fresh dairy products and desserts	3	Artificially- sweetened fresh cheeses	Artificially-sweetened fresh cheeses, quark, skyr and equivalent products such as dairy specialties/dairy desserts based on ferments or fromage blanc/fresh cheese, irrespective of fat content. May contain artificially-sweetened and sugar-sweetened products	708	A02QK	Quark
Fresh dairy products and desserts	3	Artificially- sweetened yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialties/dairy desserts made with ferments or yoghurt, and containing artificial sweeteners regardless of the fat content, with or without sugar. Contains drinkable dairy products with or without ferments.	611	A02NV	Kefir

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex_name
Fresh dairy products and desserts	3	Artificially-sweetened yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, and containing artificial sweeteners regardless of the fat content, with or without sugar. Contains drinkable dairy products with or without ferments.	611	A0C69	Fermented milk products
Fresh dairy products and desserts	3	Artificially-sweetened yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, and containing artificial sweeteners regardless of the fat content, with or without sugar. Contains drinkable dairy products with or without ferments.	611	A02NR	Probiotic milk-like drinks
Fresh dairy products and desserts	3	Artificially-sweetened yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, and containing artificial sweeteners regardless of the fat content, with or without sugar. Contains drinkable dairy products with or without ferments.	611	A02NS	Acidophilus milk
Fresh dairy products and desserts	3	Artificially-sweetened yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, and containing artificial sweeteners regardless of the fat content, with or without sugar. Contains drinkable dairy products with or without ferments.	611	A02NQ	Yoghurt drinks, including sweetened and/or flavoured variants
Fresh dairy products and desserts	3	Artificially-sweetened yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, and containing artificial sweeteners regardless of the fat content, with or without sugar. Contains drinkable dairy products with or without ferments.	611	A02NE	Yoghurt

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex_name
Fresh dairy products and desserts	3	Artificially-sweetened yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, and containing artificial sweeteners regardless of the fat content, with or without sugar. Contains drinkable dairy products with or without ferments.	611	A02NF	Yoghurt, cow milk
Fresh dairy products and desserts	3	Artificially-sweetened yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, and containing artificial sweeteners regardless of the fat content, with or without sugar. Contains drinkable dairy products with or without ferments.	611	A02NG	Yoghurt, cow milk, plain
Fresh dairy products and desserts	3	Artificially-sweetened yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, and containing artificial sweeteners regardless of the fat content, with or without sugar. Contains drinkable dairy products with or without ferments.	611	A02NH	Yoghurt, cow milk, flavoured
Fresh dairy products and desserts	3	Artificially-sweetened yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, and containing artificial sweeteners regardless of the fat content, with or without sugar. Contains drinkable dairy products with or without ferments.	611	A02NJ	Yoghurt, sheep milk
Fresh dairy products and desserts	3	Artificially-sweetened yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, and containing artificial sweeteners regardless of the fat content, with or without sugar. Contains drinkable dairy products with or without ferments.	611	A02NK	Yoghurt, sheep milk, plain

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex_name
Fresh dairy products and desserts	3	Artificially-sweetened yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, and containing artificial sweeteners regardless of the fat content, with or without sugar. Contains drinkable dairy products with or without ferments.	611	A02NL	Yoghurt, sheep milk, flavoured
Fresh dairy products and desserts	3	Artificially-sweetened yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, and containing artificial sweeteners regardless of the fat content, with or without sugar. Contains drinkable dairy products with or without ferments.	611	A02NM	Yoghurt, goat milk
Fresh dairy products and desserts	3	Artificially-sweetened yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, and containing artificial sweeteners regardless of the fat content, with or without sugar. Contains drinkable dairy products with or without ferments.	611	A02NN	Yoghurt, goat milk, plain
Fresh dairy products and desserts	3	Artificially-sweetened yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, and containing artificial sweeteners regardless of the fat content, with or without sugar. Contains drinkable dairy products with or without ferments.	611	A02NP	Yoghurt, goat milk, flavoured
Fresh dairy products and desserts	3	Artificially-sweetened yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, and containing artificial sweeteners regardless of the fat content, with or without sugar. Contains drinkable dairy products with or without ferments.	611	A16GH	Strained yoghurt

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
Fresh dairy products and desserts	3	Classic plain fresh cheeses with no added sugar	Plain and unsweetened fresh cheeses, smooth fromages blancs, faisselles, quark, skyr and equivalent products such as dairy specialities/dairy desserts made with ferments or fromage blanc/fresh cheeses, with a fat content $\leq 3.8\text{g}/100\text{g}$. Do not contain artificial sweetener	249	A02QK	Quark
Fresh dairy products and desserts	3	Classic plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, with a fat content $\leq 3.6\text{g}/100\text{g}$. Do not contain artificial sweetener	612	A0C69	Fermented milk products
Fresh dairy products and desserts	3	Classic plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, with a fat content $\leq 3.6\text{g}/100\text{g}$. Do not contain artificial sweetener	612	A02NR	Probiotic milk-like drinks
Fresh dairy products and desserts	3	Classic plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, with a fat content $\leq 3.6\text{g}/100\text{g}$. Do not contain artificial sweetener	612	A02NS	Acidophilus milk
Fresh dairy products and desserts	3	Classic plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, with a fat content $\leq 3.6\text{g}/100\text{g}$. Do not contain artificial sweetener	612	A02NV	Kefir

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex_name
Fresh dairy products and desserts	3	Classic plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, with a fat content $\leq 3.6\text{g}/100\text{g}$. Do not contain artificial sweetener	612	A02NE	Yoghurt
Fresh dairy products and desserts	3	Classic plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, with a fat content $\leq 3.6\text{g}/100\text{g}$. Do not contain artificial sweetener	612	A02NQ	Yoghurt drinks, including sweetened and/or flavoured variants
Fresh dairy products and desserts	3	Classic plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, with a fat content $\leq 3.6\text{g}/100\text{g}$. Do not contain artificial sweetener	612	A02NF	Yoghurt, cow milk
Fresh dairy products and desserts	3	Classic plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, with a fat content $\leq 3.6\text{g}/100\text{g}$. Do not contain artificial sweetener	612	A02NG	Yoghurt, cow milk, plain
Fresh dairy products and desserts	3	Classic plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, with a fat content $\leq 3.6\text{g}/100\text{g}$. Do not contain artificial sweetener	612	A02NH	Yoghurt, cow milk, flavoured
Fresh dairy products and desserts	3	Classic plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, with a fat content $\leq 3.6\text{g}/100\text{g}$. Do not contain artificial sweetener	612	A02NJ	Yoghurt, sheep milk

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex_name
Fresh dairy products and desserts	3	Classic plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, with a fat content $\leq 3.6\text{g}/100\text{g}$. Do not contain artificial sweetener	612	A02NK	Yoghurt, sheep milk, plain
Fresh dairy products and desserts	3	Classic plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, with a fat content $\leq 3.6\text{g}/100\text{g}$. Do not contain artificial sweetener	612	A02NL	Yoghurt, sheep milk, flavoured
Fresh dairy products and desserts	3	Classic plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, with a fat content $\leq 3.6\text{g}/100\text{g}$. Do not contain artificial sweetener	612	A02NM	Yoghurt, goat milk
Fresh dairy products and desserts	3	Classic plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, with a fat content $\leq 3.6\text{g}/100\text{g}$. Do not contain artificial sweetener	612	A02NN	Yoghurt, goat milk, plain
Fresh dairy products and desserts	3	Classic plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, with a fat content $\leq 3.6\text{g}/100\text{g}$. Do not contain artificial sweetener	612	A02NP	Yoghurt, goat milk, flavoured
Fresh dairy products and desserts	3	Classic plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, with a fat content $\leq 3.6\text{g}/100\text{g}$. Do not contain artificial sweetener	612	A16GH	Strained yoghurt

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
Fresh dairy products and desserts	3	Classic sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content $\leq 3.6\text{g}/100\text{g}$. Groups together plain or flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc. Contains drinkable dairy products with or without ferments	614	A0C69	Fermented milk products
Fresh dairy products and desserts	3	Classic sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content $\leq 3.6\text{g}/100\text{g}$. Groups together plain or flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc. Contains drinkable dairy products with or without ferments	614	A02NR	Probiotic milk-like drinks
Fresh dairy products and desserts	3	Classic sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content $\leq 3.6\text{g}/100\text{g}$. Groups together plain or flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc. Contains drinkable dairy products with or without ferments	614	A02NS	Acidophilus milk

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
Fresh dairy products and desserts	3	Classic sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content $\leq 3.6\text{g}/100\text{g}$. Groups together plain or flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc. Contains drinkable dairy products with or without ferments	614	A02NV	Kefir
Fresh dairy products and desserts	3	Classic sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content $\leq 3.6\text{g}/100\text{g}$. Groups together plain or flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc. Contains drinkable dairy products with or without ferments	614	A02NE	Yoghurt
Fresh dairy products and desserts	3	Classic sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content $\leq 3.6\text{g}/100\text{g}$. Groups together plain or flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc. Contains drinkable dairy products with or without ferments	614	A02NQ	Yoghurt drinks, including sweetened and/or flavoured variants

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Fresh dairy products and desserts	3	Classic sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content $\leq 3.6\text{g}/100\text{g}$. Groups together plain or flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc. Contains drinkable dairy products with or without ferments	614	A02NF	Yoghurt, cow milk
Fresh dairy products and desserts	3	Classic sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content $\leq 3.6\text{g}/100\text{g}$. Groups together plain or flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc. Contains drinkable dairy products with or without ferments	614	A02NG	Yoghurt, cow milk, plain
Fresh dairy products and desserts	3	Classic sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content $\leq 3.6\text{g}/100\text{g}$. Groups together plain or flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc. Contains drinkable dairy products with or without ferments	614	A02NH	Yoghurt, cow milk, flavoured

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Fresh dairy products and desserts	3	Classic sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content $\leq 3.6\text{g}/100\text{g}$. Groups together plain or flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc. Contains drinkable dairy products with or without ferments	614	A02NJ	Yoghurt, sheep milk
Fresh dairy products and desserts	3	Classic sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content $\leq 3.6\text{g}/100\text{g}$. Groups together plain or flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc. Contains drinkable dairy products with or without ferments	614	A02NK	Yoghurt, sheep milk, plain
Fresh dairy products and desserts	3	Classic sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content $\leq 3.6\text{g}/100\text{g}$. Groups together plain or flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc. Contains drinkable dairy products with or without ferments	614	A02NL	Yoghurt, sheep milk, flavoured

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex_name
Fresh dairy products and desserts	3	Classic sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content $\leq 3.6\text{g}/100\text{g}$. Groups together plain or flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc. Contains drinkable dairy products with or without ferments	614	A02NM	Yoghurt, goat milk
Fresh dairy products and desserts	3	Classic sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content $\leq 3.6\text{g}/100\text{g}$. Groups together plain or flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc. Contains drinkable dairy products with or without ferments	614	A02NN	Yoghurt, goat milk, plain
Fresh dairy products and desserts	3	Classic sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content $\leq 3.6\text{g}/100\text{g}$. Groups together plain or flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc. Contains drinkable dairy products with or without ferments	614	A02NP	Yoghurt, goat milk, flavoured

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
Fresh dairy products and desserts	3	Classic sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content $\leq 3.6\text{g}/100\text{g}$. Groups together plain or flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc. Contains drinkable dairy products with or without ferments	614	A16GH	Strained yoghurt
Fresh dairy products and desserts	3	Classic sweetened fresh cheeses	Sugar-sweetened (without artificial sweetening) fresh cheeses, smooth fromage blanc, quark, skyr and equivalent products such as dairy specialities/dairy desserts based on ferments or fromage blanc/fresh cheese, with a fat content $\leq 3.8\text{g}/100\text{g}$. Includes plain and flavoured products, with fruit, on a bed of fruit, etc.	719	A02QK	Quark
Fresh dairy products and desserts	3	Curdled milks	Includes fresh dairy desserts (other than fresh cheeses) based on renneted milk	720	A0C69	Fermented milk products
Fresh dairy products and desserts	3	Curdled milks	Includes fresh dairy desserts (other than fresh cheeses) based on renneted milk	720	A02PC	Flavoured traditional sour milk products
Fresh dairy products and desserts	3	Curdled milks	Includes fresh dairy desserts (other than fresh cheeses) based on renneted milk	720	A02NT	Traditional sour milk products
Fresh dairy products and desserts	3	Dessert creams and jellied milks	Groups together fresh desserts based on jellied milk or thickened milk without ferment, such as flan or dessert creams, regardless of the flavour (chocolate, vanilla, coffee, brownie, with fruit, on a bed of fruit, etc.)	709	A02PT	Dairy dessert and similar

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
Fresh dairy products and desserts	3	Dessert creams and jellied milks	Groups together fresh desserts based on jellied milk or thickened milk without ferment, such as flan or dessert creams, regardless of the flavour (chocolate, vanilla, coffee, brownie, with fruit, on a bed of fruit, etc.)	709	A02PV	Dairy desserts spoonable
Fresh dairy products and desserts	3	Dessert creams and jellied milks	Groups together fresh desserts based on jellied milk or thickened milk without ferment, such as flan or dessert creams, regardless of the flavour (chocolate, vanilla, coffee, brownie, with fruit, on a bed of fruit, etc.)	709	A065H	Baked milk and similar
Fresh dairy products and desserts	3	Egg-based fresh desserts	Egg-based dessert such as egg creams, crèmes caramel, egg custards, floating islands, œufs au lait, crèmes brûlées and catalan creams	216	A02PT	Dairy dessert and similar
Fresh dairy products and desserts	3	Egg-based fresh desserts	Egg-based dessert such as egg creams, crèmes caramel, egg custards, floating islands, œufs au lait, crèmes brûlées and catalan creams	216	A02PX	Custard
Fresh dairy products and desserts	3	Fresh cakes	Groups together fresh desserts sold in the chilled food section such as brownies, cakes, fondants, moist cakes with melting centres (regardless of the filling), rum baba, clafoutis, far	714	A00BC	Muffins
Fresh dairy products and desserts	3	Fresh cakes	Groups together fresh desserts sold in the chilled food section such as brownies, cakes, fondants, moist cakes with melting centres (regardless of the filling), rum baba, clafoutis, far	714	A0C6M	Baumkuchen and similar
Fresh dairy products and desserts	3	Fresh cakes	Groups together fresh desserts sold in the chilled food section such as brownies, cakes, fondants, moist cakes with melting centres (regardless of the filling), rum baba, clafoutis, far	714	A00BD	Meringue tart

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Fresh dairy products and desserts	3	Fresh desserts with cereals	Groups together fresh desserts such as all rice milk puddings (vanilla, caramel, chocolate, on a bed of strawberry, etc.), semolina milk puddings, as well as rice and semolina cakes. Groups together products with or without inclusions (of grapes, coconut, etc.), with or without topping.	215	A02PY	Starchy pudding
Fresh dairy products and desserts	3	Fresh desserts with fruit	Groups together products such as pastry desserts or fresh dairy-based desserts made up of layers consisting of a cooked base (pastry, biscuit, genoise sponge) combined with creams and/or mousses and containing fruit (cut fruit, coulis, juice, purée) (example: bavarois/fruit cheesecake/fruit tiramisu/tart/crumble/fruit charlotte, Black Forest gâteau, fraiser or framboisier cakes)	715	A16GL	Fruit dessert thickened
Fresh dairy products and desserts	3	Fresh desserts with fruit	Groups together products such as pastry desserts or fresh dairy-based desserts made up of layers consisting of a cooked base (pastry, biscuit, genoise sponge) combined with creams and/or mousses and containing fruit (cut fruit, coulis, juice, purée) (example: bavarois/fruit cheesecake/fruit tiramisu/tart/crumble/fruit charlotte, Black Forest gâteau, fraiser or framboisier cakes)	715	A00AV	Cream cake

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Fresh dairy products and desserts	3	Fresh desserts with fruit	Groups together products such as pastry desserts or fresh dairy-based desserts made up of layers consisting of a cooked base (pastry, biscuit, genoise sponge) combined with creams and/or mousses and containing fruit (cut fruit, coulis, juice, purée) (example: bavarois/fruit cheesecake/fruit tiramisu/tart/crumble/fruit charlotte, Black Forest gâteau, fraisier or framboisier cakes)	715	A00AX	Cream custard cake
Fresh dairy products and desserts	3	Fresh desserts with fruit	Groups together products such as pastry desserts or fresh dairy-based desserts made up of layers consisting of a cooked base (pastry, biscuit, genoise sponge) combined with creams and/or mousses and containing fruit (cut fruit, coulis, juice, purée) (example: bavarois/fruit cheesecake/fruit tiramisu/tart/crumble/fruit charlotte, Black Forest gâteau, fraisier or framboisier cakes)	715	A00AY	Cream custard sponge cake
Fresh dairy products and desserts	3	Fresh desserts with fruit	Groups together products such as pastry desserts or fresh dairy-based desserts made up of layers consisting of a cooked base (pastry, biscuit, genoise sponge) combined with creams and/or mousses and containing fruit (cut fruit, coulis, juice, purée) (example: bavarois/fruit cheesecake/fruit tiramisu/tart/crumble/fruit charlotte, Black Forest gâteau, fraisier or framboisier cakes)	715	A00AZ	Nut cream cake

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Fresh dairy products and desserts	3	Fresh desserts with fruit	Groups together products such as pastry desserts or fresh dairy-based desserts made up of layers consisting of a cooked base (pastry, biscuit, genoise sponge) combined with creams and/or mousses and containing fruit (cut fruit, coulis, juice, purée) (example: bavarois/fruit cheesecake/fruit tiramisu/tart/crumble/fruit charlotte, Black Forest gâteau, fraisier or framboisier cakes)	715	A00AR	Cheese cake
Fresh dairy products and desserts	3	Fresh desserts with fruit	Groups together products such as pastry desserts or fresh dairy-based desserts made up of layers consisting of a cooked base (pastry, biscuit, genoise sponge) combined with creams and/or mousses and containing fruit (cut fruit, coulis, juice, purée) (example: bavarois/fruit cheesecake/fruit tiramisu/tart/crumble/fruit charlotte, Black Forest gâteau, fraisier or framboisier cakes)	715	A00AS	Cream cheese cake
Fresh dairy products and desserts	3	Fresh desserts with fruit	Groups together products such as pastry desserts or fresh dairy-based desserts made up of layers consisting of a cooked base (pastry, biscuit, genoise sponge) combined with creams and/or mousses and containing fruit (cut fruit, coulis, juice, purée) (example: bavarois/fruit cheesecake/fruit tiramisu/tart/crumble/fruit charlotte, Black Forest gâteau, fraisier or framboisier cakes)	715	A00AT	Cheese cream sponge cake

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Fresh dairy products and desserts	3	Fresh desserts with fruit	Groups together products such as pastry desserts or fresh dairy-based desserts made up of layers consisting of a cooked base (pastry, biscuit, genoise sponge) combined with creams and/or mousses and containing fruit (cut fruit, coulis, juice, purée) (example: bavarois/fruit cheesecake/fruit tiramisu/tart/crumble/fruit charlotte, Black Forest gâteau, fraiser or framboisier cakes)	715	A00BA	Fruit cake
Fresh dairy products and desserts	3	Fresh desserts without fruit	Groups together products such as pastry desserts or fresh dairy-based desserts made up of layers consisting of a cooked base (pastry, biscuit, genoise sponge, choux pastry) combined with creams and/or mousses and not containing fruit (example: cheesecake without fruit/tiramisu without fruit/chocolate tart/profiteroles)	716	A00AV	Cream cake
Fresh dairy products and desserts	3	Fresh desserts without fruit	Groups together products such as pastry desserts or fresh dairy-based desserts made up of layers consisting of a cooked base (pastry, biscuit, genoise sponge, choux pastry) combined with creams and/or mousses and not containing fruit (example: cheesecake without fruit/tiramisu without fruit/chocolate tart/profiteroles)	716	A00AS	Cream cheese cake
Fresh dairy products and desserts	3	Fresh desserts without fruit	Groups together products such as pastry desserts or fresh dairy-based desserts made up of layers consisting of a cooked base (pastry, biscuit, genoise sponge, choux pastry) combined with creams and/or mousses and not containing fruit (example: cheesecake without fruit/tiramisu without fruit/chocolate tart/profiteroles)	716	A00AX	Cream custard cake

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Fresh dairy products and desserts	3	Fresh desserts without fruit	Groups together products such as pastry desserts or fresh dairy-based desserts made up of layers consisting of a cooked base (pastry, biscuit, genoise sponge, choux pastry) combined with creams and/or mousses and not containing fruit (example: cheesecake without fruit/tiramisu without fruit/chocolate tart/profiteroles)	716	A00AY	Cream custard sponge cake
Fresh dairy products and desserts	3	Fresh desserts without fruit	Groups together products such as pastry desserts or fresh dairy-based desserts made up of layers consisting of a cooked base (pastry, biscuit, genoise sponge, choux pastry) combined with creams and/or mousses and not containing fruit (example: cheesecake without fruit/tiramisu without fruit/chocolate tart/profiteroles)	716	A00AZ	Nut cream cake
Fresh dairy products and desserts	3	Fresh desserts without fruit	Groups together products such as pastry desserts or fresh dairy-based desserts made up of layers consisting of a cooked base (pastry, biscuit, genoise sponge, choux pastry) combined with creams and/or mousses and not containing fruit (example: cheesecake without fruit/tiramisu without fruit/chocolate tart/profiteroles)	716	A00AT	Cheese cream sponge cake
Fresh dairy products and desserts	3	Fresh desserts without fruit	Groups together products such as pastry desserts or fresh dairy-based desserts made up of layers consisting of a cooked base (pastry, biscuit, genoise sponge, choux pastry) combined with creams and/or mousses and not containing fruit (example: cheesecake without fruit/tiramisu without fruit/chocolate tart/profiteroles)	716	A00BD	Meringue tart

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
Fresh dairy products and desserts	3	Fresh desserts without fruit	Groups together products such as pastry desserts or fresh dairy-based desserts made up of layers consisting of a cooked base (pastry, biscuit, genoise sponge, choux pastry) combined with creams and/or mousses and not containing fruit (example: cheesecake without fruit/tiramisu without fruit/chocolate tart/profiteroles)	716	A0C6L	Rotation cooked layered cakes
Fresh dairy products and desserts	3	Fresh light and/or artificially-sweetened desserts	Groups together all products in the fresh desserts category containing artificial sweeteners and/or a nutrition claim about reduction, low or no fat and/or sugar according to Regulation (EC) No 1924/2006	218	A02PT	Dairy dessert and similar
Fresh dairy products and desserts	3	Fresh light and/or artificially-sweetened desserts	Groups together all products in the fresh desserts category containing artificial sweeteners and/or a nutrition claim about reduction, low or no fat and/or sugar according to Regulation (EC) No 1924/2006	218	A02PV	Dairy desserts spoonable
Fresh dairy products and desserts	3	Fresh mousse-type desserts	Groups together mousses of all flavours (chocolate, coffee, caramel, fruit, etc.), including Liégeois mousses and mousses with sauces. May contain eggs. Does not include mousses with fromage blanc/fresh cheese and mousses with ganache.	718	A04NS	Other desserts spoonable
Fresh dairy products and desserts	3	Fresh plain unsweetened soy desserts	Includes all plain unsweetened soy desserts	712	A03TV	Soya yoghurt
Fresh dairy products and desserts	3	Fresh sweetened soy desserts	Includes all sweetened soy desserts, regardless of the flavour (plain, fruit, chocolate, vanilla, etc.)	711	A03TV	Soya yoghurt

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex_name
Fresh dairy products and desserts	3	Gourmet plain fresh cheeses with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt with a fat content >3.6g/100g, mainly due to the addition of cream. Do not contain artificial sweetener	613	A02QK	Quark
Fresh dairy products and desserts	3	Gourmet plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt with a fat content >3.6g/100g, mainly due to the addition of cream. Do not contain artificial sweetener	613	A0C69	Fermented milk products
Fresh dairy products and desserts	3	Gourmet plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt with a fat content >3.6g/100g, mainly due to the addition of cream. Do not contain artificial sweetener	613	A02NR	Probiotic milk-like drinks
Fresh dairy products and desserts	3	Gourmet plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt with a fat content >3.6g/100g, mainly due to the addition of cream. Do not contain artificial sweetener	613	A02NS	Acidophilus milk
Fresh dairy products and desserts	3	Gourmet plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt with a fat content >3.6g/100g, mainly due to the addition of cream. Do not contain artificial sweetener	613	A02NV	Kefir
Fresh dairy products and desserts	3	Gourmet plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt with a fat content >3.6g/100g, mainly due to the addition of cream. Do not contain artificial sweetener	613	A02NE	Yoghurt

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex_name
Fresh dairy products and desserts	3	Gourmet plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt with a fat content >3.6g/100g, mainly due to the addition of cream. Do not contain artificial sweetener	613	A02NQ	Yoghurt drinks, including sweetened and/or flavoured variants
Fresh dairy products and desserts	3	Gourmet plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt with a fat content >3.6g/100g, mainly due to the addition of cream. Do not contain artificial sweetener	613	A02NF	Yoghurt, cow milk
Fresh dairy products and desserts	3	Gourmet plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt with a fat content >3.6g/100g, mainly due to the addition of cream. Do not contain artificial sweetener	613	A02NG	Yoghurt, cow milk, plain
Fresh dairy products and desserts	3	Gourmet plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt with a fat content >3.6g/100g, mainly due to the addition of cream. Do not contain artificial sweetener	613	A02NH	Yoghurt, cow milk, flavoured
Fresh dairy products and desserts	3	Gourmet plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt with a fat content >3.6g/100g, mainly due to the addition of cream. Do not contain artificial sweetener	613	A02NJ	Yoghurt, sheep milk
Fresh dairy products and desserts	3	Gourmet plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt with a fat content >3.6g/100g, mainly due to the addition of cream. Do not contain artificial sweetener	613	A02NK	Yoghurt, sheep milk, plain

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex_name
Fresh dairy products and desserts	3	Gourmet plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt with a fat content >3.6g/100g, mainly due to the addition of cream. Do not contain artificial sweetener	613	A02NL	Yoghurt, sheep milk, flavoured
Fresh dairy products and desserts	3	Gourmet plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt with a fat content >3.6g/100g, mainly due to the addition of cream. Do not contain artificial sweetener	613	A02NM	Yoghurt, goat milk
Fresh dairy products and desserts	3	Gourmet plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt with a fat content >3.6g/100g, mainly due to the addition of cream. Do not contain artificial sweetener	613	A02NN	Yoghurt, goat milk, plain
Fresh dairy products and desserts	3	Gourmet plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt with a fat content >3.6g/100g, mainly due to the addition of cream. Do not contain artificial sweetener	613	A02NP	Yoghurt, goat milk, flavoured
Fresh dairy products and desserts	3	Gourmet plain yoghurts and fermented milks with no added sugar	Unsweetened plain yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt with a fat content >3.6g/100g, mainly due to the addition of cream. Do not contain artificial sweetener	613	A16GH	Strained yoghurt

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
Fresh dairy products and desserts	3	Gourmet sweet fresh cheeses	Sweetened fresh cheeses, smooth fromages blancs, quark, skyr, fresh cheeses with mousse, fromage blanc/fresh cheese mousses and equivalent products such as dairy specialities/dairy desserts made with ferments or fromage blanc/ fresh cheeses and with a fat content >3.8g/100g, mainly due to the addition of cream. Do not contain artificial sweetener. Groups together plain and flavoured products but also those containing fruits, on a bed of fruit, with inclusions of chocolate/caramel/biscuit/cereal, etc.	252	A02QK	Quark
Fresh dairy products and desserts	3	Gourmet sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content >3.6g/100g, mainly due to the addition of cream. Groups together plain and flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc.	615	A0C69	Fermented milk products
Fresh dairy products and desserts	3	Gourmet sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content >3.6g/100g, mainly due to the addition of cream. Groups together plain and flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc.	615	A02NR	Probiotic milk-like drinks

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Fresh dairy products and desserts	3	Gourmet sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content >3.6g/100g, mainly due to the addition of cream. Groups together plain and flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc.	615	A02NS	Acidophilus milk
Fresh dairy products and desserts	3	Gourmet sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content >3.6g/100g, mainly due to the addition of cream. Groups together plain and flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc.	615	A02NV	Kefir
Fresh dairy products and desserts	3	Gourmet sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content >3.6g/100g, mainly due to the addition of cream. Groups together plain and flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc.	615	A02NE	Yoghurt

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex_name
Fresh dairy products and desserts	3	Gourmet sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content >3.6g/100g, mainly due to the addition of cream. Groups together plain and flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc.	615	A02NQ	Yoghurt drinks, including sweetened and/or flavoured variants
Fresh dairy products and desserts	3	Gourmet sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content >3.6g/100g, mainly due to the addition of cream. Groups together plain and flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc.	615	A02NF	Yoghurt, cow milk
Fresh dairy products and desserts	3	Gourmet sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content >3.6g/100g, mainly due to the addition of cream. Groups together plain and flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc.	615	A02NG	Yoghurt, cow milk, plain

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Fresh dairy products and desserts	3	Gourmet sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content >3.6g/100g, mainly due to the addition of cream. Groups together plain and flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc.	615	A02NH	Yoghurt, cow milk, flavoured
Fresh dairy products and desserts	3	Gourmet sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content >3.6g/100g, mainly due to the addition of cream. Groups together plain and flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc.	615	A02NJ	Yoghurt, sheep milk
Fresh dairy products and desserts	3	Gourmet sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content >3.6g/100g, mainly due to the addition of cream. Groups together plain and flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc.	615	A02NK	Yoghurt, sheep milk, plain

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
Fresh dairy products and desserts	3	Gourmet sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content >3.6g/100g, mainly due to the addition of cream. Groups together plain and flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc.	615	A02NL	Yoghurt, sheep milk, flavoured
Fresh dairy products and desserts	3	Gourmet sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content >3.6g/100g, mainly due to the addition of cream. Groups together plain and flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc.	615	A02NM	Yoghurt, goat milk
Fresh dairy products and desserts	3	Gourmet sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content >3.6g/100g, mainly due to the addition of cream. Groups together plain and flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc.	615	A02NN	Yoghurt, goat milk, plain

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Fresh dairy products and desserts	3	Gourmet sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content >3.6g/100g, mainly due to the addition of cream. Groups together plain and flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc.	615	A02NP	Yoghurt, goat milk, flavoured
Fresh dairy products and desserts	3	Gourmet sweet yoghurts and fermented milks	Yoghurts, fermented milks and equivalent products such as dairy specialities/dairy desserts made with ferments or yoghurt, sweetened without artificial sweetener and with a fat content >3.6g/100g, mainly due to the addition of cream. Groups together plain and flavoured products and also those containing fruits, on a bed of fruits, with inclusions of chocolate/caramel/biscuits/cereals, etc.	615	A16GH	Strained yoghurt
Fresh dairy products and desserts	3	Liégeois desserts and similar	Groups together fresh desserts with "Liégeois" or "Viennese" on the front of the packaging as well as equivalent products based on dessert cream topped with a layer of whipped cream/mousse. Liégeois mousses and equivalent products such as mousse topped with whipped mousse/cream are not included in this subcategory	710	A02PT	Dairy dessert and similar

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
Fresh dairy products and desserts	3	Liégeois desserts and similar	Groups together fresh desserts with "Liégeois" or "Viennese" on the front of the packaging as well as equivalent products based on dessert cream topped with a layer of whipped cream/mousse. Liégeois mousses and equivalent products such as mousse topped with whipped mousse/cream are not included in this subcategory	710	A02PV	Dairy desserts spoonable
Fresh dairy products and desserts	3	Other dairy products	Other dairy products	35	A065Z	Dairy snacks
Fresh dairy products and desserts	3	Other dairy products	Other dairy products	35	A02PT	Dairy dessert and similar
Fresh dairy products and desserts	3	Other fresh desserts	Groups together fresh desserts other than dessert creams, jellied milks, Liégeois desserts, curdled milks, mousses, egg- or cereal-based desserts, cakes and pastry desserts. Contains for example panna cotta, mousses with ganache, fruit/fruit purées topped with whipped cream, French toast, etc.	717	A02PT	Dairy dessert and similar
Fresh dairy products and desserts	3	Other fresh plant-based desserts	Includes all plant-based dessert other than those with soy, whether sweetened or not, with or without cereals	713	A03TZ	Imitation yoghurt, non soy
Soft drinks	9	Alcohol-free beers without added sugar	Beverages with or without artificial sweetening, flavoured or not, containing hops, malt or barley, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive) and/or mentioning alcohol-free beer or shandy/cooler in its name or sales description. Does not contain ginger beer or root beer.	668	A03DZ	Soft drinks

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
Soft drinks	9	Alcohol-free beers without added sugar	Beverages with or without artificial sweetening, flavoured or not, containing hops, malt or barley, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive) and/or mentioning alcohol-free beer or shandy/cooler in its name or sales description. Does not contain ginger beer or root beer.	668	A03MG	Beer, alcohol-free
Soft drinks	9	Aperitif beverages without added sugar	Alcohol-free aperitif or cocktail beverages, still or sparkling beverages based on dealcoholised wine, aniseed without dilution using or gentian beverages, as well as sparkling beverages imitating alcoholic beverages consumed as an aperitif. Products that may be artificially-sweetened but do not contain ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive).	670	A03DZ	Soft drinks
Soft drinks	9	Aperitif beverages without added sugar	Alcohol-free aperitif or cocktail beverages, still or sparkling beverages based on dealcoholised wine, aniseed without dilution using or gentian beverages, as well as sparkling beverages imitating alcoholic beverages consumed as an aperitif. Products that may be artificially-sweetened but do not contain ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive).	670	A03PN	Cocktail drink

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
Soft drinks	9	Colas without added sugar	Cola-flavoured beverages with or without artificial sweetening, with or without additional flavouring and/or mentioning cola in the name or sales description. Products without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive).	653	A03DZ	Soft drinks
Soft drinks	9	Colas without added sugar	Cola-flavoured beverages with or without artificial sweetening, with or without additional flavouring and/or mentioning cola in the name or sales description. Products without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive).	653	A03FQ	Cola-type drinks
Soft drinks	9	Colas without added sugar	Cola-flavoured beverages with or without artificial sweetening, with or without additional flavouring and/or mentioning cola in the name or sales description. Products without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive).	653	A03FR	Cola beverages, caffeinic
Soft drinks	9	Colas without added sugar	Cola-flavoured beverages with or without artificial sweetening, with or without additional flavouring and/or mentioning cola in the name or sales description. Products without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive).	653	A03FY	Diet soft drink with caffeine

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Colas without added sugar	Cola-flavoured beverages with or without artificial sweetening, with or without additional flavouring and/or mentioning cola in the name or sales description. Products without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive).	653	A03FS	Cola mix, flavoured cola
Soft drinks	9	Colas without added sugar	Cola-flavoured beverages with or without artificial sweetening, with or without additional flavouring and/or mentioning cola in the name or sales description. Products without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive).	653	A03FP	Cola beverages, decaffeinated
Soft drinks	9	Energy drinks without added sugar	Beverages with or without artificial sweetening, containing one or more stimulant ingredient(s) (caffeine, taurine, guarana, etc.) but without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Contains products with tea in addition to a stimulant ingredient, but does not contain coffee and milk beverages (animal milk or plant-based beverages) or colas.	662	A03DZ	Soft drinks

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Energy drinks without added sugar	Beverages with or without artificial sweetening, containing one or more stimulant ingredient(s) (caffeine, taurine, guarana, etc.) but without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Contains products with tea in addition to a stimulant ingredient, but does not contain coffee and milk beverages (animal milk or plant-based beverages) or colas.	662	A03GA	Energy drinks
Soft drinks	9	Flavoured milk beverages	Flavoured (chocolate, coffee, strawberry, etc.) drinks containing milk (of animal origin) whose sales description indicates milk drink or flavoured milk. This subcategory includes sugar-sweetened, artificially-sweetened and unsweetened products.	644	A03DZ	Soft drinks
Soft drinks	9	Flavoured milk beverages	Flavoured (chocolate, coffee, strawberry, etc.) drinks containing milk (of animal origin) whose sales description indicates milk drink or flavoured milk. This subcategory includes sugar-sweetened, artificially-sweetened and unsweetened products.	644	A02MP	Flavoured milks
Soft drinks	9	Flavoured sugar-sweetened and artificially-sweetened waters	Flavoured artificially-sweetened waters, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	651	A03DZ	Soft drinks

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Flavoured sugar-sweetened and artificially-sweetened waters	Flavoured artificially-sweetened waters, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	651	A03EZ	Soft drink, apple flavour
Soft drinks	9	Flavoured sugar-sweetened and artificially-sweetened waters	Flavoured artificially-sweetened waters, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	651	A03FA	Soft drink, apricot flavour
Soft drinks	9	Flavoured sugar-sweetened and artificially-sweetened waters	Flavoured artificially-sweetened waters, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	651	A03FB	Soft drink, banana flavour

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Flavoured sugar-sweetened and artificially-sweetened waters	Flavoured artificially-sweetened waters, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	651	A03FC	Soft drink, cherry flavour
Soft drinks	9	Flavoured sugar-sweetened and artificially-sweetened waters	Flavoured artificially-sweetened waters, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	651	A03FD	Soft drink, flavoured with herbs
Soft drinks	9	Flavoured sugar-sweetened and artificially-sweetened waters	Flavoured artificially-sweetened waters, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	651	A03FE	Soft drink, grapefruit flavour

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Flavoured sugar-sweetened and artificially-sweetened waters	Flavoured artificially-sweetened waters, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	651	A03FF	Soft drink, lemon flavour
Soft drinks	9	Flavoured sugar-sweetened and artificially-sweetened waters	Flavoured artificially-sweetened waters, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	651	A03FG	Soft drink, lime flavour
Soft drinks	9	Flavoured sugar-sweetened and artificially-sweetened waters	Flavoured artificially-sweetened waters, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	651	A03FH	Soft drink, mixed flavours

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Flavoured sugar-sweetened and artificially-sweetened waters	Flavoured artificially-sweetened waters, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	651	A03FJ	Soft drink, orange flavour
Soft drinks	9	Flavoured sugar-sweetened and artificially-sweetened waters	Flavoured artificially-sweetened waters, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	651	A03FK	Soft drink, pear flavour
Soft drinks	9	Flavoured sugar-sweetened and artificially-sweetened waters	Flavoured artificially-sweetened waters, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	651	A03FL	Soft drink, pineapple flavour

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Flavoured sugar-sweetened and artificially-sweetened waters	Flavoured artificially-sweetened waters, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	651	A03FM	Soft drink, raspberry flavour
Soft drinks	9	Flavoured sugar-sweetened and artificially-sweetened waters	Flavoured artificially-sweetened waters, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	651	A03FN	Soft drink, mango flavour
Soft drinks	9	Flavoured sugar-sweetened and artificially-sweetened waters	Flavoured artificially-sweetened waters, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	651	A03EX	Soft drink, flavoured, no fruit

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Flavoured sugar-sweetened waters	Flavoured waters without artificial sweetening, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with at least one ingredient such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	652	A03DZ	Soft drinks
Soft drinks	9	Flavoured sugar-sweetened waters	Flavoured waters without artificial sweetening, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with at least one ingredient such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	652	A03EZ	Soft drink, apple flavour
Soft drinks	9	Flavoured sugar-sweetened waters	Flavoured waters without artificial sweetening, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with at least one ingredient such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	652	A03FA	Soft drink, apricot flavour

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Flavoured sugar-sweetened waters	Flavoured waters without artificial sweetening, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with at least one ingredient such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	652	A03FB	Soft drink, banana flavour
Soft drinks	9	Flavoured sugar-sweetened waters	Flavoured waters without artificial sweetening, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with at least one ingredient such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	652	A03FC	Soft drink, cherry flavour
Soft drinks	9	Flavoured sugar-sweetened waters	Flavoured waters without artificial sweetening, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with at least one ingredient such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	652	A03FD	Soft drink, flavoured with herbs

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Flavoured sugar-sweetened waters	Flavoured waters without artificial sweetening, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with at least one ingredient such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	652	A03FE	Soft drink, grapefruit flavour
Soft drinks	9	Flavoured sugar-sweetened waters	Flavoured waters without artificial sweetening, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with at least one ingredient such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	652	A03FF	Soft drink, lemon flavour
Soft drinks	9	Flavoured sugar-sweetened waters	Flavoured waters without artificial sweetening, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with at least one ingredient such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	652	A03FG	Soft drink, lime flavour

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Flavoured sugar-sweetened waters	Flavoured waters without artificial sweetening, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with at least one ingredient such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	652	A03FH	Soft drink, mixed flavours
Soft drinks	9	Flavoured sugar-sweetened waters	Flavoured waters without artificial sweetening, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with at least one ingredient such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	652	A03FJ	Soft drink, orange flavour
Soft drinks	9	Flavoured sugar-sweetened waters	Flavoured waters without artificial sweetening, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with at least one ingredient such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	652	A03FK	Soft drink, pear flavour

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Flavoured sugar-sweetened waters	Flavoured waters without artificial sweetening, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with at least one ingredient such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	652	A03FL	Soft drink, pineapple flavour
Soft drinks	9	Flavoured sugar-sweetened waters	Flavoured waters without artificial sweetening, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with at least one ingredient such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	652	A03FM	Soft drink, raspberry flavour
Soft drinks	9	Flavoured sugar-sweetened waters	Flavoured waters without artificial sweetening, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with at least one ingredient such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	652	A03FN	Soft drink, mango flavour

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Flavoured sugar-sweetened waters	Flavoured waters without artificial sweetening, carbonated or not, and beverages whose name or sales description indicates ginger beer or root beer. Products containing no juice but with at least one ingredient such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	652	A03EX	Soft drink, flavoured, no fruit
Soft drinks	9	Fruit beverages with fruit content > or = 50%	Product with a combined fruit juice and purée content $\geq 50\%$. Possible presence of coconut (not considered as a fruit), milk, tea and cereals in lower proportions than the fruit(s). This subcategory includes sugar-sweetened, artificially-sweetened and unsweetened products.	95	A04PY	Water based beverages
Soft drinks	9	Fruit beverages with fruit content > or = 50%	Product with a combined fruit juice and purée content $\geq 50\%$. Possible presence of coconut (not considered as a fruit), milk, tea and cereals in lower proportions than the fruit(s). This subcategory includes sugar-sweetened, artificially-sweetened and unsweetened products.	95	A03DE	Mixed juices with added ingredients

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Fruit beverages without added sugar	<p>Beverages with or without artificial sweetening, carbonated or not, containing fruit juice and/or purée (with/without vegetable(s)) in quantities < 50%, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel not used as an additive. Possible presence of milk (of animal or vegetable origin) and cereals in lower proportions than the fruit(s).</p> <p>Does not contain products with stimulant ingredients (tea, taurine, guarana, coffee, etc.) or quinine. Instant drinks fitting that definition are included in this subcategory.</p>	645	A03DZ	Soft drinks
Soft drinks	9	Fruit beverages without added sugar	<p>Beverages with or without artificial sweetening, carbonated or not, containing fruit juice and/or purée (with/without vegetable(s)) in quantities < 50%, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel not used as an additive. Possible presence of milk (of animal or vegetable origin) and cereals in lower proportions than the fruit(s).</p> <p>Does not contain products with stimulant ingredients (tea, taurine, guarana, coffee, etc.) or quinine. Instant drinks fitting that definition are included in this subcategory.</p>	645	A03FX	Diet soft drinks with flavours

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Fruit beverages without added sugar	<p>Beverages with or without artificial sweetening, carbonated or not, containing fruit juice and/or purée (with/without vegetable(s)) in quantities < 50%, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel not used as an additive. Possible presence of milk (of animal or vegetable origin) and cereals in lower proportions than the fruit(s).</p> <p>Does not contain products with stimulant ingredients (tea, taurine, guarana, coffee, etc.) or quinine. Instant drinks fitting that definition are included in this subcategory.</p>	645	A03FY	Diet soft drink with caffeine
Soft drinks	9	Fruit beverages without added sugar	<p>Beverages with or without artificial sweetening, carbonated or not, containing fruit juice and/or purée (with/without vegetable(s)) in quantities < 50%, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel not used as an additive. Possible presence of milk (of animal or vegetable origin) and cereals in lower proportions than the fruit(s).</p> <p>Does not contain products with stimulant ingredients (tea, taurine, guarana, coffee, etc.) or quinine. Instant drinks fitting that definition are included in this subcategory.</p>	645	A03FV	Diet soft drinks with fruit juice

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Other beverages without added sugar	Beverages with or without artificial sweetening, flavoured or not, such as coconut water, birch or maple water or sap, sugar cane juice, herbal infusions without fruit juice (hibiscus, aloe vera, rooibos, basil, etc.). Products without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	672	A03DZ	Soft drinks
Soft drinks	9	Other beverages without added sugar	Beverages with or without artificial sweetening, flavoured or not, such as coconut water, birch or maple water or sap, sugar cane juice, herbal infusions without fruit juice (hibiscus, aloe vera, rooibos, basil, etc.). Products without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	672	A0F4S	Coconut water
Soft drinks	9	Other beverages without added sugar	Beverages with or without artificial sweetening, flavoured or not, such as coconut water, birch or maple water or sap, sugar cane juice, herbal infusions without fruit juice (hibiscus, aloe vera, rooibos, basil, etc.). Products without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	672	A03DG	Aloe vera juice

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Other sports drinks	Artificially-sweetened beverages whose nutritional composition is particularly adapted to physical exertion., which may contain one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Also includes beverages without artificial sweetening and without ingredients such as mono- and disaccharides, syrup, honey, caramel (not used as additive).	659		
Soft drinks	9	Other sugar- sweetened beverages	Beverages with or without artificial sweetening, flavoured or not, such as coconut water, birch or maple water or sap, sugar cane juice, herbal infusions without fruit juice (hibiscus, aloe vera, rooibos, basil, etc.). Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	673	A03DZ	Soft drinks
Soft drinks	9	Other sugar- sweetened beverages	Beverages with or without artificial sweetening, flavoured or not, such as coconut water, birch or maple water or sap, sugar cane juice, herbal infusions without fruit juice (hibiscus, aloe vera, rooibos, basil, etc.). Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	673	A0F4S	Coconut water

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Other sugar-sweetened beverages	Beverages with or without artificial sweetening, flavoured or not, such as coconut water, birch or maple water or sap, sugar cane juice, herbal infusions without fruit juice (hibiscus, aloe vera, rooibos, basil, etc.). Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Instant drinks fitting that definition are included in this subcategory.	673	A03DG	Aloe vera juice
Soft drinks	9	Plant-based beverages without added sugar	Beverages with or without artificial sweetening, flavoured or not, with cereals (rice, oats, spelt, buckwheat, millet, etc.), oilseeds (almonds, hazelnuts, cashew nuts, hemp, etc.) and/or pulses (soy). Products without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Also includes coconut milk, coconut milk/coconut water mixtures, and plant-based beverages containing tea or fruits (in lower proportions of fruits juice or purée than plant-based beverage). Does not contain products such as birch or maple water or sap, sugar cane juice, herbal infusions.	648	A03TH	Milk imitates

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Plant-based beverages without added sugar	Beverages with or without artificial sweetening, flavoured or not, with cereals (rice, oats, spelt, buckwheat, millet, etc.), oilseeds (almonds, hazelnuts, cashew nuts, hemp, etc.) and/or pulses (soy). Products without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Also includes coconut milk, coconut milk/coconut water mixtures, and plant-based beverages containing tea or fruits (in lower proportions of fruits juice or purée than plant-based beverage). Does not contain products such as birch or maple water or sap, sugar cane juice, herbal infusions.	648	A03TJ	Soya drink
Soft drinks	9	Plant-based beverages without added sugar	Beverages with or without artificial sweetening, flavoured or not, with cereals (rice, oats, spelt, buckwheat, millet, etc.), oilseeds (almonds, hazelnuts, cashew nuts, hemp, etc.) and/or pulses (soy). Products without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Also includes coconut milk, coconut milk/coconut water mixtures, and plant-based beverages containing tea or fruits (in lower proportions of fruits juice or purée than plant-based beverage). Does not contain products such as birch or maple water or sap, sugar cane juice, herbal infusions.	648	A03TK	Almond drink

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Plant-based beverages without added sugar	Beverages with or without artificial sweetening, flavoured or not, with cereals (rice, oats, spelt, buckwheat, millet, etc.), oilseeds (almonds, hazelnuts, cashew nuts, hemp, etc.) and/or pulses (soy). Products without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Also includes coconut milk, coconut milk/coconut water mixtures, and plant-based beverages containing tea or fruits (in lower proportions of fruits juice or purée than plant-based beverage). Does not contain products such as birch or maple water or sap, sugar cane juice, herbal infusions.	648	A03TL	Oats drink
Soft drinks	9	Plant-based beverages without added sugar	Beverages with or without artificial sweetening, flavoured or not, with cereals (rice, oats, spelt, buckwheat, millet, etc.), oilseeds (almonds, hazelnuts, cashew nuts, hemp, etc.) and/or pulses (soy). Products without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Also includes coconut milk, coconut milk/coconut water mixtures, and plant-based beverages containing tea or fruits (in lower proportions of fruits juice or purée than plant-based beverage). Does not contain products such as birch or maple water or sap, sugar cane juice, herbal infusions.	648	A03TM	Rice drink

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Plant-based beverages without added sugar	Beverages with or without artificial sweetening, flavoured or not, with cereals (rice, oats, spelt, buckwheat, millet, etc.), oilseeds (almonds, hazelnuts, cashew nuts, hemp, etc.) and/or pulses (soy). Products without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Also includes coconut milk, coconut milk/coconut water mixtures, and plant-based beverages containing tea or fruits (in lower proportions of fruits juice or purée than plant-based beverage). Does not contain products such as birch or maple water or sap, sugar cane juice, herbal infusions.	648	A03TN	Rye drink
Soft drinks	9	Plant-based beverages without added sugar	Beverages with or without artificial sweetening, flavoured or not, with cereals (rice, oats, spelt, buckwheat, millet, etc.), oilseeds (almonds, hazelnuts, cashew nuts, hemp, etc.) and/or pulses (soy). Products without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Also includes coconut milk, coconut milk/coconut water mixtures, and plant-based beverages containing tea or fruits (in lower proportions of fruits juice or purée than plant-based beverage). Does not contain products such as birch or maple water or sap, sugar cane juice, herbal infusions.	648	A03TP	Spelt drink

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex_name
Soft drinks	9	Plant-based beverages without added sugar	Beverages with or without artificial sweetening, flavoured or not, with cereals (rice, oats, spelt, buckwheat, millet, etc.), oilseeds (almonds, hazelnuts, cashew nuts, hemp, etc.) and/or pulses (soy). Products without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Also includes coconut milk, coconut milk/coconut water mixtures, and plant-based beverages containing tea or fruits (in lower proportions of fruits juice or purée than plant-based beverage). Does not contain products such as birch or maple water or sap, sugar cane juice, herbal infusions.	648	A01BK	Coconut milk (cocos nucifera) liquid
Soft drinks	9	Sugar-sweetened alcohol-free beers	Beverages with or without artificial sweetening, flavoured or not, containing hops, malt or barley, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive) and/or mentioning alcohol-free beer or shandy/cooler in its name or sales description. Does not contain ginger beer or root beer.	669	A03MG	Beer, alcohol-free
Soft drinks	9	Sugar-sweetened alcohol-free beers	Beverages with or without artificial sweetening, flavoured or not, containing hops, malt or barley, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive) and/or mentioning alcohol-free beer or shandy/cooler in its name or sales description. Does not contain ginger beer or root beer.	669	A03DZ	Soft drinks

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
Soft drinks	9	Sugar-sweetened and artificially-sweetened colas	Cola-flavoured artificially-sweetened beverages, with or without additional flavouring and/or mentioning cola in the name or sales description. Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive).	654	A03DZ	Soft drinks
Soft drinks	9	Sugar-sweetened and artificially-sweetened colas	Cola-flavoured artificially-sweetened beverages, with or without additional flavouring and/or mentioning cola in the name or sales description. Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive).	654	A03FQ	Cola-type drinks
Soft drinks	9	Sugar-sweetened and artificially-sweetened colas	Cola-flavoured artificially-sweetened beverages, with or without additional flavouring and/or mentioning cola in the name or sales description. Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive).	654	A03FR	Cola beverages, caffeinic
Soft drinks	9	Sugar-sweetened and artificially-sweetened colas	Cola-flavoured artificially-sweetened beverages, with or without additional flavouring and/or mentioning cola in the name or sales description. Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive).	654	A03FS	Cola mix, flavoured cola

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Sugar-sweetened and artificially-sweetened colas	Cola-flavoured artificially-sweetened beverages, with or without additional flavouring and/or mentioning cola in the name or sales description. Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive).	654	A03FP	Cola beverages, decaffeinated
Soft drinks	9	Sugar-sweetened and artificially-sweetened energy drinks	Artificially-sweetened beverages containing one or more stimulant ingredient(s) (caffeine, taurine, guarana, etc.) and one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). May contain products with tea in addition to a stimulant ingredient, but does not contain coffee and milk beverages (animal milk or plant-based beverages) or colas.	663	A03DZ	Soft drinks
Soft drinks	9	Sugar-sweetened and artificially-sweetened energy drinks	Artificially-sweetened beverages containing one or more stimulant ingredient(s) (caffeine, taurine, guarana, etc.) and one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). May contain products with tea in addition to a stimulant ingredient, but does not contain coffee and milk beverages (animal milk or plant-based beverages) or colas.	663	A03GA	Energy drinks

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Sugar-sweetened and artificially- sweetened fruit beverages	Artificially-sweetened beverages, carbonated or not, containing fruit juice and/or purée (with/without vegetable(s)) in quantities < 50%, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Possible presence of milk (of animal or vegetable origin) and cereals in lower proportions than the fruit(s). Does not contain products with stimulant ingredients (tea, taurine, guarana, coffee, etc.) or quinine. Instant drinks fitting that definition are included in this subcategory.	646	A03DZ	Soft drinks
Soft drinks	9	Sugar-sweetened and artificially- sweetened fruit beverages	Artificially-sweetened beverages, carbonated or not, containing fruit juice and/or purée (with/without vegetable(s)) in quantities < 50%, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Possible presence of milk (of animal or vegetable origin) and cereals in lower proportions than the fruit(s). Does not contain products with stimulant ingredients (tea, taurine, guarana, coffee, etc.) or quinine. Instant drinks fitting that definition are included in this subcategory.	646	A03EA	Soft drink, with fruit juice (fruit content below the minimum for nectars)

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Sugar-sweetened and artificially-sweetened tea beverages	Artificially-sweetened beverages, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	657	A03DZ	Soft drinks
Soft drinks	9	Sugar-sweetened and artificially-sweetened tea beverages	Artificially-sweetened beverages, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	657	A03EB	Fruit soft drink, currant red
Soft drinks	9	Sugar-sweetened and artificially-sweetened tea beverages	Artificially-sweetened beverages, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	657	A03EC	Fruit soft drink, currant white

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Sugar-sweetened and artificially-sweetened tea beverages	Artificially-sweetened beverages, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	657	A03ED	Fruit soft drink, gooseberry
Soft drinks	9	Sugar-sweetened and artificially-sweetened tea beverages	Artificially-sweetened beverages, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	657	A03EE	Fruit soft drink, grape red
Soft drinks	9	Sugar-sweetened and artificially-sweetened tea beverages	Artificially-sweetened beverages, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	657	A03EF	Fruit soft drink, grape white

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Sugar-sweetened and artificially-sweetened tea beverages	Artificially-sweetened beverages, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	657	A03EG	Fruit soft drink, grapefruit
Soft drinks	9	Sugar-sweetened and artificially-sweetened tea beverages	Artificially-sweetened beverages, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	657	A03EH	Fruit soft drink, mango
Soft drinks	9	Sugar-sweetened and artificially-sweetened tea beverages	Artificially-sweetened beverages, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	657	A03EJ	Fruit soft drink, mulberry

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Sugar-sweetened and artificially-sweetened tea beverages	Artificially-sweetened beverages, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	657	A03EK	Fruit soft drink, nectarine
Soft drinks	9	Sugar-sweetened and artificially-sweetened tea beverages	Artificially-sweetened beverages, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	657	A03EL	Fruit soft drink, orange
Soft drinks	9	Sugar-sweetened and artificially-sweetened tea beverages	Artificially-sweetened beverages, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	657	A03EM	Fruit soft drink, papaya

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Sugar-sweetened and artificially-sweetened tea beverages	Artificially-sweetened beverages, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	657	A03EN	Fruit soft drink, peach
Soft drinks	9	Sugar-sweetened and artificially-sweetened tea beverages	Artificially-sweetened beverages, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	657	A03EP	Fruit soft drink, pear
Soft drinks	9	Sugar-sweetened and artificially-sweetened tea beverages	Artificially-sweetened beverages, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	657	A03ER	Fruit soft drink, plum

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Sugar-sweetened and artificially-sweetened tea beverages	Artificially-sweetened beverages, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	657	A03EQ	Fruit soft drink, pineapple
Soft drinks	9	Sugar-sweetened and artificially-sweetened tea beverages	Artificially-sweetened beverages, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	657	A03ES	Fruit soft drink, pomegranate
Soft drinks	9	Sugar-sweetened and artificially-sweetened tea beverages	Artificially-sweetened beverages, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	657	A03ET	Fruit soft drink, raspberry

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Sugar-sweetened and artificially- sweetened tea beverages	Artificially-sweetened beverages, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	657	A03EP	Fruit soft drink, pear
Soft drinks	9	Sugar-sweetened and artificially- sweetened tea beverages	Artificially-sweetened beverages, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	657	A03EV	Fruit soft drink, mixed fruit
Soft drinks	9	Sugar-sweetened and artificially- sweetened tonics and bitters	Artificially-sweetened beverages, carbonated or not, bitter, flavoured or not, containing quinine and/or quassin (quassia) as well as one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include quinine-based aperitif beverages (e.g. Palermo).	666	A03DZ	Soft drinks

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Sugar-sweetened and artificially-sweetened tonics and bitters	Artificially-sweetened beverages, carbonated or not, bitter, flavoured or not, containing quinine and/or quassin (quassia) as well as one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include quinine-based aperitif beverages (e.g. Palermo).	666	A03EY	Soft drink with bitter principle
Soft drinks	9	Sugar-sweetened aperitif beverages	Alcohol-free aperitif or cocktail beverages, still or sparkling beverages based on dealcoholised wine, aniseed without dilution using or gentian beverages, as well as sparkling beverages imitating alcoholic beverages consumed as an aperitif. Products that may be artificially-sweetened and containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive).	671	A03DZ	Soft drinks
Soft drinks	9	Sugar-sweetened aperitif beverages	Alcohol-free aperitif or cocktail beverages, still or sparkling beverages based on dealcoholised wine, aniseed without dilution using or gentian beverages, as well as sparkling beverages imitating alcoholic beverages consumed as an aperitif. Products that may be artificially-sweetened and containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive).	671	A03PN	Cocktail drink

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
Soft drinks	9	Sugar-sweetened colas	Cola-flavoured beverages without artificial sweetening, with or without additional flavouring and/or mentioning cola in the name or sales description. Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive).	655	A03DZ	Soft drinks
Soft drinks	9	Sugar-sweetened colas	Cola-flavoured beverages without artificial sweetening, with or without additional flavouring and/or mentioning cola in the name or sales description. Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive).	655	A03FQ	Cola-type drinks
Soft drinks	9	Sugar-sweetened colas	Cola-flavoured beverages without artificial sweetening, with or without additional flavouring and/or mentioning cola in the name or sales description. Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive).	655	A03FR	Cola beverages, caffeinic
Soft drinks	9	Sugar-sweetened colas	Cola-flavoured beverages without artificial sweetening, with or without additional flavouring and/or mentioning cola in the name or sales description. Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive).	655	A03FS	Cola mix, flavoured cola

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Sugar-sweetened colas	Cola-flavoured beverages without artificial sweetening, with or without additional flavouring and/or mentioning cola in the name or sales description. Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive).	655	A03FP	Cola beverages, decaffeinated
Soft drinks	9	Sugar-sweetened energy drinks	Beverages without artificial sweetening, containing one or more stimulant ingredient(s) (caffeine, taurine, guarana, etc.) and one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). May contain products with tea in addition to a stimulant ingredient, but does not contain coffee and milk beverages (animal milk or plant-based beverages) or colas.	664	A03DZ	Soft drinks
Soft drinks	9	Sugar-sweetened energy drinks	Beverages without artificial sweetening, containing one or more stimulant ingredient(s) (caffeine, taurine, guarana, etc.) and one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). May contain products with tea in addition to a stimulant ingredient, but does not contain coffee and milk beverages (animal milk or plant-based beverages) or colas.	664	A03GA	Energy drinks

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Sugar-sweetened fruit beverages	<p>Beverages without artificial sweetening, carbonated or not, containing fruit juice and/or purée (with/without vegetable(s)) in quantities < 50%, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Possible presence of milk (of animal or vegetable origin) and cereals in lower proportions than the fruit(s).</p> <p>Does not contain products with stimulant ingredients (tea, taurine, guarana, coffee, etc.) or quinine. Instant drinks fitting that definition are included in this subcategory.</p>	647	A03DZ	Soft drinks
Soft drinks	9	Sugar-sweetened fruit beverages	<p>Beverages without artificial sweetening, carbonated or not, containing fruit juice and/or purée (with/without vegetable(s)) in quantities < 50%, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Possible presence of milk (of animal or vegetable origin) and cereals in lower proportions than the fruit(s).</p> <p>Does not contain products with stimulant ingredients (tea, taurine, guarana, coffee, etc.) or quinine. Instant drinks fitting that definition are included in this subcategory.</p>	647	A03EA	Soft drink, with fruit juice (fruit content below the minimum for nectars)

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Sugar-sweetened plant-based beverages	<p>Beverages with or without artificial sweetening, flavoured or not, with cereals (rice, oats, spelt, buckwheat, millet, etc.), oilseeds (almonds, hazelnuts, cashew nuts, hemp, etc.) and/or pulses (soy). Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Also includes coconut milk, coconut milk/coconut water mixtures, and plant-based beverages containing tea or fruits (in lower proportions of fruits juice or purée than plant-based beverage). Does not contain products such as birch or maple water or sap, sugar cane juice, herbal infusions.</p>	649	A03TH	Milk imitates
Soft drinks	9	Sugar-sweetened plant-based beverages	<p>Beverages with or without artificial sweetening, flavoured or not, with cereals (rice, oats, spelt, buckwheat, millet, etc.), oilseeds (almonds, hazelnuts, cashew nuts, hemp, etc.) and/or pulses (soy). Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Also includes coconut milk, coconut milk/coconut water mixtures, and plant-based beverages containing tea or fruits (in lower proportions of fruits juice or purée than plant-based beverage). Does not contain products such as birch or maple water or sap, sugar cane juice, herbal infusions.</p>	649	A03TJ	Soya drink

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Sugar-sweetened plant-based beverages	<p>Beverages with or without artificial sweetening, flavoured or not, with cereals (rice, oats, spelt, buckwheat, millet, etc.), oilseeds (almonds, hazelnuts, cashew nuts, hemp, etc.) and/or pulses (soy). Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Also includes coconut milk, coconut milk/coconut water mixtures, and plant-based beverages containing tea or fruits (in lower proportions of fruits juice or purée than plant-based beverage). Does not contain products such as birch or maple water or sap, sugar cane juice, herbal infusions.</p>	649	A03TK	Almond drink
Soft drinks	9	Sugar-sweetened plant-based beverages	<p>Beverages with or without artificial sweetening, flavoured or not, with cereals (rice, oats, spelt, buckwheat, millet, etc.), oilseeds (almonds, hazelnuts, cashew nuts, hemp, etc.) and/or pulses (soy). Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Also includes coconut milk, coconut milk/coconut water mixtures, and plant-based beverages containing tea or fruits (in lower proportions of fruits juice or purée than plant-based beverage). Does not contain products such as birch or maple water or sap, sugar cane juice, herbal infusions.</p>	649	A03TL	Oats drink

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Sugar-sweetened plant-based beverages	<p>Beverages with or without artificial sweetening, flavoured or not, with cereals (rice, oats, spelt, buckwheat, millet, etc.), oilseeds (almonds, hazelnuts, cashew nuts, hemp, etc.) and/or pulses (soy). Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Also includes coconut milk, coconut milk/coconut water mixtures, and plant-based beverages containing tea or fruits (in lower proportions of fruits juice or purée than plant-based beverage). Does not contain products such as birch or maple water or sap, sugar cane juice, herbal infusions.</p>	649	A03TM	Rice drink
Soft drinks	9	Sugar-sweetened plant-based beverages	<p>Beverages with or without artificial sweetening, flavoured or not, with cereals (rice, oats, spelt, buckwheat, millet, etc.), oilseeds (almonds, hazelnuts, cashew nuts, hemp, etc.) and/or pulses (soy). Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Also includes coconut milk, coconut milk/coconut water mixtures, and plant-based beverages containing tea or fruits (in lower proportions of fruits juice or purée than plant-based beverage). Does not contain products such as birch or maple water or sap, sugar cane juice, herbal infusions.</p>	649	A03TN	Rye drink

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Sugar-sweetened plant-based beverages	<p>Beverages with or without artificial sweetening, flavoured or not, with cereals (rice, oats, spelt, buckwheat, millet, etc.), oilseeds (almonds, hazelnuts, cashew nuts, hemp, etc.) and/or pulses (soy). Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Also includes coconut milk, coconut milk/coconut water mixtures, and plant-based beverages containing tea or fruits (in lower proportions of fruits juice or purée than plant-based beverage). Does not contain products such as birch or maple water or sap, sugar cane juice, herbal infusions.</p>	649	A03TP	Spelt drink
Soft drinks	9	Sugar-sweetened plant-based beverages	<p>Beverages with or without artificial sweetening, flavoured or not, with cereals (rice, oats, spelt, buckwheat, millet, etc.), oilseeds (almonds, hazelnuts, cashew nuts, hemp, etc.) and/or pulses (soy). Products containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Also includes coconut milk, coconut milk/coconut water mixtures, and plant-based beverages containing tea or fruits (in lower proportions of fruits juice or purée than plant-based beverage). Does not contain products such as birch or maple water or sap, sugar cane juice, herbal infusions.</p>	649	A01BK	Coconut milk (cocos nucifera) liquid

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
Soft drinks	9	Sugar-sweetened sports drinks	Beverages without artificial sweetening containing one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive) and whose nutritional composition is particularly adapted to physical exertion.	660	A03GB	Isotonic and sport drinks
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03DZ	Soft drinks
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03FX	Diet soft drinks with flavours

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03FY	Diet soft drink with caffeine
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03FV	Diet soft drinks with fruit juice
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03EB	Fruit soft drink, currant red

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03EC	Fruit soft drink, currant white
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03ED	Fruit soft drink, gooseberry
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03EE	Fruit soft drink, grape red

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03EF	Fruit soft drink, grape white
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03EG	Fruit soft drink, grapefruit
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03EH	Fruit soft drink, mango

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03EJ	Fruit soft drink, mulberry
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03EK	Fruit soft drink, nectarine
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03EL	Fruit soft drink, orange

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03EM	Fruit soft drink, papaya
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03EN	Fruit soft drink, peach
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03EP	Fruit soft drink, pear

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03EQ	Fruit soft drink, pineapple
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03ER	Fruit soft drink, plum
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03ES	Fruit soft drink, pomegranate

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03ET	Fruit soft drink, raspberry
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A03EV	Fruit soft drink, mixed fruit
Soft drinks	9	Sugar-sweetened tea beverages	Beverages without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, with one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	658	A0EQN	Soft drinks with minor amounts of fruits or flavours

Categories _name	Categories _code	Subcategories _name	Subcategories_definitions	Subcategories _code	Foodex baseterms	Foodex name
Soft drinks	9	Sugar-sweetened tonics and bitters	Beverages without artificial sweetening, carbonated or not, bitter, flavoured or not, containing quinine and/or quassin (quassia) as well as one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include quinine-based aperitif beverages (e.g. Palermo).	667	A03DZ	Soft drinks
Soft drinks	9	Sugar-sweetened tonics and bitters	Beverages without artificial sweetening, carbonated or not, bitter, flavoured or not, containing quinine and/or quassin (quassia) as well as one or more ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include quinine-based aperitif beverages (e.g. Palermo).	667	A03EY	Soft drink with bitter principle
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03DZ	Soft drinks

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03FX	Diet soft drinks with flavours
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03FY	Diet soft drink with caffeine
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03FV	Diet soft drinks with fruit juice

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03EB	Fruit soft drink, currant red
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03EC	Fruit soft drink, currant white
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03ED	Fruit soft drink, gooseberry

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03EE	Fruit soft drink, grape red
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03EF	Fruit soft drink, grape white
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03EG	Fruit soft drink, grapefruit

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03EH	Fruit soft drink, mango
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03EJ	Fruit soft drink, mulberry
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03EK	Fruit soft drink, nectarine

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03EL	Fruit soft drink, orange
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03EM	Fruit soft drink, papaya
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03EN	Fruit soft drink, peach

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex baseterms	Foodex name
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03EP	Fruit soft drink, pear
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03EQ	Fruit soft drink, pineapple
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03ER	Fruit soft drink, plum

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03ES	Fruit soft drink, pomegranate
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03ET	Fruit soft drink, raspberry
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A03EV	Fruit soft drink, mixed fruit

Categories_name	Categories_code	Subcategories_name	Subcategories_definitions	Subcategories_code	Foodex_baseterms	Foodex name
Soft drinks	9	Tea beverages without added sugar	Beverages with or without artificial sweetening, with tea or maté extracts, carbonated or still, flavoured or not, without ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include products containing plant-based milk and containing tea or tea beverages with at least 50% fruit. Instant drinks fitting that definition are included in this subcategory.	656	A0EQN	Soft drinks with minor amounts of fruits or flavours
Soft drinks	9	Tonics and bitters without added sugar	Beverages with or without artificial sweetening, carbonated or not, bitter, flavoured or not, containing quinine and/or quassin (quassia) but no ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include quinine-based aperitif beverages (e.g. Palermo).	665	A03DZ	Soft drinks
Soft drinks	9	Tonics and bitters without added sugar	Beverages with or without artificial sweetening, carbonated or not, bitter, flavoured or not, containing quinine and/or quassin (quassia) but no ingredients such as mono- and disaccharides (sucrose, glucose, fructose, fruit sugar, etc.), syrup, honey, caramel (not used as an additive). Does not include quinine-based aperitif beverages (e.g. Palermo).	665	A03EY	Soft drink with bitter principle