

Nutri-Score for fermented milk (drinks): an arbitrary threshold makes it difficult for consumers to compare products within the same category

Yakult Europe, March 2021

As an international player in the food industry, Yakult is a company built on the belief that consumers should have access to healthy food. As such, the company is favourable in principle to the deployment of the Nutri-Score system, given that it provides consumers with additional information on their nutritional intake. However, due to unresolved questions of the Nutri-Score's consistency with the Codex Alimentarius for the category of fermented milks, as indicated in the Nutri-Score technical Q&A, Yakult is not yet in a position to support the roll-out of the Nutri-Score system. Currently, the Q&A, which is aimed at facilitating the implementation of the system, provides a guidance that is not scientifically substantiated. This lack of alignment has led to a distortion of the intended objective of the scheme, thereby potentially misleading consumers with regards to the nutritional values of drinkable dairy products.

The issue is twofold: (i) the Nutri-Score technical Q&A sets an arbitrary threshold for milk content in dairy drinks that lacks scientific substantiation, and (ii) this threshold prevents consumers from comparing products within the same product category.

An arbitrary threshold that lacks scientific backing

According to the Nutri-Score technical Q&A, certain drinkable dairy products – such as fermented dairy drinks, probiotic drinks and flavoured milks – fall under the classification of “beverages” instead of “foods”. This attribution is grounded on a milk content threshold (80%), which distinguishes 'beverages' (<80% of milk) from 'foods' (≥80% of milk). However, the lack of scientific grounding and rationale for this threshold is problematic for a system that claims to be based on science. An assessment of existing scientific literature and European definitions for “dairy products” shows that there is no consensus regarding the minimum percentage of 80% of milk.¹ Moreover, Yakult's prior engagement with Santé Publique France on the subject revealed that the provenance of this classification stems exclusively from French market research evaluating the prevailing milk content in dairy drinks marketed in France.² This observation raises concerns for two reasons: (i) a lack of scientific backing regarding the minimum percentage, and (ii) the unfounded extrapolation of the French market situation towards all European markets. In fact, EU market data shows that there are probiotic fermented milk drinks such as Yakult, but also traditional fermented milk drinks such as Ayran and Lassi, that do not meet the 80% threshold.³ The assertion that this threshold was defined by an “expert consensus”, as indicated in the Q&A⁴, which is unsupported by a published scientific reference of any kind, fails to provide scientific substantiation for the 80% distinction. **The assessment of scientific literature on PubMed and other sources further shows that there are no scientific publications nor reference documents distinguishing between dairy drinks based on an 80% threshold¹, nor is there any European legislation attesting to such**

¹ Refer to "Annex 2: assessment of available evidence on 80% milk content to define dairy products"

² Conference call between Yakult and Santé publique France on 24 January 2019

³ Refer to “Annex 1: Mintel study of fermented milk (drinks) in Europe: summary of market data”

⁴ “This threshold **has been defined by expert consensus**, to ensure a clear distinction between milk products (especially compared to beverages such as café au lait) while also continuing to allow a certain degree of innovation within this product sector”, Technical Q&A Q II-3 “Which beverages are covered by the Nutri-Score modification?”

threshold⁵. Food classification systems in the EU for scientific purposes, such as EFSA's FoodEx2 classification system, do not use thresholds to distinguish between dairy drinks either.

Moreover, at a global level, the 80% threshold referred to by the Nutri-Score technical Q&A contradicts the classification recommendations of the Codex Alimentarius, which provides clear international definitions based on international consensus and "sound scientific analysis and evidence"⁶. According to the Codex Standard for Fermented Milks (CODEX STAN 243-2003), "*flavoured fermented milks*" are considered as such if they contain at least 50% fermented milk, while those containing at least 40% fermented milk are classified as "*drinks based on fermented milk*".⁷ **The definitions for these categories were introduced at Codex Alimentarius by international consensus to provide legal certainty on an international level for dairy products with a dairy content of between 40%-50%.**

It is also worth noting that the International Dairy Federation (IDF), the international leading body in the field of dairy science, has not recommended any specific percentages for dairy products, and is a strong supporter of and contributor to Codex standards, including the abovementioned Codex Standard for Fermented Milks⁸.

The obstacle facing consumers seeking to compare products within the same product category

Nutri-Score was developed to facilitate consumer's understanding of nutritional information, allowing them to quickly compare the basic nutritional information of a product within its product category. A recent study conducted by Santé Publique France shows that Nutri-Score has gained much support among French consumers (94%) and confirms that people tend to gravitate towards better rated foods within the same product category (36%)⁹. This figure will likely increase over time and shows the impact that Nutri-Score has on buying behaviour for products within the same category. Consequently, introducing an arbitrary distinction within a single product category complexifies an albeit simple system. The fact that the algorithm for beverages is stricter than for solid foods results in disproportionately low scores for drinkable dairy products that are below the arbitrary 80% milk threshold compared to other products which are classified as 'foods'.

The technical Q&A states that the threshold ensures a clear distinction between 'milk products' and 'beverages such as café au lait'. For lack of other available lists, Yakult has analysed a list of dairy drinks and plant-based dairy analogues with corresponding sugar and energy values published by the Dutch Diabetes Fund.¹⁰

Although this list does not pretend to be an exhaustive compilation of drinkable dairy products in the Netherlands, it reveals that both examples of 'beverages such as café au lait' included in this list exceed the 80% milk threshold and are therefore classified as 'foods' under Nutri-Score, with favourable scores. The 80% milk threshold therefore fails to exclude the very products it claims to exclude from the 'foods' category. Moreover, the result of this arbitrary threshold could generate a distorted effect that goes against the very objectives set by Nutri-Score (as shown in the chart below): the dairy drinks in the Dutch Diabetes Fund list

⁵ At EU level, Annex VII, Part III of Regulation (EU) No 1308/2013 contains several definitions of milk products, none of which mention a specific percentage

⁶ Procedural Manual of the Codex Alimentarius Commission 26th edition

⁷ Codex Standard for Fermented Milks (CODEX STAN 243-2003)

⁸ <https://www.fil-idf.org/>

⁹ Sarda B, Ducrot P, Serry, A-J. [Nutri-Score : Évolution de sa notoriété, sa perception et son impact sur les comportements d'achat déclarés entre 2018 et 2020](#). Saint-Maurice : Santé publique France, novembre 2020.

¹⁰ Source: [Hoeveel suiker zit er in zuivel drank? \(diabetesfonds.nl\)](#) (Sugar and energy comparison of dairy drinks by the Dutch Diabetes Fund). Also, refer to "Annex 3: Nutritional comparison dairy (and plant-based) drinks "

that would be classified as 'foods' due to their milk content contain up to 28g of sugar per serving (with an average of 9.6g), as opposed to the dairy drinks that would be classified as 'beverages', which contain up to 18g of sugar (with an average of 8.7g) but in fact receive disproportionately lower scores due to their classification as 'beverages'.

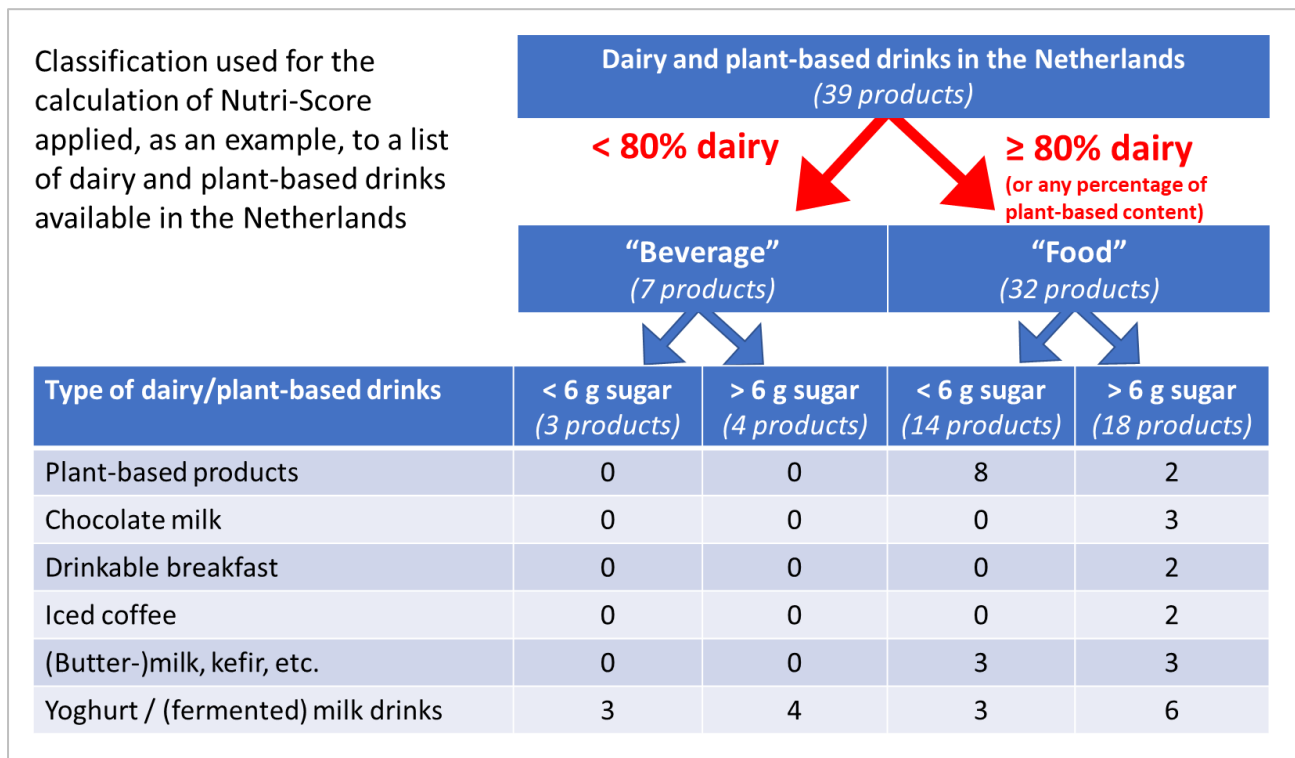


Figure 1: A comparison was made between different types of dairy and plant-based drinks in a list published by the Dutch Diabetes Fund. Most sweetened drinks on the list contain more sugars and calories per serving than Yakult varieties. In addition, many chocolate milks, drinkable breakfasts and iced coffees on the list (all classified as 'foods' under Nutri-Score with favourable scores) have no healthy alternatives (in line with the Dutch dietary guidelines, the Wheel of Five, 'healthy alternatives' are those with <6g of sugars).

With Yakult consumer research showing that consumers largely perceive fermented milk and fermented milk drinks as belonging to the same product category¹¹, this lack of alignment makes it more difficult for consumers to compare products like-for-like. Moreover, based on the current Q&A, products such as Yakult would be presented to consumers with disproportionately worse scores than products that contain at least 80% milk - even though the sugar and energy content of these products are often higher per serving - thereby potentially misleading consumers in their nutritional choices. The fact that both fermented milk and fermented milk drinks tend to be stored on the same shelf (as a functional food as opposed to a thirst quencher) is likely to exacerbate this direct – and distorting – comparison within the category of dairy products. This is not in line with Nutri-Score's objective of enabling quick but fair comparisons between products in the same category. Yakult has been raising this issue with Santé publique France as well as authorities in Belgium, the Netherlands, Germany, Switzerland and Luxembourg since 2019.¹²

¹¹ Consumers (multiple EU countries, n= 32437) perceive fermented probiotic dairy drinks such as Yakult and Actimel to be similar products in the same category of dairy products with active ingredients. When asked which brands of dairy products that are good for health because of specific active ingredients they know, 13% of consumers spontaneously mentioned Yakult, and 11% mentioned Actimel (spontaneous brand awareness).

In addition, many consumers use Yakult and Actimel interchangeably. In Germany (n=540), for example, 29% of Yakult drinkers said that Yakult is the only product they use in this category, while 71% reported that they use either Yakult and/or Actimel or Activia. Similarly, 70% of Actimel drinkers also use Yakult or Activia.

¹² Refer to "Annex 4: Yakult position paper as shared with Santé publique France and other national authorities"

It is also worth noting that in the Nutri-Score technical Q&A, “dairy products” are the only food group split into an arbitrary “food” or “beverage” category. This clear and marked inconsistency between the 80% milk threshold required for drinkable dairy products, and a complete absence of such a threshold for any other food category, makes the distinction even more surprising.

Conclusion

With this in mind, Yakult would be grateful if the Scientific Committee composed of experts from across Europe could closely examine the issue of the existing threshold in the Nutri-Score technical Q&A for the fermented milk drinks category. A potential solution, for instance, could be to align the definition of dairy products in the Nutri-Score technical Q&A with that of the 'Codex Standard for Fermented Milks' , by incorporating the fermented milk (drinks) category of products into the description of dairy products used by the Nutri-Score Q&A. This would (i) enable the categorization of dairy products in the Nutri-Score labelling system to be supported by international and scientifically recognised standards and (ii) rightfully allow for a direct comparison between products that have a similar pattern of consumption.

Annex 1: Mintel search of fermented milk (drinks) in Europe: summary of market data

A search of the Mintel GNPD database shows that there are several products on the European market that are 'flavoured fermented milks' or 'drinks based on fermented milk' as defined by the Codex Standard for Fermented Milks (CODEX STAN 243-2003). These include fermented (probiotic) milk drinks such as Yakult, but also traditional dairy products such as Ayran and Lassi, which are at risk of being incorrectly classified as 'beverages' instead of 'foods' due to the current description in the Nutri-Score Q&A document.

Disclaimer: Due to the limitations of the Mintel [Global New Products Database](#) this is not a full overview of the fermented milk (drinks) in Europe.

Search criteria:

- Category: Dairy
- Sub-category: Drinking Yogurt & Liquid Cultured Milk
- < 2.2 g proteins and <80% dairy
- New product introductions and relaunches (last 3 years)
- Excluding: coffee, juice and whey drinks and smoothies

Summary outcome Mintel search

	Countries included	Type of products covered under CODEX STAN 243-2003, category 2.3 & 2.4	Number of fermented milk (drinks)*
Northern Europe	Denmark, Finland, Sweden	Fermented milk Lassi yoghurt Yoghurt drink	8
Western Europe	Belgium, France, Ireland, The Netherlands, The United Kingdom	Fermented milk Flavoured buttermilk Yoghurt drink	26
Central Europe	Austria, Germany, Poland, Romania, Slovakia, Switzerland	Ayran yogurt Fermented milk Flavoured buttermilk Yoghurt drink	42
Southern Europe	Italy, Portugal, Spain	Yoghurt drink Fermented milk drink	14

*of which one or several Yakult products.

Annex 2: assessment of available evidence on 80% milk content to define dairy products

A search in multiple search engines and databases shows that the 80% threshold for drinkable dairy products is not based on expert consensus as claimed in the Nutri-Score technical Q&A, as no such references can be found. The only text which mentions specific percentages for drinkable dairy products is the Codex Standard for Fermented Milks (CODEX STAN 243-2003): 50% for Flavoured Fermented Milks and 40% for Drinks based on Fermented Milk.

PubMed (nonrelevant)

- "fermented milk" AND ("composition" OR "milk content" OR "percentage"): 197 hits
- "fermented milk" AND ("composition" OR "milk content" OR "percentage") NOT "effect": 128 hits
- "fermented milk" AND ("composition" OR "milk content" OR "percentage") NOT ("effect" OR "health"): 93 results
- "fermented milk" AND ("composition" OR "milk content" OR "percentage") NOT ("effect" OR "health" OR "microbiota"): 70 results
- "fermented milk" AND ("composition" OR "milk content" OR "percentage") NOT ("effect" OR "health" OR "microbiota" OR "kefir"): 59 results
- Manually checked: nothing on milk composition
- "fermented drink" AND ("composition" OR "milk content" OR "percentage") NOT ("effect" OR "health" OR "microbiota" OR "kefir"): 3 results
- "fermented milk drink" AND ("composition" OR "milk content" OR "percentage") NOT ("effect" OR "health" OR "microbiota" OR "kefir"): 1 result not relevant

Wikipedia (nonrelevant)

- "fermented drink": 2722 results
- "fermented milk drink": 1171 results
- "milk content in fermented milk drink": 505 results, not relevant
- "milk percentage in fermented drink": 125 results not relevant
- "80%" AND "milk": 7594 results
- "80%" AND "fermented milk": 43 results

Google search (the only relevant references relate to the Codex Standard for Fermented Milks)

- [FERMENTED MILKS | Types and Standards of Identity](#) I. S. Surono,A. Hosono, in [Encyclopedia of Dairy Sciences \(Second Edition\)](#), 2011
*"Amendment to the Codex Standard for Fermented Milks pertaining to Drinks based on Fermented Milk is being developed with a minimum **content of 40% fermented milk**. Each country has its own standards for milk as raw material, starter culture, manufacturing procedures, quality requirements, and legal requirements. Codex Standard for Fermented Milks (Codex Stan 2 43-2003) defines the viable count of yogurt starter. The current standards of identity for fermented milks concern milk fat, milk protein content, amount of starter cultures, a minimum live and active culture content of labelled microorganisms added as supplement to the specific starter cultures, and titratable acidity expressed as lactic acid."*
- [Fermented Foods: Fermented Milks](#) C.D. Khedkar, ... S.S. Deosarkar, in [Encyclopedia of Food and Health](#), 2016
"Types of FM
Concentrated FM
Concentrated FM is an FM of which the protein has been increased prior to or after fermentation to minimum 5.6%. Concentrated FMs include traditional products such as Stragisto (strained yogurt), Leben, Ymer, and

Ylette.

Flavoured FMs

Flavoured FMs are **composite milk products, which contain a maximum of 50% (m m⁻¹) of non-dairy ingredients** (such as nutritive and [nonnutritive sweeteners](#), fruits, and vegetables as well as juices, purees, pulps, preparations and preserves derived therefrom, cereals, honey, chocolate, nuts, coffee, spices, and other harmless natural flavouring foods) and/or flavours. The non-dairy ingredients can be mixed in prior to or after fermentation.

Drinks Based on FM

Drinks based on FM are composite milk products, obtained by mixing FM with potable water with or without the addition of other ingredients such as whey, other non-dairy ingredients, and flavourings. Drinks based on FM contain a minimum of 40% (m m⁻¹) FM. Other microorganisms than those constituting the specific starter cultures may be added."

- "milk content" AND ("fermented milk" OR "fermented drink") AND "80%": 2460 results
- "milk content" AND ("fermented milk" OR "fermented drink") AND "40%" AND "CODEX": 539 results, most relevant at the top
- "milk content" AND ("fermented milk" OR "fermented drink") AND "80%" AND "CODEX": 517 results: 80% is mentioned for fat, bacteriocins, oxgal, none refers to milk
- "40% milk" OR "40 % milk": none relevant
- "80% milk" OR "80 % milk": none relevant
- "40%" AND "fermented milk": first ones relevant
- "80%" AND "fermented milk": none relevant
- ("40%" AND "milk") AND "fermented milk": first ones relevant
- ("80%" AND "milk") AND "fermented milk": none relevant, related to water holding capacity, etc...

Google scholar (case law search) (nonrelevant)

- "milk content" AND ("fermented milk" OR "fermented drink") AND "80%" AND "CODEX": 0 hits

Google scholar (article search) (nonrelevant)

- "milk content" AND ("fermented milk" OR "fermented drink") AND "80%" AND "CODEX": 36 hits, nonrelevant
- "milk content" AND ("fermented milk" OR "fermented drink") AND "40%" AND "CODEX": 38 hits, nonrelevant
- "fermented drink" AND "40%": nonrelevant
- "fermented milk" AND "40%": none relevant

Codex Alimentarius website

- 80% milk: no meaningful results
- 40% milk: meaningful result (Codex Standard for Fermented Milks (CODEX STAN 243-2003))

EFSA FoodEx2

- No milk content threshold to distinguish between dairy drinks

Annex 3: Nutritional comparison dairy (and plant-based) drinks

Key takeaways

- The nutritional composition in the “food” group is not necessarily better than the nutritional composition of the “beverage” group
- The issue of not having healthy alternatives available is largely illustrated by the yellow rows in the 3 groups (chocolate milk, drinkable breakfast and iced coffee)
- This problem cannot be solved with the distinction between food and drink (the 80% threshold), as these three problematic subgroups are already classified as food (favourable criteria) for the Nutri-Score calculation
- Meanwhile, due to the 80% threshold, the yogurt / (fermented) milk drink subgroup is treated unevenly and heavily impacted compared to the other subgroups without any scientific substantiation

	Product comparison				Combined	
	Food		Beverage		Food & Beverages	
	<6g sugar	>6g sugar	<6g sugar	>6g sugar	<6g sugar	>6g sugar
	14	18	3	4	17	22
	0-6 g	6,8-28 g	2,7-4,6 g	9-18 g	0-6 g	6,8-28 g
plant based	8	2	0	0	8	2
chocolate milk	0	3	0	0	0	3
drinkable breakfast	0	2	0	0	0	2
iced coffee	0	2	0	0	0	2
(butter)milk, kefir, etc.	3	3	0	0	3	3
yoghurt/ (fermented) milk drinks	3	6	3	4	6	10

Annex 4: Yakult position paper as shared with Santé publique France and other national authorities

Fermented milk (drinks): Making the Nutri-Score classification consistent with the existing CODEX Alimentarius one

11 November 2019

The Nutri-Score system, a front-of-pack nutrition labelling scheme that gives an overall score to foods based on their nutritional composition, has been introduced by the French government as a tool to improve public health by helping consumers make healthy dietary choices. As an international player in the nutrition industry, Yakult considers that this system which provides consumers with additional information on their nutritional information is extremely pertinent and that it has the potential to become the single harmonised front-of-pack logo for the entire EU, which would benefit consumers, food companies, and the single market as a whole. Therefore, as a food company operating in 13 countries in Europe, we would in principle be ready to support the introduction of Nutri-Score in other European countries. However, **given the unresolved questions of the Nutri-Score's consistency with the Codex Alimentarius for the category of fermented milks, we wouldn't yet be able to do so.**

Currently the Nutri-Score technical Q&A states that *"milk, drinkable yoghurt, flavoured or chocolate milk beverages containing more than 80% milk, beverages reconstituted with a liquid other than water, soups and gazpacho, and plant-based drinks"* are not considered beverages for the purposes of calculating the Nutri-Score. This makes sense, as the consumption patterns of such products is different from beverages that are used mainly in large volumes for hydration purposes.

The 80% milk threshold, however, is not substantiated in any way. According to the technical Q&A, the threshold was defined by 'expert consensus'. We question the validity of the 80% threshold, as well as the assertion that this threshold was defined by 'expert consensus'. A search of scientific publications and (international) dairy definitions shows that there is no scientific or expert consensus regarding a percentage of 80% milk to ensure a clear distinction between milk products. In fact, neither EU nor French legislation contain any reference to a specific percentage. At a global (Codex Alimentarius) level, the only Codex Standard that mentions specific percentages for drinkable dairy products is the Codex Standard for Fermented Milks (CODEX STAN 243-2003), which mentions 50% fermented milk for 'Flavoured Fermented Milks', and 40% fermented milk for 'Drinks based on Fermented Milk'. The definitions for these categories were introduced at Codex Alimentarius by international consensus to provide legal certainty on an international level for dairy products with a dairy content of between 40%-50%.

Furthermore, the International Dairy Federation (IDF), the international leading body in the field of dairy science, has not recommended any specific percentages for dairy products, and is a strong supporter of and contributor to Codex standards, including the abovementioned Codex Standard for Fermented Milks.

The 80% threshold does not match the fermented milk (drinks) definition of the Codex Alimentarius and, therefore introduces a discrepancy within this category, by excluding some of those fermented milk (drinks) from this definition.

'Flavoured fermented milks' and 'drinks based on fermented milk', as defined by this Codex Standard, are a category that includes probiotic fermented milk drinks such as Yakult, but also traditional dairy products such as Ayran and Lassi. The worldwide retail value of the 'probiotic' fermented milks market alone was 6.9

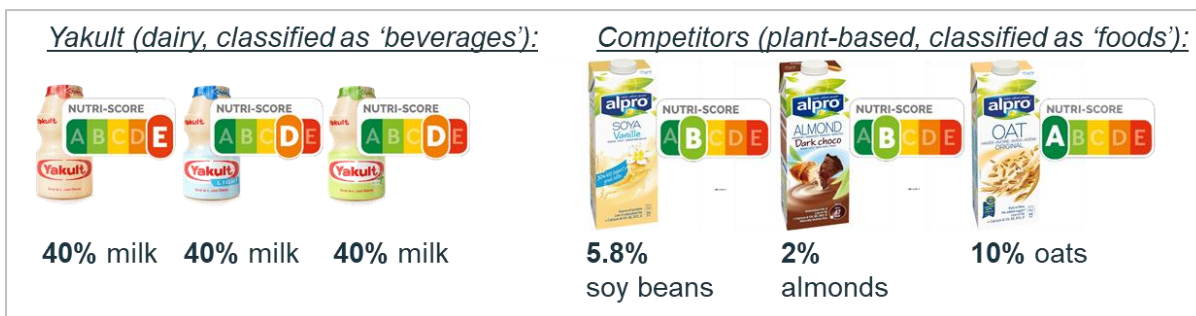
billion USD in 2018. This shows the high demand for fermented milk (drinks) around the world. Hence, a significant part of this category is at risk of being classified as 'beverages' instead of 'foods' due to the current description in the Nutri-Score Q&A document.

As an example, Yakult is a probiotic fermented milk drink with 40% skimmed milk, and as such is a 'drink based on fermented milk' as defined in the Codex Standard for Fermented Milks (CODEX STAN 243-2003). But Yakult does not fall under any of the categories mentioned in the Nutri-Score technical Q&A, under the question "which beverages are covered". In parallel though, the milk content requirement in the Nutri-Score technical Q&A could mean that products such as Yakult are classified as 'beverages' instead of 'foods', **like the rest of the dairy products category**. This results in scores that are negative as compared to products with a similar use **and which are perceived similarly by consumers** but which have a different milk content.



As such, this will mean that products such as Yakult **would be presented to consumers with a lower score** than competitor products that have a better score because they contain at least 80% of milk, despite supplying higher energy and sugar levels per portion. As these products are very similar in the eyes of consumers, who buy them for their functional properties, this would mislead consumers in thinking that competitor products are a healthier choice than Yakult, **options such as those established in the Nutri-Score to identify nutrients that should be limited (energy, saturated fatty acids, sugars, salt)**.

In addition, there is a very obvious inconsistency between the 80% milk threshold for milk drinks on the one hand, and the complete absence of such threshold for plant-based drinks (which are often consumed as alternatives for dairy products) on the other hand. It is difficult to understand how the focus on 'nutritional quality' as applied to milk products apparently does not apply to plant-based drinks, which are categorised as 'foods' for the purposes of calculating the Nutri-Score. This again raises doubts about the purported 'expert consensus'. In addition, it discriminates against products such as Yakult, with a milk content of 40%, in favour of dairy analogues such as almond drinks, oat drinks and soy drinks, many of which contain no more than 2% almonds, 8-10% oats, or 6-8% soy beans. In terms of 'nutritional quality', the protein content of oat and almond drinks is usually much lower than the protein content of Yakult (e.g. 0.3g-0.5g per 100ml for Alpro oat and almond drinks as opposed to 1.3g for Yakult).



As a result, the fermented milk (drinks) category of products, subject to an important international dairy standard should therefore also **be integrated into the definition of dairy products posed by the Nutri-Score Q&A** in order to be considered as 'foods' for the purpose of calculating the Nutri-Score, given that the pattern of consumption is similar to the products that are currently excluded from the beverage category, creating competitive disadvantages for some products and potentially misleading the consumer **as to the true nutritional content of the products.**

As a reminder, in other nutrient profiling systems, products such as Yakult are classified in a more positive way (e.g. in the nutritional criteria of the Dutch Advertising Code a reference is made to the Codex Standard in order to include products such as Yakult in the dairy category).

In the annex, an overview is presented of products that are covered by the Codex Standard for Fermented Milks and are on the market in various EU member States. This overview, from the Mintel database, shows that extending the Nutri-Score to markets outside of France could be a much more significant challenge in other European countries **and therefore be an obstacle to the adoption of the Nutri-Score in these respective countries.**