



WHERE IS THE FRUIT?

March 2017



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1. Executive Summary

The image and name of fresh fruit is still often being misused by other food sectors. This is the main finding of the new edition of Freshfel's 'Where is the Fruit?' study. There are still too many products that are displaying fruits prominently on their packaging, despite little to no actual fruit content, confirming the outcomes of an earlier study in 2010.

Out of the 188 products investigated from 13 EU Member States, **only 20% of all the products investigated had a fruit content of 50% or more**. A further 7% of products contained no fruit at all, 34% contained 1%-10% of fruit, and another 34% contained between 11%-50% of fruit. Besides, an additional 5% of products did not specify the amount of fruit content in some fruit categories. These findings are inconsistent with the objectives of the EU Regulation on food information to consumers, as well as the EU Regulation on nutrition and health claims.

The first report was published in 2010, with high hopes that the European legislation on nutrition and health claims, as well as the later adopted legislation on food information to consumers would contribute to a better and less misleading situation for consumers. The EU Regulation 1169/2011 of food information to consumers outlines that **'food information shall not be misleading'**, and EU Regulation 1924/2006 on nutrition and health claims, includes in the claim definition **'pictures, graphic or symbolic representation, which suggests that a food has particular characteristics'** (see next page for more details). Both Regulations clearly state that it is not allowed to make false claims, or to be misleading to consumers. The outcome of this 'Where is the Fruit?' report confirms that there is still misleading information reaching the consumers. Consumers need truthful information when they purchase a certain product, even more so in the current environment of increasingly health-conscious consumers and rising levels of obesity. Some consumers might think they are making a healthy choice because of the use of healthy images such as fruits, whereas in reality they might be disappointed.

One way to overcome the current situation would be to finally fully implement the nutrient profiles within the claims Regulation. For a product to be able to use the pictorial/ graphic or symbolic image of fruit, it should contain a minimum of 50 gram of fruit per 100 gram of finished product, while not exceeding maximum thresholds of salt, sugar and fat.

The results demonstrate that the **use of fruits in marketing of other products, can lead to consumer confusion about eating a portion of fruit**. A way to avoid this is to encourage consumers to eat more actual fruit. Fruit and vegetables are important components of a healthy diet. There is a lot of research (e.g. WHO) that states that a *'sufficient daily consumption of fruit and vegetables could help prevent major diseases, such as cardiovascular diseases and certain cancers'*. This report outlines that there is a need for more awareness raising to consumers, as well as **a need to promote the eating of whole fruits and vegetables**.

2. Introduction

Freshfel Europe, the European Fresh Produce Association, is the forum for the fresh fruit and vegetable supply chain in Europe and beyond. Freshfel Europe incorporates more than 200 companies, as well as national associations of producers, exporters, importers, wholesalers, distributors, retailers and service providers, both within the EU and beyond. Freshfel's mission is to enhance the position of the fruit and vegetables category, improve the efficiency and competitiveness of the sector, assist growers and traders to comply with the highest food and plant safety rules and secure a favourable environment to promote the benefits of fresh produce with the ultimate goal to stimulate the consumption of fresh fruit and vegetables.

This report is unveiling the findings of the second edition of the *'Where is the Fruit'* study. The first edition of this study was released by Freshfel in 2010. The name *'Where is the Fruit'* is inspired by a similar report from the USA from the Prevention Institute in 2007.

This Freshfel initiative is brought forward by the Freshfel's Promotion, Communication and Image Committee under the supervision of the Board. The Freshfel Europe's secretariat coordinated the overall project. Both these reports aim to stimulate the debate about food information to consumers and highlight potentially misleading information. The reports look at the fruit content in a variety of food products on sale at the supermarket shelves, containing an image, picture or word with reference to fruit on the outer packaging. Then, these reports investigate whether or not fruit is indeed present in the product and to which extend.

The findings confirm a suspicion and clearly demonstrate that in Europe, similarly to the findings in the US, too little fruit content is present in the products investigated, whilst clearly displaying fruit on their outer packaging. In 2010, the Freshfel study indicated that 18% of the products had no fruit at all, while 32% had only between 1% and 10% of fruit present and another 27% had between 11% and 50. Only 17 % of the product reviewed had more than 50% of fruit content. The 2017 edition of this study will look at the fruit content in food products in a similar manner.

The use of attractive and colourful fruit images on packaging is commonly used to sell food products. Evidently, this can lead to consumers believing that a substantial amount of the substance alluded to (by images or statements) is actually in the product. With increasingly health-conscious consumers, it has become increasingly common to have references to fruit or to display images of fresh fruit on the packaging despite limited or no fruit content in the product.

As the previous report was released several years ago, it was time to evaluate if the situation changed or if the findings remain similar. To conduct the 2017 study, Freshfel commissioned the analysis of the labels to Innovative Fresh, a Dutch company providing objective and reliable quality information about fresh produce and flowers in shops and retail chains. Innovative Fresh has been responsible for objectively reporting about the different products and their ingredients and aggregate the data that are found in this report.



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3. Findings ‘Where is the Fruit?’ study

The findings of the study are provided in this section per product category, per product, according to nutrient content and by Member State. The 2017 study was slightly different in set-up than the 2010 study, covering less products, but more countries. The 2017 study was executed in 13 EU member states, namely: Belgium, Czech Republic, Denmark, France, Germany, Greece, Ireland, Italy, Lithuania, the Netherlands, Poland, Spain and the UK, covering 80% of the EU population. More information on the methodology can be found in Annex I. Please note that as the majority of products contains more than one fruit component, some products are included in several of the fruit categories. Therefore totals in specific graphs might not always add to 100%.

3.1. Per product category:

- In total 9 product groups out of 15 had some level of fruit in all of the countries purchased: Biscuits, breakfast cereal, fresh or chilled fruit, fruit and herbal teas, ice cream, jams and spreads, juice packs or long life juice, smoothies and yogurt. 6 products categories included products that do not contain fruit at all.
- Two product groups contained the highest number of products with no fruit ingredients: Fizzy drinks / Soda’s, as well as Sweets and Candy.

Product type	N° products containing Fruit	N° products Containing NO Fruit
All countries		
Biscuits	13	0
Breakfast cereal	13	0
Cakes*	11	1
Cereal of muesli bar	12	1
Chocolate products	11	2
Fizzy drinks and sodas*	8	4
Fresh or chilled fruit juice*	12	0
Fruit and herbal teas	13	0
Ice cream	13	0
Jams and spreads	13	0
Juice packs or long life juice*	12	0
Smoothies*	11	0
Sweets and candy*	9	3
Yogurt	13	0
Yogurt drinks	11	2
Total products	175	13
% of all products	93%	7%

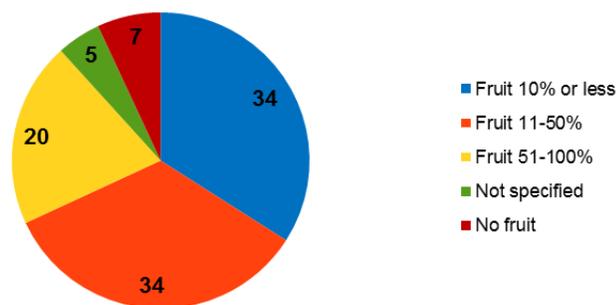
* In Greece, Italy and Poland not all product groups were available or provided detailed information. Therefore the total is not always 13.

3.2. Per product:

The findings of the 2017 study show that 7% of the products contained no fruit. 34% contained minimal fruit (less than 10% fruit) despite the display of images or reference to fruit on their package. 34% had a content between 11% and 50% of fruit. Only 20% of products had more than 50% fruit content. Besides, an additional 5% of products did not specify the amount of fruit content in some fruit categories. The chart below summarizes the findings of 2010 compared to the situation depicted in 2017. The pie chart shows the breakdown of the 2017 study.

Given that the products chosen are generally from a prominent place on the shelf, as well as a popular brand, there is a bias for the 'best case' products. Furthermore, there was no threshold no price, which also favoured the assumingly better products.

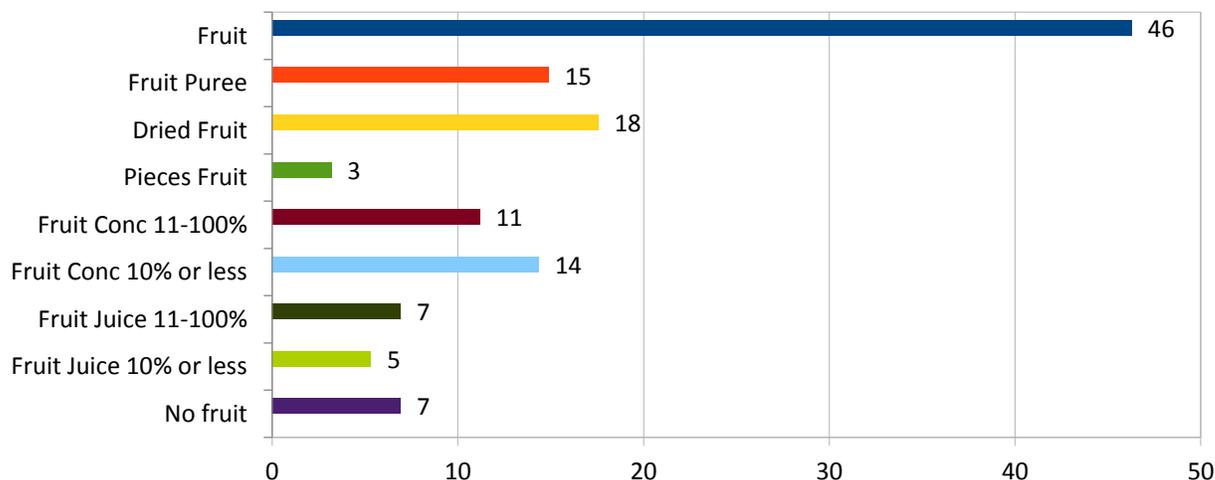
Percentage Fruit in all products (%) / 188 products



Content of fruit in %	2010	2017
No fruit	18%	7%
1% to 10%	32%	34%
11%-50%	27%	34%
More than 50%	17%	20%
No indication	6%	5%

Of the 188 products studied the results show that 7% contained no fruit while the remaining 93% had fruit in one form or more. The graph above shows the percentages of different kinds of fruit that were in the products. Some products had multiple source of fruit, hence the total adds up to more than 100%.

The distribution of products per fruit category (%)
All countries 188 products / products can be included in more than one category



3.3. Nutrients per product:

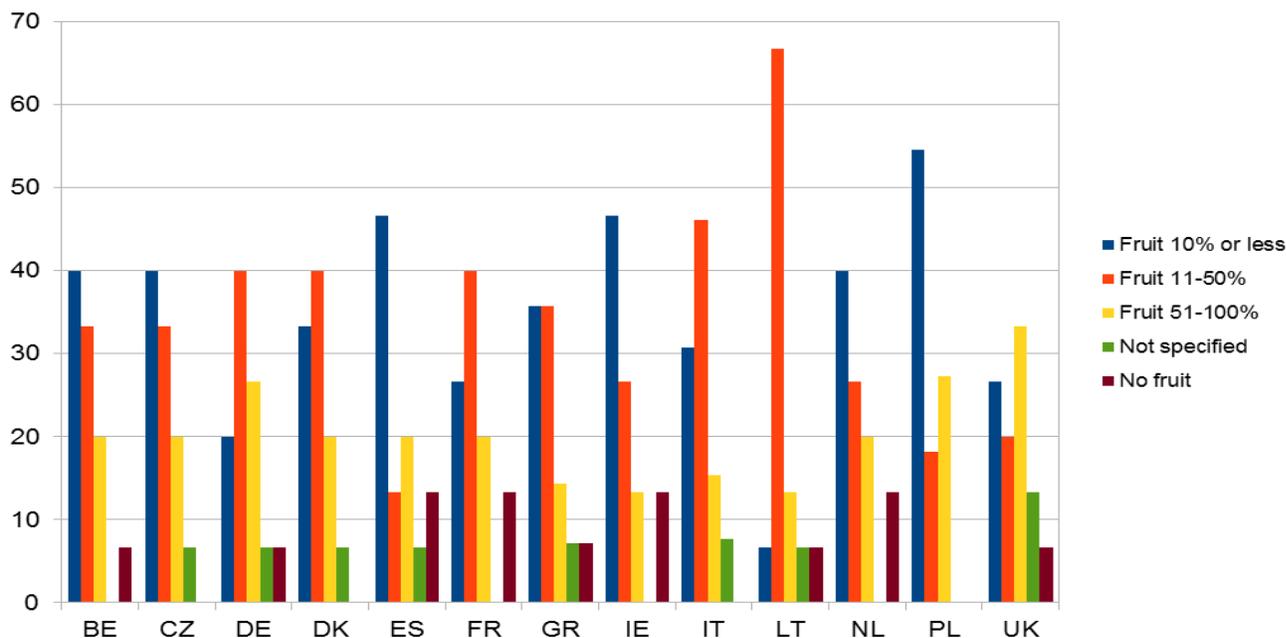
From all the products, **50% contained more than 15g per 100 g/ml of sugar**. Of those products containing at least 50% of fruit, 18% also contained more than 15g of sugar per 100 g/ml. So in total, out of 188 products, only 31 products contained more than 50% fruit, as well as less than 15g per 100g g/ml of sugar, which is 16,5% of the total products sampled. The current claims Regulation is not taking into account any thresholds.

Products containing	All products (188)		All products with fruits 51-100% (38 products)	
	Products	%	Products	%
More than 15g Sugar per 100g/ml	94	50%	7	18%
Less than 15 g Sugar per 100g/ml	94	50%	31	82%

More information on the nutrient levels for overall carbohydrates, fat and saturated fats can also be found in Annex III, at the end of this report.

3.4. Per country:

The country overview is just to highlight that in most countries the products investigated had little products that had a fruit content of more than 50%. The graph below reflect possible differences among the Member States, but could also be influenced by the selection taken at the moment of the assortment. There are therefore no tangible conclusions that can be made based on the graph alone, however it shows some general trends.



4. Relevance of a ‘Where is the Fruit?’ study

Consumers recognise fruit and vegetables as one of the most valuable healthy foods and also recognise they should pursue eating more fruits and vegetables¹. The image of fruit and vegetables is therefore highly attractive for food manufacturers in order to attract consumers and stimulate sales of all types of fast moving consumer goods using pictorial images of fruit, with the additional benefit of having large budgets for marketing and advertisement.

The first ‘Where is the Fruit’ study released by Freshfel in 2010 specifically looked at the findings in relation to the then new European legislation (Regulation 1924/2006) on health and nutrition claims and more specifically on the terms of use of images that imply that a product has certain characteristics.

Regulation 1924/2006 on nutrition and health claims states in its Article 2 (1) that a *“claim’ means any message or representation, which is not mandatory under Community or national legislation, including pictorial, graphic or symbolic representation, in any form, which states, suggests or implies that a food has particular characteristics.”*

Since then, a new legislation to govern food information to consumers was also finalised, namely Regulation 1169/2011 on food information to consumers. This legislation also has clear provisions to reduce misleading information to consumers, which are thus highly relevant for the context of this ‘Where is the Fruit’ study.

Regulation EU 1169/2011 provides in Article 7 (1) that: *“Food information shall not be misleading, particularly: (a) as to the characteristics of the food and, in particular, as to its nature, identity, properties, composition, quantity, durability, [etc.]... (d) by suggesting, by means of the appearance, the description or pictorial representations, the presence of a particular food or an ingredient.”*

A review of the marketing and advertisement practices in light of these legal provisions is therefore appropriate. The aim of the study is to create a snapshot of how things are currently developing and to provide fuel for debate on marketing and advertisement practices.

The study is also built on other aspects relevant for consumers, including the relevance of a healthy diet, general consumption trends, the uneven playing field of food marketing, and the challenge of nutrition and health claims policy.

¹ Eurobarometer (2006), *“Health, Food and Nutrition”*.

4.1. Consumers and the relevance of a healthy diet

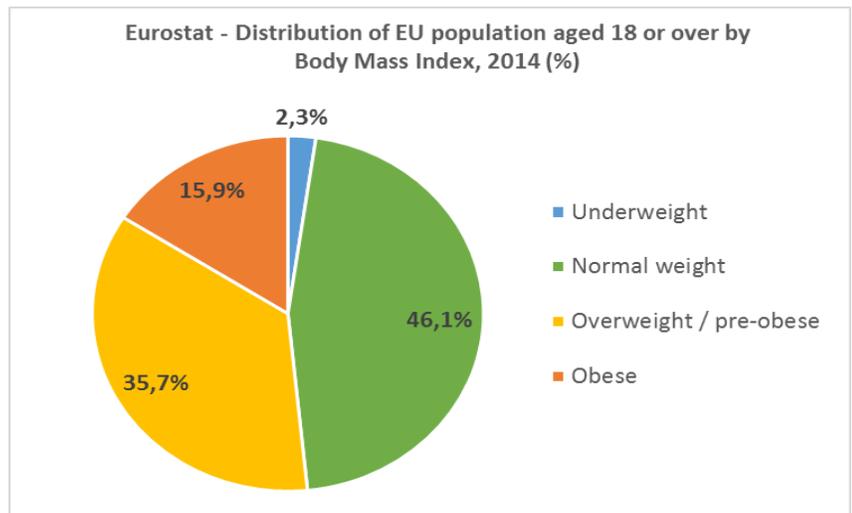
Obesity is one of the major global health challenges. Inadequate and unhealthy diets with too few fruits and vegetables, too much sugar, salt and fats, as well as a lack of physical activity, are leading to an increase in overweight people and a dramatic rise of obesity and related other non-communicable diseases.

Eurostat, the European statistical bureau, showed in 2014 that more than half of the EU population is overweight or obese (51.6%), including one in six people (15.9%) being obese².

The levels of obesity and overweight people have continued to rise in Europe over the past decades, with alarming consequence. The World Health Organisation states that *“overweight and obesity are estimated to result in the deaths of about 320.000 men and women in 20 countries of Western Europe every year”*³.

Obesity causes a range of chronic non-communicable diseases, among which are type 2 diabetes, cardiovascular disease, orthopedic problems, several different types of cancer as well as potential mental disorders. Furthermore, the effect of being overweight at a young age will also be carried on later in life, given that more than 60% of the children that are overweight before puberty will also remain overweight in their adulthood⁴.

It is therefore highly relevant that European consumers can make informed decisions about their food purchases and that they are not being misled by information displayed on the packaging, which is incorrectly describing the content of the food.



According to a European funded project EATWELL, diseases linked to overweight and obesity account for between 5% and 7% of total health care costs in Europe, more than €60 billion a year, and at least as much again in lost economic production. There are also wider additional economic and social costs related to absence at work, family costs of caring for obese sick relatives, potential social isolation.

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² Eurostat (20 October 2016), “European Health Interview Survey - Almost 1 adult in 6 in the EU is considered obese Share of obesity increases with age and decreases with education level”.

³ WHO Europe (September 2014), “European Food and Nutrition Action Plan 2015–2020” – page 1.

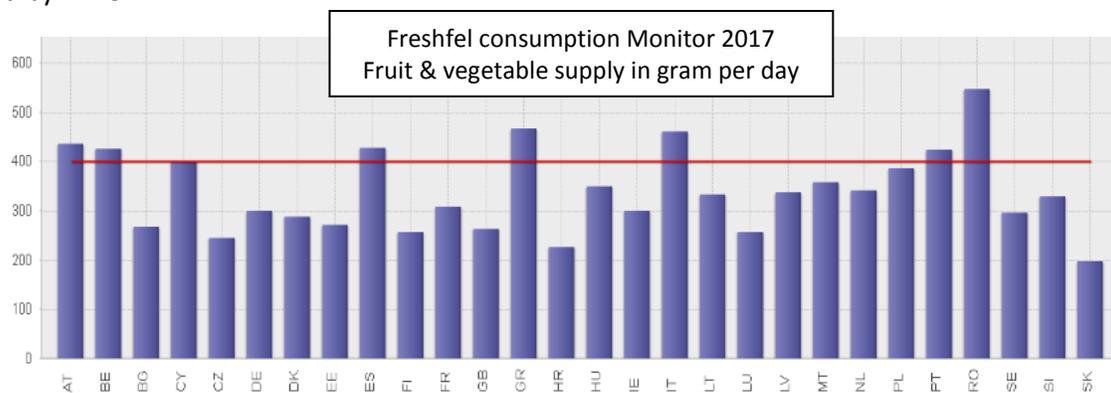
⁴ WHO (n.d.) <http://www.euro.who.int/en/health-topics/noncommunicable-diseases/obesity/data-and-statistics>

⁵ EATWELL (2014) EU Project EATWELL - http://cordis.europa.eu/result/rcn/149433_en.html

4.2. Consumers and the consumption trends

While there is a wealth of scientific research and studies that demonstrate the health benefits of an increased daily intake of fresh fruit and vegetables. Consumers fail to translate this awareness and eagerness to eat more fruit and vegetables into concrete purchasing actions. The World Health Organisation recommends that adults should consume a minimum of 400 grams of fruit and vegetables per day to reduce health risks and encourage a better quality of life are not being achieved. A recent study goes even further, stating that a fruit intake above five-a-day and even up to ten-a-day “may prevent 7.8 million premature deaths worldwide”⁶.

On average, the EU-28 population is eating approximately 353 grams of fruits and vegetables (Freshfel Consumption Monitor 2017, based on consolidated data until 2014). As demonstrated in the graph below, most of the EU Member States currently have an average consumption well below the minimum recommendation of 400 gr suggested by WHO.



According to the aforementioned Eurobarometer of 2006⁷, a majority of European consumers believe that healthy eating includes a balanced and varied diet rich in fruit and vegetables. Indeed, 58% of EU consumers find that eating a healthy diet involves, above all, eating more fruit and vegetables. As European consumers are becoming increasingly health-conscious in their buying choices, it is important that they are not misled in their buying options.

During first decade of the 21st century, fresh produce consumption steadily declined. Multiple reasons were identified, including changing lifestyles, the possible lack of availability, accessibility or convenience of fresh fruit or vegetables or the lack of penetration of fruit and vegetables in the fast growing food services segment. The heavy competition of branded agri-food products with heavy marketing budget was also an important factor. However, the sector is repositioning itself to take full benefit of the assets of fresh produce. The latest trends indicate a new dynamic in regard to consumption contributing to a new stimulus for consumption, which needs to be continued.

⁶ Dagfinn, A. et. all (2017) *Fruit and vegetable intake and the risk of cardiovascular disease, total cancer and all-cause mortality—a systematic review and dose-response meta-analysis of prospective studies*. Int J Epidemiol dyw319. DOI: <https://doi.org/10.1093/ije/dyw319>

⁷ Eurobarometer (2006), “Health, Food and Nutrition”.

4.3. Consumers and the unlevelled playing field of food marketing

While consumers are becoming more conscious of healthy eating and healthy lifestyles, they are also flooded with more information focusing on the importance of healthy foods and healthy diets. According to a study by TNS on request of the Commission from 2014, *“never before has so much information on food and healthy diets been provided to consumers. The wealth of health claims, quality labels, nutrition facts, apps and advice, together with sometimes misleading or contradictory marketing information, is overwhelming for many citizens”*⁸.



Marketing and promotion of food products is still seen as the main and most important way to get attention from consumers and to influence consumer’s attitudes and convince them to buy a certain product. For most food companies, marketing is an integral part of their business model, with significant resources being devoted to panels, taste and advertisement testing and other research to determine factors that influence consumer’s choices.

According to a 2009 study by the University of Bonn, in Europe the share of advertising time on TV or overall food marketing expenditures to children devoted to fruit and vegetables is negligible (less than 1%). Similar percentages were found in a study from the US, which was also looking at marketing expenditures to children, *“fruits and vegetables were marketed the least: \$7 million or 0.4% of all youth-targeted marketing expenditures in 2009”*⁹.

From a marketing perspective, there is an unlevelled playing field between fruits and vegetables and other agri-food products. It is important that fruit and vegetables can take the full benefit of the assets of its products and that those assets are not unfairly used by competing products with other characteristics.

The fresh produce sector competes with the rest of the agri-food sector, which is heavily concentrated, branded and which has a huge budget for marketing and promotion. In contrast, the fruit and vegetables sector is highly fragmented with most produce being unbranded and sold in bulk. As the sector operates with tight margins, limited marketing and promotional activities are undertaken by the sector, either as a whole with a generic campaign or individually for a particular company or product.

⁸ TNS (December 2014) Study on the Impact of Food Information on Consumers’ Decision Making – P.29. Retrieved https://ec.europa.eu/food/sites/food/files/safety/docs/labelling_legislation_study_food-info-vs-cons-decision_2014.pdf

⁹ Powell, L.M.; Harris, J.L.; Fox, T (Oct 2013) *Food Marketing Expenditures Aimed at Youth Putting the Numbers in Context*. Am J Prev Med., DOI: 10.1016/j.amepre.2013.06.003

4.4. Consumers and the challenges of nutrition and health claims

EU Regulation 1924/2006, on nutrition and health claims made on foods, states in Article 2.2.1 that a claim is “*any message or representation, which is not mandatory under Community or national legislation, including pictorial, graphic or symbolic representation, in any form, which states, suggests or implies that a food has particular characteristics*”. The fruit and vegetable sector had a legitimate, and possibly optimistic, believe that, through this clear definition, the Regulation would mean a major positive step forward towards better protecting the image of fresh fruit and vegetables from being (mis)used on the packaging of products.

In 2008, the European Commission published a working document¹⁰ on the setting of nutrient profiles and the conditions of use, which food or certain categories of food must comply with in order to bear nutrition or health claims. The document suggested that, for making a reference to fruit or vegetables on a product, a minimum content of 50g per 100g of the finished product was needed in order to make a pictorial/ graphic, or symbolic claim. Besides, maximum threshold levels of sodium, saturated fats and sugar were also going to be implemented, to judge the overall qualities of a food in order to qualify to make claims, the so-called nutrient profiles. The table in Annex III is reviewing the situation based on these criteria for the products covered by this study.

Regretfully, so far neither a minimum content in the finished product, nor the nutrient profiles, have been implemented. The absence of these specifications are causing fruit and vegetables to be ‘unprotected’ from products misusing its image.

The application of nutrient profiles as a criterion is particularly crucial since they aim to avoid a situation where nutrition or health claims mask the overall nutritional status of a food product, which could mislead consumers when trying to make healthy choices in the context of a balanced diet. Although it has proven to be difficult to draft a nutrient profiling model for the EU, there are already models that have been developed and could serve as a basis. For example, the European office of WHO created a nutrient profile model for the marketing of foods to children in 2015¹¹. This model proves that it is possible to develop nutrient profiles covering a range of different categories of food with a specific objective. Last but not least, it was foreseen in the legislation that some exemptions from the requirement to respect established nutrient profiles would be necessary for certain foods or categories of foods depending on their role and importance in the diet of the population.

Freshfel considers essential that the fruit and vegetables sector is better protected by the legislation from any misuse of the produce image as claims in products without the required characteristics. Besides, the sector should be allowed to promote the unique nutritional and health benefits of consuming more fresh fruits and vegetables without restrictions. The wealth of existing scientific research demonstrates the health benefits of a diet rich in fresh fruits and vegetables.

¹⁰ <https://www.reading.ac.uk/foodlaw/pdf/eu-09012-nutrient-profiles-dec-08.pdf>

¹¹ http://www.euro.who.int/_data/assets/pdf_file/0005/270716/Nutrient-Profile-Model_Version-for-Web.pdf

5. Lessons learned and recommendations

The 2017 study findings show a small improvement compared to situation of the previous study in 2010. However, the misuse of image on the packaging remains demonstrated as a practice for different food products and product categories.

Overall, only 20% of the products reviewed that contained at least more than 50% of fruit. As such, there is still a lot of room for improvement! Too many products are displaying fruits prominently on the packaging while containing little to no actual fruit content. And the products selected are even the 'better case' products, of which one would expect more fruit content.

This is not consistent either with Regulation EU 1924/2006 on nutrition and health claims made on foods or with Regulation EU 1169/2011 on the provision of food information to consumers. Both Regulations clearly state that consumers deserve to be properly informed and that any kind of claim that will be misleading to consumers should not be allowed. As such, consumers are insufficiently protected, which can lead to confusion about the products they consume.

Freshfel wants to encourage the European Commission and the national authorities to fix this gap in the current legal framework. A better enforcement of the legislation, a more efficient control and the introduction of pending parameters, such as nutrient profiles, could assist preventing the misuse of the image of the fruit, on products that hardly have any fruit content. The determination of minimum content of fruit or vegetables in a product, as well as the setting up of maximum thresholds for salt, sugar and fat is urgently needed.

Additionally, marketing and advertisement practices need to be reviewed. Consumers need truthful information when they purchase a certain product, even more so in the current environment of increasingly health-conscious consumers and rising levels of obesity. Some consumers might think they are making a healthy choice because of the use of healthy images such as fruits, whereas in reality the outcome might be disappointing. Freshfel believes products should only be allowed to use images or references to fruit if they contain 50 g or fruits per 100 g of final product.

The use of the image of fruits in marketing and packaging of products with limited fruit content can lead to consumer confusion about eating a portion of fruit. Consumers should not be misled by fancy and attractive fruit pictures on the packaging, whilst there is little to no fruit in the actual product. Finally, also the sector should continue its efforts to raise consumer awareness about the assets of fresh fruit and vegetables and the benefit, fun and pleasure of eating the whole fruit or vegetable in its natural form.

6. Notes and disclaimer

The present research study was made with limited resources and therefore it is limited in reach and scope, particularly regarding the number/category of products and markets analysed. Furthermore, this is not a representative sample, but it is a sample that has been carefully selected by product and methodology. The final conclusions therefore can be seen in a broader scope and can be used to stimulate discussion regarding marketing as well as information to consumers.

The study is not meant to blame certain products, but rather to stimulate best and better practices to avoid misleading consumers. For the purpose of the study, brands and outlets chosen are in no way meant to be targeted specifically. Conclusions drawn are therefore general and meant to draw any specific conclusions about products or countries.

Disclaimer: This study is produced entirely by Freshfel Europe. Although the information contained on this study has been obtained or compiled from sources Freshfel Europe believes to be reliable, we do not guarantee the accuracy, validity, timeliness or completeness of any information or data made available on this study for any particular purpose. As such, the information may be incomplete or condensed. Neither Freshfel Europe, nor any of its employees, will be liable or have any responsibility of any kind for any loss or damage resulting from the use of the study, whether or not the circumstances giving rise to such loss or damage may have been within the control of Freshfel Europe.

Freshfel Europe
European Fresh Produce Association

Rue de Trèves 49-51, box 8
B 1040 Brussels – Belgium

+32 (0)2 777.15.80
www.freshfel.org
info@freshfel.org



Enjoy Fresh
Fruits & Vegetables

Annex I – Methodology of the 2017 ‘Where is the Fruit?’ study

While conducting this updated study, the fresh fruit and vegetables sector aims to evaluate the situation seven year after its first initial study. The objective is to review how the image and name of fruits is being used (or misused) by other food products might have evolved during this period and if the findings of 2010 could be confirmed or need to be reviewed. The study is general in its nature and does not target a particular food category or brand or aims at single out a particular point of sales or Member States.

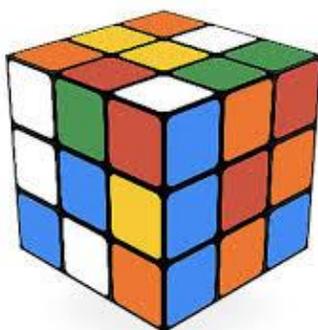
Freshfel’s 2017 ‘Where is the Fruit?’ study investigates the fruit content in a variety of food products that contain an image/picture or a word/reference to fruit on the outer packaging or label. It is not targeting any specific brand or retail outlet. To carry out the study, products were bought in leading supermarkets in different Member States of the European Union within a range of categories and according to certain parameters to select the products on the shelf.

The study is slightly different from its predecessor, given some modifications made to:

- The selected food groups categories, considering the evolution of the food;
- The assortment on supermarket shelves: 15 product categories were selected in partnership with Innovative Fresh, after a re-evaluation of the 2010 study product range which covered 21 categories (table on the right);
- The number of selected Member States covering 13 countries (table on the left) compared to the 2010 study covering 9 Member States. The study covers a fair balance between geographical location as well as size of the countries. All together the selected Member States cover 82% of the EU population.

Countries chosen:

Belgium
Czech Republic
Denmark
France
Germany
Greece
Ireland
Italy
Lithuania
Netherlands
Poland
Spain
United Kingdom



Categories chosen:

1	Yogurt
2	Yogurt drinks
3	Cakes
4	Cereals Bar / Muesli bar
5	Breakfast cereals
6	Biscuits
7	Sweets & Candy
8	Chocolate products
9	Jams & spreads
10	Ice cream
11	Fizzy drinks / Sodas
12	Juice packs / long life juices
13	Fresh/ chilled juice
14	Smoothies
15	Fruit and herbal teas

One of the largest food supermarkets, by volume, in each of the 13 participating countries was identified for the shopping trips undertaken by the Freshfel Secretariat, or by partners designated by Freshfel. With the aim of being as neutral and objective as possible, but also representative of product ranges offered to the consumers in a particular shop, a number of parameters were identified and implemented to conduct the study. Products were selected using the following criteria:

- Products that depicted fruit on packaging; and/or
- Products that made reference to fruit on packaging; and/or
- Products used words relating to fruit on packaging

With a view of securing the widest diversity of products, the following parameters were also taken into account (where and whenever possible):

- Choose a brand located at eye level on shelf
- Choose a brand using the biggest shelf space
- Choose local rather than international brands
- Purchase a popular / bestselling brand
- Choose a product on promotion
- Avoid private labels

Given that the products chosen are generally from a prominent place on the shelf, as well as a popular brand, there is a bias for the 'best case' products. Furthermore, there was no threshold on price, which also favoured the assumingly better products.

Purchases were made between November 2016 and the beginning of January 2017. A maximum of 15 product groups (depending on the availabilities of the categories in all the selected Member States) were purchased across the 13 participating countries. In total, **188 products** were purchased for analysis of their labels. These 188 products were then divided and catalogued into a number of fruit categories based on the type of fruit ingredient or ingredients they contained. The fruit categories chosen were fruit, dried fruit, fruit pieces, fruit puree, fruit from concentrate/ fruit juice from concentrate, concentrated fruit/ concentrated juice, fruit juice and no fruit.

All ingredient information, nutritional information and type of fruit included in each product, as indicated in its package, was then sent to Innovative Fresh. Innovative Fresh is a Dutch company providing objective and reliable quality information about fresh produce and flowers in shops and retail chains. In this Freshfel study, Innovative Fresh has been responsible for objectively reporting about the different products and their ingredients. After analysing the information on the labels, Innovative Fresh provided the aggregate data to Freshfel. The findings are presented in the next chapter of this report.



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Annex II – Additional information

Product type All countries	Number of products with more than 50% fruit	Number of products between 1 and 50% fruit	Number of products with no fruit
Biscuits	0	12	0
Breakfast cereal	1	12	0
Cakes	0	10	1
Cereal of muesli bar	0	10	1
Chocolate products	1	10	2
Fizzy drinks and sodas	2	6	4
Fresh or chilled fruit juice	11	1	0
Fruit and herbal teas	1	10	0
Ice cream	0	13	0
Jams and spreads	4	9	0
Juice packs or long life juice	7	5	0
Smoothies	11	0	0
Sweets and candy	0	8	3
Yogurt	0	12	0
Yogurt drinks	0	10	2
Total products	38	128	13
% of all products	21%	72%	7%

Country / Product type	Numbers of Products Containing NO Fruit / country												
	BE	CZ	DE	DK	ES	FR	GR	IE	IT	LT	NL	PL	UK
Biscuits													
Breakfast cereal													
Cakes								1				n/a	
Cereal of muesli bar								1					
Chocolate products					1								1
Fizzy drinks and sodas	1					1				1	1	n/a	
Fresh or chilled fruit juice									n/a				
Fruit and herbal teas													
Ice cream													
Jams and spreads													
Juice pack or long life juice												n/a	
Smoothies							n/a		n/a				
Sweets and candy			1		1						1	n/a	
Yogurt													
Yogurt drinks						1	1						
Total products	1	0	1	0	2	2	1	2	0	1	2	0	1

n/a = not available

Annex III – Nutrients per product group

The amount of carbohydrates, sugar, fat and saturated fats per 100 g or ml from low to high.

Product type all countries	Carbohydrates (g)
Fruit and herbal teas	0,4
Fizzy drinks and sodas	7,4
Juice packs or long life juice	10,3
Fresh or chilled fruit juice	10,6
Yogurt drinks	11,0
Smoothies	11,8
Yogurt	13,2
Ice cream	26,2
Cakes	50,9
Chocolate products	53,4
Jams and spreads	53,6
Cereal of muesli bar	63,1
Biscuits	66,6
Breakfast cereal	68,5
Sweets and candy	81,7
Total products	188

Product type all countries	Sugar (g)
Fruit and herbal teas	0,3
Fizzy drinks and sodas	7,3
Fresh or chilled fruit juice	9,6
Juice packs or long life juice	9,9
Yogurt drinks	10,5
Smoothies	10,8
Yogurt	11,9
Breakfast cereal	19,2
Ice cream	22,4
Cakes	29,5
Biscuits	31,3
Cereal of muesli bar	32,3
Chocolate products	47,8
Jams and spreads	49,9
Sweets and candy	58,2
Total products	188

Product type all countries	Fat (g)
Fresh or chilled fruit juice	0,1
Fizzy drinks and sodas	0,1
Fruit and herbal teas	0,1
Smoothies	0,2
Jams and spreads	0,3
Juice packs or long life juice	0,3
Yogurt drinks	1,1
Yogurt	2,8
Sweets and candy	5,3
Ice cream	6,0
Breakfast cereal	6,0
Cereal of muesli bar	14,3
Biscuits	15,3
Cakes	17,2
Chocolate products	28,1
Total products	188

Product type all countries	Saturated Fat (g)
Smoothies	0,1
Fizzy drinks and sodas	0,1
Fresh or chilled fruit juice	0,1
Fruit and herbal teas	0,1
Juice packs or long life juice	0,1
Jams and spreads	0,1
Yogurt drinks	0,6
Yogurt	1,5
Breakfast cereal	2,1
Sweets and candy	3,0
Ice cream	4,5
Cereal of muesli bar	6,2
Biscuits	7,1
Cakes	8,2
Chocolate products	16,9
Total products	188



Freshfel Europe
European Fresh Produce Association

Rue de Trèves 49-51, box 8
B 1040 Brussels – Belgium

+32 (0)2 777.15.80

www.freshfel.org

info@freshfel.org



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