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NUTRI-SCORE

ASSESSMENT REPORT AFTER
THREE-YEAR OF **NUTRI-SCORE**
IMPLEMENTATION



FEBRUARY 2021

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KEY FACTS

¶ In July 2020, **415 food operators were engaged in favour of the Nutri-Score**, representing approximately **50% of the market shares in sales volumes**. Now, **almost 500 food operators** are engaged in favour of the label.

¶ Around **94% of French consumers support the Nutri-Score** on the front of food packages.

¶ **More than one French consumer out of two** report having changed at least one **purchasing habit** thanks to the Nutri-Score.

SUMMARY

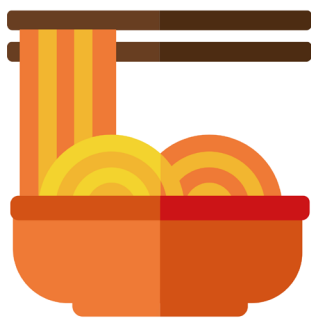
A Healthy diet represents a **prevention factor for common chronic diseases** in France (i.e. cancers, cardiovascular diseases, diabetes, and obesity). **To promote a healthy diet, Article 14 of the Law on the Modernization of the Health System** dated from January 26, 2016 recommends a **synthetic and simple nutrition labelling system on the front of food packages**.

The French public authorities have officially adopted the **Nutri-Score** system after a **robust scientific, innovative, and inclusive process based on wide consultations with stakeholders**. This label is affixed on the front of food packages and provides a **simple and easy way to understand the nutritional quality of food products**, at the point of purchases. The system aims to help consumers compare foods and guide them towards healthier choices.

The Nutri-Score is a **color-coded graded indicator**, from **dark green associated with the letter “A”** for products with higher nutritional quality, **to dark orange associated with the letter “E”** for products with lower nutritional quality. The label takes into ac-

count, per 100g or 100mL, the food content of both, **nutritional elements whose consumption should be limited** (i.e. energy, sugars, saturates, sodium), **and of favourable nutritional elements** (i.e. proteins, fibres, fruits, vegetables, legumes, nuts, and olive, rapeseed, walnut oils).

In accordance with Article 2 of the decree n°2016-980 of 19 July 2016, the Nutri-Score rollout has been assessed three years after its adoption by the ministerial Order of 31 October 2017. This assessment relies on the studies conducted by the **Observatory of food supply (Oqali)** and the French public health agency **Santé publique France**.



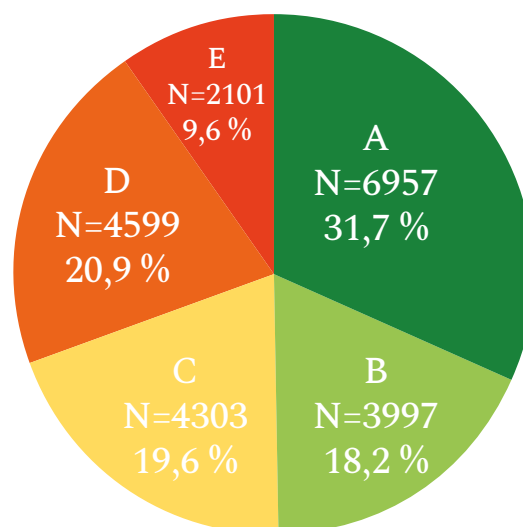
1| A PROGRESSIVE COMMITMENT OF THE FOOD OPERATORS TO REACH 50% OF THE MARKET SHARES AFTER 3 YEARS

In June 2020, 89% of products using the Nutri-Score were sold in hypermarkets, supermarkets and specialized retailers, with a majority of products classified in A (31.7%) and less than 10% in E¹.

All food categories and market segments contain some products using the Nutri-Score, with a higher prevalence of retailer brands followed by national brands.

In July 2020, 415 food operators were using the Nutri-Score on their food products, representing in 2020 almost 50% of the market share in sales volumes – under the assumption that all references are labelled since the brand commitment², and that the sales of the different brands vary slightly between 2018 and 2020³.

Number of references by Nutri-Score class
(based on data from the Nutri-Score follow-up study in October 2020, Oqali)



¹ These results are based on the study conducted by Oqali « Follow-up of Nutri-Score by Oqali – 3 years analysis – Edition 2020 ». https://www.oqali.fr/content/download/3758/35067/version/1/file/OQALI_2020_Suivi_du_Nutri_Score_analyse_a_3+ans_1.pdf

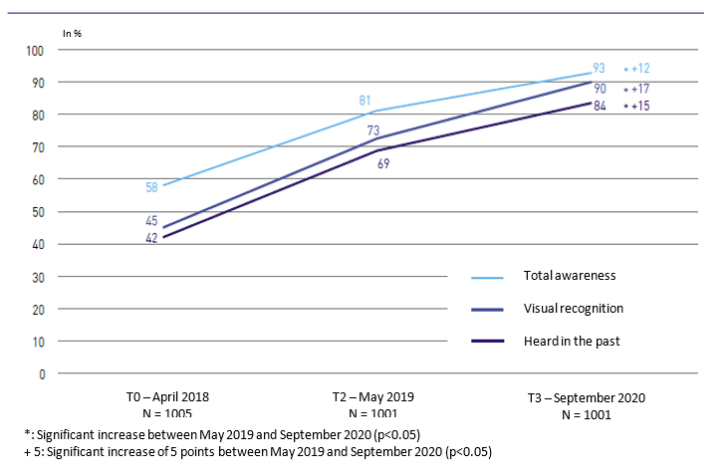
² Extract from the Conditions of use of the Nutri-Score (Article 7.1.1): «The Operator enjoys a 24-month time period from the date of its registration to comply with all the provisions of the Conditions of Use for Source Products. If the number of references involved is greater than or equal to 2000, this time period is extended to 36 months, with an intermediary threshold of 80% of the products affixing the Classifying Logo within 24 months.»

³ The Kantar – Panel Worldpanel databases for 2019 and 2020 were not available. Consequently, the database of 2018 has been used to estimate market shares in 2018, 2019 and 2020.

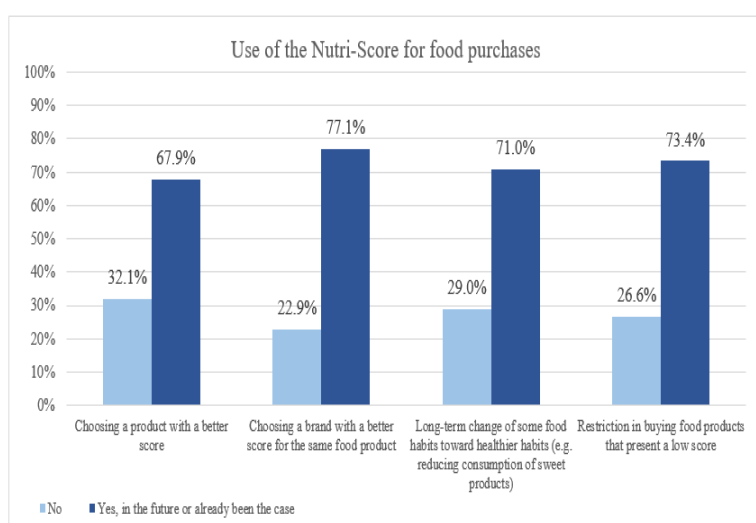
2| 9 FRENCH CONSUMERS OUT OF 10 KNOW THE NUTRI-SCORE

The awareness of the Nutri-Score in the population has increased since 2018 up to 93% in September 2020⁴. In addition, 90% of French consumers are aware that the Nutri-Score aims to characterize the nutritional quality of food products.

Approximately 94% of French people strongly support the implementation of the Nutri-Score and a similar proportion would support making the Nutri-Score mandatory.



3| IMPACT OF THE NUTRI-SCORE ON PURCHASING BEHAVIOURS



Up to 57% of consumers reported in 2020 that they changed at least one purchasing habit thanks to Nutri-Score (against 43% in 2019).

An increasing number of consumers also declared having already used the Nutri-Score or wanting to use it in the future, to select a product or a brand with a better Nutri-Score.

⁴ The results are based on the study conducted by Santé publique France in September 2020 on a national representative sample of the French population.

4| AN EFFECTIVENESS DEMONSTRATED BY STRONG SCIENTIFIC EVIDENCE

Numerous scientific studies have shown that the Nutri-Score is an **effective tool to discriminate the nutritional quality** of food products, **consistently with dietary guidelines**, in France but also in other European countries.

The Nutri-Score effectiveness has been demonstrated, notably in a real-life experiment, **to help consumers identify and compare the nutritional quality** of food products. This positive effect has been notably observed among consumers with a **lower educational level**, and few or no nutrition knowledge, allowing **reducing social health inequalities**.

Several studies have shown that the Nutri-Score could **guide consumers towards healthier food choices**. Epidemiological studies have found that **consumers eating foods with a better Nutri-Score had a lower risk of nutrition-related chronic diseases**.

Three years after its adoption in France, **the Nutri-Score continues its rollout on the French market**, with an increasing number of engaged brands, including multinational brands. In addition to pre-packaged products, it is also planned in 2021 **to use the Nutri-Score for out-of-home catering and for the sale of raw unpacked products** to meet the high expectations of consumers and professionals in these sectors.

Furthermore, after France in 2017, **Belgium, Spain, Germany, Netherlands, Luxembourg and Switzerland** decided to adopt the Nutri-Score. A **transnational governance** of Nutri-Score has been setup in January 2021 to facilitate a **coordinated rollout** of the system in the engaged European countries and assess potential evolutions of the label.

INTRODUCTION

Given the growing burden of chronic diseases, international organizations such as the **World Health Organization**, have **recommended the implementation of complementary nutritional information systems** on the front of packaging⁵, to **encourage healthier food choices**.

In France, nutritional labelling is regulated by the European Regulation No. 1169/2011 (“FIC Regulation”), requiring food operators to display information on food nutritional composition through the mandatory nutrition declaration. However, **the information within the nutrition declaration has been shown to be difficult to understand** for consumers, especially those with lower educational level, requiring the use of a complementary system on the front of package⁶.

The principle of a complementary nutritional information system on pre-packed foods has been introduced in France in

the decree n°2016-980 of 19 July 2016, within the framework of the health system modernization. Following a wide consultation process with stakeholders, **France has officially adopted the Nutri-Score** with the signature of the **ministerial Order of 31 October 2017**, by the Ministers of health, agriculture and economy.

The Nutri-Score is a synthetic and graded system used on the front of food packages. **Using a five-colour scale associated to letters**, from “A” in dark green for foods with higher nutritional quality to “E” in dark orange for foods with lower nutritional quality, the Nutri-Score aims to :

1. Allow consumers **understanding at a glance the nutritional quality** of food products ;
2. Encourage food operators to **improve the nutritional quality of the food offer** through innovation and reformulation ;

⁵ <https://www.who.int/fr/news-room/fact-sheets/detail/healthy-diet>

⁶ Campos S, Doxey J, Hammond D. Nutrition labels on pre-packaged foods: a systematic review. Public Health Nutr. août 2011;14:1496-506.

3. **Simplify nutritional advices** by health professionals.

The Nutri-Score is **based on the nutrient profiling system from the Food Standards Agency (FSA)**, adapted by the High Council for public health. The FSA profiling system takes into account the content per 100g or 100mL of food or beverage, **in unfavourable nutritional elements** that should be limited (i.e. energy, saturated fatty acids, sugars, sodium) and **in favourable nutritional elements** whose consumption should be promoted (i.e. proteins, fibres, fruits, vegetables, legumes, nuts, olive, rapeseed and walnut oils).

In accordance with Article 2 of the decree n°2016-980 of 19 July 2016, it is provided for **an evaluation of the Nutri-Score** by the ministries in charge of health, economy and agriculture, three years following its adoption by the ministerial Order⁷. The present report details an assessment of the Nutri-Score use after three years of implementation, regarding :

1. **Its rollout on the French market** based on the results from the Oqali ;
2. **Its awareness and self-reported use by consumers** using a study from Santé publique France ;
3. **The scientific evidence** of its effectiveness.



⁷ Order of October 31, 2017 setting the form of presentation complementary to the nutritional declaration recommended by the State pursuant to Articles L.3232-8 and R.3232-7 of the Public Health Code.

1

MONITORING OF THE NUTRI-SCORE ROLLOUT BY OQALI

This part presents the results from the Observatory of food supply (Oqali) report on the Nutri-Score follow-up after three years of implementation (Annex 1).

Distribution of food products on the market by Nutri-Score class

Summary of methodology

When the Nutri-Score has been officially adopted, a specific procedure has been implemented to monitor its rollout on the French market. Therefore, when a food operator commits to the Nutri-Score, it registers on the Santé publique France website and transmits to **Oqali**, all references details using the Nutri-Score through a specific form. The form has to be transmitted within one month after the appearance of the Nutri-Score

on products, in accordance with the Conditions of Use.

All forms transmitted to Oqali between **the 31 October 2017 and 2 June 2020**, have been included in the study, corresponding to data from **226 food operators** among the 398 registered on the Santé publique France website at this date. **57% of the registered food operators have therefore transmitted at least one form to Oqali** (whose 50% were non-compliant with the Conditions of Use) and 43% have never transmitted any data. Finally, the information of **24 553 food products have been considered compliant**, and used to produce indicators.

All results on the distribution of products by Nutri-Score class are detailed in the Part A from the Oqali's report in Annex 1.

Using compliant data sent to Oqali until 2 June 2020, 89% of products using the Nutri-Score are sold in supermarkets and similar retail outlets⁸, while 11% are sold in other distribution channels (e.g. collective catering, artisans, e-commerce, caterers).

Regarding food products sold in supermarkets and similar retail outlets, the class of Nutri-Score A is the most represented (31.7%), while the class E is the least common (9.6%) (Figure 1). When considering processed foods only, the distribution is more homogeneous between classes A, B, C and D. The class D is the most represented (25%), while class E remains the least represented (11.4%). All food categories contain products using the Nutri-Score, but fresh processed meat, fresh dairy products and fresh prepared dishes are the three sectors with the highest number of references using the Nutri-Score (packaging and e-commerce combined).

Globally, the number of food products using the Nutri-Score is similar than the number of food products using it on e-commerce websites. National brands mainly affix the Nutri-Score on packaging only, while retailer brands affix the label on packaging and in e-commerce, for products sold in supermarkets and similar retail outlets. The proportions of products classified in A

and B are higher for packaging (respectively 36% and 20%) than for e-commerce (respectively 25% and 14%), while classes D and E are less represented on packaging than e-commerce (D: 18% on packaging against 26% in e-commerce; E: 6% against 14%).

Number of references by Nutri-Score class
(based on data from the Nutri-Score follow-up
study in October 2020)

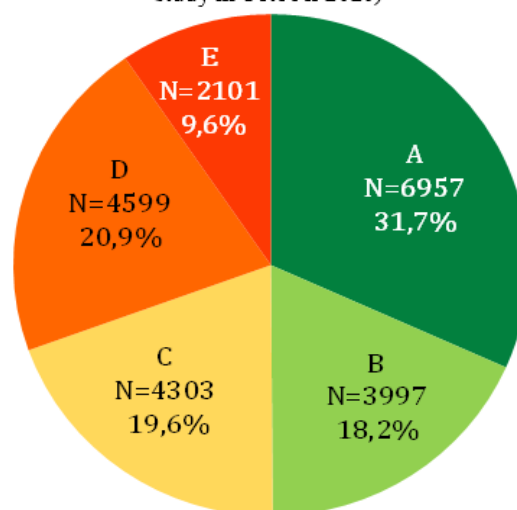


Figure 1: Distribution of products sold in supermarkets and similar retail outlets by Nutri-Score class (Oqali, 2020)

Regarding products sold in supermarkets and similar retail outlets, all market segments contain products using the Nutri-Score, with a high prevalence of products from retailer brands (more references on the market), followed by national brands.

The distribution of products by Nutri-Score class is globally similar for products from specialized retailers, hard discount and retailers (Figure 2).

⁸ « Supermarkets and similar retail outlets » refers to products sold in hypermarkets, supermarkets, and specialized retailers, defined as frozen products sold in freezer centers and by home shopping businesses.

For these three market segments, between 23 and 27% of products are classified in A, between 14 and 21% in B, between 21 and 27% in C, between 18 and 27% in D, and finally, between 5 and 15% are classified in E. In contrast, the distribution appears different for national brands (Figure 3). The proportion of products classified in A is higher than for the other three market segments (48%) and the proportion of products in E is significantly lower (1%). Products classified in C and D are also less represented for national brands (16% and 10% respectively), and the proportion of products classified in B is slightly higher (25%). **Thus, the results tend to show that national brands using the Nutri-Score are the ones selling in particular products with a better score (mainly A and B). Conversely, retailers (retailer brand, hard discount and specialized retailers) using the Nutri-Score have to affix the label on all references from all food categories, which implies that the different Nutri-Score classes are more evenly distributed.**

Number of references by Nutri-Score class for retailer brands
(based on data from the Nutri-Score follow-up study in October 2020)

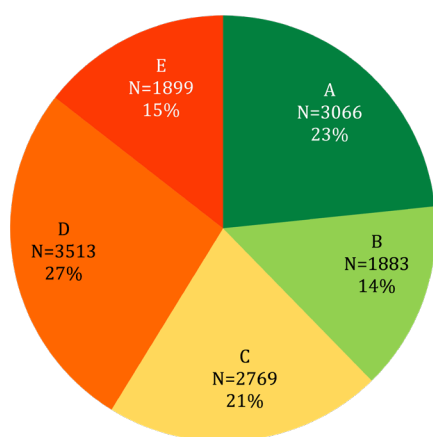


Figure 2: Distribution of products from retailer brands by Nutri-Score class (N=13 130)

Concerning products sold outside supermarkets and other similar retail outlets, class A is the most represented either overall (61.6%) or among processed products followed by Oqali (37.6%). Conversely, class E is the least represented with only 13 products. In total, seven food categories do not contain any products using the Nutri-Score (confectionery, cheese, juices and nectars, margarines, syrups and concentrated drinks, frozen snacking, and frozen pastries and desserts). Fresh processed meat and prepared dishes are the two sectors for which the Nutri-Score is widely used.

To collect more precise data, the sectorial studies from Oqali will include indicators specific to the Nutri-Score, starting with data collected in 2020 (frozen prepared dishes, fresh prepared dishes, other prepared dishes and processed meat). **These studies will notably allow comparing the nutritional composition of products using the Nutri-Score compared to other products on the market. They will also provide elements on the effect of the Nutri-Score on food reformulation.**

Number of references by Nutri-Score class for national brands
(based on data from the Nutri-Score follow-up study in October 2020)

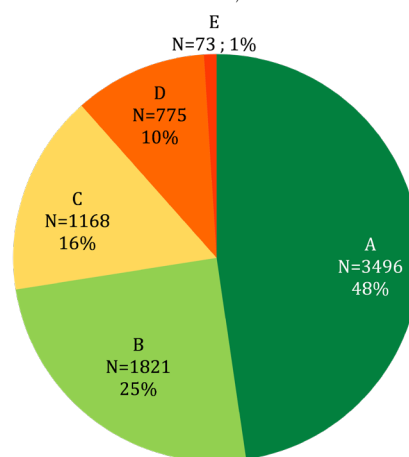


Figure 3: Distribution of products from national brands by Nutri-Score class (N=7 333)

Evolution of market shares between 2018 and 2020 for brands committed to the Nutri-Score in France

Summary of methodology

Purchase data from **Kantar – Panel Worldpanel in 2018** have been used to assess the evolution of market shares of products sold in supermarkets and similar retail outlets and using the Nutri-Score. Some pairings with Oqali data (food category, market segment, names of engaged brands) have been performed. The Kantar – Panel Worldpanel database is a **French representative study** including more than 20 000 households, with almost 19 million purchase orders for more than 509 000 different products.

For this study conducted by Oqali, it **has been assumed that all food operators who committed to the Nutri-Score, had used the label on all their references, as soon as they committed to the system**, without taking into account the delay allowed in the Conditions of Use (from 24 to 36 months, depending on the number of references). The market share measures presented in this section are therefore a high estimate of the actual market situation. At the time of the study, it was not possible to know, exhaustively and precisely, whether the Nutri-Score was actually affixed on the products of the brands engaged. This is one of the technical and operational challenges

that have to be overcome in order to establish precise and effective measures of the Nutri-Score rollout.

In addition, the change in the market share of the brands committed to the Nutri-Score, measured in this section, **is exclusively based on changes in the number of engaged brands and not from changes in sales**. As the Kantar – Panel Worldpanel database was not available for 2019 and 2020, the 2018 database was used by Oqali to estimate the market shares in 2018, 2019 and 2020. The analysis therefore assumes that sales of the different brands vary slightly over the period 2018 - 2020.

Based on the pairings and assumptions mentioned above, the market share of the brands engaged in favor of the Nutri-Score has been calculated, considering only processed products sold in supermarkets and similar retail outlets (raw unpacked foods and infant food have been excluded from the analyses).

All results are detailed in Part B from the Oqali's report in Annex 1.

Based on all data mentioned above, **the market share of the brands engaged in favour of the Nutri-Score has steadily increased since 2018, up to 50% of sales volumes in 2020, for all sectors** (Figure 4). This growth was particularly strong for the cereal bars, breakfast cereals, canned fruits, crusty and soft bread, hot sauces, frozen snacking and frozen pastries and desserts sectors between 2019 and 2020.

for retailer brands for some sectors, particularly breakfast cereals, canned fruits and hot sauces.

In addition, potential effects of the Nutri-Score on average prices per kilogram in 2018 were noted, but at this stage they seem to be limited. In particular, it was observed for most of the food categories, taking into account sales volumes, that the average price per kilogram of engaged national brand products was globally similar to non-engaged national brand products in 2018. In addition, in 2018, the average price per kilogram of engaged retailer brand products was lower than non-engaged retailer brand products for all food sectors except crusty and soft bread. These observations need to be further investigated and confirmed over the years 2019 and 2020. The correlation of the effect of the Nutri-Score on price will need to be investigated.

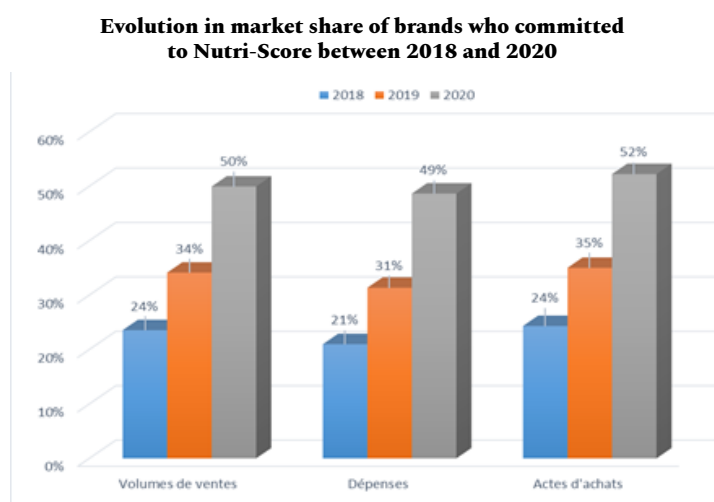


Figure 4: Evolution of market share of brands engaged in favour of the Nutri-Score between 2018 and 2020 (Oqali, 2020)

Retailer and national brands have largely contributed to these increases (45% of market shares in sales volume out of the 50% estimated in 2020, for all sectors). Analysis by market segment shows that the market shares of retailer brands (discount or not) and specialized retailers who were engaged in favour of the Nutri-Score, have significantly increased. **Within national brands, the market share of engaged brands continues to increase, but at a lower level and at a slower pace.** Nevertheless, between 2019 and 2020, the growth in market share of engaged national brands is stronger than

2

AWARENESS, PERCEPTION AND IMPACT OF THE NUTRI-SCORE ON PURCHASING BEHAVIOURS

This part summarizes the main results of the Santé publique France study, assessing the awareness, the perception and the impact of the Nutri-Score on self-declared purchasing behaviours, between 2018 and 2020 (Annex 2).

Summary of methodology

This study included a **representative national sample** of the French population aged over 15 years old, through an access panel on the Internet. Four waves of questionnaires were conducted: in April 2018, in May 2018 (after the broadcast of the national communication campaign), in May 2019 (before the rerun of the national campaign), and September 2020.

In the study, numerous questions were asked to assess the **awareness** of the

Nutri-Score (e.g. heard in the past, visual recognition), its **understanding** by consumers (e.g. the purposes of the label, information provided), and its potential **impact on purchasing behaviours**. The support of the Nutri-Score by consumers has been also investigated (e.g. in favor of Nutri-Score, in favor of making this label mandatory).

In September 2020, **93% of participants have declared having already seen or heard about the Nutri-Score** (Figure 5). This constant increase in awareness since April 2018 could be explained in particular by the communication campaign conducted by Santé publique France on the label, but also by its **progressive rollout** in supermarkets and online websites.

Some indicators of the Nutri-Score understanding by consumers improved compared to 2018 and 2019. Thus, in 2020, **66% of participants have spontaneously declared that the Nutri-Score provides information on the nutritional composition and quality of foods**, against 56% in April 2018 and 59% in May 2019.

In addition, the use of the Nutri-Score on front of food packages remains much supported by the population with **94% of participants being in favour of the Nutri-Score**. Almost **93% of consumers consider that the Nutri-Score is useful** to provide information on food nutritional quality. According to this study, the use of the Nutri-Score contributes to improve the image of the brand for 70% of participants, for transparency reason (Table 1).

Using the questionnaire in September 2020, it has been estimated that **70% of French people had already purchased a product using the Nutri-Score**, compared to 22% in 2018 and 50% in 2019. In addition, more than one third reported having already selected a product with a better score compared to another product with a worse Nutri-Score in the shelf, an increasing proportion since 2018 (13.7% in 2018 and 23.6% in 2019). Furthermore, **up to 57% of participants reported in 2020 having changed improved at least one purchasing behaviour thanks to Nutri-Score**, compared to 43% in 2019.

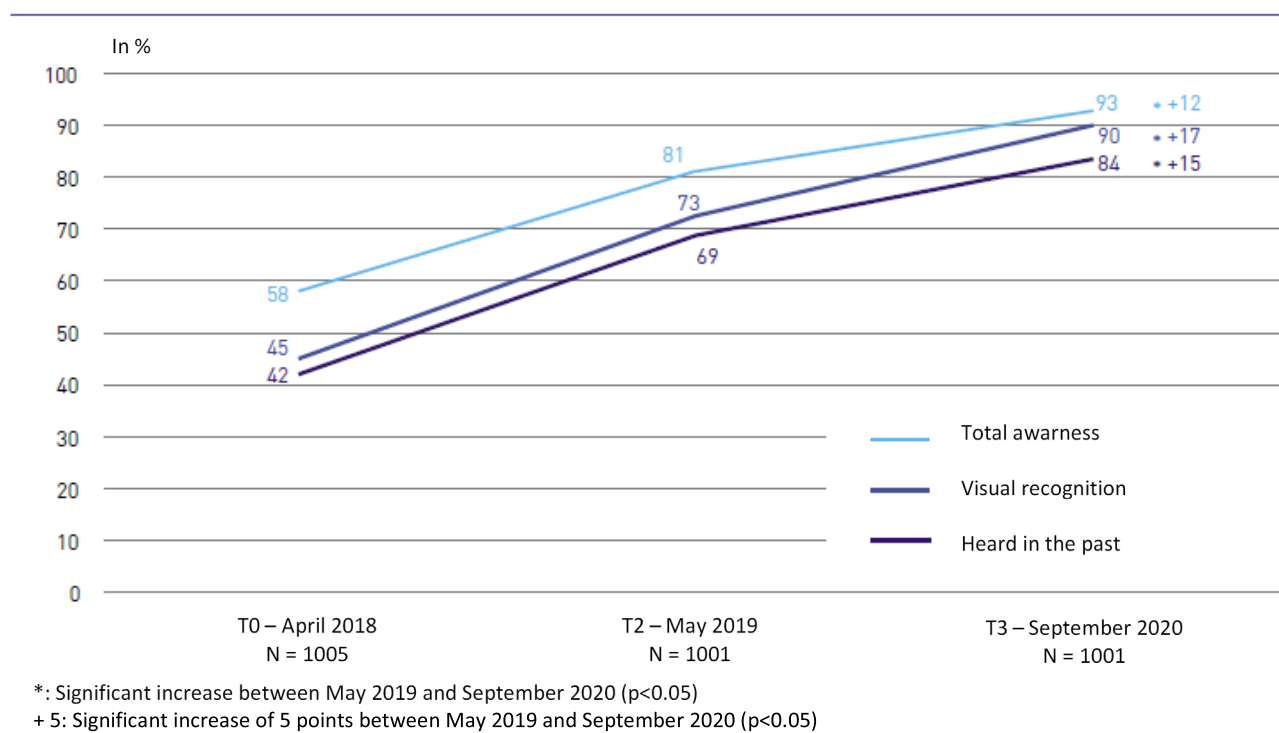


Figure 5: Evolution of the awareness of the Nutri-Score between April 2018 and September 2020 (Santé publique France, 2020)

	T0 – April 2019	T2 – May 2019	T3 – September 2020
	N = 1005	N = 1001	N = 1001
Use of the Nutri-Score to know the nutritional quality of the food product			
Yes	88.8%	89.0%	92.7%
No	11.2%	11.0%	7.3%
In favour of the Nutri-Score on front of packages			
Yes	90.4%	90.3%	93.9%
No	9.6%	9.7%	6.1%
In favour of making the Nutri-Score mandatory			
Yes	87.1%	87.2%	89.3%
No	12.9%	12.8%	
Impact of the Nutri-Score on the brand image			
Better image of the brand	70.0%	68.7%	70.1%
Worse image of the brand	5.8%	5.5%	5.0%
It does not change the image of the brand	24.2%	25.8%	24.9%

**Table 1: Support of the Nutri-Score on front of food packages
(Santé publique France, 2020)**

3

SCIENTIFIC STUDIES ON THE NUTRI-SCORE AND ITS UNDERLYING ALGORITHM

This part summarizes the scientific literature on the validation of the Nutri-Score algorithm and the label effectiveness among consumers. A list of published work on the Nutri-Score is presented in Annex 3.

Studies on the nutritional algorithm of the Nutri-Score

Discrimination ability and consistency with dietary guidelines

Numerous studies have investigated the ability of the algorithm underlying the Nutri-Score system (original FSA score or the FSA score adapted by the High Council for

public health) to discriminate the nutritional quality of generic foods usually consumed in France or pre-packed foods commonly sold in supermarkets. **The algorithm has been shown to be an efficient tool to discriminate the nutritional quality of foods within and between food groups, as well as similar foods from different brands, consistently with dietary guidelines** (1-3)⁹. This discrimination ability has been demonstrated in France, but also in Germany, Austria, Belgium, Spain, Finland, Italy, Norway, the Netherlands, Poland, Portugal, Slovakia, Sweden, Switzerland and the United Kingdom, consistently with national dietary guidelines (4-6).

⁹ Details of all bibliographic references are presented in Annex 3 of this report.

Associations with diet quality

Scientific studies have shown that consumers eating foods with better scores had lower consumptions in cheese, processed meats, sugary and savoury products, fats, prepared dishes and sweetened beverages, and higher consumptions in fruits, vegetables, fish, milk and yogurts, whole grain cereals, and non-sweetened beverages (7,8).

Consuming foods with a better score based on the Nutri-Score algorithm is associated with lower intakes in energy and fats, higher contributions of carbohydrates and proteins to the energy intake, as well as higher intakes in minerals, vitamins, beta-carotene, and fibres (8,9).

Finally, **persons consuming foods with better score have a higher adequacy to nutritional recommendations (7,9), and a more favourable antioxidant status (9).**

Prospective associations with health outcomes

Multiple observational prospective studies have been conducted among large French cohorts to investigate the potential association between the Nutri-Score algorithm and the risk of chronic diseases. Therefore, it has been found that **consumers eating foods with a better score had significantly lower risk of metabolic syndrome (10), weight gain, overweight, obesity for men only (11,12), cancers (overall and breast cancer) (13,14), cardiovascular diseases (15,16), asthma (17), and oral health problems (18).** Two recent studies among European consumers (Denmark, France, Germany, Greece, Italy, the Netherlands, Norway, Spain, Sweden, the United King-

dom) have observed that consumers with a better diet quality based on the score of foods consumed had a decreased risk of overall cancers and mortality (19,20). A study conducted within a Spanish cohort has also found an association between the Nutri-Score algorithm and a decreased risk of mortality (21).

Studies on the Nutri-Score effectiveness

Perception and understanding of the Nutri-Score by consumers

Numerous comparative studies have assessed the perception (e.g. liking, attractiveness, perceived cognitive workload) and the understanding of the Nutri-Score by consumers. **The Nutri-Score has been observed to be easy to identify, quick and easy to understand,** compared to more complex formats such as the Guidelines Daily Amounts (22–24). Among the various schemes that have been tested, the Nutri-Score has been demonstrated to be the most favourable rated on the different dimensions of perception, in particular among individuals with lower adherence to nutritional recommendations (24).

The Nutri-Score has been shown in several studies to be **the best understood scheme by consumers,** helping them to identify and compare the nutritional quality of products, **including among consumers with a lower educational or income level, with few or no nutrition knowledge (25,26).** The effectiveness of the Nutri-Score in helping consumers identify the nutritional quality

of foods has been notably found in **18 countries, including 12 European countries** (Argentina, Australia, Belgium, Bulgaria, Canada, Denmark, France, Germany, Italy, Mexico, the Netherlands, Poland, Portugal, Singapore, Spain, Switzerland, the United Kingdom, and the United States) (27–33).

Effect of the Nutri-Score on food choices and consumptions

The Nutri-Score has been shown in comparative studies to be the **most efficient scheme to improve the nutritional quality of purchasing intentions or purchases**, through an improvement of the nutritional quality of the overall shopping cart or on specific food categories, in the overall population (33–42) or among students, at-risk to have unhealthy dietary habits (43). In a large-scale study conducted in 60 real supermarkets, the Nutri-Score has been observed to have a positive impact on the nutritional quality of food purchases among all subgroups of population, in particular among consumers sensitive to prices, while results of other schemes were contrasted, with even a deterioration of purchases quality for some consumers (39).

A recent laboratory experiment has also shown an effect of the Nutri-Score on the willingness to pay of low-income consumers for the purchases of breakfast cereals (44). Results have shown that **the Nutri-Score increased the willingness to pay for products with higher nutritional quality**, and conversely, decrease it for products with lower nutritional quality.

An experimental study conducted within a large French online cohort has observed that **the Nutri-Score could decrease the portion sizes selected by consumers for products with low nutritional quality** and whose consumption should be limited, contrary to more complex schemes (i.e. a modified version of traffic lights proposed by food manufacturers in 2018) (45).

Regarding the effect of the Nutri-Score on the nutritional quality of food supply over time, future Oqali sectorial studies will assess **the effect of the Nutri-Score on food reformulation**.

Effect on health

A recent simulation study has estimated that **the Nutri-Score would be the most efficient scheme among various systems to potentially reduce mortality from nutrition-related chronic diseases** (46). Using the observed effects of the Nutri-Score on purchases in a laboratory experiment (34), transposed to observational data of consumptions, the Nutri-Score would reduce the number of deaths by chronic diseases, in particular cardiovascular diseases and cancers, through an improvement of nutritional intakes.



C ONCLUSION

Three years after its adoption in France the 31 October 2017, **the Nutri-Score continues its progressive deployment on the French market**, with a growing number of food operators engaged in favour of this voluntary approach of transparency and consumer information. In July 2018, approximately **70 food operators were engaged in favour of the Nutri-Score, compared to 415 in July 2020 and nearly 500 in September 2020.**

This progressive deployment of the Nutri-Score in supermarkets and online websites allows consumers using it to **make informed food choices**. According to surveys conducted by Santé publique France, the awareness and support of the Nutri-Score by consumers have increased steadily since 2018, with a progressive evolution of purchasing behaviours thanks to the Nutri-Score. This favourable Nutri-Score impact on purchasing behaviour can be explained by **the increased number of products using the Nutri-Score** in points of sales and e-commerce, but also by the **communication campaigns** and information to consumers

by Santé publique France, as well as by consumer associations and some operators. In addition, since its adoption in 2017, **numerous scientific studies** have investigated the **effectiveness** of the Nutri-Score and showed its capacity to help consumers identify and compare the nutritional quality of foods, and thus improve the quality of their purchases.

In addition to its deployment on pre-packed foods, the 2019-2023 National Nutrition and Health Program also plans to extend the Nutri-Score use to **raw unpacked products and to the out-of-home catering context**. This application of the Nutri-Score beyond pre-packed products sold mostly in supermarkets and hypermarkets will further improve consumer information on the nutritional quality of the products purchased and consumed, and **enable them to adopt more health-promoting behaviours**.

After its adoption in France in 2017, the Nutri-Score has been chosen by other European countries such as Belgium, Germany, Switzerland, Spain, the Netherlands and

Luxembourg. A **transnational governance of the Nutri-Score** has been set up in January 2020 by these European countries in order to facilitate a coordinated rollout of the Nutri-Score and to assess the scientific basis of potential evolutions of the system.



A NNEXES

ANNEX 1. FOLLOW-UP OF NUTRI-SCORE BY OQALI – 3 YEARS ANALYSIS – EDITION 2020

https://www.oqali.fr/content/download/3758/35067/version/1/file/OQALI_2020_Suivi_du_Nutri_Score_analyse_a_3+ans_1.pdf



ANNEX 2. NUTRI-SCORE: EVOLUTION OF ITS AWARENESS, PERCEPTION AND ITS IMPACT ON SELF-REPORTED PURCHASING BEHAVIOURS BETWEEN 2018 AND 2019; SANTÉ PUBLIQUE FRANCE

<https://www.santepubliquefrance.fr/determinants-de-sante/nutrition-et-activite-physique/documents/enquetes-etudes/nutri-score-evolution-de-sa-notoriete-sa-perception-et-son-impact-sur-les-comportements-d-achat-declares-entre-2018-et-2020>

ÉTUDES ET ENQUÊTES

JANVIER 2021



NUTRI-SCORE : ÉVOLUTION DE SA NOTORIÉTÉ, SA PERCEPTION ET SON IMPACT SUR LES COMPORTEMENTS D'ACHAT DÉCLARÉS ENTRE 2018 ET 2020

POINT CLÉS

- En 2020, la notoriété du Nutri-Score a continué à croître pour atteindre 93 %. Cette augmentation est due à l'apparition progressive du logo sur les emballages.
- Le Nutri-Score est cité spontanément par 18 % des individus comme un critère qu'ils utilisent pour évaluer la qualité nutritionnelle des produits (vs. 1 % en avril 2018, +17 points).
- 90 % des Français identifient bien que le Nutri-Score permet de qualifier la qualité nutritionnelle des produits.
- L'adhésion des consommateurs à la mesure, déjà très bonne en 2018 et en 2019, est restée stable voire s'est améliorée pour certains indicateurs en 2020. Près de 94 % des Français ont déclaré être favorables à la présence du Nutri-Score sur les emballages. Une proportion similaire (89 %) va plus loin en pensant que cette apposition devrait être obligatoire.
- En 2020, trois individus sur quatre ayant entendu parler ou vu le logo déclarent avoir acheté un produit sur lequel était apposé le Nutri-Score, un chiffre en forte augmentation depuis avril 2018 (+28 points entre avril 2018 et mai 2019 et +25 points entre mai 2019 et septembre 2020). De plus, une part de plus en plus importante de la population a déclaré avoir déjà changé au moins une de leurs habitudes d'achat grâce à la mesure (57 % en 2020 contre 43 % en 2019, soit +14 points).

INTRODUCTION

Une alimentation de mauvaise qualité est reconnue comme un facteur de risque majeur dans l'apparition et le développement des maladies chroniques. En 2019, l'alimentation était parmi l'une des principales causes de mortalité dans le monde [1]. Compte-tenu du poids croissant des maladies chroniques sur les systèmes de santé, les gouvernements cherchent à mettre en place des actions de prévention efficaces visant à améliorer le régime alimentaire de la population.

Aider les consommateurs à faire des choix plus sains lors de l'acte d'achat est une des stratégies qui a été identifiée dans ce cadre. Les instances internationales

et leurs comités d'experts préconisent en effet la mise en place d'un logo nutritionnel simplifié sur la face avant des emballages alimentaires [2,3]. Les pouvoirs publics dans de nombreux pays portent une attention croissante à cette mesure puisqu'elle est considérée comme efficace pour un coût limité [4]. Différents pays européens ont ainsi lancé des systèmes d'étiquetage nutritionnel simplifié.

En France, faisant suite à la loi de Modernisation du système de santé, du 26 janvier 2016, et à l'expérimentation en condition réelle *ex ante* [5], le Nutri-Score a été recommandé comme présentation complémentaire à la déclaration nutritionnelle par l'État, dans l'arrêté du 31 octobre 2017 [6]. D'autres pays européens l'ont également adopté par la suite (la Belgique, la Suisse, l'Allemagne) et d'autres

ANNEX 3. SCIENTIFIC REPORTS AND ARTICLES ON THE NUTRI-SCORE AND ITS ALGORITHM

Validation of the Nutri-Score algorithm	
Discrimination capacity	
(1) Julia C, Kesse-Guyot E, Ducrot P, Péneau S, Touvier M, Méjean C, et al. Performance of a five category front-of-pack labelling system – the 5-colour nutrition label – to differentiate nutritional quality of breakfast cereals in France. BMC Public Health. 2015;15(1):179.	France
(2) Julia C, Ducrot P, Péneau S, Deschamps V, Méjean C, Fézeu L, et al. Discriminating nutritional quality of foods using the 5-Color nutrition label in the French food market: consistency with nutritional recommendations. Nutr J. déc 2015;14(1):100.	France
(3) Julia C, Kesse-Guyot E, Touvier M, Méjean C, Fezeu L, Hercberg S. Application of the British Food Standards Agency nutrient profiling system in a French food composition database. Br J Nutr. 28 nov 2014;112(10):1699-705.	France
(4) Dréano-Trécant L, Egnell M, Hercberg S, Galan P, Soudon J, Fialon M, et al. Performance of the Front-of-Pack Nutrition Label Nutri-Score to Discriminate the Nutritional Quality of Foods Products: A Comparative Study across 8 European Countries. Nutrients. 2 mai 2020;12(5):1303.	Finland, France, Norway, Poland, Portugal, Slovakia, Sweden, Switzerland
(5) Szabo de Edelenyi F, Egnell M, Galan P, Druesne-Pecollo N, Hercberg S, Julia C. Ability of the Nutri-Score front-of-pack nutrition label to discriminate the nutritional quality of foods in the German food market and consistency with nutritional recommendations. Arch Public Health. déc 2019;77(1):28.	Germany
(6) Szabo de Edelenyi F, Egnell M, Galan P, Hercberg S, Julia C. Rapport Technique de l'Equipe de Recherche en Epidémiologie Nutritionnelle - Ability of the front-of-pack nutrition label Nutri-Score to discriminate nutritional quality of food products in 13 European countries and consistency with nutritional recommendations	Austria, Belgium, Finland, France, Germany, Italy, Netherlands, Poland, Portugal, Spain, Sweden, Switzerland, United Kingdom
Pivk Kupirovič U, Hristov H, Hribar M, Lavriša Ž, Pravst I. Facilitating Consumers Choice of Healthier Foods: A Comparison of Different Front-of-Package Labelling Schemes Using Slovenian Food Supply Database. Foods Basel Switz. 31 mars 2020;9(4).	Slovenia
Association with dietary quality	
(7) Julia C, Touvier M, Méjean C, Ducrot P, Péneau S, Hercberg S, et al. Development and Validation of an Individual Dietary Index Based on the British Food Standard Agency Nutrient Profiling System in a French Context. J Nutr. 1 déc 2014;144(12):2009-17.	France
(8) Deschamps V, Julia C, Salanave B, Verdoot C, Hercberg S, Castetbon K. Score de qualité nutritionnelle des aliments de la Food Standards Agency appliqué aux consommations alimentaires individuelles des adultes en France. Bull Epidémiologique Hebd. 2015;(24-25):466-75.	France
(9) Julia C, Méjean C, Touvier M, Péneau S, Lassale C, Ducrot P, et al. Validation of the FSA nutrient profiling system dietary index in French adults—findings from SUVIMAX study. Eur J Nutr. août 2016;55(5):1901-10.	France
Julia C, Méjean C, Péneau S, Camille Buscail, Benjamin Alles, Fezeu L, Touvier M, Hercberg S, et Kesse-Guyot E. The 5-CNL front-of-pack nutrition label appears an effective tool to achieve food substitutions towards healthier diets across dietary profiles. PloS one 11, no 6 (2016) : e0157545.	France

Association with health events	
(10) Julia C, Fézeu LK, Ducrot P, Méjean C, Péneau S, Touvier M, et al. The Nutrient Profile of Foods Consumed Using the British Food Standards Agency Nutrient Profiling System Is Associated with Metabolic Syndrome in the SU.VI.MAX Cohort. <i>J Nutr.</i> 1 oct 2015;145(10):2355-61.	France
(11) Egnell M, Seconda L, Neal B, Mhurchu CN, Rayner M, Jones A, et al. Prospective associations of the original Food Standards Agency nutrient profiling system and three variants with weight gain, overweight and obesity risk: results from the French Nutri-Net-Santé cohort. <i>Br J Nutr.</i> 3 sept 2020;1-13.	France
(12) Julia C, Ducrot P, Lassale C, Fézeu L, Méjean C, Péneau S, et al. Prospective associations between a dietary index based on the British Food Standard Agency nutrient profiling system and 13-year weight gain in the SU.VI.MAX cohort. <i>Prev Med.</i> déc 2015;81:189-94.	France
(13) Donnenfeld M, Julia C, Kesse-Guyot E, Méjean C, Ducrot P, Péneau S, et al. Prospective association between cancer risk and an individual dietary index based on the British Food Standards Agency Nutrient Profiling System. <i>Br J Nutr.</i> 28 nov 2015;114(10):1702-10.	France
(14) Deschasaux M, Julia C, Kesse-Guyot E, Lécuyer L, Adriouch S, Méjean C, et al. Are self-reported unhealthy food choices associated with an increased risk of breast cancer? Prospective cohort study using the British Food Standards Agency nutrient profiling system. <i>BMJ Open.</i> 08 2017;7(6):e013718.	France
(15) Adriouch S, Julia C, Kesse-Guyot E, Méjean C, Ducrot P, Péneau S, et al. Prospective association between a dietary quality index based on a nutrient profiling system and cardiovascular disease risk. <i>Eur J Prev Cardiol.</i> oct 2016;23(15):1669-76.	France
(16) Adriouch S, Julia C, Kesse-Guyot E, Ducrot P, Péneau S, Méjean C, et al. Association between a dietary quality index based on the food standard agency nutrient profiling system and cardiovascular disease risk among French adults. <i>Int J Cardiol.</i> mai 2017;234:22-7.	France
(17) Andrianasolo RM, Kesse-Guyot E, Adjibade M, Hercberg S, Galan P, Varraso R. Associations between dietary scores with asthma symptoms and asthma control in adults. <i>Eur Respir J.</i> juill 2018;52(1):1702572.	France
(18) Andreeva VA, Egnell M, Galan P, Feron G, Hercberg S, Julia C. Association of the Dietary Index Underpinning the Nutri-Score Label with Oral Health: Preliminary Evidence from a Large, Population-Based Sample. <i>Nutrients.</i> 23 août 2019;11(9):1998.	France
(19) Deschasaux M, Huybrechts I, Julia C, Hercberg S, Egnell M, Srouf B, et al. Association between nutritional profiles of foods underlying Nutri-Score front-of-pack labels and mortality: EPIC cohort study in 10 European countries. <i>BMJ.</i> 16 sept 2020;m3173.	Denmark, France, Germany, Greece, Italy, Netherlands, Norway, Spain, Sweden, United Kingdom
(20) Deschasaux M, Huybrechts I, Murphy N, Julia C, Hercberg S, Srouf B, et al. Nutritional quality of food as represented by the FSAM-NPS nutrient profiling system underlying the Nutri-Score label and cancer risk in Europe: Results from the EPIC prospective cohort study. <i>PLoS Med.</i> 2018;15(9):e1002651.	Denmark, France, Germany, Greece, Italy, Netherlands, Norway, Spain, Sweden, United Kingdom
(21) Gómez-Donoso C, Martínez-González MÁ, Perez-Cornago A, Sayón-Orea C, Martínez JA, Bes-Rastrollo M. Association between the nutrient profile system underpinning the Nutri-Score front-of-pack nutrition label and mortality in the SUN project: A prospective cohort study. <i>Clin Nutr.</i> 17 juill 2020.	Spain

Validation of the Nutri-Score	
Perception and opinions	
(22) Ducrot P, Méjean C, Julia C, Kesse-Guyot E, Touvier M, Fezeu L, et al. Effectiveness of Front-Of-Pack Nutrition Labels in French Adults: Results from the NutriNet-Santé Cohort Study. Gillison F, éditeur. PLOS ONE. 28 oct 2015;10(10):e0140898.	France
(23) Julia C, Péneau S, Buscail C, Gonzalez R, Touvier M, Hercberg S, et al. Perception of different formats of front-of-pack nutrition labels according to sociodemographic, lifestyle and dietary factors in a French population: cross-sectional study among the NutriNet-Santé cohort participants. BMJ Open. 15 2017;7(6):e016108.	France
(24) Talati Z, Egnell M, Hercberg S, Julia C, Pettigrew S. Consumers' Perceptions of Five Front-of-Package Nutrition Labels: An Experimental Study Across 12 Countries. Nutrients. 16 août 2019;11(8):1934.	Argentina, Australia, Bulgaria, Canada, Denmark, France, Germany, Mexico, Singapore, Spain, United Kingdom, United States
Julia C, Péneau S, Buscail C, Touvier M, Kesse-Guyot E, Hercberg S. Perception de différents systèmes d'information nutritionnelle actuellement proposés en France en fonction du statut pondéral. Obésité. mars 2017;12(1):5-15.	France
Comprehension	
(25) Ducrot P, Méjean C, Julia C, Kesse-Guyot E, Touvier M, Fezeu L, et al. Objective Understanding of Front-of-Package Nutrition Labels among Nutritionally At-Risk Individuals. Nutrients. 24 août 2015;7(8):7106-25.	France
(26) Egnell M, Ducrot P, Touvier M, Allès B, Hercberg S, Kesse-Guyot E, et al. Objective understanding of Nutri-Score Front-Of-Package nutrition label according to individual characteristics of subjects: Comparisons with other format labels. PloS One. 2018;13(8):e0202095.	France
(27) Egnell, Talati, Gombaud, Galan, Hercberg, Pettigrew, et al. Consumers' Responses to Front-of-Pack Nutrition Labelling: Results from a Sample from The Netherlands. Nutrients. 6 août 2019;11(8):1817.	Netherlands
(28) Egnell M, Galan P, Farpour-Lambert NJ, Talati Z, Pettigrew S, Hercberg S, et al. Compared to other front-of-pack nutrition labels, the Nutri-Score emerged as the most efficient to inform Swiss consumers on the nutritional quality of food products. Koenig J, éditeur. PLOS ONE. 27 févr 2020;15(2):e0228179.	Switzerland
(29) Vandevijvere S, Vermote M, Egnell M, Galan P, Talati Z, Pettigrew S, et al. Consumers' food choices, understanding and perceptions in response to different front-of-pack nutrition labelling systems in Belgium: results from an online experimental study. Arch Public Health Arch Belg Sante Publique. 2020;78:30.	Belgium
(30) Fialon M, Egnell M, Talati Z, Galan P, Dréano-Trécant L, Touvier M, et al. Effectiveness of Different Front-of-Pack Nutrition Labels among Italian Consumers: Results from an Online Randomized Controlled Trial. Nutrients. 31 juill 2020;12(8):2307.	Italy
(31) Andreeva VA, Egnell M, Handjieva-Darlenska T, Talati Z, Touvier M, Galan P, et al. Bulgarian consumers' objective understanding of front-of-package nutrition labels: a comparative, randomized study. Arch Public Health. 2020;78(1):35.	Bulgaria
(32) Egnell M, Talati Z, Hercberg S, Pettigrew S, Julia C. Objective Understanding of Front-of-Package Nutrition Labels: An International Comparative Experimental Study across 12 Countries. Nutrients. 18 oct 2018;10(10):1542.	Argentina, Australia, Bulgaria, Canada, Denmark, France, Germany, Mexico, Singapore, Spain, United Kingdom, United States

(33) Egnell M, Talati Z, Galan P, Andreeva VA, Vandevijvere S, Gombaud M, et al. Objective understanding of the Nutri-score front-of-pack label by European consumers and its effect on food choices: an online experimental study. <i>Int J Behav Nutr Phys Act.</i> 19 nov 2020;17(1):146.	Belgium, Bulgaria, Denmark, France, Germany, Italy, Netherlands, Poland, Portugal, Spain, Switzerland, United Kingdom
Galan P, Egnell M, Salas-Salvadó J, Babio N, Pettigrew S, Hercberg S, et al. Comprensión de diferentes etiquetados frontales de los envases en población española: resultados de un estudio comparativo. <i>Endocrinol Diabetes Nutr.</i> févr 2020;67(2):122-9.	Spain
Hernández-Nava LG, Egnell M, Aguilar-Salinas CA, Córdova-Villalobos JÁ, Barriquete-Meléndez JA, Pettigrew S, et al. Impact of different front-of-pack nutrition labels on foods according to their nutritional quality: a comparative study in Mexico. <i>Salud Publica Mex.</i> oct 2019;61(5):609-18.	Mexico
Santos O, Alarcão V, Feteira-Santos R, Fernandes J, Virgolino A, Sena C, et al. Impact of different front-of-pack nutrition labels on online food choices. <i>Appetite.</i> nov 2020;154:104795.	Portugal

Choices, purchases, consumption

(33) Egnell M, Talati Z, Galan P, Andreeva VA, Vandevijvere S, Gombaud M, et al. Objective understanding of the Nutri-score front-of-pack label by European consumers and its effect on food choices: an online experimental study. <i>Int J Behav Nutr Phys Act.</i> 19 nov 2020;17(1):146.	Belgium, Bulgaria, Denmark, France, Germany, Italy, Netherlands, Poland, Portugal, Spain, Switzerland, United Kingdom
(34) Crosetto P, Lacroix A, Muller L, Ruffieux B. Nutritional and economic impact of five alternative front-of-pack nutritional labels: experimental evidence. <i>Eur Rev Agric Econ.</i> 21 août 2019;jbz037.	France
(35) Crosetto P, Muller L, Ruffieux B. Réponses des consommateurs à trois systèmes d'étiquetage nutritionnel face avant. <i>Cah Nutr Diététique.</i> 1 juin 2016;51(3):124-31.	France
(36) Ducrot P, Julia C, Méjean C, Kesse-Guyot E, Touvier M, Fezeu LK, et al. Impact of Different Front-of-Pack Nutrition Labels on Consumer Purchasing Intentions. <i>Am J Prev Med.</i> mai 2016;50(5):627-36.	France
(37) Julia C, Blanchet O, Méjean C, Péneau S, Ducrot P, Allès B, et al. Impact of the front-of-pack 5-colour nutrition label (5-CNL) on the nutritional quality of purchases: an experimental study. <i>Int J Behav Nutr Phys Act.</i> déc 2016;13(1):101.	France
(38) Dubois P, Albuquerque P, Allais O, Bonnet C, Bertail P, Combris P, et al. Effects of front-of-pack labels on the nutritional quality of supermarket food purchases: evidence from a large-scale randomized controlled trial. <i>J Acad Mark Sci [Internet].</i> 24 avr 2020 [cité 19 nov 2020]; Disponible sur: http://link.springer.com/10.1007/s11747-020-00723-5	France
(39) Poquet D, Ginon E, Goubel B, Chabanet C, Marette S, Issanchou S, et al. Impact of a front-of-pack nutritional traffic-light label on the nutritional quality and the hedonic value of mid-afternoon snacks chosen by mother-child dyads. <i>Appetite.</i> 01 2019;143:104425.	France
(40) De Temmerman J, Heeremans E, Slabbinck H, Vermeir I. The impact of the Nutri-Score nutrition label on perceived healthiness and purchase intentions. <i>Appetite.</i> 1 févr 2021;157:104995.	Belgium
(41) Finkelstein EA, Ang FJL, Doble B, Wong WHM, van Dam RM. A Randomized Controlled Trial Evaluating the Relative Effectiveness of the Multiple Traffic Light and Nutri-Score Front of Package Nutrition Labels. <i>Nutrients.</i> 17 sept 2019;11(9).	Singapore

(42) Talati Z, Egnell M, Hercberg S, Julia C, Pettigrew S. Food Choice Under Five Front-of-Package Nutrition Label Conditions: An Experimental Study Across 12 Countries. <i>Am J Public Health</i> . 2019;109(12):1770-5.	Argentina, Australia, Bulgaria, Canada, Denmark, France, Germany, Mexico, Singapore, Spain, United Kingdom, United States
(43) Egnell M, Boutron I, Péneau S, Ducrot P, Touvier M, Galan P, et al. Front-of-Pack Labeling and the Nutritional Quality of Students' Food Purchases: A 3-Arm Randomized Controlled Trial. <i>Am J Public Health</i> . 2019;109(8):1122-9.	France
(44) Nabec L, Marette S, Durieux F. Les effets du Nutri-Score en France sur le consentement-à-payer des consommateurs à faible revenu. <i>Décisions Mark</i> . 19 déc 2019;96:69-88.	France
(45) Egnell M, Kesse-Guyot E, Galan P, Touvier M, Rayner M, Jewell J, et al. Impact of Front-of-Pack Nutrition Labels on Portion Size Selection: An Experimental Study in a French Cohort. <i>Nutrients</i> . 8 sept 2018;10(9).	France
Comité Scientifique de l'étude d'expérimentation. Evaluation ex ante de systèmes d'étiquetage nutritionnel graphique simplifié. Rapport final du comité scientifique. Paris, Ministère des Affaires sociales et de la Santé. [Internet]. Mars 2017	France
Mérigot P & Nabec L. Les effets d'alerte et de promotion des logos nutritionnels sur la face-avant des produits agroalimentaires. <i>Décision Marketing</i> 83, 29-48. (2016)	France
Sarda B, Julia C, Serry A-J, Ducrot P. Appropriation of the Front-of-Pack Nutrition Label Nutri-Score across the French Population: Evolution of Awareness, Support, and Purchasing Behaviors between 2018 and 2019. <i>Nutrients</i> . 22 sept 2020;12(9).	France
Acton RB, Jones AC, Kirkpatrick SI, Roberto CA, Hammond D. Taxes and front-of-package labels improve the healthiness of beverage and snack purchases: a randomized experimental marketplace. <i>Int J Behav Nutr Phys Act</i> . 21 2019;16(1):46.	Canada
Ares G, Varela F, Machin L, Antúnez L, Giménez A, Curutchet MR, et al. Comparative performance of three interpretative front-of-pack nutrition labelling schemes: Insights for policy making. <i>Food Qual Prefer</i> . sept 2018;68:215-25.	Uruguay
Mora-García CA, Tobar LF, Young JC. The Effect of Randomly Providing Nutri-Score Information on Actual Purchases in Colombia. <i>Nutrients</i> . 26 févr 2019;11(3).	Colombia
Health	
(46) Egnell M, Crosetto P, d'Almeida T, Kesse-Guyot E, Touvier M, Ruffieux B, et al. Modelling the impact of different front-of-package nutrition labels on mortality from non-communicable chronic disease. <i>Int J Behav Nutr Phys Act</i> . déc 2019;16(1):56.	France
Others	
Julia C et Hercberg S. Development of a new front-of-pack nutrition label in France: the five-colour Nutri-Score. <i>Public Health Panorama</i> 3, no 4 (2017) : 712 25.	France
Julia C et Hercberg S. Nutri-Score: Effectiveness of the Nutrition Label introduced in France. <i>Ernährung Umschau</i> 64, no 12 (2017): M685 91.	France
Temple NJ. Front-of-package food labels: A narrative review. <i>Appetite</i> . 01 2020;144:104485.	-
Bommer L. A systematic review of recent literature regarding consumer use of nutrition labels, specifically for Nutri-Score. Wageningen University; 2019 sept.	-
Poon T, Labonté M-È, Mulligan C, Ahmed M, Dickinson KM, L'Abbé MR. Comparison of nutrient profiling models for assessing the nutritional quality of foods: a validation study. <i>Br J Nutr</i> . 2018;120(5):567-82.	-

Vandevijvere S. Uptake of Nutri-Score during the first year of implementation in Belgium. Archives of Public Health. Octobre 2020	Belgium
Galan P, Gonzalez R, Julia C, Hercberg S, Varela-Moreiras G, Aranceta-Bartrina J, Pérez-Rodrigo C et Serra-Majem L. El logotipo nutricional NutriScore en los envases de los alimentos puede ser una herramienta útil para los consumidores españoles. Rev Esp Nutr Comunitaria 23, no 2 (2017).	Spain
Galan P, Babio N, Salas Salvadó J. Nutri-Score : el logotipo frontal de información nutricional útil para la salud pública de España que se apoya sobre basas científicas. Nutrición Hospitalaria 2019 ; 36 (5):1213-1222	Spain
Goiana-Da-Silva F, Cruz-E-Silva D, Gregório MJ, Nunes AM, Calhau C, Hercberg S, Rito A, Bento A, Cruz D, Almeida F, Darzi A, Araújo F. Nutri-Score : A Public Health Tool to Improve Eating Habits in Portugal. Acta Med Port 2019 Mar ;32(3):175-178	Portugal
Agueaou H, Julia C, El Hajjab A, Galan P, El Berri H, Brahimi M, Belkadir J, Heikel J, Hercberg S. Le logo nutritionnel Nutri-Score : un outil au service du consommateur marocain. Revue Marocaine des Sciences Agronomiques et Vétérinaires 6, no 3 (2018).	Morocco
Julia C et Hercberg S. Research and lobbying conflicting on the issue of a front-of-pack nutrition labelling in France. Archives of Public Health 74, no 1 (2016): 51.	France
Julia C et Hercberg S. La bataille de l'étiquetage nutritionnel. Rev Prat 66, no 9 (2016) : 943 48.	France
Julia C, Charpak Y, Rusch E, Lecomte F, Lombrail P et Hercberg S. Promoting public health in nutrition : Nutri-Score and the tug of war between public health and the food industry. The European Journal of Public Health 28, no 3 (2018): 396 97.	France
Mialon M, Julia C et Hercberg S. The policy dystopia model adapted to the food industry: the example of the Nutri-Score saga in France. World Nutrition 9, no 2 (2018): 109 20.	France
Julia C et Hercberg S. Big Food's Opposition to the French Nutri-Score Front-of-Pack Labeling Warrants a Global Reaction. American Journal of Public Health, 2018.	-
Julia C, Etile F et Hercberg S. Front-of-pack Nutri-Score labelling in France: an evidence-based policy. The Lancet Public Health 3, no 4 (2018): e164.	France
Nabec L, Mériqot P, Julia C. Les logos nutritionnels sont-ils légitimes ? Analyse de l'effet de leur format selon l'expertise nutritionnelle des consommateurs. In 33è Colloque International de l'Association Française du Marketing (2017)	France
Rapport du Bureau européen des unions de consommateurs : Front-of-pack Nutritional labelling : BEUC Position (2019)	Europe
Rapport du Parlement Européen Policy Department for Citizens' Rights and Constitutional Affairs (2019) : Food Labelling for Consumers EU Law, Regulation and Policy Options	Europe
Storckdieck Genannt Bonsmann S, Marandola G, Ciriolo E, Van Bavel R and Wollgast J. Front-of-pack nutrition labelling schemes: a comprehensive review. (Publications Office, 2020)	Europe
Report from the Commission to the European Parliament and the Council regarding the use of additional forms of expression and presentation of the nutrition declaration (May 2020)	Europe

