

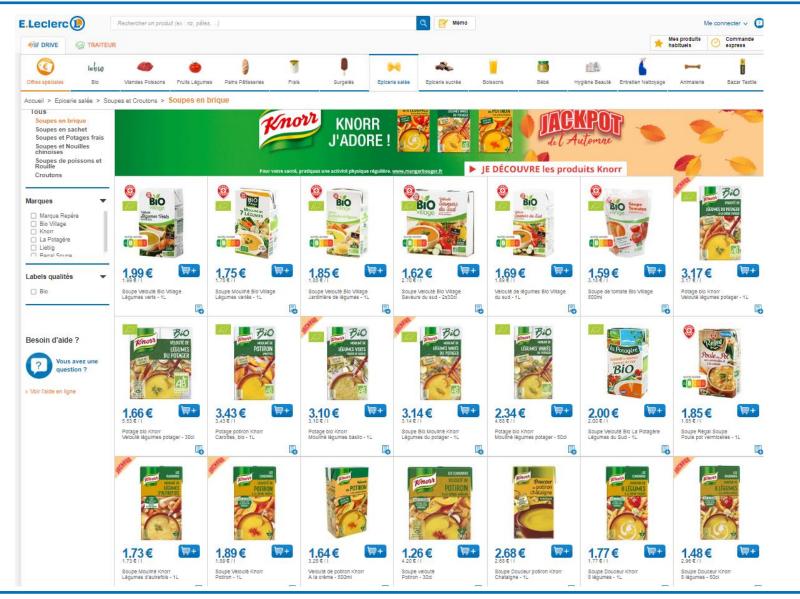


Impact of NutriMark and Nutriscore FOP nutrition labels on consumer behavior in real purchase conditions

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Introduction





Introduction







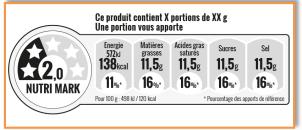
4 catégories de produits sont identifiées

- Les boissons : elle comprend, entre autres, les jus de fruits, smoothies, boissons plates aux fruits, colas et autres sodas...) à l'exception des boissons alcoolisées
- Les fromages : elle comprend, entre autres, les fromages affinés (à pâte molle, cuite, persillée...) ou non affinés, fromages fondus, spécialités fromagères...
- Matières grasses : elle comprend, entre autres, les huiles, beurres, crèmes, margarines...



Introduction

If its surveys in 2016 & 2017 using the NustriMark FOP nutrition label only (real purchase conditions) : no real modification of consumer behaviors compared to the non-exposed consumer behavior,



New study in 2018 (Feb- April) to measure the impact on the consumer behavior of the Nutriscore vs. NutriMark vs. Non-exposed , in real purchase conditions (33 drives – 101 400 customers)









Survey parameters

Behavior survey:

Customers since November 2017 at least

Purchase period: 1st of February to 30th of April 2018

Identification of the Drive triplets : Drive websites with Nutriscore / Drive websites with NutriMark / nonexposed drive websites (without any FOP nutrition label) \rightarrow 74/89/477

- Drives with less than one year of service or with a small number of customers in 2016 were excluded from the study
- Product families : sweet grocery/ savoury grocery/ Meat & Fish/ Frozen foods/ Fresh foods/Fruits & Vegetables/ breads & pastries/ beverages
- Exclusion of the products most often out of stock



Key indicators

FSA score of the products: objective measure of the nutritional quality

- a product with a lower score is considered as having a favorable nutritional profile) \rightarrow from -13 to +28 in our study perimeter
- **O** Average value weighted by the nb of items
- Common Nutriscore/ Nutrimark score: score used to compared both FOP nutrition label (average value weighted by the nb of scored items)

	Mark / Score	E	D	с	В	А		
*	0,5	10%	3%	1%	0%	0%		
*	1	5%	2%	1%	0%	0%		
*	1,5	1%	8%	1%	0%	0%		
r t r	2	0%	8%	2%	0%	0%		
t	2,5	0%	2%	5%	1%	0%		
d	3	0%	1%	6%	1%	0%		
┪╴	3,5	0%	1%	3%	11%	3%		
☆	4	0%	1%	1%	2%	9%		
*	4,5	0%	0%	1%	1%	5%		
*	5	0%	0%	2%	1%	2%		
тс	DTAL	17%	24%	23%	17%	20%		
	nmon :ore	0	1	2	3	4		
% of refer	ences	21%	21% 17% 1		17%	17%		

Nutritional balance index : used to measure the customer sensitivity to extreme scores

 $\frac{\text{nb of products with a score = 4 - Nb of produts with a score=0}}{\text{Nb of scored products}} \times 100$



Statistics test used

- The Z-score transformation on an independent sample is used to compare the purchase orders of exposed customers to the non-exposed ones.
 - ightarrow The Alpha 0.05 (5%) and 0.01 (1%) risks are used to carry out these tests
- Visualisation :
 - Significative difference (at 1% risk) and higher average score for the exposed customers (<u>lower</u> for the FSA score) than for the non-exposed ones.
 - Significative difference (at 5% risk) and higher average score for the exposed customers (<u>lower</u> for the FSA score) than for the non-exposed ones.

No significative difference

- Significative difference (at 1% risk) and lower average score for the exposed customers (<u>higher</u> for the FSA score) than for the non-exposed ones.
- Significative difference (at 5% risk) and lower average score for the exposed customers (<u>higher</u> for the FSA score) than for the non-exposed ones.



Global results *All customers, all product families*



Nb of customers : 102 363 for the non-exposed drives/ 101 392 for the NutriScore exposed drives/ 91 914 for the NutriMark exposed drives

Population	Globale								
	US RAYONS								
	NON EXPOSES	EXPOSES NutriScore	EXPOSES NutriMark	EX	POSES NutriScore VS NutriMark		POSES NutriScore S NON EXPOSES		POSES NutriMark S NON EXPOSES
Note FSA moyenne	2.12	1.91	2.09	ᢙ	-8.6%	ᠬ	-9.7%	⇒	-1.1%
Indice d'équilibre nutritionnel	4.71	5.98	4.92	倉	+1.06 pts	ᡎ	+1.28 pts	⇒	+0.21 pts
Note NutriScore/NutriMark moyenne	2.82	2.90	2.82		+2.7%	€	+2.9%	⇒	+0.1%

- Significative difference for the average FSA score and for the NutriScore/NutriMark score : better nutritional quality of the products bought by the Nutriscore exposed customers compared to those bought by the Nutrimark exposed ones and the non-exposed ones.
- This conclusion is confirmed by the Nutritional balance index



Results vs. Consumer profile

Disadvantaged VS non-disadvantaged

Population		Défavorisée					
	NON EXPOSES	EXPOSES NutriScore	EXPOSES NutriMark	EXPOSES NutriScore EXPOSES NutriScore EXPOSES NutriMark VS NutriMark VS NON EXPOSES VS NON EXPOSES			
Note FSA moyenne	2.14	1.86	2.10	👚 -11.3% 👚 -13.0% 📫 -1.9%			
Indice d'équilibre nutritionnel	4.08	6.05	4.68	👚 +1.37 pts 🔺 +1.97 pts 📫 +0.60 pts			
Note NutriScore/NutriMark moyenne	2.75	2.89	2.77	1 +4.1% 1 +4.8% i +0.7%			
	Non défavorisée						
Population			No	on défavorisée			
Population	NON EXPOSES	EXPOSES NutriScore	No EXPOSES NutriMark	en défavorisée EXPOSES NutriScore EXPOSES NutriScore EXPOSES NutriMark VS NutriMark VS NON EXPOSES VS NON EXPOSES			
Population Note FSA moyenne	NON EXPOSES		EXPOSES	EXPOSES NutriScore EXPOSES NutriScore EXPOSES NutriMark			
		NutriScore	EXPOSES NutriMark	EXPOSES NutriScore EXPOSES NutriScore EXPOSES NutriMark VS NutriMark VS NON EXPOSES VS NON EXPOSES			

Same results than previously but with a mais stronger impact on the nutritional quality for the disadvantaged population.



Results vs. Consumer age

3 age clusters: 30 y.o. or below (24%)/ between 31 and 50 y.o. (62%)/ more than 50 y.o. (14%)

Population		Agée de 30 ans ou moins								
	NON EXPOSES	EXPOSES NutriScore	EXPOSES NutriMark		POSES NutriScore VS NutriMark		POSES NutriScore S NON EXPOSES		POSES NutriMark S NON EXPOSES	
Note FSA moyenne	2.24	2.02	2.22		-8.8%	ᠬ	-9.5%	⇒	-0.8%	
Indice d'équilibre nutritionnel	4.30	5.98	4.80	€	+1.17 pts	ᡎ	+1.68 pts	$\mathbf{\nabla}$	+0.51 pts	
Note NutriScore/NutriMark moyenne	2.71	2.81	2.73	ᡎ	+2.9%	ᡎ	+3.5%	⇒	+0.5%	

Population		Agée de 31 à 50 ans							
	NON EXPOSES	EXPOSES NutriScore	EXPOSES NutriMark		POSES NutriScore VS NutriMark		POSES NutriScore S NON EXPOSES		POSES NutriMark S NON EXPOSES
Note FSA moyenne	2.13	1.93	2.11	ᡎ	-8.4%	ᡎ	-9.3%	⇒	-1.0%
Indice d'équilibre nutritionnel	4.41	5.64	4.57	ᡎ	+1.07 pts	ᡎ	+1.23 pts	⇒	+0.16 pts
Note NutriScore/NutriMark moyenne	2.84	2.92	2.84	€	+2.8%	ᡎ	+2.8%	⇒	+0.0%

Population		Agée de plus de 50 ans								
	NON EXPOSES	EXPOSES NutriScore	EXPOSES NutriMark	EXPOSES NutriScore EXPOSES NutriScore EXPOSES NutriMark VS NutriMark VS NON EXPOSES VS NON EXPOSES						
Note FSA moyenne	1.87	1.64	1.82							
Indice d'équilibre nutritionnel	7.10	8.11	7.28	决 +0.83 pts 🏫 +1.01 pts 🔿 +0.18 pts						
Note NutriScore/NutriMark moyenne	2.93	2.93	2.87							

The impact on the nutritional quality is really strong for the younger population, and quite neutral for the more than 50 y.o. population.



Focus on product family

Global population

- Neutral impact of Nutriscore on savoury grocery products
- Neutral impact of Nutriscore on Fish and meal

Real positive impact of NutriScore on the nutritional quality of products bought in the Fresh products aeras (incl. Fruits and Vegetable)

		EPIC	ERIE SALEE			
	NON EXPOSES	EXPOSES NutriScore	EXPOSES NutriMark	EXPOSES NutriScore VS NutriMark	EXPOSES NutriScore VS NON EXPOSES	EXPOSES NutriMark VS NON EXPOSES
Note FSA moyenne	-0.84	-0.89	-0.83	→ +6.9%	→ +6.5%	-0.4%
Indice d'équilibre nutritionnel	37.65	37.91	37.85	🔶 +0.06 pts	→ +0.25 pts	→ +0.20 pts
Note NutriScore/NutriMark moyenne	3.25	3.25	3.24	⇒ +0.1%	+0.0%	-0.1%
		VIANDE	S ET POISSONS			
	NON EXPOSES	EXPOSES NutriScore	EXPOSES NutriMark	EXPOSES NutriScore VS NutriMark	EXPOSES NutriScore VS NON EXPOSES	EXPOSES NutriMark VS NON EXPOSES
Note FSA moyenne	5.85	5.75	5.83	-1.4%	1.8%	-0.4%
Indice d'équilibre nutritionnel	1.86	1.83	2.41	🕂 -0.59 pts	-0.03 pts	10.56 pts
Note NutriScore/NutriMark moyenne	2.05	2.06	2.04	1 +0.9%	+0.3%	-0.6%
			FRAIS			
	NON EXPOSES	EXPOSES NutriScore	EXPOSES NutriMark	EXPOSES NutriScore VS NutriMark	EXPOSES NutriScore VS NON EXPOSES	EXPOSES NutriMark VS NON EXPOSES
Note FSA moyenne	NON EXPOSES					
Note FSA moyenne Indice d'équilibre nutritionnel		NutriScore	NutriMark	VS NutriMark	VS NON EXPOSES	VS NON EXPOSES
	2.24	NutriScore 1.96	NutriMark 2.22	VS NutriMark	VS NON EXPOSES	VS NON EXPOSES
Indice d'équilibre nutritionnel	2.24 -2.00	NutriScore 1.96 -1.20 3.25	NutriMark 2.22 -2.33	VS NutriMark 11.6% +1.13 pts	VS NON EXPOSES 12.7% +0.80 pts	VS NON EXPOSES → -1.3% → -0.33 pts
Indice d'équilibre nutritionnel	2.24 -2.00	NutriScore 1.96 -1.20 3.25	NutriMark 2.22 -2.33 3.20	VS NutriMark 11.6% +1.13 pts	VS NON EXPOSES 12.7% +0.80 pts	VS NON EXPOSES ⇒ -1.3% ≦ -0.33 pts
Indice d'équilibre nutritionnel	2.24 -2.00 3.19	NutriScore 1.96 -1.20 3.25 FRUITS EXPOSES	NutriMark 2.22 -2.33 3.20 Set LEGUMES EXPOSES	VS NutriMark	VS NON EXPOSES ↑ -12.7% ↑ +0.80 pts ↑ +1.7%	VS NON EXPOSES ⇒ -1.3% ≦ -0.33 pts ⇒ +0.3%
Indice d'équilibre nutritionnel Note NutriScore/NutriMark moyenne	2.24 -2.00 3.19 NON EXPOSES	NutriScore 1.96 -1.20 3.25 FRUITS EXPOSES NutriScore	NutriMark 2.22 -2.33 3.20 S et LEGUMES EXPOSES NutriMark	VS NutriMark -11.6% +1.13 pts +1.4% EXPOSES NutriScore VS NutriMark	VS NON EXPOSES 12.7% +0.80 pts +1.7% +1.7%	VS NON EXPOSES ⇒ -1.3% ≦ -0.33 pts ⇒ +0.3% EXPOSES NutriMark VS NON EXPOSES



Focus on product family

Global population

		s	URGELES	
	NON EXPOSES	EXPOSES NutriScore	EXPOSES NutriMark	EXPOSES NutriScore EXPOSES NutriScore EXPOSES NutriMark VS NON EXPOSES VS NON EXPOSES
Note FSA moyenne	-1.89	-2.01	-1.82	👚 +10.6% 🏫 +6.5% 📡 -3.7%
Indice d'équilibre nutritionnel	43.06	44.38	43.42	👚 +0.96 pts 🔺 +1.32 pts 📫 +0.36 pts
Note NutriScore/NutriMark moyenne	3.40	3.41	3.40	决 +0.4% 🔿 +0.2% 🔿 -0.2%
		В	OISSONS	
	NON EXPOSES	EXPOSES NutriScore	EXPOSES NutriMark	EXPOSES NutriScore EXPOSES NutriScore EXPOSES NutriMark VS NutriMark VS NON EXPOSES VS NON EXPOSES
Note FSA moyenne	0.67	0.61	0.69	1 -10.5% 1 -8.4% 中 +2.3%
Indice d'équilibre nutritionnel	-21.82	-19.18	-21.47	👚 +2.29 pts 🏫 +2.63 pts 📫 +0.35 pts
Note NutriScore/NutriMark moyenne	0.70	0.77	0.69	1 +12.5% 1 +10.1% 🔿 -2.2%
		EPIC	ERIE SUCREE	
	NON EXPOSES	EXPOSES NutriScore	EXPOSES NutriMark	EXPOSES NutriScore EXPOSES NutriScore EXPOSES NutriMark VS NON EXPOSES VS NON EXPOSES
Note FSA moyenne	11.78	11.10	11.63	个 -4.6% 个 -5.8% 个 -1.3%
Indice d'équilibre nutritionnel	-26.12	-22.66	-24.79	🕈 +2.13 pts 🏠 +3.46 pts 🏠 +1.34 pts
Note NutriScore/NutriMark moyenne	1.42	1.53	1.45	1 +5.9% 1 +8.0% 1 +2.0%
		PAINS	PATISSERIES	
	NON EXPOSES	EXPOSES NutriScore	EXPOSES NutriMark	EXPOSES NutriScore EXPOSES NutriScore EXPOSES NutriMark VS NutriMark VS NON EXPOSES VS NON EXPOSES
Note FSA moyenne	3.18	2.44	2.45	🔶 -0.5% 👚 -23.2% 👚 -22.8%
Indice d'équilibre nutritionnel	-4.36	-0.47	-0.83	🔶 +0.35 pts 🏫 +3.89 pts 🏠 +3.54 pts
Note NutriScore/NutriMark moyenne	2.63	2.75	2.75	< +0.1% 👚 +4.6% 👚 +4.6%

- Positive impact of Nutriscore for these 4 family products
- The positive impact of Nutriscore is the most visible on the sweet grocery product family which is one of the worst product family in terms of nutritional quality



Focus on the chocolate and confectionary and on low fat products (biscuit and desert)

CHOCOLATS ET CONFISERIES										
	NON EXPOSES	EXPOSES NutriScore	EXPOSES NutriMark	EXPOSES NutriScore VS NutriMark		EXPOSES NutriScore VS NON EXPOSES			EXPOSES NutriMark VS NON EXPOSES	
Note FSA moyenne	20.60	20.79	20.78	合	+0.1%	₽	+0.9%	₽	+0.8%	
Indice d'équilibre nutritionnel	-64.92	-66.39	-67.30	≺	+0.91 pts	Ŷ	-1.47 pts	₽	-2.38 pts	
Note NutriScore/NutriMark moyenne	0.24	0.22	0.22	⇒	-2.0%	₽	-9.6%	₽	-7.7%	

Around 25% of the customers have bought products from these categories

BISCUITS ET DESSERTS ALLÉGÉS									
	NON EXPOSES	EXPOSES NutriScore	EXPOSES NutriMark		POSES NutriScore VS NutriMark		POSES NutriScore S NON EXPOSES		POSES NutriMark S NON EXPOSES
Note FSA moyenne	21.26	21.29	21.27		+0.1%	⇒	+0.2%	⇒	+0.1%
Indice d'équilibre nutritionnel	-81.99	-82.42	-80.97	₽	-1.44 pts	⇒	-0.43 pts	ᡎ	+1.01 pts
Note NutriScore/NutriMark moyenne	0.14	0.13	0.13	⇒	-2.2%	₽	-6.8%	₽	-4.7%



Around 30% of the customers have bought products from these categories



Focus on sauces, pizzas, tarts, quiches, convenience food

Around 16%, 9% and 8% of the customers (respectively) have bought products from these categories

		KETCHUP, MA	YO, SAUCES FROI	IDES				
	NON EXPOSES	EXPOSES NutriScore	EXPOSES NutriMark	EXPOSES NutriScore EXPOSES NutriScore EXPOSES NutriMate VS NutriMark VS NON EXPOSES VS NON EXPOSES				
Note FSA moyenne	14.92	14.78	14.91	✿ -0.9% ✿ -0.9% 💠 -0.0%				
Indice d'équilibre nutritionnel	-13.01	-12.78	-12.68	→ -0.10 pts → +0.23 pts → +0.33 pts				
Note NutriScore/NutriMark moyenne	0.92	0.94	0.93	<mark>> +1.0% </mark>				
PIZZA, TARTES ET QUICHES								
	NON EXPOSES	EXPOSES NutriScore	EXPOSES NutriMark	EXPOSES NutriScore EXPOSES NutriScore EXPOSES NutriMate VS NutriMark VS NON EXPOSES VS NON EXPOSES				
Note FSA moyenne	5.01	4.85	4.91	-1.3% 👚 -3.2% 🏹 -1.9%				
Indice d'équilibre nutritionnel	0.00	0.00	0.00	+0.00 pts +0.00 pts +0.00 pts				
Note NutriScore/NutriMark moyenne	2.19	2.19	2.19	→ +0.1% → +0.0% → -0.1%				
		PLA	TS CUISINÉS					
	NON EXPOSES	EXPOSES NutriScore	EXPOSES NutriMark	EXPOSES NutriScore EXPOSES NutriScore EXPOSES NutriMate VS NutriMark VS NON EXPOSES VS NON EXPOSES				
Note FSA moyenne	10.61	10.50	10.46	📫 +0.3% 🏹 -1.1% 👚 -1.4%				
Indice d'équilibre nutritionnel	-1.21	-1.03	-1.28	↔ +0.25 pts ↔ +0.17 pts ↔ -0.08 pts				
Note NutriScore/NutriMark moyenne	1.29	1.30	1.34					

Slight positive impact of Nutriscore on those product families (with a quite low nutritional quality)

