# Open Food Facts : The Wikipedia of food products

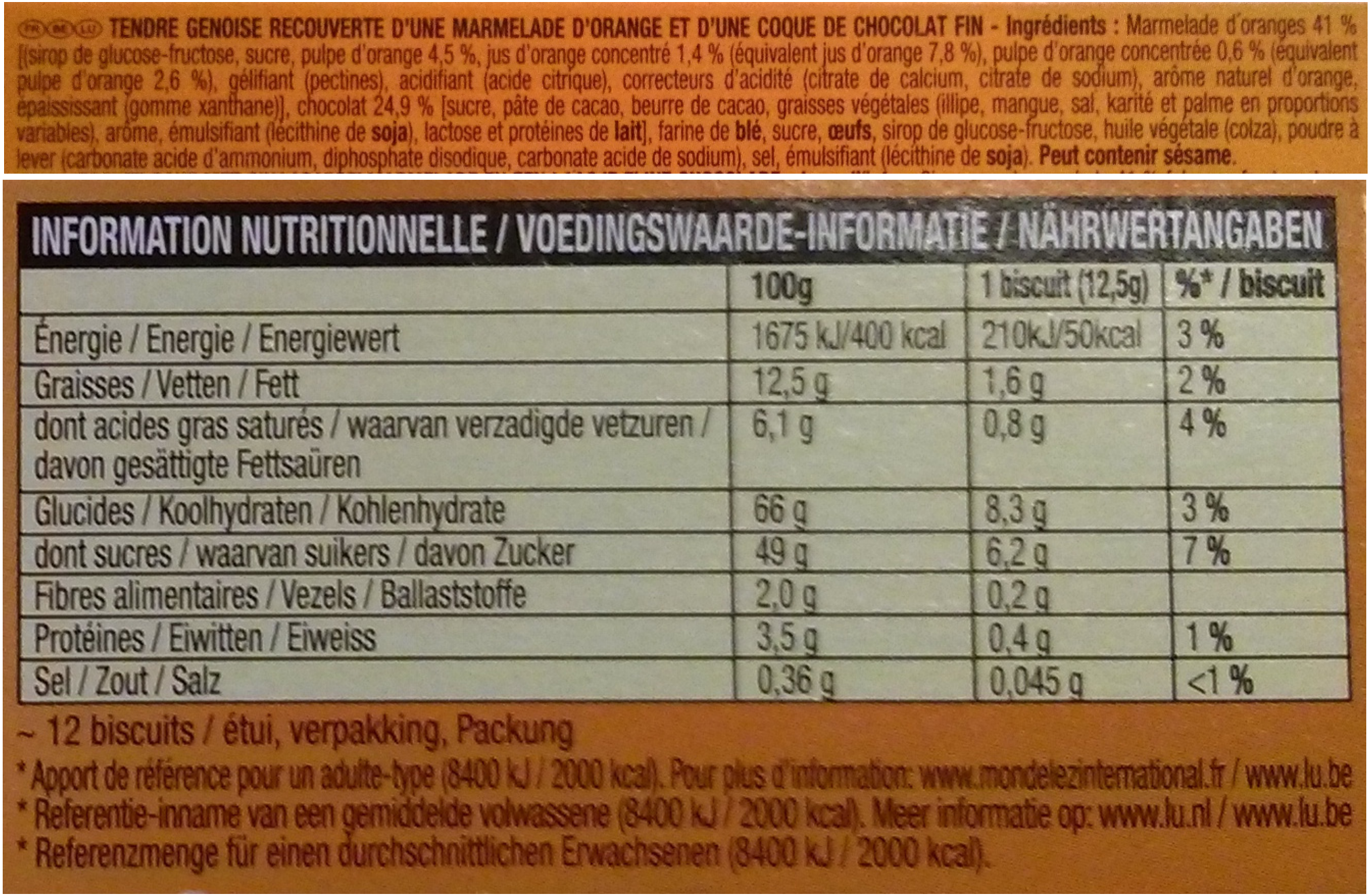

Fosdem – February 2018 – Bruxelles

@OpenFoodFacts #FOSDEM2018

# Hi, I’m Anca!

- Web Developer , working in Open Source since 2007 (for XWiki)
- Got involved in the Open Food Facts project at the beginning of 2015
- Ping me on twitter @lucaa

# Too much data to digest



(FR) (BE) (LU) **TENDRE GENOISE RECOUVERTE D'UNE MARMELADE D'ORANGE ET D'UNE COQUE DE CHOCOLAT FIN - Ingrédients :** Marmelade d'oranges 41 % [(sirop de glucose-fructose, sucre, pulpe d'orange 4,5 %, jus d'orange concentré 1,4 % (équivalent jus d'orange 7,8 %), pulpe d'orange concentrée 0,6 % (équivalent pulpe d'orange 2,6 %), gélifiant (pectines), acidifiant (acide citrique), correcteurs d'acidité (citrate de calcium, citrate de sodium), arôme naturel d'orange, épaississant (gomme xanthane)], chocolat 24,9 % [sucre, pâte de cacao, beurre de cacao, graisses végétales (illipe, mangue, sal, karité et palme en proportions variables), arôme, émulsifiant (lécithine de **soja**), lactose et protéines de **lait**], farine de **blé**, sucre, **œufs**, sirop de glucose-fructose, huile végétale (colza), poudre à lever (carbonate acide d'ammonium, diphosphate disodique, carbonate acide de sodium), sel, émulsifiant (lécithine de **soja**). **Peut contenir sésame.**

**INFORMATION NUTRITIONNELLE / VOEDINGSWAARDE-INFORMATIE / NÄHRWERTANGABEN**

| | 100g | 1 biscuit (12,5g) | %* / biscuit |
|---|---|---|---|
| Énergie / Energie / Energiewert | 1675 kJ/400 kcal | 210kJ/50kcal | 3 % |
| Graisses / Vetten / Fett | 12,5 g | 1,6 g | 2 % |
| dont acides gras saturés / waarvan verzadigde vetzuren / davon gesättigte Fettsaüren | 6,1 g | 0,8 g | 4 % |
| Glucides / Koolhydraten / Kohlenhydrate | 66 g | 8,3 g | 3 % |
| dont sucres / waarvan suikers / davon Zucker | 49 g | 6,2 g | 7 % |
| Fibres alimentaires / Vezels / Ballaststoffe | 2,0 g | 0,2 g | |
| Protéines / Eiwitten / Eiweiss | 3,5 g | 0,4 g | 1 % |
| Sel / Zout / Salz | 0,36 g | 0,045 g | <1 % |

~ 12 biscuits / étui, verpakking, Packung

* Apport de référence pour un adulte-type (8400 kJ / 2000 kcal). Pour plus d'information: www.mondelezinternational.fr / www.lu.be
* Referentie-inname van een gemiddelde volwassene (8400 kJ / 2000 kcal). Meer informatie op: www.lu.nl / www.lu.be
* Referenzmenge für einen durchschnittlichen Erwachsenen (8400 kJ / 2000 kcal).

# Too much data to digest x 43

# Crowdsourced, citizen project

WIKIPEDIA
The Free Encyclopedia

OpenStreetMap

and ?

# Open Data about food

Open Food Facts | Country | Search for a product | Discover | Contribute

OPEN FOOD FACTS
the free food products database

Open Food Facts gathers information and data on food products from around the world.

## Add a product

Picture with barcode

or Barcode | Add

Product without barcode

## Hello Anca

You are connected as lucaa.

Sign-out

Products you added or edited

Products you added that need to be completed

## Embrace the mission

# Open Food Facts - World

## Last products added:

→ products from the mobile app that need to be completed

420564 products | Drilldown into products by...


Assortiment de chocolats - Carrefour Bio


Gelée De Groseille - Albert Ménès


Crème légère - Pâturages - 25 cl


French Dressing Extra - Thomy


Le Président Léger - 250 g


Mayver's Dark Roasted Peanut Butter


Jus de pomme - carrefour -


Coles Smart Buy Oat Bran - 500 g


Salade Comcombres Au Fromage


Nesquik - Nestlé - 1 kg


Pâte à Tartiner Noisette


Chips de betterave, panais et


Petit camembert au lait cru -


Liquid Breakfast Choc Ice - Up


Purée Pommes Fraises sans


Dijon Originale - Maille - 215 g,


Le Bon Végétal - Galette aux


American Burger Sauce - Heinz -


Cocktail - Devos & Lemmens -


Eau Minérale Gazeuse - Quézac -

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Edit the page

# Toblerone - 3.52 OZ (100 g)

Barcode: 0070221011116 (EAN / EAN-13) 070221011116 (UPC / UPC-A)

## Product characteristics


**Common name:** Swiss Milk Chocolate with Honey & Almond Nougat

**Quantity:** 3.52 OZ (100 g)

**Packaging:** Box

**Brands:** Toblerone

**Categories:** Sugary snacks, Confectioneries, Candies, Chocolates, Milk chocolates

**Labels, certifications, awards:** Kosher, Organized Kashrut Kosher

**Manufacturing or processing places:** Switzerland

**Link to the product page on the official site of the producer:**
http://www.toblerone.com/toblerone1/page...

**Countries where sold:** Canada, United States

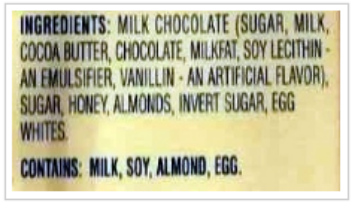
## Ingredients

completed

## Embrace the mission


Contribute to Open Food Facts by adding product and win stars by fulfilling missions!

# Ingredients




→ Ingredients are listed in order of importance (quantity).

**Ingredients list:**

**MILK** CHOCOLATE (SUGAR, **MILK**, COCOA **BUTTER**, CHOCOLATE, MILKFAT, **SOY** LECITHIN - AN EMULSIFIER, VANILLIN - AN ARTIFICIAL FLAVOR), SUGAR, HONEY, **ALMONDS**, INVERT SUGAR, **EGG** WHITES.

**Substances or products causing allergies or intolerances:** Eggs, Milk, Nuts, Soybeans

**Traces:** Eggs, Milk, Nuts, Soybeans

**Additives:**

- E322i - Lecithin

# Nutrition facts


## NutriScore color nutrition grade

NUTRI-SCORE

A B C D E

Warning: the amount of fruits, vegetable and nuts is not specified, their possible positive contribution to the grade could not be taken into account.

## Nutrient levels for 100 g

- 30.3 g **Fat** in high quantity

◉ % of difference ○ value for 100 g / 100 ml

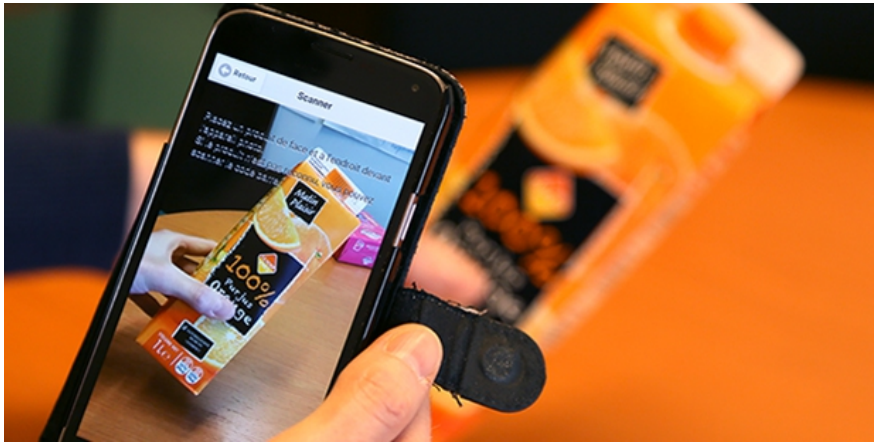
→ Please note: for each nutriment, the average is computed for products for which the nutriment quantity is known, not on all products of the category.

| Nutrition facts | for 100 g / 100 ml | per serving | Milk chocolates |
|---|---|---|---|
| Energy | 2280 kj (545 kcal) | 753 kj (180 kcal) | -1% |
| - Energy from fat | 1140 kj (272 kcal) | 377 kj (90 kcal) | -4% |
| Fat | 30.3 g | 10 g | -10% |
| - Saturated fat | 18.2 g | 6 g | -5% |
| - Trans fat | 30.3 g | 10 g | +2344% |
| - Cholesterol | 30.3 mg | 10 mg | -94% |
| Carbohydrate | 63.6 g | 21 g | +20% |
| - Sugars | 60.6 g | 20 g | +22% |
| Dietary fiber | < 3.03 g | < 1 g | +11% |
| Proteins | 6.06 g | 2 g | -14% |
| Salt | 0.154 g | 0.0508 g | -46% |
| Sodium | 0.0606 g | 0.02 g | -46% |
| Vitamin A | 0 µg | 0 µg (0 % DV) | -100% |
| Vitamin C (ascorbic acid) | 0 mg | 0 mg (0 % DV) | -100% |
| Calcium | 182 mg | 60 mg (6 % DV) | +5% |
| Iron | 2.18 mg | 0.72 mg (4 % DV) | -63% |

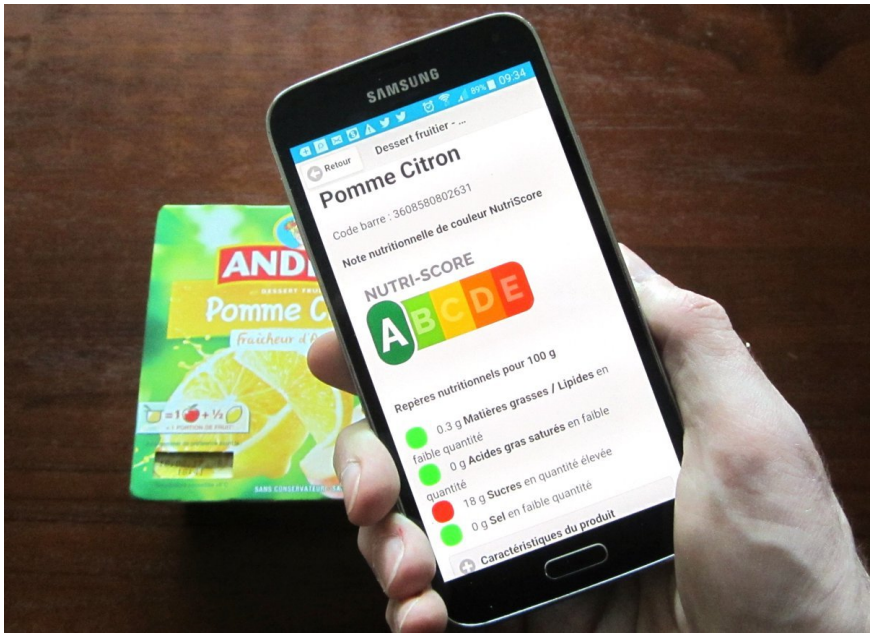
Product added on July 30, 2015 at 7:08:31 PM CEST by stephane.
Last edit of product page on November 6, 2017 at 11:11:10 PM CET by teolemon.
Product page also edited by bdwyer, tacinte, tacite.

If the data is incomplete or incorrect, you can complete or correct it by editing this page.

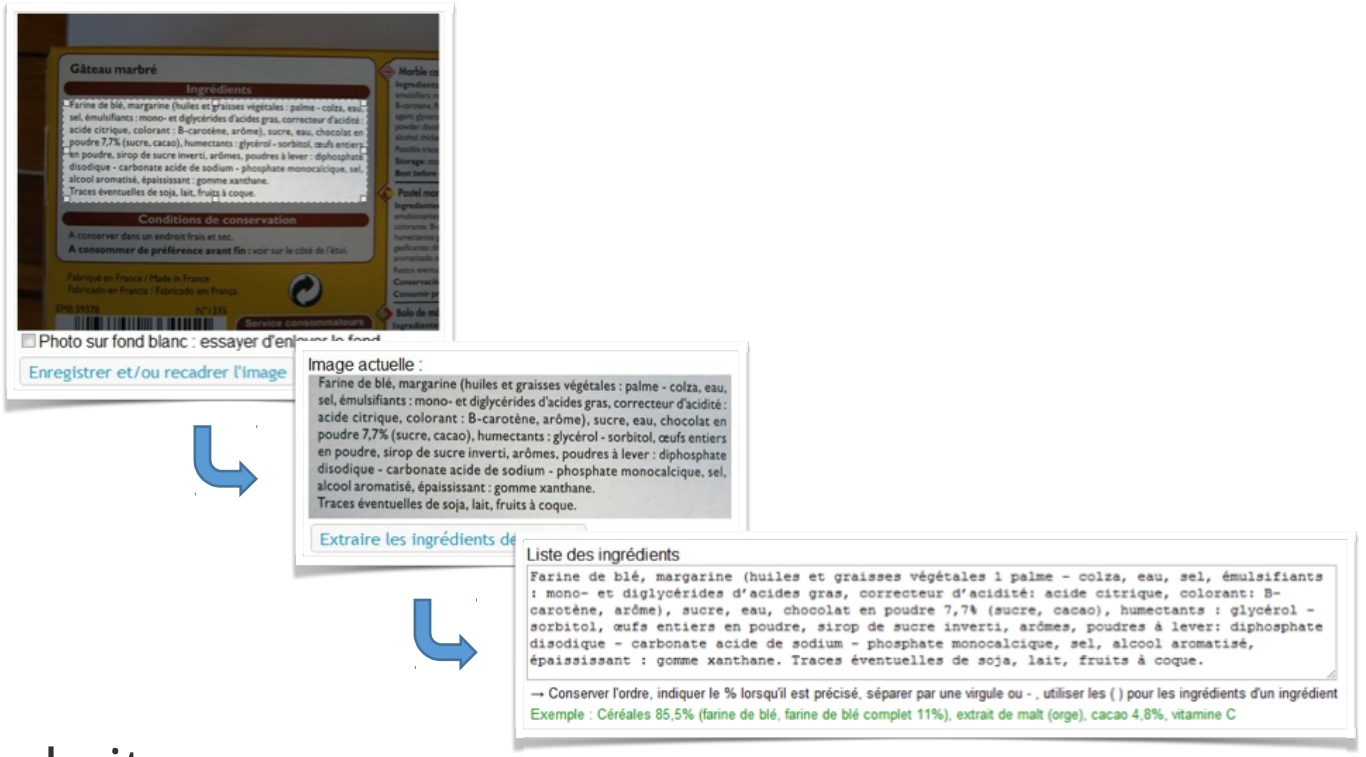
# How does it work ?


- Scan bar codes of products with your phone
- Take photos of the labels to add the product or enrich it
- Check out the product information if the product already exists



# From images to Open Data




On the website:

- Fill in the product page from the information in the photos (assisted by OCR)
- The photo is source and proof of data !
- Photos are CC-share alike, data is ODbL

# All this data, what for?

- Data « standardization » can help better understand a product : additives, allergens, NutriScore, products in foreign languages, etc.
- Comparison
- Exploration of the database of products by various criteria such as : categories, ingredients, additives, etc.

# Uuu, stats!

## Yogurts

Categories: Yogurts

Belongs to:

Dairies

Contains:

- Caramel yogurts
- Chocolate yogurts
- Drinkable yogurts
- Flavoured yogurts
- Fruit yogurts
- Greek yogurts
- Honey yogurts
- Low-fat yogurts
- Mixed yogurts
- Non-dairy yogurts
- Plain yogurts
- Sheep's milk yogurts
- Stirred yogurts
- Sweetened yogurts
- Vanilla yogurt
- Whole milk yogurts
- *Yaourts au Bifidus*
- *Yaourts au lait de chèvre*
- *Биойогурт*
- *Йогурт фруктово-ягодный*

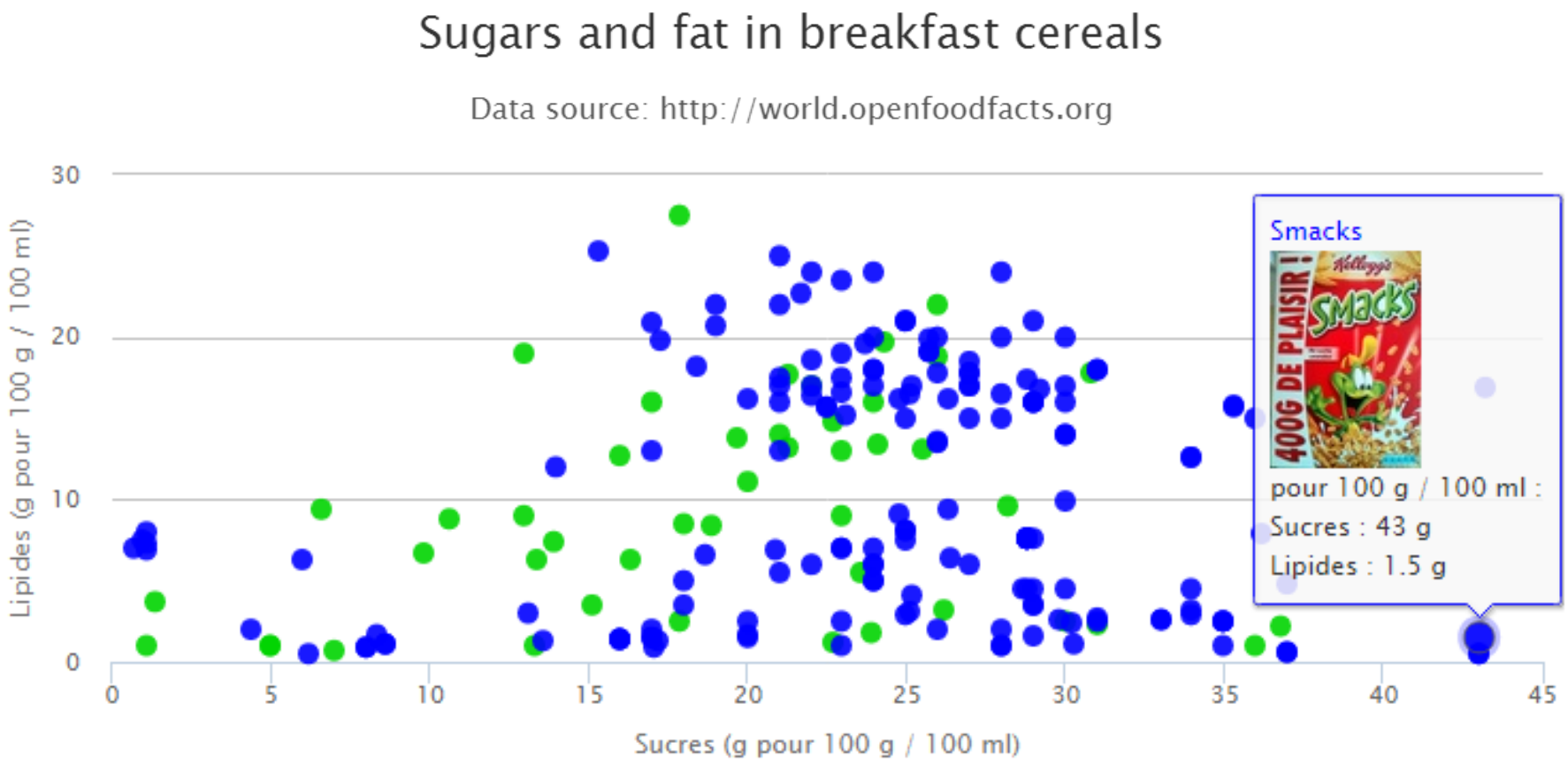
### Weblinks

- Wikidata

4000+ yogurts

| Nutrition facts | for 100 g / 100 ml | Standard deviation | Minimum | 10th centile | Median | 90th centile | Maximum |
|---|---|---|---|---|---|---|---|
| Energy | 383 kj (92 kcal) | 145 kj (35 kcal) | 4 kj (1 kcal) | 219 kj (52 kcal) | 385 kj (92 kcal) | 527 kj (126 kcal) | 2480 kj (593 kcal) |
| - Energy from fat | 36 kj (9 kcal) | 57 kj (14 kcal) | 0 kj (0 kcal) | 0 kj (0 kcal) | 0 kj (0 kcal) | 98.2 kj (23 kcal) | 277 kj (66 kcal) |
| Fat | 3.17 g | 2.41 g | 0 g | 0.4 g | 2.9 g | 6.6 g | 28 g |
| - Saturated fat | 2 g | 1.66 g | 0 g | 0.1 g | 1.84 g | 4.4 g | 14 g |
| - Monounsaturated fat | 0.592 g | 0.295 g | 0.4 g | 0.4 g | 0.5 g | 0.7 g | 2.3 g |
| - Polyunsaturated fat | 1.26 g | 0.195 g | 0.3 g | 1.2 g | 1.2 g | 1.6 g | 1.6 g |
| - Omega 3 fatty acids | 0.111 g | 0.0646 g | 0.02 g | 0.027 g | 0.15 g | 0.16 g | 0.2 g |
| - Alpha-linolenic acid / ALA (18:3 n-3) | 0.166 g | 0.0308 g | 0.1 g | 0.13 g | 0.16 g | 0.2 g | 0.2 g |
| - Trans fat | 0.0123 g | 0.0618 g | 0 g | 0 g | 0 g | 0 g | 0.5 g |
| - Cholesterol | 6.23 mg | 7.62 mg | 0 mg | 0 mg | 4 mg | 15 mg | 50 mg |
| Carbohydrate | 11.2 g | 4.54 g | 0 g | 4.4 g | 12.4 g | 16.1 g | 25 g |
| - Sugars | 10.4 g | 4.28 g | 0 g | 4.1 g | 12 g | 15 g | 23 g |
| - Sucrose | 7.03 g | 2.42 g | 0.1 g | 0.1 g | 7.5 g | 9.7 g | 9.7 g |
| - Lactose | 0.638 g | 1.53 g | 0 g | 0 g | 0 g | 3.8 g | 5 g |
| Dietary fiber | 0.316 g | 0.516 g | 0 g | 0 g | 0.1 g | 0.9 g | 5.2 g |
| Proteins | 3.94 g | 1.43 g | 0 g | 2.8 g | 3.6 g | 5.3 g | 28 g |
| Salt | 0.133 g | 0.334 g | 0 g | 0.08 g | 0.119 g | 0.17 g | 15 g |
| Sodium | 0.0523 g | 0.132 g | 0 g | 0.0315 g | 0.047 g | 0.0669 g | 5.91 g |
| Alcohol | 0.00244 % vol | 0.0154 % vol | 0 % vol | 0 % vol | 0 % vol | 0 % vol | 0.1 % vol |
| Vitamin A | 32.9 µg | 46.6 µg | 0 µg | 0 µg | 17.7 µg | 132 µg | 225 µg |
| Vitamin D | 9.6 µg | 110 µg | 0.75 µg | 0.75 µg | 1.2 µg | 4 µg | 1500 µg |
| Vitamin C (ascorbic acid) | 2 mg | 4.66 mg | 0 mg | 0 mg | 0 mg | 8 mg | 32 mg |
| Vitamin B2 (Riboflavin) | 0.206 mg | 0.0372 mg | 0.136 mg | 0.168 mg | 0.21 mg | 0.25 mg | 0.31 mg |
| Vitamin B6 (Pyridoxin) | 0.000296 g | 0.000103 g | 0.00021 g | 0.00021 g | 0.00021 g | 0.00042 g | 0.00042 g |
| Vitamin B12 (cobalamin) | 13.1 µg | 67 µg | 0.25 µg | 0.31 µg | 0.38 µg | 0.6 µg | 380 µg |
| Potassium | 156 mg | 32.1 mg | 113 mg | 120 mg | 153 mg | 203 mg | 238 mg |
| Calcium | 358 mg | 5790 mg | 0 mg | 110 mg | 120 mg | 170 mg | 150000 mg |
| Phosphorus | 88.2 mg | 14.1 mg | 58.8 mg | 75 mg | 88.2 mg | 111 mg | 117 mg |
| Iron | 0.315 mg | 0.582 mg | 0 mg | 0 mg | 0 mg | 1.06 mg | 2.25 mg |
| Fruits, vegetables and nuts (minimum) | 8.52 % | 4.17 % | 0 % | 2 % | 9.4 % | 12 % | 30 % |
| Fruits, vegetables and nuts (estimate from ingredients list) | 8.1 % | 4.63 % | 0 % | 1 % | 8 % | 13.9 % | 22.7 % |
| **Ecological footprint** | | | | | | | |
| Carbon footprint / CO2 emissions | 127 g | 80.8 g | 0 g | 48.2 g | 82.8 g | 220 g | 267 g |

# Double uuu, graphs!



# Open Data: Reuse in applications

Interactive nutrition game: http://howmuchsugar.in


DATE LIMITE

Mobile app to fight against food waste

« Personal assistant »-like mobile app for food recommendations and evaluation of products

Yuka


VeryDiab, mobile app log-book for diabetes

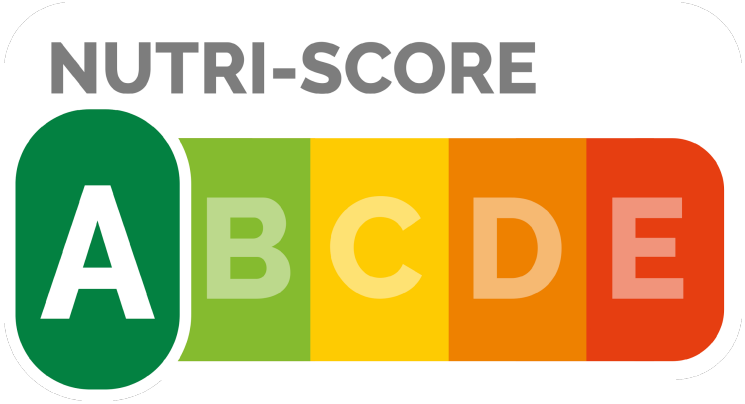
Connected kitchen scale, providing nutritional information upon scan

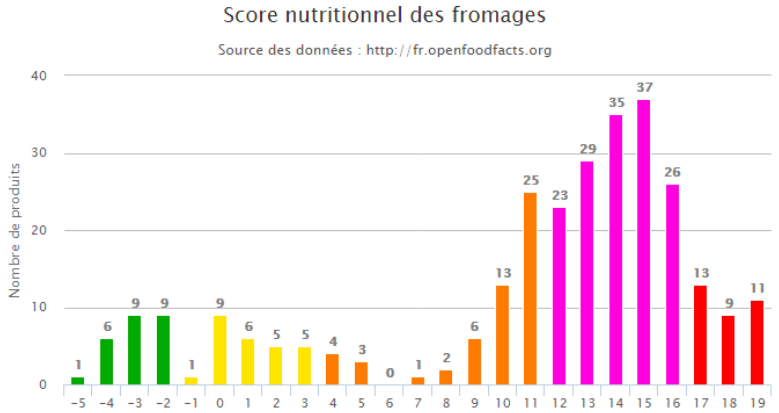
Terraillon®
LE BIEN-ÊTRE PRÉCISÉMENT

And many more !

# Open Data: Citizen science

- Open Food Facts data used for research studies and newspaper investigations.



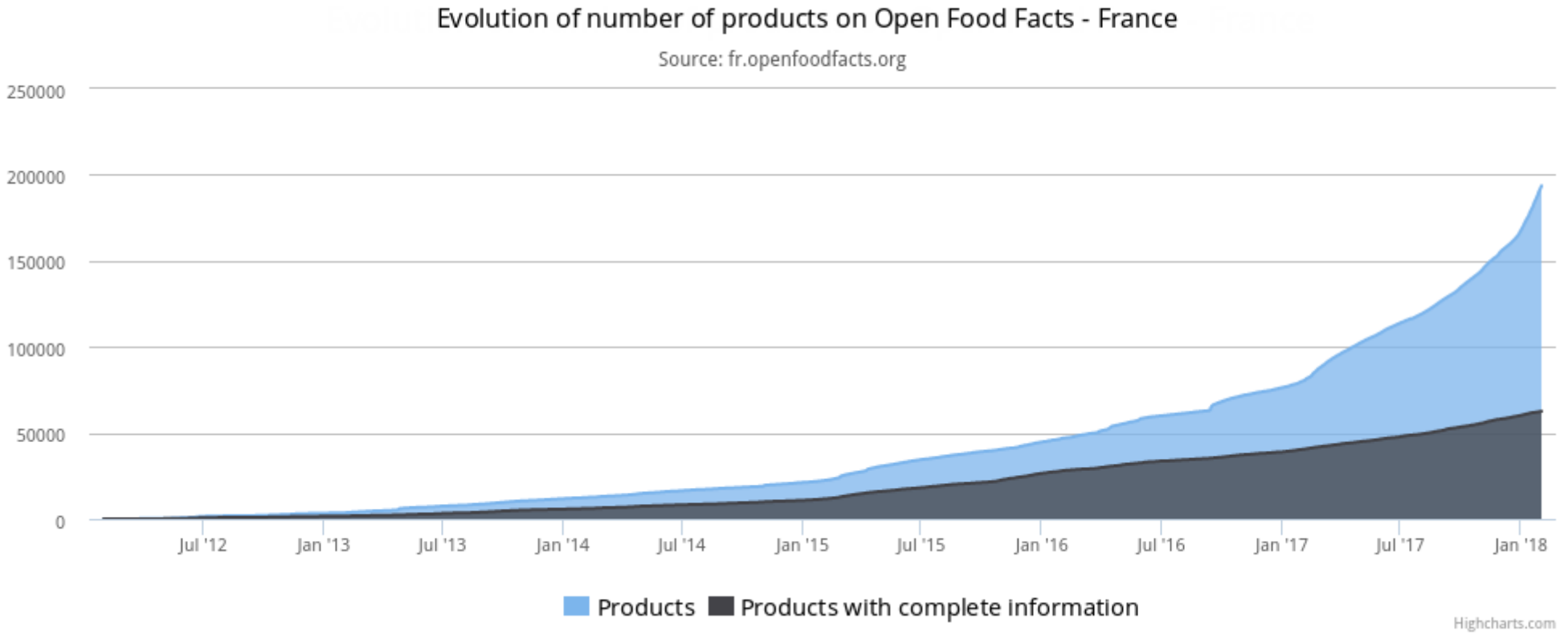

Collaboration with Prof. Hercberg (France's National Program for Nutrition and Health) and the UK Food Standards Agency

# Open Data: building for the future

- The amount of information available today is limited
  - depends on the producer, « limited » accuracy
- Future laws could impose presence of additional information
  - traceability, recycling, etc.
- Open Food Facts is the place for all this future, interesting data !

# Numbers or it didn’t happen!

- Launched in May 2012
- Started in France, made for the world: 12 languages
- 4 200 contributors
- 420 000 products from 181 countries



# Open Beauty Facts

- The wikipedia of cosmetic products
- Same functioning as OFF, additional challenges:
  - ingredients are latin formulae, easier to make mistakes


- 5481 products from 79 countries, added by 197 contributors

OMG, Anca, all this is so awesome,
How do I get in?

# How to contribute: data

Easiest way:

- Download the application
- Scan and take photos
- Fill in the data from photos on the product pages
- Done, welcome to the revolution!

# How to contribute: community

- Kick-start the Open Food Facts revolution in your country
  - talk around you, make presentations
    - ressources are available on the wiki of the project
  - add the initial batch of products that makes it interesting for others to use
  - translate the software in your language
- Food and cosmetics geeks are welcome!

# How to contribute: development

Technologies:
- MongoDB database
- Backend: Perl on an Apache server
- Frontend: HTML5, Foundation, jquery
- Mobile application(s): Cordova / PhoneGap, native Android & iOS development, (also Ubuntu Phone, Firefox OS)


Topics:
- Contributions from mobile applications
- OpenBeautyFacts polishing
- Machine learning & Big data
- API (re)definition / (re)implementation
- Anything (else) you want !

Links :
- https://github.com/openfoodfacts/

Google Summer of Code 2018
Mentoring Organization Candidate

# How to contribute: reuse

Rights

- Open Database Licence (ODbL) for the database
- CC-Share Alike for images
- AGPL for the Product Opener server software

Means

- Export of data as CSV or RDF
- REST API for accessing data as JSON

Links

- https://world.openfoodfacts.org/data

# Get in touch

https://openfoodfacts.org

https://openbeautyfacts.org

@OpenFoodFacts
@OpenBeautyFacts

http://slack.openfoodfacts.org/

Thank you!

# Our « business » model


WIKIPEDIA
The Free Encyclopedia

OpenStreetMap
The Free Wiki World Map

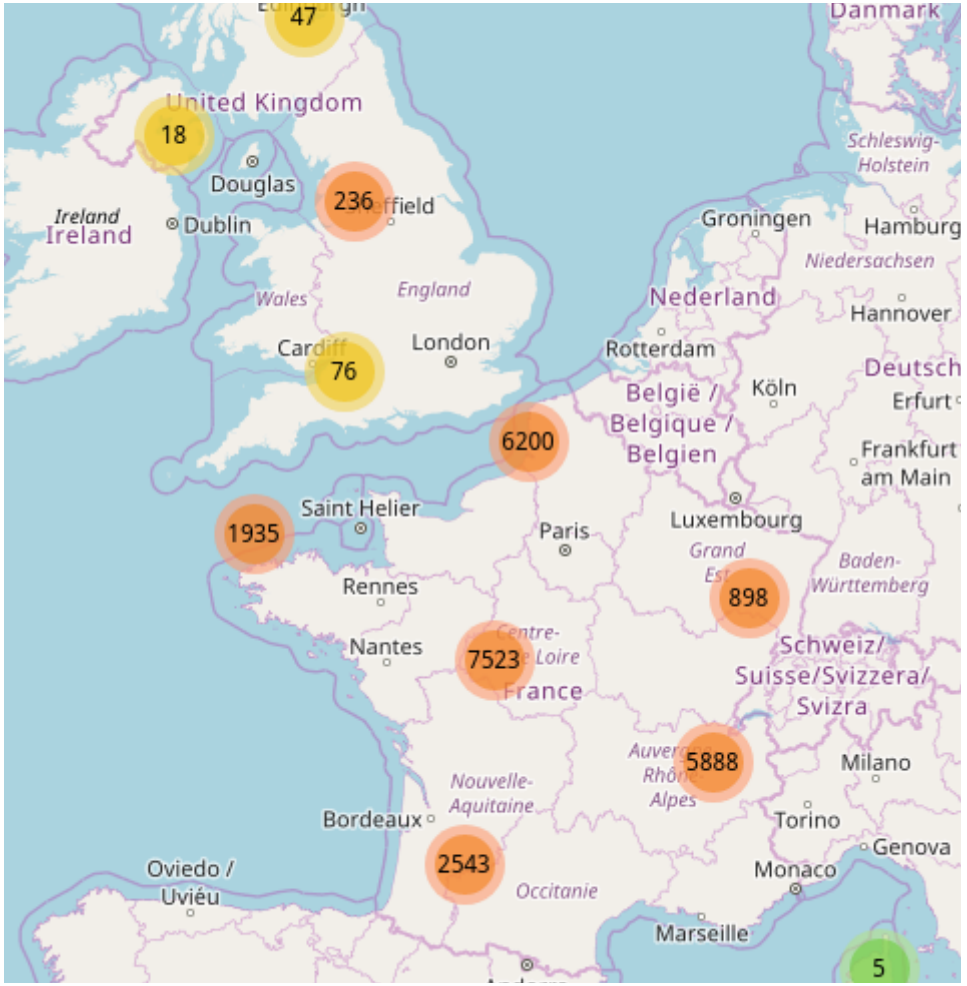
# Note on « facts »

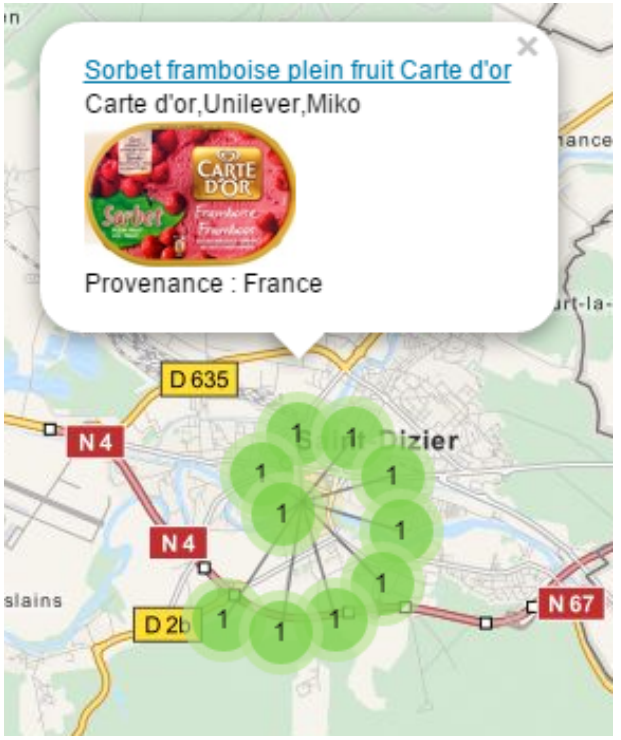
- Many controversies about food ingredients / additives
  - « Causing cancer »… or not, depending on which paper we rely on
- Open *** Facts tries to remain « neutral », and present something that is as close as possible to the notion of « facts »
  - e.g. forbidden in a country, etc.
- *Open* the data, without *interpreting* it
  - The users of data can make their own interpretation

# Madenear.me

Made Near Me

The Interactive Food Products Map




A need of consumers: know the origin of products

# 5 colors score

+ Fruit and vegetable, protein, fiber

- Energy, simple sugars, saturated fat, sodium

→ Nutritional score

→ Color code

Formula elaborated by the team of Prof. Hercberg :

http://fr.openfoodfacts.org/score-nutritionnel-experimental-france