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Report

Belgian Branded Food Products Database: Inform consumers on a healthy lifestyle in a public-private partnership[☆]

Carine Seeuws

Nubel vzw, Victor Hortaplein, 40 bus 10, 1060 Brussels, Belgium

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ABSTRACT

Nubel (Nutrients of Belgium) is a non-profit organization that manages nutrition related information in Belgium. Nubel consists of both private and public partners. Next to the Board of Directors and the Scientific Council, Nubel has numerous additional members working in the area of nutrition and which are using the Nubel products as basic information for several target groups. Our objective is to develop, update and manage a scientific food composition database of nutrients from all kinds of food products and to distribute the data to potential users. For each nutrient Nubel tracks the origin of the data. This can be an analysis carried out in accredited laboratories, corrected values, calculated values, data from Global Standard 1 Belgilux (GS1), literature, other databases. The branded food products database is an interactive database on the Internet. The pictures, household measures and portions are available in close collaboration with the food industry. In return the food industry receives objective information on nutritional values of our generic foods based on a scientific background that can be used to improve the quality of food products and to label food products. Nubel wishes to inform her users by using the NUBEL Foodplanner about a healthy lifestyle based on a well-balanced nutrition.

1. Nubel as an organization

Nubel is a non-profit organization, which manages nutrition related information in Belgium. The organization was founded in March 1990. The name of the organization stands for Nutrients of Belgium. Nubel consists of both private and public partners. The Board of Directors is composed of members from the Federal Public Service for Health, Food Chain Safety and Environment, the Scientific Institute of Public Health, the Federation of the Food Industry (FEVIA) and the Boerenbond (organization that represents the Flemish farmers). All members donate an annual contribution to finance the Nubel activities. Annually, the Board of Directors creates an action plan that defines the milestones that Nubel should reach in the upcoming year. Next to the Board of Directors, a Scientific Council supports Nubel. The council is composed of academics from Belgian universities. They validate the nutritional data before distribution. Next to the board and the council, Nubel has numerous additional members. These are namely institutes that are working in the area of nutrition and health.

The objectives of our organization are to develop, to update and to manage a scientific food composition database of nutrients in all kinds of food products. We distribute the data to potential users such as consumers, educational-, medical-, analytical world, academia, government, industry, media and institutes (for example: Scientific

Institute of Public Health, Union Professionnelle des Diplômés en Diététique de Langue Française, Flemish Institute for Health Promotion and Disease Prevention). We exchange data on a national level (Federal Agency for the Safety of the Food Chain, food industry, retailers and primary production) and international level (EuroFir AISBL to maintain a platform for all national databases).

2. The origin of the data and data management

For each nutrient the origin can be traced in a standardized way (see Fig. 1). The general flow chart shows the construction of the NIMS database, as well as the standard operating procedures (SOPs) for the partial steps, described below.

2.1. Generation

The sampling protocol is a predetermined procedure for the selection, withdrawal, preservation and preparation of the sample of food to be included in the Food Composition Database. The choice of the analytical method is crucial for each analysed nutrient in an appropriate number of single samples and analytical replicates to assure the quality of the analytical data.

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E-mail address: carine.seeuws@gezondheid.belgie.be.

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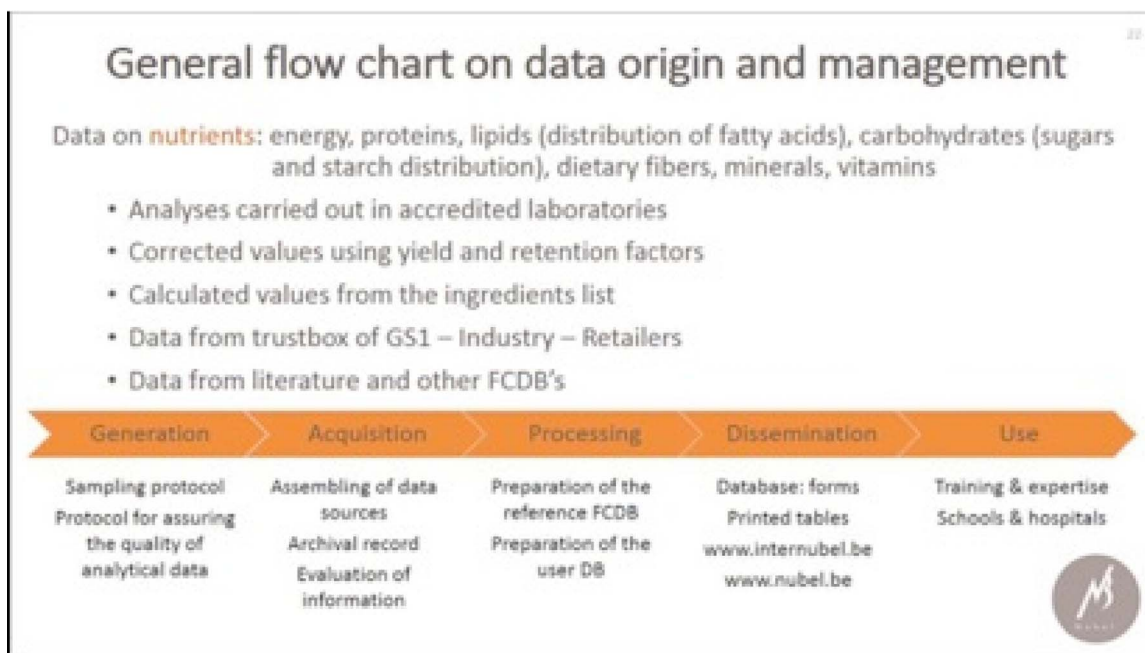


Fig. 1. General flow chart on data management within Nubel.

2.2. Acquisition

The data sources can be external analyses by private, governmental or university laboratories, scientific studies, calculated values for composed foods and dishes, industry data and other national food databases. All assembled data are stored in an archival record. All data introduced in the Nubel Information Management System (NIMS) database are evaluated and validated by our Scientific council.

2.3. Processing

To prepare the reference Food Composition Database, all acceptable data are combined and presented in a common format. From this point a selection and compilation of series of values for each food item in the database have been done to publish the user Food Composition Database. Our database contains 1200 food products and in each product 37 nutrients are tracked. The online version is updated on daily base and the booklet version every 5 years.

2.4. Dissemination

We have different database forms from printed tables (www.nubel.com) over a digital database on the Internet for branded foods (www.nubel.be) and online tools to calculate individual nutrient intake and a recipe calculation program (www.nubel.be).

2.5. Use

In the past, Nubel organized training sessions in schools in the context of the food education program. Currently training sessions are being given in hospitals to determine malnutrition.

3. Industrial data collection: link between NUBEL – GS1

To collect more industrial data automatically, we developed a link between the trustbox database of GS1 and our NIMS database by comparing the barcodes which are available on each prepacked food

9815 USERS OF THE ONLINE DATABASE ON 20/04/2016

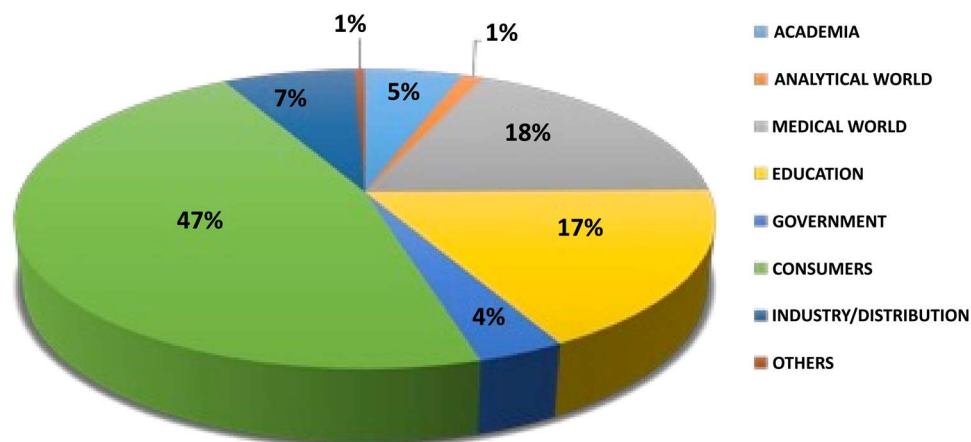


Fig. 2. User distribution of the online database of Nubel.

product. The GS1 trustbox manages the barcode standard used by retailers, manufacturers and suppliers. These companies complete the list with nutritional data in the trustbox database. Overnight, all nutritional data available on the label of the product are downloaded and imported in our database, this after conversion in a separate table. Once the products are linked manually via the barcodes from the GS1 database to our Nims database the following updates happen automatically.

4. Nubel products

4.1. The Belgian food composition database in booklet

The [booklet](#) exists in a Dutch and French version. In the booklet the nutritional composition of 1200 generic foods is available; it is often used by students in secondary schools. That is why we decided to explain the physiological functions of the different macro- and micro-nutrients and to mention the main food sources of these nutrients. In the latest publication 27 nutrients (such as energy, lipids (saturated and unsaturated fatty acids), sugars, minerals, vitamins, and so on) are included. Besides this, the booklet includes several annexes, such as the nutritional recommendations for all user-groups, a list of additives, a list of weight and measures of food and food products and the food guide pyramid with guidelines for a healthy choice for the Belgian consumers.

4.2. The branded food products database

This is an interactive online-based [database](#) where you can find detailed information about any kind of foods available on the Belgian market. This database is created in 4 languages: Dutch, French, English and German. We work with standard measures and weights allowing us to analyse and represent the quantitative data of a food product in a uniform manner. In this way, you can compare the values of different foods and make well-considered choices. You can search by product name, product group, brand or company. For more specific information you can choose your nutrient content. Updates and new product information are added to this database on a regular basis. With the trustbox application of GS1 we even have a daily update of the industrial data. The Branded Food Products Database on the Internet can be consulted free of charge (www.internubel.be).

Each year the number of brand name products in our database increases. Until now more than 8800 products are published in this database of which 5000 branded foods. Only the brandname products of companies who signed a confidential agreement with Nubel are published on our website. Generic foods and farmhouse products are also presented in the database. The good collaboration and understanding with the food industry is one of the main contributors to the evolution of this database.

4.3. Foodplanner software program for consumers

The [Nubel Foodplanner](#) is a software program on the Internet to calculate the intake of nutrients for different user-groups and to motivate consumers to engage in physical activity. The program includes all daily activities, from sports to leisure activities and calculates the energy expenditure at the end of each day.

The Nubel Foodplanner has been linked to the Belgian Branded Food Products Database. This gives the user the possibility to obtain a detailed diet history, to calculate the energy intake and to compare the results with the daily nutritional recommendations. With this program, Nubel wishes to inform her users about a healthy lifestyle based on a well-balanced nutrition, wishes to encourage people to introduce physical activity in their daily lives and wishes to achieve a stable balance between energy intake and energy consumption.

4.4. Foodplanner software program for professionals

The professional version of the Foodplanner offers all the functionalities of the normal Foodplanner but is enhanced with two important professional tools: a patient management system and screening tests (Mini Nutritional Assessment (MNA), Nutritional Risk Screening (NRS), Malnutrition Universal Screening Tool (MUST)) to reflect the risk of malnutrition in hospitals, nursing homes, etc.

4.5. Foodplanner software program for restaurants

A healthy and balanced diet' is one of today's buzzwords. Our Foodplanner has already been helping our users for several years in their search for a healthier, more balanced lifestyle by identifying and monitoring their dietary habits in a personalized way. Now we are taking it a step further by creating a restaurant version of the Foodplanner. The Foodplanner RESTO provides restaurant owners with a useful tool enabling them to easily evaluate the specific nutritional values of their recipes and to see if these values are in line with the standard reference intake for an adult, equivalent to 2000 kcal (8400 kJ) a day.

The Reference Intake (RI) is mentioned per portion. The same program is useful for the food industry to create the nutritional labeling of their prepackaged foods based on the European regulation FIC (Food Information to Consumers).

Recently we decided to make all online Nubel applications also available for mobile devices such as smartphone and tablet.

5. Nubel and the food industry

The industry receives objective information on nutritional values of our generic foods based on a scientific background. Nubel information can be used to improve the quality of food products for example: claims in sugar reduction 30% less sugar than the generic food and to label food products (FIC legislation: is the Regulation (EU) No 1169/2011 of the European Parliament on the provision of food information to consumers: see webshops). We also give the producer/retailer the possibility to make data available on voluntary basis (the nutritional information, an image/photo of the food product, portion size). Changes on the composition of the product are instantly updated in the online database. Nubel data are shared with schools, hospitals and consumers.

5.1. Commitments of the food industry towards Nubel

The producer/retailer takes responsibility for the scientific reliability of the delivered data and will be fully liable for all possible consequences in case the given information is incorrect. They provide Nubel on a regular basis with data of new products (at least 5 nutrients: Energy, proteins, lipids, carbohydrates, fibers), updating existing data and informing if a product is out of market (3 months). The Federation of the Food Industry encourage their members to collaborate with Nubel.

5.2. Commitments of Nubel towards the food industry

Nubel introduces new data in the database including portion size and pictures, updates the data as soon as possible and translates the product names in 4 languages. We give the ability to generate a complete composition of a product by carrying out numerous analyses on the brand products with regards to micronutrients, which lead to an interaction between Nubel and the food industry. Nubel will only publish the data after written approval of the producer/retailer. Nubel makes the database available free of charge to all users (www.internubel.be).

6. User distribution of Belgian Branded Food Products Database

We are very pleased with the frequent use of our database and software by several key audiences such as education, para-medical etc. However, the consumer must still find its way in the use of the Foodplanner for composing a balanced diet. At the end of April 2016 we had more than 9800 users of the online database, which is free of charge; 47% of our users are consumers (Fig. 2). Our goal is to reach consumers as much as possible in order for them to learn about the composition of food products and to help them make healthier choices. In one year's time we had 25,658 hits on the online database, of which 34% were new visitors and 66% returning visitors. We did the same exercise for the hits on the Foodplanner, and there we saw 26,509 sessions and more than 12,000 users, of which 44% were new visitors and 56% returning visitors.

7. Nubel's future goals

On a scientific level, Nubel would like to calculate trends on sodium, total lipids, saturated fatty acids, trans fatty acids and sugar levels in

food products. In the analytical program Nubel will include the analysis on total sugars in all kinds of product groups. We also wish to maintain a long-term co-operation with the food industry and retailers in order to allow an optimal data exchange. In 2017 Nubel will start up with the implementation of ISO 9001 certification. On a communication level, Nubel would like to increase the visibility by making use of the current media tools.

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