

User's Guide to the World Nutrient Databases for Dietary Studies (WNDDS)

About WNDDS

Food composition data have many uses, including evaluating nutritional variation of plants and foods, analyzing relationships between nutrient intake and disease, and establishing dietary guidelines.¹ Food composition data are generated through various methods including analytical measurements, calculations, and imputations. Many national and regional organizations, particularly governments, have developed their own food composition databases or tables (collectively abbreviated herein as FCDB) to provide information about the nutritional composition of foods relevant to a country or region. To facilitate easy access to these important resources, the Agriculture & Food Systems Institute has compiled a catalogue of publicly available databases and tables.

The World Nutrient Databases for Dietary Studies (WNDDS) is displayed as an interactive map that enables users to explore, analyze and filter 90 FCDBs from 92 countries and regions. WNDDS is meant to be a starting platform for users to learn about available food composition databases and tables to determine which may suit their needs. WNDDS provides hyperlinks to direct the user to the source databases and tables (when available).

Details about how the information compiled in WNDDS was collected are provided below. For any questions or comments about WNDDS, please feel free to contact the Agriculture & Food Systems Institute at ag@foodsystems.org for more information.

Users of WNDDS

WNDDS was designed with researchers, dietitians, students, government officials, and database managers in mind. It serves to aide users in their initial assessment of the scope and depth of nutritional composition data available for certain countries and regions.

Features

- 90 Food Composition Databases and Tables
- 92 Countries and Regions
- 24 Food Classifications
- 39 Nutrients

Methods

The information in WNDDS was obtained through a systematic review of accessible databases and tables. Each database and table was initially screened for information related to the categories and subcategories described

¹ Greenfield H, Southgate DAT. Food composition data. *INFOODS* FAO. 2003.

below. After the initial review process, managers of the databases and tables were contacted to share the project goals, the scope of the information being collected, and provide any additional information that might be helpful for users. If a manager of a database or table couldn't be identified to provide supplemental information, then the initial screening undertaken by the Agriculture & Food Systems Institute served as the source of content.

Fields in the Database

WNDDS can be searched by category as below:

1. Descriptive Information
2. General Components
3. Food Classification
4. Nutrient Information
5. Percentage of Foods with Nutrient Information

Note: Fields are left empty if no information was available for a specific category.

I. Descriptive Information

This includes general information about the database or table, including the following (when available):

- Name
- Year Developed
- Year Updated
- Edition
- Institution Managing the Table/Database
- Contacts
- Database or Table
- Free/Subscription Access

II. General Components

Provides information about the total number and constituent categories of foods in each database or table.

Number of Foods

The number of foods included in each database or table. Foods are reported as separate entries by preparation method. For example, [chicken, raw] and [chicken, baked] are listed as two separate foods.

Foods, Analyzed

The number of raw foods analyzed in each database or table.

Foods, Cooked

The number of cooked foods contained in each database or table.

Recipes

The number of foods computed through a recipe. These data are generally not analytically derived although components of the recipe may have been analytically derived.

Branded Foods

The number of branded food products in each database or table. Branded food products are those that have been manufactured and nutrient composition data of the product is available. Branded foods are identified in individual databases or tables by their manufacturing name. These products are primarily prepared foods such as breads, cereals, canned and frozen foods, snacks, desserts, drinks, etc.

Number of Nutrients

The total number of nutrients included in each database or table. Note that this is an aggregated number of analyzed and calculated nutrients for each database or table.

Number of Food Categories

The number of categories into which foods are organized (see Food Classification below).

III. Food Classification

Databases and tables usually classify foods by category or sub-category but the level of differentiation is variable by source, i.e., some databases or tables have many categories/sub-categories, others fewer. The sub-categories chosen for WNDDS are derived from [CODEX GFSA Online Food Category System](#). However, WNDDS does not include all the sub-categories from the GFSA, only those most frequently employed across databases and tables analyzed by the Agriculture & Food Systems Institute.

Database or table managers were asked to provide the number of foods for each sub-category, if available. Some databases and tables do not categorize the food at all or used a different classification system, and in these cases, fields were left empty.

III.a. WNDDS Food Classification Subcategories

- General
- Cereal and grain products
- Starchy roots, tubers and products
- Nuts, dried beans, seed and products
- Vegetables and vegetable products
- Fruits and fruit products
- Meat and other animal products
- Fish (including shellfish, finfish)
- Eggs and egg products
- Dairy and dairy products
- Fast food and restaurant food
- Desserts, pastries and snacks
- Fats and oils
- Sugar, syrup and confectionery
- Spices and condiments
- Alcoholic beverages
- Non-alcoholic beverages
- Combination/mixed dishes
- Baby and infant foods
- Nutritional supplements
- Diet products
- Vegetarian dishes
- Miscellaneous
- Native food

IV. Nutrient Information

WNDDS includes information about nutrient sub-categories that are common across databases and tables. The presence or absence of information for each nutrient sub-category listed below is recorded as “Yes” or “No”, respectively.

IV.a. WNDDS Nutrient Information Sub-categories

- Energy (kcal)
- Water
- Protein (g)
- Total fat (g)
- Carbohydrates (g)
- Total ash (g)
- Dietary fiber (g)
- Insoluble fiber (g)
- Soluble fiber (g)
- Total sugar (g)
- Saturated fat (g)
- Cholesterol (g)
- Calcium (mg)
- Magnesium (mg)
- Iron (mg)
- Sodium (mg)
- Potassium (mg)
- Zinc (mg)

- Copper (mg)
- Phosphorus (mg)
- Fluoride (mg)
- Iodine (µg)
- Selenium (mg)
- Thiamin (mg)
- Riboflavin (mg)
- Niacin (mg)
- Pantothenic Acid (mg)
- Vitamin B6 (mg)
- Biotin (µg)
- Vitamin B12 (mg)
- Folate and Folic Acid (mg)
- Choline (mg)
- Vitamin C (mg)
- Vitamin A (µg)
- Retinol (µg)
- Beta-carotene (µg)
- Vitamin D (µg or IU)
- Vitamin K (µg)
- Vitamin E (mg)

V. Percentage of Foods with Nutrition Information

This refers to the percentage of foods in each database or table for which there are data for a specific nutrient (see IV.a.). For example, Finland's national database (Fineli Open Data) contains soluble fiber data for 97% of foods included in that database.

Navigating WNDDS

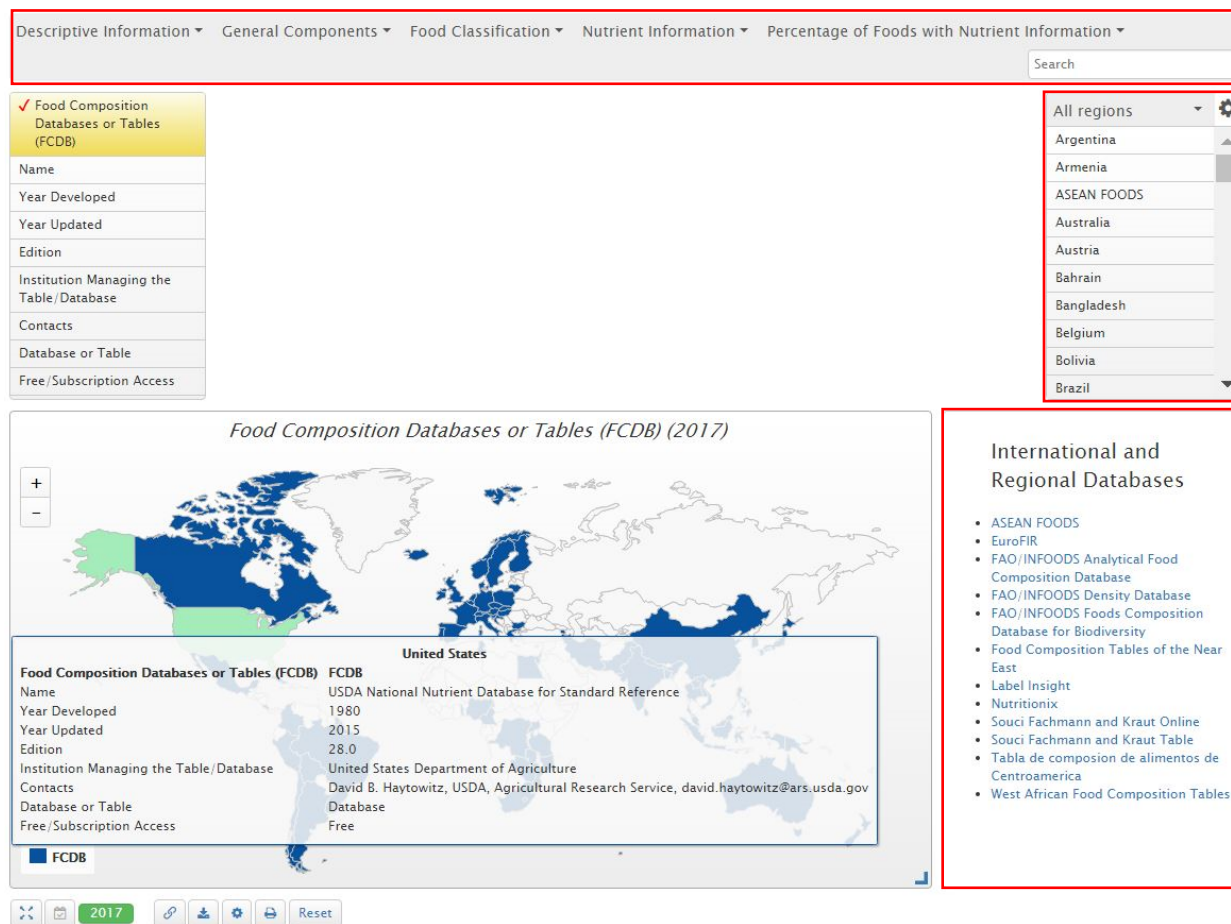
Opening WNDDS

WNDDS can be accessed through the Agriculture & Food Systems Institute website (www.foodsystems.org/wndds/).

Once the database has been accessed, WNDDS is presented as an interactive map with information about each database and table linked to its country or region of origin.

The landing page shows a world map; highlighted in blue are countries for which there is at least one database or table available. To view information about a national-level database or table, navigate to the country of interest on the map. Hover your mouse over the location on the map and Descriptive Information will appear (see Figure 1 on next page). Double clicking on the country (on the map), or on the name in the Region panel sends the user directly to the website for that database or table (when a website is available) or links to the database or table directly.

International and regional databases and tables are listed in the Story panel to the right of the map. Double clicking on the name in the Story panel, or on the name in the Region panel, sends the user directly to the website for that FCDB (when a website is available) or links to the database or table directly. Descriptive Information about each can only be found by selecting the database or table of interest in the Region panel, and then the indicator of interest either from the panel to the left of the graph, or the dropdowns across the top.



Descriptive Information ▾ General Components ▾ Food Classification ▾ Nutrient Information ▾ Percentage of Foods with Nutrient Information ▾

Search

✓ Food Composition Databases or Tables (FCDB)

Name
Year Developed
Year Updated
Edition
Institution Managing the Table/Database
Contacts
Database or Table
Free/Subscription Access

All regions ▾ ⚙

- Argentina
- Armenia
- ASEAN FOODS
- Australia
- Austria
- Bahrain
- Bangladesh
- Belgium
- Bolivia
- Brazil

Food Composition Databases or Tables (FCDB) (2017)

United States

Food Composition Databases or Tables (FCDB)	FCDB
Name	USDA National Nutrient Database for Standard Reference
Year Developed	1980
Year Updated	2015
Edition	28.0
Institution Managing the Table/Database	United States Department of Agriculture
Contacts	David B. Haytowitz, USDA, Agricultural Research Service, david.haytowitz@ars.usda.gov
Database or Table	Database
Free/Subscription Access	Free

FCDB

International and Regional Databases

- ASEAN FOODS
- EuroFIR
- FAO/INFOODS Analytical Food Composition Database
- FAO/INFOODS Density Database
- FAO/INFOODS Foods Composition Database for Biodiversity
- Food Composition Tables of the Near East
- Label Insight
- Nutritionix
- Souci Fachmann and Kraut Online
- Souci Fachmann and Kraut Table
- Tabla de composicion de alimentos de Centroamerica
- West African Food Composition Tables

Figure 1: View of descriptive information highlighted for the USDA National Nutrient Database. From left to right, the boxes in red highlight the general categories (each with a dropdown menu of indicators), the Region panel (also with a dropdown and search bar), and the Story panel.

WNDDS also includes other important search features.

Using the dropdown panels across the top of the screen, you can search WNDDS by the following categories:

- Descriptive Information
- General Components
- Food Classification
- Nutrient Information
- Percentage of Foods with Nutrient Information

Figure 2 shows the result of the following search: category [Food Classification] subcategory [Dairy and Dairy Products] for region [Europe]. The information is presented as a column chart.

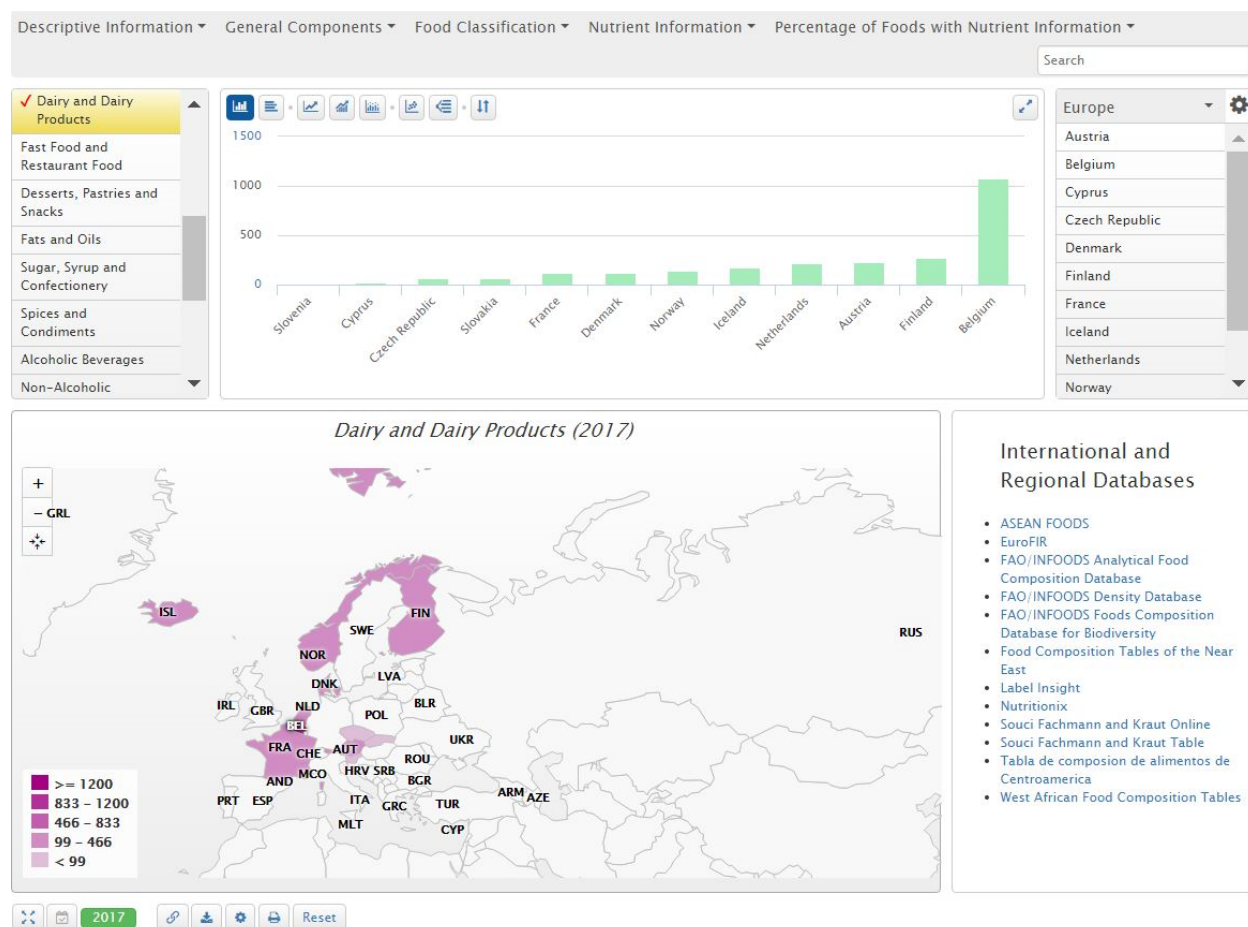


Figure 2: View of the number of foods in the Dairy and Dairy Products food group for the European Region

Users may manipulate the map and graph components for clarity. The range of the y-axis on the graph may be adjusted by double-clicking on the top number of the y-axis. Users may select from the various types of graphs (options are seen across the top of the graph panel) including bar, line and scatter plots. Users can zoom in and out of the map using the + and – signs in the top left of the map panel.

Limitations

While WNDIS has many uses, several limitations exist with collecting and displaying this type of information. Users should be aware of this and should consult each database or table website for the most accurate information.

Additionally, while databases and tables from regional and international sources are included in this tool, users should be cognizant that they may have to search an extra step or two in order to locate the data. Unlike the national-level resources, the panel for International and Regional Databases (on the righthand side) does not provide popups which update as the categories change. All databases and tables are captured in the graph.

How to submit information on a current or new database or table

WNDDS will be updated at least twice per year, and the Agriculture & Food Systems Institute encourages the submission of new or updated information about databases or tables as it becomes available. Please e-mail ag@foodsystems.org for more guidance on submissions to WNDDS.

Questions/Comments

Questions, comments and suggestions for improvements to WNDDS are very welcome. Please feel free to contact the Agriculture & Food Systems Institute at ag@foodsystems.org.

Appendix I

List of databases and tables alphabetically by geographic affiliation

A

- Argentina [Argenfoods]
- Armenia [Armenia Food Composition Tables]
- Association of Southeast Asian Nations [ASEAN Food Composition Database]
- Australia [NUTTAB]
- Austria [Österreichische Nährwerttabelle (ÖNWT)]

B

- Bahrain [Food Composition Tables of Kingdom of Bahrain]
- Bangladesh [Bangladesh Food Composition Tables and Database]
- Belgium [NuBel]
- Bolivia [Food Composition Table for Bolivia]
- Brazil [Brazilian Food Composition Table]
- Bulgaria [Bulgarian Food Composition Database]

C

- Cameroon [Table Provisoire de Composition des Aliments du Sud-Cameroun]
- Canada [Canadian Nutrient File]
- Central America [Tabla de composición de alimentos de Centroamerica]
- Chile [Chilean Food Composition Database]
- China [China Food Composition Database]
- Colombia [Tabla de Composición de Alimentos Colombianos]
- Costa Rica [Tabla de Composición de Alimentos de Costa Rica]
- Croatia [Croatian Food Composition Database]
- Cuba [Tabla de Composición de Alimentos en Cuba]
- Cyprus [Cyprus Food Composition Table]
- Czech Republic [Czech Food Composition Database]

D

- Democratic Republic of Congo
- Denmark [Danish Food Composition Databank]

E

- Egypt [Food Composition Tables of Egypt]
- Europe [EuroFIR]

F

- Finland [Fineli Open Data]
- France [French Food Composition Database]

G

- Gambia [Food Composition Table for use in The Gambia]
- Germany [German Food Code and Nutrient Database (BLS)]
- Greece [Hellenic Health Foundation Database]

H

- Hungary [Food Composition Tables/Composition and Requirements of Nutrients]

I

- Iceland [Icelandic Food Composition Database]
- India [Indian Food Composition Database]
- Indonesia [Tabel Komposisi Pangan Indonesia - Indonesian Food Composition Table]
- Iran [Iranian Food Composition Table]
- Ireland [Irish Food Composition Database]
- Israel [Israeli Food Composition Database]
- Italy [Food Composition Database for Epidemiological Studies in Italy (BDA)]

J

- Japan [Standard Tables of Food Composition in Japan]

L

- Lao People's Democratic Republic [Laos Food Composition Database]
- Lesotho [Lesotho Food Composition Tables]
- Lithuania [Lithuanian Food Composition Database]

M

- Malaysia [Malaysian Food Composition Database]
- Mexico [Mexican Food Composition Database]
- Mozambique [Food Composition Tables for Mozambique]

N

- Near East [Food Composition Tables of the Near East]
- Nepal [Food Composition Table for Nepal]
- Netherlands [Dutch Food Composition Database (NEVO)]
- New Zealand [New Zealand Food Composition Database (NZFCD)]
- Nigeria [Nutrient composition of commonly eaten foods in Nigeria-Raw, processed and prepared]
- Norway [Norwegian Food Composition Table]

P

- Pakistan [Food Composition Table for Pakistan]
- Papua New Guinea [The Pacific Islands Food Composition Tables]
- Peru [Tablas Peruanas de Composición de Alimentos]
- Philippines [The Philippine Food Composition Table]
- Poland [Polish Food Composition Database]
- Portugal [Portuguese food composition database INSA 2008]

R

- Republic of Korea (South Korea) [Korean Standard Food Composition Table - The 8th Revision]

S

- Singapore [Energy and Nutrient Composition of Foods]
- Slovakia [Slovak food composition database]
- Slovenia [Slovenian Food Composition Database]
- South Africa [The South Africa Food Data System (SAFOODS)]
- Spain [Spanish Food Composition Database]
- Sri Lanka [Tables of Food Composition for Use in Sri Lanka]
- Sweden [Swedish Food Composition Database]
- Switzerland [Swiss Food Composition Database]

T

- Tanzania [Tanzania Food Composition Tables]
- Thailand [Thai Food Composition Tables]
- Togo [Table de Composition des Aliments du Togo]
- Tunisia [Tunisian Food Composition Table]

U

- Uganda [Uganda Central and Eastern Uganda Food Composition Table]
- United Kingdom [McCance and Widdowson's The Composition of Foods]
- United States of America [USDA National Nutrient Database for Standard Reference]
- Uruguay [Food Composition Database of Uruguay]

V

- Vietnam [Vietnamese Food Composition Table]

W

- West Africa [West African Food Composition Tables]

Z

- Zambia [Zambia Food Composition Table]
- Zimbabwe [Nutritive Value of Foods of Zimbabwe]

No National or Regional Affiliation

- FAO/INFOODS Analytical Food Composition Database
- FAO/INFOODS Density Database - Version 2
- FAO/INFOODS Food Composition Database for Biodiversity - Version 3.0 (BioFoodComp3.0)
- Label Insight
- Nutritionix
- Souci, Fachmann, and Kraut. Food Composition and Nutrition Tables
- Souci, Fachmann, and Kraut Food Composition and Nutrition Tables Online

Appendix II

List of databases and tables alphabetically by name

- | | |
|--|---|
| <p>A</p> <ul style="list-style-type: none"> • Argenfoods • Armenia Food Composition Tables • ASEAN Food Composition Database <p>B</p> <ul style="list-style-type: none"> • Bangladesh Food Composition Tables and Database • Brazilian Food Composition Table • Bulgarian Food Composition Database <p>C</p> <ul style="list-style-type: none"> • Canadian Nutrient File • Central and Eastern Uganda Food Composition Table • Chilean Food Composition Database • China Food Composition Database • Croatian Food Composition Database • Cyprus Food Composition Table • Czech Food Composition Database <p>D</p> <ul style="list-style-type: none"> • Danish Food Composition Databank • Dutch Food Composition Database (NEVO) <p>E</p> <ul style="list-style-type: none"> • Energy and Nutrient Composition of Foods • EuroFIR <p>F</p> <ul style="list-style-type: none"> • FAO/INFOODS Analytical Food Composition Database • FAO/INFOODS Density Database - Version 2 • FAO/INFOODS Food Composition Database for Biodiversity - Version 3.0 (BioFoodComp3.0) • Fineli Open Data • Food Composition Database for Epidemiological Studies in Italy (BDA) • Food Composition Database of Uruguay • Food Composition Table for Bolivia • Food Composition Table for Nepal • Food Composition Table for Pakistan • Food Composition Table for use in The Gambia • Food Composition Tables for Mozambique • Food Composition Tables of Egypt • Food Composition Tables of Kingdom of Bahrain • Food Composition Tables of the Near East | <ul style="list-style-type: none"> • Food Composition Tables/Composition and Requirements of Nutrients • French Food Composition Database <p>G</p> <ul style="list-style-type: none"> • German Food Code and Nutrient Database (BLS) <p>H</p> <ul style="list-style-type: none"> • Hellenic Health Foundation Database <p>I</p> <ul style="list-style-type: none"> • Icelandic Food Composition Database • Indian Food Composition Database • Iranian Food Composition Table • Irish Food Composition Database • Israeli Food Composition Database <p>K</p> <ul style="list-style-type: none"> • Korean Standard Food Composition Table - The 8th Revision <p>L</p> <ul style="list-style-type: none"> • Label Insight • Laos Food Composition Database • Lesotho Food Composition Tables • Lithuanian Food Composition Database <p>M</p> <ul style="list-style-type: none"> • Malaysian Food Composition Database • McCance and Widdowson's The Composition of Foods • Mexican Food Composition Database <p>N</p> <ul style="list-style-type: none"> • New Zealand Food Composition Database (NZFCD) • Norwegian Food Composition Table • NuBel • Nutrient composition of commonly eaten foods in Nigeria-Raw, processed and prepared • Nutritionix • Nutritive Value of Foods of Zimbabwe • NUTTAB <p>O</p> <ul style="list-style-type: none"> • Österreichische Nährwerttabelle (ÖNWT) • P • Polish Food Composition Database • Portuguese food composition database INSA 2008 |
|--|---|

S

- Slovak food composition database
- Slovenian Food Composition Database
- Souci, Fachmann and Kraut. Food Composition and Nutrition Tables
- Souci, Fachmann, and Kraut Food Composition and Nutrition Tables Online
- Spanish Food Composition Database
- Standard Tables of Food Composition in Japan
- Swedish Food Composition Database
- Swiss Food Composition Database

T

- Tabel Komposisi Pangan Indonesia - Indonesian Food Composition Table
- Tabla de Composición de Alimentos Colobianos
- Tabla de composición de alimentos de Centroamerica
- Tabla de Composición de Alimentos de Costa Rica
- Tabla de Composición de Alimentos en Cuba
- Tablas Peruanas de Composición de Alimentos
- Table de Composition des Aliments du Togo
- Table Provisoire de Composition des Aliments du Sud-Cameroun
- Tables of Food Composition for Use in Sri Lanka
- Tanzania Food Composition Tables
- Thai Food Composition Tables
- The Pacific Islands Food Composition Tables
- The Philippine Food Composition Table
- The South Africa Food Data System (SAFOODS)
- Tunisian Food Composition Table

U

- USDA National Nutrient Database for Standard Reference

V

- Vietnamese Food Composition Table

W

- West African Food Composition Tables

Z

- Zambia Food Composition Table