Food and Agriculture Organization of the United Nations

FAO/INFOODS Databases

Food Composition Database for Biodiversity Version 3.0 – BioFoodComp3.0

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Background

Food biodiversity, defined as the diversity of plants, animals and other organisms used for food, covering the genetic resources within species, between species and provided by ecosystems (FAO, 2010), is receiving increasing attention internationally (Burlingame et al., 2009; Toledo & Burlingame, 2006, Stadlmayr et al., 2011). At the same time it is recognized that data on food composition and consumption are scarce or absent for counting for biodiversity, i.e. foods reported below species level (i.e. variety/cultivar/breed level) or for wild and underutilized foods. Furthermore, these foods are rarely included in food composition tables and databases.

To improve the evidence base of the importance of biodiversity to nutrition, Nutritional Indicators for Biodiversity – one on food composition (FAO, 2008) and one on food consumption (FAO, 2010) – were developed. The indicator on food composition simply counts the number of foods for which at least one value for a nutrient or bioactive component is available, and the food is described sufficiently to identify genus, species, subspecies and variety/cultivar/breed.

Additionally, as there was no collection of compositional data available on foods counting for biodiversity, FAO in collaboration with INFOODS has developed the FAO/INFOODS Food Composition Database for Biodiversity (BioFoodComp). The first version was published in 2010 including about 2401 foods, an update (version 1.1) in 2011 resulted in additional 176 food entries. Version 2.0 published in 2012 included already 6411 foods, and Version 2.1 had 6497 foods. The current version 3.0 holds 7953 entries.

For additional information on BioFoodComp see the article Charrondiere et al., 2013.

Objectives

The FAO/INFOODS Food Composition Database for Biodiversity was developed with the following objectives:
1. To publish a compendium of scrutinized analytical data (without any additional estimations, imputation or calculation of missing values) for foods counting for biodiversity: at least one compositional value must be reported at variety/cultivar/breed level for common foods or at species level (or with local name) for wild and underutilized foods;
2. To allow food composition database compilers to include nutritional values for wild and underutilized foods as well as for foods below species level based on the data available in this database;
3. To allow researchers in nutrition to estimate the contribution of biodiversity to nutrition;
4. To estimate nutrient intake estimations more correctly taking variation due to biodiversity into account (if corresponding food consumption data would be available);
5. To promote biodiversity and foods with a superior nutritional profile in nutrition education programmes and other policies; and

6. To allow researchers in agriculture to select those crops/breeds with a high-quality nutritional profile for agricultural research and large-scale production.

The FAO/INFOODS Food Composition Database for Biodiversity 3.0 – BioFoodComp3.0

The FAO/INFOODS Food Composition Database for Biodiversity (BioFoodComp) is the first global repository of solely analytical data on food biodiversity and represents the equivalent of an archival database, which means that no values have been calculated or estimated to complete the compositional profile for a food entry. The included data need to meet the criteria for biodiverse foods and a minimum of predefined quality criteria. The entire database is available in an MS Excel format and can be downloaded free-of-charge from the INFOODS website (see http://www.fao.org/infoods/infoods/tables-and-databases/faoinfoods-databases).

Since 2010, compositional data for 7941 foods and 490 components were collected and compiled into the BioFoodComp mainly by FAO interns, volunteers and consultants. The compositional data are exclusively analytical data from primary sources, e.g. as published in the scientific literature, reports or dissertations, or as received from the INFOODS network.

Foods, food groups and coding

The database is an archival collection of available analytical data of sufficient quality. It holds data of different edible parts of the same plant/animal food; different maturity stages; raw and processed food (cooked, preserved), but no recipes (composite foods).

Foods included in the BioFoodComp need to be described at either variety/cultivar/breed level or on species level for wild and underutilized foods, in line with the inclusion criteria set in previous publications: The criteria were developed for the Nutritional Indicator for Biodiversity on Food Composition (FAO, 2008), further refined for the Indicator on Food Consumption (FAO, 2010), and are listed in a separate document (FAO, 2012). The criteria for inclusion and exclusion used for the indicators were adapted for the BioFoodComp and are given in Annex 1.

Foods, which are indicated as underutilized refer to the INFOODS List of underutilized species contributing to the Nutritional Indicators for Biodiversity Version 1.1 (FAO/INFOODS, 2012a), while wild foods were included according to the information given in the literature (e.g. captured in the wild).

All foods are categorized in 12 food groups (Table 1) and each food entry was assigned a unique food code. The food code is constructed following the same pattern throughout all food groups: the first two figures indicate the food group followed by five sequential figures representing the food number within the respective food group.

Up to now, data were compiled for all food groups except for herbs and spices. The most intensive collections of data were carried out for potatoes, underutilized roots and tubers, selected African fruits, green leafy vegetables, quinoa, milk of underutilized species, meat (beef, bush meat), edible insects, and fish and shellfish (see Table 1).

Table 1 Food groups/subgroups and number of food entries in the different versions of the BioFoodComp

Code of food group	Name of food groups and subgroups	Version 1.0	Version 1.1	Version 2.0	Version 2.1	Version 3.0
01	**Cereals**	**28**	**28**	**90**	**103**	**708**
02	**Starchy roots and tubers**	**1537**	**1713**	**1870**	**1870**	**1984**
	Potatoes	1512	1512	1671	1671	1671
	Other	25	201	199	199	313
03	**Legumes**	**22**	**28**	**28**	**19**	**29**
04	**Nuts and seeds**	**28**	**22**	**101**	**96**	**96**
05	**Vegetables**	**30**	**38**	**354**	**368**	**379**
06	**Fruits**	**314**	**306**	**1635**	**1689**	**1701**
07	**Meat and poultry**	**0**	**0**	**746**	**703**	**1240**
	Mammals	0	0	217	217	733
	Poultry	0	0	0	0	21
	Reptiles/Amphibians	0	0	15	15	15
	Insects	0	0	514	471	471
	Other	0	0	0	0	0
08	**Eggs**	**0**	**0**	**5**	**5**	**5**
09	**Fish and shellfish**	**0**	**0**	**1304**	**1366**	**1533**
	Finfish	0	0	1069	1134	1291
	Crustaceans	0	0	129	128	130
	Molluscs	0	0	106	104	112
10	**Milk**	**442**	**442**	**273**	**273**	**273**
	Cow	0	8	2	2	2
	Sheep	0	9	8	8	8
	Goat	0	159	110	110	110
	Mare	0	59	37	37	37
	Camel	0	39	14	14	14
	Yak	0	56	21	21	21
	Buffalo	0	77	65	65	65
	Donkey	0	10	7	7	7
	Moose	0	8	1	1	1
	Reindeer	0	11	2	2	2
	Mithun	0	6	6	6	6
	Other	0	0	0	0	0
11	**Herbs and spices**	**0**	**0**	**0**	**0**	**0**
12	**Miscellaneous**	**0**	**0**	**5**	**5**	**5**
Total number of food entries		**2401**	**2577**	**6411**	**6497**	**7953**

In some cases, the assignment of foods to one specific food group was difficult (e.g. peanuts are botanically legumes but are considered nuts regarding the nutrient profile). This should be taken into consideration when searching for a food where the assignment to a single food group might not be unequivocal.

It is recognized that the identification of scientific names at subspecies level and below, and even at species level (especially for wild and underutilized foods) is often challenging. Particularly, a further separation, whether the food identified below subspecies level belongs to a cultivar or a variety, is often ambiguous. The assignment depended exclusively on the information given in the literature and may, therefore, result in contradictory indications in the database (e.g. Malus domesticus, 'Granny Smith' may be classified as cultivar as well as a variety depending on the original source).

Definition and expression of components

All values, including liquids, are presented per 100 g edible portion on a fresh weight basis (EP). All compositional data were standardized to this expression according to the FAO/INFOODS Guidelines on Conversion among Different Units, Denominators and Expressions (FAO/INFOODS, 2012b). Data which could not be transformed to this expression were excluded (e.g. data are published as per 100 g dry matter and no value for the water content is available to calculate the values as per 100 g EP).

INFOODS component identifiers, also called tagnames (Klensin et al., 1989; INFOODS, 2012) were used to describe the 490 food components. A list of the 490 components is found in Annex 2. It contains the INFOODS tagnames, the component names, units, and a list of food groups in which they are present. Comments on the individual components are given in the worksheet 'Components' in the Excel file of BioFoodComp3.0.

Within a food group only those components are listed for which values were available, resulting in diverse sets of components depending on the food group (e.g. wide range of fatty acids for milk and fish/shellfish and phyto-chemicals for starchy roots and tubers, fruits and vegetables).

In general, the average values of food components given in the original documents were included in the database, while in some occasions the standard deviations (SD) were included as well. In a few cases, values were entered as a range, where no arithmetic means were indicated in the original source.

Decimal places and significant digits were not adjusted to commonly used guidelines (e.g. Greenfield and Southgate, 2003) as the archival database should reflect the original source and truncation is normally done at the level of a user database.

No data were estimated or calculated (except for changing units). Calculated values were included as long as they were given in the original source, e.g. values for 'carbohydrates calculated per difference', but not calculated by the compiler.

Arrangement of the Excel database and worksheets

For easy standardization of the data, the FAO/INFOODS Compilation Tool (Charrondière & Burlingame, 2011; FAO/INFOODS, 2012c) was used which is a simple food composition database management system in MS Excel. The tool was adapted for this purpose by adding new fields to the overall structure in order to capture additional information (Table 2). The database contains different worksheets with specific information:

- The 'Copyright' worksheet contains information concerning copyright.
- The 'Codes' worksheet contains information concerning codes and abbreviations used in the document
- The 'Subgroup' worksheet contains information concerning the food classification.
- A total of 13 spreadsheets are used to present data for each food group individually (e.g. '01Cereals' worksheet); only the food group '09Fish & Shellfish' is split in two separate sheets (one sheet includes all data on fatty acids and the other the remaining data).
- The sheet 'Bibliography' presents the entire reference list with the corresponding ID
- The sheet 'Component list' gives an overview of all components used in the database, listing tagnames, units and comments, and indicating the food group for which the data was entered.

The following variables can be found in most food groups and information is provided as completely as possible, i.e. as given in the data source.

Table 2 Variables capturing general information of a food entry in BioFoodComp

Column title	Description
'Food item ID'	Indicates a unique identification code for each food entry (see section Foods, food groups and coding).
'Code'	The old coding system used in version 1.0 and 1.1 allows tracing back to former versions.
'Subgroup'	Indicates, when a food group was divided into subgroups (see section Foods, food groups and coding). All subgroups are combined in one single spreadsheet and not, as in former versions, separated (e.g. 'starch roots and tubers' and 'potatoes' in version 1.1).
'Country, region'	Indicates of the sampling place (country/region).
'Type'	Indicates whether the food is wild (W), underutilized (U), or belongs to a cultivar (C), variety (V), genotype or ecotype.
'Food name in own language'	Gives the food name in own/local language, if available.
'Food name in English'	Gives the food name in English along with a food description.
'Processing'	Minuscule letters indicate the state of the food. r= raw p=processed (e.g. cooked, grilled, fermented) d=dried This variable will not replace the indication of the processing in the food description/food name. Some examples for special cases: legumes: d powder: d dried and processed: p smoked and dried: p fresh and frozen: r

Column title	Description
	dried and raw: d
'Species/Subspecies'	Gives the scientific name as stated in the original source.
'Cultivar/Variety/Breed/ Accession name'	Gives the cultivar/variety/breed/accession name according to the original source.
'Season'	Indicates the sampling season. Months are abbreviated with the 3 first letters in English language followed by the year (e.g. Mar 2012). If the season is reported as "raining season" or other, it is reported as stated in the paper.
'Other'	Gives additional information on factors that can influence the nutrient composition (e.g. slaughter weight, size, sex, feeding practices, maturity stage, soil conditions, storage time, cooking and preserving methods).
'n'	Gives the number of independent analytical samples (often composite samples) and should not be confused with the number of replicates.
'Comments on data processing/methods'	Gives information on value conversion (e.g. conversion from dry matter to fresh weight, conversion of denominator to per 100 g EP), information on analytical methods and/or assumptions made on data expression or any other information on the data that is not captured in another field.
'Publication year'	Publication year of source
'BiblioID'	Indicates the reference as ID to link the table with bibliography. From version 2.0 onwards the ID starts with one (or more) lower case letter(s), followed by a number (e.g. fr1, fr2, ..., fr169,...; i1, i2, i3, ...;).
'Compiler ID'	Gives the identification of the compiler (two or three capital letters of initials). Compilers, who revise and change data of a food entry, add their acronym to the former ID (separated by a comma).
'Latest revision in version'	Indicates, when the last revision at the food level was carried out.

In food group fish and shellfish (09) only:

By using the ASFIS List of Species for Fishery Statistics Purposes (http://www.fao.org/fishery/collection/asfis/en), the scientific name of all fish and shellfish of the different sources were identified. Two codes are assigned for each aquatic animal: Commercial species are grouped by the ISSCAAP code (a two figure number) according to their taxonomy, ecology and economy while the 3-alpha code (a 3-letter code) is unique for each fish and shellfish on species level. The same ASFIS codes for different food entries indicate that fish or shellfish are identical at their taxonomic level.	
'ISSCAAP code'	Gives ASFIS classification code (two figure code); The ISSCAAP codes for the five main groups presented are given in parenthesis: Freshwater fishes (11-13), diadromous fishes (21-25), marine fishes (31-38), crustaceans (41-47), molluscs (51-58).
'3_alpha code'	Gives ASFIS identification code (three capital letter code).
'Scientific name (ASFIS)'	Gives the scientific name according to the ASFIS list on genus/species level.
'English name (ASFIS)'	Gives the scientific name according to the ASFIS list.

Documentation and quality of data

Each food entry is listed together with the full bibliographic reference, the food name in English, the scientific name including cultivar/variety/breed or accession name, the compiler ID and, if available, also with the name in own language, country, region, season, other specification, sample size, and any additional comment if relevant. The description of the food is as complete as provided by the original source.

Data were evaluated for data quality according to relevant sections of the FAO/INFOODS Guidelines on Checking Food Composition Data prior to the Publication of a User Database/Table (FAO/INFOODS, 2012d). The following checks at the component level were applied on the entire dataset, i.e. already existing data of version 1.1 were re-checked as well:

- the sum of proximates (= water + protein + fat + available carbohydrate + dietary fibre + alcohol + ash) is within the acceptable range of 95 – 105 g;
- the sum of individual constituents is in accordance with the corresponding component (e.g. the sum of minerals and ash content, the sum of individual amino acids and protein content, the sum of individual fatty acids and lipid content);
- systematic checks, in order to detect errors, e.g. typing/unit errors or unreasonably high or low values of a component.

Conspicuous data (e.g. the sum of minerals exceeds the value for ash, extremely low or high values), were marked in the database by using brackets, if no reasonable explanation could be found (e.g. analytical method, genetic variance). These data were not excluded from the database as it was aimed to reflect the broad range of available analytical values.

Any assumptions that have been made regarding data expression (e.g. based on dry matter or fresh weight) were comprehensibly documented in the field 'Comments on data processing/methods'.

Symbols and abbreviations used in the Table:
>   tr   trace
>   [ ]   for data of low quality or implausible data
>   nd   not detected

Changes in version 3.0 (as compared to version 2.1)

Data for 19 new components were added to the database in this update: ALC, ERGCAL, FOLFRE, PH, RAFS, STARES, VITEA, VITD-, VITB6C, VITK1, VITK2, THIAHCL, FAPUCN3, FAPULCCN3, FAPUCN6, FAPUCN9, F18D1N6, F20D1N11_A_F20D1N13, F22D1N11_A_F22D1N13. In addition, there were over 60 nutrients already in the database that were extended to additional food groups. For each food group in BioFoodComp3.0 and AnFooD2.1 the Excel sheets display the same components in the same order. This means there are some components included in the Excel sheets that do not have data.

Updates were made to existing tagnames to ensure consistency across the database: in 01 Cereals, PROT- was updated to PROT-(g) with no change to the component values, XYLS(mg) was updated to XYLS(g) with no change to the component values, and FACID was updated to FACID(g) with no changes to the component values; in 05 Vegetables XYLS(mg) was updated to be XYLS(g) and the value for food 0500312 Cabbage, Toten Amager, stem removed, boiled converted to (g); in 10 Milk F14D1T was updated to F14D1T(g) and F18D3N6 to F18D3N6(g) with no change to the component values for either component, MN(mcg) was updated to MN(mg) with the component value for food 1000229 Milk, goat, indigenous greek breed, raw updated to (mg), the component value for food 1000059 Milk, camel, Najdi, raw placed

in brackets as its units could not be verified, and no change to the other component values; in 07 Meat and poultry F18D1TN11 was updated to F18D1TN11(g) with no change to the component values; in 03 Legumes F18D0(mg) was updated to F18D0(g) with no change to the component values , and F18D1(mg) to F18d1(g) with no change to the component values.

The following tagnames were changed in order to be in alignment with the latest INFOODS tagname update: PROPLA was changed to PROTPL, PROANI to PROTAN.

The food codes for BioFoodComp3.0 are now independent of the FAO/INFOODS Analytical Food Composition Database AnFooD1.2 (i.e. the same food code does not correspond to the same food in each database).

Several food entries were added from new sources (biblioids: PK001, PK003, PK006, PK007, PK008, PK009, PK011, PK012, PK013, PK014, PK015, PK016, PK018, PK019, PK020, PK021, PK022, PK026, PK029, PK030, PK033, PK034, PK038, PK039, PK040, PK045, PK048, PK049, PK050, PK051, PK052, PK054, PK056, PK057, PK059, PK060, PK061, PK063, PK065, PK066, PK067, PK068, PK069, PK074, PK075, PK077, PK079, PK080, PK082, PK083, PK084, PK085, PK086, PK087, PK088, PK089, tu1, tu6, tu8, tu9, tu10, tu12, tu15, tu16, tu18, tu21, tu23, tu24, tu25, tu26, fi367, fi361, pu001, pu002, pu003, pu004, fc001, fc002, fc003, fc004, fc005, fc006, r001, r003, r004, r006, r007, r008, r009, r015, r016, r017, r019, r021, r022, r023, r026, r027, r029, r031, r032, r035, r036, r037, r040, r042, r043, r044, r045, r046, r049, r050, r051, r052, r053, r054, r056, r057, r059, r060, r062, r064, r065, r067, r068, r070.)

Table 4 Food Item IDs added in BioFoodComp3.0 as compared to BioFoodComp2.1

Code of food group	Name of food groups and subgroups	Food Item IDs deleted	Food Item IDs added
01	Cereals	-	0100104-0100708
02	Starchy roots and tubers	-	0201872-0201984
03	Legumes	-	0300020-0300029
04	Nuts and seeds	-	-
05	Vegetables	-	0500618-0500627
06	Fruits	-	0601690-0601701
07	Meat and poultry	-	0700807-0701343
08	Eggs	-	-
09	Fish and shellfish	-	0902284-0902450
10	Milk	-	-
11	Herbs and spices	-	-
12	Miscellaneous	-	-

Changes in version 2.1 (as compared to version 2.0)

The following tagnames were changed in order to be in alignment with the latest INFOODS tagname update: PROT was changed to PROTCNT, PROCNA to PROTCNA and PROCNP to PROTCNP.

New food components were added to at least one of the food groups: AAE8, AAS, CYSTE, GLY_A_SER, NFIBAD, F18D4CN3, GLYLIP, RETOL, RETOL13, CHOCAL, VITD-, TOCPHA(IU), THIA-, PYRXNHCL.

A second quality check was done in particular for the food (sub)groups insects and cereals. Some food entries were deleted consequently (see Table 3) and several values were updated. In addition, several food entries were added from new sources (biblioids fi139, fi140, fi155, fi199, fr55, jc1, jc2, jc3, jc4, jc5, jc6, jc7, jc8, jc9, and ve60) or from already partly compiled sources (biblioids i13, i20, i21, i29, i33, i41, i56, i32, i57, jq5 and jq7). Table 3 gives a summary on Food Item IDs deleted and added per food group.

Table 3 Food Item IDs deleted and added in BioFoodComp2.1 as compared to BioFoodComp2.0

Code of food group	Name of food groups and subgroups	Food Item IDs deleted	Food Item IDs added
01	Cereals	-	0100091-0100103
02	Starchy roots and tubers	-	-
03	Legumes	0300020-0300028	-
04	Nuts and seeds	0400095-0400099	-
05	Vegetables	-	0500603-0500617
06	Fruits	-	0601636-0601689
07	Meat and poultry	0700246-0700248, 0700284, 0700289-0700290, 0700351, 0700399-0700400, 0700440-0700533	0700747-0700806
08	Eggs	-	-
09	Fish and shellfish	0900264-0900282, 0901135-0901154	0902183-0902283
10	Milk	-	-
11	Herbs and spices	-	-
12	Miscellaneous	-	-

Changes in version 2.0 (as compared to version 1 and 1.1)

Some new variables were added (new) or changed in the version 2.0 and existing data from the former version 1.1 have been updated accordingly.

Table 4 Variables added in BioFoodComp2.0

'Food item ID'	new in version 2.0
'Subgroup'*	new in version 2.0
'Processing'	new in version 2.0
'Season'*, 'Other'*	have been separated into two variables
'Comments on data processing/methods'	new in version 2.0
'Publication year'	new in version 2.0
'Compiler ID'*	previously added in version 1.1
'Latest revision in version'*	new in version 2.0
* Data from version 1.1 have been updated accordingly	

Future steps

FAO/INFOODS intends to continue to collect and compile compositional data of foods on biodiversity and to publish new versions of the database annually. It is hoped that in the near future, all food groups are covered, more data are entered per food group, and that more data, especially on micronutrients will be generated and published. This information could be compiled into the FAO/INFOODS Food Composition Database for Biodiversity.

Hopefully, more researchers will share their data and a closer collaboration with scientific journals will be established which will encourage authors of articles with compositional data to contribute actively to the FAO/INFOODS Food Composition Database for Biodiversity as recognized data compilers.

Submission of data

Researchers are encouraged to submit their compositional data to FAO for inclusion into the FAO/INFOODS Food Composition Database for Biodiversity. Only data that is fully documented can be accepted. Data, which has not been published yet, can also be included as long as a complete documentation exists.

For more information see:
http://www.fao.org/fileadmin/templates/food_composition/documents/pdf/SubmissionOfData.pdf

Annex 1: Criteria for the inclusion/exclusion of foods to be entered into the BioFoodComp

Table adapted according to 'Foods counting for the Nutritional Indicators for Biodiversity on food composition and consumption (Indicator 1 and 2)'

Table 1 Annex 1: Inclusion criteria of foods to be entered into BioFoodComp

Foods included	Examples
Foods at cultivar/variety/breed level for common and imported foods (e.g. rice, banana, potato), preferably with scientific name	• *Malus sp.*, 'Granny Smith' • European flounder (*Platichthys flesus* var. *marmorata*)
Wild (i.e. not cultivated/reared/farmed) described at genus/species level and/or with local name	• Dragon lizard, wild (*Amphiboluris sp.*)
Underutilized foods described at genus/species level and/or with local name Foods must be recorded on the 'List of underutilized species counting for biodiversity' (INFOODS, 2012a)	• Breadfruit (Parkia biglobosa) • Bug, called 'Um-buga' in Sudan
Colour and/or shape and/or taste describe the variety/cultivar/breed	• Pear, brown-skinned (*Pyrus sp.*) • Snake gourd (*Trichosanthes cucumerina*) • Star fruit, acid (Averrhoa carambola)
Common foods described taxonomically as varieties (but are considered as species because they are common foods such as cauliflower) if described with additional cultivar name	• Nectarine 'Goldmine' (*Prunus persica* var. *nectarine*) • Cabbage 'January King' (*Brassica oleracea* var. *capitata*)
Ingredients used in • recipes or processed foods (e.g. spices, condiments, micro-organisms and probiotics) • non-packaged form of botanical supplements/extracts (including beverages)	
A local name in addition to an English/ Spanish/French or taxonomic name if it is indicative for a variety/cultivar/breed (e.g. in brackets after the English/Spanish/French name)	
Genetically modified foods	

Table 2 Annex 1: Exclusion criteria of foods to be entered into BioFoodComp

Foods not included	Examples
Common or imported foods (e.g. rice, banana, potato) described only at species level, even if other specification are given such as • region • country • season • colour as part of the food name or as indication of processing • shape • species name is followed by author which should not be confused with the cultivar/variety/breed name • local name	• Colour: green beans • Processing: white or brown rice • Shape: medium-size carrot • Author name: L. or Linn. (for Linnaeus), Mill., Lam. (for Lamarck)
Common or imported name described only with local name	

Foods not included	Examples
Foods with unspecific name	• 'wild green leaves' • 'reef fish' • 'bush meat'
Local name in addition to English/ Spanish/French name seeming to be the translation of the food (i.e. not indicative of variety/cultivar/breed)	
Recipes	
Supplements, and plant or animal extracts in packaged form	
Fortified foods	
Taxonomic varieties considered by error as a species when described without an additional cultivar name	• Clementines - *Citrus reticulata* var. *clementine* • Nectarines - *Prunus persica* var. *nectarine* • Mange-tout peas or snowpeas – *Pisum sativum* var. *macrocarpum* • Asparagus - *Aspsaragus officinalis* var. *altilis* • Peppers, capsicum, chilli, green – *Capsicum annum* var. *grossum* • Peppers, capsicum, grenn/red – *Capsicum annum* var. *grossum* • Broccoli - *Brassica oleracea* var. *botrytis* • Cauliflower - *Brassica oleracea* var. *botrytis* • Brussels sprouts - *Brassica oleracea* var. *gemmifera* • Cabbage - *Brassica oleracea* var. *capita* • Curly kale - *Brassica oleracea* var. *acepahla* • Spring green - *Brassica oleracea* var. *acepahla* • Swede - *Brassica napus* var. *napobrassica* • Turnip - *Brassica rapa* var. *rapifera*

Annex 2: Component list

Component ID/Tagname	Component name	Unit	Food group in which used
General description of food			
EDIBLE	edible portion coefficient		02, 04, 05, 06, 07, 08, 09
PH	pH, hydrogen ion concentration		02
Macronutrients including energy			
Energy			
ENERC(kJ) (original)	energy, total metabolizable; calculated from the energy-producing food components (original as from source)	kJ	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 12
ENERC(kcal) (original)	energy, total metabolizable; calculated from the energy-producing food components (original as from source)	kcal	01, 02, 04, 05, 06, 07, 09, 10
ENERA(kJ)	energy, gross; determined by direct analysis using bomb calorimetry	g	01, 07
ENERA(kcal)	energy, gross; determined by direct analysis using bomb calorimetry	kcal	01, 06, 07, 09
Alcohol			
ALC(g)	alcohol; assumed to be ethyl alcohol	g	01
Protein			
Individual amino acids and aggregations			
AAE8(mg)	amino acids, total essential (8)	mg	07
AAE-(mg)	amino acids, total essential; unknown or variable which AS are included in total	mg	01, 07, 09
AANE(mg)	amino acids, total non-essential	mg	07, 09
AAA(mg)	amino acids, total aromatic	mg	07
AAS(mg)	amino acids, total sulphur-containing	mg	07, 09
AAT-(mg)	amino acids, total; precise definition not specified	mg	04, 07, 09
AAT19(mg)	sum of 19 amino acids (excluding tryptophan)	mg	07
AAT24(mg)	amino acids, total	mg	06
ALA(mg)	alanine	mg	01, 02, 03, 04, 05, 06, 07, 09, 10
ARG(mg)	arginine	mg	01, 02, 03, 04, 05, 06, 07, 09, 10
ASN(mg)	asparagine	mg	01, 02, 04, 06, 07, 09
ASP(mg)	aspartic acid	mg	01, 02, 03, 04, 05, 06, 07, 09, 10
CYS(mg)	cystine	mg	01, 02, 04, 05, 06, 07, 09, 10
CYSTE(mg)	cysteine	mg	05, 07
GLN(mg)	glutamine	mg	01, 02, 06, 07, 09
GLU(mg)	glutamic acid	mg	01, 02, 03, 04, 05, 06, 07, 09, 10

Component ID/Tagname	Component name	Unit	Food group in which used
GLY(mg)	glycine	mg	01, 02, 03, 04, 05, 06, 07, 09, 10
HIS(mg)	histidine	mg	01, 02, 03, 04, 05, 06, 07, 09, 10
HYP(mg)	hydroxyproline	mg	09
ILE(mg)	isoleucine	mg	01, 02, 03, 04, 05, 06, 07, 09, 10
LEU(mg)	leucine	mg	01, 02, 03, 04, 05, 06, 07, 09, 10
LYS(mg)	lysine	mg	01, 02, 04, 05, 06, 07, 09, 10
MET(mg)	methionine	mg	01, 02, 03, 04, 05, 06, 07, 09, 10
ORN(mg)	ornithine	mg	07, 09
PHE(mg)	phenylalanine	mg	01, 02, 03, 04, 05, 06, 07, 09, 10
PRO(mg)	proline	mg	01, 02, 03, 04, 05, 06, 07, 09, 10
SER(mg)	serine	mg	01, 02, 03, 04, 05, 06, 07, 09, 10
TAU(mg)	taurine	mg	07, 09
THR(mg)	threonine	mg	01, 02, 03, 04, 05, 06, 07, 09, 10
TRP(mg)	tryptophan	mg	01, 02, 04, 05, 06, 07, 09
TYR(mg)	tyrosine	mg	01, 02, 03, 04, 05, 06, 07, 09, 10
VAL(mg)	valine	mg	01, 02, 03, 04, 05, 06, 07, 09, 10
GLU_A_HIS(mg)	glutamine + histidine	mg	09
ALA_A_ARG(mg)	alanine + arginine	mg	09
PHE_A_TYR(mg)	phenylalanine + tyrosine	mg	01
GLY_A_SER(mg)	glycine + serine	mg	07
Nitrogen and protein expressions, conversion factors			
NPRO(g)	nitrogen, protein	g	06, 09
NNP(mg)	nitrogen, non-protein	mg	06, 09, 10
NWHEY(g)	nitrogen, whey protein	g	10
NNC(g)	nitrogen, non-casein	g	10
NT(g)	nitrogen, total	g	01, 02, 05, 06, 07, 09, 10
NFIBAD(g)	acid detergent fibre nitrogen	g	07
PROTCNT(g)	protein, total; calculated from total nitrogen	g	01, 02, 03, 04, 05, 06, 07, 08, 09, 12
PROTCNA(g)	protein, total; calculated from amino nitrogen	g	06
PROTCNP(g)	protein, total; calculated from protein nitrogen	g	05, 09
PROT-(g)	protein, total; method of determination unknown or variable	g	01, 02, 04, 05, 06, 07, 09
XN	conversion factor to calculate total protein from nitrogen		01, 02, 03, 04, 05, 06, 07, 09, 10
Protein components			
CASN(mg)	casein	mg	10

Component ID/Tagname	Component name	Unit	Food group in which used
LACFE(mg)	lactoferrin	mg	10
Other nitrogen-containing components			
AMMON(mg)	ammonia	mg	01, 07
CYAN(mcg)	cyanide	mcg	01, 02, 04, 05
Fat, fatty acids, fatty acid conversion factor			
FAT(g)	fat, total	g	01, 02, 03, 04, 05, 06, 07, 08, 09, 10
FATCE(g)	fat, total; derived by analysis using continuous extraction	g	01, 02, 03, 04, 05, 06, 07, 09, 10, 12
FAT-(g)	fat; method of determination unknown or mixed methods	g	01, 02, 03, 04, 05, 06, 07, 09, 10
TGLY(g)	triglycerides, total	g	09
XFA (internal use)	fatty acid conversion factor for internal use		01, 04, 06, 09, 10
Fatty acids			
F4D0(g)	fatty acid 4:0	g	09, 10
F6D0(g)	fatty acid 6:0	g	04, 07, 10
F8D0(g)	fatty acid 8:0	g	04, 07, 09, 10
F10D0(g)	fatty acid 10:0	g	04, 06, 07, 09, 10
F11D0(g)	fatty acid 11:0	g	09
F12D0(g)	fatty acid 12:0	g	01, 04, 06, 07, 09, 10
F13D0(g)	fatty acid 13:0	g	07, 09, 10
F13D0i(g)	fatty acid 13:0 iso	g	10
F14D0(g)	fatty acid 14:0	g	01, 04, 05, 06, 07, 09, 10
F14D0I(g)	fatty acid 14:0 iso	g	09, 10
F15D0(g)	fatty acid 15:0	g	01, 05, 07, 09, 10
F15D0I(g)	fatty acid 15:0 iso	g	07, 09, 10
F15D0AI(g)	fatty acid 15:0 anteiso	g	07, 09
F16D0(g)	fatty acid 16:0	g	01, 03, 04, 05, 06, 07, 09, 10
F16D0I(g)	fatty acid 16:0 iso	g	09, 10
F16D0AI(g)	fatty acid 16:0 anteiso	g	09
F17D0(g)	fatty acid 17:0	g	05, 06, 07, 09, 10
F17D0I(g)	fatty acid 17:0 iso	g	07, 09, 10
F17D0AI(g)	fatty acid 17:0 anteiso	g	07, 09
F18D0(g)	fatty acid 18:0	g	01, 04, 05, 06, 07, 09, 10
F18D0I(g)	fatty acid 18:0 iso	g	09
F18D0AI(g)	fatty acid 18:0 anteiso	g	09
F19D0(g)	fatty acid 19:0	g	07, 09
F20D0(g)	fatty acid 20:0	g	01, 04, 05, 06, 07, 09, 10
F21D0(g)	fatty acid 21:0	g	07, 09
F22D0(g)	fatty acid 22:0	g	01, 04, 05, 06, 07, 09, 10
F23D0(g)	fatty acid 23:0	g	07, 09
F24D0(g)	fatty acid 24:0	g	01, 04, 05, 06, 07, 09

Component ID/Tagname	Component name	Unit	Food group in which used
F26D0(g)	fatty acid 26:0	g	09
F30D0(g)	fatty acid 30:0	g	09
F10D1(g)	fatty acid 10:1	g	10
F12D1(g)	fatty acid 12:1	g	07, 09, 10
F14D1N9(g)	fatty acid 14:1 n-9	g	07, 09
F14D1N7(g)	fatty acid 14:1 n-7	g	09
F14D1CN5(g)	fatty acid 14:1 cis n-5	g	07, 10
F14D1N5(g)	fatty acid 14:1 n-5	g	07, 09, 10
F14D1T(g)	fatty acid 14:1 trans	g	10
F14D1(g)	fatty acid 14:1	g	05, 06, 07, 09, 10
F15D1N10(g)	fatty acid 15:1 n-10	g	07, 10
F15D1N9(g)	fatty acid 15:1 n-9	g	09
F15D1N8(g)	fatty acid 15:1 n-8	g	09
F15D1N7(g)	fatty acid 15:1 n-7	g	09
F15D1N6(g)	fatty acid 15:1 n-6	g	09
F15D1(g)	fatty acid 15:1	g	07, 09
F16D1N11(g)	fatty acid 16:1 n-11	g	09
F16D1CN9(g)	fatty acid 16:1 cis n-9	g	10
F16D1N9(g)	fatty acid 16:1 n-9	g	07, 09
F16D1N8(g)	fatty acid 16:1 n-8	g	09
F16D1CN7(g)	fatty acid 16:1 cis n-7	g	04, 05, 07, 09, 10
F16D1TN7(g)	fatty acid 16:1 trans n-7	g	07, 09
F16D1N7(g)	fatty acid 16:1 n-7	g	07, 09
F16D1N5(g)	fatty acid 16:1 n-5	g	09
F16D1C(g)	fatty acid 16:1 cis	g	07, 10
F16D1T(g)	fatty acid 16:1 trans	g	10
F16D1(g)	fatty acid 16: 1	g	01, 04, 05, 06, 07, 09, 10
F17D1N10(g)	fatty acid 17:1 n-10	g	07
F17D1N9(g)	fatty acid 17:1 n-9	g	09, 10
F17D1CN8(g)	fatty acid 17:1 cis n-8	g	07
F17D1N8(g)	fatty acid 17:1 n-8	g	09
F17D1CN7(g)	fatty acid 17:1 cis n-7	g	07, 09
F17D1N7(g)	fatty acid 17:1 n-7	g	07, 09
F17D1N5(g)	fatty acid 17:1 n-5	g	09
F17D1(g)	fatty acid 17:1	g	04, 06, 07, 09, 10
F18D1CN11(g)	fatty acid 18:1 cis n-11	g	09, 10
F18D1TN11(g)	fatty acid 18:1 trans n-11	g	07, 10
F18D1N11(g)	fatty acid 18:1 n-11	g	07, 09
F18D1CN9(g)	fatty acid 18:1 cis n-9	g	07, 09, 10
F18D1TN9(g)	fatty acid 18:1 trans n-9	g	07, 09, 10
F18D1N9(g)	fatty acid 18:1 n-9	g	04, 05, 06, 07, 09, 10
F18D1TN8(g)	fatty acid 18:1 trans n-8	g	07
F18D1CN7(g)	fatty acid 18:1 cis n-7	g	05, 07

Component ID/Tagname	Component name	Unit	Food group in which used
F18D1TN7(g)	fatty acid 18:1 trans n-7	g	07
F18D1N7(g)	fatty acid 18:1 n-7	g	07, 09, 10
F18D1CN6(g)	fatty acid 18:1 cis n-6	g	07
F18D1TN6(g)	fatty acid 18:1 trans n-6	g	07
F18D1CN5(g)	fatty acid 18:1 cis n-5	g	07
F18D1N5(g)	fatty acid 18:1 n-5	g	09
F18D1N6(g)	fatty acid 18:1 n-6	g	09
F18D1CN4(g)	fatty acid 18:1 cis n-4	g	07
F18D1CN3(g)	fatty acid 18:1 cis n-3	g	07
F18D1TN3(g)	fatty acid 18:1 trans n-3	g	07
F18D1TN2(g)	fatty acid 18:1 trans n-2	g	07
F18D1C(g)	fatty acid 18:1 cis	g	10
F18D1T(g)	fatty acid 18:1 trans	g	07, 09, 10
F18D1(g)	fatty acid 18:1	g	01, 04, 05, 06, 07, 09, 10
F19D1N11(g)	fatty acid 19:1 n-11	g	09
F19D1N10(g)	fatty acid 19:1 n-10	g	09
F20D1N12(g)	fatty acid 20:1 n-12	g	09
F20D1CN11(g)	fatty acid 20:1 n-11	g	04, 05, 07
F20D1N11(g)	fatty acid 20:1 n-11	g	09, 10
F20D1CN9(g)	fatty acid 20:1 cis n-9	g	07, 09
F20D1N9(g)	fatty acid 20:1 n-9	g	07, 09
F20D1N8(g)	fatty acid 20:1 n-8	g	09
F20D1N7(g)	fatty acid 20:1 n-7	g	09
F20D1T(g)	fatty acid 20:1 trans	g	09
F20D1(g)	fatty acid 20:1	g	01, 04, 05, 06, 07, 09, 10
F22D1N11(g)	fatty acid 22:1 n-11	g	09
F22D1N9(g)	fatty acid 22:1 n-9	g	09
F22D1N7(g)	fatty acid 22:1 n-7	g	09
F22D1T(g)	fatty acid 22:1 trans	g	09
F22D1(g)	fatty acid 22:1	g	01, 05, 06, 07, 09
F24D1N11(g)	fatty acid 24:1 n-11	g	09
F24D1CN9(g)	fatty acid 24:1 cis n-9	g	07, 09
F24D1N9(g)	fatty acid 24:1 n-9	g	09
F24D1(g)	fatty acid 24:1	g	01, 07, 09, 10
F16D2N9(g)	fatty acid 16:2 n-9	g	09
F16D2N7(g)	fatty acid 16:2 n-7	g	09
F16D2N6(g)	fatty acid 16:2 n-6	g	07, 09
F16D2N4(g)	fatty acid 16:2 n-4	g	09
F16D2(g)	fatty acid 16:2	g	09
F17D2(g)	fatty acid 17:2	g	09
F18D2C9T11(g)	fatty acid 18:2 n-7 cis9, trans11, conjugated	g	07
F18D2T10C12(g)	fatty acid 18:2 n-6 trans10, cis12, conjugated	g	07, 10
F18D2TCON(g)	fatty acid 18:2 conjugated cis, trans, position	g	07, 10

Component ID/Tagname	Component name	Unit	Food group in which used
	unknown		
F18D2TTN6(g)	fatty acid 18:2 trans, trans n-6	g	10
F18D2CN6(g)	fatty acid 18:2 cis n-6	g	04, 05, 06, 07, 09, 10
F18D2TN6(g)	fatty acid 18:2 trans n-6	g	07, 09, 10
F18D2N6(g)	fatty acid 18:2 n-6	g	05, 06, 07, 09, 10
F18D2N5(g)	fatty acid 18:2 n-5	g	09
F18D2N4(g)	fatty acid 18:2 n-4	g	09
F18D2(g)	fatty acid 18:2	g	01, 03, 04, 06, 07, 09, 10
F20D2N9(g)	fatty acid 20:2 n-9	g	09
F20D2CN6(g)	fatty acid 20:2 cis n-6	g	09, 10
F20D2N6(g)	fatty acid 20:2 n-6	g	05, 06, 07, 09, 10
F20D2C(g)	fatty acid 20:2 cis	g	09
F20D2(g)	fatty acid 20:2	g	01, 07, 09
F22D2N9(g)	fatty acid 22:2 n-9	g	09
F22D2CN6(g)	fatty acid 22:2 cis n-6	g	07
F22D2N6(g)	fatty acid 22:2 n-6	g	07, 09
F22D2C(g)	fatty acid 22:2 cis	g	09
F22D2(g)	fatty acid 22:2	g	09
F16D3N6(g)	fatty acid 16:3 n-6	g	09
F16D3N4(g)	fatty acid 16:3 n-4	g	09
F16D3N3(g)	fatty acid 16:3 n-3	g	09
F18D3CN6(g)	fatty acid 18:3 cis n-6	g	07, 09, 10
F18D3N6(g)	fatty acid 18:3 n-6	g	07, 09, 10
F18D3N4(g)	fatty acid 18:3 n-4	g	09
F18D3CN3(g)	fatty acid 18:3 cis n-3	g	04, 05, 06, 07, 10
F18D3TN3(g)	fatty acid 18:3 trans n-3	g	09
F18D3N3(g)	fatty acid 18:3 n-3	g	05, 06, 07, 09, 10
F18D3(g)	fatty acid 18:3	g	01, 03, 04, 06, 07, 09, 10
F20D3N9(g)	fatty acid 20:3 n-9	g	09
F20D3N6(g)	fatty acid 20:3 n-6	g	05, 06, 07, 09
F20D3N3(g)	fatty acid 20:3 n-3	g	07, 09, 10
F20D3(g)	fatty acid 20:3	g	07, 09
F22D3N6(g)	fatty acid 22:3 n-6	g	07
F22D3N3(g)	fatty acid 22:3 n-3	g	09
F16D4N3(g)	fatty acid 16:4 n-3	g	09
F16D4N1(g)	fatty acid 16:4 n-1	g	09
F16D4(g)	fatty acid 16:4	g	09
F18D4N6(g)	fatty acid 18:4 n-6	g	09
F18D4CN3(g)	fatty acid 18:4 cis n-3	g	07
F18D4N3(g)	fatty acid 18:4 n-3	g	05, 06, 07, 09, 10
F18D4N1(g)	fatty acid 18:4 n-1	g	09
F18D4(g)	fatty acid 18:4	g	09
F20D4CN6(g)	fatty acid 20:4 cis n-6	g	07, 09, 10

Component ID/Tagname	Component name	Unit	Food group in which used
F20D4N6(g)	fatty acid 20:4 n-6	g	05, 06, 07, 09
F20D4N3(g)	fatty acid 20:4 n-3	g	07, 09, 10
F20D4(g)	fatty acid 20:4	g	01, 07, 09
F22D4N9(g)	fatty acid 22:4 n-9	g	09
F22D4N6(g)	fatty acid 22:4 n-6	g	05, 06, 07, 09
F22D4N3(g)	fatty acid 22:4 n-3	g	09
F22D4(g)	fatty acid 22:4	g	09, 10
F20D5CN3(g)	fatty acid 20:5 cis n-3	g	07, 09, 10
F20D5N3(g)	fatty acid 20:5 n-3	g	05, 06, 07, 09, 10
F20D5(g)	fatty acid 20:5	g	09
F20D6 (g)	fatty acid 20:6		07
F21D5N3(g)	fatty acid 21:5 n-3	g	09
F22D5N6(g)	fatty acid 22:5 n-6	g	09
F22D5N3(g)	fatty acid 22:5 n-3	g	05, 06, 07, 09
F22D5(g)	fatty acid 22:5	g	09
F22D6N6(g)	fatty acid 22:6 n-6	g	10
F22D6CN3(g)	fatty acid 22:6 cis n-3	g	05, 07, 09
F22D6N3(g)	fatty acid 22:6 n-3	g	05, 06, 07, 09, 10
F22D6(g)	fatty acid 22:6	g	07, 09
F24D6N3(g)	fatty acid 24:6 n-3	g	09
F16D1N5_A_F16D1N7(g)	fatty acid 16:1 n-5 + fatty acid 16:1 n-7	g	09
F16D1N7_A_F16D1N9(g)	fatty acid 16:1 n-7 + fatty acid 16:1 n-9	g	09
F18D1N7_A_F18D1N9(g)	fatty acid 18:1 n-7 + fatty acid 18:1 n-9	g	09
F20D1N7_A_F20D1N9(g)	fatty acid 20:1 n-7 + fatty acid 20:1 n-9	g	09
F20D1N9_A_F20D1N11(g)	fatty acid 20:1 n-9 + fatty acid 20:1 n-11	g	09
F22D1N9_A_F22D1N11(g)	fatty acid 22:1 n-9 + fatty acid 22:1 n-11	g	09
F18D1TN10_A_F18D1TN12(g)	fatty acid 18:1 trans n-10 + fatty acid 18:1 trans n-12	g	07
F18D1TN4_A_F18D1TN5(g)	fatty acid 18:1 trans n-4 + fatty acid 18:1 trans n-5	g	07
F20D3N3_A_F20D4N6(g)	fatty acid 20:3 n-3 + fatty acid 20:4 n-6	g	07
F18D2C9T11_A_F18D2T10C12(g)	fatty acid 18:2 n-7, cis9, trans11, conjugated + fatty acid 18:2 n-6, trans10, cis12, conjugated	g	10
F20D1N11_A_F20D1N13(g)	fatty acid 20:1 n-11 + fatty acid 20:1 n-13	g	09
F22D1N11_A_F22D1N13(g)	fatty acid 22:1 n-11 + fatty acid 22:1 n-13	g	09
FACID(g)	fatty acids, total	g	01, 07, 09
FASAT(g)	fatty acids, total saturated	g	01, 04, 05, 07, 09, 10
FAMS(g)	fatty acids, total monounsaturated	g	05, 07, 09, 10

Component ID/Tagname	Component name	Unit	Food group in which used
FAPU(g)	fatty acids, total polyunsaturated	g	01, 04, 05, 07, 09, 10
FATRN(g)	fatty acids, total trans	g	09, 10
FAUN(g)	other fatty acids, not specified	g	01, 07, 09
FAPUN9(g)	fatty acids, total n-9 polyunsaturated	g	09
FAPUCN9(g)	fatty acids, total n-9 polyunsaturated in cis configuration	g	09
FAPUN6(g)	fatty acids, total n-6 polyunsaturated	g	07, 09, 10
FAPUCN6(g)	fatty acids, total n-6 polyunsaturated in cis configuration	g	09
FAPUN3(g)	fatty acids, total n-3 polyunsaturated	g	07, 09, 10
FAPUCN3(g)	fatty acids, total n-3 polyunsaturated in cis configuration	g	09
FAPULCCN3(g)	fatty acids, total n-3 long-chain polyunsaturated in cis configuration	g	09
FAN6(g)	fatty acid, total n-6	g	09
FAN3(g)	fatty acid, total n-3	g	09
FAFRE(g)	fatty acids, total free	g	09
Fat components			
DGLY(g)	diglycerides, total	g	09
MGLY(g)	monoglycerides, total	g	09
Glycolipids			
GLYLIP(g)	glycolipids, total	g	07
Phospholipids			
PHOLIP(g)	phospholipids, total	g	07, 09
Carbohydrates, carbohydrate fractions			
CHOAVLDF(g)	carbohydrate, available; calculated by difference	g	01, 02, 03, 04, 05, 06, 07, 08, 09, 12
CHOAVL(g)	carbohydrate, available	g	02, 05
CHOAVLM(g)	carbohydrate, available; expressed as monosaccharide equivalents	g	05, 06
CHOCDF(g)	carbohydrate, total; calculated by difference	g	01, 02, 04, 05, 06, 07, 08, 09
CHO-(g)	carbohydrate; method of determination unknown or variable	g	01, 02, 04, 05, 06, 07, 09
Sugars			
SUGAR(g)	sugars, total	g	01, 02, 04, 05, 06
SUGARM(g)	sugars, total; expressed as monosaccharide equivalents	g	06
SUGRD(g)	sugars, reducing	g	02, 05, 06
SUGNRD(g)	sugars, non-reducing	g	01, 02, 05, 06
SUGAR-(g)	sugars, total; expression unknown	g	01, 06
Monosaccharides			
FRUS(g)	fructose	g	01, 02, 03, 06,
GLUS(g)	glucose	g	01, 02, 06, 10
XYLS(g)	xylose	g	01, 05, 06
Disaccharides			

Component ID/Tagname	Component name	Unit	Food group in which used
SUCS(g)	sucrose	g	01, 02, 04, 06, 09
TRES(g)	trehalose	g	05
MALS(g)	maltose	g	01
LACS(g)	lactose	g	10
Oligosaccharides			
RAFSM(g)	raffinose; expressed as monosaccharide equivalents	g	01
RAFS(g)	Raffinose	g	01
STASM(g)	stachyose; expressed as monosaccharide equivalents	g	01
Polysaccharides			
AMYS(g)	amylose	g	01, 02
GLYC(g)	glycogen	g	07, 09
STARCH(g)	starch, available	g	01, 02, 03, 04, 06,
STARCHM(g)	starch, available; expressed as monosaccharide equivalents	g	06
STARES(g)	starch, resistant	g	01
STARES3(g)	starch, resistant RS3	g	03
STARCH-(g)	starch, available; expression unknown	g	01, 02
Dietary fibre, fibre, dietary fibre fractions			
FIBTG(g)	fibre, total dietary; determined gravimetrically by the AOAC total dietary fibre method (Prosky and similar methods)	g	01, 02, 04, 05, 06
FIBTS(g)	fibre, total dietary; sum of non-starch polysaccharide components and lignin (Southgate colorimetric procedure)	g	01, 02, 05, 06
FIBND(g)	fibre; determined by neutral detergent method	g	01, 02, 03, 04, 05, 06, 07, 08, 09
FIBAD(g)	fibre; determined by acid detergent method	g	01, 02, 03, 05, 06, 07
FIBC(g)	fibre, crude	g	01, 02, 03, 04, 05, 06, 07, 09, 12
FIB-(g)	fibre; method of determination unknown or variable	g	01, 02, 04, 05, 06, 07
NSP(g)	polysaccharides, non-starch (Englyst method)	g	05, 06
Dietary fibre fractions			
FIBINS(g)	fibre, water-insoluble	g	01, 02, 05, 06
FIBSOL(g)	fibre, water-soluble	g	01, 02, 05, 06
PECT(g)	pectin	g	06
CELLU(g)	cellulose	g	02, 05, 06, 07
LIGN(g)	lignin	g	05, 06, 07
HEMCEL(g)	hemicellulose	g	05
MUCIL(g)	mucilage	g	02
CHITIN(g)	chitin	g	07
PSACNC(g)	polysaccharides, non-cellulosic	g	06
WAX(mg)	wax, total	mg	09

Component ID/Tagname	Component name	Unit	Food group in which used
Water			
WATER(g)	water	g	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 12
DM(g)	dry matter	g	01, 04, 05, 09
Ash and other solids			
ASH(g)	ash	g	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 12
Polyols			
MANTL(mg)	mannitol	mg	05
SORTL(mg)	sorbitol	mg	06
Organic acids			
ACEAC(mg)	acetic acid	mg	06
BENAC(mg)	benzoic acid	mg	01
FUMAC(mg)	fumaric acid	mg	02, 06
MALAC(mg)	malic acid	mg	02, 05, 06
OXALAC(mg)	oxalic acid	mg	01, 02, 03, 04, 05
PHYTAC(mg)	phytic acid	mg	01, 02, 04, 05, 0(
QUINAC(mg)	quinic acid	mg	06
SALAC(mg)	salicylic acid	mg	02
SHIKAC(mg)	shikimic acid	mg	06
SUCAC(mg)	succinic acid	mg	06
TARAC(mg)	tartaric acid	mg	02
OA(g)	organic acids, total	g	06

Minerals and trace elements

Component ID/Tagname	Component name	Unit	Food group in which used
AG(mcg)	silver	mcg	09
B(mcg)	boron	mcg	06
BRD(mcg)	bromide	mcg	09
CA(mg)	calcium	mg	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 12
CLD(mg)	chloride	mg	01, 02, 05, 06, 07, 09, 10
CO(mcg)	cobalt	mcg	01, 05, 06, 09
CR(mcg)	chromium	mcg	01, 02, 04, 05, 06, 07, 09
CS(mcg)	cesium	mcg	09
CU(mg)	copper	mg	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 12
FD(mcg)	flouride	mcg	09
FE(mg)	iron, total	mg	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 12

Component ID/Tagname	Component name	Unit	Food group in which used
ID(mcg)	Iodine	mcg	07, 09
K(mg)	potassium	mg	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 12
LI(mcg)	lithium	mcg	01, 09
MG(mg)	magnesium	mg	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 12
MN(mg)	manganese	mg	01, 02, 03, 04, 05, 06, 07, 09, 12
MO(mcg)	molybdenum	mcg	04, 06, 07, 09
NA(mg)	sodium	mg	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 12
NACL(mg)	salt	mg	09
NI(mcg)	nickel	mcg	01, 02, 05, 06, 09
P(mg)	phosphorus	mg	01, 02, 03, 04, 05, 06, 07, 09, 10, 12
RB(mg)	rubidium	mg	02, 09
S(mg)	sulphur	mg	01, 02, 05, 06, 07, 09
SE(mcg)	selenium	mcg	01, 05, 06, 07, 09
SI(mcg)	silicon	mcg	01
SN(mcg)	tin	mcg	09
TI(mcg)	titanum	mcg	09
V(mcg)	vanadium	mcg	06, 09
ZN(mg)	zink	mg	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 12

Toxic trace elements and contaminants			
AL(mcg)	aluminium	mcg	01, 05, 09
AS(mcg)	arsenic	mcg	01, 07, 09
BA(mcg)	barium	mcg	07, 09
CD(mcg)	cadmium	mcg	01, 07, 09
HG(mcg)	mercury	mcg	01, 09
NITRA(mg)	nitrates	mg	02, 06, 05
NITRI(mg)	nitrites	mg	02, 06
PB(mcg)	lead	mcg	01, 02, 04, 05, 06, 07, 09, 10
SR(mcg)	strontium	mcg	07, 09

Vitamins

Fat-soluble vitamins			
Vitamin A, retinol			
VITA_RAE(mcg)	vitamin A retinol activity equivalent (RAE); calculated by summation of the vitamin A activities of retinol and the active carotenoids	mcg	01, 02, 05, 06, 09, 10
VITA(mcg)	vitamin A; calculated by summation of the vitamin A activities of retinol and the active carotenoids	mcg	02, 04, 05, 06
RETOL(mcg)	retinol	mcg	07, 09

Component ID/Tagname	Component name	Unit	Food group in which used
RETOL(IU)	retinol	IU	07
RETOL13(mcg)	13-cis retinol	mcg	09
RETOLDH(mcg)	dehydroretinol	mcg	07, 09
RETOLSUM(mcg)	summation, retinol = trans-retinol + cis-retinol	mcg	09
VITA-(mcg)	vitamin A; method of determination unknown	mcg	02, 05, 06, 07, 09
VITA-(IU)	vitamin A; method unknown or variable	IU	02, 07
Carotenoids			
ANTHX(mcg)	antheraxanthin	mcg	02
ATX(mcg)	astaxanthin	mcg	09
CAROT(mcg)	carotene, total trans	mcg	02, 05, 06, 07, 12
CARTA(mcg)	alpha-carotene	mcg	02, 04, 05, 06, 07, 09
CARTB(mcg)	beta-carotene	mcg	01, 02, 04, 05, 06, 07, 09
CARTBCIS(mcg)	beta-carotene cis	mcg	02, 05, 06, 07
CARTBEQ(mcg)	beta-carotene equivalents	mcg	02, 05, 06
CARTG(mcg)	gamma-carotene	mcg	05, 06
CARTOID(mcg)	carotenoids, total	mcg	01, 02, 05, 04, 06, 09
CRYPX(mcg)	cryptoxanthin, total	mcg	02, 05, 06
CRYPXA(mcg)	alpha-cryptoxanthin	mcg	06
CRYPXB(mcg)	beta-cryptoxanthin	mcg	02, 05, 06, 07
LUTN(mcg)	lutein	mcg	02, 05, 06, 07
LUTNZEA(mcg)	lutein+zeaxanthin	mcg	06
LYCPN(mcg)	lycopene	mcg	01, 02, 05, 06, 07
NEOX(mcg)	neoxanthin	mcg	02, 05
NEUROSP(mcg)	neurosporene	mcg	05, 06
VIOLX(mcg)	violaxanthin	mcg	02, 05, 06
ZEA(mcg)	zeaxanthin	mcg	02, 05, 06, 07, 09
Vitamin D			
CHOCAL(mcg)	cholecalciferol (D3)	mcg	09
CHOCAL(IU)	cholecalciferol (D3)	IU	07
CHOCALOH(mcg)	25-hydroxycholecalciferol	mcg	09
ERGCAL(mcg)	Ergocalciferol (D2)	mcg	09
VITD-(mcg)	vitamin D; method unknown or variable	mcg	07
Vitamin E			
VITE(mg)	vitamin E; calculated by summation of the vitamin E activities of the active tocopherols and tocotrienols; expressed as alpha-tocopherol equivalents	mg	01, 02, 06
TOCPHA(mg)	alpha-tocopherol	mg	01, 04, 06, 07, 09, 10
TOCPHA(IU)	alpha-tocopherol	IU	07
TOCPHG(mg)	gamma-tocopherol	mg	04, 06
TOCPHD(mg)	delta-tocopherol	mg	04, 06
TOCTRA(mg)	alpha-tocotrienol	mg	06

Component ID/Tagname	Component name	Unit	Food group in which used
TOCTRD(mg)	delta-tocotrienol	mg	06
VITE-(mg)	vitamin E; method or determination unknown or variable	mg	01, 07
VITE-(IU)	vitamin E; method or determination unknown or variable	IU	07
VITEA(IU)	Vitamin E; determined by bioassay	IU	01
Vitamin K			
VITK(mcg)	vitamin K, total	mcg	02, 09
VITK1 (mcg)	Vitamin K-1	mcg	09
VITK2 (mcg)	Vitamin K-2	mcg	09
Water-soluble vitamins			
Thiamin (vitamin B1)			
THIA(mg)	thiamin	mg	01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 12
THIA-(mg)	thiamin, unknown	mg	09
THIAHCL(mg)	vit B1 analysed and expressed as thiamin hydrochloride	mg	09
Riboflavin (vitamin B2)			
RIBF(mg)	riboflavin	mg	01, 02, 03, 04, 05, 06, 07, 09, 10, 12
Folate			
FOLSUM(mcg)	sum of folate vitamers; determined by HPLC	mcg	04
FOL(mcg)	folate, total	mcg	01, 02, 06, 09
FOL-(mcg)	folate; method unknown or variable	mcg	05, 06, 07, 09
FOLFRE(mcg)	folate, free	mcg	01
Niacin			
NIAEQ(mg)	niacin equivalents, total	mg	06, 07
NIA(mg)	niacin, preformed	mg	02.04, 06, 07, 09
NIA-(mg)	niacin; method or form unknown	mg	01, 02, 03, 04, 05, 06, 07, 09, 12
Pantothenic acid			
PANTAC(mg)	pantothenic acid	mg	01, 07, 09
Vitamin B6			
VITB6A(mg)	vitamin B-6, total; determined by analysis	mg	04, 09
VITB6-(mg)	vitamin B-6, method unknown or variable	mg	07
VITB6C(mg)	vitamin B-6, calculated	mg	09
PYRXN(mg)	pyridoxine	mg	07, 09
PYRXNHCL(mg)	pyridoxine hydrochloride	mg	09
Vitamin B12			
VITB12(mcg)	vitamin B-12	mcg	07, 09
Biotin			
BIOT(mcg)	biotin	mcg	07
Vitamin C			

Component ID/Tagname	Component name	Unit	Food group in which used
VITC(mg)	vitamin C	mg	02, 03, 04, 05, 06, 09, 10, 12
ASCL(mg)	L-ascorbic acid	mg	01, 02, 04, 05, 06, 09, 10
ASCDL(mg)	L-dehydroascorbic acid	mg	02, 05, 06
VITC-(mg)	vitamin C; method unknown or variable	mg	05, 06, 07

Sterols

STERT(mg)	sterols, total	mg	07, 09

Plant sterols

BRASTR(mg)	brassicasterol	mg	09
CAMT(mg)	campesterol, total	mg	09
SAPON(mg)	saponins	mg	01, 05, 06
SITSTR(mg)	sitosterol	mg	09
SQUAL(mg)	squalene	mg	07, 09
STGSTR(mg)	stigmasterol, unspecified	mg	09

Cholesterol

CHOLE(mg)	cholesterol; determined by enzymatic or chromatographic method	mg	07, 09, 10
CHOL-(mg)	cholesterol; method unknown or variable	mg	09, 10
CHOLEST(mg)	cholesteryl-ester, total	mg	09

Bioactive constituents

Flavonoids

ANTCYAN(mcg)	anthocyanidin, total	mcg	02, 06
FLAVD(mcg)	flavonoids, total	mcg	01, 02, 06
PAPOLY(mg)	proanthocyanidin polymers (>10mers)	mg	06

Flavanols/flavans

CATEC(mcg)	catechin	mcg	02, 06
CATECT(mcg)	catechins, total	mcg	06
EPICATEC(mcg)	epicatechin	mcg	02, 06
PROCYA(mcg)	procyanidins, total	mcg	06

Flavanones

HESPD(mcg)	hesperidin	mcg	06
NARING(mcg)	naringenin	mcg	05, 06

Flavones

LUTEOL(mcg)	luteolin	mcg	06

Flavonols

FLAVO(mg)	flavonols, total	mg	01, 02, 06
ISOHA(mcg)	isohamnetin	mcg	06
KAEMF(mcg)	kaempferol	mcg	01, 05, 06
MYRIC(mcg)	myricetin	mg	01, 06

Component ID/Tagname	Component name	Unit	Food group in which used
QUERCE(mcg)	quercetin	mcg	01, 05, 06
RUTIN(mcg)	rutin	mcg	06
Tannins			
TAN(mg)	tannins, total	mg	01, 02, 04, 05, 06
Phenolic acids			
CAFFAC(mg)	caffeic acid	mg	01, 02, 05, 06
CHLRAC(mg)	chlorogenic acid	mg	02, 05, 06
CINAC(mg)	cinnamic acids	mg	02, 05, 06
CITAC(mg)	citric acid	mg	02, 06
ELLAC(mg)	ellagic acid	mg	05, 06
FERAC(mg)	ferulic acid	mg	01, 02, 06
GALAAC(mg)	galacturonic acid	mg	05, 06
GALLAC(mg)	gallic acid	mg	02, 06
PCHOUAC(mg)	p-coumaric acid	mg	01, 02, 05, 06
SINPAC(mg)	sinapic acid	mg	02, 06
SYRAC(mg)	syringic acid	mg	02, 06
VANAC(mg)	vanillic acid	mg	01, 02, 05, 06
Other bioactive compounds			
RESVTROL(mcg)	resveratrol	mcg	06
Choline and derivatives			
CHOLN(mg)	choline, total	mg	07
Miscellaneous			
SOLAA(mg)	alpha-solanine	mg	02
GABA(mg)	gamma-aminobutyric acid	mg	01, 06
GLYALK(mg)	glycoalkaloids	mg	02

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