

Food Composition Databases Across the Globe: An Overview

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Disclosure Statement

In the interest of full disclosure, the ILSI Crop Composition Database, which will be discussed during this presentation, receives financial support from CropLife International.

Introduction

International, regional and national organizations, particularly governments, have developed food composition databases or tables (FCDBs) to provide information about the nutritional composition of foods relevant to a country or region.

FAO/INFOODS

- 18 Regional and Sub-Regional Data Centers

Most FCDBs and tables are in the public domain however there are some subscription databases as well *e.g.*, EuroFIR AISBL, Nutritionix

ILSI Research Foundation's efforts related to compositional data

World Nutrient Databases for Dietary Studies
(WNDDS)

ILSI Crop Composition Database (ILSI CCDB)

World Nutrient Databases for Dietary Studies (WNDDS)

An online resource of information about country, regional and international food composition databases and tables

Serves to aide users in their **initial assessment** of the scope and depth of nutritional composition data available for certain countries and regions



90 Food Composition Databases and Tables



92 Countries



24 Food Classifications



What is WNDDS?

Allows for assessment of available food composition data across national, regional, and international databases and tables

Query for specific indicators including

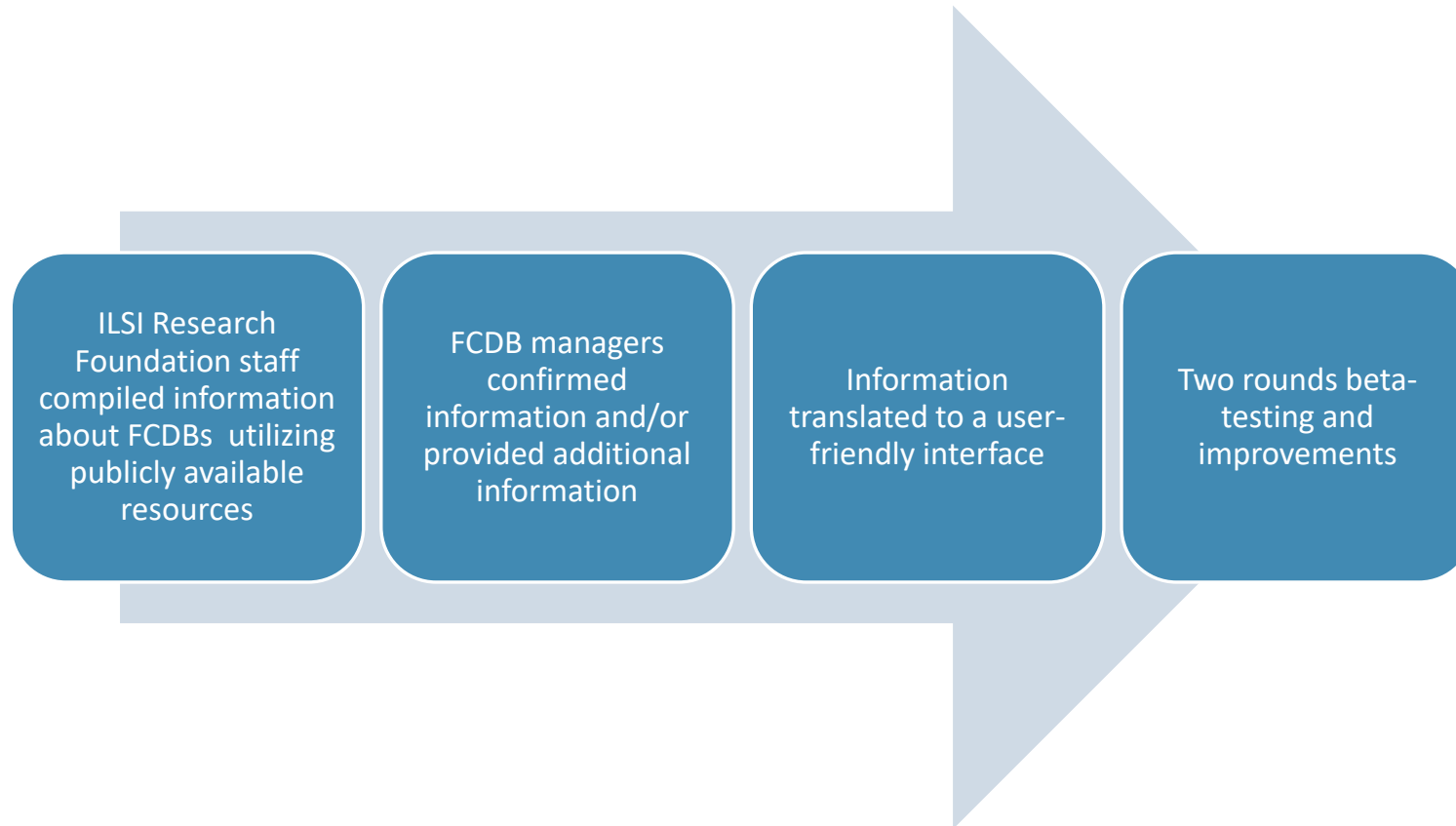
- Descriptive information
- Food classifications/groups
- Nutrients

Presents findings in multiple formats

Does not contain compositional data from databases or tables

Does not provide for in-depth analyses of existing data e.g., some indicators are binary

How was WNDDS developed?



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 ILSI Research Foundation 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 ILSI Research Foundation at WNDDS@ilsirf.org for more information.

Users of WNDDS

WNDDS was designed with researchers, dietitians, students, government officials, and database managers in mind. It serves to aid 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 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

ilsirf.org/resources/databases/wndds/

Food Composition Databases or Tables (FCDB) (2017)



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 composición de alimentos de Centroamérica
- West African Food Composition Tables

An example

A graduate student is looking for existing national-level food composition data for animal-sourced proteins, specifically meat, and key micronutrients, specifically iron, in Sub-Saharan Africa.



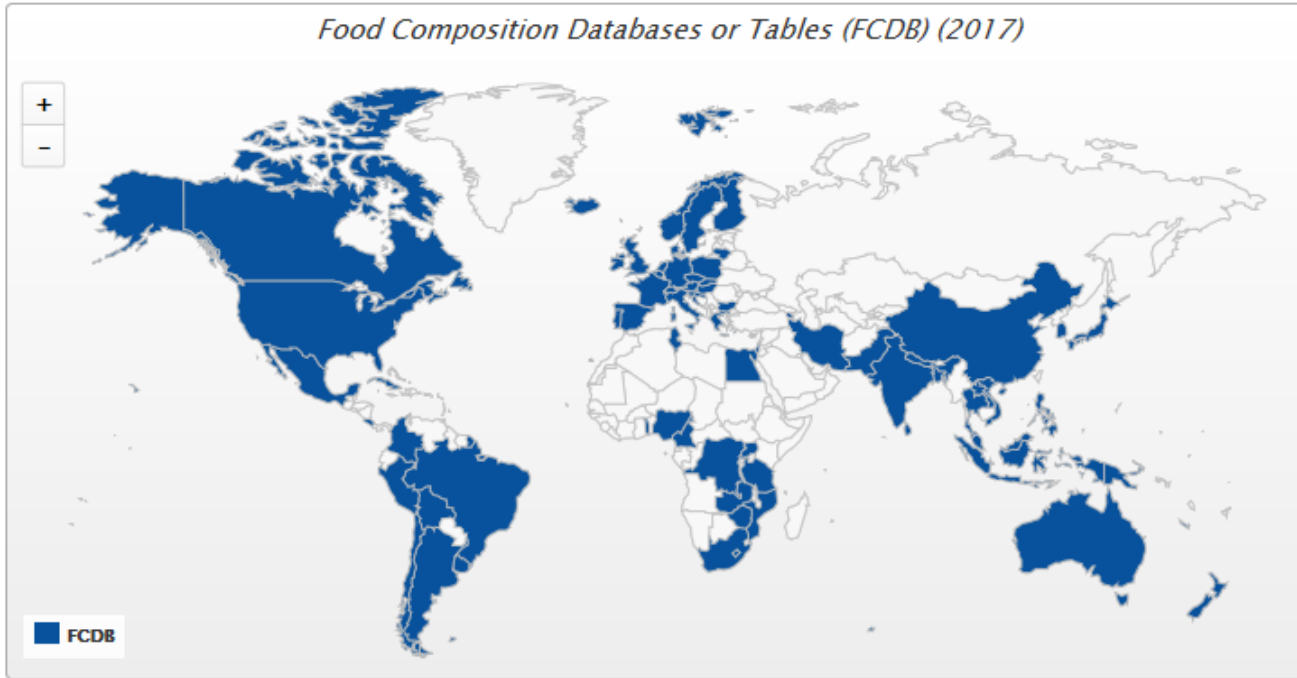
✓ Food Composition Databases or Tables (FCDB)
Name
Year Developed
Year Updated
Edition
Institution Managing the Table/Database
Contacts
Database or Table
Free/Subscription Access

All regions ▾ ⚙
Argentina
Armenia
ASEAN FOODS
Australia
Austria
Bahrain
Bangladesh
Belgium
Bolivia
Brazil

All regions ▾ ⚙
All regions
Custom region
Central Asia
East Asia & Pacific
Europe
Latin America & Caribbean
Middle East & North Africa
North America
South Asia
Sub-Saharan Africa



Food Composition Databases or Tables (FCDB) (2017)



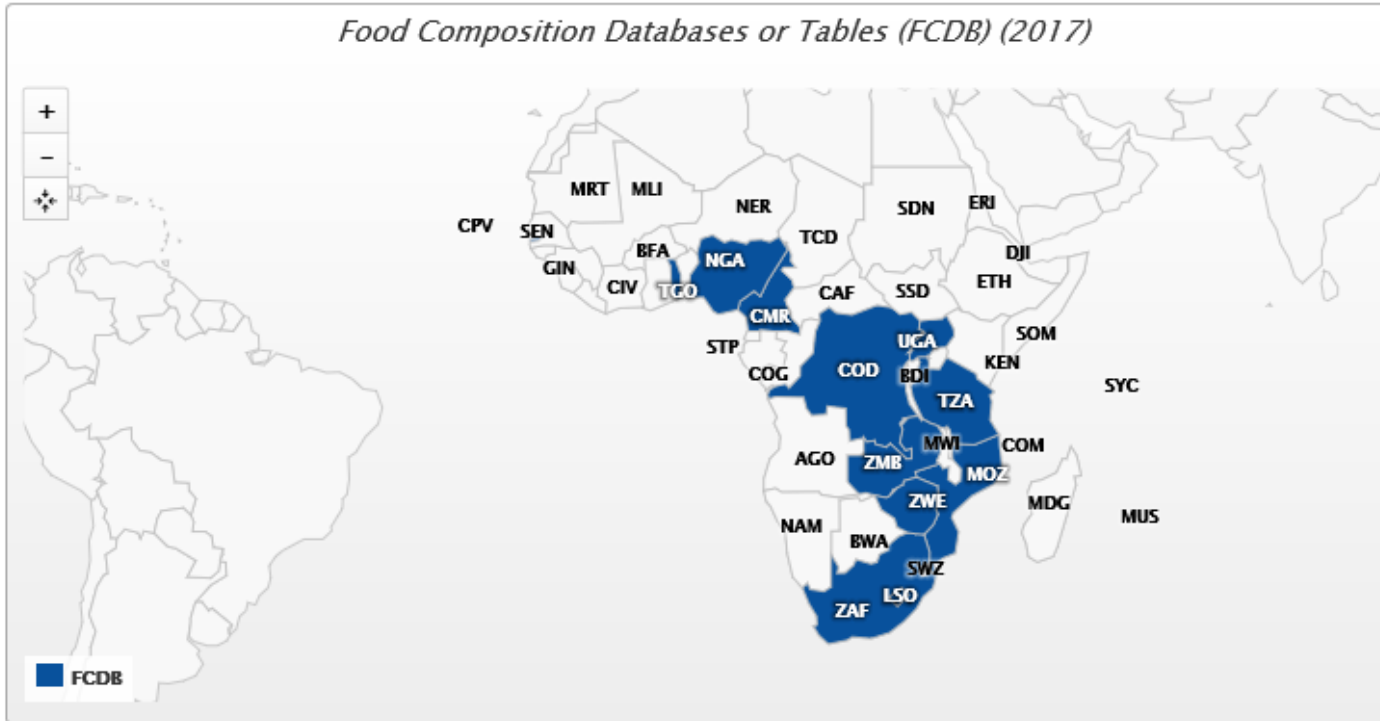
International and Regional Databases

- 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
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- West African Food Composition Tables

✓ Food Composition Databases or Tables (FCDB)
Name
Year Developed
Year Updated
Edition
Institution Managing the Table/Database
Contacts
Database or Table
Free/Subscription Access

Sub-Saharan Af...
Cameroon
Dem. Rep. of Congo
Gambia
Lesotho
Mozambique
Nigeria
South Africa
Togo
Uganda
United Republic of

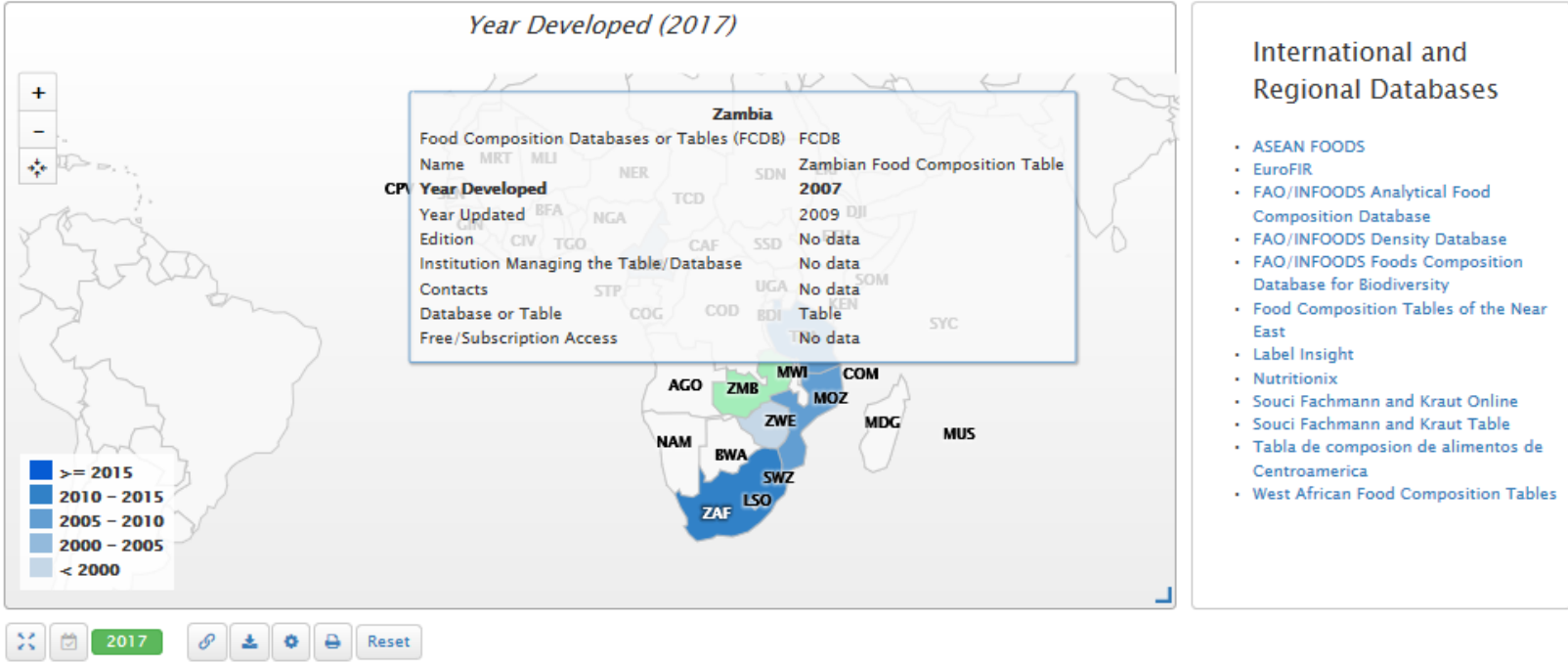
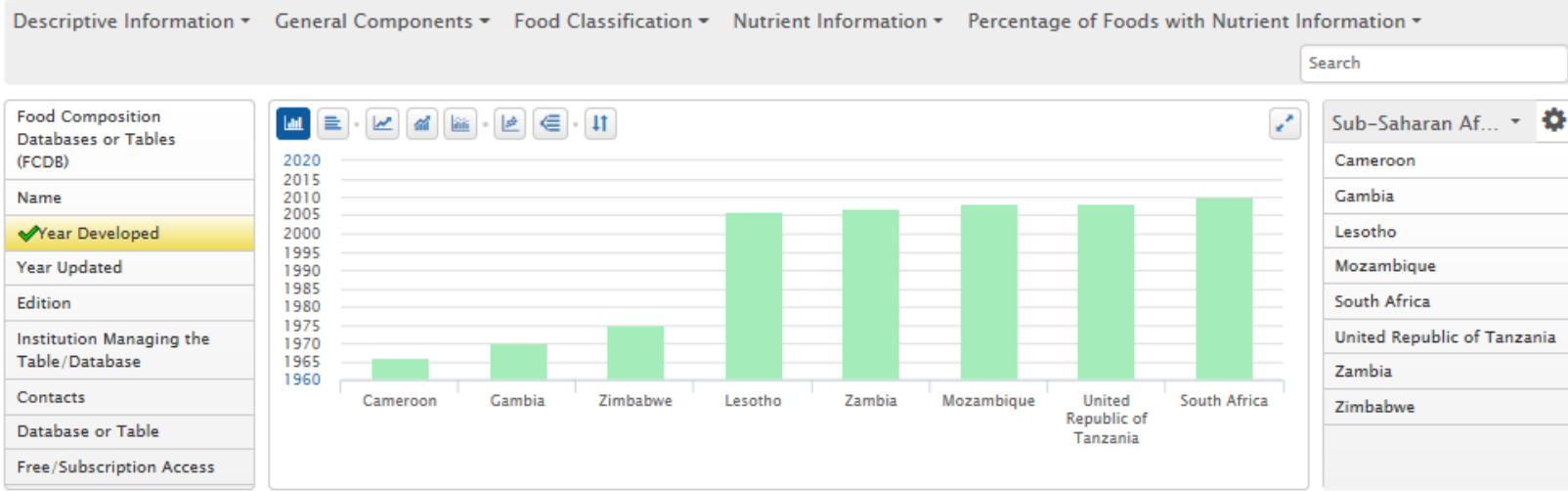
Food Composition Databases or Tables (FCDB) (2017)



International and Regional Databases

- [ASEAN FOODS](#)
- [EuroFIR](#)
- [FAO/INFOODS Analytical Food Composition Database](#)
- [FAO/INFOODS Density Database](#)
- [FAO/INFOODS Foods Composition Database for Biodiversity](#)
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- [Label Insight](#)
- [Nutritionix](#)
- [Souci Fachmann and Kraut Online](#)
- [Souci Fachmann and Kraut Table](#)
- [Tabla de composion de alimentos de Centroamerica](#)
- [West African Food Composition Tables](#)

2017



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

Food Composition Databases or Tables (FCDB)

Name

Year Developed

Year Updated

Edition

Institution Managing the Table/Database

Contacts

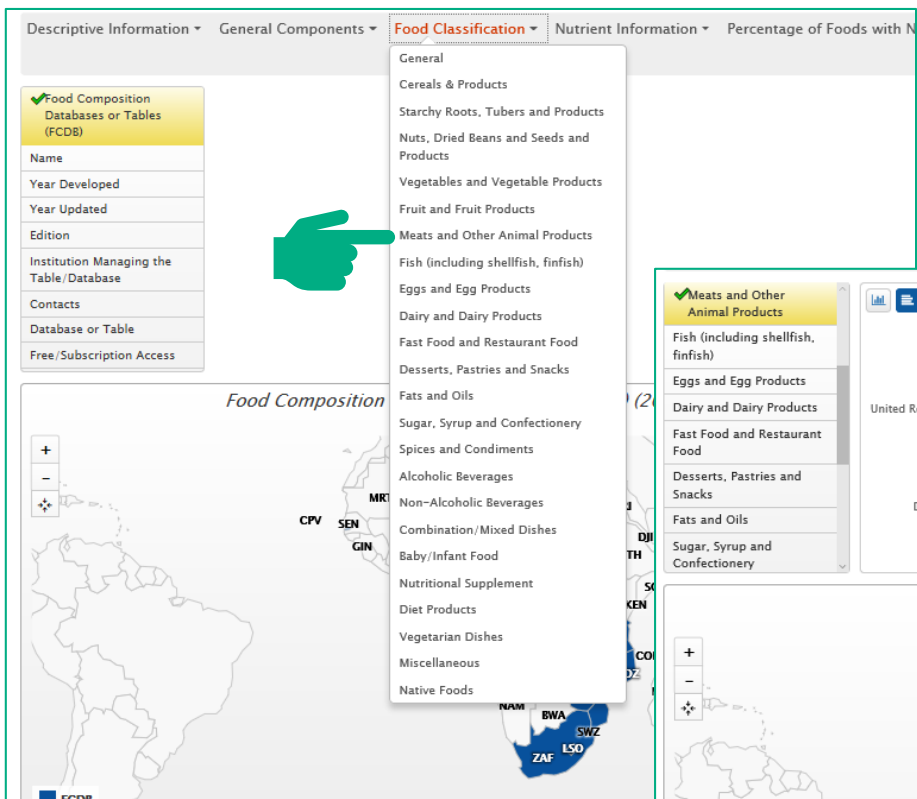
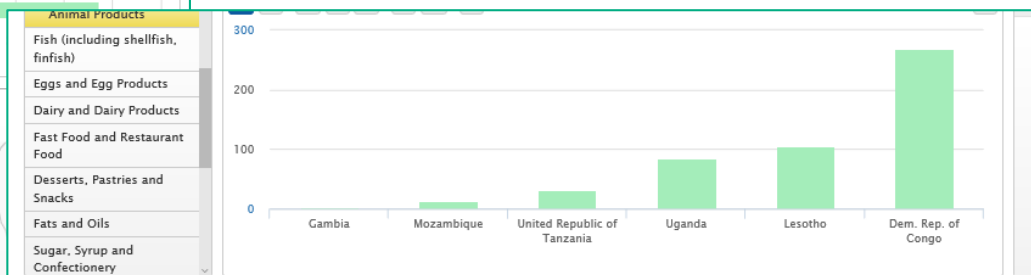
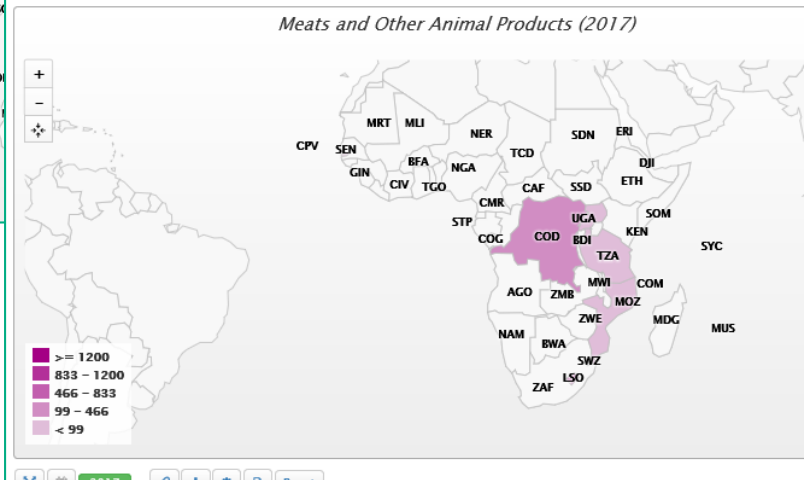
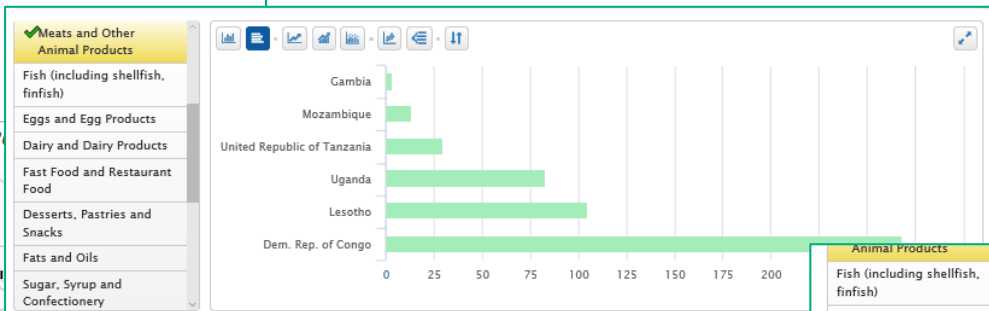
Database or Table

Free/Subscription Access

Food Classification

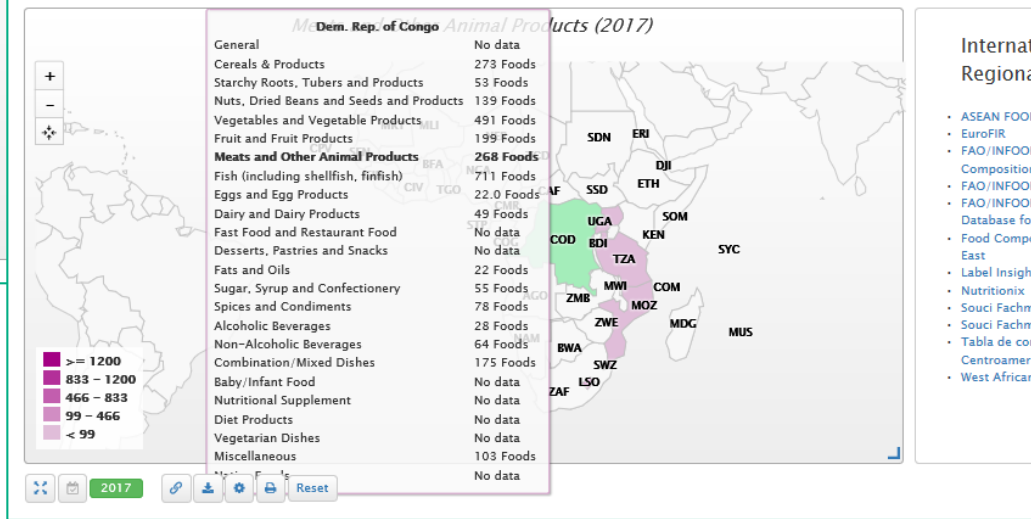
- General
- Cereals & Products
- Starchy Roots, Tubers and Products
- Nuts, Dried Beans and Seeds and Products
- Vegetables and Vegetable Products
- Fruit and Fruit Products
- Meats and Other Animal Products
- Fish (including shellfish, finfish)
- Eggs and Egg Products
- Dairy and Dairy Products
- Fast 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/Infant Food
- Nutritional Supplement
- Diet Products
- Vegetarian Dishes
- Miscellaneous
- Native Foods

Food Composition

Dem. Rep. of Congo Animal Products (2017)

General	No data
Cereals & Products	273 Foods
Starchy Roots, Tubers and Products	53 Foods
Nuts, Dried Beans and Seeds and Products	139 Foods
Vegetables and Vegetable Products	491 Foods
Fruit and Fruit Products	199 Foods
Meats and Other Animal Products	268 Foods
Fish (including shellfish, finfish)	711 Foods
Eggs and Egg Products	22.0 Foods
Dairy and Dairy Products	49 Foods
Fast Food and Restaurant Food	No data
Desserts, Pastries and Snacks	No data
Fats and Oils	22 Foods
Sugar, Syrup and Confectionery	55 Foods
Spices and Condiments	78 Foods
Alcoholic Beverages	28 Foods
Non-Alcoholic Beverages	64 Foods
Combination/Mixed Dishes	175 Foods
Baby/Infant Food	No data
Nutritional Supplement	No data
Diet Products	No data
Vegetarian Dishes	No data
Miscellaneous	103 Foods
	No data



Legend:

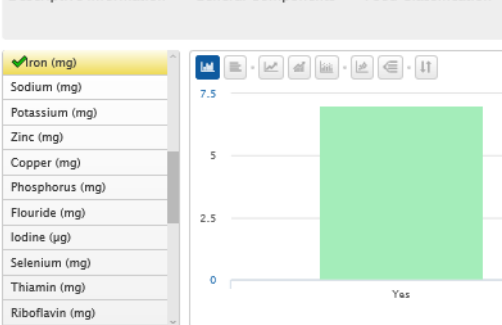
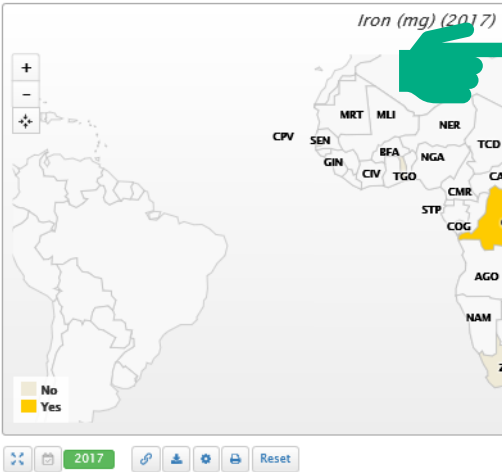
- >= 1200
- 833 - 1200
- 466 - 833
- 99 - 466
- < 99

- International Regional
- ASEAN FOOD
 - EuroFIR
 - FAO/INFOODS Composition
 - FAO/INFOODS Database for
 - Food Compos East
 - Label Insight
 - Nutritionix
 - Souci Fachme
 - Souci Fachme
 - Tabla de con
 - Centroamerid
 - West African

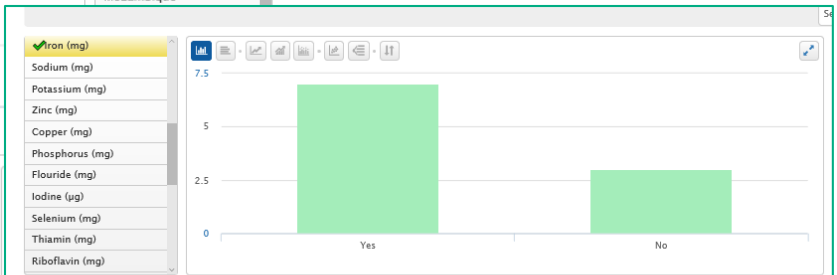
Search

Sub-Saharan Af...
Dem. Rep. of Congo
Gambia
Lesotho
Mozambique

Energy (kcal)
Water (g)
Protein (g)
Fats (g)
Carbohydrate (g)
Total ash (g)
Dietary fiber (g)
Insoluble Fiber (g)
Soluble Fiber (g)
Total Sugar (mg)
Saturated Fat (g)
Cholesterol (g)
Calcium (mg)
Magnesium (mg)
Iron (mg)
Sodium (mg)
Potassium (mg)
Zinc (mg)
Copper (mg)
Phosphorus (mg)
Flouride (mg)
Iodine (µg)
Selenium (mg)
Thiamin (mg)
Riboflavin (mg)

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



United Republic of Tanzania

Energy (kcal)	Yes
Water (g)	No
Protein (g)	Yes
Fats (g)	Yes
Carbohydrate (g)	Yes
Total ash (g)	No
Dietary fiber (g)	Yes
Insoluble Fiber (g)	No
Soluble Fiber (g)	Yes
Total Sugar (mg)	Yes
Saturated Fat (g)	Yes
Cholesterol (g)	Yes
Calcium (mg)	Yes
Magnesium (mg)	Yes
Iron (mg)	Yes
Sodium (mg)	Yes
Potassium (mg)	Yes
Zinc (mg)	Yes
Copper (mg)	Yes
Phosphorus (mg)	Yes
Flouride (mg)	No
Iodine (µg)	No
Selenium (mg)	No
Thiamin (mg)	Yes
Riboflavin (mg)	Yes
Niacin (mg)	Yes
Pantothenic acid (mg)	Yes
Vitamin B6 (mg)	No
Biotin (µg)	Yes
Vitamin B12 (mg)	Yes
Food Folate and Folic Acid (mg)	Yes
Choline (mg)	No
Vitamin C (mg)	Yes
Vitamin A (µg or IU)	Yes
Retinol (µg)	No
Beta-carotene (µg)	No
Vitamin D (µg or IU)	Yes

Interr
Regio

- ASEAN F...
- EuroFIR
- FAO/INF...
- Compos...

2017

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The Nutrition Source

The Nutrition Source > Tanzania Food Composition Tables

THE NUTRITION SOURCE

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- Healthy Drinks
- Salt and Sodium
- Carbohydrates
- Sustainability
- Healthy Weight
- Disease Prevention
- Recipes
- Additional Resources
- About
- FAQ
- Contact

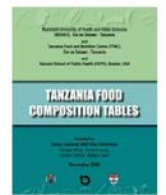
Tanzania Food Composition Tables

This comprehensive document provides detailed information on 47 nutrients in over 400 commonly consumed Tanzanian foods and local dishes. Created by a collaborative effort of the Muhimbili University of Health and Allied Sciences, the Tanzania Food and Nutrition Centre, and the Harvard School of Public Health, these food composition tables will be useful to scientists seeking to better understand and analyze Tanzanians' dietary intake, as well as to nutrition practitioners and food manufacturers seeking to develop healthier recipes and foods. The names of all the foods and dishes have been translated into Kiswahili, French, and Portuguese, to facilitate their wider distribution in sub-Saharan countries.

Download the **Tanzania Food Composition Tables** (PDF, Acrobat reader required) updated December 2009

Download **Spreadsheets for Individual Food Groups** (Excel files) updated December 2009

- Cereals: amino acids, macronutrients, minerals, vitamins
- Fruits and vegetables: amino acids, macronutrients, minerals, vitamins
- Legumes: amino acids, macronutrients, minerals, vitamins
- Local broths: amino acids, macronutrients, minerals, vitamins
- Meat, poultry, fish, and milk: amino acids, macronutrients, minerals, vitamins
- Miscellaneous foods: amino acids, macronutrients, minerals, vitamins
- Oils and fats: amino acids, macronutrients, minerals, vitamins
- Roots, tubers, and banana: amino acids, macronutrients, minerals, vitamins



Next steps with WNDDS

Continue to improve the user interface

Update 2x per year

WNDDS is a work in progress, and feedback or partnerships to improve this resource are very welcome!

ILSI Crop Composition Database



Provides analytical data about the natural variability of crop composition (nutrients and anti-nutrients) of conventional crop varieties

Data uses:

- Assessment of natural variation
- Nutritional studies
- Nutritional components of interest for breeding

CCDB Development

Version	Year of Release	Features
1	2003	Corn, soybean
2	2004	Additional data for corn, soybean New crop: cotton
3	2006	Additional data for corn, soybean, cotton
4	2010	New platform (functionality, speed, efficiency) Multiple units of measure Improved reporting output
5	2014	Additional data for field corn, soybean, cotton New crops: canola, rice, sweet corn 7-fold increase in overall data
6	2016	Additional data for field corn, soybean, cotton, canola New crops: potato, sorghum

Data acceptance criteria

Production of Samples

- Known field trials (plot location, region, country), agronomic (seeding and harvesting date) and genetic data i.e. variety name

Sample Collection

- Composite sample from representative plants from one plot
- Adequate storage to ensure no nutrient degradation
- Known sample chain of custody of the samples from harvest to analysis including storage conditions, must be known (traceability)

Sample Analysis

- Samples analyzed within 12 months
- Analyses by accredited/certified/experienced laboratories, and analyses done with validated methods and certified/historically verified standards

Data acceptance criteria (cont'd)

Data

- One data point is from the analysis of a single composite sample
- Data provider must retain the records and data after submission to the database
- Outlier test is performed on all submitted data before publication, and potential outliers must be evaluated and verified

Auditing and Archiving of the Data

- ILSI Research Foundation has the right to audit any data provider to ensure that the requisite raw data are available (ensure traceability)

Submission of Data

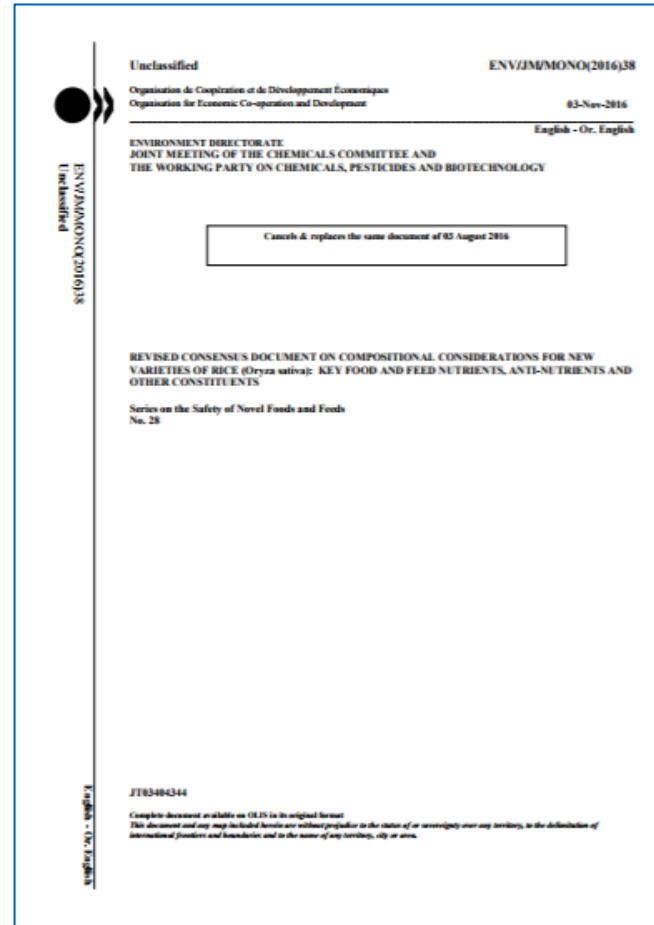
- Organizations interested in submitting data to the database may contact ILSI Research Foundation to determine if their data meet the criteria for submission

Determining what to analyze

OECD Working Group on the Safety of Novel Foods and Feeds

Science-based consensus documents that compile information and data on the nutrients, anti-nutrients and toxicants of organisms (primarily plants) used for food or feed

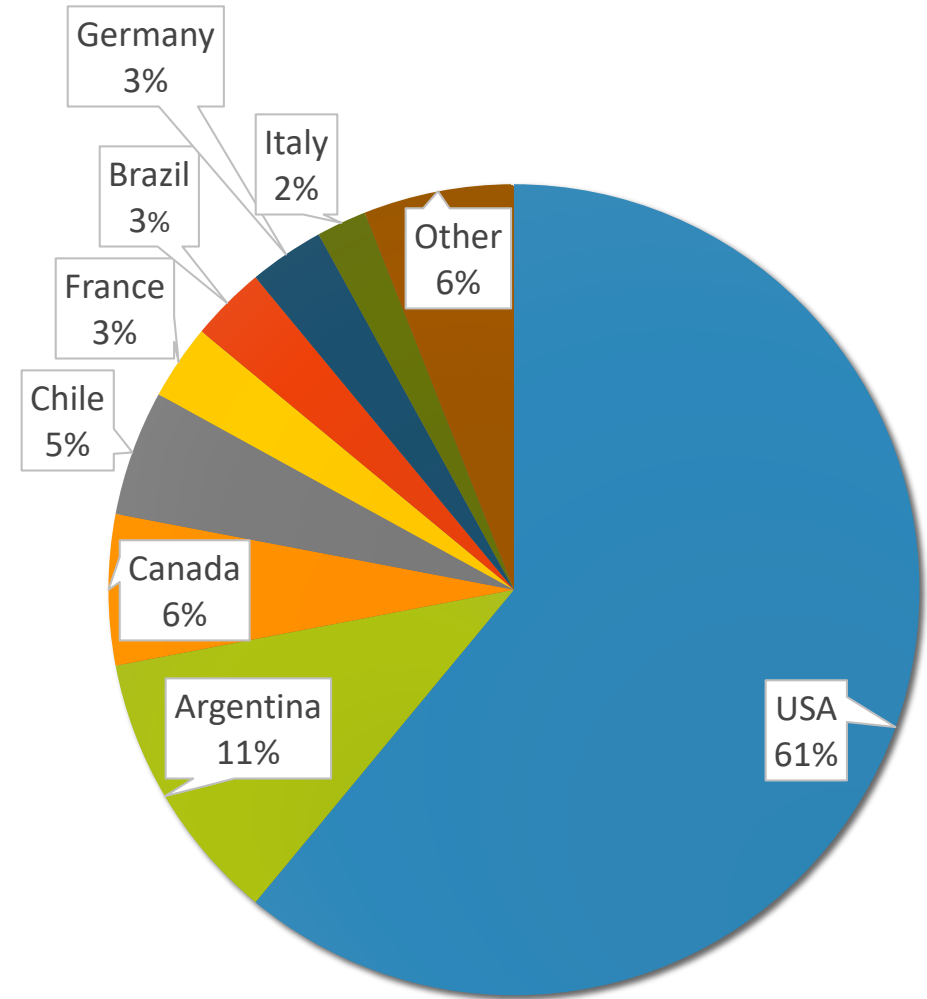
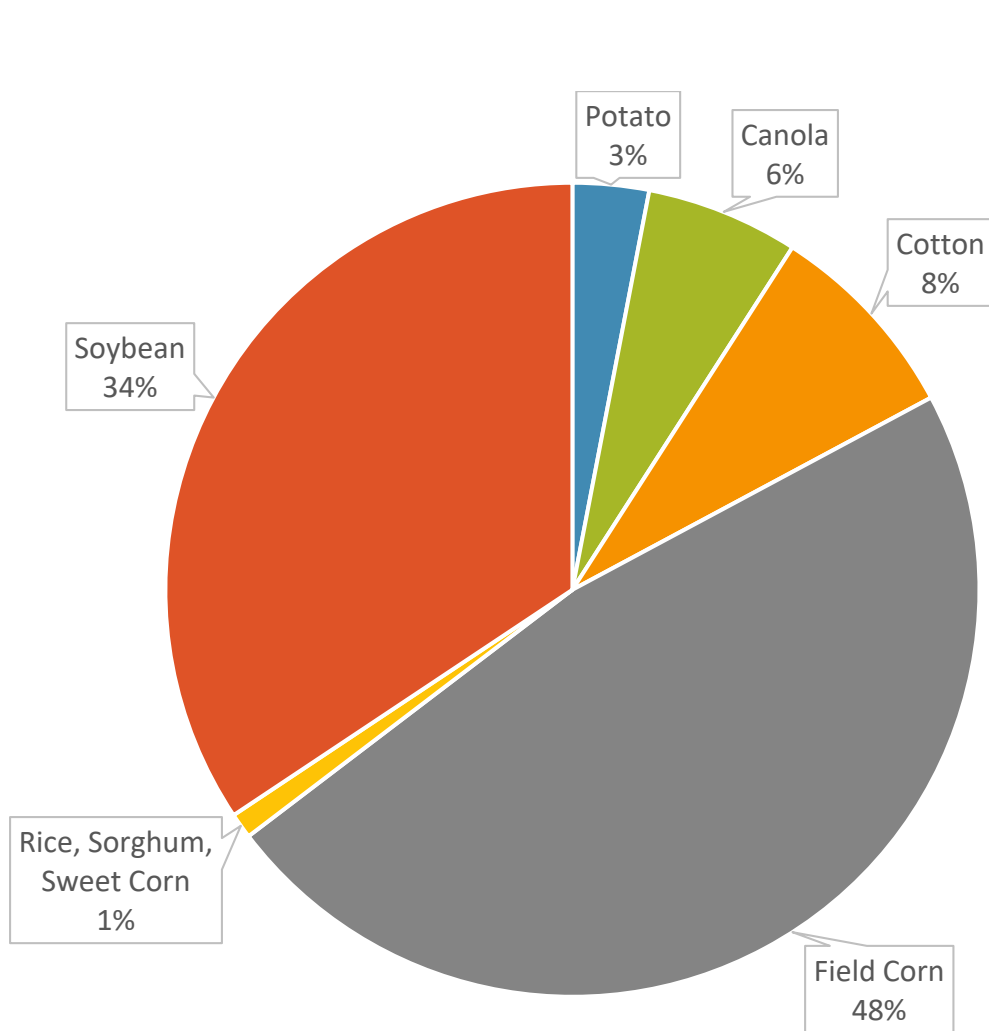
Each document has a section that specifically explains the plant material and the components that should be analyzed for new varieties.



CCDB includes 195 compositional components

- Amino Acids
- Bio-Actives
- Carbohydrates
- Fatty acids
- Fiber
- Glucosinolates
- Minerals
- Phospholipids
- Proximates
- Vitamins
- Other metabolites

> 972,000 data points → 19 countries → 20+ years (1995-2017)



canola, cotton, field corn, potato, rice, sorghum, sweet corn, soybean

Example cost of analyses

Samples of paddy rice (*i.e.*, grain) and straw were collected from three replicated blocks of rice grown at four locations in the Philippines during two growing seasons (wet season 2015 and dry season 2016).

In addition to straw and grain, composite samples of rice bran were tested to ensure they met the quality standards for protein.

Analytes tested as per OECD's *Revised Consensus Document on Compositional Considerations for New Varieties of Rice (Oryza sativa): Key Food and Feed Nutrients, Anti-nutrients and other Constituents (2016)*

100 samples tested: **\$97,500 (non-GLP)**

Search Crop Composition Database v6.0

Primary Search Criteria

The first step in searching the Crop Composition Database is to select your primary search criteria to filter the data sets.

You must select one Crop Type and one Tissue Type. You can further filter your results by optionally choosing one or more Crop Years, and Locations.

To select contiguous items, press the Shift key and highlight the items. To select more than one non-contiguous item, hold the Control key and click on the selected items.

If you make no selections other than Crop Type and Tissue Type, all data sets for the chosen Crop-Tissue selection will be included.

Crop Source / Crop Type / Tissue Type [Help](#)

Crop Type Choose One	Tissue Type Choose One
-------------------------	---------------------------

Crop Year [Help](#)

Crop Year(s)

- All Years
- 2016
- 2015
- 2014
- 2013

Location [Help](#)

Country(s)	Region(s)
All Countries	All Regions
AFGHANISTAN	
ALAND ISLANDS	
ALBANIA	
ALGERIA	

Analyte Filters (Optional)

[View Summary of Search Results >](#)

BY SUBMITTING SEARCH, YOU AGREE TO THE [TERMS OF USE](#)

www.cropcomposition.org

Query Summary

The Query Summary shows the criteria that was used to filter the result set.

Query Criteria [Help](#)

Crop Type:	Corn - Field - Maize - Zea mays
Tissue Type:	Grain

Summary of Search Results

The Summary of Search Results shows the results of your initial search grouped by the Analyte Type for the Data Sets that were found.

You can expand each Analyte Type to see the total number of samples and the number of samples with data below LOQ (denoted as $X < LOQ$) reported for each analyte. Expanding an Analyte Type also reports the minimum, maximum, and mean values for the samples in the primary unit of measure, those minimum, maximum, and mean values derive from data that is above LOQ for that analyte.

All analytes in the database have been assigned a primary unit of measure, which is shown in the right column of the new Summary of Search Results tool. Data with preferred secondary units of measure (or multiple units of measure for a single analyte) are generated and viewed using an output report.

You can use this information below when defining the specific Analytes you would like to display in your final report.

LOQ = limit of quantitation, ND = not determined. In those cases where all measured values for a specific analyte are below LOQ, the data is reported as not determined (ND).

Results matching your query criteria [Help](#)

Analyte Type	Analyte	Samples	Min	Max	Mean	Units
<input type="checkbox"/> Amino Acids	-	-	-	-	-	-
<input type="checkbox"/> Bio Actives	-	-	-	-	-	-
<input type="checkbox"/> Carbohydrates	-	-	-	-	-	-
<input type="checkbox"/> Fatty Acids	-	-	-	-	-	-
<input checked="" type="checkbox"/> Fiber	-	-	-	-	-	-
	Acid Detergent Fiber	8591(0+LOQ)	1.41	11.34	3.71	% DW
	Crude Fiber	1779(0+LOQ)	0.49	3.98	2.55	% DW
	Neutral Detergent Fiber	8590(0+LOQ)	4.28	22.64	10.30	% DW
	Total Dietary Fiber	4259(0+LOQ)	6.88	35.31	13.84	% DW
<input type="checkbox"/> Minerals	-	-	-	-	-	-
<input type="checkbox"/> Other Metabolites	-	-	-	-	-	-
<input type="checkbox"/> Proximates	-	-	-	-	-	-
<input type="checkbox"/> Vitamins	-	-	-	-	-	-

Create Report from Search Results

Choose the Analytes you would like to display in your report output.

You may choose individual Analytes or may select an Analyte Type and choose to display all Analytes for the Analyte type chosen.

Once you have selected the analytes click on the "add analyte(s)" button to confirm your selection.

To remove a selected analyte click on the red 'X' next to the analyte name.

Analytes to show in output [Help](#)

Analyte Type	Analyte	Units
Choose One		

Analyte List [Help](#)

Select Fields for Report Output.

In this section you can choose the metric fields and other fields you would like to display in your report.

Check the metric fields and grouping fields you would like to display in the output report.

Please note that selecting Seed Variety and/or Seed Vendor will disable the Detailed and Tabular Reports.

Metric Fields [Help](#)

<input checked="" type="checkbox"/> Minimum Value	<input checked="" type="checkbox"/> Maximum Value	<input checked="" type="checkbox"/> Mean Value
<input type="checkbox"/> Number of Samples	<input type="checkbox"/> Samples Below LOQ	<input type="checkbox"/> Samples Above LOQ

Grouping Fields [Help](#)

<input checked="" type="checkbox"/> Analyte Type
<input checked="" type="checkbox"/> Analyte
<input type="checkbox"/> Crop Year
<input type="checkbox"/> Crop Type
<input type="checkbox"/> Tissue Type
<input type="checkbox"/> Seed Vendor (This option is only available for Summary Reports)
<input type="checkbox"/> Seed Variety (This option is only available for Summary Reports)
<input type="checkbox"/> Country
<input type="checkbox"/> Region
<input type="checkbox"/> Analysis Method

< [Revise Query Filters](#) [New Query](#) [Report Options](#) >

Query Summary

The Query Summary shows the criteria that was used to filter the result set.

Query Criteria [Help](#)

Crop Type:	Corn - Field - Maize - Zea mays
Tissue Type:	Grain

Query Summary

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Results matching your query criteria

Analyte Type	Analyte	Samples	Min	Max	Mean	Units
<input type="checkbox"/> Amino Acids	-	-	-	-	-	-
<input type="checkbox"/> Bio Actives	-	-	-	-	-	-
<input type="checkbox"/> Carbohydrates	-	-	-	-	-	-
<input type="checkbox"/> Fatty Acids	-	-	-	-	-	-
<input checked="" type="checkbox"/> Fiber	-	-	-	-	-	-
	Acid Detergent Fiber	6591(0<LOQ)	1.41	11.34	3.71	% DW
	Crude Fiber	1779(0<LOQ)	0.49	3.66	2.55	% DW
	Neutral Detergent Fiber	6590(0<LOQ)	4.28	22.64	10.30	% DW
	Total Dietary Fiber	4259(0<LOQ)	6.68	35.31	13.84	% DW
<input type="checkbox"/> Minerals	-	-	-	-	-	-
<input type="checkbox"/> Other Metabolites	-	-	-	-	-	-
<input type="checkbox"/> Proximates	-	-	-	-	-	-
<input type="checkbox"/> Vitamins	-	-	-	-	-	-

Summary of Search Results

The Summary of Search Results shows the results of your initial search grouped by the Analyte Types for the Data Sets that were found.

You can expand each Analyte Type to see the total number of samples and the number of samples with data below LOQ (denoted as X < LOQ) reported for each analyte. Expanding an Analyte Type also reports the minimum, maximum, and mean values for the samples in the primary unit of measure; these minimum, maximum, and mean values derive from data that is above LOQ for that analyte.

All analytes in the database have been assigned a primary unit of measure, which is shown in the right column of the new Summary of Search Results tool. Data with preferred secondary units of measure

Results matching your query criteria

Help

Analyte Type	Analyte	Samples	Min	Max	Mean	Units
<input type="checkbox"/> Amino Acids	-	-	-	-	-	-
<input type="checkbox"/> Bio Actives	-	-	-	-	-	-
<input type="checkbox"/> Carbohydrates	-	-	-	-	-	-
<input type="checkbox"/> Fatty Acids	-	-	-	-	-	-
<input checked="" type="checkbox"/> Fiber	-	-	-	-	-	-
	Acid Detergent Fiber	6591(0<LOQ)	1.41	11.34	3.71	% DW
	Crude Fiber	1779(0<LOQ)	0.49	3.66	2.55	% DW
	Neutral Detergent Fiber	6590(0<LOQ)	4.28	22.64	10.30	% DW
	Total Dietary Fiber	4259(0<LOQ)	6.68	35.31	13.84	% DW
<input type="checkbox"/> Minerals	-	-	-	-	-	-
<input type="checkbox"/> Other Metabolites	-	-	-	-	-	-
<input type="checkbox"/> Proximates	-	-	-	-	-	-
<input type="checkbox"/> Vitamins	-	-	-	-	-	-

Query Summary

The Query Summary shows the criteria that was used to filter the result set.

Query Criteria [Help](#)

Crop Type:	Com - Field - Maize - Zea mays
Tissue Type:	Grain

Summary of Search Results

The Summary of Search Results shows the results of your initial search grouped by the Analyte Types for the Data Sets that were found.

You can expand each Analyte Type to see the total number of samples and the number of samples with data below LOQ (denoted as $X < LOQ$) reported for each analyte. Expanding an Analyte Type also reports the minimum, maximum, and mean values for the samples in the primary unit of measure, those minimum, maximum, and mean values derive from data that is above LOQ for that analyte.

All analytes in the database have been assigned a primary unit of measure, which is shown in the right column of the new Summary of Search Results tool. Data with preferred secondary units of measure (or multiple units of measure for a single analyte) are generated and viewed using an output report.

You can use this information below when defining the specific Analytes you would like to display in your final report.

LOQ = limit of quantitation, ND = not determined. In those cases where all measured values for a specific analyte are below LOQ, the data is reported as not determined (ND).

Results matching your query criteria [Help](#)

Analyte Type	Analyte	Samples	Min	Max	Mean	Units
<input type="checkbox"/> Amino Acids	-	-	-	-	-	-
<input type="checkbox"/> Bio Actives	-	-	-	-	-	-
<input type="checkbox"/> Carbohydrates	-	-	-	-	-	-
<input type="checkbox"/> Fatty Acids	-	-	-	-	-	-
<input checked="" type="checkbox"/> Fiber	-	-	-	-	-	-
	Add Detergent Fiber	8591(0+LOQ)	1.41	11.34	3.71	% DW
	Crude Fiber	1779(0+LOQ)	0.49	3.88	2.46	% DW
	Neutral Detergent Fiber	8590(0+LOQ)	4.28	22.64	11.11	% DW
	Total Dietary Fiber	4259(0+LOQ)	6.68	35.31	11.11	% DW
<input type="checkbox"/> Minerals	-	-	-	-	-	-
<input type="checkbox"/> Other Metabolites	-	-	-	-	-	-
<input type="checkbox"/> Prostaglandins	-	-	-	-	-	-
<input type="checkbox"/> Vitamins	-	-	-	-	-	-

Create Report from Search Results

Choose the Analytes you would like to display in your report output.

You may choose individual Analytes or may select an Analyte Type and choose to display all Analytes for the Analyte type chosen.

Once you have selected the analytes click on the "add analyte(s)" button to confirm your selection.

To remove a selected analyte click on the red 'X' next to the analyte name.

Select Fields for Report Output.

In this section you can choose the metric fields and other fields you would like to display in your report.

Check the metric fields and grouping fields you would like to display in the output report.

Please note that selecting Seed Variety and/or Seed Vendor will disable the Detailed and Tabular Reports.

Analytes to show in output [Help](#)

Analyte Type	Analyte	Units
Choose One		

[Add Analyte\(s\)](#)

Analyte List [Help](#)

--

Metric Fields

<input checked="" type="checkbox"/> Minimum Value	<input checked="" type="checkbox"/> Maximum Value	<input checked="" type="checkbox"/> Mean Value
<input type="checkbox"/> Number of Samples	<input type="checkbox"/> Samples Below LOQ	<input type="checkbox"/> Samples Above LOQ

Grouping Fields [Help](#)

<input checked="" type="checkbox"/> Analyte Type
<input checked="" type="checkbox"/> Analyte
<input type="checkbox"/> Crop Year
<input type="checkbox"/> Crop Type
<input type="checkbox"/> Tissue Type
<input type="checkbox"/> Seed Vendor (This option is only available for Summary Reports)
<input type="checkbox"/> Seed Variety (This option is only available for Summary Reports)
<input type="checkbox"/> Country
<input type="checkbox"/> Region
<input type="checkbox"/> Analysis Method

Create Report from Search Results

Choose the Analytes you would like to display in your report output.

You may choose individual Analytes or may select an Analyte Type and choose to display all Analytes for the Analyte type chosen.

Once you have selected the analytes click on the "add analyte(s)" button to confirm your selection.

To remove a selected analyte click on the red 'X' next to the analyte name.

Analytes to show in output [Help](#)

Analyte Type	Analyte	Units
Choose One		

[Add Analyte\(s\)](#)

Analyte List [Help](#)

--

Query Summary

The Query Summary shows the criteria that was used to filter the result set.

Query Criteria [Help](#)

Crop Type:	Com - Field - Maize - Zea mays
Tissue Type:	Grain

Summary of Search Results

The Summary of Search Results shows the results of your initial search grouped by the Analyte Type for the Data Sets that were found.

You can expand each Analyte Type to see the total number of samples and the number of samples with data below LOQ (denoted as $< \times$ LOQ) reported for each analyte. Expanding an Analyte Type also reports the minimum, maximum, and mean values for the samples in the primary unit of measure; those minimum, maximum, and mean values derive from data that is above LOQ for that analyte.

All analytes in the database have been assigned a primary unit of measure, which is shown in the right column of the new Summary of Search Results tool. Data with preferred secondary units of measure (or multiple units of measure for a single analyte) are generated and viewed using an output report.

You can use this information below when defining the specific Analytes you would like to display in your final report.

LOQ = limit of quantitation, ND = not determined. In those cases where all measured values for a specific analyte are below LOQ, the data is reported as not determined (ND).

Results matching your query criteria [Help](#)

Analyte Type	Analyte	Samples	Min	Max	Mean	Units
<input type="checkbox"/> Amino Acids	-	-	-	-	-	-
<input type="checkbox"/> Bio Actives	-	-	-	-	-	-
<input type="checkbox"/> Carbohydrates	-	-	-	-	-	-
<input type="checkbox"/> Fatty Acids	-	-	-	-	-	-
<input checked="" type="checkbox"/> Fiber						
	Acid Detergent Fiber	8591(0+LOQ)	1.41	11.3		
	Crude Fiber	1779(0+LOQ)	0.49	3.89		
	Neutral Detergent Fiber	8590(0+LOQ)	4.28	22.6		
	Total Dietary Fiber	4259(0+LOQ)	6.88	35.3		
<input type="checkbox"/> Minerals	-	-	-	-	-	-
<input type="checkbox"/> Other Metabolites	-	-	-	-	-	-
<input type="checkbox"/> Prostaglandins	-	-	-	-	-	-
<input type="checkbox"/> Vitamins	-	-	-	-	-	-

Select Fields for Report Output.

In this section you can choose the metric fields and other fields you would like to display in your report.

Check the metric fields and grouping fields you would like to display in the output report.

Please note that selecting Seed Variety and/or Seed Vendor will disable the Detailed and Tabular Reports.

Metric Fields [Help](#)

- Minimum Value
 Maximum Value
 Mean Value
 Number of Samples
 Samples Below LOQ
 Samples Above LOQ

Grouping Fields [Help](#)

- Analyte Type
 Analyte
 Crop Year
 Crop Type
 Tissue Type
 Seed Vendor (This option is only available for Summary Reports)
 Seed Variety (This option is only available for Summary Reports)
 Country
 Region
 Analysis Method

Create Report from Search Results

Choose the Analytes you would like to display in your report output.

You may choose individual Analytes or may select an Analyte Type and choose to display all Analytes for the Analyte type chosen.

Once you have selected the analytes click on the "add analyte(s)" button to confirm your selection.

To remove a selected analyte click on the red "X" next to the analyte name.

Analytes to show in output

Analyte Type Analyte Units

Analyte List

Select Fields for Report Output.

In this section you can choose the metric fields and other fields you would like to display in your report.

Check the metric fields and grouping fields you would like to display in the output report.

Please note that selecting Seed Variety and/or Seed Vendor will disable the Detailed and Tabular Reports.

Metric Fields

- Minimum Value
 Maximum Value
 Mean Value
 Number of Samples
 Samples Below LOQ
 Samples Above LOQ

Grouping Fields

- Analyte Type
 Analyte
 Crop Year
 Crop Type
 Tissue Type
 Seed Vendor (This option is only available for Summary Reports)
 Seed Variety (This option is only available for Summary Reports)
 Country
 Region
 Analysis Method

Output Report: Summarized Data

Summary Report

Query Criteria:

Crop Type is Corn - Field - Maize - Zea mays
 Tissue Type is Forage

Analyte Type	Analyte	Minimum Value	Maximum Value	Mean Value	Number of Samples	Samples Below LOQ	Unit of Measure
Fiber	Acid Detergent Fiber	9.90	47.39	25.85	4,710	0	% DW
Fiber	Crude Fiber	15.1	30.1	23.0	147	0	% DW
Fiber	Neutral Detergent Fiber	20.29	67.80	42.16	4,710	0	% DW
Fiber	Total Dietary Fiber	35.88	62.83	49.49	130	0	% DW
Minerals	Calcium	0.06	0.58	0.19	4,244	0	% DW
Minerals	Phosphorus	0.07	0.44	0.20	4,244	0	% DW
Proximates	Ash	0.66	13.20	4.28	5,030	0	% DW
Proximates	Carbohydrate By Calculation	73.3	92.9	86.0	4,611	0	% DW
Proximates	Crude Fat	0.296	6.755	2.092	4,611	24	% DW
Proximates	Crude Protein	3.14	16.32	7.68	4,611	0	% DW
Proximates	Moisture	48.8	87.6	70.2	5,030	0	% FW

Output Report: Detailed Data

	A	B	C	D	E	F
1	Detailed Report					
2	ILSI CCDB Version 6.0					
3	Generated at 01/17/2017 01:19 PM Eastern Standard Time					
4	Analyte	Crop Year	Region	Analysis Method	Value	Units
5	Acid Detergent Fiber	1997	ILLINOIS	FB0008-USDA Agriculture Handbook No. 379 (1970)	20.8	% DW
6	Acid Detergent Fiber	1997	ILLINOIS	FB0008-USDA Agriculture Handbook No. 379 (1970)	20.86	% DW
7	Acid Detergent Fiber	1997	ILLINOIS	FB0008-USDA Agriculture Handbook No. 379 (1970)	23.11	% DW
8	Acid Detergent Fiber	1997	ILLINOIS	FB0008-USDA Agriculture Handbook No. 379 (1970)	24.72	% DW
9	Acid Detergent Fiber	1997	ILLINOIS	FB0008-USDA Agriculture Handbook No. 379 (1970)	26.54	% DW
10	Acid Detergent Fiber	1997	ILLINOIS	FB0008-USDA Agriculture Handbook No. 379 (1970)	30.03	% DW
11	Acid Detergent Fiber	1997	INDIANA	FB0008-USDA Agriculture Handbook No. 379 (1970)	22.16	% DW
12	Acid Detergent Fiber	1997	INDIANA	FB0008-USDA Agriculture Handbook No. 379 (1970)	24.96	% DW
13	Acid Detergent Fiber	1997	INDIANA	FB0008-USDA Agriculture Handbook No. 379 (1970)	25.18	% DW
14	Acid Detergent Fiber	1997	INDIANA	FB0008-USDA Agriculture Handbook No. 379 (1970)	25.51	% DW
15	Acid Detergent Fiber	1997	INDIANA	FB0008-USDA Agriculture Handbook No. 379 (1970)	25.88	% DW
16	Acid Detergent Fiber	1997	INDIANA	FB0008-USDA Agriculture Handbook No. 379 (1970)	26.9	% DW
17	Acid Detergent Fiber	1997	IOWA	FB0008-USDA Agriculture Handbook No. 379 (1970)	22.36	% DW
18	Acid Detergent Fiber	1997	IOWA	FB0008-USDA Agriculture Handbook No. 379 (1970)	23.23	% DW
19	Acid Detergent Fiber	1997	IOWA	FB0008-USDA Agriculture Handbook No. 379 (1970)	23.51	% DW
20	Acid Detergent Fiber	1997	IOWA	FB0008-USDA Agriculture Handbook No. 379 (1970)	23.67	% DW
21	Acid Detergent Fiber	1997	IOWA	FB0008-USDA Agriculture Handbook No. 379 (1970)	24.83	% DW
22	Acid Detergent Fiber	1997	IOWA	FB0008-USDA Agriculture Handbook No. 379 (1970)	25.16	% DW

Next steps for CCDB

1

New crops, new data providers,
new end-users:
Increase awareness (e.g. nutrition sector)
Provide guidance to new data providers
Seek new collaborations e.g., crop
modelers

2

Improve:
User interface
Upload, search, and report functions

CCDB publications

2004. Ridley et al. Development of the International Life Sciences Institute Crop Composition Database. *Journal of Food Composition and Analysis*, 17, 423-438

2010. Alba et al. Improvements to the International Life Sciences Institute Crop Composition Database. *Journal of Food Composition and Analysis*, 23, 41-748

2016. Sult et al. Report: Release of the International Life Sciences Institute Crop Composition Database Version 5. *Journal of Food Composition and Analysis*, 51, 106-111

Final thoughts

Food composition data are foundational for many important scientific, health and policy interventions

Too often food composition data resources are underappreciated and underfunded

There may be opportunities to leverage some efforts to utilize these data across multiple platforms e.g., ILSI CCDB

Key to achieving this is building novel, multi-sectoral partnerships

- May be an opportunity to pool financial resources as well

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- Beta testers

ILSI CCDB

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