

Harnessing Public-Private Partnerships to Improve Food Safety & Nutrition Outcomes

*A Partnership for Public Health:
USDA Branded Food Products Database*

October 18, 2018



A Partnership for Public Health: USDA Branded Food Products Database



LABELINSIGHT

Why was the USDA Branded Food Products Database established as a Public-Private Partnership?

- The 6 Partners came together:
 - as this project could not be accomplished by any single Partner alone
 - with expertise in data quality and management, data collection, supply chain standards, and research knowledge that was essential to success
 - for a shared goal and the skill to deliver
- This successful PPP is a model for how multiple sectors can collaborate to benefit public health.



Partnership Journey

Oct 2013
Partnership
Formed

Data Pilot
Conducted

Sept 2016
Launched
database at
GODAN Summit

Oct 2017
215K products
loaded

2013

2014

2015

2016

2017

2018

2 Listening
Sessions for
Public

2nd Data
Pilot
Conducted

Sept 2016
100K products
loaded

FAO
INFOODS
request for
Global
Expansion

May 2018
229K products
loaded



Evolution of Partnership Development

- ILSI North America publication, "Principles for Building Public-Private Partnerships to Benefit Food Safety, Nutrition and Health Research" published in the October 2013 issue of Nutrition Reviews.
- Partnership formed in 2013
- Steering Committee
- Operations and Management Group
- Criteria Group
- Data Quality Subgroup
- IT Infrastructure Group
- Communications Group



Food Composition Databases Enter the World of Big Data

- The research community felt that the benefit of gaining a much larger amount of computed data by food manufacturers on food products far outweighed the desire for analytical data
- This was a paradigm shift for the USDA



1st Beta Test



- Identified which attributes need to be “Mandatory” vs. “Recommended” in the USDA Branded Food Products Database GS1 Implementation Guide as agreed by the Partnership.
- Beta test companies learned how to publish nutritional data through the GS1 standards. The submission of nutrient information to GS1 is a new process for food manufacturers.
- Quality control checks have been established at the GS1 level to ensure that mandatory attributes as decided upon by the Partnership are provided.
- The USDA Nutrient Data Lab understands they must accept data as submitted by the manufacturer and previous procedures for quality control checks at the USDA level are unobtainable due to the sheer volume of data that will be received.



Nutrient Distribution for Beta Test of USDA Branded Food Products Database

Nutrients	Beta Test Products
Calories, Protein, Fat, Carbohydrates, Dietary Fiber, Sugars, Calcium, Iron, Vitamin C, Vitamin A, Saturated Fatty Acids, Trans Fatty Acids, Cholesterol	240
Phosphorus	27
Potassium	59
Zinc	27
Riboflavin	27
Pantothenic acid	25
Folate, total	27
Monounsaturated fatty acids	58
Polyunsaturated fatty acids	57

2nd Beta Test



- Created two separate mechanisms in which food companies could provide data.
 - GS1 mechanism through 1WorldSync
 - Food label scanning through Label Insight
- These mechanisms provided environments in which food companies have control over their data within a 3rd party environment outside of University of Maryland and USDA.
- Both 1WorldSync and Label Insight voluntarily provided access to test data to successfully complete the 2nd beta test.
- Over 1,000 foods were tested, allowing a greater understanding of the data.



Launched USDA Branded Food Products Database in September 2016 at GODAN Summit

USDA United States Department of Agriculture
Agricultural Research Service

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You are here: ARS Home / Northeast Area / Beltsville, Maryland (BHNRC) / Beltsville Human Nutrition Research Center / Nutrient Data Laboratory / Docs / USDA Branded Food Products Database

Related Topics

- USDA National Nutrient Database for Standard Reference
- USDA National Nutrient Database for Standard Reference Dataset for What We Eat In America, NHANES (Survey-SR)
- Monitoring Sodium Levels in Commercially Processed and Restaurant Foods
- USDA Special Interest Databases on Flavonoids
- USDA Nutrient Data Set for Retail Meat Cuts: Beef, Lamb, Pork and Veal

USDA Branded Food Products Database

The USDA Branded Food Products Database is the result of a Public-Private Partnership, whose goal is to enhance public health and the sharing of open data by complementing USDA Food Composition Databases with nutrient composition of branded foods and private label data provided by the food industry. Members of the Public-Private Partnership include:

- Agricultural Research Service (ARS), USDA (www.ars.usda.gov)
- International Life Sciences Institute (ILSI) North America (www.ilsina.org)
- GS1 US (www.gs1us.org)
- 1WorldSync (www.1worldsync.com)
- Label Insight (www.labelinsight.com)

The BFPDB includes:

- product name and generic descriptor,
- serving size in grams or milliliters,
- nutrients on the Nutrition Facts Panel per serving size and 100 gram-basis, 100 ml-basis, or fluid oz-basis,
- ingredient list, (never before captured by USDA), and
- date stamp associated with most current product formulation.

All data will be archived, allowing for dietary trends tracking. The BFPDB allows dietitians to provide specific dietary guidance; researchers to better link dietary intakes to disease measures; and policy makers to develop guidance which promotes public health.

More information on the USDA Branded Food Products Database is available in the following documents:

- Frequently Asked Questions
- Talking Points

The data are located on a server hosted by USDA's National Agricultural Library and are processed through agreement with the University of Maryland's Joint Institute for Food Safety and Applied Nutrition. USDA's develops and performs quality control checks on the data. The Branded Food Products Database can be accessed at the following web site:

<https://ndb.nal.usda.gov/ndb/>

Release History:

September 2016 - Initial rollout at the Global Open Data for Agriculture and Nutrition Summit with 68,000 items

January 2017 - Over 107,000 new food items added to the Database

April 2017 - Updated calculations for thiamin and riboflavin values

GODAN & SUMMIT

Thomas Vilsack
Secretary
U.S. Department of Agriculture

Sponsors



Impact by the numbers

- In the inaugural year, the USDA Branded Food Products Database and the USDA National Nutrient Database had a combined **17 million** page views from **1.2 million** users.
- Today, it is the 4th most used API offered by the US government



Success Factors

The USDA Branded Food Products Database is embedded within the USDA National Nutrient Database, which is recognized by the research community worldwide as the gold standard for food composition databases.



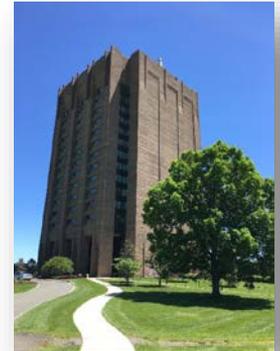
More About the USDA Branded Food Products Database

- Hosted by USDA's National Agricultural Library, who also enhanced the search program to improve the user interface.
- Accessed through the same search program as the USDA National Nutrient Database for Standard Reference, but is clearly identified as a distinctive, yet connected, Database.



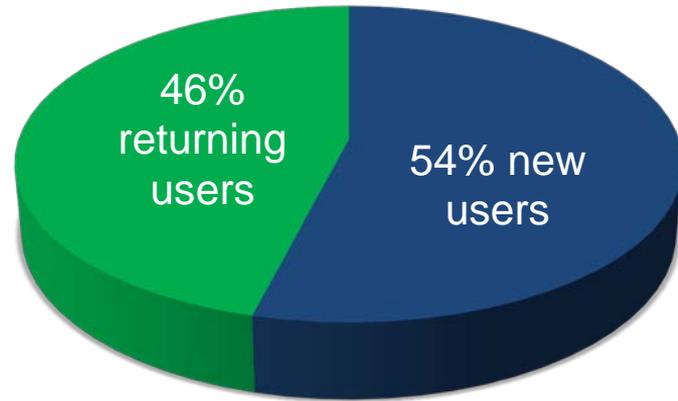
NATIONAL
AGRICULTURAL
LIBRARY

Advancing Access to Global
Information for Agriculture

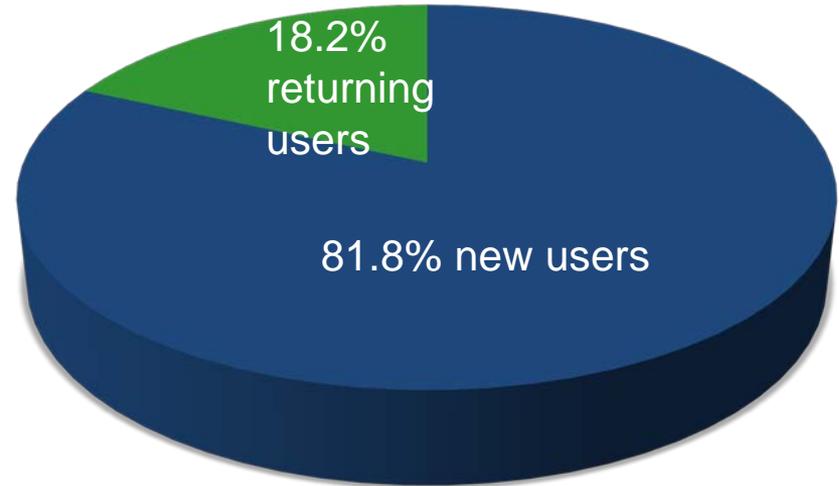


Users of the Database

August 2017



Q1 and Q2 2018



Stakeholders and their questions

Food Industry and App Developers	Educators	Consumers	Researchers
<ul style="list-style-type: none">• Downloads• API• Formulations• Analytical methods• Database updates	<ul style="list-style-type: none">• Curriculum development• Using as a tool to teach food labeling	<ul style="list-style-type: none">• Support for navigating the database• Nutrients missing from database• Nutrients in foods	<ul style="list-style-type: none">• Nutrient content of foods over time• Nutrient retention

What it Took to Facilitate the Rules of Engagement for the Public-Private Partnership, Engage the Public Sector to Tell Us What They Want, and Invite the Private Sector to Voluntarily Submit Data



Achieving a transparent, actionable framework for public-private partnerships for food and nutrition research

 **The American Journal of
CLINICAL NUTRITION**

2015; 101:1359-63

Prerequisite principle:

- Have a clearly defined and achievable goal to benefit the public.

Governance principles:

- Articulate a governance structure including a clear statement of work, rules, and partner roles, responsibilities, and accountability, to build in trust, transparency, and mutual respect as core operating principles – acknowledging there may be “deal breakers” precluding the formation of an effective partnership in the first place.
- Ensure that objectives will meet stakeholder partners’ public and private needs, with a clearly defined baseline to monitor progress and measure success.

Operational principles:

- 9 principles



How we define success

- The Database can be directly linked to specific years of NHANES surveys, to more accurately assess dietary intakes of the USA.
- Having an historical record of branded and private label foods, enabling comparisons of current and past consumptions.
- Ability to track changes in the food supply linked with efforts to foster that change.
- Providing stronger data needed to inform public policy and regulatory decisions.



Success Factors

- The Partners were successful in gaining voluntary submission of data from food manufacturers because of the two options available for data submission.
- Both of these options are trusted, secured mechanisms for manufacturers to submit their data for inclusion in the USDA Branded Food Products Database.
- Options offered leverage current business practices, making the sharing of this data with the USDA seamless.



FAO INFOODS



Partners met with FAO INFOODS at the International Congress on Nutrition in October 2017 Buenos Aires, Argentina



Global Expansion

- 2018—Discovery phase
- 2019—Pilot expansions



National Nutrient Databank Conference July 2018

- The database research community recognizes the need for collaboration in collection of branded food data
- The transition has begun:
 - The National Sodium Monitoring Program
 - The Harvard School of Public Health epidemiology research studies
- Importance of standardizing the approach to food categories



Exploring New Collaborations



Child Nutrition Programs



Consumer Food Data Systems



What it took to Accomplish Data Sharing and Create Usable Database Data

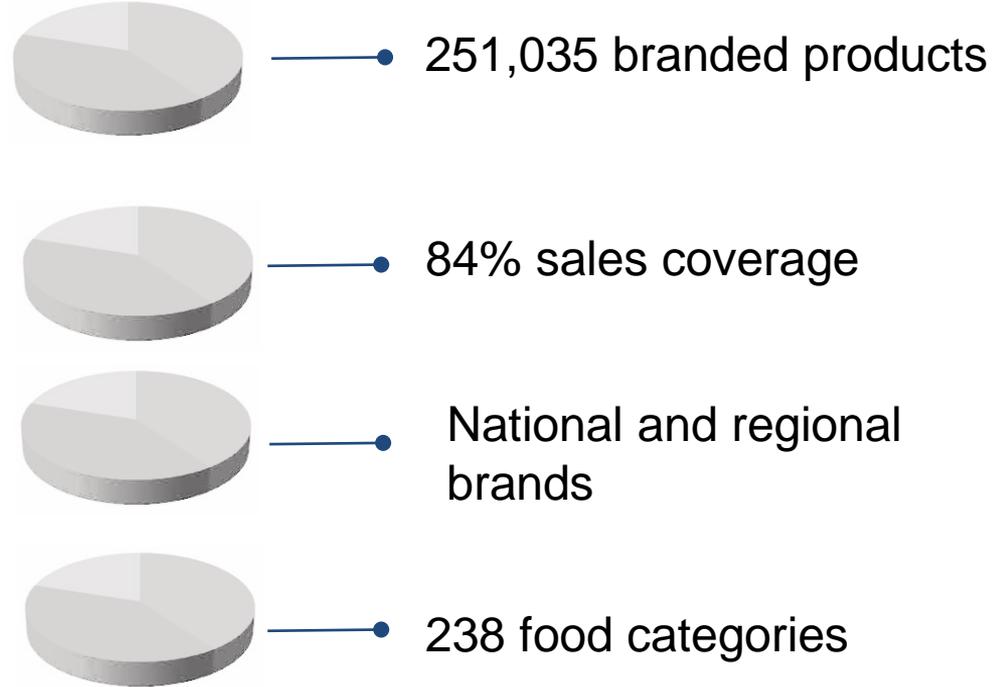


How are suppliers submitting data?

1. 1WorldSync via GS1 Global Data Synchronization Network
2. Label Insight
 - Data provided is formatted per the GS1 Standard
 - University of Maryland receives product data directly from the above partners, aggregates, and publishes



Unprecedented Coverage



Unprecedented Data

Every one of the 251,000+ products in the USDA Branded Food Products Database is available to search and filter on:

- U.P.C. and Global Trade Item Number, GTIN
- 3 million Nutrients
- Ingredients
- Brand and Product Description
- Size and Net Weight
- Serve Size and Standardized Weights/Volumes
- Date Collected

Nutrition Facts	
8 servings per container	
Serving size	2/3 cup (55g)
Amount per serving	
Calories	230
% Daily Value*	
Total Fat 8g	10%
Saturated Fat 1g	5%
<i>Trans Fat</i> 0g	
Cholesterol 0mg	0%
Sodium 160mg	7%
Total Carbohydrate 37g	13%
Dietary Fiber 4g	14%
Total Sugars 12g	
Includes 10g Added Sugars	20%
Protein 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 240mg	6%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.



Unprecedented Access

- The USDA Branded Foods Database is in the public domain and is accessible via an Application Programming Interface (API) or directly via the internet where users can search, filter, and export their results.

Full Report (All Nutrients): 45059050, A.A. BORSARI, PEPPER SEASONING PEPPERCORN, UPC: 815893000163
Powered by **Label Insight**
Return to Search Results | Download (CSV) | Print (PDF)

Manufacturer: **Valley Brook Farm Co.**

Information provided by food manufacturers is label data. Manufacturers are responsible for descriptions, nutrient data and ingredient enumeration. USDA calculated values per 100 g from values per serving.

Search nutrient table:

Nutrient	Unit	USDA top 0.8 g	USDA value per 100 g
Proximates			
Energy	Kcal	0	0
Protein	g	0.00	0.00
Total lipid (fat)	g	0.00	0.00
Carbohydrate, by difference	g	0.00	0.00
Minerals			
Sodium, Na	mg	95	10506

Showing 5 nutrients
Ingredients: CRACKED BLACK PEPPER, GARLIC, SEA SALT, SPICES. Date Available: 03/11/2015. Date Last Updated by Company: 03/11/2015

USDA Revised Food Products Database
Release: 02/08/2015, 20:00
Software developed by the National Agriculture Library v1.3.4 2016-05-17
URL: Home | USDA.gov | Agricultural Research Service (ARS) | Language (EN) | Accessibility Statement | Information Quality | Privacy Policy | Your Declaration Statement | USDA.gov | White House



4th highest API traffic on data.gov



969,268 users through Q2 2018



11,879,345 page views through Q2 2018

Data Quality is more than a number

With research as the primary use case, Data Quality is imperative. However, in today's digital age, Data Quality is not one dimensional, and can no longer be defined by a number or percentage.



Collection

- Versatile and all encompassing images
- Avoid high-risk data sources such as crowdsourcing or manual collection



Currency

- How relevant is your data?
- What percentage of the market does your data represent?



Flexibility

- How can you transform your data to meet specific use cases?
- Not all insights are available initially, so how do you architect your data to be able to generate insights?



Completeness

- How do you capture all data from a package?
- Retroactive data mining is far less costly than creating new data capture methodologies.



Definition

- How does your data and terminology compare to industry standards?
- Know your audience and intended recipients of the data



Accessibility

- How do you structure your data so that it is easily accessed and consumed?
- Taxonomies are key to powering search

Key Learnings



► Understand and Define all Data Elements Upfront

**Communicate
Data Limitations**

**Collaborate on
Shared
Terminology**

► Better Understand the Use Case

**Importance of
Standardization
for Comparison**

**Nutrition Facts
Replica**

**Year Book
Perspective &
Archiving Data**

► Don't Dictate - Let the Data Tell the Story

**Food Labels
Are Complex**

**Food Labels
Are Complex**

► Create a Roadmap and Meet Regularly with Partnership

**Future Features
Must Be
Captured &
Communicated**

**Maximize
Collaboration**

What's Next?

- Continue to grow the database, create awareness, and increase use
- Preparation of transparency and data quality documentation
- Increase private label food items



What's Next (con't.)

- Global expansion and creation of the **USDA Global Branded Food Products Database**
- Pursue opportunities for collaboration with USDA FNS Child Nutrition Programs
- Pursue opportunities for collaboration with USDA ERS Consumer Food Data Systems
- Align on a standardized, validated algorithm to be used across all food products to determine food groupings

