



Iowa Research Online  
The University of Iowa's Institutional Repository

---

University of Iowa Libraries Staff Publications

---

5-1-2014

# Finding Plant-Based Foods in PubMed: A Problem for our Foodie Future

Eric Rumsey  
*University of Iowa*

Janna C Lawrence  
*University of Iowa*

Jennifer DeBerg  
*University of Iowa*

---

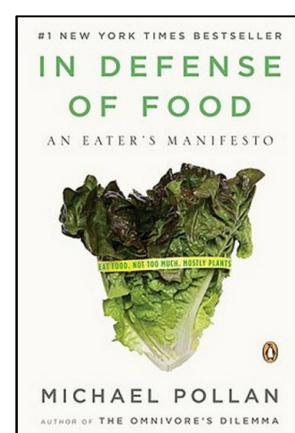
© Eric Rumsey, Janna C. Lawrence, and Jennifer DeBerg, 2014.

Hosted by [Iowa Research Online](http://Iowa Research Online). For more information please contact: [lib-ir@uiowa.edu](mailto:lib-ir@uiowa.edu).

# Finding Plant-Based Foods in PubMed: A Problem for our Foodie Future

Eric Rumsey MLS, Janna Lawrence, MLIS, Jennifer DeBerg, MLS

## "Eat Food, Not Too Much, Mostly Plants"



Michael Pollan's phrase, from his 2008 book *In Defense Of Food*, caught the spirit of the young foodie generation. But the phrase was also recently endorsed as wise diet advice by Yale researchers in *Annual Review of Public Health* [Katz DL, Meller S. Can we say what diet is best for Health? *Ann Rev Public Health* 2014; 35: 83-103].

The attention to plant-based foods (PBFs) by the scientific community also came to the fore recently in a list of the 100 most popular research papers of 2013 by the Altmetric site, in which two of the first eight are on PBFs. [http://www.altmetric.com/blog/the-2013-top-100-list/]

## So Many Plant-Based Foods!

Part of the problem of searching for PBFs is the sheer number and variety of them. The MeSH tree lists 183 taxonomic families of plants. To give a sense of the tremendous variety of plant-based foods, in the green side panels we're listing the families in MeSH with the most articles relating to food use...

Fabaceae  
Poaceae  
Solanaceae  
Liliaceae  
Rutaceae  
Brassicaceae  
Rosaceae  
Asteraceae  
Sterculiaceae  
Vitaceae  
Apiaceae  
Chenopodiaceae  
Polygonaceae  
Arecaceae  
Ericaceae  
Theaceae  
Euphorbiaceae  
Cucurbitaceae  
Lamiaceae  
Linaceae  
Lauraceae  
Anacardiaceae  
Araliaceae  
Punicaceae  
Oleaceae  
Rubiaceae  
Zingiberaceae



Soybean  
*Fabaceae: Soybeans*



Broccoli  
*Brassicaceae: Brassica*



Apple  
*Rosaceae: Malus*



Peppermint  
*Lamiaceae: Mentha piperita*

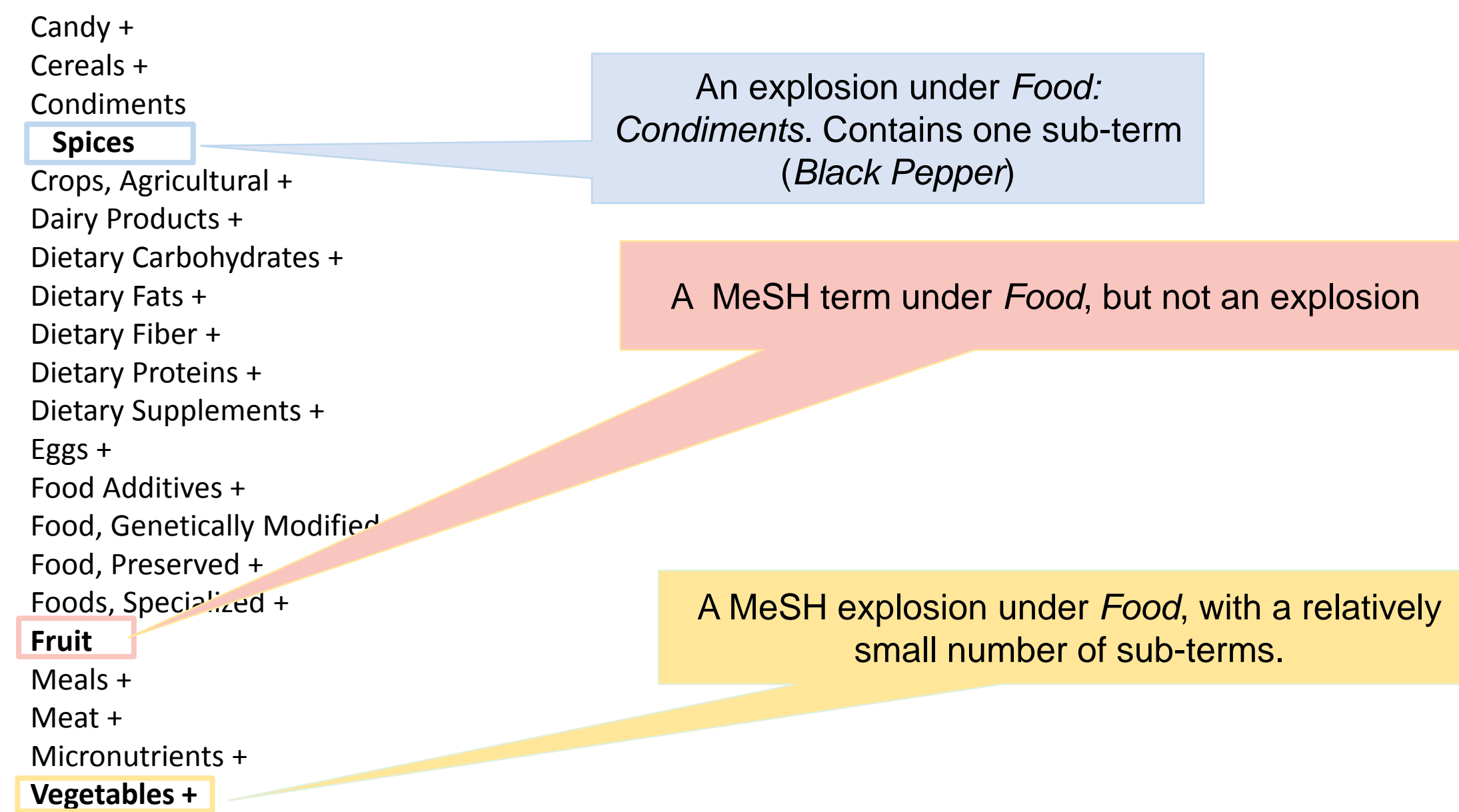


Turmeric  
*Zingiberaceae: Curcuma*

## Most Plant-Based Foods Are Not In The Food Explosion

The main problem in searching for plant-based foods (PBFs) in PubMed is that most of them are not in the *Food* explosion, but only in *Plants*. This is especially tricky because there ARE terms in the *Food* explosion that seem to include PBF's, but which in fact contain only a relatively small number of citations.

In the *Food* explosion, three large categories of PBFs are treated quite differently.



## Search Problems: Examples

Although MeSH terms that are in the *Food* explosion are occasionally added to PBF articles as a category term, they fail to retrieve most articles on PBFs.

This search fails to capture important citations indexed to terms only in the *Plants* explosion, such as this one

A double-blind provocative study of chocolate as a trigger of headache.  
Marcus DA, Scharff L, Turk D, Gourley LM. *Cephalalgia*. 1997 Dec 17(8):856-62; discussion 800. PMID: 9453274 [PubMed - indexed for MEDLINE] [Related citations](#)

This search also fails to yield key citations..

Blueberries and neuronal aging.  
Shukitt-Hale B. *Gerontology*. 2012;58(6):518-23. doi: 10.1159/000341101. Epub 2012 Aug 1. PMID: 22907211 [PubMed - indexed for MEDLINE] [Related citations](#)

## A Tip On Searching For Plant-Based Foods

Most plant-based food (PBF) terms are only in the *Plants* explosion, so searching in PubMed for Food will miss many relevant PBF articles. Fortunately, however, many articles on PBFs are indexed with other nutrition-diet MeSH terms. So the best way to find articles on PBFs is to combine the *Plants* explosion AND a Food-Diet-Nutrition hedge such as this one:

food OR foods OR beverages OR diet OR dietary OR vitamin OR vitamins OR nutrition OR nutritional OR nutrition disorders OR food industry OR nutritional physiological phenomena OR dietary fats OR dietary proteins OR feeding behavior

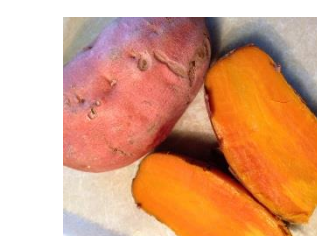
[From: Food, Diet & Nutrition – An Inclusive PubMed Search. http://blog.lib.uiowa.edu/needtoknow/2013/08/14/food-diet-nutrition-an-inclusive-pubmed-search/]

... Taxonomic relationships are important because families have a biochemical, and therefore nutritional, uniqueness. Biochemical variety is the spice of a good diet!

Banana  
*Musaceae: Musa*



Sweet potato  
*Convolvulaceae: Ipomoea batatas*



Litchi  
*Sapindaceae: Litchi*



Dragon Fruit  
*Cactaceae*  
(No MeSH term)



Pawpaw  
*Annonaceae: Asimina*



Juglandaceae  
Betulaceae  
Clusiaceae  
Cannabaceae  
Myrtaceae  
**Musaceae**  
Malvaceae  
Amaranthaceae  
Actinidiaceae  
Piperaceae  
Ranunculaceae  
Papaveraceae  
**Convolvulaceae**  
Grossulariaceae  
Aquifoliaceae  
Pedaliaceae  
**Sapindaceae**  
Moraceae  
Caricaceae  
Fagaceae  
Bromeliaceae  
**Cactaceae**  
Dioscoreaceae  
Araceae  
Elaeagnaceae  
Lecythidaceae  
Erythroxylaceae  
**Annonaceae**