

Topic: Whole Grain & Fiber Definitions

Relevance to GFF

When compared with dietary recommendations, whole grains and fiber are an underconsumed food group and nutrient, respectively. The Dietary Guidelines for Americans, 2010, call for consumers to “make at least half your grains whole” and also identify fiber as a nutrient of concern for the entire U.S. population. This DGA recommendation translates to the average healthy person over nine years of age consuming at least three servings of whole grains each day (recognizing that the suggested daily intake is six one-ounce servings total).

NHANES data reveals that the average whole grain intake for Americans is one serving per day, and 95% of the population is not meeting the recommendation for whole grain intake. Regarding fiber, the statistics are just as grim: fewer than 3% of Americans meet the recommendation for fiber intake, which is set at 14 grams per 1,000 calories consumed (or approximately 25 grams per day for women and 38 for men).

Adequate whole grain and fiber intakes have been associated with improved health outcomes such as a reduced risk of heart disease, obesity and type 2 diabetes.

While there is a clear need for efforts focused on increasing whole grain and fiber intake, this issue is further complicated by the inconsistencies in whole grain and fiber definitions. An exploration of these individual definition issues follows.

Issue at Hand: Whole Grain Food Definition

Currently, the term “whole grains” is defined by the Food and Drug Administration and the American Association of Cereal Chemists International (AACCI) as consisting of the “intact, ground, cracked or flaked caryopsis of the grain whose principal components, the starchy endosperm, germ and bran, are present in the same relative proportions as they exist in the intact grain.” However, what is not clearly defined is the term “whole grain food.” While multiple suggestions, characterizations and systems exist to help consumers identify foods made with whole grains (e.g., the Whole Grain Stamp), a standardized definition remains absent.

This lack of definition creates issues for the industry as well as the international research community. For the industry, it affects the health claims that can be used on products in addition to formulation decisions; for the research community (and anyone developing evidence-based dietary guidance or nutrition policies), it creates inconsistencies across studies. In other words, if a national (or worldwide) definition of “whole grain food” were established, research-study protocols could be standardized to ensure consistent findings and subsequent recommendations for optimal dietary intake.

Issue at Hand: Multiple Fiber Definitions

Unlike “whole grains” and “whole grain food,” there are multiple definitions and nomenclature around fiber. AACCI, the Codex Alimentarius Commission and the Institute of Medicine (IOM) each has its own

working definition. Within the IOM's definition, there are three separate fiber designations: dietary fiber (fiber found intrinsically in plants), functional fiber (isolated fibers) and total fiber (dietary + functional). Furthermore, beyond the confusion these numerous definitions can create in the regulatory/product formulation space, the research parsing out the specific health effects of dietary vs. functional fibers is inconsistent.

Why GFF Should Be Concerned

Whole grain and fiber definitions represent complex issues for the Grain Foods Foundation. While not an exhaustive list, the key issues include:

- **Refined/enriched grain overconsumption.** Leading health authorities/dietary recommendations call for consumers to increase whole grain intake, but for that increase to come as a substitution for enriched/refined grain foods (i.e., swapping one for the other) to ensure daily grain servings stay within recommended limits. Reinforcing this advice in relation to fiber is the fact that white flour and white potatoes provide the most fiber in the U.S. food supply — not because they are the most fiber-dense options, but because they are consumed so widely.
- **Whole grain/fiber interchangeability.** A common misconception among consumers is that all whole grains are rich in fiber, to the point that these terms are (incorrectly) used interchangeably. It is imperative that the industry provide messages on the benefits of whole grain consumption beyond fiber and be transparent about the fiber content of its products.*
- **Labeling.** Building on the fact that the terms fiber and whole grains are used by consumers interchangeably, calling out whole grain content on a food label can also create consumer confusion. For example, a consumer may incorrectly believe the product is a good source of fiber if it is labeled as whole grain. Furthermore, whole grain products carry a health halo (which is positive for the industry) but this comes with a drawback if consumers feel license to overconsume more indulgent whole grain products (e.g., cookies or breakfast pastries), thus implicating such products in the obesity debate. Again, these are opportunities for consumer education.
- **Translating research appropriately.** While there is a significant body of research supporting the benefits of whole grain and fiber intake, if more consistent definitions were available to inform research protocols, it could lead to stronger evidence supporting recommendations for grain intake and enhanced trust in the industry's products.
- **Industry disagreement over whole grain food definition.** Given the unique formulation considerations for each grain product, achieving a whole grain food definition agreeable to the range of food manufacturers remains extremely difficult.

Generally speaking, while complex and important, conversation about the above issues remains limited to the food industry, regulatory bodies and health professionals; at this point in time, it has not penetrated the health and wellness discussion for the average consumer. However, given fiber's designation as a Dietary Guidelines for Americans nutrient of concern, GFF and the industry can benefit from positive fiber messaging.

* Ferruzzi MG¹, Jonnalagadda SS, Liu S, Marquart L, McKeown N, Reicks M, Riccardi G, Seal C, Slavin J, Thielecke F, van der Kamp JW, Webb D. *Adv Nutr.* 2014 Mar 1;5(2):164-76. *Developing a standard*

○ *definition of whole-grain foods for dietary recommendations: summary report of a multidisciplinary expert roundtable discussion.*

Articles of interest

Fiber-Based Ingredient May Cause People to Eat Less During Meals

Science World Report, 8/26/14

Scientists have found that a fiber-based dietary ingredient makes people feel less hungry and consume less food, which could be a way to help combat obesity in the future. The scientists tested whether a new product, consisting of a combination of dietary fiber sources, including a whole grain corn flower, could make people feel fuller for longer and influence the amount of food they ate.

The Bigger Picture: Dietary Fibre Measurement Method Adopted Globally

Food Navigator, 8/1/14

A test method pioneered by Irish diagnostic technology company Megazyme International has become the global method of choice for ensuring dietary fiber content is not “double counted” on nutritional labels.

Focus on Health May be 2014’s Biggest Trend

Consumer Affairs, 4/25/14

○ Food trends expert Elizabeth Sloan names whole grains, fiber and vitamin D as favorite functional food ingredients for the two-thirds of consumers trying to manage their weight.

Brawn, Brains and Grains of Truth

Medscape, 4/3/14

Dr. David Katz of Yale writes an all-encompassing editorial about the impact that environment, genetics, and nutrition have on our brains and its functions to primarily debunk Perlmutter’s *Grain Brain*. The “Grain of Truth” section asserts that whole grains do not make us fat or stupid. In fact, no one food has that power.

What Makes Whole Grains Whole? Researchers Target Europe-Wide Definition

Food Navigator, 2/4/14

HEATLHGRAIN is a consortium in the EU dedicated to defining the term “whole grain” for labeling and formulation purposes. It published a suggested definition for whole grains in the EU.

AACCI’s Whole Grains Working Group Unveils New Whole Grain Products Characterization

AACCI Press Release, 5/21/13

American Association of Cereal Chemists International’s Board of Directors approved the Whole Grains Working Group’s characterization of whole grain products. The characterization asserts that a whole grain food product must contain 8 grams or more of whole grain per 30 grams of product.

Whole Grains and Health: From Theory to Practice — Highlights of the Grains for Health Foundation’s Whole Grains Summit 2012

○ *The Journal of Nutrition*, May 2013

The 2012 Whole Grains Summit, held May 19–22, 2012, was the first meeting of its kind to convene more than 300 scientists, educators, food technologists, grain breeders, food manufacturers, marketers, health professionals and regulators from around the world. The goals of this meeting were to identify potential avenues for collaborative efforts; discuss new approaches to whole-grains research and health communications; support global initiatives to improve public health; and generate new opportunities for



product innovation and added value to the food industry. This paper provides a summary of the meeting highlights, including discussion around fiber and the whole grain food definition.

Health Claim Notification for Whole Grain Foods

FDA Website, July 1999

This Web page reviews the whole grain health claim petition that had been submitted by General Mills. In this instance, the FDA defined “whole grain food” as one that contains 51 percent or more whole grain ingredient(s) by weight per reference amount customarily consumed (RACC).

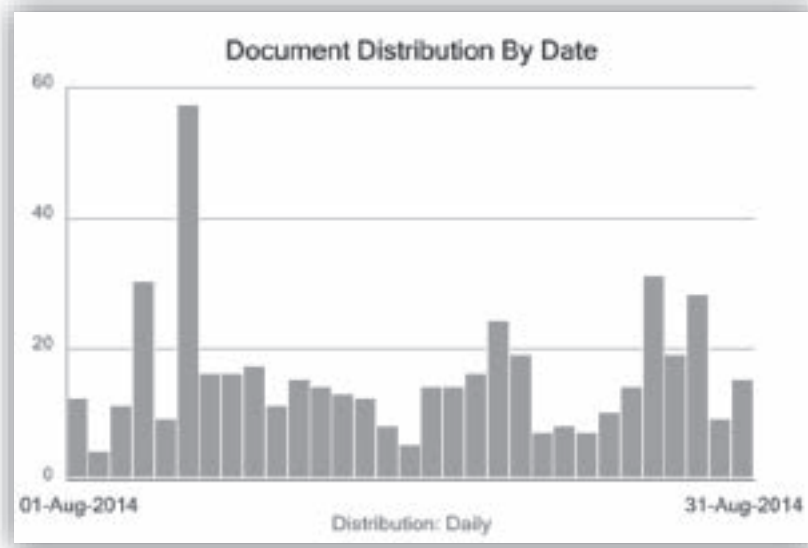


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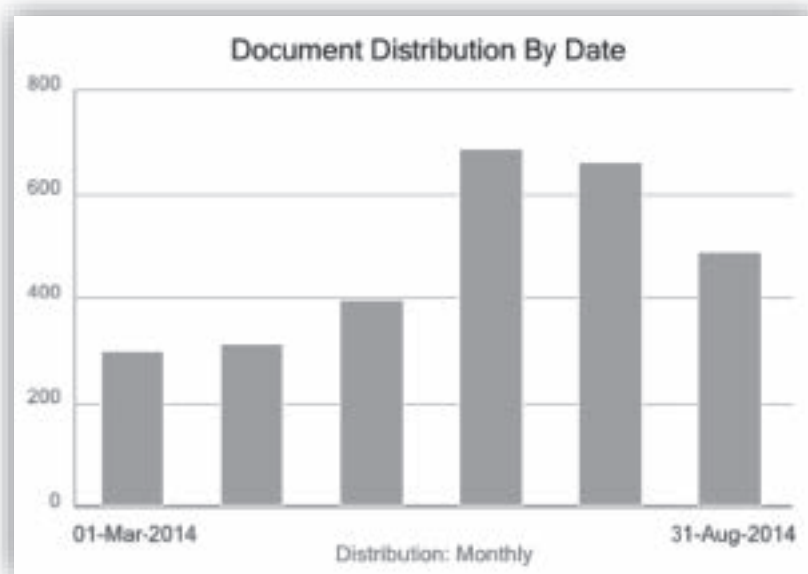
Media Charts

Overall, media coverage mentioning whole grain foods and fiber remained steady around 300 articles average per month, with an increase in June and July 2014 from that norm. That spike in coverage focused on the health benefits of consuming whole grains and fiber, as well as a study which found that a fiber-based ingredient may help people eat less at meals.

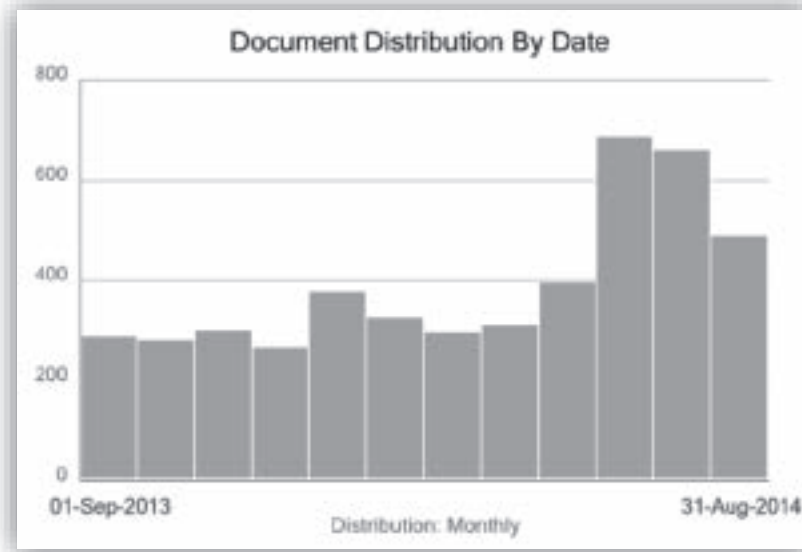
Whole Grain and Fiber Mentions (Past Month)



Whole Grains and Fiber Mentions (Past Six Months)



Whole Grains and Fiber Mentions (Past Year)



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GFF Positive Platform: Whole Grain and Fiber Definitions

GFF supports the Dietary Guidelines for Americans (DGA) recommendations for whole grain and fiber intake, and recognizes that both of these dietary components are vastly underconsumed by the US population. Grain-based products are a significant source of both fiber and whole grains, and the industry has an opportunity with respect to formulating products that help fill the fiber and whole grain gaps.

Recognizing the lack of a clear definition for the term “whole grain food,” GFF supports ongoing dialogue to develop a definition. Establishing a standardized definition would benefit the industry in terms of product development as well as the health professional/research community, as it would result in standardized research findings that could be confidently applied to nutrition policy efforts such as the DGA.

Questions and Answers

What are the benefits of consuming fiber and whole grains?

Adequate whole grain and fiber intakes have been associated with positive health outcomes, such as a reduced risk of heart disease, obesity and type 2 diabetes.

Why is establishing a standard definition for whole grain food important?

Defining the term “whole grain food” could benefit the industry in terms of product development and opening the door for potential health claims; it could also benefit the research community by helping standardize research studies and findings, which could then be more easily translated into policy efforts such as the DGA. However, GFF recognizes the difficulties in establishing this type of definition in light of the unique formulation considerations for each grain product.

What do consumers think about fiber and whole grain definitions?

Consumers recognize the importance of consuming fiber and whole grains, yet they broadly underconsume them compared with DGA recommendations. Furthermore, many consumers incorrectly perceive the terms fiber and whole grain as interchangeable and incorrectly believe that all whole grains are rich in fiber.

However, the conversation about fiber and whole grain food definitions remains limited to the food industry, regulatory bodies and health professionals.

Why is this topic important to GFF investors?

Because grain foods are a key fiber/whole grain source, this presents an educational opportunity for GFF to share its messages with influencers and consumers, especially because fiber is a nutrient of concern per the DGA.



Additionally, as fiber and whole grain food definitions are revised, these could have a tremendous impact on product development, health claims, and ultimately help standardize research methodology and ultimately change the health outcomes in the fiber and whole grain findings. GFF will continue to monitor this issue closely and participate in the dialogue as appropriate.





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