



DELIVERING WHOLE GRAIN NUTRITION:

Addressing the Gap Between Awareness and Consumption

Until about a century ago, most people ate whole grains in their diets every day. But with the development of modern milling and processing technologies, removing the bran and the germ became the norm to make refined flours for softer breads and bakery items that stayed fresh longer.

Now, the pendulum is swinging back toward consumption of whole grains as they are once again recognized as important sources of nutrients such as fiber, vitamins, trace minerals and phytochemicals, all of which play a role in the maintenance of good health.^{1,2} A wide body of research links whole grain consumption to maintaining cardiovascular health, glycemic control, support of healthy gastrointestinal function and weight management.^{3,4,5,6}

Americans do recognize the importance of whole grains and fiber in their diet. According to the 2017 Food and Health Survey from the International Food Information Council Foundation (IFIC), more than 80 percent of U.S. consumers view whole grains and fiber as components of a healthy diet. What's more, 70 percent say they have made an effort to eat more foods with whole grains.⁷

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But still, many people are not getting enough whole grains in their diet. As recently as 2015, the U.S. dietary guidelines⁸ still identified fiber intake as an area of concern for U.S. consumers, and data from the National Health and Nutrition Examination Survey (NHANES) study noted that whole grain and dietary fiber consumption was well below recommended levels for all age groups.⁹ This guideline also continues to support increased consumption of whole grains.

Slow progress

However, the picture is starting to change, but slowly. A 2016 study noted that children and adults were meeting their daily intake goals for grain food overall, but whole grains as a percentage of total grain intake still falls below recommended levels.¹⁰ A 2017 review of NHANES data also showed a modest improvement of whole grain consumption among adolescents, but this was primarily isolated to adolescents from higher-income families.¹¹ (The USDA recommends that adult women get up to six daily servings of ounce-equivalent grains and men get up to eight daily servings of ounce-equivalent grains, half of which should be from whole grains.¹²)

So why is there still this whole grain gap? Possibly because many people may still prefer the lighter taste and texture of products with refined grains. But perhaps people remain confused about the relationship between whole grains and fiber. According to The Whole Grains Council, this is due in part because of how they are defined and listed on food labels.¹³

Fiber and whole grains are actually two distinct things, and are listed separately on labels. Dietary fiber is a component of whole grains, so they are inextricably tied together. Still, there is a lot to know and it can be confusing. First, the definition of whole grains is important – and their health properties are linked to consumption of the whole package. Simply put, whole grains consist of the entire grain, including the bran, the germ, and the endosperm. Whole grains are found in many foods, including whole wheat, whole oats and oatmeal, whole grain corn meal, various ancient grains, like amaranth and quinoa, and even popcorn.¹⁴

But it is also important to know that different whole grains contain varying amounts of fiber. This is significant because food labeled as “high in fiber” must contain at least five grams of fiber per serving. A full serving of whole grains – 16 grams – can contain anywhere from a half a gram of fiber to three grams of fiber, because there is much more included than just fiber... so most foods must have fiber added in order to carry a “high fiber” designation. And some whole grain foods may not be a good source of fiber.

The U.S. Food and Drug Administration (FDA), as well as industry stakeholder groups, are trying to provide more clarity on the subject for both product manufacturers and consumers. The most recent guidance from FDA on Whole Grain Label Statements defines whole grains as “cereal grains that consist of the intact, ground, cracked or flaked caryopsis, whose principal anatomical components – the endosperm, germ and bran – are present in the same relative proportions as they exist in the intact caryopsis, should be considered a whole grain.”¹⁵

The guidance provides a list of acceptable whole grains and other stipulations, such as that corn flour or corn meal should include the pericarp as well as other essential fractions (germ, endosperm and seed coat) as a whole grain corn. It further adds that depending on the context in which a whole grain statement appears on the label, it could be construed as meaning that the product is “100% whole grain.” The guidance also notes that, while FDA has not established any claims concerning grain content in foods, manufacturers may use health claims based on an authoritative statement from a scientific body relating whole grains with reduced risk of coronary heart disease and certain cancers on product labels for qualifying foods based on a FDAMA (the FDA Modernization Act of 1997) notification.⁴

Not all whole grains have equal fiber content

Grain	% of Grain that Contains Fiber	Fiber in 16 Grams of this Grain
Amaranth (uncooked)	6.7%	1.1 grams
Barley	17.3%	2.8 grams
Buckwheat	10%	1.6 grams
Kamut® Khorasan Wheat	11.1%	1.8 grams
Millet	8.5%	1.4 grams
Oats	10.6%	1.6 grams
Quinoa	7%	1.1 grams
Rye	15.1%	2.4 grams
Sorghum	6.7%	1.1 grams
Spelt Wheat	10.7%	1.7 grams
Triticale	14.6%	2.3 grams
Wild Rice	6.2%	1.0 gram

Health claims for whole grains

To provide additional clarification to these rules and how they apply to food products, the Healthgrain Forum, a not-for-profit consortium of academics and industry professionals working with cereal groups, published a paper with a relatively simple whole grain definition that aligns with current intake recommendations that can be applied across product categories. The paper recommends that a food labeled as “whole grain” should contain ≥30% whole grain ingredients in the overall product and more whole grain than refined-grain ingredients, both on a dry weight basis.¹⁶

The paper notes that “the definition allows easy comparison across product categories and encourages a move from generic whole grain labels to reporting the actual percentage of whole grain in a product.”

Source: USDA National Nutrient Database SR 26, updated May 7, 2018
<https://ndb.nal.usda.gov/ndb/search/list>

Suppliers are also doing their part to provide a next-generation of whole grain ingredients that can help deliver 100% whole grain nutrition, as well as great functionality for taste, texture and shelf life. For example, Cargill's MaizeWise® whole grain corn products, including whole grain corn meal, whole grain corn flour and whole grain masa flour, can be used as a direct replacement for existing ingredients while meeting the FDA-approved whole grain claim. The ingredients are specially treated for enhanced storage stability and come in a spectrum of flavors from neutral to toasted corn.

Both of these types of efforts will help to further interpret whole grain labels for both manufacturers and consumers to address the persistent disparity between awareness and interest in whole grain foods and consumption.

References

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Claims: The labeling, substantiation and decision making of all claims for your products is your responsibility. We recommend you consult regulatory and legal advisors familiar with all applicable laws, rules and regulations prior to making labeling and claims decisions.