

Whole Grain Resource

What is a Whole Grain?

Whole grains consist of the entire cereal grain seed or kernel. The kernel has three parts — the bran, the germ, and the endosperm. Usually the kernel is cracked, crushed, or flaked during the milling process. If the finished product retains the same relative proportions of bran, germ, and endosperm as the original grain, it is considered a whole grain.

When you see the following words, you will know that, by regulation (Food and Drug Administration (FDA) Standards of Identity), they describe whole grains that are used as ingredients:

- Cracked wheat
- Crushed wheat
- Whole-wheat flour
- Graham flour
- Entire-wheat flour
- Bromated whole-wheat flour
- Whole durum wheat flour

Common and usual names for other whole grains are noted below:

- The word *whole* listed before a grain, for example, *whole* corn.
- The words *berries* and *groats* are also used to designate whole grains, for example, wheat berries or oat groats.
- Rolled oats and oatmeal (including old-fashioned, quick-cooking, and instant oatmeal).
- Other whole-grain products that do not use the word “whole” in their description, for example, brown rice, brown rice flour, or wild rice.

A more comprehensive list of whole grains is provided as Attachment A.

Grain products (ingredients) that are not whole grains:

Flour has been designated by the FDA as the term for refined wheat flour. The following ingredients are not whole grains:

flour	phosphated flour	hominy
white flour	self-rising flour	farina
wheat flour	self-rising wheat flour	semolina
all-purpose flour	enriched self-rising flour	degerminated corn meal
unbleached flour	bread flour	enriched rice
bromated flour	cake flour	rice flour
enriched bromated flour	durum flour	couscous
enriched flour	corn grits	
instantized flour	hominy grits	

Grain products that may or may not be whole-grain:

- “Pot” or “Scotch” barley and “pearl” or “pearled” barley are *not* whole grains because bran has been removed. Look for the words whole barley or whole-grain barley on the product label or in the ingredient statement. However, the FDA has recognized that “dehulled barley” is a whole grain.
- “Stone ground” does not necessarily mean that the product is whole-grain. “Stone ground” describes the process used for making the flour or meal. Look for “whole” in combination with “stone ground” in the ingredient statement.
- Whole corn “treated with lime” (often used in tortilla products, and may be called “masa”) would only be a whole grain if documentation from the manufacturer indicates that the manufacturing process used to prepare the corn with lime retains the pericarp, or bran layer.
- When a grain name, such as corn, oats, or rye flour, is listed in the ingredient statement, but no descriptor (such as “whole grain” for corn or “brown” for rice) is listed, the SFA needs to obtain further documentation from the manufacturer before purchasing the food product to meet the Healthier US School Challenge criteria.

How Do I Purchase Whole-Grain Products or Develop Whole-Grain Product Descriptions (Specifications)?

Use the following information to guide your decisions.

A. Whole grains as the primary ingredient by weight of the product. Specify that a whole grain will be the first ingredient on the ingredient label or the primary ingredient by weight. Ask that food product labels and ingredient statements be submitted with the vendor’s bid on whole-grain products. If the first ingredient is not a whole grain, and there are multiple whole grains in the ingredient list, request documentation from the manufacturer as to the weight of the first ingredient and the total weight of all of the whole-grain ingredients. If the total weight of the whole-grain ingredients is greater than the weight of the first ingredient, the food product would meet Group A.

B. Whole grains as the primary *grain* ingredients of the product. Specify that a whole grain be the first grain ingredient of the product. Ask that food product labels and ingredient statements be submitted with the vendor’s bid on whole-grain products. If the first grain ingredient is not a whole grain but there are multiple whole-grain ingredients in the product, require the manufacturer to complete a product formulation statement documenting the weight of the first (refined) grain ingredient and the total weight of the whole grains. If the total weight of the whole-grain ingredients is greater than the weight of the first grain ingredient, the food product would meet Group B.

Flour blends of whole-grain and enriched flours -- Some manufacturers make products using a specialty blend of two or more flours that is part whole grain and part refined flour. In this case, the manufacturer must provide documentation to show that the primary grains in the product are whole grains to meet Group B.

Regardless of the type of whole-grain food purchased, ensure in your specification that the serving size of the whole-grain food is equal to a serving of Grains/Bread as defined in the *Food Buying Guide*, pages 3.15-3.16.

Looking at the Whole Product:

Before purchasing new products containing whole grains, look carefully at the whole product, not just the whole grains. In keeping with the 2005 Dietary Guidelines for Americans (DGA) recommendations, SFAs should offer whole-grain products that are low in sugars and/or fat. The goal is to offer nutritious whole-grain foods that students can enjoy. Including a dessert on a limited basis as an element of a reimbursable meal can have the positive effect of increasing acceptance and encouraging children to more fully participate in the meal service. We do not support using dessert items to meet the bread requirement in every meal, but we do acknowledge the benefit on occasion.

Storing Whole Grains:

As with all foods, use FIFO (First In, First Out) principles when storing whole grains. Because whole-grain ingredients (e.g., whole-wheat flour, brown rice) retain the bran and the oil-rich germ, these items may turn rancid when stored in warm areas. To increase the shelf life, store these products in a cool, dry place in airtight containers. If the whole-grain products will not be used within a short period of time, they should be stored in the refrigerator or freezer.

Taste-Testing of Whole-Grain Products:

Some students may not be familiar with whole-grain products. To encourage them to try different products, schools can have student taste tests to select products that have the most student appeal. By documenting the taste tests and student preferences, SFAs may develop a list of approved whole-grain products for purchase.

Introduce whole grains in student favorites, such as pizza or spaghetti, and gradually increase the amount of whole grains in recipes over the school year as students adapt to the changes.

Ideas for Adding Whole Grains to Menus in Child Nutrition Programs:

Whole-grain ready-to-eat cereals
Whole-grain cooked breakfast cereals
Granola made from whole grains
Whole-grain cereal or granola bars
Whole-grain pancakes or waffles
Whole-grain bagels or muffins
Whole-wheat breads, rolls, or buns
Other whole-grain breads, rolls, or buns
Whole-grain tortillas, taco shells
Whole-grain chips/pretzels
Whole-grain pita pockets
Whole-grain cornbread
Whole-grain crackers or cookies

Whole-grain side dishes (e.g., brown rice, wild rice, cracked wheat, whole-grain bulgur or barley, whole specialty grains)
Whole-wheat pasta, such as macaroni, spaghetti, vermicelli, or whole-grain noodles
Whole-grain salads (cracked wheat, whole-grain bulgur, whole specialty grains)
Other uses of whole grains (soups, casseroles, combination dishes)
Soba noodles (with whole buckwheat flour as primary ingredient)

Attachment A: List of Common Whole Grains

While this list is extensive, it is NOT comprehensive and therefore may not contain all possible representations of whole-grain ingredient names on food labels.

WHEAT (RED) – the most common kind of wheat in the U.S.

- wheat berries
- whole-grain wheat
- cracked wheat or crushed wheat
- whole-wheat flour
- bromated whole-wheat flour
- stone ground whole-wheat flour
- toasted crushed whole wheat
- whole-wheat pastry flour
- graham flour
- entire wheat flour
- whole durum flour
- whole durum wheat flour
- whole-wheat flakes
- sprouted wheat
- sprouted wheat berries
- bulgur (cracked wheat)
- whole bulgur
- whole-grain bulgur

WHEAT (WHITE)

- whole white wheat
- whole white wheat flour

OATS

- whole oats
- oat groats
- oatmeal or rolled oats
- whole-oat flour

LESS COMMON GRAINS: to be whole grains, “whole” must be listed before the grain name.

- einkorn
- Kamut®
- emmer (farro)
- teff
- triticale
- spelt
- buckwheat
- amaranth
- sorghum (milo)
- millet
- quinoa

BARLEY

- whole barley
- whole-grain barley
- whole-barley flakes
- whole-barley flour
- whole-grain barley flour
- dehulled barley
- dehulled-barley flour

CORN

- whole corn
- whole-corn flour
- whole-grain corn flour
- whole-grain cornmeal
- whole cornmeal
- whole-grain grits

BROWN RICE

- brown rice
- brown-rice flour

WILD RICE

- wild rice
- wild-rice flour

RYE

- whole rye
- rye berries
- whole-rye flour
- whole-rye flakes