



Whole Grains, Gluten-Free

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What makes a grain a “whole grain?”

A whole grain is a grain that contains all three of the main parts of the grain (endosperm, bran, and germ). A whole grain has not been refined and stripped of important nutrients. The bran, or outer protective layer of the grain, contains the fiber and a large amount of B vitamins. The germ is the embryo of the seed and it contains unsaturated fat, vitamin E, protein, minerals, and B vitamins. Finally, the endosperm consists mostly of carbohydrates and B vitamins.

Why are whole grains beneficial to health?

Since the bran and most of the germ are removed during the process of refining and milling of grains, the majority of the fiber, minerals, and vitamins are lost. Whole grains, however, still contain the nutrients naturally found in all three parts of the grain. It's crucial to consume whole grains regularly so that you can benefit from these valuable nutrients. Including whole grains as part of a healthy diet can also help reduce the risk of some chronic diseases, including heart disease and type 2 diabetes.

Why are whole grains important in a gluten-free lifestyle?

People with celiac disease can find many specialty gluten-free products in grocery stores. However, many of these products are based on cornstarch, potato starch, tapioca starch and/or white rice flour. The nutrient composition of these is significantly less dense than those made with whole grains. For this reason, people following a gluten-free lifestyle should try to incorporate whole grains into their diets to get an adequate intake of fiber, minerals, and vitamins.

How to prepare whole grains

Cooking whole grains involves rinsing the grains in cold water, adding them to an appropriate amount of water (or stock), bringing the mixture to a boil, and simmering covered for a specific amount of time. These factors will vary with the type of grain and recipe being used. (See chart below.) But you can experiment with an approximately 2:1 ratio of liquid to grain, for most grains and cook until tender. If liquid has been completely absorbed and grain is still not tender, gradually add small amounts of additional liquid until absorbed and done.

How to store whole grains

Whole grains have a shorter shelf life than refined grains. They are best kept in airtight containers. It is best to store them in a cool, dark and dry environment. Most whole grains can be stored at room temperature for up to one year under these specific conditions. Millet and oats are best used within 2-3 months. Whole grain flours are best kept in the refrigerator for up to 6 months or in the freezer for up to 1 year.

Delicious Gluten-Free Whole Grains

- Amaranth
 - Buckwheat
 - Polenta
 - Quinoa
 - Millet
 - Rice
 - Sorghum
 - Teff
 - Wild Rice
-
- **Choose certified or labeled gluten-free options to avoid risk of gluten exposure through cross-contact with other grains.**

How to Cook Whole Grains

| Type of Grain | Water (or broth) per 1 cup grain | Basic Cooking Method |
|------------------|----------------------------------|--|
| Amaranth | 2.5-3 cups | Combine seeds with two and a half cups water and bring to a boil. Reduce heat, cover and simmer for up to 20 minutes, until grains are fluffy and water is absorbed. For a porridge-like consistency, use slightly more water (three cups for one cup of grain) and cook a little longer. You can also “pop” amaranth like corn; simply preheat a pot or skillet over high heat (must be very hot), and add amaranth seeds one or two tablespoons at a time (adding too many seeds at once can cause them to burn). Continuously stir the seeds with a spoon as they pop, and once mostly popped, quickly remove from pan. Repeat with more seeds if desired. Popped amaranth can be enjoyed on its own or served with milk and fruit for a healthy breakfast. |
| Buckwheat | 2 cups | For raw buckwheat groats, toasting is highly recommended to lend a pleasant, nutty taste. (You can also buy buckwheat groats pre-toasted, in which case they will be labeled “kasha.”) To toast: place groats in dry pan over medium heat, stirring for five minutes, until browned. Whether you’re preparing kasha or untoasted buckwheat groats, place in a pot with water and bring to a boil. Reduce heat to low, and simmer until tender. Cook un-toasted buckwheat approximately 20-30 minutes. Cook kasha 15-20 minutes. |
| Polenta | 3 cups | Place water in a large pot. Bring to a boil and add ½ - 1 tsp. salt. Reduce heat to medium low. Sprinkle one third of the polenta into the pot. Use a wooden spoon to stir it into the water. The polenta and water should form a paste after about two minutes. Add the remaining polenta to the pot. Keep stirring for about ten minutes. Polenta is ready when the texture becomes creamy. Don’t overcook the polenta, or it may become too mushy. |
| Quinoa | 2 cups | While it’s best to rinse all grains before cooking, pre-washing is especially advisable for quinoa in order to remove the bitter saponin coating on its outer hull that sometimes remains after processing. To do so, simply run cold water over quinoa in fine-meshed strainer, rubbing the seeds with your fingers. (Avoid soaking quinoa, however, as saponins can leach into the seeds.) After rinsing, place quinoa and water in a pot, bring to a boil and cover. Reduce heat and simmer for about 15 minutes, until the grains become translucent and the germ appears as a thin white ring around each grain. Fluff with a fork. |

| Type of Grain | Water (or broth) per 1 cup grain | Basic Cooking Method |
|----------------------------------|----------------------------------|---|
| Millet | 2 cups | Combine millet and water; bring to a boil, reduce heat & simmer. If you leave it alone as it cooks, you'll get fluffy grains like rice; if you stir frequently and add a little extra liquid during cooking, you'll get a dish that resembles mashed potatoes. Cooking time: approximately 25 minutes. |
| Rice (brown, black, purple, red) | 2 ¼ cups | Bring water to a rolling boil. Add rice. Reduce to a simmer, cover with tightly fitting lid and cook for 40-50 minutes until water is absorbed; turn off heat and let sit 5-10 minutes. Prior to serving, fluff with a fork. |
| Sorghum | 3 cups | For a great side dish, begin by toasting your sorghum in a dry pan until it's slightly fragrant and golden. This will enhance the complexity of its nutty flavor. Then, cook the grain with water for about 50 minutes, until tender. You can also pop sorghum. (Note that some types of sorghum pop better than others.) Just pour a layer of dried grain in the bottom of a pan with a little oil, cover, turn on the heat and wait until you hear light little pings speed up and then slowdown in the pot. |
| Teff | 3 cups | Combine teff and water in a pot and bring to a boil. Reduce heat to low, cover and simmer for about 20 minutes, until water is absorbed. You may stir occasionally towards the end of cooking. |
| Wild Rice | 3 cups | Place wild rice and water in a pot and bring to a boil. Reduce heat, cover and simmer for 40-50 minutes. Fluff with a fork before serving. |

This educational bulletin has been produced by the Gluten Intolerance Group of North America, a registered 501(c)3 organization. Learn more about GIG at www.gluten.org.

GIG is on a mission to make life easier for everyone living gluten-free.

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Gluten Intolerance Group (GIG)
31214 – 124th Ave. S.E.
Auburn, WA 98092-3667
Phone: 253-833-6655
Fax: 253-833-6675
customerservice@gluten.org

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Cooking Tips for Whole Grains:

Rinse before cooking!

Always rinse grains thoroughly under cool running water to remove debris.

For fluffier grains:

Toast the grain first in a dry skillet over a burner for a couple of minutes until the grain starts to give off a nutty aroma or pop.

For stickier grains:

Add the grains directly to cold water before bringing to a boil.