

Cooking with Grains

In most countries of the world, grains and grain products—flour, bread, cereal and pasta—are the chief forms of sustenance. They provide about 50 percent of the world's calories and indirectly contribute much of the other half, since grains are also fed to the animals from which we get meat, eggs and dairy products.

Between 65 percent and 90 percent of the calories in grains come from carbohydrates (mostly complex). Grains are also rich in both soluble fiber (the kind that lowers blood-cholesterol levels) and insoluble (the kind that helps to prevent constipation and help protect against some forms of cancer). Moreover, grains—especially whole grains—and grain products offer significant amounts of B vitamins (riboflavin, thiamin and niacin), vitamin E, iron, zinc, calcium, selenium and magnesium.

All grains need to be cooked in a liquid to make them edible. Unlike pasta, which is cooked in large quantities of water, grains are cooked in just the amount of liquid necessary to soften and plump them. This also preserves the grains' considerable B vitamin content, which would be lost to any excess cooking liquid.

What's in a grain?

*Not all grains are botanically related—true grains, such as wheat, rice, oats, rye, millet, corn, triticale and barley, are members of the grass family, *Gramineae*; other so-called grains, such as amaranth, quinoa and buckwheat, belong to different botanical families. But the kernels of the different grains all have a similar composition:*

Kernel: *A kernel is an edible seed composed of three parts—the bran, the endosperm and the germ, or embryo. Some grains, notably rice, oats and some varieties of [barley](#), are also covered by an inedible papery sheath called the hull, which must be removed before the grain can be processed or consumed. Within each kernel are the nutrients needed for the embryo to grow until the plant can take root and get nourishment from outside sources.*

Bran: *The bran is the outer covering of the kernel. It makes up only a small portion of the grain but consists of several layers—including the nutrient-rich aleurone—and contains a disproportionate share of nutrients. The bran layers supply 86 percent of the niacin, 43 percent of the riboflavin and 66 percent of all the minerals in the grain, as well as practically all of the grain's dietary fiber. In some grains—wheat and corn, for example—the fiber is primarily insoluble, while in other grains, such as oats and barley, it is mainly soluble. Whole grains almost always contain the bran, but it is usually stripped away during milling and so is missing from most refined grain products.*

Endosperm: *The starchy endosperm accounts for about 83 percent of the grain's weight. Most of the protein and carbohydrates are stored in the endosperm, as are some minerals and B vitamins (though less than are in the bran). This layer also has some dietary fiber; for example, about 25 percent of the fiber in wheat is found in the endosperm. In wheat, the endosperm is the part of the grain used to make white flour.*

Germ: *The smallest part of the grain is the germ; it constitutes about two percent of the kernel's weight. Located at the base of the kernel, the germ is the part of the seed that if planted would sprout to form a new plant. It contains a good amount of polyunsaturated fat, and, as a consequence, is often removed during milling to prevent grain products from turning rancid. The germ is also relatively rich in vitamin E and the B vitamins—though it has fewer of the latter than are found in the bran or endosperm—and some minerals.*

Cooking Grains

Here are some general guidelines for cooking grains: Place the appropriate amount (see chart) of water and/or broth in a saucepan; cover and bring to a boil over high heat. Add the grain (and $\frac{1}{4}$ teaspoon of salt, if desired) and return to a boil. Reduce to a simmer and cook, stirring occasionally, according to the method/times listed below. Toward the end of the cooking time, you may need to stir more frequently. This is especially true of the finer granulations, such as cornmeal, grits, oatmeal, teff, and bulgur. **Note: The cooking methods, times, and yields for the grains in this chart are all based on $\frac{1}{2}$ cup of uncooked grain.**



AMARANTH

LIQUID: $1\frac{1}{2}$ cups

METHOD: Simmer, covered,
for 30 minutes

YIELD: $1\frac{1}{3}$ cups



BARLEY, HULLED

LIQUID: 2 cups

METHOD: Simmer, covered,
for 1 hour 40 minutes

YIELD: $1\frac{1}{4}$ cups



BARLEY, PEARL

LIQUID: $1\frac{1}{2}$ cups

METHOD: Simmer, covered,
for 30–45 minutes

YIELD: 2 cups



BARLEY, QUICK-COOKING

LIQUID: 1 cup

METHOD: Simmer, covered,
for 10–12 minutes. Let stand
5 minutes

YIELD: $1\frac{1}{2}$ cups



BARLEY, GRITS

LIQUID: 2 cups

METHOD: Simmer, covered,
for 20 minutes

YIELD: $1\frac{3}{4}$ cups



BUCKWHEAT, WHOLE GROATS, UNROASTED

LIQUID: 1 cup

METHOD: Simmer, covered,
for 15 minutes

YIELD: $1\frac{3}{4}$ cups



BUCKWHEAT, WHOLE GROATS, ROASTED

LIQUID: 1 cup

METHOD: Simmer, covered,
for 13 minutes

YIELD: $1\frac{1}{2}$ cups



OATS, STEEL-CUT

LIQUID: 2 cups

METHOD: Simmer, uncovered, for 40–45 minutes

YIELD: 1½ cups



OATS, ROLLED

LIQUID: 1 cup

METHOD: Simmer, uncovered, for 5 minutes

YIELD: 1 cup



OATS, QUICK-COOKING

LIQUID: 1 cup

METHOD: Simmer, uncovered, for 1 minute. Let stand for 3–5 minutes

YIELD: 1 cup



QUINOA

LIQUID: 1 cup

METHOD: Rinse the quinoa well. Simmer uncovered, for 15 minutes

YIELD: 2 cups



RICE, BROWN, LONG-GRAIN

LIQUID: 1 cup

METHOD: Simmer, covered, for 25–30 minutes

YIELD: 1½ cups



RICE, BROWN, SHORT-GRAIN

LIQUID: 1 cup

METHOD: Simmer, covered, for 40 minutes

YIELD: 1½ cups



RICE, WHITE, LONG-GRAIN

LIQUID: 1 cup

METHOD: Simmer, covered, for 20 minutes

YIELD: 1¾ cups



KASHA

LIQUID: 1 cup

METHOD: Simmer, covered, for 12 minutes

YIELD: 2 cups



CORNMEAL

LIQUID: See method

METHOD: Whisk ½ cup cold water into cornmeal. Stir mixture into 1½ cups boiling water. Cook, stirring, for 10 minutes

YIELD: 2 cups



HOMINY, WHOLE DRIED

LIQUID: Soak for 8 hours

METHOD: Drain and simmer, covered, in 3 cups of water for 2½ to 3 hours

YIELD: 1½ cups



**HOMINY GRITS,
COARSE**

LIQUID: 2½ cups
METHOD: Simmer, uncovered,
for 30 minutes
YIELD: 1½ cups



FARRO/SPELT

LIQUID: 2 cups
METHOD: Simmer, covered,
for 1 hour
YIELD: 1¾ cups



KAMUT

LIQUID: 1½ cups
METHOD: Simmer, covered,
for 1 hour 10 minutes
YIELD: 1¼ cups



MILLET

LIQUID: 1½ cups
METHOD: Simmer, covered,
for 25 minutes. Let stand
for 10 minutes
YIELD: 2½ cups



**RICE, WHITE,
SHORT-GRAIN**

LIQUID: 1½ cups
METHOD: Simmer, covered,
for 20 minutes
YIELD: 1¾ cups



**RICE, WHITE,
BASMATI**

LIQUID: 1 cup
METHOD: Simmer, covered,
for 15–18 minutes
YIELD: 2 cups



**RICE, WHITE,
JASMINE**

LIQUID: 1 cup
METHOD: Simmer, covered,
for 18 minutes
YIELD: 1¾ cups



RYE BERRIES

LIQUID: 1½ cups
METHOD: Simmer, covered,
for 2 hours
YIELD: 1½ cups



TEFF

LIQUID: 1½ cups
METHOD: Simmer, covered,
for 15 minutes
YIELD: 1½ cups



**TRITICALE
BERRIES**

LIQUID: 1½ cups
METHOD: Simmer, covered,
for 1 hour 10 minutes
YIELD: 1¼ cups



WHEAT BERRIES

LIQUID: 1½ cups
METHOD: Simmer, covered,
for 1 hour 10 minutes
YIELD: 1¼ cups



CRACKED WHEAT

LIQUID: 1 cup

METHOD: Simmer, covered,
for 15 minutes

YIELD: 1 cup



BULGUR

LIQUID: 1 cup

METHOD: Simmer, covered,
for 15 minutes

YIELD: 1½ cups



WILD RICE

LIQUID: 2 cups

METHOD: Simmer, covered,
for 45–50 minutes

YIELD: 2 cups

Source: *The Wellness Kitchen*, by the staff of *The Wellness Kitchen* and the editors of the University of California, Berkeley *Wellness Letter*.