

## Milling

The milling process affects the nutritional value and quality of the flour. Lower heat methods result in a nutritionally superior flour. Stone ground flour is milled by a slow process using granite stones, often powered by water which scatters the bran evenly through the flour and keeps the flour cooler than when ground with steel rollers. Although stone ground whole wheat flour is still available, most grains today are machine milled, with superior results.

Most of the whole grain flours sold in co-ops are milled by an impact or “hammer mill” that generates almost no heat so the grains do not get scorched. Our flour comes from companies that are well-respected for milling high-quality products.

## Refining

After milling, some flours are refined. The refining process strips away the fiber-rich bran and the germ which contains valuable vitamins and minerals. White flour is refined whole wheat flour. Flours labeled as wheat instead of whole wheat are often refined. Some refined flours have been enriched. This sounds a lot better than it is. Of the 22 nutrients that are lost in the refining process, only five are added back in the enrichment process. Whole grain flours are not refined and contain all of their valuable nutrients.

## About Bread Machines

Bread machines are convenient bread baking devices that allow you to have fresh, homebaked bread. A good place to start for making a whole grain loaf with your bread machine is to use one of the many bread mixes we carry.

If you want to make whole grain breads, be sure to buy the correct machine. It may be difficult to get a decent wheat-free bread from a machine. If you don't use wheat, you may wish to continue making your bread by hand. A machine will never have a feel for working the dough, and therefore will not be able to make adjustments in kneading that can be made when bread is made by hand. Be aware that some machines can only produce loaves from white flour or a white and wheat combination.

## A Note for People with Gluten Sensitivity

All forms of wheat, barley, kamut, oats, rye, spelt and triticale contain gluten. Amaranth has minute traces of gluten. All other grains and flours do not contain gluten if processed in a gluten-free environment.

*For more information on cooking without wheat, refer to our Food Allergy Solutions pamphlet.*



## ALL ABOUT *Flour*



We are over 100 consumer-owned grocery co-ops working together, across the country, to bring our passion for good food, our partnerships with local farmers and suppliers, our care for the community and the planet to you.

For a complete store listing, visit [www.ncga.coop/member-stores](http://www.ncga.coop/member-stores)

©2006, National Cooperative Grocers Association (NCGA)  
Printed on elemental chlorine-free, 10% post-consumer recycled paper using soy ink.



**FLOUR**, a basic and indispensable food staple, can vary in quality and nutrition depending on the type of grain and the milling process used. Baking and cooking with a variety of whole grains adds nutrition and excitement to your meals.

### Types of Wheat Flours

Flours made from wheat are the most common. Wheat contains the most gluten. Gluten is a protein found in some grains that helps bread rise and keep its shape. Flours with more gluten make better breads.

**All-purpose flour** is a blend of whole wheat bread flour and whole wheat pastry flour. This makes it a good choice for any of your baking needs.

**Durum flour** is ground from durum wheat, the hardest wheat grown. Semolina is refined durum flour. It is the flour commonly used for making pasta. The bran and germ have been removed by an airsifting process, giving semolina pasta its characteristic light color.

**Gluten flour** is made from hard wheat that has been treated to remove some of its starch and concentrate its protein. Gluten flour contains at least 70 percent pure gluten. It can be added to low-gluten flours to lighten the loaf. It is also used to make seitan (wheat meat). This is a highly refined flour and should be used sparingly to improve bread rising capabilities.

**Graham flour** named after Sylvester Graham, an early crusader against commercial white bread, is a coarse ground whole wheat flour. Used alone, it produces a heavy, compact, dark bread.

**Unbleached white flour** is highly refined. Although it has not been bleached, most of the nutrients have been removed during the refining process. Unbleached white flour is popular because of its versatility. It can be used for breads, pastries, cookies or cakes. To enhance the nutritional quality, substitute part of the white flour with whole wheat flour.

**Whole wheat bread flour** or hard whole wheat flour is ground from hard red spring or hard red winter wheat berries, and is the best for making breads and rolls.

**Whole wheat pastry flour** or soft whole wheat flour is milled from soft winter wheat berries, a different variety of wheat than the one used for bread baking. It has the ability to hold a lot of fat, and is ideal for pastry and cake making. Breads made with whole wheat pastry flour will not rise.

### STORAGE TIPS

**Whole grain flours contain some fats that can go rancid. They should be refrigerated in an airtight container and used within three months.**

**Refined flours should be kept in an airtight container in a cool, dry, dark place to keep out moisture and insects. Use within six months.**

**Flour can also be kept in the freezer in a plastic, airtight bag or container.**

### Other Flours

Flours come from many sources including grains, legumes, starchy vegetables, nuts and carob, but each has its own baking properties and uses.

**Amaranth flour** has minute traces of gluten and combines well with other flours to make smooth textured breads, muffins, pancakes and cookies. Amaranth is an ancient Aztec food with an impressive amount of protein, fiber and minerals.

**Barley flour** adds a nutty, malty flavor to breads or pancakes. Barley is usually used as a whole grain or in malting, but it is also valuable as a flour because it gives breads a cake-like texture and pleasant sweetness. It can also be used as a thickener.

**Brown rice flour** is nuttier and richer tasting than white rice flour and also more nutritious. It is useful for making breads, cakes, muffins, or noodles. Brown rice flour contains no gluten. Keep refrigerated to prevent spoilage.

**Buckwheat flour** is full-bodied and earthy flavored, the traditional flour of Russian blini, French Brittany crepes, Japanese soba noodles, and of course, buckwheat pancakes. Gluten-free buckwheat isn't really a grain, but a member of the rhubarb family.

**Corn flour**, more finely ground than cornmeal, is cream-colored, slightly sweet and gluten-free. It is not the same as cornstarch, which is used as a thickener.

**Kamut flour** is from a highly nutritious ancient form of wheat. Some people who are allergic to common wheat may not react to kamut. Use kamut flour for making breads with a slightly nutty flavor.

**Millet flour**, ground from whole millet, adds a nut-like, slightly sweet flavor to wheat breads. It is gluten-free and traditionally used in some African cuisines.

**Oat flour** is made by grinding oat groats to a fine consistency. Make your own by grinding rolled oats in a food processor or blender. It has only a small amount of gluten so if using it to make bread, add a gluten-containing flour to help it rise.

**Potato flour** is made from peeled and steamed potatoes that have been dried and ground. It is stark white and very fine. Used to thicken sauces, it can also be used the same way as brown rice flour. Potato flour is suitable for those on a gluten-free diet.

**Rye flour** produces a loaf with a full-bodied, bitter, slightly sour flavor. It does not contain enough gluten proteins to raise loaves well by itself and the gluten it contains is delicate. Rye loaves should be kneaded gently to avoid breaking the gluten strands.

**Soy flour** and **soya flour** are richer in calcium and iron than wheat flour, gluten-free and high in protein. Soy flour is ground from raw soybeans; soya flour from lightly toasted soybeans. Both add a slightly sweet, pleasant flavor to bread. Loaves made with soy flour brown quickly.

**Spelt flour** is from a non-hybridized wheat with a long cultivation history. It works well as a bread flour and has an exceptional protein and fiber profile. Spelt gluten is highly water soluble so that it is easy to digest. Spelt flour may be a good wheat substitute for some people who are allergic to wheat.