

Flour Power: Learn about Different Kinds of Flours

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Once upon a time, the typical American pantry included a single canister of flour. Today, supermarkets stock myriad milled options—reflecting increased consumer demand for diversity in the baking aisle. Whether exploring health trends, culinary interests or ethnic cuisines, here is some information your clients can use as they foray into the world of flours.

Flour is the finely-ground, sifted meal of grains, nuts, seeds, legumes or certain vegetables—and each kind of flour has a different nutrition profile and cooking or baking qualities.

Wheat Flours

Traditionally, the most prevalent flours are milled from wheat. Refined wheat flours are, by law, enriched with thiamin, riboflavin, niacin and iron, and fortified with folic acid. Whole-wheat flours naturally contain B vitamins and iron, in addition to selenium, potassium and magnesium. They also are good sources of fiber; however, whole-wheat flours may not be enriched with folic acid.

The wheat flour category alone is extensive. Ideal for bread making, flour from "hard" wheat is higher in protein—including gluten, which makes dough sticky, elastic and able to hold air bubbles formed by a leavening agent as the dough rises. Flours from "soft" wheat have less protein and less elastic quality, so they are better for delicate pastries and cakes.

All purpose flour. Refined blend of high-gluten hard wheat and low-gluten soft wheat. Milled with only the endosperm— not bran or germ. used for baking, thickening and breading. usually sold pre-sifted. Some fortified with calcium and vitamins A or D.

100% whole-wheat flour. Made from hulled red wheat grain (wheatberries). Provides more fiber and other nutrients. Used in place of all-purpose flour. Makes a heavier bread; in baked goods, often mixed with all-purpose flour for a lighter texture and better rising. Has a shorter shelf-life than all-purpose flour. WG

White whole-wheat flour. Made from hulled white spring wheat. Use instead of regular whole-wheat flour in baked goods for a milder taste and a light color. WG

Self-rising flour. All-purpose flour with added salt and baking soda. Convenience product not generally used for yeast breads. Leavening action of baking soda can diminish if stored too long

Cake or pastry flour. Fine-textured refined flour made from soft wheat. High in starch. Used for tender cakes and pastries.

Bread flour. Refined flour made from hard wheat and a small amount of barley flour. Very high gluten content. Used for bread making.

Gluten flour. Refined flour made from hard wheat with most starch removed. Significantly higher protein (gluten) content than all-purpose flour. Increases strength and rising power of dough. Blend with lower-gluten flours for bread.

Semolina flour. Generally coarsely-milled, refined hard durum wheat flour. Used for pasta, couscous, gnocchi and puddings. High in gluten. Coarsely-milled other wheat varieties or grains also may be called semolina, such as corn semolina (grits) and rice semolina. WG option

Non-Wheat Flours

Gluten-free bread mixes often are blends of flours from other grains or plant sources. For example, one gluten-free baking mix contains garbanzo bean flour, potato starch, tapioca flour, white sorghum flour and fava bean flour. And on their own, non-wheat flours also offer a variety of uses and qualities.

Although bulk options may be available for some flours, most are sold in pre-packaged quantities — and proper storage will increase their shelf lives. In particular, whole-grain flours (with oil from their germ) and nut flours may turn rancid over time. Refrigerate or freeze flours in airtight containers so they retain their powdery quality. And remember to bring to air temperature before using.

Almond meal/flour. Made from blanched almonds. Low in carbohydrates, high in protein. In ¼ cup: 6g protein, 3.5g fiber, 60mg calcium, 10 IU vitamin E (35% Daily Value) and 14g fat, nearly all unsaturated. Adds moisture and nutty taste to pastries, baked goods and dessert filling. Not meant to replace flour in yeast or quick breads. Short shelf life. GF

Amaranth flour. Ground from an ancient seed. Has a high level of complete protein, including lysine. Use in baked goods for up to 25 percent of flour content. Excellent thickener for sauces, gravies and soups. Has a slightly sweet, nutty flavor. GF

Barley flour. Made from pearl or whole-grain barley. Adds fiber to baked foods. In ¼ cup: 4g fiber. Contains gluten, but not enough for adequate rising. Good as a thickener in soups, stews, sauces and gravies. WG option

Buckwheat flour. Made from buckwheat, a cousin of rhubarb (not wheat varietal nor technically a grain). Combine with other flours to add a hearty, grassy flavor and color to bread. Good for pasta and pancakes. Whole buckwheat flour has a stronger flavor and more nutrients. White buckwheat is milder and has fewer nutrients. GF, WG option

Corn flour. Milled from the whole corn kernel (cornstarch is made from the endosperm). Use in breading or blend with other flour for batters or dough. Note: Corn meal can be ground into corn flour in a food processor. GF, WG option

Flaxseed flour or meal. Made by milling whole flaxseeds, making omega-3s available. In 2 tablespoons: 4g fiber. In baked goods, use as a fat or egg substitute. GF

Oat flour. Ground from oat groats. Used to replace some flour in a variety of recipes. Adds a rich, nutty flavor and denser texture. In baked foods that need to rise, must be combined with other flours. GF, WG

Peanut flour. Made from crushed, fully or partly defatted peanuts. In ¼ cup defatted peanut flour: 8g protein. Use to thicken or add flavor to soups and sauces. Adds nutty flavor to baked goods or main dishes. GF

Potato flour. Ground from whole, dried potatoes. In ¼ cup: 2.5g fiber and 400mg potassium (12% DV). Use as a thickener for smooth, creamy sauces, soups, gravies and frozen desserts. For baking, adds starch to dough, which attracts and holds water; makes bread more moist and extends freshness. Use ¼ cup per loaf of yeast bread (rye, white or whole-grain). In meat, chicken, fish and vegetable patties, extends, binds and retains moisture. GF

Rice flour, brown. Made from unpolished brown rice. In ¼ cup: 2g fiber in brown rice flour, compared to 1g flour in white rice flour. Nutty flavor. Used like white flour, but gives a grittier texture in baked goods such as cornbread and pound cake. GF, WG

Rice flour, white. Made from white rice. Used mostly in baked goods such as pie crusts and cookies. In shortbread, gives a tender mouth feel. Sweet or glutinous "sticky" rice flour is made from high-starch, short grain rice, which is used to thicken sauces in Asian dishes. (Does not contain gluten despite its name.) GF

Rye flour. Heavy, dark flour made from rye. In ¼ cup whole-grain dark rye flour: 4g fiber. Contains less gluten than all-purpose or whole-wheat flour. Produces heavy, dense bread. For better rising, blend with a higher protein flour. Mostly sold as medium rye flour; light and dark rye flours available. Pumpernickel flour is dark rye flour made from whole grain and used in bread making. WG option

Soy flour. Made from milled soybeans. High in protein, lower in carbohydrate than all-purpose flour. In ¼ cup: 10g protein, 8g total carbohydrate and 3g fiber. Good source of calcium and excellent source of iron and magnesium. Use to thicken sauces. As a wheat flour substitute in quick breads and cookies, use 1 part soy flour to 3 parts all-purpose flour. Reduces fat absorption in frying batter or dough. Lightly toast in a dry skillet over moderate heat for a nutty flavor. GF

Spelt flour. Made from spelt, an ancient grain and cousin to wheat. Slightly higher in protein (forms more gluten) than wheat flour. In ¼ cup: 4g protein, 4g fiber and 1.5g iron (8% DV) Has a mellow, nutty flavor. Can be substituted for wheat flour in baking. May cause reactions in wheat-allergic people. Both refined and whole spelt flour are available. WG option

Flours for the Ethnic Table

In kitchens around the world, there are many other flours for baking, thickening, bulking and binding the ingredients of ethnic dishes. These are typically ground from locally available foods, which, as staples, are important sources of calories, protein and other nutrients. Many are sold in ethnic food stores in the U.S. and deliver unique flavors and cooking qualities.

Cassava flour. Also called manioc flour, used as a thickener in Brazilian stews. Called gari in Nigerian cooking. GF

Chickpea (garbanzo) flour. Also called gram flour, ceci flour and chana flour. Higher in protein. Used in cooking from India. GF

Chapati flour. Made of wheat and malted barley flours. Used to make Indian chapatis.

Dal flour. Legume flour used in Indian cooking. Includes besan flour, urad dal flour and mung dal flour. GF

Fufu flour. Made from dried plantain and used in Nigerian recipes. GF

Kamut flour. Made from the ancient Egyptian grain kamut. Can be substituted for wheat if combined with other flours in making bread and pasta. WG option

Millet flour. Used in bread baking and pancakes. In India and Pakistan, called bajri flour or kurakkan. GF, WG

Teff flour. Made from teff grain. Has twice the iron and three times the calcium content of many other grains. Used to make injera (Ethiopian flatbread) and baked goods. GF, WG

FLOUR PROTEIN BY TYPES AND BRANDS (retail flour):

https://www.recipelink.com/msgbrd/board_2/2013/JUN/26356.html

CAKE FLOUR - 7% to 9.4% protein

Best Use: cakes, blending with national brands all-purpose flour to make pastry flour or Southern flour substitute.

- King Arthur Queen Guinevere Cake Flour, 7.0%
- King Arthur Unbleached Cake Flour Blend, 9.4%
- Pillsbury Softasilk Bleached Cake Flour, 6.9%
- Presto Self Rising Cake Flour, 7.4%
- Swans Down Bleached Cake Flour, 7.1%

PASTRY FLOUR - 8 to 9% protein

Best Use: biscuits, cookies, pastries, pancakes, pie crusts, waffles.

- King Arthur Unbleached Pastry Flour, 8%
- King Arthur Whole Wheat Pastry Flour, 9%

ALL-PURPOSE FLOUR, SOUTHERN - 8 to 9% protein

Best Use: biscuits, cookies, muffins, pancakes, pie crusts, quick breads, waffles.

- Martha White Bleached All-Purpose Flour, 9%
- White Lily Bleached All-Purpose Flour, 8 to 9%

SELF-RISING FLOUR (flour, baking powder, salt) - 8 to 10.5% protein

Best Use: biscuits, cookies, pancakes, muffins, quick breads, waffles.

- Gold Medal Bleached Self-Rising Flour, 10.5%
- King Arthur Unbleached Self-Rising Flour, 8.5%
- Martha White Bleached Self-Rising Flour, 9.4%
- Pillsbury Best Bleached Self-Rising Flour, 9.7%
- Presto Self Rising Cake Flour, 7.4%
- White Lily Bleached Self-Rising Flour, 8 to 9%

ALL PURPOSE BAKING MIXES (flour, shortening, baking powder, sugar, salt) - 6.25 to 12.5% protein

Best Use: biscuits, cookies, coffee cakes, pancakes, quick breads, pastry, waffles

- Arrowhead Mills All Purpose Baking Mix, 12.5%
- Bisquick Original Baking Mix, 7.5%
- Jiffy All Purpose Baking Mix, 6.25%
- King Arthur Flour All Purpose Baking Mix, 10%
- Pioneer Original Baking Mix, 7.5%

INSTANT FLOUR 10.5 to 12.6% protein

Best Use: thicken gravies, sauces, and soups without lumps.

- Gold Medal Wondra Quick Mixing Flour, 10.5%
- Pillsbury Best Shake & Blend Flour, 12.6%

ALL-PURPOSE FLOUR, BLEACHED & UNBLEACHED, NATIONAL BRANDS - 10 to 11.5% protein

Best Use: makes average biscuits, cookies, muffins, pancakes, pie crusts, pizza crusts, quick breads, waffles, yeast breads.

- Gold Medal All-Purpose Flour, 10.5%
- Pillsbury Best All-Purpose Flour, 10 to 11.5%
- Pioneer All-Purpose Flour, 10%
- White Wings All-Purpose Flour, 10%

ALL-PURPOSE FLOUR, NORTHERN, BLEACHED & UNBLEACHED - 11.5 to 12% protein

Best Use: cream puffs, puff pastry, yeast breads, pizza crusts.

- Heckers and Ceresota All-Purpose Flour, 11.5 to 11.9 %
- King Arthur All-Purpose Flour, 11.7%
- Robin Hood All-Purpose Flour, 12.0%

BREAD FLOUR - 12 to 13.3% protein

Best Use: traditional yeast breads, bread machine, pizza crusts, pasta.

- Gold Medal Better For Bread, 12%
- King Arthur Unbleached Bread Flour, 12.7%
- Pillsbury Best Bread Flour, 12.9%
- White Lily Unbleached Bread Flour, 11.7%

DURUM WHEAT (Semolina) 13 to 13.5% protein

Best Use: Pasta.

- Hodgson Mill Golden Semolina & Extra Fancy Durum Pasta Flour, 13.3%
- King Arthur Extra Fancy Durum Flour, 13.3%

WHOLE WHEAT FLOUR - 12.9 to 14% protein

Best Use: hearth breads, blending with other flours.

- Gold Medal Whole Wheat Flour, 13.3%
- King Arthur 100% Whole Wheat Flour, 14%
- King Arthur 100% White Whole Wheat Flour, 14%
- Pillsbury Best Whole Wheat Flour, 12.9%

HIGH-GLUTEN FLOUR 14 to 15% protein

Best Use: bagels, pizza crusts, blending with other flours.

- King Arthur Organic Hi-Gluten Flour, 14%
- King Arthur Sir Lancelot Unbleached Hi-Gluten Flour, 14.2%

VITAL WHEAT GLUTEN FLOUR, Breadmaking Supplement - 65 to 77% protein

Best Use: Added to raise gluten. Adds extra gluten to low-gluten whole grain flours, such as rye, oat, teff, spelt, or buckwheat.

- Arrowhead Mills Vital Wheat Gluten Flour, 65.0%
- Bob's Red Mill Vital Wheat Gluten Flour, 75.0%
- Gillco Vital Wheat Gluten Flour, 75.0%
- Hodgson Mill Vital Wheat Gluten Flour, 66.6%
- King Arthur Vital Wheat Gluten Flour, 77.8%

Retail Flour Companies - Brands:

- Bob's Red Mill Natural Foods, Milwaukie, Oregon - *Bob's Red Mill*
- C.H. Guenther & Son Inc, San Antonio, Texas - *Pioneer Flour, Pioneer Baking Mix, White Wings Flour*
- General Mills Company, Minneapolis, Minnesota - *Bisquick, Gold Medal Flour, (sold US Pillsbury Flour, retains Pillsbury frozen goods)*
- Hain Celestial Group Inc, Boulder, Colorado - *Arrowhead Mills*
- J.M. Smucker Company, Orrville, Ohio - *Martha White Flour, Pillsbury Flour, Robin Hood Flour, White Lily Flour*
- King Arthur Flour Company, Norwich, Vermont - *King Arthur Flour*
- Reily Foods Company, New Orleans, Louisiana - *Swan's Down Cake Flour, Presto Self Rising Cake Flour*
- Uhlmann Company, Kansas City, Missouri - *Heckers Flour, Ceresota Flour*