

# How to Make Homemade Flour

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Learn how to make homemade flour, from choosing a grain mill to grinding technique, with these handy tips.



## Why Make Homemade Flour?

Here are a few of the great reasons to try your hand at homemade flour:

**Flavor.** Freshness, which can be equated with both flavor and nutrition, is the No. 1 reason to mill flour. The moment after grains become flour is the moment of the flour's maximum potential flavor, after which oxygen goes to work scavenging flavor molecules and degrading fatty acids. Some types of fresh flour, including buckwheat, corn, oats, and rye, are even more susceptible than wheat to fast degradation. This is no different than what happens to coffee beans once they're ground. Many coffee aficionados wouldn't think of brewing coffee with beans ground a week or more ago.

**Variety.** With more than thirty thousand varieties of wheat in existence, you'd think options for nutritious flours would be numerous. Sadly, this is not the case. Research conducted by Dr. Donald R. Davis, a former nutrition scientist at the University of Texas, demonstrates how wheat has declined nutritionally over the last 50 years as farms have become more industrial.

"Beginning about 1960," Davis told me, "modern production methods have gradually increased wheat yields by about threefold. Unfortunately, this famous Green Revolution is accompanied by an almost unknown side effect of decreasing mineral concentrations in wheat. Dilution effects in the range of 20 percent to 50 percent have been documented in modern wheats for magnesium, zinc, copper, iron, selenium, phosphorus, and sulfur, and they probably apply to other minerals as well."

In addition, some of today's varieties have only half as much protein, and there is evidence that old wheat varieties often have substantially higher amounts of valuable phytochemicals. A few intrepid artisan companies are bucking the trend. Wheat Montana Farms, for example, is one of the few companies where you can buy wheat directly from the farmers who grow it. Their two special varieties, Prairie Gold and Bronze Chief, were selected for superior protein content. At Bluebird Grain Farms in Washington state, the nutritious heirloom wheats einkorn and emmer are grown sustainably and are milled to order or sold whole.

Similarly, Bob's Red Mill, King Arthur Flour, Pleasant Hill Grain, and Urban Homemaker, among others, sell high-quality, whole, unmilled grains for home grinding. If you have a great bakery near you, find out where they buy their flour—many small mills will accommodate

special orders. If you notice that a farmers market stand offers fresh flour, ask if you can buy some grains to grind at home.

If you want to bake with a variety of grains beyond wheat, sometimes the easiest way to get these flours is to grind your own. Buckwheat tastes nothing like wheat. This is an advantage, not a disadvantage. I use buckwheat when I want its earthy flavor. I use fresh cornmeal when I want sweet corn flavor. I use oat flour when I want tenderness, and flour made from toasted quinoa when I want extra nuttiness. Variety is the key.

**Control.** Not only are many of today's flours likely inferior to their predecessors, but they can also be inconsistent from one brand to another. For most bread making, high-protein hard wheat is ideal. Lower-protein soft wheat flours are better for pastries. Maybe you like the taste of white wheat better than red, or perhaps whatever you're baking could use a little extra sweetness from sorghum or a bold accent from teff. By milling your own flour, you have control over all this. You can custom-blend exactly the mix you need, without buying several different bags of flour that you'll then have to find room for in your freezer.

Home milling affords control over texture, too. With a good grain mill you can turn any grain into a fine, medium, or coarse flour to suit your needs.

**Cost.** Whole grains are less expensive than the flours which are made from them. Depending on the price you pay for unmilled grains, you can easily make homemade loaves of bread for less than a buck. However, don't expect to be able to offset the purchase of a

mill with grocery savings unless you plan to replace a great deal of store-bought goods with homemade versions.

**Convenience.** When did people decide shelf life was the prime virtue? I don't choose ripe tomatoes or fresh fish based on the fact that these items will last forever in my kitchen. Yet we've been trained to think flour should last forever, when it really shouldn't. Unmilled grains, on the other hand, can easily last 20 or 30 years, or possibly forever. Meanwhile, they won't take up prime real estate in your fridge or freezer.



## Choosing a Grain Mill

There are a few different machines that can make whole-grain flour. Which one you need depends on how often you'll use it, how easy you want it to be, whether or not you need the machine to perform other tasks, and how much money you're comfortable spending. If you're serious about putting the best food on your table, any of these

is a smart investment. Some of these well-made machines may even stick around for your lifetime plus perhaps your children's.

## **Multipurpose Small Appliances**

The following appliances serve double- or triple-duty at least. These aren't the ideal grain grinders if you'll be making flour or cornmeal a heckuvalot, but they offer a nice compromise if it's something you'll do occasionally.

### **Coffee/spice grinder**

A coffee grinder is good enough to make flour from some items, such as soft grains, seeds, and flakes. Sift anything ground in a coffee grinder through a fine sieve to remove chunky pieces.

### **Food processor**

If you can grind it in a coffee grinder, you can grind it in a food processor. The blade technology is similar, but the capacity is larger. I've had great success using the KitchenAid 13-cup model. Food processors can be used for an amazing array of other tasks too.

### **High-powered blender**

BlendTec and Vitamix both make powerful blenders that grind an impressive variety of items, even hard grains. Do not assume that another blender can handle this task, unless it has been explicitly rated to do so. A good blender can do many of the same things a food processor does. If you'll use one a lot—for example, to make smoothies, soups, sauces, nut butters, and flour—you won't mind coughing up the \$400 or so. The BlendTec machine can grind nearly anything. The Vitamix can too, but it comes with separate pitchers for wet and dry ingredients, making it pricier.

## **Stand Mixer**

KitchenAid makes a grain-grinding attachment to fit their stand mixers. These are good for small batches, but be sure to give the motor time to cool between batches to prevent overheating flour. Stand mixers range in price from \$350 to \$650, and the grain-grinding attachment is \$150, so this is no small investment. Like a food processor, however, a stand mixer has a number of useful applications, and they can last a lifetime. My mother-in-law has had her hard-working KitchenAid since the 1960s.

## **Dedicated Grain Mills**

There are many types of grain mills on the market, ranging in price from \$70 to more than a grand. Google “grain mills” or search for them on Amazon to begin comparing models. Some grain mills are hand-operated, but don’t think about getting one unless you seriously believe you will use it. It’s possible to enjoy the manual labor, but if you know you’re not that kind of person, it’ll be a waste of money.

Grain mills are also classified based on how they crush grain: burr or impact plates.

In a **burr mill**, grains are crushed between two plates into various degrees of coarseness. If you’ve heard of stone-ground flour or cornmeal, it was produced in a burr mill in which the plates were made of real stone. Most burr mills today have composite or metal plates. Real stone mills are prohibitively expensive, plus they require more maintenance over time. They also sometimes have trouble with especially hard items like dry beans or popcorn. Most composite stones can handle these materials. Some mills with metal plates can handle even oily nuts for making nut butter.

Burr mills grind slightly more slowly than impact mills, usually just enough to prevent an undesirable amount of heat from ruining the nutrients and gluten in your flour.

Durable, well-made, **electric** burr mills include Family Grain Mill (\$280), KoMo/Wolfgang (\$440 to \$600), and Golden Grain Grinder (\$600).

High-quality **hand-crank** burr mills include Victoria (formerly called Corona, \$70); Back to Basics (\$80); Family Grain Mill (\$150); Schnitzer Country Mill (\$350); Country Living Grain Mill (\$430); GrainMaker Grain Mill No. 99 (\$675) and No. 116 (\$1,200); and the wildly popular and well-made Diamant, which has been rated by Lehmanns.com as the finest grain mill available today. Many of these are convertible to electric power with separate attachments (not included in these prices), and also offer flywheel attachments to make manual grinding easier.

In an **impact mill**, two interlocking cylinders spin within one another while grains pass through. These don't always make the finest flour. On the other hand, they are inexpensive compared to burr mills. The most popular electric impact mills include K-Tec Kitchen Mill (\$180), GrainMaster Wonder Mill (\$270), and Nutrimill (\$290).

## **Technique: How to Make Homemade Flour**

Before milling any grain, make sure it's dry and mold free. Pick out any rocks and pieces of chaff.

If using a **coffee grinder or food processor**, grind small batches. Let the machine cool between batches. Sift flour through a fine sieve to

remove any chunks that made it through largely unscathed. If a good deal of the resulting flour is coarse, sift the finer flour out and return the chunky portion to the machine to grind again.

If using a **grain blender** or **stand mixer with grain mill attachment**, follow your machine's instructions to select the appropriate settings. If using a **dedicated grain mill**, select coarseness and pour grain into the hopper while the machine is running. Or, with a manually operated machine, select coarseness, add grain, and start cranking. Let your mill cool down between batches to prevent overheating flour.

Keep your mill free of flour buildup by following its instructions for cleaning. With my KoMo mill, all I do is occasionally dust it with a stiff, little brush.

Never grind items that your mill is not meant for. Some mills cannot grind oily items, such as corn and soybeans. After grinding oily items in mills that have been made to handle it, it's a good idea to pass a handful of wheat berries through afterward to pick up and remove residual oil.

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