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## Artisan milling and processing

Artisan milling is the type of milling that was practiced before the consumer market demanded smooth white flours that are refined and have chemical additives to expedite aging of flours. Artisan milling produces flours that are less refined and better suited to traditional breads, but also contain little to no additives and have higher nutritional content. For that reason, demand for these types of flour is on the rise.

### The artisan miller

Artisan millers (also known as micro millers) process many non-stream grains, including spelt, kamut, buckwheat, and other non-gluten grains and pulses. This offers bakers opportunities to work with different grains and flours. Artisan flours are readily available directly from millers or through a distributor. Knowing the origin of the grains and the quality of the ingredients in baking is important for artisan bakers.

### The world of flours and different processing methods

**All purpose Flour** - General purpose or home use flours are usually a blend of hard spring wheats that are lower in protein (gluten) content than bread flours. They are top patent flours and contain sufficient protein to make good yeast breads, yet not too much for good quick breads, cakes, and cookies.

**Graham Flour** - A U.S. patented flour, graham flour is a combination of whole wheat flour (slightly coarser), with added bran and other constituents of the wheat kernel.

**Bread Flour** - Bread flour is milled from blends of hard spring and hard winter wheats. They average about 13% protein and are slightly granular to the touch. This type of flour is sold chiefly to bakers because it makes excellent bread with bakery equipment, but has too much protein for home use. It is also called strong flour or hard flour and is second patent flour.

**Cake Flour** - Cake flour is milled from soft winter wheats. The protein content is about 7% and the granulation is so uniform and fine that the flour feels satiny. An exception is a high-protein cake flour formulated especially for fruited pound cakes (to prevent the fruit from sinking).

**Clear Flour** - Clear flour comes from the part of the wheat berry just under the outer covering. Comparing it to first patent flour is like comparing cream to skim milk. It is dark in colour and has a very high gluten content. It is used in rye and other breads requiring extra strength.

**Gluten Flour** - Gluten flour is made from wheat flour by removing a large part of the starch. It contains no more than 10% moisture and no more than 44% starch.

**Pastry Flour** - Pastry flour is made from either hard or soft wheat, but more often from soft. It is fairly low in protein and is finely milled, but not so fine as cake flour. It is unsuitable for yeast breads but ideal for cakes, pastries, cookies, and quick breads.

**Self-Rising Flour** - Self-rising flour has leavening and salt added to it in controlled amounts at the mill.

**Wheat Germ Flour** - Wheat germ flour consists entirely of the little germ or embryo part of the wheat separated from the rest of the kernel and flattened into flakes. This flour should be refrigerated.

**Whole Wheat Flour** - Whole wheat flour contains all the natural parts of the wheat kernel up to 95% of the total weight of the wheat. It contains more protein than all-purpose flour and produces heavier products because of the bran particles.

**Hovis Flour** - Most of the germ goes away with the shorts and only a small fraction of the total quantity can be recovered in a fairly pure form. At the mill, a special process developed in England to improve its keeping qualities and flavour cooks this fraction. It is then combined with white flour to make Hovis flour, which produces a loaf that, though small for its weight, has a rich, distinctive flavour.

**Triticale Flour** - The world's first new grain, triticale is a hybrid of wheat and rye. It combines the best qualities of both grains. It is now grown commercially in Manitoba.

**Semolina**- Semolina is the granular product consisting of small fragments of the endosperm of the durum wheat kernel. (The equivalent particles from other hard wheat are called farina.) The commonest form of semolina available commercially is the breakfast cereal Cream of Wheat.

**No-Time Flour** - The primary goal of all bakers has been to reduce production time and keep costs to a minimum without losing quality, flavour, or structure. After extensive research, millers have succeeded in eliminating bulk fermentation for both sponge and straight dough methods. No-time flour is flour with additives such as ascorbic acid, bromate, and cysteine. It saves the baker time and labour, and reduces floor space requirements. The baker can use his or her own formulas with only minor adjustments.

**Blending Flours** - Blending of flours is done at the mill, and such is the sophistication of the analysis and testing of flours (test baking, etc.) that when problems occur it is generally the fault of the baker and not the product. Today the millers and their chemists ensure that bakers receive the high grade of flour that they need to produce marketable products for a quality-conscious consumer. Due to the vagaries of the weather and its effect on growing conditions, the quality of the grain that comes into the mill is hardly ever constant. For example, if damp weather occurs at harvest time, the grain may start to sprout and will cause what is known as damaged starch. Through analysis and adjustments in grain handling and blending, the miller is able to furnish a fairly constant product.

## Suggested readings

Artisan baking center – [www.centralmilling.com](http://www.centralmilling.com)

Aurion – [www.aurion.dk](http://www.aurion.dk)

