The EssentiaList

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Sourdough: An Overview

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(photo of sourdough loaves, right, from Wikipedia)

Long before the invention of bakers' yeast, sourdough was used as leavening for all kinds of baked goods including those pancakes and biscuits made famous by Western movies & TV shows (e.g., Wagon Train, Rawhide). But perhaps the oldest and most well-known food made from sourdough is bread.

Sourdough & Lacto-fermentation

Like sauerkraut, brined pickles & olives, yogurt, buttermilk, and so on, sourdough is a lacto-fermented or "cultured" product. This process involves the action of friendly bacteria on the natural sugars & carbs in foods such as cabbage, cucumbers, and milk. This action turns the sugars into lactic acid, which preserves the food, enhances its nutritional quality, and adds a slightly sour 'tang.' See The EssentiaList: Pickling & Lacto-Fermentation for more.

In the case of sourdough (natural leaven), these friendly bacteria work with natural wild yeasts to produce not only lactic acid, and also carbon dioxide (CO_2) to leaven the dough/batter. Your job is to support the microbes' ability to thrive in a harmonious symbiotic relationship, or the starter will fail. A failed starter can often be revived, so if this happens don't give up.

Brief history

In ancient times (over 6,000 years ago), humans discovered the basic idea in their attempts to brew alcoholic beverages (beer, etc.) from grains. Somewhere along the line, someone figured out how to leaven bread with the same brew. And then someone else figured out how to share their starter with others, and how to propagate it indefinitely. (3).

A note on sourdough vs candida

While sourdough contains yeast, it is not the same as *candida* yeast that causes 'yeast infections'. In fact, the yeast & bacteria in natural leavens actually compete with *candida*, helping to keep it in check.

What can I make?

The most common uses for sourdough include bread, biscuits and pancakes. But you can also make pastries, muffins, cakes and cookies! Check out Gnowfglins.com: Sourdough. Not Just for Bread (5) for more ideas, and for a sourdough e-course (modest fee required).

Sourdough starter

(photo of Bubbling Sourdough Starter, above, from Wikipedia)

Typically, you begin with a starter obtained from a friend or relative. This starter is alive and reproduces itself as long as you continue to feed it more flour. It contains the friendly bacteria and yeasts necessary for leavening. You can also make your own starter from flour and water.

One of the beauties of a sourdough starter is that it can live forever, passed on through generations, and shared with friends, provided you feed it regularly with more flour.

The following sections are from *Wild Fermentation* (1) and *Nourishing Traditions* (2) unless noted otherwise.

Making your own starter

The best way to start is to be given a bit of starter by a friend or relative. But you can also make your own from scratch. You will need:

- **freshly ground whole grain flour** is best, and requires an electric or manual mill. You can use any grain, but experts seem to prefer rye; it has less gluten and phytates (the anti-nutrient that binds minerals). (NOTE: a mix of whole grain & unbleached white flours can also be used, but freshly ground 100% whole grain makes the strongest starter);
- **clean, non-chlorinated, mineral-rich water** (or starchy water from cooking potatoes), body temperature. (Note: water rich in minerals is best; if your water is demineralized, use water from cooking potatoes with the peels);
- **Optional**: unwashed Organic plums, grapes or berries, can be added to speed up the introduction of wild yeast.
- **Equipment**: a glass/ceramic jar or bowl (NOT metal), and cheesecloth.

You should have a viable starter in 1 week:

1. Combine flour and water in a jar; drop in unwashed fruit, if using. Cover jar with cheesecloth to keep out insects but allow air to circulate. Set in a warm spot (at least 68° F), free from drafts. Stir vigorously, at least daily. Eventually you will notice bubbling without stirring, which indicates the yeast is active. After 3 - 4 days, if not yet bubbling, move jar to warmer spot, or add a pinch of active dry yeast.
2. Once it bubbles, strain out the fruit (if using), and begin feeding your starter: add, with stirring, 1 - 2 Tbsp flour daily for 3 - 4 days. *Nourishing Traditions* (2) suggests moving starter to a clean bowl each day you feed it.
3. The starter may get thicker as you feed it, but you want it to remain mostly soft & liquidy. Add water if necessary (if starter crosses the line from soft to solidity).
4. Once it is a soft, thick, bubbly mixture, it is ready to use. But remember to keep feeding it (see below).

Feeding your starter

If you are not using your starter at least once a week, you need to feed it anyway. You could simply add a bit of flour every day or too, but eventually you will have too much and it could fail under its own weight. It can also get too acidic, and become putrid from the proliferation of bad bugs.

If not using your starter, then at least once a week (in addition to feeding it flour every 1 - 2 days):

1. Remove a bit of starter. (If you have a septic system, flush it down the toilet to help keep the septic system working well; otherwise add it to your compost).
2. Then add to the remaining starter an equivalent amount of water as the starter removed, plus the same volume of flour as water added. For example, if you remove 1/4 cup, add back 1/4 cup each water and flour.
3. Stir well, and keep in warm place.

If you have neglected your starter so that it is beginning to spoil, feed it fresh flour until the good bugs again get the upper hand.

Using your starter

Typically, you use 20 - 25% of the total flour as starter for rustic sourdough breads (though some require more). Or use both starter and baking soda/baking powder for quick-rise baked goods such as: banana bread, biscuits, soda bread, muffins, cakes & cookies (the soda neutralizes the acidity of the sourdough, for better flavor of the baked product). (4)

As you use your starter, remember to keep some in the jar to keep it going. Replenish the starter by adding equivalent amount of flour and water, as you removed. Stir well and leave it in its warm place to bubble contentedly, feeding it more flour every day or two. (see Feeding your starter, above).

Alternative sourdough starters

From Lisa G.: gluten-free starters can also be made using brown rice flour.

From Lawana McGuffey or CounterCulture blog:

"My friend says just make sourdough starter as you conventionally would using kefir whey for the liquid instead of water. Feed it daily as you would usually, with fresh flour and water. When it is acting like sourdough, make your bread. It is best to use a recipe which requires a sponge."

Sources

1. *Wild Fermentation*, by Sandor Ellix Katz
2. *Nourishing Traditions* by Sally Fallon with Mary G. Enig
3. The Bread Bakers Forum: What is Sourdough (www.angelfire.com/ab/bethsbread/WhatisSourdough.html)
4. Wikipedia on Sourdough (en.wikipedia.org/wiki/Sourdough)
5. Gnowfglins.com: Sourdough. Not Just for Bread (gnowfglins.com/ecourse/classes/sourdough)