



Sourdough in Simple Baking: The Ultimate in Living Local

Living Local

Keeping sourdough starter and experimenting with it in everyday baking is a great way to Live Local. Why? Because a sourdough starter—a simple mixture of flour and water—is a byproduct of wild yeasts and bacteria in the local environment. So, a Martha's Vineyard sourdough starter is unlike a culture grown anywhere else in the world.

Because sourdough cultures differ by geography, their behavior and taste are not uniform. Some rise more rapidly than others, and each will vary in terms of its sour taste, yeasty aroma, and flavoring complexities.

Health Benefits of Sourdough.

Using sourdough in baking contributes taste and texture, and it extends the shelf life of baked goods. The acids in a sourdough culture not only add complex flavorings and leavening power, but they also slow the rate at which carbohydrates are absorbed into the blood stream, helping to prevent insulin resistance and diabetes.

Sourdough also lowers the phytic acid content of whole grains, which enables the body to absorb its vital minerals, especially potassium, phosphorus, calcium, magnesium, iron, copper and zinc. And, sourdough fermentation, like yogurt fermentation, creates new nutrients like vitamin B₁₂, while yeasts boost lysine (the limiting amino acid in grains) to help make sourdough bread a nearly complete protein.

Sourdough can also alleviate digestive issues related to gluten intolerance by reducing gliadin and avenin, two factors that elicit at least a slight immune response in all people. And, sourdough supports gut health and immunity by slowing the fermentation of fiber; generating polysaccharides which contribute prebiotics; and feeding micro-flora in the intestinal wall.

[For details, see: www.Pathways4Health.org, Newsletters: *Reviving Culture*, November/December 2012 and *Living with and Experimenting with Sourdough*, September/October 2013.]



Growing and Keeping a Sourdough Culture

Sourdough starter can be grown in any glass or ceramic container a day or two before you plan to bake (a Ball-type wide-mouth canning jar works well). As a pre-ferment added to ingredients on the day of baking, sourdough starter will provide extra flavor, nutrition, texture and a moist crumb to your favorite baked goods. By adding generous amounts of starter to quick breads, I find that I can eliminate the refined vegetable oils called for in a recipe (these oils are inflammatory and undermine health).

Materials that you will need to grow and keep a sourdough culture:

- A wide-mouth one- or two-quart Ball-type jar with a lid;
- Starter, ¼ or ½ cup, depending upon the quantity that you need (see below);
- King Arthur First Clear or other white all-purpose flour. First Clear has a high-ash (mineral) content which promotes fermentation and the building of flavor by controlling pH levels;
- Water that is free of chlorine.

Once you have the materials, the first question to ask is what do you plan to bake and how much starter will you need? Unless you plan to bake something that requires several cups of sourdough starter, you probably want to use a 1-quart jar and ¼ cup of starter, which you will then feed with flour and water in increasing amounts with each feeding. Begin with 1/4 cup starter in a 1-quart jar and a first feeding of 1/8 cup each flour and water, mixed in with a vigorous stir (first example, below). After each feeding, as you increase the amount of flour and water, stir well, cover loosely with the lid, and allow the starter to sit on the countertop to double in volume.

Feeding a small amount of flour and letting the starter grow before feeding flour in greater volumes helps maintain the stable balance of healthy yeast and bacteria in the culture. Too much flour too soon can overwhelm the culture and encourage foreign bacteria to invade and upset this delicate balance.

¼ cup starter in a 1- or 2-quart jar; yield ~ 2 cups: 1 cup for baking + ~ 1 cup in reserve for later

1st feeding: 1/8 cup all-purpose (or First Clear) white flour and 1/8 cup water; let double in volume.

2nd feeding: ¼ cup flour and ¼ cup water; let double in volume.

3rd feeding: ½ cup flour and water; let double in volume; refrigerate overnight; use the next day.

Note: Pour off any excess starter before you begin a new feeding cycle; refrigerate it as a "safety."

½ cup starter in a 2-quart jar; yield ~3 cups: 2 cups for bread + ~1 cup left over in reserve

1st feeding: ¼ cup all-purpose (or First Clear) white flour and ¼ cup water; let double in volume.

2nd feeding: ½ cup flour and ½ cup water; let double in volume.

3rd feeding: 1 cup flour and 1 cup water; let double in volume; refrigerate overnight; use next day."

Note: Pour off any excess starter before you begin a new feeding cycle; refrigerate it as a "safety."

Feed and Use Starter Frequently: To keep a starter vibrant and active, feed it often. After a week in the refrigerator, the yeast and bacteria run low on food and some die. I like to nurture my starter by feeding and using it at least once a week. Starter can be kept for up to three weeks in the refrigerator, but it may require several feedings to restore it to full life.

Hooch: After a starter sits for a while without oxygen in the refrigerator, it develops a layer of brownish liquid on the surface, “hooch,” composed of alcohol and bacteria flavoring compounds. Stir it back in, or pour it off if you seek a milder flavored culture.

Using and Substituting Starter in Your Favorite Recipes

To use sourdough starter for extra flavor and texture, simply add ¼ cup (or more, depending upon your taste) to a recipe. You can add sourdough to the ingredients of just about any baked good. If you choose to combine the wet and dry ingredients and add sourdough to ferment overnight, you will need the following adaptation: When mixing, leave out any baking *soda* that is called for in the recipe; then, add the baking soda just before baking. In contrast, baking *powder* can be included with the ingredients in an overnight soak. Soaking ingredients overnight will reduce phytic acid that blocks mineral absorption and also lowers the blood sugar impact.

Sourdough Recipes

Experimenting with sourdough is an adventure. I have fun adding generous amounts to recipes because I like to capture its many health benefits and because I like the moist texture, body, and “staying power” that it gives to baked goods. I also like the way it satisfies hunger, and I enjoy its sour flavor, probably more than most people.

The recipes that follow are all “tried and true” from people well-known in the world of culinary arts. The first recipe for cornbread, to which I added sourdough, is a creation of Deborah Madison. Because sourdough provides a moist texture, it is especially welcome when partnered with cornbread, which can otherwise be dry and a little flat. Sourdough also particularly enhances recipes that include maple, banana, and chocolate.

The remaining recipes are from Sara Pitzer’s *Baking with Sourdough*. This is a concise book on sourdough that includes recipes with varying amounts of sourdough. Hopefully these recipes will give you a sense of how much sourdough to use when you try adding it to favorites of your own.

Reading Resources:

Karel Kulp and Klaus Lorenz, *Handbook of Dough Fermentations*.

Sara Pitzer, *Baking with Sourdough*

Lisa Rayner, *Wild Bread*

Daniel Wing and Alan Scott, *The Bread Builders: Hearth Loaves and Masonry Ovens*

Ed and Jean Wood, *Classic Sourdoughs: A Home Baker’s Handbook*

Buttermilk Skillet Cornbread

4 tablespoons organic butter
2 cups stone ground corn meal or 1 cup each corn meal and all-purpose flour or corn flour
1 teaspoon baking powder
½ teaspoon baking soda
½ teaspoon salt
2 local eggs, beaten
2 tablespoons sugar or 3 tablespoons honey
2 cups organic buttermilk
¼ cup sourdough starter

Preheat the oven to 375° F. Put a 10-inch cast iron skillet in the oven while it's heating with the butter while you get everything else together. Stir the dry ingredients together in one bowl, and mix the eggs, honey, and buttermilk in another. Remove the pan from the oven, brush the sides with the butter then pour the rest into the wet ingredients. Combine the wet and the dry ingredients and stir just long enough to make a smooth batter. Pour the batter right into the hot pan and bake until lightly browned and springy to the touch, 25-30 minutes.

Sourdough Banana Bread

1 ½ cups sourdough starter
1 cup sugar
1 t. baking soda
1 t. salt
1/3 cup butter
1 beaten egg
1 cup unbleached flour (or whole wheat pastry flour)
1 cup very ripe banana
½ cup chopped nuts

Bring the starter to room temperature in a large bowl. When it has begun to bubble, add the sugar, soda and salt to it. Melt and cool the butter and add it, along with the egg, flour and banana, stirring in each ingredient in the order given. When everything is well mixed, stir in the nuts. Pour the batter into a greased loaf pan large enough so that it is no more than two-thirds full. Allow to stand in a warm place for about 20 minutes, then bake in a preheated 350 degree F oven for at least an hour, or until the loaf tests done when poked with a toothpick. You may lay a piece of brown paper or aluminum foil loosely over the top of the loaf if it is getting too brown. Do not under bake; it will be quite moist even when fully done. Allow it to cool in the pan for about 15 minutes before taking it out. Then allow the loaf to cool completely before slicing. This banana bread will be even better the second day if you have stored it wrapped in foil or plastic wrap.

Sourdough Skillet Biscuits

2 cups sourdough starter
2 cups all-purpose unbleached white flour (or whole wheat pastry flour)
1 t. sugar
1 T. baking powder
½ t. salt

Let the starter come to room temperature in a large bowl. It won't hurt the starter to stand for a couple hours. About an hour before you want to serve the biscuits, sift the dry ingredients together into the starter bowl and mix to make a firm dough. Pinch off pieces of the dough and gently shape into balls about the size of large walnuts or small eggs. Arrange them in a well-greased 12-inch iron skillet and place in a warm place for 15-20 minutes, or long enough for the biscuits to show signs of rising. Because the baking powder reacts quickly with the sourdough starter, this happens fast. Bake in a preheated 400 F degree oven for about 30 minutes, or until well browned and crusty. Serve hot.

Sourdough Brown Biscuits

2 cups sourdough starter
1 T. honey
½ t. salt
2 T. oil
2 t. baking powder
1 ½ cups whole wheat flour

Put the 2 cups of starter into a large bowl, cover loosely and allow to sit for at least 10 hours in a warm place. When ready to bake, mix honey, salt and oil into the starter. Sift in the baking powder and whole wheat flour. For finest texture, discard any bran which remains in the sifter, but for a heartier biscuit dump the bran right into the mixing bowl with the other ingredients. Mix everything well, but do not over beat.

Knead the dough gently until it holds together, then roll it out to a thickness of ½ to 1 inch, depending on whether you want thick crusty biscuits or high, lighter ones. Cut the biscuits out with a cutter or a small can from which both ends have been removed. On a greased cookie sheet, place them close together for soft biscuits or leave them farther apart for more crust.

Cover the biscuits with a dry, lightweight cloth and put them in a warm place for about half an hour, or until you see definite signs of rising. Then bake in a preheated 400 F degree oven for about 20 minutes. Break open one biscuit to be sure they are cooked through. They are ideal served with creamed chipped beef.

Sourdough Pancakes/Waffles

½ cup sourdough starter
1 cup undiluted evaporated milk
1 ¾ cups unbleached white flour (or whole wheat pastry flour)
1 cup water
2 eggs
2 T. sugar
½ t. salt
1 t. baking soda

Combine the first 4 ingredients in a large bowl, cover loosely and allow to rest in a warm place overnight, or for at least 8 hours. Beat together the eggs, sugar, salt, and soda, and stir into the starter combination with a wooden spoon. At this point, don't beat. Bake the pancakes on a lightly greased griddle, turning when bubbles appear. These pancakes are quite fat and fluffy and very tender because of the reaction of the soda with the sourdough. If you want them to be thinner, stir in a little more water as you are adding the egg mixture.

To make sourdough waffles, stir in 2-3 tablespoons of melted butter or cooking oil after all the other ingredients have been added. Bake on a lightly greased waffle iron. The fat added to the batter should help prevent the waffles from sticking provided the iron has been well seasoned.

Sourdough Buckwheat Pancakes

½ cup sourdough starter
1 cup unbleached white flour
1 cup buckwheat flour
2 cups warm water
2 eggs, beaten
2 T. sugar
½ t. salt
½ t. baking powder
3 T. melted butter
½ t. baking soda dissolved in 1 T. water

Mix together first 4 ingredients in a large bowl. Beat well. Cover loosely and allow to stand overnight or for at least 8 hours in a warm place. When ready to bake the pancakes, stir in the beaten eggs, sugar, salt, baking powder and melted butter. Finally, stir in the baking soda dissolved in water. Do not stir again after adding the soda. Bake on a moderately hot griddle, taking care not to let the buckwheat burn. For darker pancakes with a truly old-time taste, allow the batter to age longer than 8 hours and substitute molasses for the 2 tablespoons of sugar.

Blueberry Breakfast Bread

1 cup sourdough starter
¼ cup soft shortening
¾ cup sugar
1 egg
½ cup milk
1 cup unbleached white flour
½ teaspoon baking soda
½ t. Salt
1 cup blueberries

Bring the starter to room temperature in a large bowl. In another bowl, cream the shortening and sugar together and then beat in the egg and milk. Turn this mixture into the bowl with the sourdough starter and sift in the flour, salt and soda. Mix very well. Gently fold in the blueberries. Pour the batter into a well-greased 8-inch square pan and allow to sit in a warmer place for at least 20 minutes.

Bake in a preheated 375 F degree preheated oven for 45-50 minutes. Do not under bake. Allow to cool completely so that it is not too sticky and gummy.

Molasses-Date Bars

1 cup sourdough starter
1 beaten egg
½ cup butter
¼ cup brown sugar
¾ cup dark molasses
½ t. salt
1 t. cinnamon
¼ t. baking soda
1 1/3 cups unbleached white flour
½ cup chopped dates
2 T. flour

In a large bowl allow the starter to warm up and become active. It should stand at room temperature for 1 to 2 hours. Then add the beaten egg, softened butter, brown sugar and molasses. Beat thoroughly with a wooden spoon. Next, put in the salt, cinnamon and soda. Sift in the flour. Beat the butter until it is lump-free.

Roll the chopped dates in the 2 T. flour or mix them with the flour in a bowl so that they do not stick together. Gently stir them into the batter. Pour the batter into a well-greased 9-inch pan and bake into a preheated 375 F degree oven for about 30 minutes or until the batter tests done when poked with a toothpick.

Allow to cool slightly before cutting into bars, then finish cooling on wire racks and sprinkle with powdered sugar before serving. Like most sourdough products, these taste much better cold than they do while still warm from the oven.