



4. Mix in ½ cup water and scant ½ cup flour. Be sure to incorporate a significant amount of air into the mixture. Cover and return to the warm spot for 12 hours. Be sure to use a sufficiently sized container and place a cloth or paper towel under the container as active sourdough starter may bubble over.
5. Discard all but ½ cup of the flour and water mixture (see the pancake recipe on page two for a way to use extra discarded sourdough starter). Mix in ½ cup water and a little less than one cup flour. Repeat this process every 12 hours until the mixture becomes light and bubbly. If the mixture is kept quite warm, this process may be concluded within the first several days. For cooler spots, it may take several more days to complete the process. It is common for sourdough starter to take 3-7 days to activate.
6. Once the starter is bubbling reliably within several hours of being fed, feed the starter for two more cycles then cover loosely with a lid and place it in the refrigerator until you are ready to bake with it. The lid may be tightened once the mixture becomes dormant and minimal carbon dioxide is being produced.

## INSTRUCTIONS

### Before You Begin:

- Your sourdough starter has been shipped in a dehydrated state. The starter is shelf stable and can be used anytime in the next few months. Please store the starter in a cool dry place.
- Whenever possible, use filtered non-chlorinated water when feeding your sourdough starter.
- Use rye flour to activate this starter. Once your starter has been fully activated, you can feed the starter and bake with a different variety of flour if desired.
- If you are culturing multiple products (e.g. different varieties of yogurt, buttermilk, kefir, sourdough, Kombucha, etc.) or baking with commercial yeast, be sure to keep a distance of at least several feet between cultures so they don't cross-contaminate each other. Over time, cross-contamination will weaken the cultures.

**For more information on using Sourdough and other cultured foods including How-to Videos, Recipes, Ideas and more, please visit our website: [www.culturesforhealth.com](http://www.culturesforhealth.com).**

### Activating the Sourdough Starter:

1. Place the contents of the package into a clean one-quart (or larger) wide mouth canning jar or similar container.
2. Add ¼ cup tepid (room temperature) water and mix well. Add ¼ cup rye flour and stir vigorously. Be sure to incorporate a significant amount of air into the mixture.
3. Cover loosely (a towel secured with a rubber band or a plastic lid just set on top but not secured, both work well) and place in a warm area (70-85F degrees) for approximately 12-18 hours. The warmer the spot, the quicker the starter will activate. An oven with just the pilot light or oven light turned can work well as does a high shelf or a food dehydrator with low temperature setting. Be sure to verify that the spot where your sourdough culture is sitting is within the 70-85F degree temperature range. Temperatures outside that range can be problematic for activating the culture and can even damage or kill the culture.
4. Cover and allow the mixture to sit for 4-12 hours until it has "proofed" (the amount of time will depend primarily on the nature of the specific sourdough starter and room temperature). Sourdough which has proofed becomes light and bubbly. The gas created often causes the sourdough starter to expand in size *so be sure to use a sufficiently sized jar* and set the jar on a paper towel to protect the surrounding surfaces in case the starter bubbles over. If the sourdough does not become bubbly within 12 hours, proceed with the next feeding.
5. Repeat this process at least two more times. For each feeding use equal amounts of starter, flour and water (by weight; or use the measuring cup ratios above). If you make too much sourdough starter during this process, prior to the next feeding, some starter can be discarded in the garbage or set aside to make sourdough pancakes (see page two for a sourdough pancake recipe).

### Making Fresh Starter:

1. Fresh sourdough starter is a term often used in recipes to refer to recently fed, active sourdough starter.
2. Refrigeration places the sourdough starter in a state of hibernation which allows a starter to go at least a week without being fed, but also yields the yeast temporarily ineffective as a leavening agent. To bring the starter out of cold-induced hibernation and ensure the yeast are active enough to properly leaven bread, the sourdough starter should be fed at least three times to fully activate the yeast prior to using the starter for a baking project.
3. Start the fresh starter process by removing ¼ cup of sourdough starter from the refrigerator (if a liquid layer has developed on top of your starter, pour off the liquid layer first).
  - a. If using a kitchen scale: Add flour and water in amounts equal (by weight) to the amount of starter. For example, for 50 grams of sourdough starter, mix in 50 grams of flour and 50 grams of water. *The scale method is preferred due to significant differences in flour density.*
  - b. If using measuring cups: Use this formula: One part sourdough starter to one part water to a little less than two parts flour. For example, if you are starting with ¼ cup of starter from the refrigerator, mix in ¼ cup water and a scant ½ cup flour.

- If at any point during this process a liquid layer develops on the sourdough starter, pour off the liquid layer prior to the next feeding. The liquid layer is generally a sign the starter needs to be fed more often so feedings should be moved closer together (i.e. every feed the starter every 8 hours instead of 12 hours, etc.).
- Once the starter has been fed for at least three cycles and is bubbling reliably within several hours of being fed, measure out the portion needed for the recipe.
- Be sure to add some of the extra fresh starter back to your master sourdough starter in the refrigerator. This process feeds the sourdough starter for the week (see below).

### **Feeding the Sourdough Starter:**

- For best results, feed the sourdough starter weekly. The above process for making fresh starter will feed your master starter for the week. If you do not make fresh starter during a given week, use the following process to feed your master starter.
- Remove your starter from the refrigerator. If a layer of liquid has developed on top of your starter culture, simply pour it off.
- Discard all but about 1/4 cup of starter. Add equal amounts (by weight) of flour and water (if using measuring cups, use ¼ cup water and a scant ½ cup flour). Mix vigorously to incorporate air.
- Cover loosely and allow the starter to proof at room temperature for several hours. Return the starter to the refrigerator at the conclusion of the proofing process.

## **TROUBLESHOOTING**

- For extensive troubleshooting information, please visit our website: <http://www.culturesforhealth.com/troubleshooting>
- There are generally three factors that contribute to sourdough rising well and resulting in light fluffy bread:
  - Be sure your yeast is fully active before baking. If your sourdough starter has been stored in the fridge, it has been living in a dormant state. Plan to feed the culture at least three times 8-12 hours apart prior to baking.
  - Knead your dough well to activate the gluten. It is very important to allow the gluten to fully develop so thoroughly kneading the dough is a critical step. If you are kneading by hand, plan for a minimum of 20 minutes (you can take breaks--such as kneading for 5-10 minutes at a time). If you are using a mixer to knead, check the dough often to ensure it's not overheating (which can damage the yeast) and stop the process once the gluten is well developed. While there isn't any danger of over-kneading when kneading by hand, mixers can abuse the dough if not watched. To determine if the gluten is adequately developed, perform the "window pane test". Take a piece of dough and stretch it between your fingers. If the gluten is sufficiently developed, the dough should stretch thin--so you can see light through it--without the dough breaking. If it breaks before it can be stretched thin, keep kneading.
  - Plan for a long proofing (rise) period. As a natural yeast, sourdough tends to take significantly longer to rise than bread made with commercial yeast. Timing is dependent on the specific starter and conditions in your home so until you have determined the best rise period for your particular starter, plan for a 4-12 hour rise period (if you desire more sour bread, plan for 12-24 hours).

## **RECIPES**

### **Basic Sourdough Bread**

- 2 1/3 cups Fresh Sourdough Starter (see above)
- 3 1/3 cup Flour
- 1 - 1 ½ cup Water (approximate)
- Scant Tablespoon Salt

Mix sourdough starter, flour and salt together. Use enough water to make bread dough (a moist dough is preferable to a dry dough). Knead dough until it passes the "window pane test" (a small piece of dough will stretch between four fingers thin enough to allow light to pass through without breaking). Shape the dough into a loaf. Place in a pan, proofing basket or on a board. Cover lightly with a towel and allow the dough to rise for 4-24 hours. If desired, a short (4-12 hours) proofing period can be used and the dough can be punched down, reshaped and allowed to rise a second time but a second proofing period is not required. Slice an X shape in the top of the loaf with a very sharp knife or razor blade. Bake at 400 degrees until the internal temperature reaches 210 degrees (use a meat thermometer inserted into the bottom or side of the loaf). Bake 30-60 minutes (depending on loaf size). Allow the bread to cool before slicing.

### **Sourdough Biscuits**

- 1 1/2 cups Flour
- 2 tsp. Baking Powder
- 1/2 tsp. Baking Soda
- 1/2 tsp. Salt
- 1/4 cup Coconut Oil or Non-Hydrogenated Palm Shortening
- 1 cup Fresh Sourdough Starter (see above)

Sift dry ingredients together and cut in coconut oil/shortening. Add the sourdough starter and mix just until blended (do not over mix!). Place the dough on a floured board and knead lightly. Roll the dough 1/2" thick and cut into biscuits (be efficient with the dough and the number of biscuits cut, biscuits from the first batch will be more tender than those made after subsequent rolling of the dough). Place the biscuits on a greased cookie sheet and brush the tops with melted butter. Let rise one hour in a warm place. Bake at 425 degrees for 20 minutes. Makes a dozen biscuits.

### **Sourdough Pancakes**

This recipe is a great way to use up excess sourdough starter

- 2 cups Sourdough Starter
- 1 Egg
- 3 tbsp. Sugar (Rapadura, Sucanat, Honey, Agave, etc.)
- 2 tbsp. Oil
- 3+ Tbsp. Milk, Coconut Milk or Water (see below)
- 1 tsp. Baking Powder (options, makes the pancakes fluffier)

Mix together sourdough starter, egg, sugar, oil and baking soda. Use the milk/coconut milk/water to thin the batter to a pancake batter consistency (how much you will need depends on the consistency of the sourdough starter). Heat a griddle to moderate heat. Melt a slice of butter or coconut oil on the griddle. Once the griddle is hot, use ¼ cup of batter for each pancake. Cook until golden brown and then flip. Cook until golden brown on both sides. These pancakes also freeze well for a quick meal. Simply make a large batch and freeze with wax paper between the pancakes to prevent them from sticking together.

**Did you know that Sourdough Starter can be used to make a variety of baked goods including muffins, cookies, cake, flatbread, English-style muffins and more?**

**For more recipes please visit our website:  
[www.culturesforhealth.com](http://www.culturesforhealth.com)**