

BASIC COUNTRY BREAD

Making bread with natural leaven can be divided into three basic stages. First you must develop a vigorous starter. Then you manage the wild yeasts and bacteria in the starter by maintaining a consistent routine, building to make a leaven to raise your dough. Finally you'll shape and bake the dough into a loaf of bread. The recipe for Basic Country Bread makes 2 loaves.

Making a Starter

Developing a starter begins with making a culture. A culture is created when flour and water are combined, and the microorganisms—wild yeasts and bacteria present in the flour, in the air, and on the baker's hands—begin to ferment spontaneously. After fermentation begins, the baker “feeds” the culture regularly to “train” it into a lively and predictable starter.

1) Mix 5 pounds of bread flour—half white and half whole wheat. You will use this 50/50 flour blend to feed your culture and develop your starter. All-purpose flour will work as well. Fill a small, clear bowl halfway with lukewarm water. Add a handful of the 50/50 flour blend to the water and mix with your hands to achieve the consistency of a thick batter with no lumps. Use a dough spatula to clean the clumps off your hands and tidy the inside of the bowl. Cover the bowl with a kitchen towel and place in a cool, shaded spot for 2 to 3 days.



2) After 2 to 3 days, check the culture to see if any bubbles have formed around the sides and on the surface. If the culture seems inactive, let it sit for another day or two.

By this time, a dark crust may have formed over the top of the mixture, which is typical. Pull the crust back and note the aroma and bubbles caused by fermentation. In this initial stage, when the culture smells strong like stinky cheese and tastes sharply acidic, it is very ripe. Now it is time to do the first feeding.

3) To feed the culture, discard about 80 percent of it. Replace the discarded portion with equal amounts of water and the 50/50 flour blend. Mix to combine just as you did in step 1. You have now begun training your culture into a starter.

Repeat the discarding and feeding process once every 24 hours at about the same time each day, preferably in the morning. Don't worry too much about the quantities of water and flour in these feedings—you want a thick batter. The important thing is that you feed the starter and pay attention to its behavior as it develops.

As the balance of yeast and bacteria is established, the volume of the starter will increase for several hours after feeding and then begin to collapse as the cycle winds down. Note how the aroma of the starter changes from stinky and sharply acidic to sweet and milky just after the feeding, when the starter is at the freshest or youngest stage in the cycle. "Fresh" and "young" are expressed and understood here in two ways: 1. the sweet stage of ripeness having been fed the normal 20 percent inoculation (2 to 4 hours) and 2. and/or many more hours (4 to 8) after having been fed using a very small inoculation (5 percent), yet still at the same sweet ripe stage. When the starter ferments predictably—rising and falling after feedings—you are ready to prepare a leaven and mix your first bread dough.

Keep in mind that training your starter is a forgiving process. Don't worry if you forget to feed it one day; just make sure to feed it the next. The only sure way to mess up a starter is to neglect it for a long period of time or subject it to extreme temperatures. Even then, a cycle of regular feedings will usually restore the vitality of your starter.

Making the Leaven and Mixing the Dough

When your starter is rising and falling in a predictable manner, you are now ready to make bread. When preparing to mix a dough, bread bakers use weight measurements. Measuring the flour, water, and salt by weight allows the baker to visualize bread recipes as parts, or ratios, of the whole. As you learn to make a variety of different bread recipes, you'll see how closely related they are. For ease of calculation, the bread recipes throughout the book use metric weights.

1) The night before you plan to mix the dough, discard all but 1 tablespoon of the mature starter. Feed the starter with 200 grams of warm (78°F) water and 200 grams of the 50/50 flour blend. Cover with a kitchen towel and let the starter rise overnight at a cool room temperature (65°F). This is your leaven.

By the morning, the leaven will be aerated by wild yeast activity, and the volume will have increased by about 20 percent. The most reliable indication that your leaven is ready is if it floats in water, a result of the carbon dioxide gas produced by wild yeast activity. To test the readiness of your leaven, drop a spoonful of it into a bowl of moderate room-temperature water. If it sinks, it is not ready to use and needs more time to ferment and ripen. You can expedite the fermentation by putting the leaven in a warm place and checking again after a half hour.

Your leaven should smell sweet in an overripe-fruit sort of way. I call this a young leaven, meaning it has not fermented to the point that it smells vinegary. If your leaven does smell vinegary in the morning, you have two options. You can mix the dough using this leaven, but with the expectation that your bread will taste more sour. Or you can discard half of the leaven and add 100 grams of warm water and 100 grams of the 50/50 flour blend. Doing this dilutes the acidity of the leaven and gives it fresh resources to ferment and ripen. Let the new mixture ferment until it passes the float test, about 2 hours.

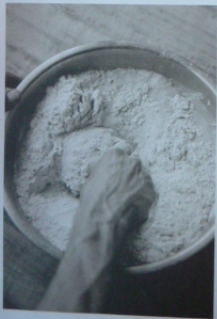
2) Gather the ingredients listed on the table for mixing the dough. For convenience, put the 80°F water in a pitcher.

Bakers think in terms of ratios and express these ratios as percentages. The flour, no matter what quantity is used, is the constant 100 percent against which every other ingredient is measured and considered. Starting with this basic recipe and continuing for the rest of the book, the recipes are based on 1,000 grams (1 kilogram) of flour. This is designed to help you think like a baker. When you understand the principles of the basic ingredients and how they act in combination, you can adjust recipes to gain your own desired results.



The amount of water relative to the flour is called the hydration percentage. Dough made with 600 grams of water and 1,000 grams of flour is 60 percent hydration. In other words, the amount of water is 60 percent of the weight of the flour. The basic country dough here will be 75 percent hydration. The table below is the formula for the basic country dough in this chapter. Here we start with 75 percent hydration—making the dough easy to work with from the start. As you get comfortable with softer doughs, you can increase the percentage of hydration gradually to suit your taste.

INGREDIENT	QUANTITY	BAKER'S PERCENTAGE
Water (80°F)	700 grams plus 50 grams	75
Leaven	200 grams	20
Total Flour	1,000 grams (1 kilogram)	100
White Flour	900 grams	90
Whole Wheat Flour	100 grams	10
Salt	20 grams	2





3) Weigh 700 grams of the 80°F water and pour it into a large mixing bowl. Add the 200 grams leaven and stir it to disperse. (Be sure to save your leftover leaven—this is now your starter. If you plan to bake bread every few days, continue discarding a portion of the starter and feeding it daily, as instructed in step 3 on page 46. If you want to bake only intermittently, see page 71 about maintaining your starter.)

Add 1,000 grams flour—900 grams white and 100 grams whole wheat—to the water and mix thoroughly by hand until you do not see any bits of dry flour. Clean your hands and the sides of the bowl with a dough spatula. Let the dough rest for 25 to 40 minutes. Do not skip the resting period. Working with the nature of the dough, the resting period allows the protein and starch in the flour to absorb the water, swell, and then relax into a cohesive mass.

4) After the resting period, add the 20 grams salt and the 50 grams warm water to the dough. Incorporate the salt by squeezing the dough between your fingers. The dough will first break apart and then will re-form as you turn it in the bowl. Don't worry if the salt does not seem to dissolve right away. Fold the dough on top of itself as shown in the photos and transfer it to a small, clear container. At Tartine, we use a container made of a material with insulating properties, to maintain the warm temperature of the dough during this crucial development stage. If you have never made bread, it's instructive to be able to see the aeration of the dough as it develops. We like thick plastic because it is safe and easy to clean. A heavy glass bowl would also work well.

The dough has now begun its first rise, called the bulk fermentation or bulk rise. This crucial step should not be rushed, as its primary purpose is to develop flavor and strength in the dough. The bulk rise is highly temperature sensitive, and as a rule, warmer dough ferments faster. At Tartine, we try to maintain the dough at a constant temperature between 78° and 82°F to accomplish the full bulk fermentation in 3 to 4 hours.

One important consideration is that a small mass of fermenting dough will quickly equalize with the ambient room temperature. The speed of fermentation therefore greatly depends on the ambient temperature of your kitchen. However, there are many ways to create a microclimate for your dough. If your kitchen is cool—below 60°F—you can mix the dough with warmer water, 90°F for example, and keep the plastic container covered with a top made of a low-conductive material such as wood or thick, hard plastic. You can also use your oven as a makeshift proof box by putting a small pot of boiling water in the oven near the dough. This will raise the ambient temperature of the oven. Alternatively, if you use a baking stone in your oven, you can heat the oven briefly with





the stone inside (on a separate shelf from where your dough will be). When you turn the oven off, the heated stone will keep the oven warm.

If you want to leave for a few hours, a longer, cooler bulk fermentation might be desirable. Page 74 explains how the bread-making process can be tailored to fit your environment and schedule.

5) Using my technique, you'll notice that the dough is never kneaded on a work surface. The dough development that bakers usually achieve by kneading is accomplished here by giving the dough a series of "turns" in the bowl during the bulk fermentation. This process is cleaner than kneading outside the bowl and accomplishes the same degree of development with much less work.

To do a turn, dip one hand in water to prevent the dough from sticking to you and then grab the underside of the dough, stretch it up, and fold it back over the rest of the dough. Repeat this action two or three times so that all the dough gets evenly developed. This is considered one turn.

During the first 2 hours of the bulk fermentation, give the dough one turn every half hour. During the third hour, notice how the dough starts to get billowy, soft, and aerated with gas. At this later stage, you should turn the dough more gently to avoid pressing gas out of the dough.

Proper development during the bulk fermentation enables the wet dough to hold its shape as a loaf, and the baker must watch for signs of development and determine when the dough is ready. During the first hour of the bulk fermentation, the dough will feel dense and heavy. Watch how the surface becomes smooth



soon after you turn the dough. By the end of the third hour, the dough will feel aerated and softer. A well-developed dough is more cohesive and releases from the sides of the bowl when you do the turns. The ridges left by the turn will hold their shape for a few minutes. You will see a 20 to 30 percent increase in volume. More air bubbles will form along the sides of the container. These are all signs that the dough is ready to be divided and shaped into loaves.

If the dough seems to be developing slowly, extend the bulk fermentation time. Watch your dough and be flexible.

6) Use the dough spatula to pull all the dough out of the container onto an unfloured work surface. Lightly flour the surface of the dough and use a bench knife to cut the dough into two equal pieces (remember, this recipe makes enough bread for two loaves). As you cut the first piece, use the bench knife to flip it so that the floured side rests on the work surface. Do the same with the second piece of dough.

At this point you want to incorporate as little flour as possible into the dough. Fold the cut side of each piece of dough onto itself so that the flour on the surface of the dough is sealed on the outside of the loaf. The outer surface of the dough will become the crust, so you may use more flour on your hands to avoid sticking.

Using the bench knife and one hand, work each piece of dough into a round shape. Tension builds when the dough slightly anchors to the work surface while you rotate it. By the end of the shaping, the dough should have a taut, smooth outer surface. You want to develop a strong tension in as few movements as possible—use decisive yet gentle force while handling the dough. If the surface rips, you have gone too far in developing tension. Don't worry if it does rip—this is just an indication you should stop shaping and let the dough relax.

7) After this initial shaping, let both rounds of dough rest on the work surface for 20 to 30 minutes. This stage is called the bench rest. Make sure the dough is not exposed to drafts, which will cool it too much. A draft also can cause a dry skin to form on the top of the dough, compromising the final shaping. You may need to lightly flour the dough and cover it with a kitchen towel.

During the bench rest, each round will relax and spread into a thick pancake shape. The edge around the circumference should appear fat and rounded, not flat and tapered or "dripping" off the edge. If the edge is flat and the dough is spreading too much, these are indications that the dough did not develop enough tension during the bulk fermentation. To correct this, simply shape each round a second time—which is like giving the dough an extra turn in the container.

8) To form the final loaf shapes, lightly flour the top surface of the dough rounds. Slip the bench knife under each round to lift it off the work surface, taking care to maintain the round shape. Flip the round so that the floured side is now resting on the work surface. What was the underside is now facing up.



The final shaping involves performing a series of folds—taking care as always not to deflate the dough. The successive folding builds tension inside each loaf so that it holds its form and rises substantially when baked. Bakers call this dramatic rise “oven spring.”

First, working with one round at a time, fold the third of the dough closest to you up and over the middle third of the round. Stretch out the dough horizontally to your right and fold this right third over the center. Stretch the dough to your left and fold this third over the previous fold. You are now starting to get a neat package.

Stretch out the third of the dough farthest from you and fold this flap toward you, over the previous folds, and anchor it in place with your fingers. Then grab the dough nearest to you and wrap it up and over, while rolling the whole package away from you so that the smooth underside of the loaf is now the top and all the seams are on the bottom.

Cup your hands around the dough and pull it toward you, rounding it against the work surface to tighten the tension and stretch the outer surface to close the seam. Let the shaped loaf rest for a minute. Repeat the folding with the remaining round.

9) In a small bowl, make a 50/50 mixture of rice flour and wheat flour. Line two baskets or medium bowls with clean kitchen towels and lightly flour the towels with the flour mixture. The patina of flour prevents the dough from sticking during the final rise. Using the bench knife, lift each shaped loaf off the work surface and transfer it to a basket or bowl so that the smooth side is down and the seam is centered and facing up. The loaves will now rise in preparation for baking.

At this point you have two options. The dough can rise at warm room temperature (75–80°F) for about 3 to 4 hours before baking. This is called the final rise, and at 2 hours, it will yield mild-flavored loaves.

If you don't want to bake right away, you can delay or “retard” the process by placing the dough, in the baskets or bowls, in the refrigerator for up to 12 hours. The cool environment slows, but does not stop, the fermentation. After 8 to 12 hours, the dough will develop more complex and mildly acidic flavors.













Baking the Loaves

1) About 20 minutes before you are ready to bake, place a dutch oven combo cooker (both pot and lid) in the oven and preheat the oven to 500°F. If the shaped dough is in the refrigerator, take one of the loaves out now. Leave the other loaf in the refrigerator until you are done baking the first one and have wiped clean and reheated the combo cooker and oven.

2) While the oven is preheating, gather your tools: heavy oven mitts, rice flour, and a double-edge razor blade to score the top of each loaf before it bakes. Razor blades can be tricky to use, so prepare a wooden splint to hold it. Split a wooden coffee stirrer halfway down its length, using the edge of a table. Then insert the blade onto the splint.

Bakers saturate their ovens with steam before loading the bread. The moist heat during the first 20 minutes of baking is essential to allow for the expansion of the loaves without forming a crust. All the characteristics that I strive for in a good loaf—burnished crackling crust, rich auburn color, open scores, and full volume—are enabled by this initial moist heat environment.



Home bakers are faced with the challenge of saturating with steam an oven designed to ventilate moisture. I have tried many methods for steaming in a conventional home oven, from wet towels to boiling pots of water, but no matter how much steam was created, it was impossible to trap enough moisture needed to achieve results at home similar to those from a professional bread-baking oven.

The sealed environment of a dutch oven solves this problem. It was a welcome discovery that, as with the wood fired ovens I had used for years, a dutch oven traps enough moisture from the loaf during the first few moments of baking to fill with steam. Using the dutch oven at home allows you to bake gaining the two main characteristics of a professional brick oven: a sealed moist chamber and strong radiant heat. The results using a dutch oven are indistinguishable from those using a professional baker's oven.

The photos here show my favorite dutch oven, a cast-iron combo cooker. One part is a shallow frying pan, and the other is a deep pan; each can act as a lid for the other. I like to bake bread on the shallow pan covered with the deep pan. The low walls make it easy to score the loaf prior to baking, and the deep pan used as a cover gives the loaf room to rise. Any dutch oven will work fine—just make sure you can cover the pan with a secure lid to seal.



3) Dust the surface of one of the loaves in the basket or bowl with rice flour. When the oven reaches 500°F, put on the kitchen mitts and carefully pull the heated shallow pan out of the oven and place it on top of the stove. Leave the other pan, or lid, in the oven. Please exercise extreme caution when handling the cooker. The pans are 500°F and will cause severe burns if your hands are not protected. Carefully inverting the basket or bowl, turn the dough into the hot pan. If the dough sticks to the towel, use more rice flour mixture the next time.

4) The loaves are cut or scored to help them fully expand in the oven. An unscored loaf will not rise to its potential and will often burst open along the sides. The angle, quantity, and pattern of the scores all affect how the loaf expands in the oven and determine the final appearance of the loaf. Experienced bakers use techniques that give them the effect they want, and types of scores can become signatures. Scoring is also used to distinguish different types of breads and to determine the aesthetic of the final loaf.

Make your scoring pattern on top of the loaf with the corner edge of the razor blade. For a round loaf, I suggest a simple square with four cuts. If you want the loaf to have pronounced "ears," make shallow cuts at a very low angle (almost horizontal) to the dough.

If your loaf is in the deep pan of the combo cooker or in a conventional dutch oven, take care not to burn your forearms on the edge of the hot pan while scoring the loaves.

5) Return the shallow pan holding the loaf to the oven and cover with the deep pan. You can invert this if the deep pan seems too heavy. If you do so, take care not to burn your forearms by touching the edges of the hot pan while scoring the loaves. Immediately reduce the oven temperature to 450°F. Bake the loaf for 20 minutes.

6) After 20 minutes, wearing the oven mitts, open the oven and carefully remove the top pan. A cloud of steam will be released. Notice that the color of the crust is pale and shiny. This is an indication of a well-steamed loaf. Continue to bake the bread until the crust is the color of deeply caramelized, 20 to 25 minutes. If you want a crackling crust that will stay crisp, it is important to bake your loaf out strong—until it reaches a burnished, golden brown color.



7) Wearing oven mitts, remove the pan from the oven and transfer the loaf to a rack to cool. If you don't have a rack, lean the loaf on its side so that air can circulate around the bottom. The loaf will feel light in the hand, which tells you that the right amount of water has been cooked out. When tapped on the bottom, the loaf will sound hollow.

To bake the second loaf, raise the oven temperature to 500°F. Wearing oven mitts, wipe out the cooker with a dry kitchen towel and reheat both the shallow pan and the deep pan for 10 minutes. Follow steps 3 through 7 for baking the second loaf. As each baked loaf cools, the crust contracts slightly. Listen for a faint crackling sound—the song of bread.

