



Passion for Bread

Translated by Sabine

Competent in Sourdough

Andreas Sommers, a certified nutritionist (ILS), has been involved with bread for decades. Starting out as a hobby baker, his hobby became a passion and ultimately his profession. At first, he baked with baking mixes, then with yeast and refined flours, but soon he discovered sourdough. Initially, he was almost in disbelief at how simple this type of bread baking was, but then he accumulated more and more knowledge about grains and microbiology, as well as cultural history and food history. Today, he uses his sourdoughs—his oldest culture has existed for almost 20 years—masterfully to bake bread.

Grain, water, salt—that's all you need for a good, healthy, and delicious food: bread. Naturally leavened with his sourdough cultures, he bakes every week for his customers at the weekly and farmers' markets, for his wife, friends, and himself.

Your First Sourdough Starter/Culture

When selecting the flour, use wholemeal rye flour for rye sourdough, for example, and the corresponding wholemeal flours for wheat or spelt sourdough. However, it also works with all-purpose flours. The refined flours contain more free sugars, so the culture reacts more strongly. In principle, you can continue your sourdough with any grain; you can also use buckwheat flour, quinoa flour—any flour containing starch. Untreated, freshly ground grains are ideal as flour, as these bring more wild yeast strains into the sourdough. 7 oz (200 g) of flour, about 1.25 cups (300 ml) of water, space in the fridge, and a suitable container are needed to get started.

Creating Your Own Culture

Your starter culture (from recipe below) is now in the container provided. You have added flour and water; now please mix everything together thoroughly (use a whisk). The result is a smooth dough

with a liquid to paste-like consistency. Seal the glass container and place it in the fridge for 24 hours. You have now increased your sourdough considerably and can remove the necessary amount for baking bread. Proceed as described above with the remainder in the container. The level in the container should be replenished again and again. You now have a practically unlimited supply of sourdough. Strong bubble formation shortly after "feeding" is clearly visible due to the pasty consistency of the sourdough.

Keep your sourdough as liquid as possible. Over time, a liquid containing a lot of acetic acid will settle on top. The acetic acid bacteria that produce this are the "police" of the sourdough. They protect it from molds and putrefactive bacteria.

Even if you do not mix the sourdough for three or four weeks and the liquid turns dark (often the case with spelt and wheat sourdough; rye sourdough turns reddish, buckwheat sourdough slightly purple), this does not mean that the sourdough has "gone bad."

It should now just be quickly supplied with fresh flour and water and thoroughly stirred again so that fresh sourdough enters the culture. Discoloration of the liquid on top of the culture is a normal process.



How Long Does a Sourdough Last?

In principle, a stable culture can rest untouched in the fridge for 3 - 4 weeks. Nevertheless, especially if you only bake irregularly, do your culture a favor and stir it thoroughly at least once a week. This will bring fresh oxygen back into the culture.

What Should I Do if I Don't Bake for a Long Time?

If you don't need sourdough for a longer period of time (over a month), add enough flour to give the dough a compact consistency. You can then freeze it (in a freezer bag). It can now be kept for several months. Thawed, water added, and brought back to its original consistency, the sourdough is fully usable again and you have preserved your traditional microbiology. There is no minimum shelf life for sourdough; used regularly, the culture will accompany you for a lifetime.

Odors in Sourdough

- Fresh, slightly sour, tastes sour - this is the desired state of a living, healthy sourdough.
- After alcohol - it is normal for alcohol to develop in sourdough. The (wild) yeasts form alcohol in the anaerobic environment; this is volatile and rises as a gas. Especially when the sourdough enters a warm environment. Normally, the alcohol in the sourdough is metabolized by bacteria to acetic acid.
- After vomit - here the sourdough starts to lose its acid protection, and bacteria (clostridia) start to metabolize the carbohydrates (sugar) to butyric acid.
- After acetone (nail polish remover) - occurs in sourdoughs that no longer contain oxygen (anaerobic environment), but instead contain a lot of carbon dioxide. Acetone is produced during an organic fermentation process. This mainly happens with solid sourdoughs.
- Fruity - happens with sourdoughs that no longer contain oxygen. Clostridia are also involved here. They produce butyric acid. If the sourdough now also contains alcohol, the two substances esterify and butyric acid ethyl ester is formed. This is mainly observed with solid sourdoughs. However, acetic acid can also react with the alcohol, which also has a fruity smell.
- Ammonia - NH_3 is produced when amino acids are metabolized. If these are metabolized by enzymes (aminotransferases) in the sourdough, glutamate is produced, which is broken down by other enzymes (glutamate dehydrogenase), thus releasing ammonia. This also leads to a reaction with the water in the sourdough in an anaerobic environment. A more liquid sourdough method is preferable to prevent hydrolysis.

Why in the Fridge?

In our vital sourdough, it is mainly wild, bottom-fermenting yeasts that have colonized, and they like it cold. In the fridge, they therefore develop magnificently and the sourdough becomes very vigorous. At room temperature, on the other hand, the yeasts face competition from lactic and acetic acid bacteria, which tend to be slowed down in the fridge. Nevertheless, wild yeast is not a high-performance yeast like baker's yeast. It is therefore not possible with only sourdough, however vigorous it may be, to make a bread ready to bake in just a few hours (or even just one hour). Your bread dough, on the other hand, likes it warm when maturing. In addition to the yeasts, the lactic acid bacteria are particularly important for flavor production.

By the Way:

A sourdough does not need to be fed regularly. Grain consists largely of carbohydrates. These are broken down further and further into sugar by the sourdough's own enzymes (amylases), so the sourdough feeds on itself. I have carried out long-term experiments and left cultures untouched in the fridge for half a year. They were actually still vigorous. Not like regularly used sourdough, but still. Bottom-fermenting yeast strains are also often used in beer production. Yeast is a sprout fungus that multiplies by dividing. If it is doing well, this happens about every two hours.



Making Your Own Rye (for example) Sourdough (Spontaneous Sourdough)

Ingredients:

- 10.5 oz (300 g) rye flour (wholemeal, preferably freshly ground, then many wild yeasts are still active)
- 13.5 oz (400 ml) water

Day 1:

Take a container with a lid that holds about 2 quarts (2 liters). Mix 3.5 oz (100 g) of the rye flour with 6.75 oz (200 ml) of cold (!) water. Cover and leave to stand at room temperature.

Day 2:

Stir another 3.5 oz (100 g) of wholemeal rye flour with 3.4 oz (100 ml) of water into your container. Seal and leave to rest.

Day 3:

Leave to rest.

Day 4:

The first bubbles should appear on the surface. During the taste test (stick your finger in and try), the mixture should already taste slightly sour. Stir in the remaining 3.5 oz (100 g) of wholemeal rye flour and 3.4 oz (100 ml) of water. After 4 days, you will now have a viscous sourdough in your container.

Day 5:

The whole process is now completed. If you now want to prepare bread from your starter, you only need a portion, but you can also store the whole culture in the fridge.

Sabine: You can wait some more days, so the starter will be better and better.



This sourdough can now be stored for years.

Various Aspects of Sourdough

Why bake with sourdough?

First of all:

Sourdough, sourdough bread, sour environment... It all sounds very sour. But don't worry, sourdough does not "over-acidify" your body. On the contrary.

Grain is a complicated food, and it is a very successful one! It would not be so successful if it had not developed tactics against its predators. Various secondary plant substances are found in different cereals, and some of these are also problematic for human nutrition.

The combination of an active microbiology with various enzymes breaks down many of the secondary plant substances. This makes food made from cereals much more digestible. One of the most important "ingredients" for really good bread is time!

Better Water Content

Simple breads made from leavened flours that are only baked with yeast tend to become stale very quickly. This process is known in chemistry as "retrogradation." This reaction is particularly pronounced in breads that contain a lot of low-molecular carbohydrates (starch and sugar molecules). The baking industry reacts to this process by adding fats, emulsifiers, and, in recent years, special enzymes.

Not really tasty, but quick and cheap. However, with a vital sourdough, starch and sugar molecules are broken down or regrouped. This significantly delays staling. Of course, this only works if you give the sourdough the time it needs.

Why do bakers no longer bake with vital sourdoughs? Too imprecise, takes too long, no predictable results.

Nutritional and Physiological Aspects

Time and again, the medical profession recommends to diabetics: no sugar, no carbohydrates, and above all no bread!

If we take a simple industrial toast or a standard roll puffed up with lots of sugar, this may even be true. However, the situation is completely different with naturally leavened wholemeal bread. First of all, it contains significantly more long-chain carbohydrates, i.e., fiber (water-soluble and water-insoluble), which must first be broken down during digestion so that the sugars required by the body's metabolism can be utilized. But even freshly ground wholemeal flours contain low-molecular sugars. This is what our sourdough lives on!

Bread made from high-quality flour with a long dough ripening period contains virtually no sugars! These have been consumed by the microbiology of the sourdough, making it an ideal food for diabetics. Naturally leavened breads made from high-quality grains are an ideal nutritional alternative to industrially produced breads.

And what about the taste?

Basic Principles

And then there's the taste!

The sourdough's own microbiology is an enrichment for your intestinal health. In contrast to bread, where it dies during the baking process, the microbiology of the sourdough is alive.

Natural Sourdoughs

No fuss, pure, made only from flour and water. Matured into an individual culture through regular use over decades. This is "German bread culture".

Basically, the taste is mainly created by minerals in the food. So if you reduce a grain to just the starch body (keyword: extraction flours), you will hardly find any taste apart from sweetness (low-molecular sugars). Wholemeal flours, therefore, have much more pronounced flavor nuances. And now comes the dough leavening with a vital sourdough. It is not just the slightly sour taste that is described as "bread-like" in bread. Wild yeasts, most of which are bottom-fermenting (i.e., they love temperatures below 50°F), play a major role in flavor development. Unlike high-fermentation baker's yeasts, these wild yeasts develop aromatic compounds during their metabolism. You may know this from bottom-fermented beer. A brewer would never use the same yeasts as bakers, as this would spoil the taste. The situation is similar with the yeast strains in natural sourdough cultures.



RECIPES

The recipes are added, maybe just start with simple recipes, like the first two...

Sabine (simple): Rye Bread with Spices

Ingredients:

- 17.6 oz (500 g) coarsely ground rye
- 5.3 oz (150 g) fresh rye sourdough
- 1 tbsp or 1 oz (10 g) (sea) salt
- 2 - 3 tbsp or approx. 0.5 oz (15 g) bread spice (crushed coriander, aniseed, caraway, fennel - to taste)
- 1.7 - 2.1 cups (400 - 500 ml) water, just try bit by bit
- approx. 1.8 oz (50 g) flour to flour the work surface

Preparation:

Put all the ingredients in a mixing bowl and knead well until the dough is firm but slightly sticky. Let the dough rest for around 12 to 24 hours.

The dough should increase in size by approx. 50%. Remove from the bowl, knead again on a floured work surface.

Place the loaves on baking trays (baking paper!) and rub with a little flour. Bake at 356°F (180°C) for approx. 60 minutes.

Sabine (simple): Emmer/Spelt Bread (or Kamut, or Einkorn instead of Emmer) (or spelt only)

Ingredients:

- 8.8 oz (250 g) coarsely ground emmer
- 8.8 oz (250 g) coarsely ground spelt
- 5.3 oz (150 g) fresh rye sourdough
- 1 tbsp or 1 oz (10 g) (sea) salt
- 1.7 - 2.1 cups (400 - 500 ml) water, just try bit by bit
- approx. 1.8 oz (50 g) flour to flour the work surface

Preparation:

Put all the ingredients in a mixing bowl and knead well until the dough is firm but slightly sticky. Let the dough rest for around 12 to 24 hours.

The dough should increase in size by approx. 50%. Remove from the bowl, knead again on a floured work surface.

Place the loaves on baking trays (baking paper!) and rub with a little flour. Bake at 356°F (180°C) for approx. 60 minutes.



Shredded Rye Bread

Ingredients:

- 12.3 oz (350 g) fresh rye sourdough made from rye meal (you can also use normal rye sourdough)
- 17.6 oz (500 g) "1800" rye meal (If you can't get any rye meal, you can also use the whole amount (38.8 oz/1100 g) with 21.2 oz/600 g wholemeal rye flour)
- 1 tbsp or 1 oz (30 g) (sea) salt
- 2 - 3 tbsp or approx. 0.5 oz (15 g) bread spice (crushed coriander, aniseed, caraway, fennel - to taste)
- 1.9 - 2.1 cups (450 - 500 ml) lukewarm water
- approx. 1.8 oz (50 g) flour to flour the work surface

Preparation:

Soak 3.5 oz (100 g) of rye meal in 0.85 cups (200 ml) of water with 1.8 oz (50 g) of rye sourdough for approx. 24 hours.

Put all the ingredients in a mixing bowl and knead well until the dough is firm but slightly sticky. Let the dough rest for around 12 to 24 hours.

The dough should increase in size by approx. 50%. Remove from the bowl, knead again on a floured work surface, and divide into two loaves.

Place the loaves on baking trays (baking paper!) and rub with a little flour. Bake at 340°F (170°C) for approx. 60 minutes.

Ciabatta

Ingredients:

- 8.8 oz (250 g) fresh wheat sourdough (made from durum wheat)
- 17.6 oz (500 g) durum wheat
- 17.6 oz (500 g) wheat flour
- 1 oz (30 g) salt
- approx. 1.7 - 2.1 cups (400 - 500 ml) water
- approx. 0.18 oz (5 g) fresh yeast (or one bag - 0.25 oz/7 g - dry yeast)

Preparation:

Knead the sourdough, yeast, flour, and salt thoroughly. Cover and leave to rest for at least 12 hours (preferably up to 24 hours).

Knead the dough again on a floured work surface. Form 2 - 3 large loaves. Place these on baking trays lined with baking paper. Bake starting at 302°F (150°C) for 30 minutes, then at 392°F (200°C) for another 20 minutes. Let the loaves mature in the residual heat for approx. 15 minutes.

Buckwheat Toast

Ingredients:

- 5.3 oz (150 g) buckwheat sourdough
- 7.1 oz (200 g) buckwheat (hulled)
- 10.6 oz (300 g) buckwheat flour
- 1.8 oz (50 g) linseed
- 3 eggs (size M)
- 1 oz (30 g) butter
- 0.5 oz (15 g) salt
- 0.18 oz (5 g) fresh yeast or 0.25 oz (7 g) dry yeast
- approx. 1.3 cups (300 ml) water
- a little butter to grease the baking tin

Preparation:

Soak buckwheat and linseed in water overnight. Knead all ingredients except for the egg and leave to rest for 10 - 12 hours.

Separate the eggs, beat the egg whites until stiff, and knead everything (including the yolk) into the dough. Pour into the buttered toast tin.

Bake at 356°F (180°C) for 60 minutes.

Emmer Bread

Ingredients:

- 7.1 oz (200 g) emmer sourdough
- 26.5 oz (750 g) emmer flour (wholemeal)
- 0.7 oz (20 g) salt
- 2.1 cups (500 ml) water

Preparation:

1. Bring water to a boil, stir in approx. 12.3 oz (350 g) of wholemeal emmer flour and let soak.
2. After cooling, knead thoroughly with the sourdough, salt, and remaining flour. Let rest for 12 - 24 hours.
3. Knead again, form a loaf, and bake at 356°F (180°C) for 60 minutes.

Baguette

Ingredients:

- 10.6 oz (300 g) fresh wheat or spelt sourdough
- 24.7 oz (700 g) wheat flour 1050 or equivalent spelt flour
- 1 oz (30 g) salt
- approx. 2.1 - 2.5 cups (500 - 600 ml) water
- 0.18 oz (5 g) fresh yeast or 0.25 oz (7 g) dry yeast

Preparation:

Knead the sourdough, yeast, flour, and salt. Let rest for 12 - 24 hours.

Form 3 - 4 loaves, bake at 428°F (220°C), then reduce to 338°F (170°C) and bake for a total of 45 - 50 minutes.

Rye and Spelt Loaf

Ingredients:

- 7.1 oz (200 g) fresh rye sourdough
- 17.6 oz (500 g) wholemeal spelt flour
- 14.1 oz (400 g) wholemeal rye flour
- 1 oz (30 g) salt
- approx. 1.3 - 1.7 cups (300 - 400 ml) water
- Flour for the work surface

Preparation:

Knead all ingredients, let rest for 8 - 10 hours.

Shape into a loaf, bake at 356°F (180°C) for 60 minutes.

Holstein Brown Bread

Ingredients:

- 12.3 oz (350 g) leavened rye grains
- 7.1 oz (200 g) wholemeal rye flour
- 7.1 oz (200 g) rye meal 1800
- 3.5 oz (100 g) sugar beet syrup (dark)

- 0.7 oz (20 g) salt
- 0.35 oz (10 g) caraway seeds
- Approx. 0.4 cups (100 ml) lukewarm water

Preparation:

Knead all ingredients. Pour into an oiled and floured loaf tin.

Let mature at room temperature for 24 hours. Bake at 320°F (160°C) for 60 minutes, then at 248°F (120°C) for another hour.

Let cool and mature for at least a day.

Leavened Rye Grains:

- 5.3 oz (150 g) natural sourdough
- 1.3 cups (300 ml) water
- 8.8 oz (250 g) rye grains
- Leave to leaven for 5 - 6 days in the fridge.

Bread Drink

Are you baking great breads now and still have some left over? I have a really tasty suggestion for using stale and dry bread.

Make your own bread drink!

Ingredients:

- Leftover bread
- 0.85 cups (200 ml) of your vital sourdough
- A sieve
- A jug for approx. 1.5 l
- Water
- A sealable container of 1.6 - 2.1 quarts (1.5 - 2.0 L)

Preparation:

Fill a 1.6 - 2.1 quarts (1.5 - 2.0 l) container with leftover bread and sourdough, fill with water. Let mature at room temperature for 2 days.

Strain, refill with water, and repeat the process 3 - 4 times. Best served cold.

Fill the container with the leftover bread, add the sourdough and fill everything up with cold water. Close the container and leave it to mature at room temperature for 2 days. It is best to place the container on a saucer, as it may drip.

Pressure will build up in the jar, so it is best to open the jar over the sink. Now pour the finished bread drink, it should taste sour, through the sieve into your jug. Leave the leftover bread in the container, fill it with water again (this time without sourdough, the microbiology is now in the old bread) and set the container aside again for two days.

You can repeat this process 3 - 4 times until the bread is completely leavened. It tastes best cold from the fridge. You can also flavor the bread drink. For example, add hops or dried fruit to the glass.

