

Recipe for a crusty sourdough rye loaf

By Chris Thomas

Some people eat rye sourdough bread for its health benefits. I simply prefer it because I developed a taste for German rye breads as a child and it is embedded in my nature now, many decades later.

I established my own rye sourdough culture a couple of years ago and have used it with moderate success for most of the time. But the taste still did not match the memory of my ideal, a crusty 'Siegerlaender' rye sourdough bread.

In 2021, this would change by using two key procedures,

1. Using a typical herb mix for flavouring and
2. Changing how the sourdough was prepared – making it a full 4 stage, 24-hour procedure.

Here it is below, with some advice on changes you can make to produce a variety of effects in the final bread. Using Prior's stoneground organic flours helped too, of course!

I have included instructions on how to make a rye sourdough starter, if you do not already have one.

Rye Sourdough Starter

A rye sourdough starter is a stable culture or ferment of wild bacteria and yeasts that originate from spores naturally present on the grain used for milling. Making one is quite simple. It takes about a week for the first time but after that you keep the culture in the fridge and feed it just once a week.

Materials

- At least one clean jam jar with lid
- Kitchen scales
- Stoneground organic rye flour
- Water
- Time and patience

Method

1. Mix 50 g of rye flour thoroughly with 50 g (50 ml) water (total 100 g)
2. Place in jam jar with the lid loose
3. Leave at room temperature for 24 hours (ideally between 21 °C and 27 °C)
4. Add 50 g of fresh rye flour and 50 g (50 ml) water to the existing mix (total 200 g)
5. Leave at room temperature for 24 hours (ideally between 21 °C and 27 °C)
6. Take 100 g of the existing mix and place in a clean jam jar with a loose lid. (Discard the other 100 g in your compost and thoroughly clean the jar)
7. Add 50 g of fresh rye flour and 50 g (50 ml) water (total 200 g)
8. Leave at room temperature for 24 hours (ideally between 21 °C and 27 °C)
9. Repeat steps 6 to 8 until you have a stable culture that forms a foamy structure at least two steps in a row.
10. It should have a slightly acid scent with an aromatic note, be grey to grey-brown in colour.
 - If it turns orange or grows a furry mouldy skin. Discard, clean everything thoroughly and start again.
11. You can store your stable culture in the fridge. It will collapse slightly.

12. Refresh your culture once a week by

- Repeating steps 6 & 7
 - (instead of discarding the excess 100g old sourdough, you can add it to a new loaf you are baking, or as a flavouring to a conventional wheat loaf made with baker's yeast)
- Leaving at room temperature until the foamy stage begins to form – this can be 2 to 4 hours
- Placing jar back into fridge with the lid loosely on.



1. Left - rye flour:water mix at start of fermentation. Centre – A fresh rye dough starter culture after overnight incubation. Right - rye sourdough starter after a weeks storage in fridge (and some starter removed to inoculate a new loaf).

Now you are ready to start baking a sourdough rye bread.

Making a crusty sourdough rye-wheat loaf in 4 stages

Stage 1. Activating sourdough starter

This gets the yeasts multiplying again. Set up 6 hours before you go to bed on day 1.

- Take 10 g of your sourdough starter and place in a small glass mixing bowl.
- Add 10 g of rye flour and 10 g (10 ml) of water and mix thoroughly to form a soft paste
- Cover the bowl with a lid or plate to stop drying out



2. Glass bowl with starter culture, covered with plate to prevent drying out.

- Leave at a warm room temperature (or at 25 °C to 29 °C if you can) for 5 hours

The refreshed culture should look frothy when viewed through the underside of the glass bowl (see figure below).

Progress: 15 g of flour: 15 g water. Flour:water ratio per 100:100



3. Frothy appearance of reactivated rye sourdough starter after 5 hours.

Stage 2. Promoting acidity

This encourages the acid forming lactobacilli to multiply. Do this 1 h before you go to bed.

- Add 50 g of rye flour and 24 g (24 ml) of water to activated starter and mix well. You will have a very stiff dough.
- Cover bowl with a plate, to stop dough drying out, and leave overnight for about 10 h at a warm room temperature (or 25 °C to 27 °C if you can).

The stiff dough may have risen slightly and you may see signs of bubble formation through the underside of the bowl.

Progress: 65 g of flour: 39 g water. Flour:water ratio 100:60



4. Stiff step 2 rye sourdough showing some bubbles after overnight culture.

Stage 3. Final maturation of the sourdough

This promotes both yeast and acidity.

- To the previous mix add 135 g rye flour and 161 g (161 ml) water. This creates a soft paste again. Cover the bowl with a plate to prevent drying out.
- Mix and incubate at room temperature (22 °C to 25 °C) for 4 h or until the paste has become foamy.

Progress: 200 g of flour: 200 g water. Flour:water ratio 100:100 . TOTAL WEIGHT 400 g



5. Stage 3 sourdough seen through base of glass bowl after approximately 4 hours, showing foamy structure.



6. Stage 3 sourdough seen from above after approximately 4 hours, showing foamy interior structure.

Stage 4. Final proving stage of bread

The sourdough is added to additional flour, salt, herbs and water to create the final dough for proving.

- In a large bowl, add the 400 g of matured sourdough.
- Add
 - 200 g of Priors stoneground rye flour
 - 200 g of Priors stoneground white wheat flour
 - 10 g Salt
 - 1 teaspoon of a herb mix. It contains equal proportions of
 - Ground aniseed
 - Ground caraway
 - Ground fennel
 - Ground coriander
 - 195 g (195 ml) water, preferably at 45 °C
- Mix thoroughly into an even thick dough using dough hooks. It will have the consistency of plasticene and will be sticky.

- Leave to rest for 20 minutes
- Form into a ball with a tablespoon as best possible.
- Dust with rye flour and complete formation of dough ball with a spoon to ensure release of the dough and dusting with flour on all sides, so that the dough ball can be handled.
- Either form into one short loaf or divide into two to make two smaller loaves
- Place them on non-stick baking paper on a kitchen surface or flat tray on which you will bake it (if you do not have a baking stone)

Progress: 600 g of flour: 400 g water. Flour:water ratio 100:67 . TOTAL WEIGHT about 1000 g



7. Two small formed loaves

- Allow the dough to rise. The dry surface will crack, the dough will also spread sideways
- When the cracks reach finger width (about 20 mm) – which may take 3 to 5 hours - It's time to bake the loaf.



8. Dough after rising till cracks are a finger width wide (about 20 mm)

- Make sure there are two shelves,
 - place a tray on the lower shelf
 - If you have a baking stone, place it on the upper one
- Preheat the oven to 220 °C (for 20 minutes if using a baking stone)
- Open the oven and pour some water into the bottom tray to generate (invisible) steam in the oven.
- Then, either
 - use a baker's peel to lift the loaf and slide it onto the hot baking stone or
 - place your tray with the loaf onto the upper shelf
 - close the oven door
- After 10 minutes
 - Open the oven door to let out the steam
 - Turn the temperature down to 200 °C
 - Close the oven door and continue baking
 - Two small loaves need another 30 minutes
 - One larger loaf needs another 50 minutes.
 - NOTE: these loaves do not 'bounce' (enlarge) as much as white wheat bread loaves on baking.
- Take the bread out the oven and check it is done by either
 - Tapping it and listening for a hollow sound, or
 - Inserting a cooking thermometer probe – the centre should be above 90 °C
- Place on a wire rack to cool to room temperature.



9. Crusty sourdough loaves after baking

When cool, cut a slice to check its appearance and taste! Slice thinner than white bread, as it is much denser. The flavour is from the crust, the herbs, the slightly acid and aromatic crumb and the salt.



10. Thin slice of bread showing the flattening of the loaf and a moist, dense interior with small airspaces in the crumb. The outer crust will be hard.

Store the bread in a bread bin. It can also be frozen sliced or unsliced. Sourdough bread keeps longer than conventional bread. If starting to look/feel stale, you can warm slices of bread briefly in a toaster, or microwave under a damp kitchen towel, to refresh them.

Five Variations.

1. Make the sourdough as described above, but at stage four add more white wheat flour. You can increase the proportion of wheat flour from 30% to 40%, 50% or even 60%. A higher wheat flour content provides more gluten to hold the loaf in shape whilst it is rising, so you get a more rounded loaf.



11. bread slices of a rye wheat sourdough loaf with 50% rye, 50% wheat in the final dough, giving a slightly lighter, more rounded loaf. This loaf also has pumpkin, sesame, and sunflower seeds in it.

2. Increasing the water content from a flour:water ratio from 100:67 to 100:80 or even higher. This creates a much moister bread with defined bubbles in the crumb but the dough is so soft, it has to be baked in a lined bread or greased and dusted loaf tin. You may need to extend the baking time too, due to the higher water content.



12. Loaf baked with a higher water content in a bread tin. This loaf also has sesame, pumpkin and sunflower seeds in it and tastes great toasted.

3. Adding ingredients such as seeds or fried onion or using other herbs or herb mixtures.
4. Letting the dusted bread rise under a cloth, brushing with milk and then baking at a lower temperature (180 °C) for a bit longer. This gives a softer crust.
5. Adding a dessert spoon of dried baker's yeast to stage four – you get a faster rise and a more airy crumb, making a slightly less dense bread.

Give rye sourdough bread a go!

Making your own sourdough starter and baking rye-wheat bread mixtures may seem time consuming but the longer fermentation releases nutrients from the flour and makes it more digestible as well as tasting good. Rye starters are easier to maintain and less prone to variation than wheat based cultures once stable.

Whatever you do, give it a go and have some fun baking!

Chris, June 2021