



NewScientist

How to make a sourdough starter and delicious sourdough bread

To make your own sourdough bread, you need to create an environment where wild yeast and bacteria want to hang out. **Sam Wong** explains how

HUMANS 4 March 2020

By **Sam Wong**



James Winspear



White and wholemeal flour

Water

Salt

Glass jar with lid

Casserole pot

IF YOU buy yeast, you get one species: *Saccharomyces cerevisiae*, a reliable and predictable bread-maker. But for [most of history, humans have used a living culture of wild yeasts and bacteria](#) to produce bread.

Advertisement

We call this bread sourdough, and the culture a starter. You could get an established starter from someone else, but it is very easy to make your own. All you have to do is create an environment where wild yeasts want to grow.

Some of the microbes you need will be in the flour already. Others, particularly bacteria, may come from you. In a recent study, researchers sent the same flour and starter recipe to 18 different bakers. They found [huge variety in the microbes](#) in the resulting starters, and this was reflected in the flavour of the bread.

To make yours, mix 50 grams of wholemeal flour and 50 millilitres of water in a jar, then cover it with a loose lid and leave it in a warm place. Bubbles should appear after a few days, meaning your starter is active. If nothing is happening, throw away half of the mix and replace it with fresh flour and water. This is called feeding the starter. Once your starter is active, feed it like this every day for at least a week before baking with it.

The sourness in sourdough comes from lactic acid-producing bacteria, the same group that we recruited last week to [make kimchi](#). The acid keeps unwanted microbes away, but *Candida milleri* and other [yeast species](#) don't mind it. Don't be alarmed if, at some point, the starter smells of nail polish remover. The bacteria sometimes produce acetone, but this won't end up in your bread.

The night before baking, take 50g of starter and whisk it into 350ml of water. Measure 500g of strong bread flour – I like to use half white and half wholemeal – add 9g of salt, then mix in the diluted starter. Leave this for half an hour until it is less sticky, then shape it roughly into a ball. Cover with plastic and leave it in a cool place overnight, as you want the fermentation to proceed slowly.

By morning, the dough should have expanded. If you poke it, it should spring back partially, but an imprint will remain. Now shape the loaf – this can be tricky so you might want to look for tips online – or put it in a tin, then leave it to prove for another hour or two.



tray with a bowl of hot water on the shelf below.

When the loaf is proved, lower it carefully into the pot and slash the top with a knife to help the dough expand. Bake for 20 minutes with the lid on, then 30 more with it off.

Keep your starter in the fridge and feed it once a week when you aren't baking. Take it out a day before you want to bake and give it a feed. You can keep doing this indefinitely.

For next week

Garlic

Lemon

Oil

Salt

Next in the series

- 1 [The scientific shortcuts to cooking delicious caramelised onions](#)
- 2 [How to make halloumi and ricotta cheese using ancient biotechnology](#)
- 3 [How to cook perfect chips: Learn the science of crispiness](#)
- 4 [Here's how to make your own tofu for Chinese New Year](#)
- 5 [Use the science of curing to turn salmon into gravlax at home](#)
- 6 [How tempering chocolate hacks its crystalline structure](#)
- 7 [Umami: How to maximise the savoury taste that makes food so satisfying](#)
- 8 [Pancake day 2020: Here's a scientific recipe for better batter](#)
- 9 [Make kimchi at home by cultivating a friendly microbial ecosystem](#)
- 10 [How to make sourdough bread by harnessing wild yeast and bacteria](#)
- 11 [Garlic: understand the chemistry of its flavour to amplify or tame it](#)

Science of cooking online

All projects are posted at [newscientist.com/cooking](https://www.newscientist.com/cooking) Email: cooking@newscientist.com

More on these topics: [food science](#)



TRENDING

LATEST

VIDEO

FREE

- Covid-19 news: US not involved in global WHO plan to tackle pandemic** 1
- BCG vaccine being trialled as potential protection against covid-19** 2
- UK's coronavirus science advice won't be published until pandemic ends** 3
- Fracking wells in the US are leaking loads of planet-warming methane** 4
- Correlation or causation? Mathematics can finally give us an answer** 5



VIEW IN THE APP

BUY IN PRINT



Previous article

The secret to killing cancer may lie in its deadly power to evolve

Next article

New Scientist puzzle #49: The tree in the snow globe

MORE FROM NEW SCIENTIST



Psychology tips for maintaining social relationships during

Lush island landscape in Polish lake captured from above

The hunt for patient zero: Where did the coronavirus outbreak start?

A lazy cave salamander didn't move from the same spot for 7 years

PROMOTED STORIES

[Gallery] The Most Intelligent U.S. Presidents Ranked By IQ Score

History By Day

Top Gut Doctor Warns: "Throw Out This Vegetable Immediately"

Wellnessguide2020

Chiropractors Baffled: Simple Stretch Relieves Years of Back Pain (Watch)

Health News Tips

Try This Tonight If You Have Nail Fungus (Watch)

WeeklyPenny

Recommended by





[Contact us](#) | [Coronavirus: customer update](#) | [Help](#) | [About us](#) | [Privacy & cookies](#) | [Cookie preferences](#) | [Terms & conditions](#)

[Advertise](#) | [Write for us](#) | [Events](#) | [Science jobs](#) | [Syndication](#) | [RSS feeds](#)
[Gift subscriptions](#) | [Student subscriptions](#) | [Educational subscriptions](#) | [Corporate subscriptions](#)

GET THE APP



 Get it on
Google Play

FOLLOW US

© Copyright New Scientist Ltd.

Back to top 