Gluten free sourdough starter

*You can make a gluten free starter using any wholegrain gluten free flour, but brown rice works out the cheapest. Slowly fermented bread, pancakes and muffins not only taste delicious, most people find them more digestible too because of the presence of friendly bacteria who munch on antinutrients in the grains during the fermentation process. Some people can react to baker’s yeast in the same way they do to gluten, so the wild yeasts in a sourdough starter can often be tolerated where commercial yeast cannot. Follow the method below to make your starter in 5 days and then you can use it and keep it dormant in the fridge between bakes for the rest of your life as long as you feed it. Read the pointers below the recipe before you get started.*

**Day 1**

**120g brown rice flour (or any mixture of sorghum, millet, white teff, rice or quinoa)**

**180g tepid (about 28ºC) mineral or filtered water**

**Small bunch of unwashed grapes (or pear water, see below) (optional)**

Mix flour and water (use this quantity of pear water if using) in a bowl, nestle the grapes in (if using), cover with a cloth and leave in a warm place.

**Day 2**

**120g brown rice flour (or flour mixture as above)**

**160g tepid mineral or filtered water**

Lift out the grapes, add the flour and water ‘feed’, whisk, replace grapes and cover again.

**Day 3**

**150g brown rice flour (or flour mixture as above)**

**200g tepid mineral or filtered water**

Lift out the grapes, whisk, weigh out 150g, add the feed, replace grapes and cover again.

**Day 4 morning & evening**

**150g brown rice flour (or flour mixture as above)**

**200g tepid mineral or filtered water**

By now the sourdough starter should have started to bubble and smell a little yeasty. Take out the grapes, squeeze a little to release a small amount of juice and discard the grapes. Whisk the starter well, weigh out 150g, discard the rest or make pancakes or crumpets with it, stir in the feed and cover again. Repeat the feed in the evening.

**Day 5 morning & evening**

Whisk and measure out 75g of starter and discard the rest as before, feed the starter with 150g of gluten free flour and 200g of water, do this both morning and evening.

**Day 6 morning**

Whisk and measure out 75g of starter and discard the rest as before, feed the starter with 150g of gluten free flour and 200g of water, put into a 1 litre or larger glass preserving jar and allow the starter to bubble up and double – mark the starting level in the jar with a glass pen or sharpie so you will easily see when it has doubled.

It is now ready to bake with and this is referred to as an ‘active’ starter. If it isn’t doubling, weigh out 75g of starter and feed again every 6-8 hours. You might need to do this for a couple of days more in the middle of winter or in a cold house. Each time you feed it, you must weigh out 75g and discard the rest, otherwise your kitchen will overflow with starter. You can store any discarded starter (discard) in the fridge until you have enough to make some pancakes or a batch of crumpets. If you plan to bake a lot of loaves each time, you might want to keep a larger amount of starter reserve, just remember to increase the amount of feed you give it accordingly.

**Which flour to use?**

Rice flour works well for a cheap gluten free sourdough starter because it is mild flavoured and costs very little, but it does separate quite quickly into ‘hooch’ and solids. You need to use brown rice flour, or at the very least a rice flour with some brown rice in it such as [Doves Farm](https://www.dovesfarm.co.uk/flour-and-ingredients/rice-flour-x-1kg/) rice flour (a 50/50 mix of brown and white). This is because the yeasts and bacteria that will come to life and flourish when you give them heat and water, live in the brown part (germ) of the grain. I maintain a largely rice free starter with a variety of flours; usually an equal mix of buckwheat, quinoa and either maize, sorghum or millet as the third flour in the mix. Teff, sorghum, millet, buckwheat and quinoa flour can be great to give a starter a kick start - all are yeasty and sourer than rice flour. If you like the flavour, you could switch to a mixture of flours for all feeds. A little potato or tapioca starch in the mix can help give a lift too. Make up a big quantity of your sourdough feed mix and things will be much simpler when you need to feed your starter before bed or first thing in the morning. Batches of anything simplify life.

**Water**

Always use unchlorinated, unsalted water for starting and maintaining your starter because chlorine and salt are the enemies of many helpful microbes and can reduce the activity of your starter. Filtered or mineral water is good, but If you don't have access to either, leave some water out for 24 hours uncovered to allow the chlorine to evaporate and then use this to feed your starter.

**Ratio for a gluten free sourdough starter**

The ratio for a gluten free sourdough starter is 3 parts flour to 4 parts water (133% hydration). For example 300g of flour will need 400g of water and this will make 700g of feed. The consistency of the starter if fed like this should look like lightly whipped double cream. Some flours will absorb more or less water, so you might want to adjust up or down a little in response. If you like, you can add a little ground linseed, a pinch of psyllium husk or some ground chia seeds to stop the starter separating so quickly.

**How much to feed my starter?**

You need to double the starter each time you feed it as a minimum, but I ‘overfeed’ my starter and give it just over four times the amount of feed as weighed out starter to keep it fresh and vibrant. I keep a reservoir of about 350g of gluten free starter in my fridge at home and each time I bake, I weigh out 150g of starter and feed it 300g of gluten free flour and 400g of water. Then it needs time to wake up and this takes about 4-5 hours, or less in a warm house or a proving drawer at 30ºC. I often do this last thing at night and when I get up in the morning I also make a leaven from the fresh starter to maximise the oomph. See below for instructions on this. When I am finished baking, I pour the remaining starter and leaven into a fresh pot and keep this in the fridge until next time. The old starter (called ‘discard’) can be used to culture pancakes, porridges and crumpets or give the compost a kick start.

**Whisk!**

When you add your flour and water, give the mixture a good whisk. Aerating the mixture helps things to stay fresh and vigorous as yeast likes oxygen. When you pour it into the jar, pour from a height – but not so much that you pour it all over the work surface!

**Pear water**

If you make your starter in the winter, a pear might be more appropriate than grapes. Grate a whole pear, put into a soup bowl and pour over just enough chlorine free water to cover. Cover the bowl and leave for 12-24 hours. Strain and use the water for days 1 and 2 of making your starter, or to boost a less than bubbly starter.

**Where to keep your starter when it is growing?**

Your starter likes it a bit warmer than you do, so between 24-28ºC is ideal. If your house is colder than this, you may find that you struggle to get your starter going and end up with a very sour, but not bubbly mixture. This is because yeasts like warmth, whereas the lactic bacteria thrive at slightly lower temperatures. Try putting the starter in the oven with the pilot light on if you don’t have an airing cupboard.

**Too warm?**

The back of the Aga or next to a radiator is a bit too warm for a starter. If your starter is in the Goldilocks zone and bubbles up nicely on days 1 and 2, but seems lifeless and has a thick layer of liquid on the top on day 3 or 4, the chances are it burnt itself out because it was nice and warm, but didn't have enough food to keep chomping. If this is the case, feed your starter twice daily from day 3 until it is well established on day 5 or 6. Each time you feed it weigh out 150g of the starter mixture and feed this with 300g of flour and 400g of water, discarding the extra starter, or using it to make pancakes or crumpets until day 4 when the amount of starter should decrease to 150g with the same feed amount.

**How do you know when it’s ready?**

Your starter is ready when it starts to bubble up within an hour or two of feeding and double in 3-5 hours (this may take a little longer if it has been dormant in the fridge for a week or so). It should rise up in the jar, take on a bubbly mousse like texture and even bubble and pop as though it is alive! You may find that your new starter is not as vigorous as a well-established one and in this case, to avoid disappointment you can add a little fresh or dried yeast to your loaf to give it a bit of extra lift. Between 6-9g of fresh yeast or 2-3g of dried yeast will give you a lift, without taking over. Then you can add some of the kick starters listed above to try and strengthen the yeast population in your starter. Try to feed your starter once a week, even if you aren’t baking. If you need to go away and leave your starter for longer than a couple of weeks, put it in a container with very little air space and feed it for a couple of days 2-3 times a day when you get back to wake up the yeast colonies and bring new life into the starter.

**Can I use it straight away on day 6?**

Yes! After you have fed it and it has doubled and looks bubbly and alive, you can go straight on to bake your first loaf or make a batch of crumpets but bear in mind it may still be a little weak. If you don't want to bake with it that day, put it into a container and keep it in the fridge. If you want to use a preserving jar, take the rubber seal out first so gas can escape.

**After it has been in the fridge?**

Remember to warm up your starter after it has been in the fridge. A bowl of luke warm water is ideal for this. Feed the starter, whisk well, put the jar into luke warm water or a warming drawer set at about 30-35ºC and cover with a cloth for a few hours, it should then be bubbly and ‘active’, doubling in size. If your starter isn't coming to life, you may need to give it 24 hours to wake up. Feed it again in 6-8 hours and then again in another 6-8 hours before using only when it has finally doubled after a feed. Loaves will also be yeastier and less sour if you prove them at a higher temperature; about 35ºC is ideal and will speed up the proving of the loaf to around 3 hours.

**Hooch?**

If your starter has a layer of dark, alcholic liquid on top when you get it out of the fridge, you might want to try feeding it more often as this is hooch and will mean that your starter will be more acidic and less yeasty. If your starter is simply separating as it rises and you have liquid on top, add a small pinch of psyllium husk to the feed.

**How often to feed?**

Your starter will become more acidic as it sits in the fridge and less yeasty, so ideally you need to feed it at least once a week, if not more often to keep it sweet and vibrant. If you need to go away then put the starter into a container with not much headroom in the fridge and when you get back feed it every 6-12 hours for a couple of days until it is back to its bubbly best again.

**Feeding and making a leaven**

You can get the sweetest and most bubbly starter by feeding it the night before you want to bake, just before you go to bed and then first thing in the morning making a leaven with 150g starter, 150g flour, 200g lukewarm water (and a small pinch of psyllium husk if you like) – allow to double and use to bake. I make twice this amount because I usually bake 2-3 loaves at a time. Put the overnight starter back in the fridge with whatever is left of the leaven.