

How to Create a New Sourdough Starter

The ULTIMATE Guide



By Tom Cucuzza

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How to Create a Sourdough Starter

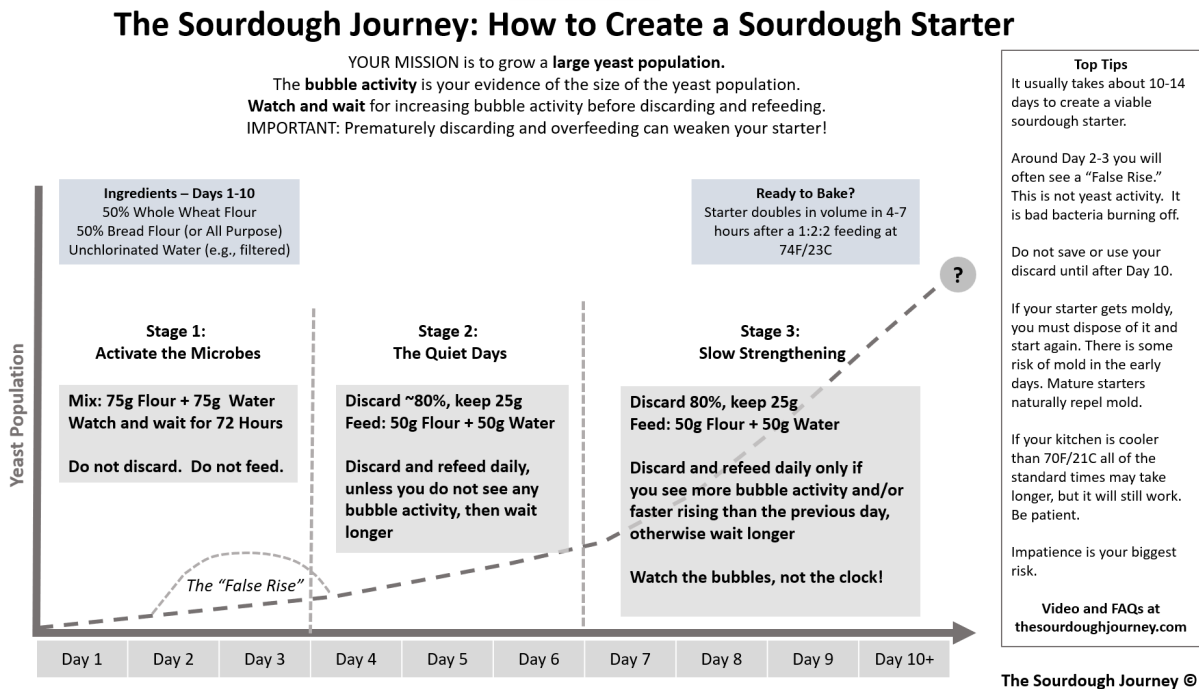
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My method for creating a new starter is based on the general method from Chad Robertson's *Tartine Bread*, with some unique modifications based on my experience.

You can watch my full-length YouTube video, "[How to Create a Sourdough Starter](#)" for step-by-step details. The video includes examples of what your starter should look like in the first nine days. Also consult The Sourdough Journey website at thesourdoughjourney.com/faq-starter-creation for more tips, videos, and FAQs.

If you follow these instructions, you have a very high likelihood of creating a viable sourdough starter in 10-14 days. Every starter is unique. Yours may develop more quickly or more slowly than the guidance.

The chart below is a summary of the process. A full-size, printable version is included at the end of this document.



TOOLS

To create your sourdough starter, you need a **food-safe jar** with a lid. I recommend a wide-mouth, one-pint (500ml) glass canning jar with a plastic screw top lid. You can use any food-safe container with loose-fitting, solid lid. Do not cover your starter jar with coffee filters, paper towels, or cheesecloth.

You will also need a **digital kitchen scale**. The flour and water should be weighed, in grams. If you don't have a scale, you will eventually need one for sourdough baking, so it makes sense to purchase a scale now. Trying to use volume-based measurements, like cups, is very imprecise and will not produce the best results with your starter or your loaves.

INGREDIENTS

The only ingredients you need to create a sourdough starter are flour and water!

Flour

When creating a new sourdough starter, it is **essential** to use at least 50% whole wheat flour or 25% rye flour. The remaining 50% or 75% can be bread flour or all-purpose flour. I recommend a blend of **50% whole wheat flour and 50% bread flour**.

Many starter recipes suggest you can create a new sourdough starter by using 100% bread flour or 100% all-purpose flour. **Do not follow these recipes.** They have a very high failure rate if you exclude the whole wheat or rye flour.

Always choose fresh, unbleached flours. Organic is preferred but not required.

Prepare a 50/50 blend of **whole-wheat flour** and bread flour.

Mix:

- 300 grams whole-wheat flour
- 300 grams bread flour (You can substitute all-purpose flour if necessary).

Blend these dry flours in a covered kitchen storage container. You will use this 50/50 flour blend to feed your starter for the first 10 days.

Why use two types of flour?

Dormant, wild yeast cells exist in nature, and they are attached to the outside shell, or **hull**, of wheat berries in the field. When **whole-wheat flour** is milled, the yeast cells (and their microbial companion – lactic acid bacteria cells), end up in your bag of flour.

When all-purpose flour or **bread flour** is milled, the hull (and most of the beneficial microbes) are removed and discarded at the mill. However, these refined flours are more easily converted into sugars – the food for the microbes.

In your 50/50 blend of flours, the whole-wheat flour provides the “bugs,” and the bread flour provides the “food.” It is the perfect combination for growing a new starter.

Water

You should use **unchlorinated** water to feed your starter. I use kitchen tap water, run through a water filter to de-chlorinate it. You can use spring water, bottled water, or other de-chlorinated water. Distilled water is not recommended. Some reverse osmosis (RO) filters can strip essential minerals from water. Home bakers have mixed results with reverse osmosis water. If you have an RO filter, I’d suggest trying it, but if your starter seems sluggish, try a different source. Generally speaking, any water that you would drink will work with your sourdough starter, but some are better than others.

THE SCHEDULE

The following “daily” schedule is based on a 24-hour cycle. However, always remember – your starter does not know what time it is.

Many popular starter feeding schedules adhere to strict timing of the feedings (e.g., “every 24 hours,” or “every 12 hours”). My method uses a general daily feeding schedule, but the key to this method is learning to **read the starter** to determine the optimal time to feed it. If your starter is developing ahead of schedule, you may feed it sooner, if it is slower than expected, you may skip a feeding. Follow the instructions below to learn how to **observe** your starter, and determine when it is ready for re-feeding.

In the 10-14 days it takes to create a new starter, your fledgling starter will experience long periods of inactivity. Be patient. It is always better to feed a new starter “too late” versus “too early.” When in doubt, **always watch and wait**. It is never a bad idea to give your starter more time between feedings. It is impossible to starve your starter to death. It is **very possible** to weaken your starter by overfeeding it and being impatient.

If your starter is not following the timeline described below, **always** err on the side of giving it more time between feedings, versus less time. You can’t force-feed a starter to make it grow faster.

THE “WATCH AND WAIT” METHOD

Your goal is to create a strong sourdough starter. You will do this by growing a large, healthy **yeast population**. Your job is not only to feed the starter, but also to **optimally time** the feedings by “watching and waiting.”

Watching – for bubbles

Unless you have a microscope in your kitchen, you cannot see or count the yeast cells in your starter, but yeast cells create carbon dioxide when they eat, and carbon dioxide creates **bubbles** in your starter. The bubbles are evidence of the size and health of your yeast population. You want to see growing bubble activity each day because more bubbles indicate that your yeast population is growing!

The bubble activity will tell you when your starter is eating and reproducing. **Yeast cells do not eat in secret**. Yeast cells always create bubbles when they eat. If you do not see any bubble activity, this means the yeast cells have not yet eaten the flour from the last feeding – they still have a full plate of food.

Waiting – to feed at the right time

In the early days of creating a new starter, you will see many days of very minimal activity. Be patient. If you feed your starter and it does not produce **any** bubbles before the next scheduled feeding time, just **give it more time**.

During these days of minimal activity, some people grow impatient and believe they can speed up their starter’s growth by discarding and refeeding it more frequently. This is the **biggest mistake** you can make with a new sourdough starter. Discarding and refeeding a weak starter before it shows increasing bubble activity can **make it weaker!**

There is one exception to this general rule. You will read more about the “**Stall Point Test**” in the troubleshooting section of this document.

THE FIRST 10 DAYS OF CREATING A NEW SOURDOUGH STARTER

All new sourdough starters go through a very similar growth cycle in the first 10 days. The cycle is depicted on the charts and described in detail here.

DAYS 1-3: STAGE 1 - ACTIVATING THE MICROBES

Day 1 – The Initial Mix

Create your initial mix by combining 75g of your flour blend with 75g of water in a jar. Stir the mix vigorously. Your starter should be a thick enough consistency that if you turn the jar upside-down, the mix will not pour out. Scrape down the sides of your jar and clean the rim. Seal the jar with a loose-fitting lid. Put your jar in a slightly cool (68F/20C) place, if possible. In this step, you are rehydrating and reactivating the dormant yeast cells and lactic acid bacteria cells that are naturally found on the flour (mostly the whole-wheat flour).

Day 2 – A Few Bubbles

24 hours after the initial feeding, inspect your starter. You should start to see some bubbles forming on the surface. This is a good sign. Your starter may emit all kinds of strange odors in the first few days (e.g., cheese, alcohol, dirty socks, vomit). This is normal. Let it rest for another day.

If your starter is drying out on top, or if you see clear liquid separating on the top, middle or bottom of your starter, stir it up every 12 or 24 hours.

What is the clear liquid in my starter?

In the early days, you will often see a **clear layer of liquid** forming on the top, middle, or bottom of your starter. This is **water separation**, and it is commonly found in new, weak starters.

It is easy to mistake this clear liquid for “hooch.” Hooch is a type of alcohol that forms on top of a very mature starter when it has vigorously risen and fallen and has consumed all the flour. It is virtually **impossible** for a new starter to produce hooch. Ignore people or guidance telling you your clear liquid is hooch (which is an indication of a hungry starter). Hooch only occurs in mature starters. Your starter still has plenty of food. Stir it up and be patient.

Day 3 – The False Rise

48 hours after the initial feeding, inspect your starter. On Day 3 (or sometimes Day 2), you will see a lot of activity and frothy bubbles on top. Sometimes the starter will vigorously rise in the jar. This is a **false rise**. It is not the yeast rising. It is bad bacteria burning off of the flour. Although it looks strong, your starter is not ready to use. It will take another 7-10 days to flush out the bad bacteria and slowly build the yeast population. Your starter may smell disgusting during the false rise. This is normal.

Do not discard or feed on Day 3. Your yeast population is still growing. You want to give your starter **72 hours** after the initial feeding, before your first discard and refeeding. This guidance is different than many other methods which may tell you to feed and/or discard in the early days, but the three-day activation period, without discard or feeding, is the key to getting your starter off to a strong start.

If, at the beginning of Day 3 (48 hours after the initial mixing), your starter has vigorously risen and fallen, and all the bubbles have **disappeared** (this would be very uncommon), then your starter is ahead of schedule, and you should follow the discard and feeding instructions from Day 4.

What about mold?

Mold spores are everywhere in our environment, including in bags of flour. When creating a new starter, there is always a risk of mold growth until the starter is fully established (around Day 10). Keep an eye out for mold growth on the surface of your starter.

However, also keep in mind, that whole wheat flour contains black specks, it is made from “red wheat” which can give it a pinkish hue, and when it forms bubbles on the surface, the bubbles can be white. When whole wheat flour dries out or oxidizes, it may turn dark brown.

The type of mold you are looking for is generally the classic, gray, fuzzy stuff that you would see on stale bread or old cheese. It is unmistakable. Red, orange and yellow bacteria can also occur, but is even less common than mold. You will know it when you see it.

If you find mold in your starter, you need to dispose of it, sterilize your tools and start again. It is uncommon but does happen from time to time.

DAYS 4-6: STAGE 2 - THE QUIET DAYS

After seeing the vigorous bubble activity of the “false rise” in the first few days, many bakers become discouraged when their starter then becomes very quiet, with little activity around Day 4. This is perfectly normal. This period is known as the “quiet phase” as the bad bacteria have subsided, and the yeast begins the hard work of slowly reproducing and building its population.

Day 4 – First Discard and Feeding

72 hours after the initial feeding, inspect your starter. The “false rise” may still be peaking, or it may have subsided.

First Discard and Feeding – Discard approximately 80% of the contents of the jar (keep 25g of carryover starter). Feed the 25g of carryover starter with 50g of your flour blend and 50g water. Stir it vigorously. Scrape down the sides of your jar. Cover it with a loose-fitting lid. Mark the height of your starter, after mixing, on your jar with a marker or rubber band.

This blend of carryover starter, flour and water is known as a **1:2:2 feeding ratio**, with one part starter, two parts flour, and two parts water, by weight, in grams. You will follow this ratio for 10-14 days.

From Day 4 forward, your starter can benefit from being kept slightly warmer. Try to keep it between 75F/24C and 80F/27C, if possible. If your kitchen is cooler, the process will still work, but the timing may be slower than indicated here. Never maintain your starter above 80F/27C for long periods of time. You won't kill your starter until it reaches 130F/54C, but keeping it above 80F/27C can make it very acidic. Do not keep your starter in the oven with the light on. Too many people bake their new starters.

Also, do not save your discard for the first 10 days. It can contain undesirable bacteria.

If you have not yet seen **any** bubble activity on the surface since the initial feeding on Day 1, your starter is likely not going to activate. Restart the process using a different bag of whole wheat flour.

Day 5 – Surface Bubbles

On Day 5, you should see bubbles on the surface of your starter, but it may be fewer bubbles than you saw during the “false rise.” This is common and is perfectly normal.

Inspect your starter. If you do not see **any** bubbles, stir it up and wait 12 to 24 hours. This is the most critical time to be patient. Premature discarding and refeeding at this point will **weaken** your starter.

When you discard, you are removing 80% of the nascent yeast population you are trying to grow. The yeast needs to re-grow its population by 400%, just to get back to the pre-discard population! Give it time to do its work.

When you see some bubble activity on the surface, you can discard approximately 80% (keep 25g of carryover starter) and feed it 50g flour and 50g water. Stir it vigorously. Scrape down the sides of the jar and cover it with a loose-fitting lid.

Day 6 – More Bubble Activity on the Surface

On Day 6, you should see more vigorous bubble activity on top of your starter than you saw on Day 5. If you do not see more activity, then wait until you see increased activity before discarding and refeeding. You may need to wait 6 hours, 12 hours, or 24 hours longer than expected. Ignore the clock, watch for increased bubble activity over the previous day’s activity.

When you see increased bubble activity on the surface, you can discard approximately 80% (keep 25g of carryover starter) and feed it 50g flour and 50g water. Stir it vigorously. Scrape down the sides of the jar and cover it with a loose-fitting lid. Do not save your discard until at least Day 10 it can contain harmful bacteria.

DAYS 7-10+: STAGE 3 – SLOW STRENGTHENING

Day 7 – The First Rise

On Day 7, inspect your starter. After the feeding on Day 6, you should see your starter beginning to rise in height/volume. You should wait until your starter rises, peaks, and begins falling (i.e., “past peak”) before refeeding. However, some starters will not fall after peaking in height. If the peak is reached and has plateaued for a few hours but not fallen, this is still considered “past-peak.”

If your starter is not rising in height, look for “peak bubble activity” on the surface of the starter.

You should not discard and refeed until the starter is past-peak height, or the bubbles are receding. When in doubt, it is always better to feed your starter “too late” rather than “too early.” You can even wait until your starter completely falls flat and the bubbles have subsided before refeeding. Don’t worry about your starter “starving” in these early days. It is nearly impossible. If you choose to skip a feeding entirely, stir up your starter and wait 24 hours.

After your starter is clearly “**past peak**,” (in volume and/or bubble activity), discard 80% (keep 25g) and refeed your starter 50g of flour and 50g of water. Stir it vigorously, scrape down the sides, and cover it with a loose-fitting lid.

What if my starter is not doing anything by Day 7?

If your starter is showing minimal bubble activity by Day 7, your starter may have reached a “**stall point**.”

You can perform a test to determine if your starter has stalled. See the troubleshooting section at the end of this document for instructions on how to perform the **Stall Point Test**.

Day 8-10+ – Faster Rising Times

You should see your starter rising each day now. Monitor your starter and not how long it takes for your starter to rise and peak in height after feeding. Each day, your starter should peak more quickly than the previous day. This indicates the growing strength of your starter. Also, note the temperature of your starter, as warm starters will rise faster than cool starters.

For Day 8-10, follow the same steps as indicated on Day 7. Inspect your starter and wait until the starter is clearly “past peak” in volume and/or bubble activity before discarding and refeeding. When it is clearly “past peak,” discard 80% and feed it 50g flour and 50g water.

When is my starter ready for baking?

The “standard test” of a starter’s readiness for baking is when it is roughly doubling in volume in 4-6 hours after a 1:1:1 feeding (equal parts starter, flour and water) at 74F/23C.

With this method, we are using a 1:2:2 feeding ratio, so your target rise time may be 4-7 hours after feeding.

A cooler starter will rise more slowly. This does not mean it is weaker – it is just cooler. A strong starter that doubles in volume at 74F/23C in 6 hours may require 10 hours to double at 65F/18C. The starter is not “weaker,” – it is just cooler.

Also, some starters will not double in volume. The height of the rise is a function of the type of flour, the hydration, and other factors. You should be focused more on the **speed to peak** than the **height of the rise**. A fast-rising starter that doubles in four hours is stronger than a slow-rising starter that triples in eight hours.

You typically want to see your starter passing the rising test for **three consecutive days** before using it for baking. After your starter has passed the test, you can use it to make your first loaf, but the rising times may be slower than indicated because your starter is immature. Adjust your timing expectation and get started baking! Your starter will continue strengthening during its first 30 days.

You can also begin saving your discard once it has passed the “ready to bake” test. You can find recipes that use sourdough discard to add a unique flavor to all kinds of baked goods. There are also ways to reduce or eliminate discard once your starter has matured.

What about mold after Day 10?

After 10 days, a mature starter has a low pH (high acidity) that will repel mold and other pathogens. If your starter gets moldy, you must throw it away and start again. Mold is much less of a risk in a mature starter. It is uncommon, but it does happen from time to time. Once your starter is ready for baking, store a jar of your starter in the back of your refrigerator. This is your “insurance policy.” If something goes wrong with your main starter you can recover it from your backup jar. Replace that jar monthly.

TROUBLESHOOTING AND TIPS

Periodically check my website's [Starter Creation Page](#) for updates, FAQs, troubleshooting tips and new videos.

NEXT STEPS

Once your starter is established, check out thesourdoughjourney.com/faq-starter-maintenance to begin the next stage of your sourdough journey!

HELP KEEP THE JOURNEY GOING!

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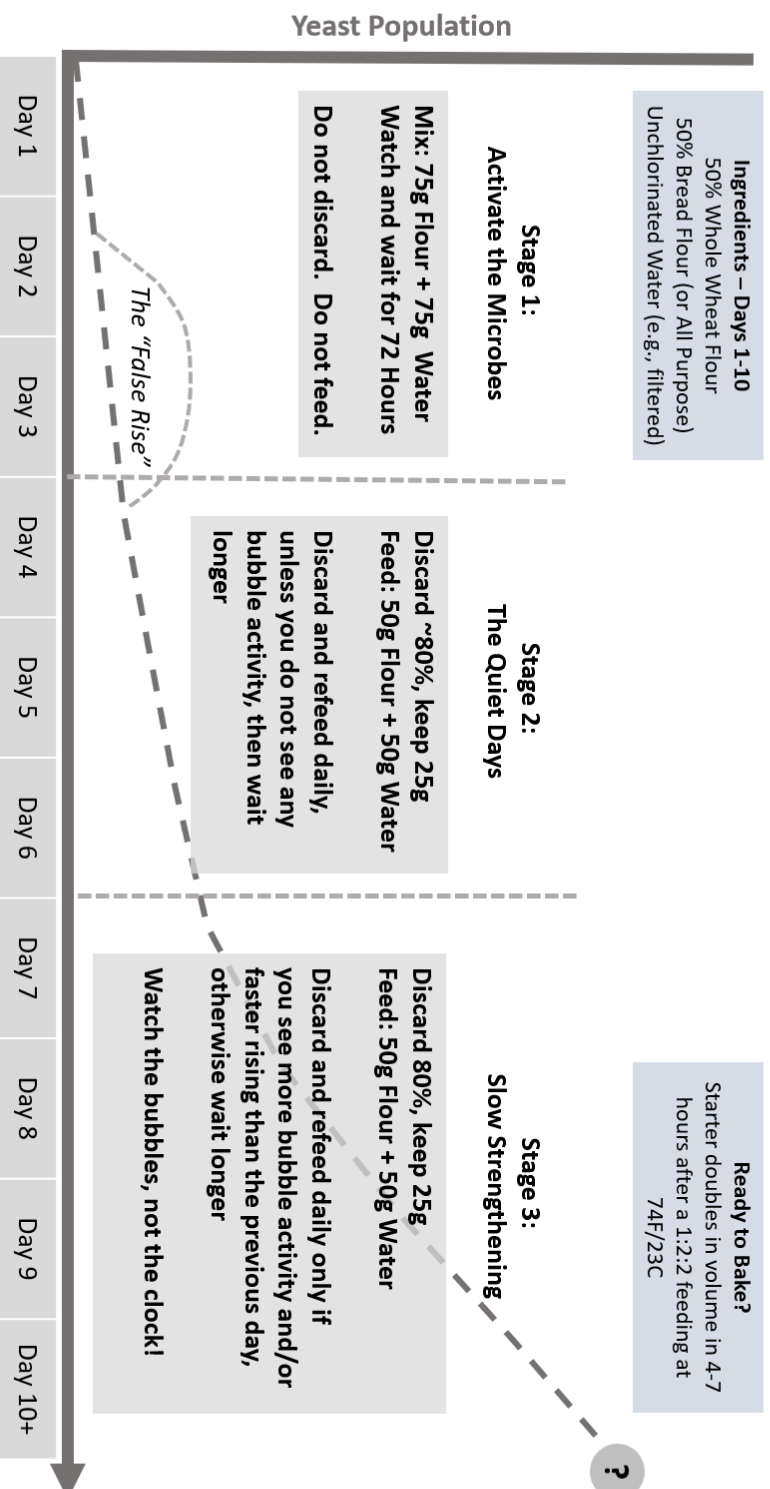
The Sourdough Journey: How to Create a Sourdough Starter

YOUR MISSION is to grow a **large yeast population**.

The **bubble activity** is your evidence of the size of the yeast population.

Watch and wait for increasing bubble activity before discarding and refeeding.

IMPORTANT: Prematurely discarding and overfeeding can weaken your starter!



Top Tips

It usually takes about 10-14 days to create a viable sourdough starter.

Around Day 2-3 you will often see a "False Rise."

This is not yeast activity. It is bad bacteria burning off.

Do not save or use your discard until after Day 10.

If your starter gets moldy, you must dispose of it and start again. There is some risk of mold in the early days. Mature starters naturally repel mold.

If your kitchen is cooler than 70F/21C all of the standard times may take longer, but it will still work. Be patient.









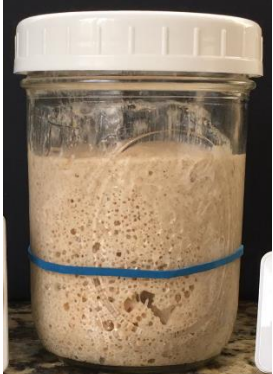


Impatience is your biggest risk.

Video and FAQs at thesourdoughjourney.com

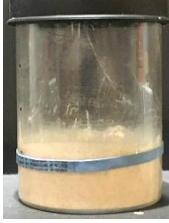










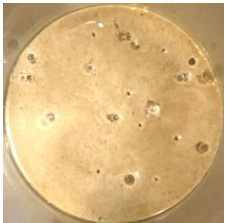





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How to Read a New Sourdough Starter

By Tom Cucuzza, The Sourdough Journey© October 2023

<p>A Few Bubbles (Day 1)</p> 	<p>More Bubbles (Day 2-6)</p> 	<p>A Frothy "False Rise" (~Day 2-4)</p> 
<p>Surface Bubbles (Day 3-10)</p> 	<p>Vigorous Bubbles (Days 3-10)</p> 	<p>Decreasing/Subsiding Bubbles</p> 
<p>Bubbling and Rising (Day 7-10)</p> 	<p>Past-Peak, Concave (Days 7-10)</p> 	<p>"Doubling" (Day 10-14)</p> 
<p>Water Separation (Day 1-10)</p> 	<p>Hooch (Day 10+)</p> 	<p>Clear Liquid?</p> <p>Clear liquid on the top, middle or bottom of a new starter, in the early days, is water separation – a sign of a weak starter.</p> <p>Clear liquid on top of a mature starter that has vigorously risen and fallen and consumed all its food – is hooch (alcohol) – a sign of a hungry starter.</p> <p>Water separation and hooch can look <i>exactly the same!</i> Hooch only occurs in a mature, strong starter.</p>

The First 10 Days of a New Sourdough Starter – The Sourdough Journey © 2023

<p style="text-align: center;">Day 1: Initial Mix</p> <div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;">A stiff mix. Smells like flour.</p>	<p style="text-align: center;">Day 2: Do Nothing</p> <div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;">No rise. A few surface bubbles. Smells like flour.</p>
<p style="text-align: center;">Day 3: Do Nothing</p> <div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;">The “False Rise” typically occurs on Day 2 or 3. Vigorous growth and foul odors from a “bacterial bloom.” This is not yeast activity.</p>	<p style="text-align: center;">Day 4: Discard and Feed</p> <div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;">First discard and feed after Day 1. The False Rise subsides. Starter may smell like old cheese, dirty socks, vomit, etc.</p>
<p style="text-align: center;">Day 5: Discard and Feed</p> <div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;">No rise. A few surface bubbles. Foul odors. Clear liquid on the surface on Days 1-7 is water separation. Stir it up.</p>	<p style="text-align: center;">Day 6: Discard and Feed</p> <div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;">No rise. A few more surface bubbles. Foul odors. Typically the last of the “Quiet Days.”</p>
<p style="text-align: center;">Day 7: Discard and Feed</p> <div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;">Starter begins rising in height. Vigorous surface bubbles. Begins to smell sweet, ripe, and yeasty.</p>	<p style="text-align: center;">Day 8: Discard and Feed</p> <div style="display: flex; justify-content: space-around;">  </div> <p style="text-align: center;">The starter begins rising faster and higher. Sweet, ripe, and yeasty smelling.</p>
<p style="text-align: center;">Day 9: Discard and Feed</p> <div style="display: flex; justify-content: space-around;">  </div> <p style="text-align: center;">The starter continues rising faster. Sweet, ripe, yeasty, and slightly acidic.</p>	<p style="text-align: center;">Day 10: Ready to Bake?</p> <div style="display: flex; justify-content: space-around;">  </div> <p style="text-align: center;">Starter peaks (roughly doubles) in 4-7 hours after 1:2:2 Feeding at 74F/23C</p>
<p>Initial Mix: 38g Whole Wheat Flour, 37g Bread Flour, 75g Filtered Water</p> <p>Discard and Feed: Keep 25g Carryover Starter, Feed 50g Flour Blend and 50g Water</p> <p>Do not save your discard until your starter passes the Ready-to-Bake Test</p>	

Top 10 Troubleshooting Tips for New Sourdough Starters

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1. Use the right ingredients:
 - Always use 50% whole-wheat flour. The balance can be all-purpose or bread flour. It is difficult to create a new starter with 100% all-purpose or bread flour. You can substitute 25% rye flour for the whole wheat. Use the freshest, unbleached flours.
 - Use non-chlorinated water (e.g., filtered, bottled, de-chlorinated – but not distilled).
 - Don't add other ingredients. Pineapple juice, sugar, honey, raisin water and packaged yeast are unnecessary.
2. Weigh your ingredients in grams. Do not use cups. Feed equal parts flour and water by weight. Keep a small quantity (less than 150g), otherwise you are just creating a lot of waste. After the initial mix, discard 80% and use a 1:2:2 feeding ratio (e.g., 25g starter, 50g flour, 50g water).
3. Don't save your discard for at least the first 10 days. Assuming your starter is ready for baking in 10 days, it will then naturally repel foreign pathogens. It needs time to build "immunity."
4. Understand the timeline. Creating a starter is mostly "watching and waiting"
 - Days 1-3: Activate the Microbes: Unpredictable activity, weird odors, and often a "false rise" (a vigorous, one-time rise on day 1-3)
 - Days 4-6: The Quiet Days: Slow bubble growth on the surface
 - Days 7-10+: Slow Strengthening: Gradually increasing rising strength
5. Be Patient! Premature discarding and overfeeding will weaken your starter and elongate the process. Don't discard and re-feed a weak starter before it shows increasing bubble activity or height from the previous feeding. If you don't see more bubbles or a faster rise each day, skip a feeding, and give it more time. Death by starvation is nearly impossible. Overfeeding is the bigger problem.
6. Clear liquid is not "hooch." If you see clear liquid on the top, middle or bottom of your starter, it is water separation. Stir it up. Hooch (alcohol) only occurs in a strong, mature starter.
7. Temperature matters. Try to keep your starter warm but not too warm (always under 80F/27C). Cooler temperatures will slow down the process, but it will still work. Be patient.
8. Doubling is overrated. Some starters double, some triple, some don't double. Look for a fast rising time (peaking in height 4-7 hours after feeding) not the height of the rise.
9. It is difficult to kill a starter. Be on the lookout for mold in the first 10 days. Mold, heat (over 130F/54C) and bleach are the only things that can kill your starter. Don't panic if you don't follow the steps exactly.
10. Every starter is unique. Creating a starter is a biological process and every bag of flour produces a unique starter. All instructions are general guidelines.

When is it ready? – A new starter is ready for baking when it approximately doubles in volume in 4-7 hours after a 1:2:2 feeding at 74F/23C. Cooler starters will rise more slowly but can be just as strong.

Let nature do the work for you. If you combine whole-wheat flour and water in a jar, it is uncommon for it to not turn into a sourdough starter. Be patient and stay out of the way.

For details instructional videos and FAQ's visit [The Sourdough Journey website at thesourdoughjourney.com/faq-starter-creation](https://thesourdoughjourney.com/faq-starter-creation)

Troubleshooting a New Sourdough Starter

The “Stall Point” Test

By Tom Cucuzza, *The Sourdough Journey* © October 2023

In the typical lifecycle of a sourdough starter, you will often see vigorous activity in days 1-3 of creating a new starter. This activity is the “bacterial bloom” where all of the different types of bacteria from your bag of flour are fighting for dominance. This is a “false rise” and is often mistaken for strong yeast activity. It is not.

After that initial surge of activity, your starter will typically then “go quiet” for three days of slow growth (typically days 4, 5 and 6). If, by Day 7, you are still seeing minimal (or no) bubble activity, your starter may have hit a “stall point.”

The stall point can occur due to three issues:

- 1) Low yeast population – Some bags of flour contain fewer microbes
- 2) Timing - Discarding and feeding per a fixed schedule is weakening your starter, or
- 3) Acidity - Your starter has become very acidic, and the acid is choking off the yeast production.

If your starter is not showing significant bubble activity by the end of Day 6 (the Day 7 feeding time). I suggest performing the **Stall Point Test**.

The Stall Point Test

The test requires three jars:

Jar #1) Your main starter jar

Jar #2) A jar for your Day 7 discard / un-fed starter

Jar #3) A jar for a “micro-feeding” - acidity test

To perform the test, on Day 7:

- Step 1: Remove all but 25g of starter from your main jar, and move that discarded starter to Jar #2.
- Step 2: Feed your main starter (Jar #1) the normal feeding (50g flour blend and 50g water).
- Step 3: In a clean jar (Jar #3), add 30g of water. Dip a spoon in the discard (Jar #2) coating the front and back of the spoon (about 5 grams). Stir that spoon in Jar #3 until the spoon is clean and it is dissolved in the water. Add 30g of your flour blend to Jar #3 and stir it up. Jar #3 is now a “micro-feeding” of your main starter with a much higher feeding ratio (about a 1:6:6 ratio).

The Three Samples

You now have three samples for the test:

Jar #1 – Your main starter with a fresh feeding (25g carryover, 50g flour, and 50g water)

Jar #2 – Your main starter, unfed (100g of discard from your main starter)

Jar #3 – Your main starter with a very high feeding ratio (~5g discard, 30g flour and 30g water)

Observe and compare the bubble activity (or rising) of the three samples in 24 hours.

Jar #1 is your baseline sample

Observe your baseline sample compared to previous days (is it growing?) and compare its activity to Jar #2 and Jar #3.

Jar #2 Feeding Interval Test

After 24 hours, if Jar #2 shows **more activity** than Jar #1, this indicates that the unfed “discard” is more active than the “fed” starter. This means your 24-hour feeding frequency is too short. Your main starter will benefit from and strengthen with a longer feeding interval (e.g., 36 or 48 hours). This result is common if your kitchen is cold. Your starter simply needs more time to strengthen before each discard and feeding. Stretch out your discard and feeding times to 36 or 48 hours. Watch for peak bubble activity.

If Jar #2 shows **less activity** than Jar #1, in 24 hours, this confirms that your feeding interval is not an issue. Dispose of the contents of Jar #2.

Jar #3 Acidity Test (24 and 48 hour tests)

If Jar #3 shows **more activity in 24 hours** than Jar #1, this confirms that your main starter is **too acidic**, and it will benefit from a higher feeding ratio, which reduces the acidity.

If Jar #3 shows **less activity in 24 hours** than Jar #1, let this sample continue, as is for another 24 hours.

If Jar #3 shows **more activity in 48 hours** than Jar #1, it confirms that your main starter is **too acidic**, and it will benefit from a higher feeding ratio, which reduces the acidity.

If Jar #3 shows **less activity in 48 hours** than Jar #1, it confirms that your starter is not stalled due to acidity.

If Jar #3 shows more activity in 24 or 48 hours than your main starter, you should dispose of your main starter and use 25g of starter from Jar #3 as the carryover for your main starter at the next feeding.

If your starter is acidic, it will likely be sufficiently de-acidified from the one-time high feeding ratio, and you can continue with the normal 1:2:2 feeding ratio per the original schedule. If the starter stalls out again, then carryover 10g of starter and feed it 50g flour and 50g water per day (1:5:5) ratio instead of the 1:2:2 ratio, going forward.

If both Jar #2 and Jar #3 look better than your main starter, choose the best looking of those two, and use that as your new, main starter.

New Sourdough Starter – Feeding and Tracking Log – The Sourdough Journey

Day/Date	Feeding Time	Discard and Feeding Ratio / Flour Type	Temp	Surface Activity	Aroma	% Rise / Time to Peak
Day 1						
Day 2						
Day 3						
Day 4						
Day 5						
Day 6						
Day 7						
Day 8						
Day 9						
Day 10						

Your starter is ready to use when it is at least 10 days old and consistently doubles in volume in 5-7 hours after a 1:2:2 feeding at 74F/23C

How to Create a New Sourdough Starter: 2-Page Guide and Log

The Sourdough Journey – November 2023 ©

Tools

A one-pint (500 ml) wide-mouth jar with a lid.

Ingredients

50% Whole-Wheat Flour, 50% Bread Flour, non-chlorinated water. For best results, do not substitute other flours!

Prepare Your Flour Blend

Mix 300g of whole-wheat flour with 300g of bread flour in a food storage container. This dry flour blend is your starter's food source for the first 10 days.

Schedule and Guidance

Follow the feeding schedule below. Document your observations each day. Each day includes a description of what you may typically see. Every starter is different. Some are faster than others. But all starters eventually go through the phases described below. Use this as a rough indication of what you may expect each day.

DAYS 1-3: Activate the Microbes

Day 1 – Initial Mix

Add 75g of water to your jar. Add 75g of your flour blend to the jar and mix vigorously. Cover with a loose-fitting lid. Do not discard or feed your starter for 72 hours.

Day/Date	Time	Feeding	Temp	Surface Activity	Aroma	% Rise / Time to Peak
Day 2		Do Not Feed				

Some bubble activity and usually no rise. Smells like flour. If the surface is drying out, or you see water separation on top, middle or bottom, stir it up.

Day/Date	Time	Feeding	Temp	Surface Activity	Aroma	% Rise / Time to Peak
Day 3		Do Not Feed				

You may see a "false rise" on Day 1-3. This vigorous rise is not yeast activity. It is a bacterial bloom. If the surface is drying out, or you see water separation on top, middle, or bottom, stir it up.

DAYS 4-7: The "Quiet Days"

Day/Date	Time	Feeding	Temp	Surface Activity	Aroma	% Rise / Time to Peak
Day 4		Discard 80%. Keep 25g, Feed 50g Flour and 50g Water				

False rise subsides. First discard and refeeding. Starter may smell like old cheese, dirty socks, vomit, or acetone.

Day/Date	Time	Feeding	Temp	Surface Activity	Aroma	% Rise / Time to Peak
Day 5		Discard 80%. Keep 25g, Feed 50g Flour and 50g Water				

No rise. A few surface bubbles. Thin layer of water separation on top, middle or bottom (Days 4-6).

Day 6 – Discard and Feed

Day/Date	Time	Feeding	Temp	Surface Activity	Aroma	% Rise / Time to Peak
Day 6		Discard 80%. Keep 25g, Feed 50g Flour and 50g Water				

No rise. A few more surface bubbles. Foul odors. Typically the last of the “Quiet Days.”

Day 7 – Discard and Feed

Day/Date	Time	Feeding	Temp	Surface Activity	Aroma	% Rise / Time to Peak
Day 7		Discard 80%. Keep 25g, Feed 50g Flour and 50g Water				

Starter begins rising in height. Vigorous surface bubbles. Begins to smell sweet, ripe and yeasty.

DAYS 8-10+: Slow Strengthening

Day 8 – Discard and Feed

Day/Date	Time	Feeding	Temp	Surface Activity	Aroma	% Rise / Time to Peak
Day 8		Discard 80%. Keep 25g, Feed 50g Flour and 50g Water				

Starter begins rising faster and higher. Smells sweet, rise and yeasty. May peak in 7-10 hours.

Day 9 – Discard and Feed

Day/Date	Time	Feeding	Temp	Surface Activity	Aroma	% Rise / Time to Peak
Day 9		Discard 80%. Keep 25g, Feed 50g Flour and 50g Water				

Starter continues rising faster. Sweet, ripe, yeasty, and slightly acidic. May peak in 6-8 hours.

Day 10 – Discard and Feed

Day/Date	Time	Feeding	Temp	Surface Activity	Aroma	% Rise / Time to Peak
Day 10		Discard 80%. Keep 25g, Feed 50g Flour and 50g Water				

Starter peaks (roughly doubles) in 4-7 hours after 1:2:2 feeding at 74F/23C

“Ready to Bake” Test

Your starter should roughly double in volume after a 1:2:2 feeding in 4-7 hours at 74F/23C. You should see 3 consecutive days of fast rising before using your starter for baking. You can also keep your discard when it passes this test.