

Gluten free Sourdough Baking

techniques
& recipes
to give your
gluten-free
baking a lift



*a guide from
Cultures for Health*



a guide by Cultures for Health

GLUTEN-FREE SOURDOUGH BAKING

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For more information on making gluten-free sourdough or other cultured and fermented foods, please visit culturesforhealth.com.

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AN INTRODUCTION TO GLUTEN-FREE SOURDOUGH

What you need to know to get started with sourdough.



Introduction to Working with Gluten-free Sourdough

Learning that wheat is not on the menu anymore can feel heartbreaking. What about sourdough bread and that intoxicating aroma and flavor? With a little adjustment, even people with gluten intolerance can enjoy a slice of warm sourdough bread.

If you are just starting with gluten-free baking, everything will seem strange at first. Take time to learn about the process and be very forgiving of mistakes. No one makes a perfect loaf the first time.



Sourdough Starter

Our [Gluten-Free Sourdough Starter](#) is maintained with brown rice flour. If rice is a concern, there are a few alternatives:

Begin with a commercial starter and [transition it to a new flour](#) once active.

[Create a wild yeast sourdough starter.](#)

Create a starter from [milk kefir](#) or [kombucha](#).

Gluten-free starters work faster than gluten starters. Plan to feed it every 4-6 hours at room temperature. If refrigerated, the starter will need to be refreshed every 3-4 days.

Choosing Ingredients for Gluten-free Sourdough Baking

High-gluten flours have a mix of properties that create a soft, chewy, leavened bread. Gluten-free flours must be combined to achieve comparable results. Follow a tested recipe or make substitutions following our [Guide to Flour Substitutions in Gluten-free Sourdough Baking](#).

Without gluten, there is nothing to hold the flour together. Culturing the dough will help the proteins to form a better structure, but to create a loaf of bread that rises and can be sliced easily, some sort of binder will need to be used. Consult our [Guide to Binders in Gluten-free Sourdough Baking](#).

Mixing and Baking

Gluten-free bread dough will be a thick batter, similar to brownie batter. Since there is no gluten to develop, the dough is not kneaded. A stand mixer is a good investment for people who plan to bake frequently.

The batter-like dough tends to spread during proofing and baking, so it is best baked in a pan. A trip to the kitchen store or an online search will reveal a plethora of fun pans for your breads!

Proofing tends to be much faster with gluten-free bread. While it can take up to 6-8 hours in cooler weather, bread is often ready for baking in 1-2 hours. Overproofing is common, but will not harm the final bread. If the dough has risen too much, stir it down in the pan and let it rise for another 20 minutes, then bake as directed.

Always cool bread before serving. While slicing into a hot loaf is tempting, the binders used to make a sandwich loaf do not work fully until cooled. Slicing into a hot loaf will cause it to collapse and become gummy.

Dealing with Failure

Every baker experiences failure occasionally. Learning a new skill set like gluten-free baking means there will be failures in the beginning.

Bread that doesn't rise well makes great bread crumbs. Misshapen loaves can be turned into [stuffing](#) or French toast. Rarely is there a loaf that is completely unusable.

With some practice and attention to detail, sourdough bread can be made and enjoyed at home for a fraction of the cost of a commercial loaf of gluten-free bread. And it will be much more flavorful!

A Guide to Binders in Gluten-free Sourdough Baking

Baking with gluten-free flours has one main difference from baking with wheat: the gluten. Gluten is a protein in wheat that binds baked goods to create light and airy breads and well-formed pastas and biscuits.

Replacing Binders in Gluten-free Baked Goods

Obviously, [gluten-free sourdough baked goods](#) have the distinct disadvantage of lacking the binding that creates the wheat products we are familiar with. However, there are ways to replace the binding action of gluten with other binders. Many binders are already used in baked goods, such as eggs in various wheat-based pancakes and desserts.

It is important, therefore, to include a binding agent in many gluten-free baked goods, especially the ones which are dependent on gluten for structure, such as yeast breads, pastas, and the like.

Binders for Gluten-free Baking

Psyllium Husks



Psyllium husks come from the seed of the plantago plant, a native of India and Pakistan. They are known as a great source of soluble fiber. Because of this fiber, they are highly hygroscopic, meaning they love to absorb moisture.

In gluten-free baking this property is important, as it allows for the binding of moisture, which creates a less crumbly gluten-free baked good. Psyllium husk is especially useful in gluten-free baking that requires the structure that gluten provides. So, yeasted loaf breads, rolls, pasta, and pizza dough are all improved through the addition of psyllium husk. In fact, many people find that breads that require a rise before baking have much improved results through the use of psyllium.

Some people may be sensitive to psyllium, so judge it on an individual basis.

Try psyllium husks in these delicious gluten-free sourdough recipes:

- [Gluten-free Sourdough Whole Grain Boule](#)
- [Gluten-free Garlic and Herb Sourdough Focaccia](#)

Xanthan Gum

Xanthan gum is a commonly used binder in gluten-free baking. It is derived from a complex chemical process involving the fermentation of sugars and the precipitation from a growing medium. In gluten-free baking, it is helpful in binding and thickening, which makes for a more gluten-like baked good.

Some people react negatively to xanthan gum, so be sure to watch for trouble when using it.

These gluten-free sourdough recipes with xanthan gum are a real treat!

- [Gluten-free, Dairy-free Cranberry-Orange Sourdough Scones](#)
- [Gluten-free Sourdough French Bread](#)
- [Gluten-free Sourdough Thin and Crispy Pizza Crust](#)

Guar Gum

Guar gum is derived from the ground endosperm of guar beans. The husks of the seeds of the guar bean are removed, the seeds are milled, and an off-white powder is then produced. In gluten-free baking,

guar gum is used much like xanthan gum. It provides binding, elasticity, and structure for baked goods that do not contain gluten.

Sensitivities to guar gum are less documented than with xanthan gum. However, it has been shown that some individuals can react negatively to guar gum, specifically if they have a sensitivity to soy, as it has been shown to be an airborne contaminant of commercial guar gum.

Chia Seeds



Chia seeds are derived from a flowering plant that is a part of the mint family. It has a long and significant culinary history, especially in the areas of Central and South America. In health food circles, chia has become increasingly popular. Its high quantities of omega-3 fatty acids and protein have made it a popular food for vegetarians, vegans, and omnivores alike.

The mucilaginous properties of chia make it an excellent addition to gluten-free foods. Chia provides binding and structure where gluten-free foods may be lacking. Because it is known as a wonderful food all on its own, many have turned to chia, as well as flax, as a natural binding agent in gluten-free baked goods.

Flax Seeds



The flax plant has a long history as both a food and a fiber source. The seeds of the flax plant, also known as linseed, have been ground to make a meal or pressed for their oils for generations. Much like chia seed, flax produces a mucilaginous gel when mixed with water.

These mucilaginous properties lend structure and binding to gluten-free baked goods. The food quality of flax, being high in fat and fiber, are well-loved. Therefore, flax is an easy addition to baked goods, like in these recipes:

- [Gluten-free Sourdough Chocolate Chip Muffins](#)
- [Gluten-free Sourdough Stovetop Biscuits](#)
- [Gluten-free Sourdough Cranberry Walnut Bread](#)

Eggs

Eggs are used in gluten-free and wheat-based baked goods alike. They aid in rising baked goods, as well as binding them, which is why many gluten-free baked goods utilize additional eggs. Egg yolks, in particular, contain lecithin which is a well-known binding agent.

Egg whites are mostly protein and are incredibly sticky when mixed with just about anything. They bind together cookies like macarons all on their own. Between the emulsifying ability of the yolk and the binding ability of the white, eggs make an excellent binder.

Too many eggs can leave gluten-free sourdough baked goods tasting of egg; think quiche, rather than bread. Finding a balance between eggs and the other binding agents above is critical in creating gluten-free sourdough baked goods that are reminiscent of their wheat counterparts.

- [Gluten-free Sourdough Buckwheat Pancakes](#)
- [Gluten-free Sourdough Molasses Spice Cake](#)
- [Gluten-free Sourdough Millet-Corn Muffins](#)

Not every type of baked good requires a binding agent, or as much of a binding agent. Many wheat-based recipes that call for a light kneading or mixing so as to not toughen the baked good can actually work quite well without any binding agent. Other bread products that rise or form due mostly to the gluten content in wheat do well with one or more of the binders listed above.

A Guide to Flour Substitutions in Gluten-Free Sourdough Baking

Sourdough baking has its own learning curve. Learning to work with a natural leavening agent versus commercially produced yeast is a challenge in its own right. But when entering the world of gluten-free sourdough baking, there are literally dozens of flours to choose from, complicating things even more.

Why More Than One Gluten-free Flour?

Many gluten-free recipes call for several flours, generally because each replicates some property in wheat-based baking. Some flours are higher in starch, while others contain more protein. Combining them creates better texture in baked goods.

The key to substituting one gluten-free flour for another is to understand what role each flour plays in the recipe. It is helpful to categorize these flours, to know which ones are similar and which ones are different.

While two flours might exist in the same category, they will not always produce the same result. For that reason, do not assume that by substituting one for another in the same category, you will get

Starches

- Arrowroot Flour
- Cornstarch
- Potato Starch
- Tapioca Starch/Flour

Heavier Flours

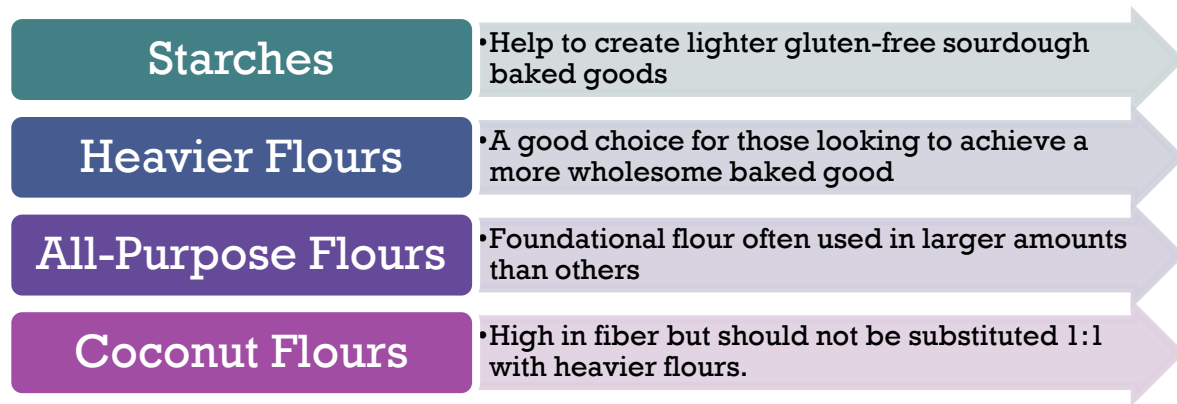
- Bean and legume Flours
- Amaranth Flour
- Buckwheat Flour
- Millet Flour
- Quinoa Flour
- Nut and Seed Flours
- Teff Flour

All-Purpose Flours

- White Rice Flour
- Brown Rice Flour
- Oat Flour (Certified GF)
- Sorghum Flour

Coconut Flours

exactly the same results. Instead, these categories can be thought of as a roadmap to better gluten-free sourdough baked goods. Experiment with these substitutions and then tweak them to make them better. Gluten-free Flour Categories



Starches

High-starch content in a recipe can often help to mimic white flour baked goods. Using a little bit of these flours, in combination with ones in other categories, will help to create lighter gluten-free sourdough baked goods. Each of these has its own properties, so combine them to take advantage of their benefits.

Examples:

- Arrowroot Flour
- Cornstarch
- Potato Starch (not flour!)
- Tapioca Starch/Flour

Heavier Flours

The flours in this group are often higher in protein and higher in fiber, so they are a good choice for those looking to achieve a more wholesome baked good. However, they can also produce a dense, heavy finished product. Therefore, combining a heavy flour with a starch or all-purpose flour is often preferred.

Examples:

- Bean and legume flours
- Amaranth flour
- Buckwheat flour
- Millet flour
- Quinoa flour
- Nut and seed flours
- Teff flour

All-Purpose Flours

If there are any flours that come close to being fairly neutral, these would be the ones. Much like all-purpose wheat flour, the flours in this category are often considered a foundational flour, being used in larger amounts than others.

Examples:

- White rice flour
- Brown rice flour
- Oat flour (certified GF)
- Sorghum flour

Coconut Flour

Finally, there is one flour that does not share characteristics with any of these flours, and that is coconut flour, which is incredibly high in fiber, and as such doesn't even belong in the "Heavier Flours" category.

Small amounts of coconut flour can be used in place of a part of the heavier flour measurement, but it should not be substituted 1:1 in baking.

Conclusions

Within each of these categories, variation can occur. Expect some differences when making substitutions.

One of the most common pieces of advice in gluten-free baking is to make substitutions by weight, not volume. Because each flour has its own density, weighing will produce a more exact result.

That said, experiment with cup-for-cup substitutions and use this guide as your roadmap to better gluten-free sourdough substitutions.

How to Take a Break: Proper Sourdough Storage

While a sourdough starter is quite easy to maintain, at some point you may require a break from feeding your sourdough culture. Whether for vacation or just during a busy time in your life, there are a few ways to store your sourdough, both short- and long-term, and keep it healthy until you are ready to use it again.

Before Taking a Break from Sourdough

- Be sure that your starter is robust and has been activated for at least 30 days before attempting longer refrigeration storage.
- [Gluten-free Sourdough Starters](#) will not store as well as gluten-containing starters. While wheat-based starters can be fed once per week, the gluten-free starter needs to be fed every 3-4 days. Furthermore, long-term storage of gluten-free starters can be problematic. For that reason, find a friend who can feed your starter every few days while you are unable to care for it.

Short-term Preservation

One or two weeks' break

While we normally recommend feeding a sourdough starter weekly when stored in the refrigerator, leaving it a bit longer once or twice per year will not harm the starter. Simply [feed the starter](#) as you normally would to maintain it in the refrigerator. When you are ready to use the starter again, follow the instructions for [Preparing Fresh Starter for Baking](#).



One Month's Break

Maintaining a sourdough starter in the refrigerator for a longer period requires a few simple steps to reduce the hydration level of the starter. Follow the instructions for [making a dry sourdough starter](#) to keep your starter healthy for about a month.

Long-term Preservation

For long-term storage, it is best to dry the fully active sourdough culture for later use. For complete instructions on how to dehydrate a portion of your starter, consult our article [How to Create Sourdough Insurance](#).

A dried starter, if stored in the refrigerator or freezer, should keep for a year or more. Follow our [directions for activating a dried starter](#) when you are ready to get started with sourdough again.

How to Obtain a Sourdough Starter

As with wheat sourdough baking, if you want to make traditional, healthy gluten-free sourdough bread you are going to need a starter. You have a few options in obtaining one:

1. You can attempt to capture the wild yeasts and bacteria present in your area by creating your own sourdough starter.
2. You can purchase an established sourdough starter that already contains reliable yeasts and bacteria.
3. You can get a bit of established sourdough starter from a friend who is baking with sourdough.

How to Make Your Own Starter



If you're interested in creating your own sourdough starter you'll need some simple ingredients — flour and water — and some basic equipment and conditions.

Choosing a Gluten-Free Flour Base

In gluten-free sourdough baking, the most commonly used flour for creating a starter is brown rice flour. This flour works well as it is a common ingredient in gluten-free baked goods and acts much like an all-purpose flour.

If brown rice flour is not your preference, try another neutral, all-purpose type flour such as sorghum, oat, or white rice.

The conditions necessary to make a sourdough starter include:

- A warm temperature between 70° and 80°F.
- A non-reactive vessel in which you make and store the starter (glass or plastic).
- A non-reactive stirring device to incorporate air.
- A breathable lid such as a clean towel or coffee filter.
- A space to ferment with no other cultured foods nearby.

Once you have these things figured out you can combine your flour with slightly less water. So you could start with 3/4 cup flour and 1/2 cup warm water in a half gallon jar.

Stir vigorously with a non-reactive utensil to incorporate air, and cover with a breathable lid. Allow to sit in a warm place for 6-12 hours. Feeding every 6 hours will increase the rate at which your sourdough starter is multiplying its organisms; feeding every 12 hours will take a bit longer, but may be more sustainable depending on your time commitment.

At the 6 or 12 hour mark hopefully you will begin to see some bubbles, indicating that organisms are present. Repeat the feeding with 1/2 cup warm water and 3/4 cup flour. Stir vigorously, cover, and wait another 6-12 hours.

At this point you should start removing half of the starter before every feeding and discarding it into the compost so that the starter you do have can multiply in organisms without overflowing your jar.

After about 5 to 7 days your sourdough starter should have enough yeasts and bacteria to be useful in baking (Though it may take a month or more for the flavor to fully develop).

The Benefits of Obtaining an Established Starter

You may go through the above steps in making your own starter only to find that it smells or tastes off or that the bread and other baked goods it produces isn't all that pleasant in flavor.

That is where an established culture comes in.

An established culture is easier in that the process of getting it started is faster and simpler. It is also more reliable in that it already contains active yeasts that have been perpetuated over a long period of time and therefore are stable, active, and resilient.

And finally, an established culture, because of its established bacteria and yeast, can guarantee a more pleasantly flavored bread product.



How to Keep Your Sourdough Starter Healthy

Keeping a sourdough starter is a little like caring for a pet or a child. They need the right conditions to thrive, you have to feed them daily (or weekly if refrigerated), and they die on you if you neglect them.

Gluten-free sourdough starters need to be fed at least twice a day if stored at room temperature, and every 3-4 days, if stored in the refrigerator.

The Right Conditions for Sourdough

Remember that sourdough needs a few things to thrive:

- Warm temperatures between 70° and 80°F,

- A space of several feet between the sourdough culture and any other culture (yogurt, kombucha, kefir, etc.),
- A non-reactive (glass or plastic) vessel and stirring spoon for storing and feeding,
- A consistent food supply.

Feeding Your Starter

A note on ingredients: Non-chlorinated water is best for a sourdough culture as chlorine can interfere with the organisms in the starter. A flour of the variety that your culture specifies is preferable.

A note on the flour-to-water ratio for feedings: When you feed your sourdough starter, feed it approximately equal weights of flour and water. You can measure the flour and water by weight with a kitchen scale or you can figure that for every cup of flour you will need about 1/2 cup of water. The measurement ratio can vary depending on how heavy or dense the flour is.

How frequently you feed your starter is dependent on how often you wish to bake with it. If you think you'll be using your gluten-free starter every couple of days or even more frequently then you should feed it a couple of times per day. If you will only be baking with it once a week then you may refrigerate it, feed it every 3-4 days, and refresh it before baking.

Hydration Levels

You may come across the term “hydration level” when reading about sourdough and its starter. *A hydration level, in the simplest of terms, just refers to the level of liquid in the sourdough starter as compared to the level of flour.*



You will have a 100% hydration level if you are creating a starter with equal weights of flour to water. So you can assume that for every 8 ounces of starter, 4 ounces of it is considered liquid and 4 ounces is considered flour.

For the most part you shouldn't have to worry about the percentages of hydration in a recipe if you stick with the 100% hydration starter.

For someone who is interested in the intricacies of baking and converting family recipes to sourdough recipes this may be useful as you can feed your starter up and down in hydration levels in order to achieve the desired baking effect. Additionally, understanding hydration levels may help you convert any recipe to use sourdough starter instead of commercial leavening.

Choosing a Water Source



Many fermented foods make use of water in the culturing process. The water can do a variety of important things:

- Water is a carrier for trace minerals that are sometimes important in culturing.
- Sometimes moisture is necessary to the culturing process, and the moisture is provided by water.
- Bacteria, swimming in water, are able to contact the material being fermented.
- Water with other ingredients (sugar, tea) can become the liquid that is fermented to make the final product.
- The material being fermented is protected from oxygen by staying underwater, which prevents the development of pathogenic bacteria or molds.

No matter what you are culturing, it is vitally important that the water you use be clean and free of pathogens or toxins. Beyond that, certain types of cultures have different requirements for water that you should be aware of to get the best results.

Municipal water quality varies around the country, and so does the quality of spring water and well water. Most cultures are pretty forgiving of water quality as long as the water is drinkable.

The water you use for culturing will most likely come from one of four sources:

Well Water. Water that comes from your own well, or a well you share with some neighbors. Some municipalities also get their water from wells.

If your water is from a municipal well, there is chlorine, and possibly fluoride, in the water, as well as any other treatment chemicals the utility chooses to add. Private wells are required to be tested for microbial contamination at the time the well is installed, but not thereafter. Well owners should test their water annually for microbial contamination and chemical contamination from nitrates/nitrites, arsenic, petroleum byproducts, radon, or pesticides.

Well water is typically high in minerals, which is good for water kefir, not so good for kombucha, and really hard on your laundry. If the water is particularly acid (pH 7.0 or lower), it can cause leaching of metals from plumbing. If well water is discolored or has an odor, there may be an overly high mineral content from ground contamination or from decayed vegetation.

Spring Water. Similar to well water, spring water comes out of the ground and is used close to the source, or bottled for commercial sale. The main difference between spring water and well water is that spring water is collected at the surface of the earth, while well water is collected considerably below the surface. A natural spring is the result of water in an underground source seeping through the ground or rock and bubbling out through the surface.

Spring water is also typically high in minerals.

As a result of having been filtered through earth or rock, spring water is usually considered relatively free of contaminants. However, if the ground it's being filtered through is contaminated, the water itself can be contaminated too. It can also become contaminated in its journey from the spring, through plumbing, to your faucet. Most people do not have springs as a local source of drinking water.

Tap Water. Water that comes from a municipal water source. This could be glacier water, well water, river water, or water collected in a variety of ways.

Tap water may be hard (contains minerals including calcium and magnesium), or soft (relatively free of minerals). Since hard water leaves deposits on tile and fixtures, and doesn't do a great job with laundry,

many home owners choose to run their water through a water softener that adds salts to remove the “hard” minerals. To find out what is in your tap water, you can check with your water utility and they can provide you with a water quality report.

Tap water is inexpensive and plentiful, and is almost always of a quality good enough to drink and cook with. It can usually be used “as is” for many culturing projects.

Water that is too “hard” can be a problem for some cultures, while water that is too “soft” can require remineralization for some other cultures. Tap water also usually contains chlorine, chloramines, or fluoride that must be removed for some cultures to work well.

Bottled Water. You can buy water in plastic bottles almost anywhere these days. Check the labels: it can be spring water bottled at the source, or water collected from rivers or streams, or even municipal tap water.

Bottled water may have fluoride added to it.

Distilled water is a type of bottled water that has been completely purified and contains no minerals or chemicals of any sort. Water that is sold in fountain machines at supermarkets is usually distilled or purified in other ways, and is free of chlorine, fluoride, minerals, or bacterial contaminants.

Common Contaminants



Water that is not distilled is rarely pure. Aside from the natural minerals and salts you may find in even the cleanest sources, there are usually chemicals of some sort in your water.

- **Chlorine** is added to most municipal water sources to keep pathogenic (bad) bacteria from reaching the consumer. This is generally a good thing, since the water usually passes through a variety of reservoirs, pipes, and other contraptions before it reaches your faucet. Water can contain all sorts of bacteria or organisms that are easily killed by chlorine. Unfortunately, that chlorine can also kill the probiotics that you are trying to work with. Chlorine is reasonably safe to ingest in the quantities present in drinking water, although some people are sensitive to it.
- **Chloramines** are a compound of chlorine and ammonia. They are more stable in water than chlorine, and are used by many municipalities to ensure the safety of drinking water. Water treated with chloramines has little taste or smell, so this is an attractive disinfectant process for public drinking water. Like chlorine, chloramines are considered safe to ingest in drinking-water quantities, although some people are sensitive to them. Also like chlorine, chloramines can be toxic to some probiotics.
- **Fluoride** gets into water in two ways. It can be naturally occurring, as a trace mineral from the water source, or it can be added by the water utility. Fluoride occurs naturally in fresh water at around .01 to .3 parts per million. The chemical from which fluoride is derived is fluorine, a very common element that bonds easily with practically anything. It's called fluoride in its bonded

form. Sodium fluoride, hexafluorosilicic acid, or hexafluorosilicate are generally used to add fluoride to drinking water, at a concentration of about 1 part per million. There is a tremendous amount of controversy over whether this practice is helpful or harmful. Many municipal water utilities add fluoride to the water. Some do not. Naturally occurring fluoride is rarely a problem in culturing. Added fluoride is generally toxic to young plants, and can also be toxic to certain probiotics.

- **Chemical Waste** can appear in drinking water from a variety of sources. Any chemical waste that is disposed of in drains or on the ground ultimately finds its way into the municipal water supply. Some of it is removed through standard waste treatment, and some shows up in public drinking water. Even well water and spring water can be contaminated if the chemicals are leached into the soil near the water sources. Common chemical contaminants include fertilizers, animal waste, detergents, industrial solvents, pesticides and herbicides, radon, heavy metals, prescription medication, and even decayed plant matter.

Treatment Methods

If you are getting your water from a faucet, you may or may not need to treat it before using it for culturing. Some probiotics are very sensitive to the type of water you're using, while other probiotics are very resilient and can use almost any sort of water. However, if your water is not of drinking quality, you will definitely need to treat it before using it for culturing.

- **Aeration** is a suitable treatment method if all you want to do is eliminate chlorine from the water. Chlorine is very unstable in water, and if you boil the water or put it in a blender for about 20 minutes, the chlorine will percolate out. Or, you can leave water to stand for 24 hours to accomplish the same thing. Aeration will not remove chloramines.
- **Boiling** will take care of most common pathogens that might get into drinking water supplies. It does not eliminate fluoride or other heavy metals or chemicals.
- **Simple Charcoal Filtration** is what you get with a standard countertop or faucet filter system. Charcoal is made of carbon, which bonds with organic materials to remove them from the water

it is filtering. Activated charcoal is charcoal that has been processed to open up many tiny pores in the material making more surface area available. Filtering water through activated charcoal is one of the easiest and least expensive ways to remove common pathogens such as bacteria, chlorine, chloramines, etc. Charcoal filtration does not eliminate fluoride.

- **Enhanced Filtration** can be achieved with some types of whole-house filters, or more expensive faucet filters. It usually includes basic activated-charcoal filtration, as well as some chemical or barrier filtration. Enhanced filters will remove some particles that activated charcoal doesn't trap, such as sediment, calcium, etc. Some enhanced filtration systems are designed to remove fluoride as well, but may require more frequent filter changes due to trapped fluoride.



- **Reverse Osmosis** requires an RO system that may fit under your sink, or may require a separate installation. Reverse osmosis is basically a process of forcing water through a membrane, which removes all particles that are larger than water molecules, but allows the passage of tinier particles. RO systems usually include pre-filters that remove things like chlorine and bacteria from the water before it passes through the RO membrane. RO systems remove most minerals from the water, and will remove most fluoride.
- **Structured Water / pH-Balanced Water / Ionized Water.** Water that has been treated to alkalize it or to change its structure is not suitable for culturing. Culturing involves a precise interaction of bacteria and the food being cultured. If water is part of that culturing process, the natural structure and balance of the water should not be altered. If your water treatment unit has a setting for "clean water" that does not change the pH and does not alter the water structure, but merely filters out contaminants, then the water can be used for culturing.

What Kind of Water Do You Need?

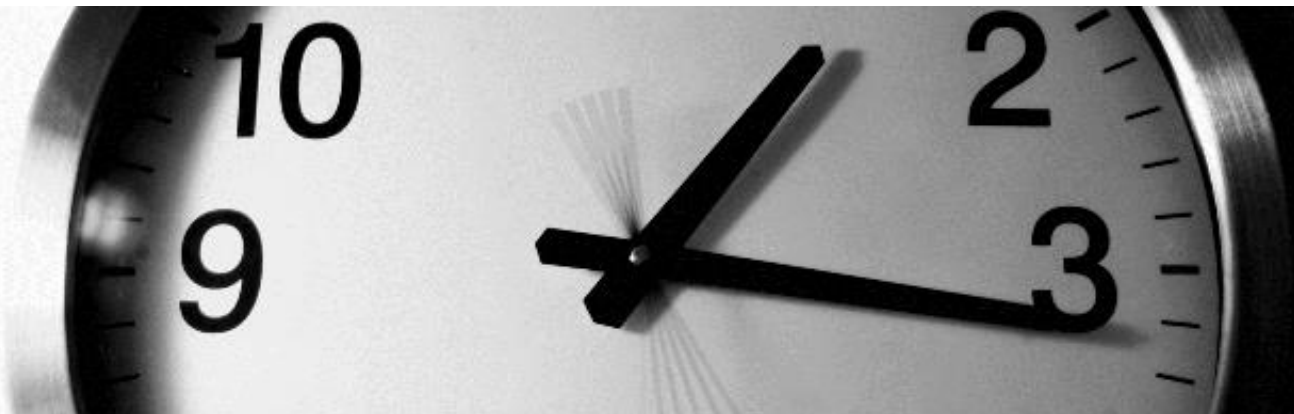
Most cultures, such as sourdough, cheese, and fermented vegetables, are pretty resilient, and will safely use any water that is suitable for drinking. The water can be rich in minerals, or completely pure. Many people prefer to use water that is free of chlorine and fluoride, and there is no harm in removing those things from the water before you culture.

Short vs. Long Fermentation in Sourdough Baking

The fermentation of bread has been going on since the baking of bread began. Often, when speaking of sourdough, terms such as *soak* and *rise* are used. These are both stages in the fermentation process that occur when the starter is added to fresh flour and water to make dough.

The history of bread-making cannot be told without discussing the part that fermentation has in the process. Most likely some of the first loaves ever baked were near-accidents, in which a cook discovered that some flatbread dough left out suddenly came alive and began to rise.

And the wonderful world of sourdough was discovered.



Gluten-free sourdough baking also has a long history in various cultures. Fermented flat breads such as injera have been eaten for generations. Other fermented grains and breads such as dosas are gluten-free and have played a critical role in feeding historical peoples.

The history of bread-making eventually took a turn towards “fast and easy” with the introduction of commercial yeast. Large-scale bread-making (and even home baking) soon went from an artisan process involving a little bit of hands-on time, a lot of love, and a bit of waiting, to a quick series of kneading and just a couple of hours of rising with no fermentation.

Since sourdough starters contain a more complex community of yeast and bacteria than commercial baking yeast, sourdough bread baking automatically involves a long fermentation. Recipes for

sourdough quick breads often involve sourdough just for flavor and other leavening agents such as baking powder and baking soda for a rise.

Neither of these is necessarily good or bad, but there are some benefits to a long fermentation even with a quick bread that has baking powder or soda added. Furthermore, long fermentation is the traditional method of sourdough bread-baking, as a long rising session is necessary to achieve the lift desired in yeast breads.

Benefits

In gluten-free baking, one does not need to take into consideration the breakdown of gluten that occurs in attempting to ferment wheat breads for longer periods. Deciding how long to ferment gluten-free breads is therefore simply a matter of preference in weighing these benefits.

A long fermentation gives the sourdough time to work on the bran of the grain, breaking it down to make it more digestible, and neutralizing the phytic acid that can be difficult to metabolize.

A long fermentation imparts a depth of flavor that cannot be found with just a small addition of sourdough to a bread that uses baking soda for leavening. The 7- to 12-hour fermentation imparts flavor nuances that come only through time.

A long fermentation removes the need for outside leavening agents. Simple breads can be made with an ingredient list that includes only flour, water, starter, and salt.



Benefits Package

How-To

Gluten-free sourdough starter is a fast-acting sourdough starter which is why it needs to be fed more frequently than wheat sourdough starters. This fast-rising action can be harnessed for faster breads. It should also be taken into consideration when considering the following...

Using additional leavening agents for soured “quick” breads does allow you to have a sourdough-flavored quick bread while not having to wait for the fermentation period. Those additional leavening agents also add extra lift to the baked product and baking soda can help neutralize the tang of fermented sourdough bread.

So, those leavening agents can be helpful. They can also be used in conjunction with a long-fermented sourdough with terrific results. But you cannot achieve the digestive, flavor, and texture benefits through skipping the fermentation process and using the added leavening.

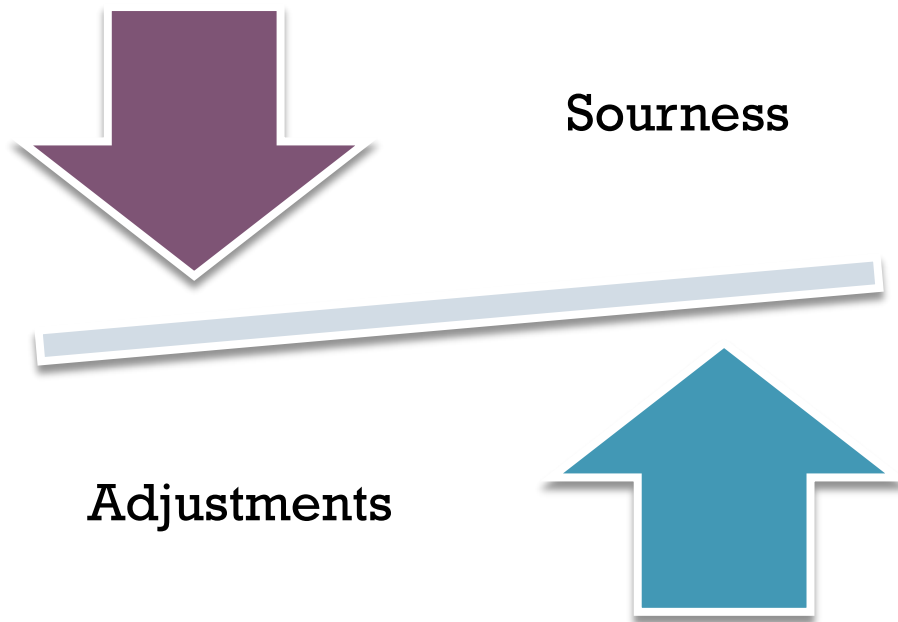
For a long-fermented quick bread such as biscuits, pancakes, muffins, and loaf breads: Combine the flour, starter, and any additional liquid such as milk or buttermilk. Mix just to combine and cover with a plate or wrap and allow to ferment for 7 to 12 hours in a warm place. Once the dough has fermented, stir in other ingredients such as eggs, baking powder, baking soda, salt, fat, and seasonings. Bake as directed.

Note that there is no need for additional commercial yeast if a yeast-risen sourdough bread is desired. Commercial yeast is only used in addition to sourdough in the event that someone desires a short fermentation time. Allowing a long fermentation also gives the yeast time to proliferate in the dough and produce a risen bread.

So while you can make sourdough breads with a short fermentation you will not achieve an authentic sourdough flavor. The shorter fermentation also doesn't take advantage of the natural bacteria and yeasts that, if given the time, will make your bread more tender and risen to perfection.

Tips for Manipulating the Sourness of Your Sourdough

Some people love the acidic flavor of sourdough bread and can't get a loaf that's tangy enough. Others prefer their sourdough very mild. And some fall somewhere in between.



Fortunately you can manipulate your starter to achieve your desired level of tang.

For a More Sour Sourdough

There are two main acids produced in a sourdough culture: lactic acid and acetic acid. Acetic acid, or vinegar, is the acid that gives sourdough much of its tang. Giving acetic acid-producing organisms optimal conditions to thrive and multiply will yield a finished product with more tang. Here are some tips to help achieve this:

- Maintain your starter at a lower hydration level. Lactic acid-producing organisms seem to thrive in a wet environment while acetic acid is produced more abundantly in a drier environment.
- Use whole-grain flours, which the acid-producing bacteria love.
- Keep the hooch. The liquid that can accumulate at the top of your starter, known as the hooch, can aid in producing a more acidic sourdough.
- Try to achieve a longer, slower rise. This may mean you'll need to

- Create a cooler rather than a warmer environment. Consider allowing the dough to rise in a cool basement or another cool area of the house.
- De-gas (punch down) your dough at least once, if not twice, before the final shaping of the loaf.
- Let the shaped dough (in pans or baskets) do the final rise for at least four hours or overnight in the refrigerator. Take the dough out of the refrigerator and let it sit at room temperature for about 30 minutes to an hour before baking. Although many experts actually recommend that your last rise be a quick one done in a warmer environment, you will have better “oven-spring” by putting a cooler loaf into a hot oven.

Because sourdough has so many variables due to its surroundings, achieving tangy sourdough bread will have to be done by trial and error, with the help of the above tips.

For a Less Sour Sourdough

Perhaps you don't like the tang of sourdough because it is unfamiliar. Or perhaps your particular starter creates very sour bread and you'd like to minimize the tang. Either way, you can take a few steps in order to manipulate your sourdough into a less sour state.

- Feed your starter regularly. This helps to minimize the alcohol content which will help reduce the overall acidity of the sourdough.
- Give the dough a shorter rising time at a cooler temperature. The longer the rising period, the more acidity is produced by the organisms within the sourdough. By shortening the rise time and lowering the temperature you can minimize the acidity in the final product. In order to achieve both these conditions you will need to use more starter in the recipe.
- A larger percentage of sourdough starter in the dough allows it to both rise in a cooler location (as stated above) *and* have a shorter rising time. This will aid in taming the sourness in your sourdough. You may find you need to adjust the amount of starter you use by season: more starter in the winter and less in summer.
- Add baking soda. Baking soda is an alkaline substance. Adding it to sourdough neutralizes some of the acidity and gives the dough a little extra leavening boost.

Once again, each starter is individual, so play with some of the above steps to achieve your ideal level of sourness.

How Altitude Affects Sourdough Baking

Bakers living at high altitudes have long known they must make adjustments to standard recipes. Altitude affects not only the baking time, but also the humidity or relative moistness of the finished product. That's because the atmospheric pressure is lower at high altitudes and lower pressure makes water evaporate faster. In fact, for every 500-foot increase in altitude, water will boil at 1° lower than it will at sea level. Since water boils at 212°F at sea level, if you live at a 1,000-foot elevation that means water will boil at 210°F. This is not a significant difference if you live below 3,000 feet, but it can change things considerably if you are living at 6,000 feet. While the difference in the temperature at which water boils mainly concerns moist-heat cooking, in baking naturally leavened or yeast-leavened breads, this difference affects the length of time it takes to bake a loaf.

Generally, when baking breads at high altitudes, you will need to allow more time than a recipe calls for. How much more time depends on your elevation. The easiest way to judge when your loaf of bread is done is to use a thin-tipped instant-read thermometer inserted into the bottom of the loaf. Usually 195°F is a good temperature to shoot for. You can go all the way up to 205°F, but higher than that you may notice the bread is drier and more crumbly than you'd like or that it gets stale faster. Experiment with various temperatures and settle on the one that suits your taste.



You may also want to raise the oven temperature by 25°F to account for the difference in atmospheric pressure. If you are using a convection oven that automatically reduces the temperature 25°F, just set it at the temperature you want, overriding the auto-function. For example, if your oven has a setting for “convection bake” that automatically sets the temperature at 325°F, you can manually adjust the temperature to 350°F or even 375°F. Free-formed artisan loaves bake best around 400°F, while loaves in pans do fine at 375°F. It pays to get familiar with the idiosyncrasies of your particular oven.

The amount of water you use in a recipe will also vary depending on your altitude. The higher the altitude, the drier the flour will be and the more water it will absorb. You can probably use less flour than the recipe calls for when you are at a high altitude. How much less will all depend on your location. Start with about one-fourth less flour and add additional flour only as needed. If you are working with a baker's percentage and you normally use a hydration of 68%, try using a 70% hydration. It's easier to knead in a little extra flour than it is to add more water.

Rising times decrease as altitude increases, so remember to adjust for this also. Keep in mind that the longer the rise time, the more complex the flavors will be, and this is a desirable goal. Try rising at cooler temperatures. (An old refrigerator set at 50°F makes a good "slow proofing" box.) Giving the dough at least two risings also helps. When the dough has doubled, punch it down and let it double again. Usually the second rise is faster than the first rise. Once you shape the loaves and put them into pans or baskets to rise, cover the loaves to prevent them from drying out and forming a tough skin on top that will thwart the nice "oven spring" you want to have. You can use plastic wrap, lightly-moistened flour sack towels, or the shower cap-style covers that are available commercially to cover the loaves while they rise. You might also use a covered proofing box or set a large kettle or bowl upside down over the loaves after you have sprayed them with a fine mist of cool water.

If you want a soft crust on your finished loaf you can brush it with melted butter instead. For a crispy crust, water is a better choice. Spray the loaves (or butter them) one more time right before placing them in the hot oven to bake.

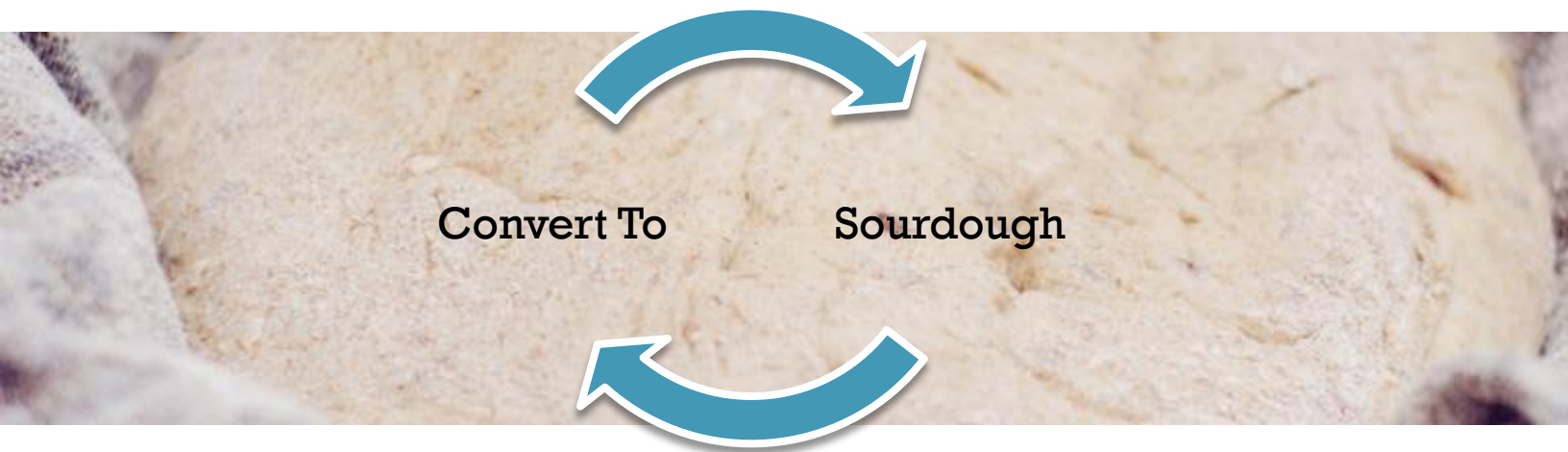
With a little practice and a healthy dose of patience you will find just the right technique that works for you. Bread baking is an art and as such, there is no absolute one right way to do it.

How to Adapt Any Recipe to Become a Sourdough Recipe

Sourdough is well known for its ability to raise yeast-based breads. It lends a lovely tang, or not, depending on your preference. It also helps to make the grain more digestible by pre-digesting the fibers and anti-nutrients.

Once you get your sourdough starter alive and bubbly and you have mastered that great sourdough loaf recipe, you may want to branch out and try your hand at other sourdough baked goods.

Most of us have recipes passed down in our family that we love. It might be Nana's banana bread or Uncle Joe's sandwich bread. Many of these traditional favorites can easily be converted to sourdough with the use of your sourdough culture for the health and money-saving benefits.



To successfully adapt recipes to use your sourdough starter, you will need to perform a bit of trial and error, First you must determine whether your recipe is one calling for yeast, like a bread loaf, or a quick bread (like pancakes) calling for baking soda or baking powder.

Furthermore, it is best to work from a gluten-free recipe to create gluten-free sourdough recipes. Many factors are different in gluten-free baking which makes altering wheat recipes to gluten-free sourdough recipes much more complicated.

Adapting Yeast Recipes to Sourdough

Theoretically speaking, if you know what the hydration level of your sourdough starter is you should be able to easily adapt a yeast bread recipe to use sourdough.

Remember that a 100% sourdough hydration level means that you have equal weights of flour and water. So if you have 8 ounces of starter you have 4 ounces of flour and 4 ounces of water, by weight.

The other thing to consider in the recipe you wish to adapt is the amount of yeast. The rising power of one packet of yeast is about equivalent to one cup of sourdough starter, depending on the health of your starter.

Knowing these two factors you can approximate a substitution of one cup of sourdough starter for one packet of commercial yeast. You would then lower the flour and water in the recipe according to your hydration levels, being sure to measure it again by weight.

So, for instance, if your recipe calls for 1 cups of liquid, 3 cups of flour, and 1 packet of yeast, you can substitute 1 cup of sourdough starter for the yeast, then use only 1/2 cup of liquid and 2-1/2 cups of flour.

Once you have your sourdough mixed together and flour and water adaptations accounted for, you must also account for the longer rise time needed for sourdough. This isn't as complicated as it may seem, as you will simply allow for a 1-2 hour (or more) rise time instead of the instant yeast rise time that is usually around 30-45 minutes.



Adapting Quick Bread Recipes

Quick bread recipes are slightly trickier in that most of them were created with the quick leavening of baking soda or baking powder in mind. So perhaps a little background on each is in order.

Baking soda, or the chemical compound sodium bicarbonate, is an alkaline substance that is used in baking quick breads. This alkaline powder reacts with the acidic element in a recipe (i.e., buttermilk, vinegar, etc.) to create gases that produce the rise in a pancake, biscuit, or loaf of zucchini bread.

Baking powder contains both an acid and alkaline component which is why you can make pancakes or biscuits with milk (only slightly acidic) as the liquid and still have the gases creating a rising power. You can substitute 1/2 teaspoon of baking soda (alkaline) and 1/4 teaspoon of cream of tartar (acid) for 1 teaspoon of baking powder to achieve the same result.

Sourdough is acidic in that it contains lactic and acetic acids that will act on your recipe in the same way as the cultured dairy products or vinegar that are often called for in a recipe.

If you are interested in using sourdough in such recipes you may do so in a few ways.

Use your sourdough to add a tang to quick breads. If you are only interested in adding the tang of sourdough to your pancakes or biscuits then you could substitute one cup of sourdough starter for the equivalent amounts of flour and water, by weight. This gets a little tricky when you have a recipe where the liquid is a only small amount of milk, because you are substituting water for something that contains fats, proteins, and carbohydrates (milk).

Also keep in mind that your sourdough starter will act as an acidic element to a recipe. So if you are using a recipe that calls for buttermilk you may be able to use regular milk instead since the sourdough will provide the acidic element for baking soda to react with.

Use your sourdough starter to create longer-soaked (fermented) quick bread. This can be done similarly to the method of substituting sourdough for yeast above. Simply replace the water and flour by weight with your 100% hydration starter.

So if you wanted to make something like ordinary biscuits and use sourdough you would replace some of the flour and liquid with your sourdough starter, along with the baking soda and baking powder (which you will use less of than in most recipes), then allow the culture to raise the biscuits for 4+ hours,

For a thinner battered quick bread such as pancakes you can actually use straight-up sourdough starter without any additional flour or water. You may want to alter the hydration level of your sourdough to produce a thinner or thicker pancake as desired, but no long soaking time is needed since you aren't using any additional flour.

As with other elements of sourdough baking, you will want to play with recipes in order to achieve your desired results. With these tidbits in mind, though, you should be able to manipulate any of your favorite recipes to utilize sourdough.

The Formula



Assuming that you keep your sourdough starter at 100% hydration you can safely assume that half of the quantity of your sourdough starter is flour and the other half water. You can therefore replace part of the flour and liquid in the recipe with the sourdough starter itself.

If, for instance, you have a recipe that calls for 2 cups of flour and 2 cups of buttermilk, as in a pancake recipe, you could combine 1-3/4 cups of flour, 1-3/4 cups of buttermilk (or milk, since the sourdough is

also acidic), and 1/2 cup of sourdough starter. (The sourdough starter replaces 1/4 cup of the flour and 1/4 cup of the buttermilk.)

This mixture can be combined the night before and left to culture on the counter. The next morning add the rest of the ingredients, including a bit of baking soda to react with the acidity of the sourdough and create a rise, and mix just to combine before cooking into fluffy delicious pancakes.

If you want your quick bread to be baked right away, then simply skip the fermentation step. It won't be as easy on the tummy, but you will get a bit of extra rise from the yeast in the sourdough starter. Just proceed with the recipe as written.

Beyond Quick Breads

Once you start using sourdough in your baked good recipes you may find that it really helps make lighter breads that are easier to eat. And so you might want to start souring just about all of the grains you eat.

You can use the exact same formula as above, replacing 1/4 cup each of liquid and flour with 1/2 cup sourdough starter, in everything from porridge to cake to cookies to granola.

If you love those sourdough benefits and flavor then just let the dough or batter culture for at least 8 hours before cooking up with the rest of the ingredients.

Troubleshooting Sourdough

Sourdough is a living thing. As such it can be unpredictable and constantly in flux due to changes in its environment. Most sourdough problems can be easily remedied or are not worth worrying about. However, there are a few situations that might require some extra care.

Reviving a Hibernated Starter



If you've allowed your starter to come to a hibernated state in which it doesn't appear to have much life, then you'll need to revive your starter. The culture may look lifeless, but on the microscopic level you may still find life that you can recover with a little extra TLC.

This means more than just feeding it. Sourdough should have more yeasts than lactobacilli to be effective in making good breads, so you're going to need to give it some special care in order to build up the yeasts.

To jumpstart a starter that looks lifeless, take just a few tablespoons of the hibernating starter and bring it to room temperature. Now feed it eight times as much flour and five times as much water as the amount of starter that you are starting with.

For instance, if you have 2 tablespoons of starter, use 16 tablespoons of flour (1 cup) and 5 tablespoons of water.

Repeat this several times a day, in 4-hour intervals, and start each feeding by discarding half of the starter.

By giving the starter large feedings of flour you should be able to revive it in a way that will tip the present organisms in favor of the yeast.

If the Starter Smells or Tastes of Alcohol

One of the organisms present in a sourdough culture is alcohol. While this is normal, too much is not a good thing and can be a sign that you need to change the way you are caring for your starter.

Too much alcohol in the sourdough usually means that you are not feeding your starter frequently enough. Increase the frequency of feeds (every 3 hours instead of every 4, for instance) and see if that resolves the alcohol flavor or smell of the starter.

Getting the Starter Bubbly

What you should see in a sourdough starter is happy, bubbling activity. This is an indication of health in that the organisms in the sourdough culture are feeding off the flour you give it and creating gases (bubbles).

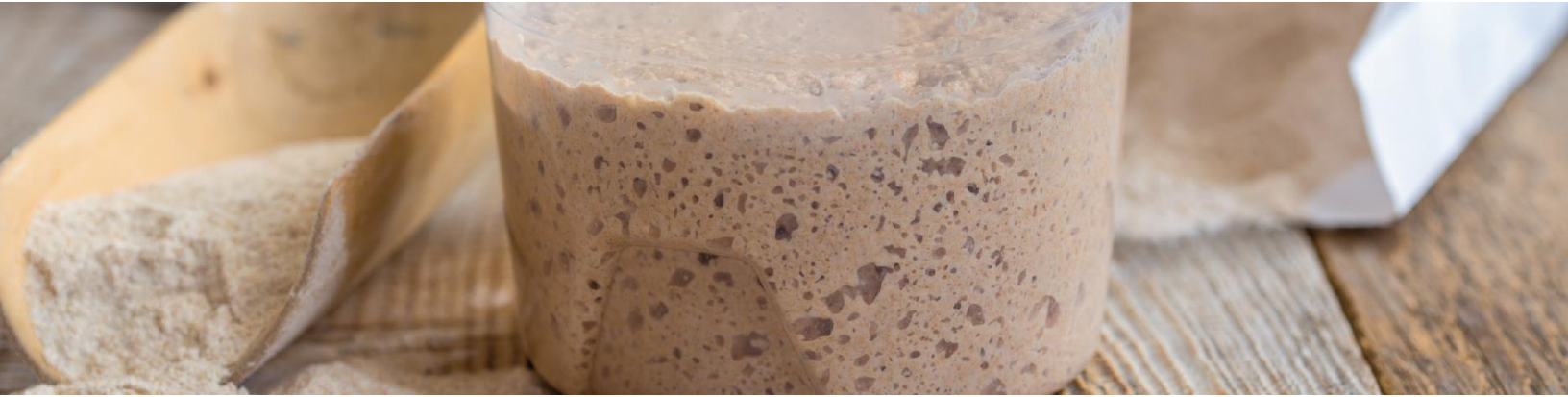
If your starter is not bubbly then you need to feed it and allow it to go through its bubbling/proofing period. After you feed it you should see bubbling action within 4 to 6 hours. Feed it again at 4 hours to make sure your culture is getting enough food.

If after several feedings you still do not see bubbling action, your starter may be damaged or even dead. If that is the case, you may need to start or acquire a new one.

Dealing with Mold

While mold on a sourdough starter is fairly rare, it does happen from time to time. The cause is usually some sort of contamination with food or soap residue, or weakened yeast due to a forgotten feeding.

If you find mold you can try to salvage your sourdough starter or you can start over. Please exercise good judgment when salvaging a moldy starter. It is one thing if the mold is only infecting the surface, but an entirely different problem if it is penetrating the whole starter below the surface.



If you decide to save the starter you should first remove the mold from the surface. Next, using a new (clean) utensil, remove a small portion of the sourdough that wasn't near the mold. One tablespoon will suffice. Put that tablespoon into a very clean container, and add equal parts flour and water (by weight). If you are measuring by volume, use one part starter, one part water, and slightly less than two parts flour. Mix, cover with a breathable lid, and allow to proof.

Once it is proofed, or within 6 hours, feed the starter again using the same ratio (one part flour and one part water by weight; or one part water, almost two parts flour by volume). Continue to feed for several days and watch carefully for any signs of mold. If all goes well and there are no more signs of mold or off smells, then you should be able to use it in baking or store it in the refrigerator.

Remember that sourdough is a living thing that can be unpredictable. Thankfully it is also a fairly resilient thing that can often be brought to life even after the biggest of trials.

How to Start and Maintain a Gluten-Free Sourdough Starter



A sourdough starter is a simple mixture of water and flour. In a gluten-free sourdough starter, that flour is often brown rice, though other flours can be used. This mixture of flour and water creates the perfect medium for the yeasts, acids, and other microorganisms that ferment and leaven bread into a beautiful loaf of sourdough bread.

The Cultures for Health [Gluten-Free Sourdough Starter](#) imparts an established colony of microorganisms into the flour-water mixture. There are many [benefits to starting with an established starter](#), not the least of which is the peace of mind that comes with knowing that this strain of starter has already been used to produce good bread.

Furthermore, an established starter has demonstrated its preference for a specific food source. Various flours can be used to establish a starter, but because the world of gluten-free baking contains many flour options, this decision can be both overwhelming and complicated.

While a starter can be created using gluten-free (GF) flour and water, having an established starter with an established food source (brown rice flour) brings simplicity to the process.

Activating the Gluten-Free Sourdough Starter

Because the starter comes in a dehydrated state, your first step will be to rehydrate and activate the starter. This can be done using the following instructions:

1. Add packet of starter to 1 tablespoon brown rice flour and 1 tablespoon of room temperature water in a quart-size glass jar and stir thoroughly.
2. Cover with a tight-weave towel or a coffee filter, secured with a rubber band.
3. Place in a warm area, 70°-80°F, for 4-8 hours.
4. After 4-8 hours, feed the starter: mix in 2 tablespoons of flour and 2 tablespoons of water. Stir vigorously.
5. Cover as before and return to the warm spot for 4-8 hours.
6. After 4-8 hours, feed the starter with ¼ cup of flour and ¼ cup of water. Stir vigorously.
7. After another 4-8 hours, feed the starter with ½ cup of flour and ½ cup of water. Stir vigorously.
8. Cover as before.
9. Repeat steps 8 and 9 every 4-8 hours, until mixture becomes light and bubbly, typically 3 to 7 days.
10. Once starter is bubbling reliably within a few hours of being fed, feed for two more cycles, then [maintain fresh starter at room temperature](#) or cover tightly and place in the refrigerator and proceed to maintenance feeding stage.

When maintained at room temperature, the starter will always be fresh and ready to use for baking within a few hours. When stored in the refrigerator, the starter should be brought to room temperature and fed at least 3 times before being used for baking.

In either case, the starter must be fed at regular intervals in order to ensure a vigorous, healthy leavening agent.

Maintaining Gluten-Free Sourdough Starter at Room Temperature

Step 1: Measure room temperature starter or remove ¼ cup starter from refrigerator.

Step 2: Feed starter with GF flour and water every 4 hours by using one of the following methods:

- If using a scale to measure ingredients, combine equal amounts by weight of starter, water, and GF flour. For instance, 50 grams of starter, 50 grams of water, 50 grams of GF flour.
- If using measuring cups, combine 1 part starter, 1 part water, and a little less than 1 part GF flour. For instance, ¼ cup starter, ¼ cup water, slightly less than ¼ cup GF flour.

Step 3: Cover; place in a warm area, 70°-80°F, for 4 hours. Repeat steps 1-3 until you have enough starter for your recipe. When preparing to bake, use the fresh starter within 3-4 hours of being fed, to ensure the starter is at its peak of activity.

Step 4: Extra starter may be discarded, stored in the refrigerator or kept at room temperature and fed again as above. Always retain at least ¼ cup starter to begin your next project.

Maintaining Gluten-Free Sourdough Starter in the Refrigerator

Because of the nature of gluten-free sourdough, the maintenance of this starter must be performed more frequently – approximately every 3-4 days. Maintenance of the starter is performed as follows:

Step 1: Remove at least ¼ cup starter from refrigerator. Discard remaining starter.

Step 2: Feed starter with GF flour and water by using one of two methods:

- If using a scale to measure ingredients, combine equal amounts by weight of starter, water, and GF flour. For instance, 50 grams starter, 50 grams water, 50 grams GF flour.
- If using measuring cups, combine 1 part starter, 1 part water, and a little less than 1 part GF flour. For instance, ¼ cup starter, ¼ cup water, slightly less than ¼ cup flour.



Step 3: Cover; let starter sit for 2-3 hours, until light and bubbly.

Step 4: Put a tight lid on jar and return to refrigerator.

Step 5: Extra fresh starter (above) may be added to refrigerated starter for feedings, instead of performing steps 1-2.

Once a routine is established, caring for the starter will become a normal part of the kitchen routine. At that point, the starter can be used to create a host of delicious gluten-free sourdough breads and treats!

Using Gluten-Free Sourdough Boosters



A common practice in gluten-free sourdough baking is using various boosters to help with the leavening and texture of the final bread. This isn't absolutely necessary as the Gluten-Free Sourdough Starter works as a standalone leavening and fermentation agent. Therefore, these additives are considered optional and are used by those who prefer the assurance these "extras" provide.

Using Commercial Yeast as a Gluten-free Sourdough Booster

While many prefer the purity of using a sourdough starter as the lone leavening agent, commercial yeast can also be added for extra leavening. The sourdough starter and yeast work in tandem – the sourdough starter fermenting the bread thoroughly and the commercial yeast adding extra leavening during the final rise.

For most recipes, $\frac{1}{2}$ teaspoon of instant yeast can be mixed with just enough water to dissolve it. This should be mixed thoroughly into the dough before shaping it for the final rise.

Using Baking Soda and Baking Powder as a Gluten-free Sourdough Booster

Other common additions to recipes include baking soda and baking powder. Generally speaking, these leavening agents are used in quick breads such as pancakes and muffins where sourdough is utilized more for its fermentation ability than its leavening properties.

Sandwich and artisan loaves can also include these leavening agents to give the dough an extra boost. Baking soda is particularly helpful in that it works with the acidity of the sourdough starter to create carbon dioxide which adds to the lift of the bread loaf. Baking soda also uses its alkaline characteristics to balance a bit of the tang that sourdough achieves through fermentation, though that ubiquitous tang is never completely removed.

While all of these boosters help give a little insurance to beginner home-bakers, the Gluten-Free Sourdough starter provides the needed leaven and fermentation on its own. The [Gluten-Free Sourdough recipe collection](#) includes recipes that utilize and do not utilize these boosters, depending on your personal preference.

Gluten-free, All-Purpose, Whole-Grain Flour Blend



With gluten-free baking, it is easy to find yourself surrounded by half a dozen bags of flour spilling open onto your counter. Various flours are used in gluten-free recipes in order to reap the benefits and minimize the downsides of all of the different gluten-free grains.

While having a well-risen bread with good texture is the ultimate end-goal, opening all of those bags of flour at every baking session isn't necessary. Instead, an all-purpose blend such as this whole grain mix can be prepared once and continuously used for baking.

An all-purpose flour blend such as this is best used in place of similar flours in gluten-free recipes. For instance, a whole grain gluten-free sandwich bread recipe that requires 3 cups of various types of flour can utilize 3 cups of this blend. For baked goods that require something resembling a white flour – usually the flours are mostly white rice or starches – try this [White All-Purpose Gluten-Free Flour Blend](#) instead.

Gluten-Free, All-Purpose, Whole-Grain Flour Blend Recipe

Note: This blend utilizes the classification of different types of gluten-free whole grains as outlined in the [Guide to Flour Substitutions in Gluten-Free Sourdough Baking](#). This allows for flexibility and personal grain preference while providing guidelines for using the correct ratio of flour types in a recipe.

Flour Ingredients:

- 4 cup heavy flour such as buckwheat, teff, or millet
- 4 cup sorghum or brown rice flour
- 2 cups starch such as tapioca or corn starch
- 2 cups high-protein flour such as almond or quinoa

Instructions:

In a large bowl, whisk all of the flours together for several minutes or until everything is well incorporated. Transfer to an airtight storage container and seal tightly. If the mixture will be utilized within a couple of weeks, it can be kept at room temperature. Store in the refrigerator or freezer to keep for more than 2 weeks.

Binders

The above mixture can be used without a binder in quick bread recipes that also involve eggs, flax, or chia seeds. For a more structured bread like a sandwich loaf or other sourdough-leavened bread, a binder is necessary.

Xanthan Gum

Xanthan gum is a commonly used binder in gluten-free baking. This binder is generally added to flour blends to make measuring easier later on. Gluten-free recipes will often indicate if an additional binder is required. These are measured into the dough *in addition to* the xanthan gum already added to the flour blend.

How to Use Xanthan Gum in Gluten-free Baking: If xanthan gum is desired as a binder in this recipe, add 4 teaspoons of xanthan gum to the above flour mixture.

Psyllium Husk

Another common binder, beloved as a natural alternative to xanthan gum, is psyllium husk. Psyllium is full of fiber and provides both structure and moisture to gluten-free dough by binding the liquids to the flours in the dough.

Psyllium husk is used differently than xanthan gum, however. Instead of adding it to the flour blend itself, it is most often mixed with the liquid in a recipe, left to gel, and then is added to the other ingredients.

Psyllium husk is therefore not added to this flour blend when mixing and is instead used later when putting together a recipe.

How to Use Psyllium Husk in Gluten-free Baking:

For every 3 cups of this flour blend you utilize in a recipe, add 1/3 cup of psyllium husk powder to the ingredient list. Before mixing the other ingredients, whisk the psyllium with the liquid called for in the recipe in a small bowl. Add this gel as you would add the other liquid ingredients.

For more on binders in gluten-free baking, please see our [Guide to Binders in Gluten-free Baking](#) article. For more information on gluten-free flours and how to utilize them in recipes, please see our [Guide to Flour Substitutions in Gluten-Free Sourdough Baking](#) article.

“White Flour” All-Purpose Gluten-free Flour Blend



All-purpose flour is a common wheat flour in conventional baked-good recipes. It is used in everything from bread to biscuits to pie crusts and cake. Since so many recipes call for this type of flour, and it is widely sold at most supermarkets, it is a simple one-bag ingredient to keep in the pantry.

Gluten-free recipes, on the other hand, often call for three or more flours in a recipe. In order to mimic the flavor and texture of wheat flour, usually several gluten-free flours with varying properties are mixed together in a recipe to create an “all-purpose flour”.

Simplifying Gluten-Free (GF) Baking

In order to prevent the hassle of opening three or more bags of flour every time you wish to whip up a gluten-free recipe, you may find it helpful to mix a large quantity of GF all-purpose flour together. You’ll only need to open all five bags one time to mix up a huge batch of flour, and then when you want to put a recipe together you can just pull out a single bag or jar.

This particular GF flour blend is meant to mimic a bag of white, all-purpose, wheat flour. Much of the flour in this recipe is made up of starch and binding flours which create baked goods with a lighter

texture. It can, therefore, be used to replace flour blends with a similar “white flour” characteristic in gluten-free recipes of all kinds.

Customizing With Your Binder

The downfall of creating an all-purpose blend is that it will not be customized for the ideal loaf of sandwich bread or the tender pie crust. These are on the opposite ends of the baked-goods spectrum, as bread generally needs more elasticity and binding whereas pie crusts are meant to remain tender and flaky. So while using an all-purpose blend will generally produce good results, you may find that fine tuning your flour mixture for specific types of baked goods – namely bread loaves or pastries – will generate a better outcome.

Most gluten-free recipes will also call for a specific amount and type of binder, which is often determined by the type of baked good. This particular recipe gives a measurement for xanthan gum, but it is listed as optional.

Xanthan gum is used to mimic the gluten property of wheat flour. It is generally needed in larger quantities for high-rising yeast breads and in smaller quantities for tender cakes, pies, and cookies.

If you choose to leave out the xanthan gum, you can then customize the amount and type of binder to the recipe being made which may help resolve the issues with flour customization mentioned above.

“White Flour” All-Purpose Gluten-Free Flour Blend

Ingredients:

- 1 cup brown rice flour
- 1 cup sorghum flour
- 1 cup sweet rice flour
- 1/3 cup tapioca flour/starch
- 2/3 cup potato starch
- Heaping ½ Tablespoon xanthan gum (optional)

Note: Multiply this recipe by the quantity you wish to have on hand. Just be sure to keep the ratios the same.

Instructions:

1. Combine all of the ingredients in a large mixing bowl.
2. Whisk well for five minutes in order to distribute the flours evenly.
3. Move flour mixture to an airtight container for storage.

Gluten-Free Sourdough Paleo Options

The paleo diet has a few variations, depending on the person and the community. Most who adhere to a paleo diet avoid dairy, processed sugar, and grains. Within these fairly large parameters there are several options for adjusting one's dietary intake to best meet their individual needs.

Because the paleo diet is naturally gluten-free, it is often followed by those with an intolerance to the gluten protein found in wheat, rye, barley, and other heirloom forms of wheat. While many on the paleo diet strictly avoid all grains, others are open to utilizing what are known as seed grains.



Seed Grains and the Paleo Diet

Wheat is a member of the grass family along with other popular grains such as rye, barley, and oats. These grains all grow atop a stock of grass and have similar nutritional and culinary properties. These are the types of grains that many find harder to digest and are therefore strictly forbidden on a paleo diet.

There are other types of grains that exist in a different family called “seed grains”. These are grains that do not belong to the grass family and instead are classified more similarly to vegetables. The popular seed grain, buckwheat, for instance, is a member of the rhubarb family.

Seed grains are naturally gluten-free and many find that they digest more like a sunflower or pumpkin seed than a grain. They are higher in starch than sunflower and other seeds, and therefore work well in gluten-free bread options.

The grains and flours in the seed grain family include:

- Buckwheat
- Amaranth
- Quinoa

These grains are used in various [gluten-free sourdough recipes](#) here at Cultures for Health and can be substituted for other flours, if desired, according to their properties which can be found in [A Guide to Flour Substitutions in Gluten-free Sourdough Baking](#) article.

Note that some people include millet in the seed grain family while others insist that it is part of the grass family. Therefore, we recommend that consumers further research the properties of millet to determine how it meets their needs.

Grain-Free Sourdough and Paleo Baking

Widely speaking, paleo followers often avoid all grains, including those of the seed grain classification. In this case there are generally three flours utilized in paleo baking:

- Coconut flour
- Almond flour
- Tapioca flour (generally interchangeable with arrowroot flour)

These flours have vastly different properties. Coconut flour is almost entirely composed of fiber while almond flour is very high in protein and tapioca flour is very high in starch.

Although many individuals on the paleo diet prefer coconut and almond flours due to their low starch content, the starch from the tapioca flour actually provides the starch needed for sourdough

fermentation. It is therefore recommended that any grain-free sourdough recipe utilize at least 1/3 tapioca starch as the flour for proper fermentation and leavening.

As individual flours, coconut, almond, and tapioca flours do not work well as a substitute for other gluten-free flours utilized in gluten-free recipes. However, they can be combined to create a macro-nutrient profile similar to that of a gluten-free grain.

Discarded Starter Recipes



How to Use Discarded Sourdough Starter

Once a sourdough starter has been rehydrated and made vigorous, maintaining the sourdough starter often begins with discarding a portion of that starter. This practice seems confusing and can cause frustration.

The confusion rightly stems from a question of why. Why should one toss a perfectly good portion of sourdough starter? The reason is that unless some starter is discarded, it quickly builds up and requires so much flour for feedings that it becomes unmanageable. For a more lengthy discussion of this question, consult this [blog post on discarding sourdough starter](#).

The frustration comes in when trying to determine what to do with the discarded portion of starter. It can be thrown in the trash, put in a compost heap or shared with a friend. Or, discarded starter can be used in a variety of baked goods.

Not all recipes work well using discarded sourdough starter. A fluffy loaf of sourdough bread is best baked with a well-fed, active starter that will impart flavor, fermentation, and leavening to the process. There are other recipes, however, that do well with discarded starter.

When Can Discarded Sourdough Starter be Used?

A recipe generally works well using discarded sourdough when it meets some or all of the following criteria:

- The [hydration called for in a recipe](#) matches that of the starter.
- Sourdough starter is included for flavor or sourness and *not* for fermenting the grains.
- Sourdough starter is included for flavor or sourness and *not* the leavening ability of the sourdough starter.
- No leavening agent is required.

Recipes Using Discarded Starter: Fermented vs. Unfermented

The recipes that meet the above criteria can be broken down into three categories:

1. Recipes that call for added flour, no fermentation or soaking time, and are baked immediately. The sourdough starter adds flavor but the flour or grain in the final product is unfermented.
2. Recipes that include additional flour which is fermented (or soaked) for some time before baking. The sourdough starter not only adds flavor in this case, but the flour or grains in the final product are fermented.
3. Recipes that call only for discarded starter and no additional flour, and therefore have no need for further fermentation.

#1 Sourdough Flavor, Unfermented Flour

These are the recipes that utilize the discarded starter for flavor and as a means of using up that discarded starter. They generally combine sourdough starter with additional flour, liquid ingredients, and leavening. The bread is baked right after mixing, like quick breads are, and so a portion of the grain is left unfermented.

#2 Sourdough Flavor, Fermented Flour

For pre-digestion of the grains through fermentation, discarded sourdough can be used as well as fresh starter. The discarded starter is added to additional flour and liquid and fermented for 12-24 hours. In this case, a leavening agent such as baking soda is added to react with the acidity of the starter and create gases that are trapped within the structure of the flour-water mixture to create leavening.

Examples of Starter-plus-Flour Long Fermentation Recipes Include:

- [Easy Overnight Gluten-Free Sourdough Waffles](#)
- [Gluten-Free Sourdough Whole Grain Zucchini Bread](#)

#3 Sourdough Flavor, No Flour Added

Similar to case #2, above, discarded sourdough is used in recipes with no additional flour called for, so it can be baked immediately. The discarded starter's flour is already fermented and it adds sourdough flavor to the recipe. An additional leavening agent is added to this type of sourdough as well.

Example of Standalone Starter Recipes Include:

- [Gluten-Free Sourdough Pancakes](#)

The above ideas will alleviate any frustration or confusion when it comes to discarded sourdough starter and how to use it.

See our Sourdough Recipe Page for more [Discarded Starter Sourdough Recipes](#)

GLUTEN-FREE SOURDOUGH RECIPES



Quick Breads



Gluten-free, Dairy-free Cranberry-Orange Sourdough Scones

Scones are the slightly sweet cousin to the biscuit, and this gluten-free and dairy-free sourdough version makes a delicious treat for brunch or an afternoon tea. This recipe can be adapted in many ways with flavorings like raisin-cinnamon or blueberry-lemon.

Note that butter and cream can be used if desired.

Ingredients:

- 1 cup sorghum flour
- ½ cup brown rice flour
- ¼ cup tapioca flour
- ¼ teaspoon xanthan gum
- 6 tablespoons solid coconut oil *or* butter
- 1 egg
- ½ cup canned coconut milk *or* cream

- ½ cup [gluten-free sourdough starter](#)
- ½ cup dried cranberries
- 1½ teaspoons freshly grated orange zest
- 2 tablespoons sugar
- 1 tablespoon baking powder
- ¼ teaspoon baking soda
- ½ teaspoon salt

Instructions:

1. Combine flours with xanthan gum and whisk to combine.
2. Using a pastry cutter, cut coconut oil into flour mixture until it becomes crumbly, the size of small peas.
3. In a small bowl, beat the egg, then whisk in the coconut milk and sourdough starter. Pour into the flour mixture and mix with a fork until a dough begins to form.
4. Knead the dough with clean hands in the bowl until it comes together in a cohesive mass. The dough may be sticky at this point.
5. Cover the dough and sour 4-12 hours. There will be no noticeable tang at first, but the dough will develop a noticeable sourdough flavor.
6. Preheat the oven to 425°F.
7. In a small bowl, combine the dried cranberries, zest, sugar, baking powder, baking soda, and salt; mix well. Sprinkle over the dough.
8. Knead dough to mix ingredients in for a couple of minutes by folding the dough over itself over and over again.
9. Once the fruit and dry ingredients are incorporated, sprinkle a work surface with tapioca flour. Move the dough to the floured surface and sprinkle more tapioca flour over it if the dough is quite sticky. Knead a few times, adding more flour as needed, forming a slightly sticky yet cohesive dough.
10. Pat the dough out into a 1-inch thick circle. Cut the dough into eight triangular scones or use a biscuit cutter to cut scones into desired shape.

11. Carefully transfer these to a cast-iron skillet or baking sheet. The dough will still be fragile so take care. Leave 1-2 inches of space between scones, as they will expand.
12. Bake 10-12 minutes, or until the tops are firm and the bottoms are golden brown.
13. Remove from oven. Cool on pan for at least 5 minutes before transferring to a cooling rack.

These scones become more sturdy as they cool, but are delicious still warm from the oven.



Wholesome Sourdough Oat and Buckwheat Scones

These gluten-free sourdough scones are made easily by dropping the dough onto the baking sheet. This forms a rustic-looking scone that packs delicious texture and flavor.

Note that you must use gluten-free oats for this to be fully gluten-free.

Ingredients:

- 1/2 cup gluten-free oats
- 1-1/2 cups buckwheat flour
- 1/2 cup tapioca flour
- 6 tablespoons cold butter
- 1/2 cup [gluten-free sourdough starter](#)
- 1/2 cup full-fat yogurt or cream
- 2 eggs
- 1/2 cup raisins
- 1-1/2 teaspoons cinnamon
- 1/2 teaspoon baking soda
- 1/2 teaspoon salt

- 2 teaspoons baking powder

Instructions:

1. Combine oats and flours in a medium-size bowl. Cut in cold butter until flour texture becomes crumbly. Pour in sourdough starter and yogurt or cream and stir with a fork until the dough begins to come together. Knead a few times in the bowl to ensure that everything is well-mixed.
2. Cover and let sour 8 to 12 hours.
3. When ready to bake, preheat oven to 425°F. In a small bowl, beat eggs. In a separate small bowl combine raisins, cinnamon, baking soda, salt, and baking powder with a fork until well combined.
4. Add the eggs and raisin mixture to the soured dough and mix together, using a utensil or your hands if it is too hard to handle. Knead or mix the ingredients together well for a couple of minutes to ensure that everything is well-distributed.
5. Grease a baking sheet. Use a large soup spoon or tablespoon to scoop heaping tablespoons of dough onto the prepared baking sheet. Leave at least 1 inch of space between scones. You will, most likely, have to bake these in two batches.
6. Once pan is full, transfer scones to preheated oven and bake 12 to 14 minutes or until set on top and golden brown on the bottom. Allow to cool for a few minutes before serving or transferring to cooling rack.



Gluten-free Sourdough Stovetop Biscuits

The hearty texture of these biscuits is much more reminiscent of a whole-grain wheat biscuit. They are, however, made in English muffin rings on the stove top then finished in the oven. They are delicious, whatever you call them.

If you do not have English muffin rings, use greased wide-mouth canning rings.

Ingredients:

- 1 egg
- ⅓ cup milk
- ½ teaspoon salt
- ⅓ cup fresh [gluten-free sourdough starter](#)
- ¼ cup ground flax seed
- ⅓ cup millet flour
- ¼ cup potato flour
- 2 tablespoons + 2 teaspoons oat flour
- ¼ teaspoon baking soda

Instructions:

1. Beat egg and milk together in a medium-size mixing bowl. Mix in all other ingredients except baking soda. Cover and place dough in a warm place to sour for 2-8 hours.
2. Preheat oven to 350°F.
3. Once the dough is soured, heat a skillet on very low heat. Sprinkle baking soda over dough and quickly mix in. Place greased English muffin rings in preheated skillet.
4. Fill rings halfway full with dough. Cook 5-10 minutes, or until golden brown on the **bottom**. **Carefully flip and cook another 5-7 minutes.**
5. **Once muffins are golden brown on both sides, transfer muffins to a baking sheet in the oven to finish cooking an additional 5-10 minutes.**
6. **Serve with butter or your favorite toppings.**



Gluten-free, Dairy-free Sourdough Biscuits

These biscuits are both gluten-free and dairy-free, but deliciously tender on the inside and crisp along the edges. Serve them up for breakfast with butter and jam or alongside a steaming bowl of soup.

Ingredients:

- 1 cup sorghum flour
- ½ cup brown rice flour
- ¼ cup tapioca flour
- ¼ teaspoon xanthan gum
- 6 tablespoons solid coconut oil
- 1 egg
- ½ cup canned coconut milk
- ½ cup [gluten-free sourdough starter](#)
- 1 tablespoon baking powder
- ¼ teaspoon baking soda
- ¾ teaspoon salt

Instructions:

1. Combine flours with xanthan gum and whisk to evenly combine. Using a pastry cutter, cut coconut oil into flour mixture until it becomes crumbly, the size of a small peas.
2. In a small bowl, beat the egg, then whisk in the coconut milk and sourdough starter. Pour into the flour mixture and mix with a fork until a dough begins to form. Knead the dough with your hands in the bowl until it comes together in a cohesive mass. The dough may be sticky at this point.
3. Cover the dough and sour 4-12 hours. At first there will be no noticeable tang, then the dough will develop to produce a noticeable sourdough flavor.
4. Preheat oven to 425°F.
5. Sprinkle baking powder, baking soda, and salt over the biscuit dough. Knead in for a couple of minutes by folding the dough over itself over and over again.
6. Once the dry ingredients are incorporated, sprinkle a work surface with tapioca flour. Move the dough to the floured surface. Knead a few times, adding more flour as needed, forming a slightly sticky yet cohesive dough.
7. Pat the dough out into a circle 1 inch high. Cut the dough into eight triangular biscuits or use a biscuit cutter to cut biscuits as desired.
8. Carefully transfer biscuits to a cast-iron skillet or baking sheet. The dough will still be fragile so treat it gently. Leave 1 to 2 inches of space between biscuits, as they will expand.
9. Bake 12-15 minutes, or until lightly brown. These biscuits may not turn as golden brown as traditional wheat biscuits. Remove to cooling rack and cool 5 minutes before serving.



Simple Sourdough Gluten-free Drop Biscuits

Millet is a great flour to use solo in a simple recipe such as this. It has a very subtle nuttiness while still maintaining a fairly neutral flavor. Throw these biscuits together the night before for breakfast, or after breakfast for supper.

Ingredients:

- 1-3/4 cup millet flour
- 6 tablespoons cold, unsalted butter
- 1/2 cup [gluten-free sourdough starter](#)
- 1/2 cup buttermilk, kefir, or yogurt
- 2 eggs
- 1 tablespoon gluten-free baking powder
- 1 teaspoon salt

Instructions:

1. Place millet flour in a medium bowl. Cut in butter until it resembles peas and is crumbly in texture. Pour in sourdough starter and buttermilk and mix well until combined.
2. Cover and let sour 8 to 12 hours.

3. When ready to bake, preheat oven to 425°F.
4. In a small bowl, beat eggs. Pour the eggs over the soured dough then sprinkle the baking powder and salt on top.
5. Mix all ingredients together, using a utensil or your hands if it is too hard to handle. Knead or mix the ingredients together well for a couple of minutes to ensure that everything is well-distributed.
6. Grease a baking sheet. Use a large soup spoon or tablespoon to scoop heaping tablespoons of dough onto the prepared baking sheet. Leave at least 1 inch of space between biscuits.
7. Once pan is full, transfer to preheated oven and bake 12 to 14 minutes or until set on top and golden brown on the bottom. Allow to cool completely before transferring. These are a bit crumbly at first, but firm up as they cool.



Gluten-free Sourdough Cranberry-Walnut Bread

This soured quick bread is just sweet enough and includes festive mix-ins like cranberries, walnuts, and cinnamon. Serve it with softened butter and tea.

Ingredients:

- 1½ cups [gluten-free sourdough starter](#)
- ¾ cup milk or cultured dairy
- ¾ cup each white rice, sorghum, and tapioca flours
- 3 tablespoons ground flax seed
- 3 eggs
- ⅔ cup honey
- ½ cup melted butter
- 3 teaspoon vanilla extract
- 1½ teaspoon baking powder
- ¾ teaspoon baking soda
- 2 teaspoons cinnamon
- ¼ teaspoon salt
- 1 cup fresh cranberries, halved

- ½ cup walnuts, chopped

Instructions:

1. In a medium bowl, mix sourdough starter, milk, flours, and flax seed until combined into a stiff dough. Cover and sour 6-12 hours, or overnight.
2. Preheat oven to 400°F.
3. In a small bowl, beat eggs; whisk in honey, melted butter, and vanilla.
4. Sprinkle baking powder, baking soda, cinnamon, and salt over the soured dough. Pour egg-honey mixture over dry ingredients; mix in gently.
5. Add cranberries and walnuts, mixing together until well combined.
6. Divide batter among two buttered loaf pans, filling each up to two-thirds full.
7. Bake 40 minutes or until tops are set, the bottom has browned, and a knife inserted into the center comes out clean.
8. Cool completely before slicing and serving.



Gluten-free Sourdough Skillet Cornbread

Yet another way to enjoy your gluten-free sourdough starter: Delicious cornbread baked in a skillet!

Ingredients:

- 1½ cups organic whole grain cornmeal
- ½ cup [gluten-free sourdough starter](#)
- 1½ cups milk (or cultured dairy)
- Butter for skillet
- 2 eggs
- 1 tablespoon honey
- 2 tablespoons melted butter or bacon grease
- 1 teaspoon salt
- 2 teaspoons gluten-free baking powder

Instructions:

1. In a medium bowl, whisk together cornmeal, sourdough starter, and milk. Cover with a plate or plastic wrap and place in a warm spot for 6 to 8 hours, or overnight, to sour.
2. When ready to bake, preheat oven to 450°F. Grease a 10-inch cast-iron skillet with butter.

3. In a small bowl, beat eggs and whisk in honey and melted butter or bacon grease. Pour this over the soured batter, but do not mix yet.
4. Sprinkle the salt and baking powder over the batter and mix until the dry and wet ingredients are well-combined.
5. Pour batter into prepared skillet and place in preheated oven.
6. Bake 20 to 25 minutes or until a knife comes out clean when inserted into the center of the bread. Allow to cool at least 30 minutes before slicing and serving. Serve with butter and jam.



Gluten-free Sourdough Whole Grain Zucchini Bread

This loaf combines the goodness of sourdough and whole grains with freshly shredded zucchini and honey. It is a lightly-sweetened version of a favorite summer treat.

Ingredients:

- 1½ cups [gluten-free sourdough starter](#)
- ¾ cup milk
- ¾ cup sorghum flour,
- ¾ cup brown rice
- ¾ cup buckwheat flour
- 2 cups (packed) shredded zucchini
- 3 eggs
- ⅔ cup honey
- ½ cup melted butter
- 1 teaspoon vanilla extract
- 1½ teaspoon baking powder
- ¾ teaspoon baking soda
- 1¼ teaspoon salt

- 2 tablespoons cinnamon
- 1 cup chopped walnuts (optional)

Instructions:

1. In a medium bowl, mix sourdough starter, milk, and flours until combined into a stiff dough. Cover and soak 6-12 hours, or overnight.
2. Preheat oven to 400°F.
3. Place shredded zucchini in a clean towel and squeeze as much moisture out as you can.
4. In a small bowl, beat the eggs and whisk in honey, melted butter, and vanilla. Stir in zucchini shreds.
5. Sprinkle the baking powder, baking soda, salt, and cinnamon over the soured dough; add egg-honey mixture and mix in gently until well-combined. Fold in walnuts.
6. Divide the batter between two buttered loaf pans, filling each pan one half to two-thirds full.
7. Place pans in the oven and bake for 40 minutes, or until the tops are set, the bottom has browned, and a knife inserted comes out clean.
8. Cool completely before slicing.



Gluten-free Sourdough Pumpkin Bread

This sweet, spicy bread is the perfect fall treat to enjoy with a cup of hot tea or coffee. Ferment the dough overnight and then mix in the other ingredients for a fermented, perfectly tender pumpkin loaf.

Ingredients:

- 2/3 cup gluten-free sourdough starter
- 1/3 cup sorghum flour
- 1/3 cup tapioca flour
- 1/3 cup sweet white rice flour
- 3/4 teaspoon xanthan gum
- 1 teaspoon baking soda
- 1 Tablespoon pumpkin pie spice
- 1/2 teaspoon salt
- 2 large eggs
- 1 cup granulated sweetener such as sucanat, coconut sugar, or white sugar
- 1/4 cup melted butter or coconut oil
- 1 1/4 cup pumpkin puree

Instructions:

1. Combine the gluten-free sourdough starter, sorghum flour, tapioca flour, and sweet white rice flour in a medium bowl. The dough will be fairly firm so be sure that all of the dry ingredients have been hydrated by the sourdough starter. Once mixed, cover dough tightly and allow to ferment at room temperature for 6-12 hours, or overnight.
2. When ready to bake, preheat the oven to 350 degrees F. Butter an 8 x 5 inch bread pan and set aside. In a small bowl, use a fork to combine the xanthan gum, pumpkin pie spice, and salt.
3. In a separate small bowl, beat the eggs and mix in the sweetener, melted butter, and pumpkin puree.
4. Uncover the fermented dough and pour the egg-pumpkin mixture into the bowl. Use a wooden spoon to partially mix these. Sprinkle the xanthan gum-salt mixture over the dough and finish mixing the dough until completely combined.
5. Pour dough into buttered bread pan and place in preheated oven. Bake 65-70 minutes or until a toothpick comes out clean when inserted into the center of the loaf.
6. Allow to cool in the pan for five minutes and then transfer to a cooling rack. Allow to finish cooling before slicing and serving.



Paleo Gluten-free Sourdough Biscuits

This firm-textured biscuit with rich flavor and just a hint of sourdough tang hits the spot when on a grain-free diet. Ferment them as long as you prefer and then serve them with butter or topped with eggs and sausage.

Ingredients:

- 1 ½ cups almond flour
- 1 cup tapioca flour
- ½ cup coconut flour
- ¾ cup cold butter or palm shortening
- ½ cup coconut milk
- ½ cup gluten-free sourdough starter
- 1.5 teaspoons baking soda
- 1.5 teaspoons salt
- 1 Tablespoon each chia and flax seeds
- 2-4 Tablespoons of water, as needed

Instructions:

1. In a medium bowl, combine the almond flour, tapioca flour, and coconut flour. Mix well with a fork to combine all ingredients. Cut the butter or shortening into small pieces and cut this into the flour mixture using a pastry cutter, fork, or clean hands.
2. Pour in the coconut milk and gluten-free sourdough starter and mix until a firm dough comes together. Knead in the bowl a few times to ensure that all ingredients are incorporated.
3. Cover and allow to ferment for up to 12 hours. *The fermentation time is used only to ferment and break down the flours, the leavening will result from baking soda.*
4. When ready to bake, preheat the oven to 425 degrees F. Butter a baking sheet and set aside.
5. Sprinkle the salt, baking soda, and chia and flax seeds over the fermented dough. Mix these into the dough along with 2 tablespoons of water. Let the dough sit for a couple of minutes and if still crumbly, add 2 more tablespoons of water.
6. Knead the dough a few times just to bring it together. Scoop out 3 tablespoons of the dough and form it into a ball in your hands. Place this on the prepared baking sheet and flatten into a ½ inch tall round. Repeat with remaining dough, filling the single baking tray with all of the biscuits.
7. Place the pan in the preheated oven and bake 10-12 minutes or until golden on the edges and bottom and firm on top.
8. Allow to cool for at least 15 minutes before serving.

Muffins



Basic Gluten-free, Dairy-free Sourdough Muffins

This is a basic gluten-free sourdough muffin that you can experiment with. Because there is no gluten present in the flour there is no danger of over-mixing, as there is with wheat-based muffins.

These also do not need dairy products to turn out well, so if you are in need of a dairy-free recipe, use water or non-dairy milk for the liquid. Experiment with all kinds of flavors and enjoy; without a speck of gluten!

Ingredients:

- 2 cups [gluten-free sourdough starter](#)
- 2 cups brown rice flour
- 1 cup arrowroot starch
- 1 cup water (or milk if not dairy-free)
- 1/2 teaspoon salt
- 1-1/2 teaspoons baking soda
- 1/2 cup sweetener
- 2 eggs

- 1/2 cup melted butter substitute such as coconut oil or palm shortening, (or [butter](#) if not dairy-free)
- 1/2 cup add-ins such as nuts, fruits, etc.

Instructions:

1. 7 to 12 hours before you wish to bake the muffins combine the starter, brown rice flour, arrowroot starch, and water in a medium bowl. Cover and allow to ferment in a warm place overnight.
2. When ready to bake, preheat oven to 425°F. In a medium-size bowl combine egg, sweetener, melted butter, and salt. Whisk to combine.
3. Sprinkle baking soda evenly over fermented dough. Sprinkle over fruits or nuts, if using. Gradually pour liquid ingredients onto dough as you begin to stir in the baking soda. Stir just until combined.
4. Scoop batter into muffin pan until cups are approximately 3/4 full. Bake in pre-heated oven for approximately 20 minutes, or until golden brown and cooked through.
5. Serve with butter, jam, or nut butter.



Gluten-free Sourdough Chocolate Chip Muffins

A light, fluffy muffin warm from the oven, this chocolate chip muffin will remind you of the white flour muffins of your childhood. Best served warm, these can be reheated gently at a low temperature in the oven the next day.

Ingredients:

- 1 cup [gluten-free sourdough starter](#)
- 1/2 cup milk or cultured dairy
- 1/2 cup each white rice, sorghum, and tapioca flours
- 2 tablespoons ground flax seed
- 2 eggs
- 1/3 cup honey
- 1/3 cup melted butter
- 1 teaspoon vanilla extract
- 1 teaspoon baking powder
- 1/2 teaspoon baking soda
- 3/4 teaspoon salt
- 1/2 cup chocolate chips

Instructions:

1. In a medium bowl, mix sourdough starter, milk, flours, and flax seed until combined into a stiff dough. Cover and allow to sour 6 to 12 hours, or overnight.
2. When ready to bake, preheat oven to 400°F.
3. In a small bowl, beat the eggs and whisk in honey, melted butter, and vanilla.
4. Sprinkle the baking powder, baking soda, and salt over the soured dough. Pour the egg-honey mixture over this and mix in gently.
5. Add the chocolate chips, and finish mixing everything together until well-combined.
6. Divide the batter among twelve prepared muffin cups, filling them each nearly full.
7. Place muffin tin in the oven and bake for 20 minutes, or until the tops are set, the bottom has browned, and a knife inserted comes out clean. Remove and allow to cool for at least 15 minutes before serving.



Gluten-free Sourdough Whole Grain Morning Glory Muffins

This recipe is as wholesome as a muffin gets. Soured whole grain flours come together with carrots, nuts, raisins, and orange to create a delicious and hearty breakfast muffin.

Ingredients:

- 1 cup [gluten-free sourdough starter](#)
- 1/2 cup milk or cultured milk
- 1/2 cup each sorghum flour, brown rice, and buckwheat flour
- 2 eggs
- 1/3 cup honey
- 1/3 cup melted butter
- 1 cup (packed) fresh shredded carrots
- Zest of 1 orange
- 1 teaspoon baking powder
- 1/2 teaspoon baking soda
- 3/4 teaspoon salt
- 1-1/2 teaspoons cinnamon
- 1/4 cup walnuts (optional)
- 1/4 cup raisins (optional)

Instructions:

1. In a medium bowl, mix sourdough starter, milk, and flours until combined into a stiff dough. Cover and allow to sour 6 to 12 hours, or overnight.
2. When ready to bake, preheat oven to 400°F. In a small bowl, beat the eggs and whisk in honey and melted butter. Stir in carrot shreds and orange zest.
3. Sprinkle the baking powder, baking soda, salt, and cinnamon over the soured dough. Pour the egg-honey mixture over this and mix in gently.
4. Add the walnuts and raisins and finish mixing everything together until well combined.
5. Scoop the muffin batter into prepared muffin cups, buttered or papered. Fill them almost entirely full, dividing the batter among a dozen cups.
6. Place muffin pan in the oven and bake for 20 minutes, or until the tops are set and a knife inserted into a muffin comes out clean. Remove and allow to cool for at least 15 minutes before serving.



Gluten-free Sourdough Chili-cheese Muffins

These gluten-free muffins are rich in the flavor department, thanks to the addition of chopped green chilies and pepper jack cheese. Try them alongside your favorite chili or any other Southwestern main dish. You may want to double the recipe because they will get gobbled up quickly.

Ingredients:

- 1/2 cup fresh [gluten-free sourdough starter](#)
- 1/2 cup [cultured buttermilk](#)
- 1 cup corn flour or [sprouted corn flour](#)
- 1 egg
- 1 teaspoon salt
- 1 teaspoon baking soda
- 3 tablespoons [butter](#), melted
- 2 tablespoons grade B maple syrup, (or honey)
- 1 (4-ounce) can diced green chilies, drained
- 1 cup grated pepper jack cheese

Directions:

In a large bowl, mix together gluten-free starter, buttermilk, and egg. Stir in melted butter and maple syrup. Add corn flour, salt, and baking soda. Stir to combine. Fold in cheese and chilies.

Spoon batter into 12 lined muffin cups. Bake at 375°F for 15 to 20 minutes, until tops spring back when touched and are golden brown. Serve hot or warm with additional butter.



Gluten-free Sourdough Millet-Corn Muffins

Free of gluten and full of flavor, these muffins are wholesome and delicious. Spread them with butter and serve next to a pot of soup or as an accompaniment to eggs for breakfast.

Ingredients:

- 1-1/2 cup millet flour
- 3/4 cup cornmeal
- 1/2 cup fresh [gluten-free sourdough starter](#)
- 1 cup cultured milk
- 2 eggs
- 6 tablespoons melted butter
- 1/4 cup honey
- 3 tablespoons molasses
- 1/2 teaspoon cinnamon
- 1/2 teaspoon baking soda
- 2 teaspoons baking powder
- 1/2 teaspoon sea salt

Instructions:

1. 12 to 24 hours before you wish to bake the muffins whisk together flours in a medium bowl. Add sourdough starter and cultured milk and mix just until combined. Cover and place in a warm spot for 12 to 24 hours.
2. When you are ready to bake, preheat the oven to 375°F and butter a 12-cup muffin tin. In a small bowl whisk together the cinnamon, baking soda, baking powder, and salt. In a separate small bowl, beat eggs, then whisk in honey, molasses, and melted butter.
3. Sprinkle the dry ingredients evenly over the sourdough batter. Now slowly pour in butter-egg-honey mixture with one hand while mixing with the other. Stir just until all of the ingredients are incorporated.
4. Spoon batter up to the rim of the baking cups. Place tin in oven and bake at 375°F for 20 to 30 minutes or until a toothpick comes out clean when inserted.



Gluten-free Sourdough Oat English Muffins

These English muffins have a nice sour tang and are full of “nooks and crannies” to hold your favorite toppings. If you use the oven technique they will have a dome that you can trim off for the characteristic flat shape. They can also be cooked in the traditional way, a griddle, but you will need to finish them in the oven to make sure they cook thoroughly without the surfaces getting too dark. Because they are made without any gums or additional starches they will be a bit more crumbly than traditional wheat muffins. Toast them and top them with a slice of organic ham, a pastured poached egg, and some [enzyme-rich Hollandaise sauce](#) for a nutrient-dense breakfast fit for a king.

Ingredients:

- 1½ cups freshly prepared [gluten-free sourdough starter](#)
- 1 cup water
- 2 cups gluten-free oat flour
- 1 egg
- ¼ cup butter (softened) or lard
- 1 teaspoon baking powder
- ½ teaspoon baking soda
- 1 teaspoon salt

Instructions:

1. Mix gluten-free starter, water, and oat flour together. Cover loosely and let sit at room temperature 4 to 6 hours or overnight.
2. When ready to cook, stir in egg, butter, baking powder, baking soda, and salt. Batter will be thick, but spreadable.
3. Oven technique: Place six large (4-inch diameter) buttered English muffin rings on a baking sheet lined with parchment paper. Spread batter in rings, filling about $\frac{2}{3}$ full. Bake at 350°F for 20 to 25 minutes. Remove from oven, loosen muffins from rings, and cool on a wire rack. Split each muffin in half and toast.
4. Griddle technique: Place six large (4-inch diameter) buttered English muffin rings on a griddle heated to 275°F (low). Cook 10 minutes, until top is barely set and bottom surface is nicely browned. Flip over and cook an additional 10 minutes. Remove muffins from rings and transfer to a 300°F oven for 10 more minutes to cook through completely. Let cool before splitting in half.

Note: These are best served fresh within a day or so of when they are made. As with many gluten-free products, the texture becomes crumbly the longer they age, especially if they have been frozen first.



Gluten-Free Sourdough Buckwheat English Muffins

This skillet bread is a hearty gluten-free, whole grain breakfast bread perfect for making egg sandwiches. It is more nutty than its store-bought wheat counterpart, but still delicious when split, toasted, and buttered.

The batter should be handled delicately, as the initial rise is the only leavening used to create the nooks and crannies. Try not to deflate batter when scooping or gently spreading into rings.

Ingredients:

- ½ cup [gluten-free sourdough starter](#)
- 1 cup buckwheat flour
- ¾ cup millet flour
- 2 eggs
- 1½ teaspoons xanthan gum
- 2 tablespoons honey
- 1 cup milk
- ¼ cup melted butter
- 1 teaspoon [sea salt](#)
- butter for greasing rings

- cornmeal for dusting rings

Instructions:

1. In a medium bowl combine all ingredients and mix well with a wooden spoon for 3-5 minutes.
2. Cover and let rise until doubled in size, approximately 4-6 hours in warm temperatures, or overnight in cooler temperatures.
3. When batter has risen, preheat a griddle or a large skillet over very low heat.
4. Grease English muffin rings* with butter and sprinkle all the way around with cornmeal.
5. Once the pan has heated, place the rings in the pan, sprinkle a bit of cornmeal into the bottom of each one and carefully scoop $\frac{1}{2}$ cup batter from the bowl and into the bottom of each ring.
6. Carefully spread the batter with the back of your scoop, to mostly fill the bottom of the rings.
7. Cook about 8 minutes. Check the bottom by lifting with a spatula. If the color is turning darker, continue to cook as is. If it is too dark, turn the heat lower. If it is still pale, turn the heat up slightly.
8. Continue to cook for 8 minutes more. Remove rings carefully. If rings cannot be easily removed, flip muffin and try again.
9. Cook an additional 16 minutes on the other side. Check that cooking is complete by either splitting muffin or inserting a cooking thermometer into the side and into the middle. It should read 180-200°F.

Makes approximately 8 large English muffins

*If English muffin rings are not available, use a clean tuna can with the bottom cut out.

Breads, Rolls, & Loaves



Gluten-free Sourdough Hamburger Buns

These hamburger buns are a spin-off of a dinner roll recipe, but work really well as the bookends to the perfect burger (or sandwich). Butter them and toast them, once split, for a delicious gluten-free burger.

Ingredients:

- 2 eggs
- 1 $\frac{2}{3}$ cup water
- $\frac{1}{4}$ cup melted butter
- $\frac{1}{4}$ cup honey
- $\frac{2}{3}$ cup [gluten-free sourdough starter](#)
- 1 cup white rice flour
- 1 $\frac{1}{4}$ cups sorghum flour
- 1 cup tapioca flour
- 1 tablespoons xanthan gum
- 1 tablespoon baking powder
- Sesame seeds (optional)

Instructions:

1. Beat eggs in a large mixing bowl; add water, melted butter, honey, and gluten-free sourdough starter. Mix until all wet ingredients are completely combined.
2. Add rice flour, sorghum flour, tapioca flour, xanthan gum, and baking powder, in that order. Mix in the flours until everything looks combined, then beat by hand or with a hand-held mixer for at least five minutes, to allow the xanthan gum to fully bind with the other ingredients.
3. Generously butter a baking sheet. Scoop out ½ cup of dough at a time and place on buttered baking sheet, leaving at least 1½ inches between each bun. Fill the baking sheet, and if needed butter and fill a second one.
4. Fill a small bowl with water. Smooth out the tops of the rolls with clean fingertips, moistening them in the water as needed to keep from sticking.
5. Once shaped as desired, sprinkle the tops with sesame seeds, very lightly pressing them into the dough.
6. Cover the buns loosely with a damp towel, propping it up with small cups between the buns if needed. Place in a warm spot to rise for 6-8 hours, or overnight.
7. When ready to bake, preheat oven to 375°F.
8. Bake buns 20 minutes or until set on top and golden brown on bottom. Transfer immediately to cooling rack. Serve warm with burgers, or cool and eat as sandwich buns.

Buns will be good for eating for 2-3 days after baking. Store in a closed container.



Light and Fluffy Gluten-free Sourdough Dinner Rolls

These are the rolls you serve for holiday dinners. They aren't a whole grain bread, but they are deliciously light and oh-so-close to the wheat-based dinner rolls you probably ate growing up. Mix them up the night before for breakfast, or start them in the morning to rise for that special evening meal.

Ingredients:

- 2 eggs
- 1-2/3 cup water
- 1/4 cup melted butter
- 1/4 cup honey
- 2/3 cup [gluten-free sourdough starter](#)
- 1-1/4 cups white rice flour
- 1 cup millet flour
- 1 cup tapioca flour
- 1-1/2 tablespoons xanthan gum
- 1 tablespoon baking powder

Instructions:

1. Beat eggs in a large mixing bowl, then add the water, melted butter, honey, and gluten-free sourdough starter. Mix until all wet ingredients are completely combined.
2. Add the rice flour, millet flour, tapioca flour, xanthan gum, and baking powder, in that order. Mix in the flours until everything looks combined then beat by hand or with a hand-held mixer for at least five minutes. This mixing time allows the xanthan gum to fully bind with the other ingredients.
3. Generously butter two baking sheets. Scoop out 1/4 to 1/3 cup of dough at a time and place on a buttered baking sheet, leaving at least 1 inch space between each one. Fill the baking sheets then prepare to shape the tops of the rolls by gathering a small bowl of water. Smooth out the tops of the rolls with your fingertips, moistening them in the water as needed to keep from sticking.
4. Once shaped as desired, get a sharp steak knife and a bit of tapioca flour. Dip the knife in the flour and cut a small slash at the top of each roll, dipping the knife in the flour before each slash.
5. Cover the rolls loosely with a damp towel, propping it up with small cups between the rolls if needed. Place in a warm spot and allow to rise for 6 to 8 hours, or overnight.
6. When ready to bake, preheat oven to 375°F and bake for 20 minutes or until set on top and golden brown on bottom. Transfer immediately to cooling rack. Serve warm with lots of butter.



Gluten-Free Brown Rice Sourdough Bread

Ingredients:

- 1/2 cup fresh [gluten-free sourdough starter](#) (see step 1 of the instructions below)
- 1 cup organic brown rice flour
- 1 cup potato starch
- 1/3 cup + 1 tablespoon buckwheat flour
- 1/3 cup + 1 tablespoon millet flour
- 1/3 cup + 1 tablespoon sorghum flour
- 1 cup lukewarm water
- 3 eggs
- 1 tablespoon molasses
- 1-1/2 tablespoons organic sugar, raw honey, or maple syrup
- 1 teaspoon salt
- 4 tablespoons coconut oil, olive oil, or sunflower oil

Instructions:

1. Prepare the fresh sourdough starter: 8 to 12 hours before making bread, remove 1/2 cup of your gluten-free sourdough starter from the refrigerator. Mix in 1/2 cup organic brown rice flour and

1/2 cup filtered water. Allow the sourdough starter to sit covered for 8 to 12 hours at room temperature (68° to 75°F). Use 1/2 cup of this fresh sourdough starter for the bread recipe and mix the remaining fresh starter back into the master sourdough starter in the fridge. This will feed your master sourdough starter for the week.

2. Allow the eggs to come to room temperature.
3. Melt the coconut oil add it to the warm water and molasses. Be sure the mixture isn't hot: it should be lukewarm.
4. Mix the flours (you should have approximately 3-1/4 cups flour total) with the salt.
5. If using a dry sugar (e.g., granulated sugar) add the sugar to the flour/salt mixture. If using a liquid sugar (e.g., honey, maple syrup), add the sugar to the oil/water/molasses mixture.
6. Whisk the eggs in a separate bowl and then add them to the oil/water/molasses mixture.
7. Mix the brown rice flour sourdough starter into oil/water/molasses mixture.
8. Add the liquid mixture to the dry mixture in parts. Add a little, stir, add a little more, stir until all the liquid mixture is incorporated into the dry mixture. Be sure to mix very well.
9. Grease your bread pan. (Coconut oil works well for this.) Pour the mixture into the bread pan. Be sure not to overfill the pan.
10. Allow the dough to rise in a warm location (a bit warmer than room temperature if possible). Keep in mind that dough made with sourdough as the leavening agent will rise more slowly than dough made with commercial yeast. Allow 4+ hours for the dough to rise. (For the first hour or two, it may not seem like the dough is rising.)
11. Preheat your oven to 350°F. Bake the bread for approximately 40 minutes.
12. Remove the bread from the oven and from the pan. Cool upside down on a wire rack for at least an hour.



Gluten-free Sourdough French Bread

This bread is chewy on the inside and crunchy on the outside, and makes a great loaf to pull apart and serve at the table with butter.

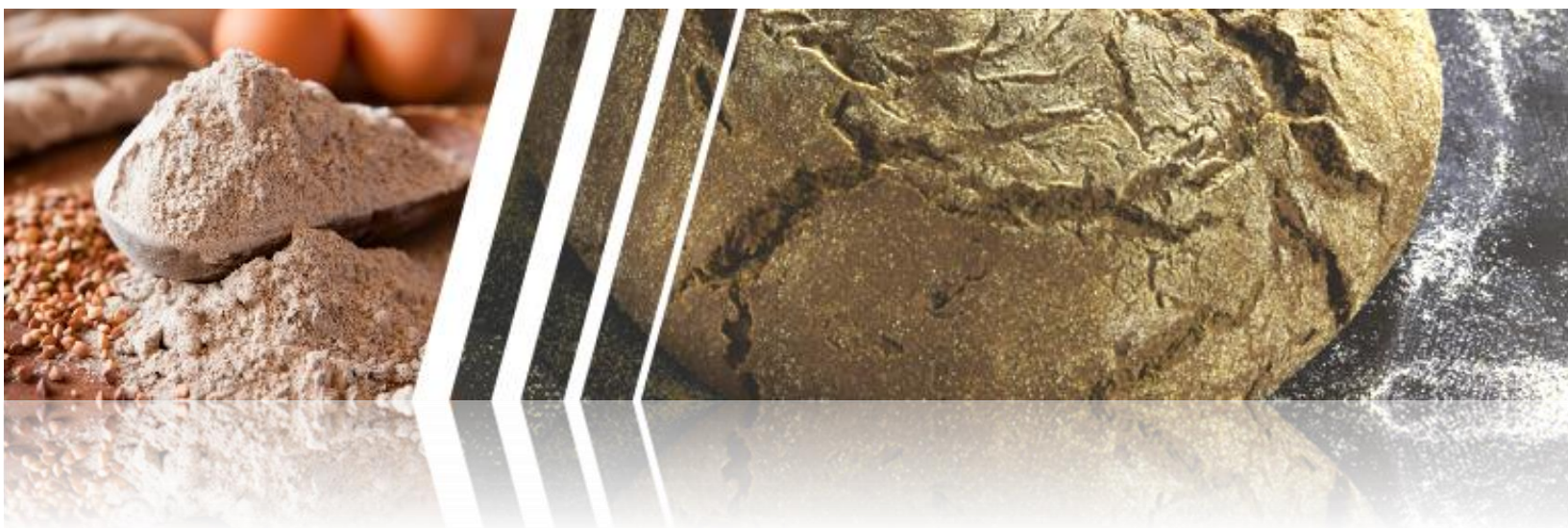
Ingredients:

- 1-3/4 cup tapioca starch
- 1 cup sorghum flour
- 1 tablespoon xanthan gum
- 1 teaspoon salt
- 1 cup [gluten-free sourdough starter](#)
- 3/4 cup warm milk
- 1 tablespoon honey
- 1 tablespoon olive oil
- 1 jumbo egg, beaten

Instructions:

1. Whisk tapioca starch, sorghum flour, xanthan gum, and salt together in a large mixing bowl.

2. Mix in sourdough starter, milk, honey, oil, and beaten egg. Beat the batter together for 7 minutes using a large wooden spoon. Alternatively, you can blend all ingredients in a stand mixer and beat with the paddle attachment for five minutes.
3. Generously butter a baking sheet. Divide dough into two parts. Prepare a small bowl of water for moistening your hands as needed in working with the sticky dough. Use your hands to scoop half of dough and form it into a 14-inch log. It should end up 2 to 3 inches wide and a little over 1 inch high. Repeat with the second half of the dough.
4. Use a sharp knife to cut diagonal slashes on the log every 1-1/2 inches. Place a damp towel over dough very gently and let rise in a warm place for 6 to 8 hours, or overnight. Dough may or may not rise significantly. There will be a significant rise in the oven, so do not worry.
5. Preheat oven to 425°F. When hot, place bread in oven and bake for 30 to 35 minutes or until internal temperature reads at least 190°F.
6. Remove from oven and transfer to cooling rack after a few minutes. Allow to cool at least 10 minutes before serving.



Gluten-free Sourdough Whole Grain Boule

This bread could be served to your gluten-free family every day of the week. It is made with hearty buckwheat and sorghum flours and uses no gums. The psyllium husks used as a binder allow the dough to be kneaded and shaped much like wheat bread. Mix the dough the night before and have fresh bread the next day.

Ingredients:

- 1½ cups water
- 1 cup active [gluten-free sourdough starter](#)
- 2 tablespoons melted butter
- 3 tablespoons honey
- 3 eggs
- 2 tablespoons ground flax seed
- ⅓ cup psyllium seed husk
- 1 cup buckwheat flour
- 1 cup sorghum flour
- ¾ cup tapioca flour
- 1½ teaspoons sea salt

Instructions:

1. Whisk together the water, gluten-free sourdough starter, melted butter, honey, and eggs until everything is well-combined. Mix in the flax seed and the psyllium seed husk and allow to sit for 2 to 3 minutes to set up.
2. Add the flours and sea salt and mix well with a wooden spoon for several minutes. The dough should be sticky and wet, and therefore hard to mix, but will hydrate more through the souring process. Cover bowl with a plate or damp towel and allow to sour for 8-18 hours, or overnight.
3. When ready to bake, prepare a baking sheet by buttering or applying parchment paper.
4. Divide dough in two and sprinkle a work surface with tapioca flour. Place one ball of dough on work surface and knead for several minutes, adding an additional $\frac{1}{4}$ to $\frac{1}{2}$ cup of flour as needed to keep dough from sticking. Despite this, the dough will still be very soft.
5. Once dough holds together in one cohesive ball, mold it into a round and place it on one half of the baking sheet. Repeat with other half. Cut three parallel slashes into tops of dough with a sharp knife. Let rise in a warm place for 2-4 hours.
6. Preheat oven to 400°F. Place baking pan in middle rack of oven and bake 25-30 minutes or until an internal temperature of 190°F is reached.
7. Move immediately to a cooling rack and cool at least 45 minutes before slicing.



Gluten-free Sourdough Monkey Bread

This sweet and buttery classic gets remade with a gluten-free sourdough bread. Sweetened with honey and spiced generously with cinnamon, this tasty dish is a perfect make-ahead breakfast for a busy morning.

Dough Ingredients:

- 2 eggs
- $\frac{2}{3}$ cup warm water
- $\frac{1}{2}$ cup melted butter
- $\frac{1}{3}$ cup honey
- $\frac{2}{3}$ cup [gluten-free sourdough starter](#)
- 2 teaspoons vanilla extract
- $1\frac{1}{4}$ cups oat flour
- 1 cup millet flour
- 1 cup tapioca starch
- 2 teaspoons [sea salt](#)
- 1 tablespoon xanthan gum

Topping Ingredients:

- 1 cup butter
- ½ cup honey
- 1 tablespoon cinnamon
- ¼ cup chopped nuts, optional

Instructions:

1. Beat eggs in a large mixing bowl, then add the water, melted butter, honey, gluten-free sourdough starter, and vanilla extract. Mix until all wet ingredients are completely combined.
2. Add the oat flour, millet flour, tapioca starch, sea salt, and xanthan gum. Mix in the flours until everything looks combined and then beat by hand or with a hand-held mixer for at least five minutes, to allow the xanthan gum to fully bind with the other ingredients.
3. Generously butter a 9x13-inch pan. Scoop 1-2 tablespoons of dough at a time into the bottom of the pan so that each ball of dough barely touches.
4. Add honey to melted butter and remove from heat. Whisk in cinnamon until everything is combined. Drizzle butter mixture evenly over the dough and sprinkle with nuts. Cover with plastic wrap or other tight-fitting lid and ferment overnight.
5. In the morning, preheat oven to 350°F. Remove plastic wrap or other tight-fitting lid and place in preheated oven.
6. Bake 10-15 minutes or until dough is just set. Cool for several minutes before serving.



Gluten-free Sourdough Skillet Garlic Bread

Warm and doughy on the inside, crunchy and buttery on the outside, this garlic bread is an amazing gluten-free treat. This is a great way to use up that second loaf of gluten-free sourdough French bread when it's just not quite as good the second day.

Ingredients:

- 1 loaf [gluten-free sourdough French bread](#)
- 4 to 6 tablespoons butter
- 2 garlic cloves, peeled
- Sea salt to taste
- Garlic powder

Instructions:

1. Place a 12-inch cast-iron skillet over medium heat and allow to heat up. Carefully cut French bread into two long, horizontal pieces. Cut these in half again so that you have four skinny pieces of French bread, each with a crust on one side.
2. Place these cut-side down in the hot skillet. Let toast 3 to 4 minutes or just until they begin to warm and toast around the edges. Cut the stem from the garlic clove, revealing a thick open

piece of garlic. Rub the cut side of the bread with the exposed garlic until it melts into the warm bread. Repeat with the second garlic clove as necessary.

3. Place the butter in the skillet and place the bread back into the skillet, crust-side down. Allow to toast and brown up on the crust side, then flip to the cut side. Brown in the butter, moving the pieces of bread around to evenly distribute the butter. Once golden brown and buttery, move to a plate with the cut side up.
4. If any butter remains in the pan, carefully drizzle this over the cut side of the bread.
5. Sprinkle bread with sea salt and additional garlic powder, if desired. Serve warm.



Hearty Gluten-free, Gum-free Sourdough Loaf

This loaf of gluten-free sourdough bread is hearty, like a whole grain wheat bread. It is delicious sliced thick, spread with butter, and served alongside soup. Instead of gums, this recipe utilizes eggs and freshly ground flax seed as the binders. This creates a nice loaf that holds together while retaining a hearty whole grain texture.

Ingredients:

- 3 eggs
- 1 cup milk
- 1-1/2 teaspoons coarse sea salt
- 1 cup fresh [gluten-free sourdough starter](#)
- 3/4 cup ground flax seed
- 1 cup millet flour
- 1/2 cup oat flour
- 3/4 cup potato starch

Instructions:

1. In a large mixing bowl, beat eggs. Mix in milk, salt, starter, flax seed, and flours until completely blended. The dough will be stretchy and sticky and will not require kneading.
2. Transfer to a small, buttered loaf pan and cover with plastic wrap. Place in a warm place to rise for 6 to 8 hours, depending on the temperature.
3. Once bread has risen to the top of the pan, preheat oven to 425°F degrees.
4. Bake for 40 to 45 minutes, or until the internal temperature reaches 190°F. Remove from pan and allow to cool on rack completely before slicing.



Gluten-free Garlic and Herb Sourdough Focaccia

Focaccia is an Italian flat bread, generally flavored with herbs and seasonings. This version is gluten-free. If you start on the dough first thing in the morning, by dinner time you will have fresh, flavorful bread.

Ingredients:

- 1/3 cup psyllium husks
- 1-1/4 cups water
- 2 eggs
- 3 tablespoons olive oil
- 1 tablespoon honey
- 1-1/2 cups [gluten-free sourdough starter](#)
- 1 teaspoon garlic powder
- 1-1/2 teaspoons sea salt
- 1 teaspoon dried oregano
- 1/2 cup brown rice flour
- 3/4 cup sorghum flour
- 1-1/2 cups tapioca flour

- Cornmeal for the baking sheet
- Additional garlic powder, sea salt, herbs, and olive oil for baking

Instructions:

1. In a 2-cup measuring vessel whisk the psyllium into the water. Set aside.
2. In a large mixing bowl, beat the eggs then whisk in the olive oil, honey, and sourdough starter. Mix in the psyllium-water mixture, which should now be a gel. Blend until all liquid ingredients are incorporated.
3. Add the garlic powder, sea salt, oregano, brown rice flour, sorghum flour, and tapioca flour to the wet ingredients and stir to combine using a wooden spoon or your hands as needed. The dough should be quite sticky. Continue to mix it for several minutes until it seems well incorporated.
4. Cover dough and let rest and rise for at least four hours.
5. Butter a rimmed baking sheet and sprinkle generously with cornmeal.
6. Now, knead the dough, adding additional tapioca flour as needed (up to 1/2 cup) until the dough is still sticky, but more a soft dough than a batter.
7. Place dough in prepared baking sheet and press dough out using the tips of your fingers. If the dough is too sticky, keep a bowl of water nearby and moisten fingers as needed to keep them from sticking to the dough. Press the dough all the way to the edges of the pan and try to make it as even as possible.
8. At this point you can make small divots all over the dough if they aren't there already. Cover loosely with a damp towel and allow to rise for 2 to 4 hours.
9. Once ready to bake, preheat oven to 375°F. Remove towel from dough and drizzle olive oil generously over the top of the bread. Sprinkle with additional garlic powder, sea salt, and herbs if desired.
10. Place pan in preheated oven and bake 30 to 35 minutes, or until firm and golden brown. Allow to cool for a few minutes before transferring very carefully to a cooling rack. Slice and serve.



Everyday Gluten-free Sourdough Sandwich Bread

Soft and fluffy, this is the gluten-free bread you'll want to fill with meats and cheeses, then pack in your kids' lunches. It makes a lovely toast for breakfast as well!

Ingredients:

- 1 cup gluten-free sourdough starter
- 2 large eggs
- 4 Tablespoons melted butter, cooled
- 1 $\frac{1}{4}$ cups whole milk
- 2 Tablespoons honey
- $\frac{3}{4}$ cup sorghum flour
- $\frac{1}{2}$ cup brown rice flour
- $\frac{3}{4}$ cup tapioca starch
- $\frac{1}{2}$ cup potato starch
- 1 Tablespoon xanthan gum
- 1 Tablespoon baking powder
- 2 teaspoons salt

Instructions:

1. In a large bowl, whisk together the gluten-free sourdough starter, eggs, melted butter, whole milk, and honey. In a separate bowl, whisk together the flours, starches, xanthan gum, baking powder, and salt.
2. Add the dry ingredients to the wet ingredients and mix to combine. Once combined, beat the dough with a mixer for three minutes or by hand for five minutes. Smooth out the surface of the dough using wet hands to form a smooth surface.
3. Oil the top of the dough, cover tightly with plastic wrap or a tight-fitting lid, and allow to ferment for 4-12 hours, or overnight.
4. Prepare a 9 x 5 inch baking pan by buttering sides generously and then sprinkling on gluten-free flour of choice. Scrape the dough (it is more batter-like than bread dough-like) into the prepared pan. Push down and smooth out dough, using moistened fingers, to distribute the dough evenly. Smooth out the top, and remove any residual air bubbles from the first rise.
5. Oil top of dough and cover loosely with plastic wrap. Allow to rise just until it just reaches the top of the pan, about 30 – 90 minutes. When the bread approaches the top of the pan, preheat the oven to 400 degrees F.
6. Remove the plastic wrap and place risen bread on middle rack of oven. Immediately turn oven temperature down to 350 degrees F. Bake 45 – 55 minutes, or until a thermometer reaches 200 degrees F when inserted into the middle of the loaf.
7. Allow loaf to cool for five minutes before transferring to cooling rack. If loaf sticks at all, run a butter knife around the edge of the pan to loosen it.
8. Cool completely before slicing and serving.



Paleo Gluten-free Sandwich Bread

Flexible enough for any sandwich, this bread is slightly chewy and surprisingly delicious. Cut thin slices of this dense bread to make paleo sandwiches or breakfast toast.

Ingredients:

Pre-ferment

- 1/2 cup almond flour
- 1/3 cup tapioca starch
- 2 Tablespoons coconut flour
- ¼ cup gluten-free sourdough starter
- 1/2 cup water

Final Dough

- 1 cup almond flour
- 1 cup tapioca flour
- 1/2 cup coconut flour
- 1/4 cup psyllium husk
- Pre-ferment mixture

- 3 eggs
- 3/4 cup water
- 1/4 cup coconut oil
- 2 Tablespoons honey
- 1 3/4 teaspoons salt
- 1 teaspoon baking soda

Instructions:

1. In a medium bowl, combine all of the ingredients in the pre-ferment until a thin batter is formed. Cover and allow to ferment for 4-12 hours, depending on preference.
2. Add all other ingredients to pre-ferment and mix well to combine. The dough will get stiff and you may need to use your hands to knead it in the bowl a few times to make sure it comes together.
3. Grease a 9x5 inch bread pan and evenly distribute 2 tablespoons of tapioca flour over the greased pan.
4. Smooth out the top of the dough and cover with plastic wrap. Allow to rise for 2-4 hours, or until it reaches 1/2 inch above the edge of the pan.
5. Preheat oven to 350 degrees F. Once the oven is hot, place the pan on the middle rack of the oven and bake for 40-50 minutes or until it reaches an internal temperature of 200 degrees F.
6. Remove from oven and carefully transfer to a cooling rack. Allow to cool completely before slicing. Bread may fall a bit after cooling which is common when psyllium is used as a binder.

Once cooled, bread can be stored for several days at room temperature. If a longer storage time is preferred, freeze and thaw slices as needed.



Gluten-free Sourdough Vegan Whole-Grain Sandwich Bread

With a flexible texture and a sturdy structure, this bread is perfect for slicing and toasting for breakfast or making hearty sandwiches for lunch. It is also vegan and made without the use of gums.

Ingredients:

- 1 cup milk of choice (almond, coconut, soy, etc.)
- 2 Tablespoons coconut sugar
- 1/4 cup water
- 1.5 cups gluten-free sourdough starter
- 3 Tablespoons psyllium
- 3 Tablespoons flax
- 3 Tablespoons oil plus more for greasing the pan
- 3/4 cup sorghum flour
- 3/4 cup certified gluten-free oat flour
- 1/2 cup tapioca starch
- 1/2 cup potato starch
- 1.5 teaspoons baking soda
- 1.5 teaspoons salt

Instructions:

1. In a large bowl, combine the milk, coconut sugar, water, gluten-free sourdough starter, psyllium, flax, and oil. Whisk very well to dissolve the psyllium and flax and set aside for 3-5 minutes. Meanwhile, in a smaller bowl, whisk together the flours, starches, baking soda, and salt.
2. Grease an 8.5 x 4.5 inch bread pan.
3. Add the dry ingredients to the wet ingredients and mix well until a soft dough forms. Mix thoroughly and carefully transfer the dough to the prepared bread pan. Gently smooth out the surface and press the dough into the pan to ensure there are no major gaps.
4. Oil the surface of the dough and cover gently with plastic wrap. Place dough in a warm spot in your kitchen and allow to rise for 3-6 hours, or until it has risen to approximately ½ inch above the pan at its peak.
5. Preheat the oven to 400 degrees F. Remove the plastic wrap and place the loaf into the preheated oven on the middle rack. Close the oven and immediately turn it down to 350 degrees F.
6. Bake the bread for 50-60 minutes, or until it reaches an internal temperature of 200 degrees F and bread is golden brown on both the bottom and top crusts. Allow bread to cool in the pan for 5-10 minutes before carefully removing it from the pan and placing it onto a cooling rack. If sticking occurs, run a butter knife around the edge of the bread to loosen it from the side of the pan.
7. Allow bread to cool completely on cooling rack before slicing.

Shelf Life and Storage Information: This bread works well as a soft sandwich bread or toast for the first 3 days of storage. For longer storage, it is best to slice and store bread in the freezer.

Breakfast Recipes



Gluten-free Sourdough Buckwheat Pancakes

These pancakes are perfect for those who eat a gluten-free diet. A dash of cinnamon plays nicely off of the nutty flavor of the buckwheat.

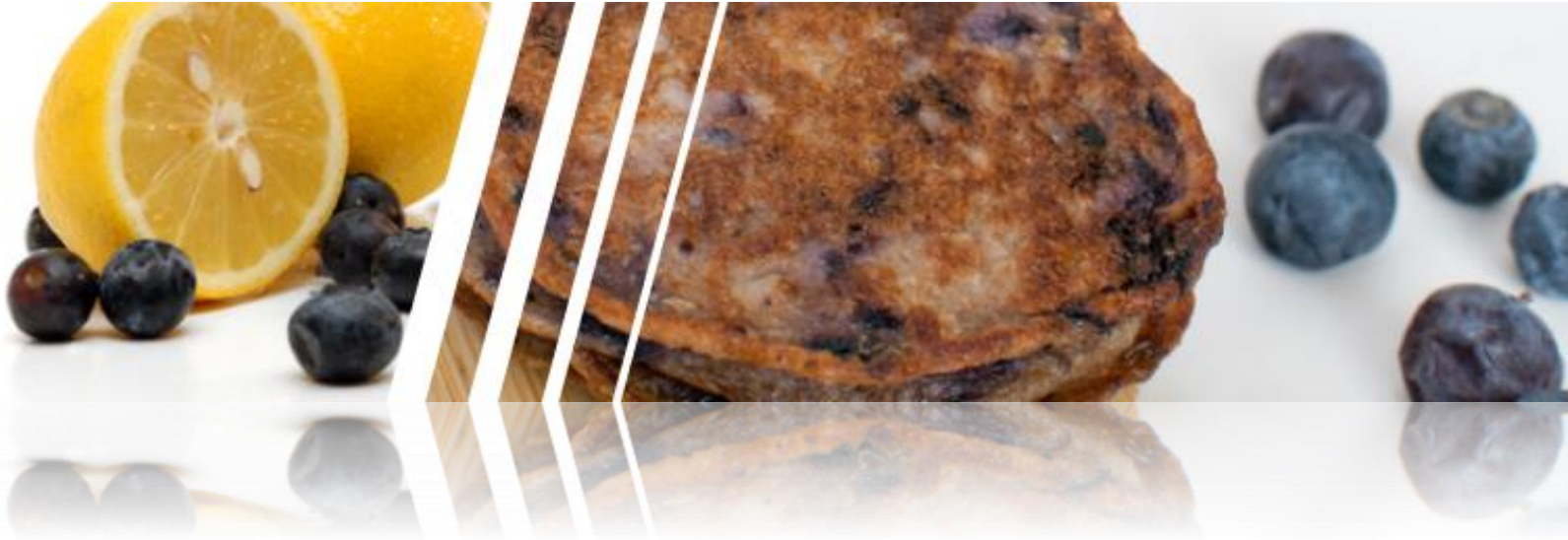
Ingredients:

- 1¼ cups whole-grain buckwheat flour
- 1 cup milk, [yogurt](#), [kefir](#), or [cultured buttermilk](#)
- ½ cup [gluten-free sourdough starter](#)
- 2 eggs, lightly beaten
- ½ teaspoon salt
- ¾ teaspoon baking soda
- 1 teaspoon ground cinnamon
- Butter for frying

Instructions:

1. Combine flour, milk, and sourdough starter in a medium bowl. Cover and soak overnight.

2. In the morning beat eggs in a small bowl. Sprinkle salt, baking soda, and cinnamon over the flour mixture.
3. Slowly pour beaten eggs into fermented dough and mix until just combined.
4. Fry in ¼-cup quantities on a hot, greased griddle until bubbles form and the edges begin to set up. Flip and cook 2-3 minutes more.



Gluten-free Lemon-Blueberry Sourdough Pancakes

If you don't tell, no one will know these pancakes are both gluten-free and dairy-free. They also have no added starches or gums, like many of the prepared pancake mixes. You can use different kinds of gluten-free flours: rice, sorghum, millet, oat, or a blend of flours if you like. Be sure to start this recipe the night before you want to use it since the flours should soak overnight. The soaked flour mixture will be very thick before adding in the rest of the ingredients. If it is not very thick the batter will be too runny by the end of mixing.

Ingredients:

- 1 cup fresh, active [gluten-free sourdough starter](#)
- 1 cup water
- 1-1/2 cups gluten-free flour of your choice
- 2 large pastured eggs (or 3 small eggs)
- Finely grated zest of 1 large lemon or 2 small lemons
- 1 tablespoon gluten-free vanilla extract
- 2 tablespoons raw honey
- 3 tablespoons coconut oil or butter, melted
- 1 teaspoon salt

- 1 teaspoon baking powder
- 1/2 teaspoon baking soda mixed with 1 teaspoon water
- 1-1/2 cup fresh or frozen wild blueberries (the small size of the wild berries makes for better distribution through the batter)
- Additional coconut oil for griddle

Instructions:

1. Mix gluten-free starter, water, and oat flour together in a large bowl. Cover loosely and let sit overnight in a warm spot. (On top of the refrigerator or in a cupboard near a heat source are good options.)
2. In the morning stir in eggs, lemon zest, honey, vanilla, coconut oil (or butter), baking powder, and salt. Blend together thoroughly. Stir in baking soda mixture.
3. Spoon onto a hot, greased griddle (about 350°F) and scatter about 1-1/2 tablespoons of berries over each pancake. Cook until bubbles break on the surface (about 2 minutes). Turn and cook an additional 1 to 2 minutes, until golden brown. Serve hot with honey-lemon syrup, lemon curd, or fermented blueberry sauce. Makes 20 to 24 pancakes.



Easy Overnight Gluten-free Sourdough Waffles

These waffles freeze well. Keep a supply in your freezer for quick weekday breakfasts. Just reheat in a toaster or toaster oven.

Ingredients:

- 1 cup fresh, thick [gluten-free sourdough starter](#)
- ¾ cup water
- 1 cup sprouted rice flour or gluten-free oat flour
- 2 tablespoons maple syrup
- ½ teaspoon baking powder (optional)
- 1 teaspoon salt
- 2 eggs
- 3 tablespoons melted butter or coconut oil
- 1 tablespoon gluten-free vanilla extract
- ½ teaspoon baking soda
- 1 teaspoon water

Instructions:

1. Mix sourdough starter, $\frac{3}{4}$ cup water, and rice or oat flour together and cover loosely. Let sit at room temperature overnight. Mixture will be very thick and bubbly in the morning.
2. In the morning add maple syrup, baking powder (if using), salt, eggs, melted butter, and vanilla to the starter mixture.
3. Stir together until thoroughly combined. Dissolve baking soda in the teaspoon of water and stir into batter. Do not stir any more at this point. Ladle onto a hot waffle iron that has been brushed with coconut oil and cook to desired crispness. Makes about 8-9 waffles.



Gluten-free Sourdough Pancakes from Discarded Starter

This recipe utilizes what some refer to as discarded starter, or the portion of starter you might toss out when feeding your starter. These pancakes are a perfect use for that extra starter.

Coconut flour is listed as an ingredient to create a thicker batter which produces fluffier pancakes. It can be omitted, if desired, but will create thinner pancakes. Alternatively, you can feed your starter with a higher ratio of flour than water the night before to create a very thick starter and proceed with the recipe as written.

Ingredients:

- 2 eggs
- 1-1/2 cups discarded [starter](#) (fed so that it is quite thick)
- Pinch of salt
- 1/2 teaspoon baking soda
- 2 tablespoons coconut flour (optional)

Instructions:

1. Preheat skillet over medium heat.

2. Beat eggs in a medium-size mixing bowl. Whisk in starter, salt, baking soda, and coconut flour, if using.
3. Once the skillet is very hot, ladle in 2 to 3 tablespoons of batter per pancake. Cook until bubbles just start to form and edges are firming up. Carefully flip and cook the other side for a few minutes or until golden brown.
4. Transfer cakes to a platter and keep warm in the oven while you continue cooking up the rest of the batter.



Whole Grain Gluten-free Sourdough Pancakes

These whole grain pancakes are held together nicely through the fermentation of the grain by the sourdough starter as well as the addition of eggs. Particularly hearty and delicious with gluten-free oat flour, these pancakes can really be made with any whole grain gluten-free flour you desire.

Ingredients:

- 2-1/2 cups oat flour, buckwheat flour, millet flour, or other whole grain flour of choice
- 1/2 cup active [gluten-free sourdough starter](#)
- 1 cup milk (coconut or almond for dairy-free)
- 2 eggs, beaten
- 1/4 cup melted butter
- 2 tablespoons honey
- 1 teaspoon vanilla extract (optional)
- 1 teaspoon sea salt
- 1/4 teaspoon baking soda
- 1 teaspoon gluten-free baking powder

Instructions:

1. The night before you wish to serve these pancakes, combine flour, sourdough starter, and milk in a medium-size mixing bowl. The batter should be fairly thick. Cover with a plate or plastic wrap, place in a warm spot, and leave out overnight to sour.
2. In the morning, beat the eggs in a small bowl and whisk in the melted butter, honey, and vanilla (if using). Pour this into the oat flour batter, but do not stir. Sprinkle the salt, baking soda, and baking powder over the batter and stir just until all ingredients are combined.
3. Cook 3- to 4-inch pancakes on a preheated griddle until bubbles begin to form and edges start to set up. Flip and cook 2 to 3 more minutes or until golden brown on both sides.

Serve with butter, syrup, or your favorite toppings.



Gluten-free Sourdough Bagels

These bagels are boiled before baking to help achieve that wonderful chewy inside and crispy crust. Toast and smear with cream cheese or fill with your favorite sandwich fixings for lunch.

Ingredients:

- 1 ¼ cups sorghum flour
- ½ cup sweet rice flour, plus more for shaping the bagels
- ½ cup tapioca flour
- ½ cup potato starch
- ¼ cup millet flour
- 1 Tablespoon xanthan gum
- 2 teaspoons salt
- 1 cup gluten-free sourdough starter
- ¾ cup filtered water
- ¼ cup olive oil
- 2 Tablespoons honey
- 1 ½ Tablespoons baking soda

Instructions:

1. In a large mixing bowl, whisk together the sorghum flour, sweet rice flour, tapioca flour, millet flour, potato starch, xanthan gum, and salt. In a separate, smaller bowl, mix the gluten-free sourdough starter, filtered water, oil, and honey.
2. Add the wet ingredients to the dry and mix well until a soft dough forms. Prepare a bowl of water to moisten your hands while kneading. Moisten your hands with water and knead the dough gently for 3-4 minutes, adding water to your hands as needed to keep the dough from sticking to your hands. Avoid the temptation to add flour to the dough. Excess flour will make the bagel heavier and not rise well.
3. Form dough into a uniform round. Oil top of dough, and cover tightly. Put dough in a warm place to rise for approximately 3 – 4 hours, or until it has expanded slightly. (Please note that it will not double in size.)
4. Line a baking sheet with parchment paper and sprinkle the parchment with sweet rice flour. Knead the dough just a couple of strokes to deflate any air bubbles and make a uniform shape. Divide dough into eight equal pieces.
5. To form the bagels, first sprinkle each piece of dough lightly with sweet rice flour. Form a uniform dough ball and flatten it out slightly to make a cylinder. Use your index finger to poke a hole directly into the center of the cylinder, sprinkling sweet rice flour only as necessary to make the dough workable. Gently widen the hole in the center of the dough by working the dough outward with your thumb and middle finger.
6. Place the bagel on the prepared baking sheet and repeat with remaining dough pieces until you have formed eight bagels.
7. Cover the bagels with plastic wrap and put in a warm place to rise for 1.5 – 2 hours.
8. Preheat the oven to 400 degrees F. Fill a Dutch oven with 3-4 inches of water and place over high heat. Bring water to a rolling boil and then carefully add the baking soda. Note that the water may bubble up a little bit when this is done.
9. Use a slotted spatula to carefully transfer 2-3 of the bagels to the pot of boiling water. Boil the bagels for 35 seconds and then flip and boil an additional 30 seconds. Carefully transfer these back to the prepared baking sheet and repeat with remaining bagels.

10. Once all of the bagels have been boiled, transfer them to the preheated oven and bake for 20 minutes or until they are golden brown and completely cooked through.
11. Allow to cool for several minutes before transferring to a cooling rack. Serve warm or cooled.

Store leftovers in a sealable bag in the freezer.



Sourdough Starter Porridge

This porridge is reminiscent of a cream of grain cereal, but much more adventurous. It could be made with any type of sourdough starter – wheat, rye, or gluten-free. Any grain used will impart its own flavor and texture, as well as the flavor of the sourdough starter itself, so a neglected starter shouldn't be used for this.

For a less tangy flavor, omit 2 cups of the starter and replace with 1 cup each water and flour or coarse grain. Leave to sour overnight or cook immediately with the same ingredients and instructions as the original recipe.

Ingredients:

- 4 cups [sourdough starter](#)
- 3 cups water or milk
- $\frac{3}{4}$ teaspoon salt
- Butter, cream, and sweetener of choice to serve

Instructions:

1. Place sourdough starter, water, and salt in a saucepan over medium heat. Bring to a simmer, stirring occasionally with a wooden spoon or whisk.

2. Turn heat to low and continue to cook, stirring frequently, for approximately five minutes or until it has reached desired thickness.
3. Serve hot with butter, cream, and sweetener of choice.

Serves 4



Gluten-free Sourdough Granola

For a quick, fermented breakfast, this sourdough granola really hits the spot. The oats are fermented while the seeds are soaked and activated. It all comes together to create an easy-to-digest crunchy cereal, plus it's gluten-free!

Ingredients:

- 3 cups thick rolled oats, certified gluten-free
- 1 cup gluten-free sourdough starter
- $\frac{3}{4}$ cups coconut oil, divided
- $\frac{3}{4}$ cups liquid honey, divided
- 1 $\frac{1}{2}$ cups pumpkin seeds
- 1 $\frac{1}{2}$ cups sunflower seeds
- 1 Tablespoon cinnamon
- 2 teaspoons vanilla extract
- 2 teaspoons sea salt

Instructions:

1. Combine rolled oats, gluten-free sourdough starter, ½ cup coconut oil, and ½ cup honey in a medium bowl. Stir well to fully incorporate all ingredients and then press down into bowl. The oats will not be completely saturated in liquid but instead should be moistened by the surrounding ingredients. Cover bowl tightly and place in a warm spot in your kitchen.
2. Allow mixture to ferment for 8-24 hours, depending on preference. A shorter fermentation period will create a barely detectable tang. A full day of fermentation will create a noticeable sourdough flavor.
3. Place the seeds in a medium bowl and cover with 4-6 cups of water, or enough water so that seeds are covered in twice their volume of water. After 8-12 hours of soaking, drain and rinse these. If fermenting the oat mixture longer, return the seeds to the bowl with fresh water and allow them to soak until the oat mixture is done fermenting. In this case, the seeds will just be on the verge of sprouting. Rinse and drain seeds thoroughly when ready to bake granola.
4. When ready to bake, preheat oven to 200 degrees F and line two baking sheets with parchment paper. Break up the fermented oat mixture in the bowl with a fork. It will be slightly crumbly and a bit doughy. Add in the soaked and drained seeds, cinnamon, vanilla extract, sea salt, and remaining ¼ cup of both the coconut oil and honey. Mix all ingredients well to combine.
5. Divide the granola dough between the two pans and spread out the mixture as thinly as possible. Use a spatula to create an even layer.
6. Place granola in the oven for two hours. Remove pans from oven and break up the granola with a spatula. It will still be quite soft so just make sure that you are breaking up any large clumps and spreading it back out to continue to bake evenly.
7. Return the pans to the oven for two more hours. After this baking period is up, remove pans from the oven and check the consistency of the granola. If it is dry and crisp, it is done cooking. If not, return it to the oven and check on it every 30 minutes until it appears done.
8. Allow it to cool completely on the pans before moving to an airtight container for storage.

Note: The granola can be stored at room temperature if it has dried out sufficiently. If the granola is under-baked for any reason, it should be stored in an airtight container in the refrigerator.

Gluten-free Sourdough Dutch Baby Pancake



Also known as an oven pancake or a puffed pancake, this Dutch Baby is the fermented, gluten-free version of a one-pan breakfast. For those mornings when you need something warm, filling, and fermented, this egg-rich pancake is a nice change from Gluten-Free Sourdough Pancakes.

Ingredients:

- $\frac{3}{4}$ cup gluten-free sourdough starter
- $\frac{1}{4}$ cup tapioca flour
- 2 Tablespoons whole milk
- *For dairy-free use 2 Tablespoons coconut milk plus more if needed*
- 3 Tablespoons butter or ghee
- 4 large eggs
- $\frac{1}{4}$ teaspoons sea salt

Instructions:

1. The night before baking, combine the gluten-free sourdough starter, tapioca flour, and milk in a medium bowl. Whisk well to combine and cover tightly. Allow to ferment overnight.

2. In the morning, preheat the oven to 375 degrees F. Place butter (or ghee) in a 10-inch cast-iron skillet to melt and place skillet in preheating oven.
3. Add the eggs and sea salt to fermented sourdough mixture. Whisk well to combine all ingredients. The consistency should be that of a pourable batter, so adjust by adding one tablespoon of milk at a time.
4. Once oven is fully preheated, carefully remove pan from oven. It will be very hot. Carefully pour batter into pan with the melted butter and immediately return to the oven. Bake pancake for 25-30 minutes, or until pancake is puffed and golden brown. The pancake will fall once out of the oven, so bring it to the table immediately.

Serve with syrup, powdered sugar, or other toppings of choice.



Gluten-free Sourdough Crepes

These crepes are a great way to use “discarded” gluten-free sourdough starter. Set your starter to be fed first thing in the morning and wow your family with this recipe for tender, gluten-free crepes that can be filled with sweet or savory fillings.

Ingredients:

- 2 cups gluten-free sourdough starter
- 4 eggs
- 2 Tablespoons melted butter, plus more for cooking
- ¼ teaspoon sea salt

Instructions:

1. Combine the gluten-free sourdough starter, eggs, melted butter, and salt in a medium mixing bowl. Whisk well to completely combine.
2. Preheat a 10 inch cast-iron skillet over medium-low heat. Once hot, add a small sliver of butter to the pan and allow to melt. Ladle approximately 1/3 cup of batter into the pan, or enough to thinly coat the bottom of the pan.

3. Using a hot pad or oven glove, immediately swirl the pan to allow the batter to evenly spread into a circular shape.
4. Cook crepe for two minutes on the first side and then carefully flip. Cook an additional 30-60 seconds or until lightly browned and cooked through. Transfer crepe to a platter and repeat with remaining batter, being sure to butter pan between each crepe.

Serve crepes with [fresh ricotta cheese](#), berries, jam, or honey. For a savory filling, fold herbs and garlic into [fresh goat cheese](#) and top with sautéed mushrooms.



Gluten-free Sourdough Cinnamon Rolls

With a sweet cinnamon filling and a soft, supple dough (made without using gums), these cinnamon rolls really hit the spot for gluten-free eaters. Ferment the dough overnight and then form the cinnamon rolls in the morning for a lovely addition to brunch or breakfast.

Ingredients:

Dough

- 1 egg
- 1 ¼ cup whole milk
- ½ cup gluten-free sourdough starter
- 2 Tablespoons ground flax seed
- 2 Tablespoons ground psyllium seed husk
- 5 Tablespoons melted coconut oil
- 2 teaspoons vanilla extract
- 1 ½ cups sorghum flour
- 1 cup potato starch
- ½ cup tapioca starch
- 2 Tablespoons coconut sugar

- 1 teaspoon baking soda
- ½ teaspoon salt

Filling

- ¾ cup sucanat or coconut sugar
- 1 Tablespoon ground cinnamon
- 4 Tablespoons softened butter
- 1 Tablespoon melted butter

Instructions:

1. In a medium mixing bowl, beat the egg with the milk and gluten-free sourdough starter. Sprinkle in the flax seed, psyllium seed, melted coconut oil, and vanilla extract. Whisk together until completely combined.
2. In a separate bowl, whisk together the sorghum flour, potato starch, and tapioca starch with the coconut sugar, baking soda, and salt.
3. Add the dry ingredients to the wet and mix well until all ingredients are completely combined. Mix or knead dough an additional 2-3 minutes, using either moistened hands or the paddle attachment of a mixer.
4. Cover dough tightly with plastic wrap or a lid and allow to ferment at room temperature overnight. In the morning, dust a piece of parchment paper with potato starch. Using the parchment paper, press the dough out into a rectangle ¼ - 1/3 inch thick.
5. Make the filling by combining the coconut sugar, cinnamon, and salt with a fork. Add in the softened butter and melted butter and mix until a paste forms.
6. Spread the filling over the dough rectangle as evenly as possible, using a butter knife or off-set spatula. Roll the dough upon itself, starting at the edge furthest away from you. Carefully work the dough from the center outward, being careful not to tear the dough as you roll. Once it has been entirely rolled up, pinch the edges of the dough closed.
7. Butter a 9x13” pan generously. Cut the cinnamon roll dough into twelve pieces. Place the cut cinnamon rolls into the buttered pan, placing the rougher-edged pieces cut-side down. Cover

and allow to rise for 1.5-2 hours. During this time the dough won't necessarily double but it will puff up slightly.

8. During the last 15 minutes of the rising time, preheat the oven to 375 degrees.
9. Uncover the pan and place the rolls into the preheated oven for 17-18 minutes or until the tops are firm and the bottom and sides are just starting to brown.
10. Remove from oven and allow to cool slightly before frosting with [cream cheese frosting](#).



Gluten-Free Sourdough Banana Snack Cake

With plenty of banana flavor and just a hint of sweetness from fruit and honey, this gluten-free cake is great snack for any time of day. Fermented overnight, the dough can then be mixed with the remaining ingredients and baked early in the morning for a warm, fresh-from-the-oven breakfast.

Ingredients:

- 3 ripe bananas
- 1/3 cup melted coconut oil
- 1/2 cup gluten-free sourdough starter
- 1 cup sorghum flour
- 1/2 cup tapioca flour
- 3/4 cup sweet rice flour
- 1 egg
- 3 Tablespoons honey
- 2 teaspoons vanilla
- 2 teaspoons ground cinnamon
- 3/4 teaspoons sea salt
- 3/4 teaspoons baking soda

Instructions:

1. In a medium mixing bowl, mash the bananas. Stir in the coconut oil, gluten-free sourdough starter, and flours. Mix well until a soft dough is formed. Cover tightly and allow to ferment for 6-12 hours or overnight.
2. When ready to bake, preheat the oven to 350 degrees F. Butter an 8x8 inch glass baking pan and set aside.
3. Add the egg, honey, vanilla, cinnamon, and salt to the fermented dough. Mix all ingredients until nearly combined and then sprinkle in the baking soda. Stir until all ingredients are well combined.
4. Scrape batter into prepared baking dish and place on middle rack of preheated oven. Bake for 30 minutes, or until a cake tester comes out clean.
5. Allow to cool for at least 10 minutes before slicing and serving.

Serve with butter as a snack bread or crumbled into a bowl of yogurt or kefir for a breakfast treat.

Flatbreads & Crackers



Whole Grain Gluten-free Sourdough Crackers

These crackers combine the gluten-free goodness with the crispy crunch of a buttery cracker. Serve with your favorite dips, as a bed for good cheese, or alongside a fresh bowl of soup.

Ingredients:

- 3/4 cup millet flour
- 1/2 cup sorghum flour
- 1 tablespoon honey
- 3/4 teaspoon sea salt
- 1/2 teaspoon baking powder
- 4 tablespoons cold butter or lard
- 1/2 cup [gluten-free sourdough starter](#)
- 2 tablespoons water
- Additional [sea salt](#) for sprinkling

Instructions:

1. In a medium mixing bowl, whisk together flours, salt, and baking powder. Cut in butter or lard starting with a pastry cutter, then switching to your fingers. The dough should look like a coarse meal once all of the butter is cut in.
2. Stir in sourdough starter, water, and honey, mixing with a wooden spoon or your hands until the dough comes together. Knead a few times to make a cohesive dough, adding water a tiny bit at a time if needed to bring it together.
3. Cover dough bowl and allow to sour for 4 to 18 hours, depending on preference. The shorter time will produce a faint sourdough taste while the longer time will ferment the grains further and produce a more pronounced sourdough flavor.
4. When ready to bake, preheat oven to 400°F. Line a large baking sheet with a sheet of parchment paper. Press dough onto the lined pan to create a rectangle, and lightly dust with additional sorghum or millet flour. Top dough with another sheet of parchment paper and roll the dough out until it almost covers the entire sheet, or until the dough is very thin.
5. Peel away top piece of parchment paper.
6. Cut dough into 1-inch squares with a sharp knife or pizza cutter. Score the dough all over with a fork and sprinkle the top of the crackers lightly with sea salt.
7. Bake in preheated oven for approximately 15 minutes or until golden brown. Allow to cool before serving.



Gluten-free Sourdough Teff Injera

This traditionally fermented flatbread of Ethiopia has a sponge-like texture and wonderful depth of flavor. Made with gluten-free grains and a gluten-free starter, this bread can be eaten alongside stews, meats, and vegetables of all sorts.

Ingredients:

- ¼ cup gluten-free sourdough starter
- 1 ½ cups teff flour
- 2 cups filtered water
- ½ teaspoon sea salt
- Coconut oil or ghee for greasing the pan

Instructions:

1. Combine all ingredients in a medium bowl and cover with plastic wrap or a tight-fitting lid. Allow to ferment for at least 12 hours and up to three days, the latter of which is a more traditional preparation of injera.
2. Place a skillet over medium heat and grease lightly with coconut oil or ghee. Ladle 1/3 cup of batter into the hot skillet and rotate the skillet to distribute the batter into a fairly thin, uniform

circle. **NOTE:** *Although making injera is similar to making crepes, injera is not meant to be quite as thin as crepes. The bread should be somewhere between the thickness of a crepe and a pancake.*

3. Cook batter for a few minutes until you notice holes forming in the middle of the injera and the edges drying and lifting from the bottom of the pan. The top should also be completely cooked as the bread will not be flipped. If the top needs further cooking after the bubbles have popped and formed holes, place a lid on the pan for 1-2 minutes to trap the heat and cook the top through.
4. Transfer the injera to a platter and repeat with remaining batter.

Injera is traditionally used as the utensil in an Ethiopian meal, tearing off chunks of the bread to use to pick up the vegetable or stew that accompanies it.



Gluten-free Buttery Sourdough Crackers

Reminiscent of the rich, buttery snack crackers that line grocery store shelves, this gluten-free version comes together quickly. This recipe also utilizes “discarded” sourdough starter as it is not needed for leavening.

Ingredients:

- 1 cup brown rice flour
- 1/2 cup sorghum flour
- 1/2 cup tapioca flour, plus more for kneading
- 1/2 teaspoon baking soda
- 1 teaspoon salt
- 1/2 cup cold butter, cut into chunks
- 1/2 cup gluten-free sourdough starter
- 1/4 cup water
- 1 egg

Instructions:

1. Preheat oven to 400 degrees F. Line two cookie sheets with parchment paper or butter them generously.
2. In a medium mixing bowl, whisk together the flours, baking soda, and salt. Cut the butter into the dry ingredients using a fork, a pastry cutter, or clean hands.
3. In a glass measuring cup, whisk together the gluten-free sourdough starter, water, and egg. Pour this mixture into the flour-butter mixture and stir until a stiff dough comes together. Knead for 1-2 minutes to bring the dough into a cohesive mass. If the dough is sticky, dust the dough and your hands with tapioca flour. If it is too dry, add one tablespoon of water and mix, adding additional tablespoons of water as needed.
4. Divide the dough evenly into two pieces and place them on the prepared baking sheets.
5. Press or roll the dough right on the baking sheet using your hands or a rolling pin. If the dough is too sticky, use a sheet of parchment paper or plastic wrap on top of the dough while pressing or rolling. Roll the dough all the way to the edges until it is just under ¼ inch in thickness.
6. Use a pizza cutter to cut the dough into 1.5 inch squares. Dock each of these squares several times with a fork. Repeat with the second ball of dough.
7. Place crackers onto the middle rack of the preheated oven. Bake for 10-12 minutes or until they are just starting to brown on the bottom and edges.
8. Remove the crackers from the oven and allow to cool completely before pulling apart to serve.

Once cooled, these crackers can be stored in an airtight container for up to a week.



Gluten-free Sourdough “Flour” Tortillas

Thin and flexible with a slight chew and enough surface area to let the fillings shine, these little tortillas are good enough to never miss wheat tortillas again come taco night. The key to soft, pliable tortillas is to place the hot tortillas into a sealable container to “steam” before serving.

Ingredients:

- 1 cup sorghum flour
- ½ cup sweet rice flour
- ½ cup tapioca flour
- ½ teaspoon salt
- ¾ teaspoon baking soda
- 1 teaspoon xanthan gum
- ¼ cup palm shortening or cold butter
- 1 cup gluten-free sourdough starter
- ¼ - 1/3 cup milk, depending on the hydration of the starter and the humidity of your environment

Instructions:

1. In a medium bowl, whisk together the flours, salt, baking soda, and xanthan gum. Cut the palm shortening or cold butter into the flour mixture. Pour in the gluten-free sourdough starter and ¼ cup of milk and stir to combine. Mix together with clean hands. If the dough is still crumbly or does not completely come together, add additional milk, one Tablespoon at a time, up to 1/3 cup total.
2. Moisten hands with water and knead dough for 2-4 minutes or until it is well-mixed and smooth. At this point the dough can be made into tortillas straight away or it can be fermented for 6-24 hours, depending on your preference.
3. To prepare tortillas, heat a large griddle or skillet over medium heat. Pull off ping pong ball-sized pieces of dough to roll or press. Dust with sorghum flour if sticky.
4. If rolling, flour a clean work surface with sorghum flour and roll out carefully using a floured rolling pin.
5. Tortillas can also be pressed in a corn tortilla press. To do so, line the tortilla press with wax paper or a freezer bag cut on three sides to fit the tortilla press. Place dough balls between the wax paper or plastic sheets, dusting the dough with sorghum flour if it is sticky. Press the dough gently until thin.
6. Transfer rolled or pressed tortillas carefully to preheated griddle. Cook on the first side for 2-3 minutes or until brown and set. Flip and cook two more minutes or until brown spots begin to appear.
7. Transfer tortillas to a bowl and cover bowl with a lid or tight-fitting plate. This will continue to steam the tortillas and make them flexible and tender when served. Continue with remaining tortillas until all of the dough has been cooked.

Serve with favorite taco or other fillings. Best eaten directly after cooking.



Gluten-Free Sourdough Naan Bread

This recipe is so similar to traditional naan bread that even the most diehard wheat-eaters will never guess it's gluten-free! Soft and chewy, moist and flavorful, this bread is excellent as a wrap or as the traditional side to a spicy curry.

Ingredients:

- 1 cup brown rice flour
- 1 cup sweet rice flour plus more for rolling
- 1 cup tapioca flour
- 1 teaspoon salt
- 1 teaspoon baking soda
- 1 teaspoon xanthan gum
- 1 cup milk
- 2 Tablespoons honey
- ½ cup gluten-free sourdough starter
- 1 large egg
- Olive oil for drizzling over cooked breads

Instructions:

1. In a medium bowl, whisk the flours, salt, baking soda, and xanthan gum. Make a well in the center of the dry ingredients for the milk, honey, gluten-free sourdough starter, and egg.
2. Pour the wet ingredients into the well, whisk with a fork and then pull the dry ingredients into the wet. Once all of the dry ingredients have been hydrated, continue to mix the dough for at least two minutes. This can be done with the paddle attachment of a stand mixer or the dough can be kneaded with wet hands. Avoid adding additional flour while kneading.
3. Brush the top of the dough with oil and cover tightly with plastic wrap or a tight-fitting lid.
4. Allow to ferment for 6-18 hours, or until doubled. This dough can be prepared in the evening and allowed to ferment until the middle of the following day, if you prefer a longer fermentation period.
5. Punch down the dough and divide it into eight equal pieces. The dough will be slightly sticky so flour your hands and a clean work surface with sweet rice flour.
6. Preheat a griddle or heavy skillet over medium heat until very hot. Sprinkle sticky dough balls with additional flour, if needed, and roll them out to approximately 1/16 inch thickness. They can be rolled into a circle or the traditional oval shape of naan bread.
7. Carefully transfer rolled naan to preheated griddle and cook for 2-4 minutes on the first side or until the top has bubbled up and the bottom and edges have started to brown. Flip and cook an additional 2-3 minutes. Remove to a clean cloth or paper towel. Drizzle cooked bread with olive oil and repeat with remaining naan dough.
8. Serve warm with a curry, stew, or as a wrap for your favorite fillings.

Any leftovers should be sealed in an airtight container and warmed briefly on a hot griddle before reserving.



Gluten-free Sourdough Seeded Crackers

With three types of seeds, these crackers are hearty and protein-packed. Serve them with cheese or your favorite fermented dip!

Ingredients:

- 1/4 cup millet flour
- 1/4 cup tapioca flour
- 1/4 cup sorghum flour
- 1/4 cup sweet rice flour
- 1 Tablespoon sugar
- 2 Tablespoons each flax, chia, and unsalted sunflower seeds
- 1/2 teaspoon salt, plus more for finishing
- 1 teaspoon psyllium husk
- 1/2 cup gluten-free sourdough starter
- 1/4 cup coconut oil
- 1 egg

Instructions:

1. Preheat oven to 400 degrees F. Line a baking sheet with parchment paper and set aside.
2. In a large bowl, combine the flours, sugar, seeds, salt, and psyllium husk. Whisk well to combine. In a separate, smaller bowl, whisk together the gluten-free sourdough starter, coconut oil, and egg.
3. Add the wet ingredients to the dry and mix well until a stiff, but moist and tacky, dough is formed. Mix well using a fork for two minutes to fully incorporate and hydrate the flours and seeds. Set aside to rest for five minutes.
4. After dough has rested, transfer the dough to the parchment-lined baking sheet. Using clean hands or a rolling pin with an extra sheet of parchment over top the dough, press the dough out into a rectangle that is between 1/8 and 1/4 inches thick.
5. Use a pizza cutter to cut the crackers into 1.5 inch squares. There is no need to separate them. Dock each cracker a few times with a fork and sprinkle salt over crackers from 1-2 feet above crackers. Transfer pan to preheated oven.
6. Bake crackers for 18-20 minutes or until edges are brown. The top of the middle crackers will still be soft but will harden as they cool.
7. Allow crackers to cool completely on baking sheet before separating and serving.



Gluten-free Sourdough Rice Noodles

These fun, Asian-style noodles are made quite differently than traditional pasta. While the technique is more like making a crepe, the result is a chewy, satisfying noodle that makes a great addition to soups or stir-fries! These noodles are best eaten immediately after cooking so feel free to halve the recipe for a smaller batch.

Ingredients:

- 2 ¼ cups rice flour
- 2 cups tapioca flour
- 1/2 cup gluten-free sourdough starter
- 4 ¾ cups water
- Peanut or grapeseed oil for cooking

Instructions:

1. Whisk the flours, gluten-free sourdough starter, and water together in a large bowl. Continue to whisk until a very smooth texture is achieved. Cover tightly and allow to ferment for 6-12 hours.
2. When ready to cook the noodles, whisk the batter again to make sure it is smooth and homogenous.

3. Preheat a 10 inch cast-iron or nonstick skillet over medium heat. Once hot, add a few drops of oil to the pan, adding more as needed to lightly coat the pan.
4. Pour approximately 1/3 cup of batter into skillet. Swirl quickly to evenly coat the bottom of the skillet in batter.
5. Allow to cook for a couple of minutes, or until the edges have pulled away from the pan, the top is firm, and tiny holes have developed on the surface of the noodle crepe.
6. Immediately invert onto a lightly greased plate. Drizzle noodle crepe with additional oil to prevent sticking between noodle crepes.
7. Repeat cooking steps with remaining batter, being sure to grease the pan and the noodle crepe between each batch.
8. Once all batches have been cooked, cut stacked noodle crepes into noodles of a desired width. *Wider noodles are generally more traditional for this type of noodle and also hold up better than thin-cut noodles.*

To serve: Add to hot, flavorful broth for soup or add to a hot stir-fry just at the end of cooking. Noodles added to soups or other dishes should not be cooked for extra time as they are already cooked through and may begin to fall apart.



Gluten-free Sourdough Everyday Noodles

These flour-and-egg noodles are a great replacement for the usual lasagna, fettucine, or other favorite pastas. Working with gluten-free dough can be a little bit tricky, so take your time with the rolling and cutting steps. It may take time and patience, but this fresh pasta is well worth the wait!

Ingredients:

- $\frac{3}{4}$ cup millet flour
- $\frac{3}{4}$ cup oat flour
- $\frac{1}{2}$ cup potato starch, plus more for rolling
- 2 teaspoons xanthan gum
- 1 whole egg
- 2 egg yolks
- 1 Tablespoon olive oil
- $\frac{1}{4}$ cup gluten-free sourdough starter

Instructions:

1. Combine the millet flour, oat flour, potato starch, and xanthan gum in a large bowl. Whisk well to combine and then make a well in the center of the dry ingredients. Add the egg, egg yolks,

olive oil, and gluten-free sourdough starter to the well. Whisk wet ingredients and begin pulling in dry ingredients.

2. Mix all ingredients together until a stiff but moist dough forms. Gently flour a clean work surface with potato starch and turn dough out onto it. Knead dough several times or until it is smooth, adding more flour as necessary to keep it from sticking.
3. Return dough to bowl and cover tightly. Allow dough to ferment at room temperature for 6-24 hours. A longer fermentation will break down the flour more and create a more pronounced sourdough flavor. During the fermentation period, the dough should be kneaded and recovered approximately every 8 hours.
4. When ready to cook, bring a large pot of water to a boil over medium heat. Meanwhile, knead fermented dough a few times and prepare to roll pasta.
5. To roll pasta by hand, place a sheet of parchment paper on a work surface and sprinkle lightly with potato starch. Divide the dough in half and place one half on top of the first sheet of parchment. Flatten the dough out into a workable size, sprinkle lightly with potato starch, and cover dough with a second sheet of parchment paper.
6. With a rolling pin, roll dough as thinly as possible into desired shape. Once rolled, cut noodles into long strips for fettucine, long rectangles for lasagna, or squares for ravioli.
7. To cook, make sure water is at a rolling boil and add a small handful of sea salt. Carefully transfer noodles to pot, separating them as you go, if needed. Boil for approximately five minutes, or until al dente.
8. While pasta is boiling, repeat rolling process with the second half of the pasta dough. Cut and cook the same way as the first batch.

Serve with simply butter and seasonings or with your favorite sauce.

Gluten-free Sourdough Whole Grain Pasta



Made with buckwheat, sorghum, and just enough tapioca flour to bind it, this pasta is packed with fiber and nutrition. This hearty pasta stands up well to a bold tomato sauce or a simple garlic and olive oil dressing.

Ingredients:

- 1 Tablespoon psyllium husk powder
- 4-6 Tablespoons water, divided
- 2 Tablespoons olive oil
- 1 egg
- ½ cup buckwheat flour
- ½ cup sorghum flour
- 1/3 cup tapioca flour
- ½ teaspoon sea salt
- 1/3 cup [gluten-free sourdough starter](#)

Instructions:

1. In a small bowl, combine the psyllium husk powder with four tablespoons of water, the olive oil, and egg. Whisk well until homogenous and set aside for five minutes to gel.

2. Meanwhile, in a medium bowl, combine the buckwheat, sorghum, and tapioca flours with a whisk. Stir in the salt. Add the psyllium mixture to the dry ingredients along with the gluten-free sourdough starter. Mix well with a stiff wooden spoon. Note: *The dough should be soft and slightly tacky but not sticky or crumbly. If dough seems dry, add additional water, one tablespoon at a time. If dough is overly sticky, sprinkle in a bit more sorghum flour.*
3. Once the dough is at the right hydration, knead it by hand in the bowl until smooth, adding flour if necessary to prevent sticking. Cover dough and allow to ferment in a warm space in your kitchen for 4-12 hours, or overnight.
4. When ready to cook the pasta, bring a large pot of water to a rolling boil. While waiting for the water to heat, punch down the pasta dough and knead several times until smooth.
5. Flour a clean work surface with sorghum flour. Divide the pasta into two workable portions and place the first on the floured work surface. Roll the dough as thin as possible without tearing it using a rolling pin or pasta roller and flouring the dough as needed. Cut into desired shapes – linguine, fettucine, or lasagna all work well.
6. Once the water is boiling, add a couple of tablespoons of salt to the water. Drop the rolled and cut noodles into the water and boil for 2-3 minutes or until cooked but still al dente. Remove with a slotted spoon and dress immediately with olive oil or stir into your favorite sauce to prevent sticking.
7. Repeat rolling, cutting, and boiling process with second portion of dough. Serve immediately.

Desserts



Gluten-free Sourdough Pie Crust

This pie crust can be made quickly, soured, and then patted directly into two 9-inch pie pans, without rolling. Or, you can pat in the bottom crust and roll out the top for a beautiful fruit pie.

Ingredients:

- 1 cup potato starch
- 1/2 cup oat flour
- 1/4 cup millet flour
- 1/2 teaspoon sea salt
- 1 cup cold butter or lard, or a combination of the two
- 1/2 cup [gluten-free sourdough starter](#)
- 1/4 cup water, if needed

Instructions:

1. Whisk together the potato starch, oat flour, millet flour, and salt in a medium bowl. Cut in butter or lard using a pastry cutter or your hands. Mix in sourdough starter and add additional water,

up to 1/4 cup, to achieve a dough that is not crumbly, mixing and kneading dough as you go. It may be moister than wheat-based pie dough you are used to working with.

2. Cover dough and place at cool room temperature for 8 or more hours. When ready to use, divide dough in two. Press bottom crust into pie pan using your fingers. Dust a work surface with potato starch or tapioca flour and roll top crust out, adding more flour as needed.
3. Use in your favorite pie recipes.



Gluten-free Sourdough Chocolate Chip Cookies

This gluten-free chocolate chip cookie recipe is a great way to use [discarded starter](#). Sour the dough until they are as tangy as you like, or make them immediately if you're in a hurry.

Ingredients:

- ½ cup butter, very soft
- ½ cup [gluten-free sourdough starter](#)
- ¾ cup superfine white rice flour
- ¼ cup sorghum flour
- ½ cup potato or tapioca starch
- ½ teaspoon xanthan gum
- 2 eggs
- ½ cup honey
- 1 teaspoon vanilla extract
- ½ teaspoon salt
- ½ cup chocolate chips
- 1 teaspoon baking soda

Instructions:

1. Mix butter and sourdough starter together in a medium bowl beating until well combined. Add superfine rice flour, sorghum flour, potato starch, and xanthan gum and mix together until a very stiff dough comes together. If the dough doesn't reach this stage, add a little bit more sorghum flour until it does.
2. Cover bowl and sour 4-8 hours, if souring is desired.
3. Preheat oven to 375°F. Grease baking sheet with butter or cover with parchment paper.
4. In a small bowl, beat eggs. Add honey, vanilla, and salt; mix well. Blend mixture into the soured dough. Pour chocolate chips over the mixture and sprinkle the baking soda on top.
5. Blend until everything is well combined. Drop dough by the spoonful onto prepared baking sheet. Bake approximately 12 minutes, or until cookies are just set on top and golden-brown on the bottom.
6. Cool briefly on baking sheet before transferring to cooling rack.



Gluten-free Sourdough Molasses Spice Cake

This sweet, spicy snack cake is made even better by the very slight tang of sourdough. Serve with tea for an afternoon treat.

Ingredients:

- 1 cup [gluten-free sourdough starter](#)
- ¾ cup superfine white rice flour
- ¼ cup sorghum flour
- ½ cup potato or tapioca starch
- ½ cup softened butter
- ½ cup Sucanat
- ½ cup blackstrap molasses
- 2 eggs
- ¾ teaspoon sea salt
- 1 teaspoon ground ginger
- 1 teaspoon ground cinnamon
- 1 teaspoon baking soda

Instructions:

1. Mix together sourdough starter, flours, and starch until a stiff dough comes together. Cover and let sour 8 hours.
2. Preheat oven to 350°F. Butter and flour an 8x8-inch baking pan.
3. In a medium bowl, cream butter with Sucanat and molasses. Beat in eggs, sea salt, ginger, and cinnamon.
4. Blend the butter mixture into the soured dough. Sprinkle baking soda over the dough and blend until completely combined.
5. Pour batter into prepared baking pan and bake 35-40 minutes, or until a toothpick inserted into the center comes out clean.



Gluten-free Sourdough Chocolate Cupcakes

Ingredients:

- 1/2 cup fresh [gluten-free sourdough starter](#)
- 2 large eggs, preferably pasture-raised
- 1/2 cup butter or coconut oil, melted
- 1/2 cup non-alkalized cocoa powder
- 2 teaspoons vanilla extract
- 1/2 cup coconut milk
- 1 cup unrefined cane sugar or 3/4 cup honey
- 1-1/2 cups gluten-free flour blend of your choice
- 1/2 teaspoon baking powder
- 1/2 teaspoon baking soda
- 1/4 teaspoon salt
- One batch [sour cream chocolate frosting](#) (optional)

Instructions:

1. Mix gluten-free starter with coconut milk and gluten-free flour in a large bowl. Cover loosely and leave on counter overnight or at least 8 hours.

2. When ready to bake line 15 muffin cups with paper liners. Preheat oven to 375°F.
3. Blend butter (or coconut oil) with cocoa powder and sweetener of choice. Add in eggs and vanilla; mix well.
4. Sprinkle baking powder, baking soda, and salt over mixture and whisk in.
5. Add in soaked starter, milk, and flour mixture. Stir to combine.
6. Fill prepared muffin cups 2/3 full. Bake in preheated oven for 15 to 20 minutes, until tops spring back when lightly pressed. Remove cupcakes from pan and cool on wire rack.

Serve plain or with frosting of your choice.



Gluten-free, Dairy-free, Egg-free Sourdough Banana Fritters

These fritters are deliciously crisp around the edges from a shallow fry in coconut oil, but have a creamy center as the banana melts into the batter. They are free of gluten, eggs, dairy, and gums often used in gluten-free baking, and therefore are a real treat for those with many food restrictions.

Feel free to swap out the banana for apple or peaches or whatever fruit is in season.

Ingredients:

- 1½ cups [gluten-free sourdough starter](#)
- 2 tablespoons ground flax
- ¾ teaspoon cinnamon
- ¼ cup coconut milk
- 1 tablespoon honey
- 1 very large banana (or 2 small), sliced thinly
- ½ teaspoon baking soda
- 1 teaspoon gluten-free baking powder
- Coconut oil, lard, or ghee for frying

Instructions:

1. In a medium bowl, combine sourdough starter, flax, cinnamon, coconut milk, and honey.
2. Cut banana slices into batter, then sprinkle baking soda and baking powder on top. Mix until combined.
3. Preheat skillet over medium-low heat with enough coconut oil added to create a thin layer on the bottom of the pan.
4. Once oil is hot, very carefully spoon 1-2 tablespoons of batter into hot fat. Shallow fry, as you might a pancake, and flip once bubbles form and the edges are firming up. Cook on the other side until they are set up.
5. Transfer to a warming plate and keep warm in the oven while you finish frying the rest of the fritters. Add fat as needed for frying.

Serve warm, drizzled with honey or powdered sugar.



Gluten-Free Sourdough No-Cut Doughnuts

Light and airy with a hint of crispness around the edges, these yeast-risen doughnuts don't fall too far from their wheat-filled counterparts. In order to keep them light, the dough is not rolled and cut as wheat-based doughnuts are. Instead the dough is left loose, helping it to rise beautifully. When it comes time to fry, the dough is either spooned in for doughnut holes or piped onto parchment for easy round doughnuts.

Note that instant yeast can be added to this recipe to add more yeast-risen flavor and texture, but the sourdough starter can be used alone as the leavening.

Ingredients:

- 1 1/2 cups milk, warmed to room temperature
- 1/3 cup melted butter, cooled
- 2 large eggs
- 2 teaspoons vanilla extract
- 1/2 cup [gluten-free sourdough starter](#)
- 2 cups gluten-free oat flour
- 1/2 cup tapioca flour
- 1/2 cup sweet rice flour

- 2 teaspoons xanthan gum
- 1 Tablespoon ground flax seed
- 1/3 cup sugar
- 1 1/2 tsp salt
- 2 teaspoons instant yeast (optional)
- Coconut oil for frying

Instructions for Preparing Dough:

1. Combine the warmed milk, melted butter, eggs, and vanilla extract in a medium bowl. Whisk to combine all of the ingredients and then stir in the gluten-free sourdough starter.
2. In a large bowl, whisk together the flours, xanthan gum, flax seed, sugar, salt, and instant yeast (if using).
3. Add the wet ingredients to the dry and stir well. *The dough will turn into a sticky cake batter-like consistency.* Stir two more minutes to develop the structure of the dough. Scrape down the sides of the bowl and collect all of the dough into a mound in the middle of the bottom of the bowl.
4. Cover and set aside to rise for 2-6 hours, or until doubled. *If the commercial yeast was added, it will only take a couple of hours. If sourdough is the only leavening agent used, it could take up to six hours to double, depending on the temperature at which it rests.*
5. Once the dough has doubled, fill a pot with at least 3 inches of coconut oil. *Be sure to choose a pot that can comfortably fit this oil without filling more than half full.* Heat the oil to 350 degrees F over medium heat.
6. Meanwhile, if preparing large, round doughnuts, cut a sheet of parchment paper into squares the size of the doughnuts you wish to make. *A three inch diameter is the largest you would want the doughnuts, in order for them to fry evenly.*
7. Lay these parchment squares onto a clean surface. Carefully spoon the risen batter into a quart-sized plastic bag, being careful not to deflate it too much. *If doughnut holes are desired, half the batter can be left in the bowl for those.*
8. Once the batter is in the bag, seal it carefully and snip the bottom corner to create a 1/2 inch opening. Gently coax the batter down to that end and slowly squeeze the batter onto the

parchment squares to form a round doughnut shape. *(They round off in the oil so they do not need to be perfectly shaped.)*

9. When the oil is hot and the doughnuts ready to fry, test the oil with just a teaspoon of batter. *Once dropped in, it should immediately sizzle and float. If this doesn't happen, turn the heat up slightly. If this happens but the dough cooks too quickly, lower the heat.*

Instructions for Frying Doughnut Holes:

1. Spoon a tablespoon of batter from the bowl and gently scrape the dough into the hot oil using a second spoon.
2. Cook small batches of these for 30-45 seconds or until a deep, golden brown, turning them once during the cooking process.
3. Remove with a slotted spoon or spatula and place on a paper towel-lined platter.

Instructions for Frying Round Doughnuts:

1. Carefully lift the parchment and doughnut together and invert into the oil so that the doughnut is facing down in the oil and the parchment is floating at the top. *The parchment will quickly come away as the doughnut fries and the parchment can then be removed with tongs or a spatula.*
2. Allow the doughnut to cook for 60-75 seconds or until deep golden brown, turning once during the cooking process.
3. Remove with a slotted spoon or spatula and place on a cooling rack set over a baking tray.

Once the doughnuts have all cooked and cooled, glaze them in powdered sugar glaze or honey-based chocolate and cinnamon glazes. Best served on the day they are made.



Gluten-free Sourdough Doughnuts

These gluten-free doughnuts are made much like their wheat counterparts in that they are rolled and cut and left to rise. They are slightly denser than no-cut doughnuts but deliciously golden and familiar to make.

Ingredients:

- 1 cup milk
- 4 Tablespoons butter
- 1 cup sweet rice flour
- 1/2 cup brown rice flour
- 2/3 cup millet flour
- ¼ cup almond flour
- 2/3 cup tapioca flour, plus more for rolling
- 2 teaspoons xanthan gum
- 1 teaspoon salt
- ¼ cup coconut sugar
- 2 eggs
- 1 cup fresh [gluten-free sourdough starter](#)

- 1 teaspoon vanilla extract
- Oil for frying

Instructions for Preparing the Dough:

1. Scald milk in a saucepan – you should see a thin film on top of the milk and tiny bubbles around the edge of the milk start to form. Add butter and allow to melt. Set aside to cool.
2. Meanwhile, mix together the flours, xanthan gum, salt, and sugar. Mix in eggs and gluten-free sourdough starter. Pour milk-butter mixture into dough in three increments, stopping to stir between each one. Once all ingredients are combined, stir an additional 2-3 minutes to develop the structure of the dough.
3. Scrape down the sides of the bowl and pull the dough together into a wet, sticky mass. Cover tightly and allow to ferment for 3-4 hours or until the dough has expanded by 50%.
4. Place a sheet of parchment paper on a clean work surface and dust it generously with tapioca flour. Stir the dough down and determine its texture. *It should be tacky but not fall apart-sticky. If it seems too wet to handle, sprinkle 1-2 Tablespoons of sweet rice or tapioca flour onto the dough and stir it in.*
5. When the dough is tacky but firm enough to hold together, place it on the tapioca-floured parchment paper. Sprinkle the top generously with tapioca flour and press out into a rectangle ½ inch thick, sprinkling on additional tapioca flour as needed.
6. Fill a bowl with a little bit of tapioca flour and dip the biscuit or doughnut cutter into it. Cut the doughnuts using the floured cutter into large 3-4 inch rounds. Place these rounds on a sheet pan that is lined with parchment and dusted with tapioca flour. Use a smaller biscuit or doughnut cutter to cut out a small portion of the center of the dough and move these doughnut holes to a separate sheet of parchment paper.
7. Continue cutting doughnuts until all of the original rectangle is cut. Take the scraps away, knead them together a few times, adding a dusting of tapioca flour to prevent sticking. Roll these out and cut as you did the first round. Scraps can be kneaded and rolled again or cut into desired shapes with a knife if there is not enough dough to form full doughnuts.

8. Once all doughnuts and doughnut holes are lined up on the parchment-lined pans, cover them with plastic wrap and let them rise for 1.5 – 2 hours, or until they have risen by approximately 50%.

Instructions for Frying the Doughnuts:

1. Fill a pot with at least 3 inches of coconut oil. *Be sure to choose a pot that can comfortably fit this oil without filling more than half full.* Heat the oil to 350 degrees F over medium heat.
2. To fry, carefully add doughnuts or holes and cook in small batches for 30-45 seconds for doughnut holes and 60-90 seconds for larger doughnuts. Turn once during the cooking process and cook until they are a deep, golden brown.
3. Remove with a slotted spoon or spatula and place on a paper towel-lined platter or a cooling rack.

Once the doughnuts have all cooked and cooled, glaze them in powdered sugar glaze or [honey-based chocolate and cinnamon glazes](#). Best served on the day they are made.



Honey-Cinnamon and Honey-Chocolate Doughnut Glazes

A glaze is generally made from powdered sugar and used to top doughnuts and other confections. When going the extra step to make homemade sourdough doughnuts in your own kitchen, you may find yourself wanting a more natural option for glazing those golden treats. These honey-based glazes are perfect for dipping those fresh-fried sourdough doughnuts and sharing with a crowd. Put both of these glazes on the table, or dip them yourself, and you'll have enough for a large batch of honey-glazed doughnuts.

Honey-Cinnamon Ingredients:

- 3 Tablespoons pourable honey
- 1 teaspoon ground cinnamon
- Pinch sea salt
- ¼ teaspoon vanilla extract

Honey-Chocolate Ingredients:

- 3 Tablespoons pourable honey
- 1 Tablespoon cocoa powder
- Pinch of sea salt
- ½ teaspoon vanilla extract

Instructions:

1. Combine all ingredients in a small bowl with a fork until a smooth texture is formed.
2. After doughnuts have been fried and are cool enough to handle, invert them into the glaze and roll carefully around to coat the top half of the doughnut.
3. Place glazed doughnuts on a cooling rack set over a sheet pan or on a serving platter.



Gluten-free Sourdough Brownies

These dark chocolate, gluten-free brownies are fudgy, rich in chocolate flavor, and just sweet enough. Garnish them just out of the oven with dark chocolate for a thin layer of chocolate frosting.

Ingredients:

- 2 large eggs
- ½ cup melted coconut oil
- ¾ cup coconut sugar or other granulated sweetener such as sucanat
- 1 teaspoon vanilla extract
- ¾ teaspoon coarse sea salt (or ½ teaspoon fine-grained sea salt)
- ½ cup cocoa powder
- ½ cup gluten-free sourdough starter
- 1/3 cup tapioca flour
- 3.5 oz bittersweet (70% or darker) chocolate bar (optional)

Instructions:

1. Prepare an 8x8 inch glass baking dish by lining it with parchment paper. Alternatively, generously butter and flour the baking pan using tapioca flour.

2. In a medium bowl, beat the eggs, coconut oil, and coconut sugar together for 2-3 minutes until well combined and slightly aerated. Add all of the other ingredients and whisk well to combine.
3. Pour batter into prepared pan and set aside until oven is preheated.
4. Preheat oven to 325 degrees F and wait 20 minutes before placing the brownies onto the middle rack of the oven. Bake for 25 minutes or until just set in the middle but still soft when a cake tester is inserted into the center.
5. Remove brownies from oven. If utilizing chocolate bar, break the bar up into its individual squares and distribute evenly across the top of the hot brownies. Let the chocolate sit for five minutes then use a spatula to spread it evenly over the brownies.
6. Allow the brownies to cool for at least another five minutes before removing them from pan. Use the edges of the parchment paper to lift them out of the pan and onto a cooling rack. If parchment paper was not used, allow brownies to cool in the pan for at least 30 minutes before slicing and serving.

Serve as-is or with ice cream or freshly whipped cream.



Gluten-free Sourdough Apple Cake

This lightly sweetened cake is chock full of apples and cinnamon for a snack cake that can be eaten any time of day. While the recipe calls for a fermentation period, this can be bypassed and the cake can be mixed and baked immediately with discarded gluten-free sourdough starter.

Ingredients:

- 1 cup gluten-free sourdough starter
- ¼ cup milk
- ½ cup sorghum flour
- ¼ cup tapioca flour
- ¼ cup sweet rice flour
- 1/4 cup melted coconut oil or butter
- 2 eggs
- 2 Tablespoons flax seed
- 2 teaspoons psyllium
- ½ cup sucanat or coconut sugar
- ½ teaspoon salt
- 2 teaspoons cinnamon

- 2 cups diced apples
- 1 teaspoon baking soda

Instructions:

1. Combine the gluten-free sourdough starter, milk, sorghum flour, tapioca flour, and sweet rice flour in a medium bowl. Mix until a stiff dough forms. Cover and place in a warm spot in your kitchen and allow to ferment for 6-12 hours.
2. When ready to bake, preheat oven to 350 degrees F. Prepare an 8x8 inch glass baking pan by either lining with parchment paper or generously buttering and flouring with gluten-free flour of choice.
3. Use a fork to stir down the fermented dough. Add the coconut oil, eggs, flax seed, psyllium, coconut sugar, salt, and cinnamon and mix until the batter is homogenous. Add the apples and sprinkle in the baking soda. Fold together until well combined.
4. Pour the cake batter into prepared pan and place onto middle rack of preheated oven. Bake for 22-25 minutes or until a cake tester comes out clean when inserted into center of cake.
5. Allow to cool at least 30 minutes before cutting and serving.



Gluten-free, Egg-free Sourdough Snickerdoodle Cookies

Eggs can work wonders in gluten-free baking, but unfortunately not everyone can tolerate them. This recipe removes the eggs and uses a little help from flax seed to create the right amount of binding.

Ingredients:

- 1/2 cup butter or palm shortening
- 1/2 cup brown sugar
- 1/2 cup gluten-free sourdough starter
- 3 Tablespoons ground flax seed
- 1/3 cup sorghum flour
- 1/3 cup sweet rice flour
- 1/4 teaspoon sea salt
- 1/4 teaspoon baking soda
- 1 teaspoon ground cinnamon

Instructions:

1. Preheat oven to 350 degrees F.

2. In a medium bowl, beat together the butter and brown sugar until light and fluffy. Add the gluten-free sourdough starter and ground flax and beat until well combined.
3. In a separate bowl, whisk together the sorghum flour, sweet rice flour, sea salt, baking soda, and cinnamon. Add 1/3 of the dry ingredients to the wet and stir. Repeat with the remaining 2/3 of the dry ingredients.
4. Scoop 1-2 tablespoons of dough onto a cookie sheet. Gently flatten cookies to 1/4 inch thickness, leaving at least 1/2 inch between each cookie.
5. Place cookie sheet on middle rack of preheated oven and bake cookies 8-12 minutes or until the tops are no longer soft and the bottoms are golden brown.
6. Remove pan from oven and allow to cool at least 10 minutes before moving to a cooling rack or serving tray.

Main Dish



Gluten-free Sourdough Stuffing

With the classic flavors of celery, onion, sage and apples, no one will know this stuffing is gluten-free!

Ingredients:

- $\frac{3}{4}$ cup butter or oil
- 3 stalks celery, diced
- 1 medium yellow onion, diced
- 1 clove garlic, mashed
- 1 medium green apple, cored and diced
- 1-lb loaf [Gluten Free Sourdough Bread](#), cut in cubes and dried overnight
- $\frac{1}{3}$ cup raisins
- 1 tablespoon fresh sage
- 1 tablespoon fresh parsley
- 1 teaspoon fresh thyme
- Salt and pepper to taste
- 1 cup homemade chicken or vegetable broth

Instructions:

1. Melt butter in a large skillet. Sauté the celery and onions until soft and translucent. Add garlic and apples and cook until fragrant; about 3 minutes. Remove the skillet from the heat.
2. Mix the bread cubes, raisins and herbs in a large mixing bowl. Add the celery and onion mixture. Toss to combine. Season with salt and pepper to taste and pour broth over the mixture to moisten.
3. Transfer stuffing to a large, well-oiled casserole dish. Bake at 350⁰ F for 30-45 minutes. Or use as stuffing for turkey or other meat and cook until stuffing reaches an internal temperature of 165⁰ F.



Gluten-free Sourdough Pizza Crust

This simple pizza crust might be gluten-free but the crust is made much the same way as a wheat-based crust. Mix, knead, spread in pan, bake, and enjoy a delicious gluten-free pizza.

Ingredients:

- 1 cup [gluten-free sourdough starter](#)
- ¼ cup water
- 1 tablespoon olive oil
- 1 large egg
- 1 teaspoon salt
- ½ cup tapioca flour, plus more for kneading
- ½ - 1 cup sorghum flour

Instructions:

1. Combine the sourdough starter, water, olive oil, and egg. Whisk to combine. Stir in salt and tapioca flour. Add ½ cup of sorghum flour and stir to combine. Add more sorghum flour as needed to make a soft dough that can be kneaded. Flour a surface with tapioca and knead the dough a few times to bring it together.

2. Grease a bowl and turn dough into the bowl to oil the bottom then flip so that oiled portion is facing up. Cover with a tight lid or plate and sour for 8-24 hours.
3. Preheat oven to 450°F.
4. Oil a large rectangular baking pan or two smaller round pizza pans. Press the dough out into the pan, using wet fingers if the dough is sticky. Create a lip at the edge of the crust.
5. Dock the dough all over with a fork and bake for 10 minutes or until it just starts browning around the edges.
6. Remove from oven, top with favorite toppings, and return for an additional 20-25 minutes, or until cheese is melted and toppings are cooked.
7. Remove and allow to cool briefly before slicing and serving.



Gluten-free Sourdough Thin and Crispy Pizza Crust

This pizza crust recipe is reminiscent of those thin-crust frozen or take-out pizzas we all know and love. Top with your favorite toppings and you can still slice and hold these tasty pieces of pizza.

Ingredients:

- 1 cup fresh [gluten-free sourdough starter](#)
- ¼ cup olive oil
- ¾ cup water
- 1½ cups millet flour
- ½ cup brown rice flour
- ½ cup tapioca flour
- 1 teaspoon salt
- 1 teaspoon xanthan gum

Instructions:

1. In a medium mixing bowl, whisk together sourdough starter, olive oil, and water.
2. Mix in flours, salt, and xanthan gum, in that order. Mix well with a wooden spoon for several minutes. Cover and sour 8-18 hours.

3. When ready to cook, preheat oven to 450°F. Line two baking sheets with parchment paper.
4. Prepare a small bowl of water to help keep the dough from sticking to your fingers. Place half the dough on each prepared baking sheet. Spread the dough out with your fingers, dampening them as needed, until dough is spread out as thin as possible without any holes.
5. Place crust in oven and bake 12-15 minutes, or until the crust is browning around the edges and is firm. Top with sauce, cheese, and favorite toppings and return to oven for an additional 10-15 minutes or until toppings have cooked and melted.

Makes 2 pizzas.



Gluten-free Sourdough Pan Pizza Crust

This pizza crust gets lift not only from the sourdough starter, but also from an addition of baking powder. It is light and fluffy and reminiscent of the wheat-based pan pizzas we are familiar with.

Ingredients:

- 1-1/2 cups [gluten-free sourdough starter](#)
- 1/4 cup water
- 1 cup milk
- 1/4 cup olive oil
- 2 tablespoons honey
- 1 cup sorghum flour
- 1 cup tapioca flour
- 1/4 cup brown rice flour
- 2 teaspoons baking powder
- 2 teaspoon sea salt
- 1 teaspoon xanthan gum

Instructions:

1. In a medium mixing bowl, whisk together sourdough starter, water, milk, olive oil, and honey. Mix in the remaining ingredients in the order they are listed. Then beat for several minutes with a wooden spoon or electronic mixer.
2. Cover dough and allow to sour for 8 to 18 hours.
3. When ready to bake, preheat oven to 450°F.
4. Line a 10-inch cast-iron skillet with parchment paper. Place half the dough in a parchment-lined pan. Spread it around with a spatula or wet fingers until completely even.
5. Very carefully remove parchment and dough from skillet and place skillet in oven to heat for 10 minutes. Carefully remove skillet, place dough back in pan, and return to oven to bake for 15 minutes or until firm around edges and in center. Top with your favorite toppings and return to oven for 10 to 15 minutes.

Repeat with second crust. Makes 2 pizzas.



Savory Gluten-free Sourdough Pancakes

This is a great lunch or supper recipe for utilizing excess gluten-free sourdough starter. It is unique enough to bring fun to the table and healthy enough to eat every day.

Ingredients:

- 2 cups gluten-free sourdough starter
- 3 eggs
- ½ cup chopped green onion
- 1 large carrot, shredded
- 1 cup shredded kale, tightly packed
- ½ cup grated Swiss cheese
- 1 teaspoon sea salt
- ¼ - ½ cup sorghum flour
- Coconut oil or lard for frying

Instructions:

1. In a medium mixing bowl, beat together the gluten- free sourdough starter and eggs. Add in the vegetables, grated cheese, and salt and mix well.

2. Sprinkle in the sorghum flour, starting at 1/4 cup. If the batter is too thin, add more sorghum flour, one tablespoon at a time, until the batter resembles a thick but pourable pancake batter.
3. Heat a cast-iron skillet over medium heat and add enough of the coconut oil or lard to coat the bottom of the pan. Once hot, use a ¼ cup scoop to make small pancakes in the skillet. Cook pancakes for 3-5 minutes on the first side, or until golden brown and set around the edges. Carefully flip and cook for an additional 2-4 minutes on the second side.
4. Transfer to a platter and continue with the remaining batter, adding additional fat to the pan as needed.

Serve with this [*Crème Fraiche Mustard Sauce*](#) and a crisp salad.