



Small guide to the art of fermentation



What is fermentation?

Fermentation is the **controlled** processing of foodstuffs by specific kinds of yeasts or bacteria. We say **controlled** because if left uncontrolled, several pathogens might arise making the foodstuffs inedible. The aim of fermentation is discovering new tastes, but also storing vegetables and fruits in ambient temperatures for longer than they could last if they were raw. Fermentation increases the acidity and decreases the activity of pathogens, making the products shelf stable for longer.

How does fermentation take place?

Five things are necessary for fermentation to take place- the **right yeast or bacterium, the right temperature, sugars, moisture and oxygen**. Some ferments need warm conditions while some others cool but never hot or cold as too much heat can kill the yeast and bacteria and too much cold can reduce their metabolic processes). Some ferments need wild yeasts found in the air and on the skin of vegetables while others like kefir need lactobacilli. All ferments need a sugar source to feed the yeast and bacteria and all ferments need moisture. Also all ferments need oxygen for the bacteria and the yeast to live and do their work.

Although all ferments need **moisture**, most commonly in the form of water, it is best if the water is **non-chlorinated** as chlorine is a preservative that stops the activity of the yeast and bacteria. In order to get non-chlorinated water you can leave a pot of water outside overnight in which case the chlorine evaporates slowly, or boil and cool a pot of water in which case the chlorine evaporates more quickly.

As far as **sugar** is concerned, it can come from the vegetables as is the case with savoury ferments or it can come from actual sugar you add to the ferment. By the end of the fermentation process all sugar will have been consumed by the bacteria that will at the same time turn the liquid sour. You can decide how sweet or sour you like your ferment and **stop** this process by putting the ferment in the fridge. Lastly, as far as oxygen is concerned, it is advisable to do your ferments in relatively small containers so there is access to oxygen throughout your ferment. If you wish to ferment large quantities of something you can use a tube, part of a hose or even a straw to blow air in the bottom of the fermentation container.

Fermentation is an ancient practice and it has been part of the food cultures of many countries throughout the world. From fermented wild garlic in the Nordic countries to fermented kimchi in Korea, it has happened in places where no scales or measuring cups were available, showing how easy it is. Don't become obsessed with the right analogy or the right time or the right temperature. As long as you understand how each of the above parameters affect fermentation, you are free to have as much fun with it as you want!

Sourdough starter

Ingredients: Flour, water

Time: 6-7 days



Take 2 tablespoons of all-purpose flour and mix them with 2 tablespoons of room-temperature water. Set mix in a jar, cover with a lid and leave in a warm place for 12 hours. After the 12 hours, repeat the process with more flour and water. The next day mix in 4 tbs of flour and 4 tbs of water, wait for 12 hours and then add 4 more. Continue like this for 6-7 days or until you see bubbles forming in your starter. You can then move starter in the fridge and feed once a week. If any mold appears, discard starter and start again.

Sauerkraut

Ingredients: Cabbage, Salt, Boiled and cool

Water, Spices

Time: 2-3 weeks



For sauerkraut get a cabbage and cut it thinly. Boil 1 lt of water (with any spices you want such as mustard seeds, coriander seeds etc) and let it cool to just warm. Mix in a tbs of salt and. Pack the cabbage tightly in a jar or non-metal container and pour the salt-water-spices mixture over it. All cabbage should be covered by the liquid and you should put a weight if any floats. If it is not covered by the liquid it could go moldy. Leave covered in a cool, but not cold, place for 2-3 weeks (depending on how finely cut the cabbage is) remembering to “burp” the jar every so often (opening the lid of the container so that air can get out). If there is any mold present discard and start again.

Kimchi

Time: 1-2 weeks

Ingredients: Your choice of brassicas

(napa cabbage, brussel sprouts daikon radis)

Ginger, Garlic, Shrimp paste or seaweed for
vegan alternative, Gokucharu, Salt, Lemongr



Rub your brassicas well with salt and leave in a non-metal container overnight so that it will wilt. The next day wash the extra salt away and mix all other ingredients with the brassicas. Pack tightly in a jar and if the liquid is not enough, supplement with cooled, boiled water until all ingredients are submerged. Place in cool, but not cold, place for 1-2 weeks, remembering to “burp” the container every so often. When the kimchi has reached its desired sourness, place in the fridge.

Gingerbug

Time: 4-5 days

Ingredients: Ginger or other fruit, Sugar,

Water



To start your wild ferment, use one tbs of unpeeled diced fruit, 1 tsp sugar and 3 tbs water and mix in a non-metal container. Leave in a warm place, covered. Every day for the next 5-6 days “feed” your wild ferment with 1 tbs fruit, 1 tsp sugar and some water. After 5-6 days you should have a fizzy alive bug that you can use to ferment home-made sodas!

Kefir

Ingredients: Milk, Kefir grains

Time: 4-5 days



Pour about 2 tbs kefir grains to 200 ml full-fat, room temperature milk. Leave covered in a room and burp every day for 4-5 days. You can then place in fridge for long-term storage.

Winter vegetables

Ingredients: Winter vegetables, salt, water, spices

Time: 1-3 weeks



Cut a mix of carrots, celery, cauliflower, cabbage, a bit of garlic and any spices you want. Place in a jar and cover with boiled, cooled water that has 1 tbsp salt for every lt of water. Leave in a cool dark place for 1-3 weeks depending on temperature and size of vegetables. Once the desired sourness has been achieved, place in the fridge. **TIP:** You can use the liquid to flavor soups and vinaigrettes!

Fermented Spruce tips

Spruce needles

Sugar

Water

Time: 1-2 weeks



Mix equal quantities of spruce tips and sugar, pack in a jar and cover with water. Burp jar once a week. After the taste you are going after has been achieved, remove spruce tips and refrigerate.