

You've Got This.

FERMENTED VEGETABLES



A step-by-step guide
to making and storing fermented
vegetables

BY MARI SOSA, MS,
DIETETIC INTERN

Fermented Vegetables

As a college student, you have most likely transitioned into starting to cook your own meals. If you haven't, no worries! Its always fun to read up on new recipes and test them out for later on when you do end up cooking your own meals more regularly. Theres a wide range of curiosity and uncertainty when it comes to trying new recipes, and cooking foods that interest you.



important note

Fermented veggies are dairy free, vegan, gluten-free, vegetarian (free of fish sauce) & also budget friendly!

This blog will provide you all the information you need to understand what health benefits we know fermented foods have, how to start the fermentation process and exactly what fermenting even is.

Fermented foods have begun to show a lot more interest in the last couple of years and therefore I want to provide a good resource to those wanting to experiment with making them.



Common Vegetable Recipes

1.

- Kimchi (Napa cabbage, Korean pepper flakes, Salt, carrots, daikon radish, ginger, sugar, water, and green onion)

2.

- cauliflower + 2 cloves garlic + pinch of red pepper flakes + pinch of black peppercorns

3.

- sliced radish, jalapeno, onion, and carrots + pinch of cumin seeds + pinch of red pepper flakes + 1 clove garlic

What is Lacto-Fermentation?

Lacto-fermentation is generally considered **a salt-based fermentation** that occurs due to lacto acid bacteria. This bacteria is considered "good" bacteria because it diversify's your gut microbiome and provides you with probiotics. When fermenting veggies, having a brine (salty water), and little to no oxygen allows the good bacteria to thrive while killing any harmful bacteria. This leaves the vegetables with a delicious tangy taste.



Brining method

One of the main processes for lacto-fermentation is using the **brining method**. This method consists of submerging your chopped veggies of choice in a sealed tight jar with "brine" which is solely salt and water.

Mason Jar Fermentation –

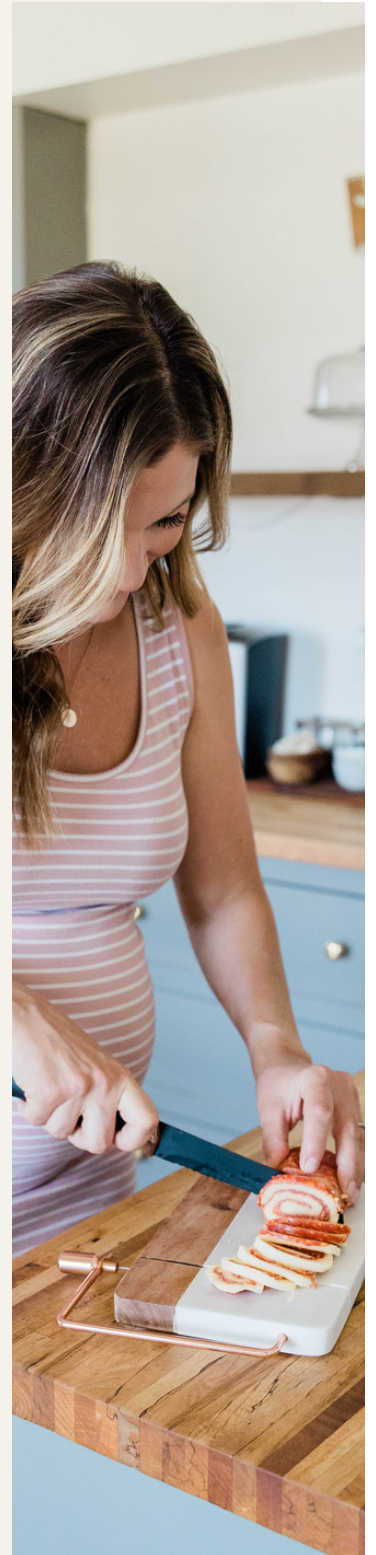
To begin, there are 3 *important* rules to monitor.

1. Salt to water ratio (5%) – with limited oxygen (too much salt can kill off the good bacteria and too little salt may create mold)
Therefore you want to ideally measure out 5 grams of salt for 100g of water. (*1 teaspoon of kosher salt is about 5 grams*)
2. Temperature (Fermentation happens quicker in warmer months than winter months, so be mindful of when you test these recipes out)
3. Length of fermenting

Tip: When putting your chopped vegetables into a closed mason jar, try to leave at least **1 in** of space at the top of the jar.

Step-by-Step Preparation

1. Chop your choice of vegetables and place to the side. Pour room temperature water in a mason jar (100g=3.5oz) and add a teaspoon of salt, mix until dissolved. Add vegetables to the brine.
2. If using a normal lid, don't screw it on completely and let built-up gas out every day. If using an airlock lid, gas is removed automatically. (either way works – so don't feel like you have to buy a new jar) Here is a link to the airlock lid if you find yourself interested in purchasing them.
<https://www.amazon.com/Fermentation-Kit-Wide-Mouth-Jars/dp/B075LRMRDQ>
3. Allow the fermentation process to run its time for 3-6 days at room temperature. At day 3, try your veggies to see if they are at the tangy level you enjoy them at. If not, allow for another day or 2.



What is the difference between lacto-fermentation and pickling?

Pickling is the process of adding acidity such as vinegar to vegetables while lacto-fermentation is the natural chemical process of extracting energy from plant carbohydrates in the absence of oxygen.

Benefits of Fermentation

Lactic acid, and the process of lacto-fermentation encourages **healthy bacterial growth** within your intestine. Another name for the "good gut bacteria" that it provides is **probiotics!**

Not only does fermented foods provide a great source of probiotics, but they are **enzyme-rich**, meaning they aid in digesting foods and are also easier to digest themselves. In addition, they have **anti-inflammatory** benefits which offers a reduced risk in cancer and other diseases.



Conclusion and Next Steps

Feel free to get creative with what vegetables you put into your fermentation jar. There is no right or wrong recipe! Here is a simple recipe to follow if you don't know where to start:

Kimchi

- 1 medium head of Napa cabbage
- 1/4 cup salt (kosher or iodine free sea salt)
- 1-5 tablespoons of Korean pepper flakes (depending on spice level)
- 5-6 cloves of garlic
- 1 tsp grated ginger
- 1 tsp sugar
- 3-4 tbsp water
- 3 tbsp miso paste (or fish sauce if not vegetarian)
- 2 carrots (or daikon radishes)
- 4 medium green onion cut into 1 inch pieces

** Chop up all ingredients and divide ingredients up as they fit into clean glass jars with or without weights/springs, valved or airlock lids



Mari Sosa is a 2022–2023 dietetic intern at MSU Denver. She enjoys all things that are fermented – especially kimchi! Her favorite recipe to make kimchi with is kimchi fried rice. Follow her for more recipes.



[instagram.com/sos.simple](https://www.instagram.com/sos.simple)
msudenver.edu/recreation/blog