

FEDUP FERMENTS

Fermented Veggies 1.2.19

Fermented vegetables are generally prepared by submerging vegetables in a brine. This water and salt solution produces conditions favoring growth of lactobacillus, the lactic acid producing bacteria. This is why the process is sometimes referred to as “lacto-fermentation.” It is important to correctly measure the amount of salt added to a fermentation mixture. The salty brine inhibits the growth of many spoilage organisms.* As the lactobacillus bacteria produce lactic acid, the pH drops. The low pH further inhibits the growth of harmful bacteria.

The temperature in the room where the food is being held will affect the fermentation process. At 70° F to 75°F fermentation will take place between 3 to 4 weeks. This is ideal. Between 55°F and 65°F fermentation will take 5 to 6 weeks or longer, and fermentation may even stop altogether. When the fermented vegetables reach a desired flavor, they are stored in the refrigerator where the fermentation will essentially slow or stop.

Fermented vegetables can be stored in a vessel for a few months during which time flavors develop. The vessel is stored in a cool place and care is taken to make sure the vegetables are submerged. Fermenting products should not be stirred or mixed because this adds air to the brine and also introduces yeasts and molds from the surface throughout the brine.

Once desired flavor is achieved, fermented vegetables can be stored in the refrigerator in the original vessel or repacked into jars for distribution.

*Historically, salt was used to preserve foods before refrigeration. We recommend salt-only fermented vegetables at CFH, for many reasons:

- Salt pulls out the moisture in food, denying bacteria the aqueous solution they need to live and grow.
- Salt allows the natural bacteria that exist on the vegetables to do the fermenting. Only the desired salt-tolerant Lactobacilli strains will live and propagate.
- By suppressing the growth of other bacteria and mold, salt provides a slower fermentation process that is perfect for cultured vegetables that are to be stored for longer periods of time.
- Salt hardens the pectins in the vegetables, leaving them crunchy and enhancing the flavor.

Lacto-Fermentation Myths (adapted from Cultures for Health)

There are some common misconceptions about lacto-fermented vegetables, most of them evolving from fear of the unknown. Once you are brave enough to prepare that first jar of sauerkraut, you are over the biggest hurdle. After that, you might struggle with some of the common misconceptions about lacto-fermented vegetables that may have been pushing you away from exploring more recipes.

Here are the facts to bust some of those myths and dissolve the fear of fermentation.

MYTH #1: Fermented Vegetables Must Be Canned to Be Safe

Fact: Canning is a relatively new form of preserving foods. Fermentation has been around for centuries. Fermented vegetables contain a natural preservative called lactic acid. This acid, much like the vinegar in canned pickles, preserves the vegetables. In this very acidic environment, harmful bacteria cannot exist, so fermented vegetables preserve themselves. The best way to see how a batch is progressing is to test aroma and flavor. If a batch smells unpleasant, toss it. If it smells sour but pleasant, it is fine to taste. If it smells ok and tastes ok, it is safe to consume.

MYTH #2: Fermented Vegetables Must Be Stored in the Refrigerator

Fact: Fermented vegetables were actually born as a method of food preservation in the absence of refrigeration. A cool place is all that is required. This could be a basement, a root cellar, or cold pantry. Fermentation continues even under refrigeration, though very slowly. Slow fermentation often allows better flavor to develop. 3 things to consider when moving fermented vegetables to cold storage; bubbling, sour aroma flavor.

Bubbling

The lactic acid fermentation process produces lactic acid bacteria that create gases when they feast on the vegetables. These gases are often visible as bubbles throughout the jar after a few days at room temperature and are a good sign.

In large vegetables like chunks of zucchini, the brine will contain bubbles and the vegetables themselves will only have a slightly “bubbly” flavor. Other ferments that use vegetables with more surface area, like salsa, will have an almost carbonated flavor throughout. This carbonation is normal and can be quite tasty.

Sour Aroma

“The nose knows” is very true when it comes to fermentation. Opening the fermentation vessel after a few days may release a sour, vinegary aroma. While the aroma may be strong at first, it should be pleasant.

If, on the other hand, your sauerkraut smells like spoiled or rotten food, discard it, clean the container thoroughly, and try again another day.

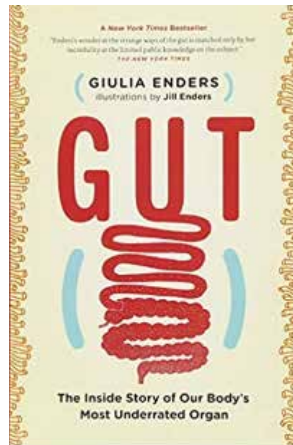
Flavor

Once the vegetable ferment appears gaseous or bubbly and smells sour but pleasing, it’s time to taste. Depending on the type of vegetable, varying ranges of fermented flavors may be present.

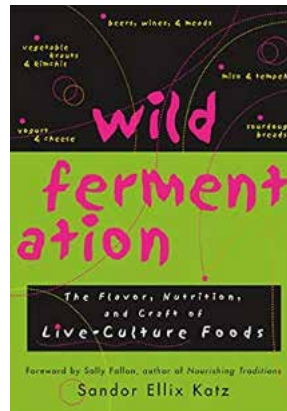
Larger vegetables, whole or pieces, like cucumber pickles, can take a much longer time to fully ferment and develop a tangy flavor. A mashup of small vegetable pieces like sauerkraut or relish usually takes on a fermented flavor more quickly.

Taste vegetables daily until they reach the flavor and texture that you prefer. At that point, it’s time for cold storage.

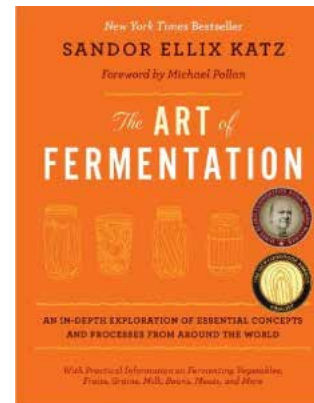
Suggested Reading



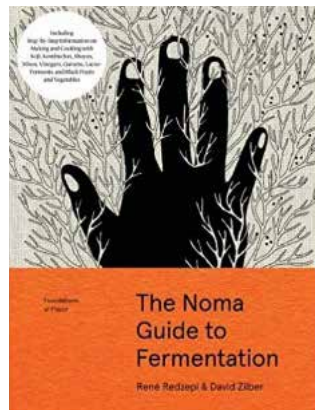
Gut, by Giulia Enders



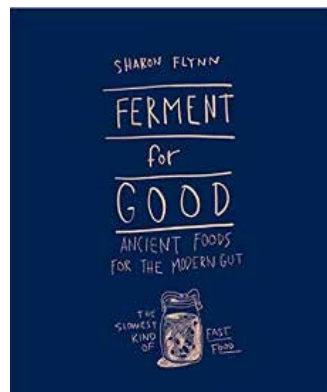
Wild Fermentation 1e,
by Sandor Ellix Katz



The Art of Fermentation,
by Sandor Ellix Katz



The Noma Guide to Fermentation,
by René Redzepi & David Zilber



Ferment for Good,
by Sharon Flynn