

Fermentation – Lactobacillus Style

What is lacto-fermentation?

Certain types of bacteria (lactobacilli) which naturally live on the surface of healthy vegetables break down sugar and produce lactic acid. Generally when making ferments, that transformation is aided by the addition of salt, the absence of air, and by keeping the fermentation at appropriate temperatures.

The Basics

1) Keep it so Fresh and so Clean!

- Vegetables need to be in prime condition when going into fermentation as any spoiled portion can ruin what you are making
- Using organic vegetables is best as you want to leave lots of the skins and peels as that is where a lot of those beneficial bacteria like to hang out

2) Use good salt, a bit, or more, if you like...

- Use non-iodized salt. Coarse pickling, Kosher or sea-salt works well. Salt that has good trace-mineral content such as Himalayan or Redmond Real Salt is ideal
- In general, a 1.5% salt ratio works well for fermentation
 - For 100lbs of veggies: 1.5lbs of salt OR
 - 1.5tsp per pint or 1T per quart
- Using less salt tends to make things ferment faster
- Using more salt slows fermentation down, and tends to make a more sour finished product

3) Put a lid on it! What kind of vessel can you use?

- Glass jars are ideal for small batch ferments, show off your gorgeous ferment, and make great gifts once the ferment is ready! A loose lid also keeps out any dust or unwanted particles
- Ceramic crocks (if you have or can find and afford them) have that great old-time feel and are great for large batches
- Food-grade plastic pails can also be used for large batches, but may be better to use only for storage of ready to store ferments, (possible leaching of unknown substances)
- Avoid using metal containers, unless enamel coated

4) Some like it hot! (But ferments do not)

- When starting a ferment keep it at room temperature (68-72°F)
- Check and taste your new ferment frequently (daily or so)
- When desired flavour is reached transfer to the fridge or cellar
- Fermentation will continue to take place (albeit slowly) at cooler temps
- You will be able to tell your ferment is active and working by the bubbles that rise to the top throughout the jar as it starts fermenting
- All the bubbling can cause it to “boil” over so it is advisable to keep a pan or towel under your jars or crocks to catch any spillage
- The bubbles can push up the veggies to the top, so push them back under the juices to make sure they are always submerged

Recipe

Spicy Kimchi (Adapted from *Wild Fermentation* by Sandor Katz)

Gather desired vegetables to ferment (Chinese cabbage, carrots, radish, turnip, sunchokes, etc.) chop and place in a large jar or bowl.

Make brine, enough to cover the vegetables (Ratio of 3T of salt to 4 cups water) and let stand for a few hours to overnight. Taste the veggies, and if you can't taste the salt add a little more, or if too salty either add a little more water at the start, or rinse the veggies after the soak. Drain off the brine into a bowl or jar and set aside for later use.

Make a spice paste to mix in with the veggies which could include: green or bulb onion, garlic, ginger, horseradish, hot peppers (generally red chillies, but others would work too), fish sauce (as long as there are no preservatives in the ingredients). Chop up and mix or put through a food processor)

Mix together veggies and spice paste, transfer to jars or crocks and compress. You can add a bit of the soaking brine to keep the veggies submerged. Taste periodically until ready and refrigerate. Or enjoy it all right away!

Further Reading

Wild Fermentation and *The Art of Fermentation* by Sandor Katz

Nourishing Traditions by Sally Fallon