

Workshop Title: Preserving the Harvest: Intro to Lacto-fermentation

Speakers & their title: Shannon Jones & Bryan Dyck, of Broadfork Farm

Executive Summary: Having both grown up in the city, Bryan and Shannon came to realize their vision of farming included a desire to homestead. In addition to their full-time farming of organic produce and cut flowers, they raise ducks for eggs, seed save and preserve. Their favorite way to preserve is through lacto-fermentation. They present 3 styles of lacto-fermented vegetables: kimchi, sauerkraut and pickle.

Detailed Notes:

Why?

- They harvest seconds of their produce that is not marketable to eat themselves. Fermenting is a low maintenance way of preserving them.
- They get to reap the health benefits of the good bacteria which contribute to our all over health, including mental. Should introduce fermented foods slowly in order to give your body time to adjust, same as one would with probiotics.
- Lacto-fermentation extends the life of the produce while retaining the nutrients
- Vegetables have their own starter within them for fermenting, unlike sourdoughs and kombucha, which require a starter be introduced.
- Does not require electricity like freezing and canning do. It also keeps the kitchen cool, opposed to canning which is also a lot more maintenance and time consuming. While the prep area and jars still need to be cleaned well, in contrast to canning, lacto-fermentation is more forgiving when it comes to sterilization for food safety.
- Gives new life and flavor to vegetables they would otherwise tire of such as daikon radishes.

Lacto-fermentation can be done with or without salt, though is typically done with a 1.5-5% ratio of salt to vegetables. They use roughly 1tbsp of salt for packing in a 1liter jar. It is all about balance, though the measurements don't need to be precise. If the fermented product goes bad, it will undeniably be inedible and rancid. The ideal temperature range for lacto-fermenting is 50-70 degrees Fahrenheit. Heat will help to speed up the fermenting process, but if it is not desired, adding additional salt can slow it down.

The end result is very much a matter of personal preference. A shorter ferment will result in a crispier and less sour product, whereas a longer ferment will offer a more sour and softer result. Shannon and Bryan prefer to cut their produce into similar sized pieces, which helps them all ferment at the same rate. Though some like the varying texture and will purposefully incorporate a variety of sizes. Smaller shapes typically ferment faster than larger chunks. Another technique to achieve a crispier end result is to add high tannin leaves to the jar such as

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horseradish, grape, or cherry leaves (locally available and abundant pin cherry leaves work).

When choosing what produce to ferment, keep in mind it still needs to be fresh and firm. If it has a moldy spot, best to not use for fermenting. The mold, though only effecting a portion of the produce, indicates the vegetable was not vital enough to protect itself and may not have the best bacterial balance for fermenting. Though during fermentation, if mold appears on the surface, simply skim off the mold and ensure everything is submerged. If access to well water is not an option, be sure to let the city water sit out uncovered in order to let the chlorine gas off, which can inhibit some of the bacteria.

When choosing a vessel to ferment in, use glass, ceramic crocks or food grade plastic. Do not use metal like stainless steel. When packing the vegetables it helps to put the lightest and smallest pieces on the bottom, and the heavier produce on top which will help keep items from floating. To further ensure everything is submerged, ferment weights should be used. This can be fashioned many ways including a large cabbage leaf, a zipper bag filled with water, and a standard 1 pint jar will fit perfectly in the top of a wide mouth mason jar. Tightly fitted lids are not great as the ferment needs to breath and the gas created will not be able to escape. It may otherwise 'explode' if a lid is secured on. Bubbling is expected and it is recommended to place a plate under the chosen fermenting vessel incase there is any liquid seepage. In 1 week's time, taste the product and from there decide whether a softer or more sourer end result is preferred. If so continue to let it ferment, and test every other day for doneness. When the desired end result is reached, place the fermented goods in the fridge to slow down the process.

The terms sauerkraut, kimchi and pickle are defined by the style in which the lacto-fermenting was achieved, not by the kind of food that is in it.

Kimchi

- Chosen produce is tossed with salt, covered with water and left to rest overnight or soaked overnight in a salt brine.
- The following day, it is drained, leaving enough residual liquid to cover the top of the vegetables while fermenting.
- Spices, chilies and garlic are traditionally added, they can be incorporated when the vegetables are resting in the salt or the next day after the excess liquid has been drained (to retain more of their flavor). It is personal preference whether the dish ends up spicy.
- Fish sauce is also considered a traditional ingredient in kimchi, though Bryan and Shannon usually leave it out.

Sauerkraut

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- There is no brine added, but instead salt is massaged with the chosen vegetable(s). This draws out the produce's own juices; in turn creating the fermenting liquid.
- Thinner shreds/cuts of vegetables, like the traditional cabbage, help the juices release faster.
- The use of a sauerkraut mallet or even a wooden spoon can help speed up the process. Large batches can be done in big food grade plastic containers.

Q: Do you need to add water or brine to cabbage sauerkraut?

A: Use all the juices released from massaging the cabbage, if needed add enough water to ensure everything is submerged.

Pickle

- Pickling is done by dry packing the chosen produce.
- A brine of salt water is then added until everything is submerged,

Q: What kind of salt do you use?

A: They use Redmond Real Salt. Avoid using iodized salt because of its antibacterial properties.

Q: Are you're seconds vibrant and fresh enough?

A: Seconds are usually still fresh and/ or vibrant. They are just not perfect enough to sell. They may be oddly shaped or have some insect damage, which is fine. But they cut out the insect damage first.

Q: Do you keep the vegetables whole?

A: With cucumbers they sometimes will if they are all uniform, but when they are all unique they will cut down to one similar size. Baby carrots are often done whole as well.

Q: Suppose you don't want it in the fridge?

A: You can ferment a bit each week, enough to eat in the week the ferment is ready, therefore never really needing to put in the fridge. A large batch done at once requires going in the fridge (or cold cellar) after fermenting to slow the process. Technically it won't go bad left out but it will continue to ferment. The fridge is used to preserve texture and taste, not to keep the product from going rancid.

Q: If you did have a lot to process would canning kill all the beneficial nutrients?

A: It would kill the enzymes and water-soluble vitamins, such as vitamin C and the B vitamins produced by bacteria. The minerals would stay intact.

Q: Do you make 'seakraut'?

A: They do not, but it is easily done by adding dulse to the ferment (replacing the fish sauce typically used in kimchi).

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Recommended resources

Wild fermentation book – Sandor Ellix Katz

The Art of Fermentation – Sandor Ellix Katz

Preserving your food with freezing or canning – collective of farmers

Nourishing Traditions - Sally Fallon

The Permaculture Book of Ferment and Human Nutrition – Bill Mollison