

Fermentation: Cultivating the Wild

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with EagleSong Gardener and a cast of billions
Herbalist/Gardener, Pilgrim/Adventurer, Grandmother/EarthKeeper

Where people, plants and earth come together culture is born. One might even say, "culture rises from earth". Surely, in fermentation processes this is so!

With over 4 decades of active fermentation under my belt, with vegetables, fruits, beverages of all forms, cheeses, breads and bread-like foods, I've just begun to understand the finer nuances the process of fermentation has gently been nudging me toward. Some days, I feel like a babe in wonderland as fast as new concepts, recipes and understandings bubble up. And, someday I'm sure I'm part of some primeval experience/experiment as old, maybe even older, than the hills!

From all of my experiences, I am sure of one thing...

Fermentation is a simple, messy and fun way to preserve food! The processes used increase nutrient density, reduce the need for expensive alternatives for food preservation, support active digestive and mental health and ally with the fastest adapters on the planet! A few of the many great reasons to get out of the box with your food practices and have a little fun.

Here are 3 easy recipes for vegetable ferments, 2 dairy ferments and a feisty Elder Flower Champagne and a steadfast Elderberry Wine you don't even have to be sick to enjoy!

Vegetable Cultures

Let's Start with Cabbage!

Cabbage, that easy to grow, cheap to buy, vegetable available in countless varieties, loved and hated by many, that keeps people healthy the world 'round! High in vitamin C and easier to digest when brined, fermented cabbage assists in the digestion of other foods as well. 20% of the US cabbage crop goes into sauerkraut. Easy, delicious, if you are not a pickled cabbage eater yet, you'll wonder how you ever lived without sauerkraut and kimchi in your diet! Fun fact: in 1867 there were over 56 varieties of cabbage available in US markets. And, this did not include the savoy or Asian varieties!

Easy Sauerkraut

5 # freshest cabbage you can find

3 Tablespoons salt (sea salt or kosher w/o additives)

Knife or kraut shredder

Container to hold and pound cabbage in

A crock, stainless steel pan, large bowl or food grade plastic bucket

Some form of wooden pounder. Tree limb, 2x4, mallet...this is where it gets fun!
Follower and weight to keep kraut below brine

Cut cabbage in quarters, remove core, shred or slice cabbage the thickness of a quarter. Place in container.

Mix in salt to taste as you pound. The mix should taste salty. Adjust as needed.

Pound gently, simply bruising to release juice is the objective. The salt is working with you to pull juice from plant cells. A good kraut maintains the integrity of the cabbage.

At this juncture one can add juniper berries, caraway seed or other seeds/herbs to enhance the taste and nutritive quality/action of the finished kraut

Let the bruised cabbage rest while brine forms. Mix. Adjust salt. Mix again and pack into jars, crock or bucket. Place weight and follower on top of mixture to keep cabbage under brine. Brine in a Ziploc plastic freezer bag works well as a combined weight/follower.

Within a few hours the brine should cover kraut by 1" to maintain anaerobic fermentation processes.

If it doesn't, make a brine with 1.5 Tablespoons salt dissolved in 1 quart water and pour enough of this over cabbage to cover by at least 1".

Check every day or two to see if scum has begun to form. If so, remove scum and weights, wash and replace follower. In a day or so the bubbles of fermentation should begin showing at the edge of the container. (Light colored scum is a form of yeast and will impart a yeasty flavor to kraut.)

I enjoy the taste of young kraut even just a week into the process. To learn how the process works and to find the flavor you prefer when just starting out, try tasting the kraut every couple of days.

Temperatures affect the flavor greatly. Kraut that works/cures at lower temperatures 60-70 degrees takes longer 5-6 weeks and develops more complex flavor. A kraut cured at 70-75 degrees ambient temperature will cure quicker 2-3 weeks and will have a delicious flavor as well. Hotter than 90 degrees yields a fast kraut, the fermenting done by homofermentive bacteria that produce lactic acid but not acetic acid and other substances, which in cooler ferments contribute to complexity in the finished flavor of a really good kraut!

Once the kraut has cured to your taste, pack in pint or quart jars, cap and refrigerate. If storing in the crock be sure to keep covered in a cool 45-55 degree place with sufficient brine to maintain 1" at all times over kraut.

IMPORTANT: Crock manners are necessary to maintain quality. Use clean utensils to take enough kraut for a week, place in jar or bowl. Limited entry and clean utensils ensure safety of the food stored without refrigeration. Never put a utensil that has been in your mouth into the fermented food, not because of germs, rather, enzymes that begin digestion and will ultimately soften the kraut! Enjoy!

Kimuchi: A sweeter Japanese version of kimchi

3# Napa cabbage

3 Tablespoons + 2 teaspoons pickling salt

1 carrot sliced in matchsticks

1 small apple grated with peel

3 scallions cut into 1" lengths

1 small bunch any Asian greens/mustard

2 teaspoons fresh ginger, minced

1-2 garlic cloves, minced

1-2 Tablespoons Korean dried kimchee pepper (available at Asian markets)

1. Trim base of cabbage, remove wilted outer leaves. Halve the cabbages lengthwise at base then gently pull halves apart, repeat to quarter the cabbages. Now, separate the leaves and with your fingers rub salt between them. Quarters are still connected at the base, now set on cookie sheet in the sun to wilt 4-5 hours.

2. Next, cut cabbage wedges into 1 " squares and put into a bowl large enough to hold all vegetables. Mix in carrots, apple, scallions, ginger, garlic, hot pepper and taste. Use remaining 1.5 Teaspoons salt to adjust flavor toward salty. Pack into jars or use a Japanese pickle press, *shokutaku tsukemono ki*. This tub has an inner lid that screws down to push vegetable under brine. Again 1" brine over vegetable. Cure to taste then jar, cap and refrigerate. A refreshing, quick pickle. Seasonings can be adjusted to taste once you've made this recipe.

Red Beet Kvass

2 large red beet roots cut into 1/2" cubes

3 Teaspoons salt mixed with enough water to cover beets in 1/2 gallon jar

Mix all ingredients in jar, cover loosely with cloth & rubber band at neck

Mix 1-2 times daily until bubbling begins then let kvass set until desired sourness is reached.

Time depends on ambient temperature.

Dairy Cultures

Yogurt

2 quarts milk cow or goat, raw or pasteurized will work

2 teaspoons plain Yogurt starter from a store or a friend

Small portable ice chest

Make a nest in the ice chest by placing 2 quart jars filled with hot water into bath towels wrapped around them, cover while preparing milk.

Heat milk to 160 degrees, remove jars from ice chest, empty water out, whisk yogurt culture into heated milk and pour into jars, cap, return to warm nest in ice chest, cover, let sit 24 hours. Voila! Yogurt...

Chèvre/Vash Soft Molded Cheese

1 gallon milk raw or pasteurized, goat or cow
1 Cheese culture packet or 2 Tablespoons buttermilk
3 teaspoons liquid rennet (in dilution of 1 drop rennet in 1/4 cup cool water)
7-8 chèvre cheese molds

Warm milk to 72 degrees. Stir in 1 packet cheese culture* or buttermilk. Add 3 teaspoons diluted rennet. Stir thoroughly, cover and let set for 12-18 hours. Mixture will coagulate and thicken. Scoop curds into individual cheese molds. Place on cake rack suspended over pan for draining. Let drain 2 days. After draining cheese will have reduced to 1-1/2 " in the mold and should hold its' shape when turned out. Untold, salt all surfaces with kosher salt lightly. I add Greek oregano to the salt for flavor. Refrigerate and use within 1-2 weeks.

Countryside Beverages

Simple Elderflower Champagne

3.5 cups sugar
1 lemon
1 orange
4 elderflower heads in full bloom (dried will work) Yeast is in the blossom!
5 quarts cold water
1 teaspoon vinegar

Heat 1 quart of the water to dissolve the sugar and allow to cool. Squeeze juice of lemon and orange and cut rinds into quarters. Put the juice and peels of the fruits into a large jug or bowl with the elderflowers, add the vinegar and pour on the remaining 4 quarts water. Mix, cover with dish towel and let the must steep for 4 days. Strain and bottle in screw top bottles. Let sit for 6-10 days to build a good fizz. Tip: Fill a plastic water bottle to act as a tester for the fermentation. You can determine when the fermentation is right by the pressure building in the soft bottle. A refreshing summer drink served chilled with ice and lemon!

Elderberry Wine: A Rich, Full Bodied Version

4 pounds elderberries or elderberry mixed with another dark berry, i.e. aronia
1 gallon water
4 pounds sugar
1 teaspoon Yeast: Port yeast makes richer flavored wine, regular yeast for table wine.
On the second morning, add yeast to 1 cup warm water in which 1 tablespoon sugar has been dissolved and let it sit to activate while preparing fruit for wine.

Process:

Crush berries, put into bucket or bowl, pour over 2 quarts water, cover and let sit overnight. Strain, wring out dry. Then mix the pulp with 1 quart water, stir and wring out again. Mix with the first squeeze put in pan and bring slowly to boiling point, skim any scum that rises, once to the boil, immediately turn to simmer for 3-4 minutes. Strain into fermenting vessel, add 2 pounds sugar and stir until dissolved.

Allow to cool, then add yeast starter, stir well to aerate and cover with dish towel so the fermenting liquid can breathe. Ferment for 10 days stirring at least 1x per day.

Then, make a syrup of remaining 2 pounds sugar and 1 quart water, let cool before adding to fermenting liquid, stir well, pour into fermentation jug, fit with fermentation lock and leave until fermentation has ceased. Finally, rack into settling jugs to clear. Once clear, bottle and cork or cap. This wine is a bit on the sweet side.

Recipe can be riffed on easily. Basics 3# sugar to 1 gallon wine make a table wine, 4# dessert wine. 3# fruit table wine, 4# fruit richer table wine burgundy w/ 4# sugar port like

NOTES:

"Finally, and perhaps most profoundly, the lesson of the human microbiome is that it compels us to revise our understanding of ourselves as humans: Microbes are us..." Firefly Kitchens, Seattle, July Newsletter

References:

Home Wine Making Without Failures, by H.E. Bravery many editions still available

Stillroom Cookery by Grace Firth, A classic of wit and wisdom in the kitchen, field and stillroom

Wild Food by Roger Phillips One of the first beautifully pictured books on wild foraging

Joy of Pickling by Linda Ziedrich measured and precise...fun, too!

Personal interactions with Audrey of Audrey and Buck beside Stillwater Creek, Vader, WA regarding cheese making, weasels in the chicken house, the best Crock Dill Pickle recipe ever and why going to the pub on Tuesday is important...