

Taking the Fear out of Fermentation



The Many Benefits of Fermented Foods

- ✦ Food Preservation - Increases Storage Time
- ✦ Easy Vegetables Ready to Serve Anytime
- ✦ Improves Digestibility
- ✦ Reduces Goitrogenic Effects of Cruciferous Vegetables (www.westonaprice.org/basics/bearers-of-the-cross)
- ✦ Increases Nutrients, Vitamins & Enzymes
- ✦ Adds Friendly Flora to the Intestinal Tract (Probiotics)
- ✦ Taste!

Safety of Homemade Ferments



- ✦ Botulism was an obscure disease until the advent of canning.
- ✦ *C. botulinum* spore is extraordinarily heat tolerant.
- ✦ *C. botulinum* is inhibited by acid environment.
- ✦ Lactic acid inhibits other bacteria & creates an acid environment.
- ✦ Fermentation has been used to purify water.
- ✦ Fermented foods may be *safer* than raw foods.

Safety of Homemade Ferments



- ✦ *"There has never been a documented case of foodborne illness from fermented vegetables. Risky is not a word I would use to describe vegetable fermentation."*
- ✦ - Fred Breidt (USDA vegetable fermentation specialist)

Reasons to Make Your Own



Most commercial brands are:

- ✦ NOT fermented
- ✦ Pasteurized to kill microorganisms (also destroys enzymes)
- ✦ Good brands more expensive than homemade
- ✦ Some good brands exist. Look for words such as:
"Live", "Contains live cultures", "Unpasteurized" and Lacto-fermented".

Salt



Benefits to ferment:

- ✦ Creates a selective environment to encourage the growth of certain microorganisms.
- ✦ Prevents spoilage, allows beneficial bacteria to thrive.
- ✦ Pulls juices out of vegetables by osmosis.

Benefits to health:

- ✦ Adds Flavor.
- ✦ Adds Minerals (when unrefined salt is used).
- ✦ Needed for digestion.

Salt



- ✦ 2-3% salt by weight suggested
- ✦ (~1.5-2 tsp. salt per lb. veggies)
- ✦ Start at lower level and adjust to taste.
- ✦ Harder to remove excess salt - add more veggies.
- ✦ Reduced salt diets has not been shown to be beneficial.
- ✦ See articles on westonaprice.org
- ✦ Links to salt articles: eugenewestonaprice.org/salt
- ✦ There are also some low or no salt recipes available.

Starter Culture



- ✦ No Added Starter: “Wild Fermentation”
This is traditional for raw vegetable ferments.
Uses naturally occurring bacteria - nothing added
- ✦ Whey (liquid strained from yogurt or kefir)
- ✦ Commercial Starter (see *Shopping Guide* for sources)
- ✦ Probiotic Supplement
- ✦ Liquid from previous batch of ferment
- ✦ Kefir grains (Chose ONE)

Whey



- ✦ Purpose
 - ✦ Provides probiotic starter culture (inoculant)
- ✦ Type:
 - ✦ Liquid drained from good quality whole milk unflavored yogurt, kefir or cultured milk.
- ✦ Do not use (they do not work):
 - ✦ Whey from cheese making
 - ✦ Dry powdered whey

Making Whey



Yogurt, Kefir, or Raw Cultured Milk.

- ✦ Best - Make from grass-fed raw milk.
- ✦ Good - quality commercial yogurt.
- ✦ Look for few ingredients on the label:
 - ✦ Whole milk, cream, & starter cultures.
 - ✦ Avoid: gums, stabilizers, thickeners & dry powdered milk.

Consult Weston A. Price Foundation *Shopping Guide* for brands.

Basic Fermented Veggies



Ingredients - Yield: 2 quarts

- ✦ ~3 lbs. vegetables
- ✦ 1 1/2 to 2 Tbsp sea salt
- ✦ 4 Tbsp whey (optional)
- ✦ 1-5 Tbsp herbs, spices or flavorful foods

Conversions:

- ✦ 1 Tbsp = 3 tsp. = ~15 ml
- ✦ 4 Tbsp = 1/4 cup = ~60 ml
- ✦ 2 quarts = 1/2 gallon = ~2000 ml

Basic Method



✦ Chop

- ✦ Flavor

✦ Salt

- ✦ Mix
- ✦ Let sit
- ✦ Pound

✦ Pack

- ✦ Check Headspace
- ✦ Weight
- ✦ Label & Date

✦ Wait

- ✦ Burp (if needed)
- ✦ Serve

Flavor



Herbs, Spices & Flavorful Foods include:


- ✦ Garlic, Onion, Ginger, Horseradish, Dill, Celery seeds, Caraway seeds, Mustard seeds, Cumin, Coriander seeds, Juniper berries, Tarragon, Lavender, Small dried fishes, Dried shrimp, Seaweed, Hot Peppers (fresh or dried), Turmeric, Fenugreek, and many others...
- ✦ (Many traditional spices are also mold inhibitors)

Fermentation Weights



- ✦ No weights - Simply apply lid
- ✦ Glass fermentation weights
- ✦ Plastic lid cut to fit jar
- ✦ Marbles in cloth bag
- ✦ Ceramic weights
- ✦ ~~Iron nails in a plastic baggy?~~
- ✦ Boiled river rocks
- ✦ Small jar filled with water

Air Lock



- ✦ None - Simply apply lid & leave headspace.
- ✦ Air Lock (from homebrew or winemaking store).
- ✦ Commercial pickle or sauerkraut air locks.
- ✦ Olive oil layer.
- ✦ Wire bale jar.

Headspace



- ✦ Leave at least 1" headspace.
- ✦ Better to keep veggies below "shoulders".
- ✦ Air can compress (more than liquids).

Traditional Sauerkraut



Ingredients - Yield: 2 quarts

- ✦ 1 medium cabbage (~3 lbs)
- ✦ 1 Tbsp. caraway seeds
- ✦ 1 1/2 - 2 Tbsp. sea salt
- ✦ 4 Tbsp. whey (optional)


Pink PowerKraut



Ingredients - Yield: 2 quarts

- ✦ 1 medium head green cabbage (~2 lbs.)
- ✦ 8 carrots – grated
- ✦ 8 ribs celery – sliced
- ✦ ½ medium beet – grated
- ✦ 2-4 cloves garlic – diced
- ✦ 1 Tbsp. fresh ginger - grated
- ✦ 4 Tbsp. whey (optional)
- ✦ 2 Tbsp. Sea Salt
- ✦ 2 Tbsp. Dulse
- ✦ 2 Tbsp. Arame
- ✦ 2 Tbsp. small dried anchovies

Be Creative - Experiment!



- ✦ Use your own vegetable combinations.
- ✦ Make notes of your recipes.
- ✦ Label every jar.
(you will forget what is in there!)

Improvise



Combine vegetables such as:

- ✦ Cabbage, turnip, carrot, beet, radish, onion, broccoli, cauliflower, bok choy, Brussels sprout, celery, fennel, leek, peas, green beans, peppers, chard, kale, spinach, and many others...

Cabbage and root crops make a good base to mix with other veggies.

Trouble Shooting:



- ✦ White surface film? Oxidized surface layer?
- ✦ Mold or yeast layer? - Scrape it off.
- ✦ If the ferments look, smell and taste good underneath, it is probably fine to consume.
- ✦ If they start to taste bad, compost them and start over.
- ✦ Trust your senses.

If you have problems, try these tips



- ✦ Make sure vegetables are fresh & organic.
- ✦ Make sure you are not using too much salt (2-3% by weight)
- ✦ Keep vegetables submerged under juices.
- ✦ Make sure you have a vibrant inoculant.
- ✦ Make sure your water doesn't have chemicals.
- ✦ Use an air lock.
- ✦ Leave enough headspace.
- ✦ Get together with other experienced fermenters.

Enjoy Your Ferments!



If you are new to live fermented foods:

- ✦ Start slowly.
- ✦ Add a small amount each day.
- ✦ They contain powerful probiotics.
- ✦ If you have digestive upset, back off for a while.
- ✦ Trust your body!

Learn More



- ✦ Read books.
- ✦ Attend a class or workshop.
 - ✦ The Eugene Chapter holds classes!
- ✦ Get together with friends.
- ✦ Share your ferments.
- ✦ Teach others!

Recommended Reading:



For Recipes and Inspiration:

- ✦ *Nourishing Traditions* by Sally Fallon & Mary Enig, PhD
- ✦ *Eat Fat, Lose Fat* by Sally Fallon & Mary Enig, PhD
- ✦ *The Idiots Guide to Fermenting Foods*
by Wardeh Harmon (Local Oregon author!)
- ✦ *Wild Fermentation* by Sandor Ellix Katz
- ✦ *The Art of Fermentation* by Sandor Ellix Katz
- ✦ *Wise Traditions Journal*
- ✦ Thumbs Up Book Reviews - www.westonaprice.org



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