

Fermented Vegetables

Lactic acid is a natural preservative that inhibits putrefying bacteria. Starches and sugars in vegetables and fruits are converted into lactic acid by the many species of lactic-acid-producing bacteria. These lactobacilli are ubiquitous, present on the surface of all living things and especially numerous on leaves and roots of plants.

Lacto-fermentation is not only a means of conserving foods but also a procedure for ennobling them, as proved by their taste and aroma.

Annelies Schoneck Des Crudités Toute

Like the fermentation of dairy products, preservation of vegetables and fruits by the process of lacto-fermentation has numerous advantages beyond those of simple preservation. The proliferation of lactobacilli in fermented vegetables enhances their digestibility and increases vitamin levels. These beneficial organisms produce numerous helpful enzymes as well as antibiotic and anticarcinogenic substances. Their main by-product, lactic acid, not only keeps vegetables and fruits in a state of perfect preservation but also promotes the growth of healthy flora throughout the intestine.

Salt inhibits putrefying bacteria for several days until enough lactic acid is produced to preserve the vegetables for many months. The amount of salt can be reduced or even eliminated if whey is added to the pickling solution. Rich in lactic acid and lactic-acid-producing bacteria, whey acts as an inoculant, reducing the time needed for sufficient lactic acid to be produced to ensure preservation. During the first few days of fermentation, the vegetables are kept at room temperature; after-wards, they must be placed in a cool, dark place for long-term preservation.

It is important to use the best quality organic vegetables, sea salt and filtered or pure water for lacto-fermentation. Lactobacilli need plenty of nutrients to do their work; and, if the vegetables are deficient, the process of fermentation will not proceed.

Lacto-fermented vegetables will keep for many months in cold storage and increase in flavour with time, according to the experts, sauerkraut needs at least six months to fully mature. But they also can be eaten immediately. Lactic-acid fermented vegetables are not meant to be eaten in large quantities but as condiments.

Lacto-fermentation is an artisanal craft that does not lend itself to industrialisation. Results are not always predictable. For this reason, when the pickling process became industrialised, many changes were made that rendered the final product more uniform and more sell-able but not necessarily more nutritious. The use of vinegar instead of brine resulted in a product that is more acidic and not necessarily beneficial when eaten in large quantities; many bought products are pasteurised, thereby effectively killing all the lactic-acid-producing bacteria and robbing consumers of their beneficial effect on the digestion.

Could it be that in abandoning the ancient practice of lacto-fermentation and in our insistence on a diet in which everything has been pasteurised, we have compromised the health of our intestinal flora and made ourselves vulnerable to pathogenic microorganisms? If so, the cure for many modern diseases and protection against harmful viruses may be found not so much in new vaccinations, drugs and antibiotics but in a restored partnership with the many varieties of lactobacilli, our symbionts of the microscopic world.



Among all the vegetables that one can preserve through lacto-fermentation, cabbage has been the preferred choice in human history. In China, they fermented cabbage 6000 years ago. In ancient Rome, sauerkraut had a reputation as a food that was easy to digest. Tiberius always carried a barrel of sauerkraut with him during his long voyages to the Middle East because the Romans knew that the lactic acid it contained protected them from intestinal infections.

Sauerkraut

Ingredients

- 1 medium cabbage, cored and shredded
- 1 tablespoon caraway seeds
- 1 tablespoon sea salt
- 4 tablespoons of whey (if not available, use an additional 1 tablespoon salt)

In a bowl, mix cabbage with caraway seeds, sea salt and whey. Pound with a wooden pounder or massage with hands for about 10 minutes to release juices. Place in a wide-mouth mason jar and press down firmly until juices come to the top of the cabbage. The top of the cabbage should be at least 1 inch below the top of the jar. Cover tightly and keep at room temperature for about 3 days before transferring to cold storage. The sauerkraut may be eaten immediately, but it improves with age.

Forager's Kimchi

Ingredients

- 1 head cabbage
- 3 cloves garlic, minced
- 1-3 tbsp ginger, minced
- 3 carrots
- 1 shallot, or small onion diced
- 2 tsp chili flakes
- 1 small handful of plantain leaves, chopped
- 1 tbsp sea salt
- 2 dandelion roots chopped
- 2 tsp raw local honey
- 2 tsp paprika
- 4tbsp whey or if not available add 4 tbsp water and another 1tbsp of salt

Using a food processor or mandolin finely slice or grate the cabbage, carrots, and dandelion root. In a bowl, combine the grated vegetables with the salt and squeeze with your hands to tenderise. Let this mixture sit for one hour to draw out the moisture, squeezing every 20 minutes. In a small bowl, combine the water, honey and spices and pour this mixture over the bowl of grated vegetables.

Add the remaining ingredients.

Push the vegetables into a clean, wide mouth jar, leaving 1-2 inches at the top. Make sure they're covered, add extra water if needed.

Place a fermenting weight or small weighted glass jar over the top to keep the vegetables submerged.

Skim off any vegetables that float to the top.

Screw a lid on top and simply unscrew it half a turn.

Place it on a plate, out of direct sunlight for 3-5 days or until it's as sour as you prefer.

Screw the lid on tightly and store in the refrigerator.

To make whey you can use raw milk or yoghurt. Place the milk in a clean glass container and allow it to stand at room temperature 1-4 days until it separates.

Line a large strainer set over a bowl with a clean dish towel. Pour in the yoghurt or separated milk, cover and let stand at room temperature for several hours (longer for yoghurt).

The whey will run into the bowl and the milk solids will stay in the strainer. Tie up the towel with the milk solids inside, being careful not to squeeze. Tie this little sack to a wooden spoon placed across the top of a container so that more whey can drip out. When the bag stops dripping, the cheese is ready to use. Store whey in a glass jar.

Refrigerated, the whey keeps for about 6 months.

Source: Nourishing Traditions by Sally Fallon

