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Fermented Food

The Bodies Inside of Us

Aged cheeses, tangy sourdough breads, blistering kimchi, tart yogurt and kefir, fizzy kombucha, sauerkraut, winy cured salamis, and let us not forget wine itself. What do they have in common? They are just some of the foods we might eat everyday that are fermented. Some of our favorite foods are fermented.

Usually, when we hear the word, "fermented," we think of beer or wine. That is one type of fermentation. But what is the process of fermentation in our foods? Fermentation in food processing is the conversion of carbohydrates (think plant foods) to alcohols and carbon dioxide, or organic acids, using yeasts, bacteria, or a combination, under anaerobic (it does not consume oxygen) conditions.

The primary benefit of fermentation is the conversion of sugars and other carbohydrates. For example, converting juice into wine, grains into beer, carbohydrates into carbon dioxide to leaven bread, and sugars in vegetables into organic acids, which preserves the foods and gives the food their unique flavor.

Fermentation Is Fun

We have been eating bacteria-ridden food for centuries—we still do. And today there is a burgeoning underground fermented food movement. As movements go, it is healthy, delicious,

nutritious, and even a fun hobby. The guru of this food movement is Sandor Katz. Katz is a self-avowed "fermentation fetishist," the Johnny Appleseed of fermentation, traveling the roads of America, giving lectures and demonstrations; spreading the power of sauerkraut, dill pickles, and all foods transformed and distinguished by bacteria. Katz is the author of two books—"Wild Fermentation" and "The Revolution Will Not Be Microwaved." They have become the bibles, the how-to manuals for a cohort of foodies, revolutionaries, and food activist

Katz explained that "fermented foods are not novelties…they are our survival foods." Katz's experiments with fermentation, including his famous recipe for sauerkraut, involve what he calls "the safest food there is." He lures the novice in with his sauerkraut (his nickname is "Sandorkraut"). Then the Gospel According to Sandor: "Microscopic organisms—our ancestors and allies—transform food and extend its usefulness. Fermentation is found throughout human cultures." As Katz likes to say, "Humans didn't invent fermentation, fermentation created us."

The bacteria, the microbes in fermentation work with our immune system to arbitrate chemical reactions and force out the most common infections. Our own cells are kept alive by mitochondria: the little microbial engines in their cytoplasm—bacteria are us.

The World of Microbes

Microbes dominate the world in which we live—microorganisms are able to adapt and survive in almost any environment. Bacteria survive in the frozen tundra of the Antarctica to the hydrothermal volcanic vents in the Atlantic and, of course, in our digestive tracts.

Some microbes have even teamed up to form symbiotic relationships. For example, the bacterial strains *Streptococcus thermophilus* and *Lactobacilllus bulgaricus,* work together and transform milk into delicious and healthy yogurt.

That leads to my favorite drink from the Caucasus,' Kefir. It is a traditional fermented drink formed from the intricate ecology capable of digesting almost any food source, staving off harmful pathogens. Kefir is one example of lacto-fermentation. It is a prime example of the powerful process through which milk, vegetable, and other foods can change flavor and texture, become more digestible, and gain a longer life.

Thousands of years ago, our ancestors began to experiment with fermenting their own foods with beneficial strains to prevent spoilage, fight illness and infection, and the absorption of nutrients. As Katz explains, "most of these food movements aren't revolutionary so much as conservative." These food actions ally our bodies with the microbial world. "They want to bring back the way food has been."

Delicious and Nutritious

Fermented foods are an excellent source of vitamins, minerals, and amino acids. The fermentation process increases the amounts of some vitamins. For instance, fermented milk is a great source of complex B vitamins, while fermented vegetables are an excellent source of vitamin C. Sauerkraut often served as military rations to ancient armies, and was used to prevent scurvy. The process of fermentation also increases the bioavailability of these foods.

Sauerkraut at Home

According to the Weston A. Price Foundation, vegetables and fruits preserved by the processes of lacto-fermentation have myriad advantages beyond the act of preservation. Lactobacilli in fermented vegetables enhance their digestibility and increases vitamin levels, produce 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. Other alchemical by-products include hydrogen peroxide and small amounts of benzoic acid.

The following is Sandy "Sandorkraut" Katz's easy sauerkraut recipe:

2 large heads of cabbage (about 5 pounds) or mixture of vegetables
2 to 3 tbsp sea salt

Grate cabbages and place in a crock or plastic bucket. Sprinkle the salt over the cabbage. Crush the mixture with your hands until liquid comes out of the cabbage freely. Place a plate on top of the cabbage, then a weight on top of the plate. Cover the container and check after 2 days. Scoop the "scum" off the top, repack, and check every 3 days. After 2 weeks, sample the kraut to see if it tastes ready to eat. The flavor will continue to mature for the next several weeks. Canning or refrigerating the sauerkraut will extend its shelf life. Yields about 2 quarts.
http://www.wildfermentation.com/

If you're feeling hesitant about trying this at home, fermented foods can be bought in stores. Locally, Loris Natural Foods carries a complete line of the Kraut Cellar by Hawthorne Valley Farms. They have been have been making lacto-fermented vegetables since 1999. Hawthorne Valley Farm is located Ghent, New York.

I encourage you, be adventurous, if you are like me to try lacto-fermentation. It may seem scary at first, but it is simple, frugal, and makes the most of hard-earned local vegetables: in other words, real food.

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