

Taking the Mystery Out of Culturing Your Own Superfoods

By Caroline Barringer, NTP, CHFS, FES

History

Preparing cultured foods and beverages (a.k.a. superfoods) dates back to a time before humankind developed modern preservation methods to prolong the shelf life of foods such as pasteurization and refrigeration. In fact, human beings were probably culturing foods well before discovering fire!

Ancient societies had no way of knowing about the microscopic life responsible for culturing their foods. Yet, they praised them for their amazing health benefits. The Turkish prized kefir as a health enhancing, anti-aging tonic. It is well documented that the Bulgarians consumed copious amounts of yogurt to increase immunity and longevity (hence the name of the beneficial microbial species *Lactobacillus bulgaricus*). Even Weston A. Price, the nutritional pioneer who studied and observed isolated cultures around the world discovered that cultured foods were an integral part of most, if not all native diets. His findings revealed that traditional peoples cultured everything from grains, seafood, and flesh meats, to dairy products, fruits and vegetables.

Today we know that the regular consumption of cultured super foods introduces beneficial microbes into the alimentary canal to aid in digestion and detoxification, provide enzymes, vitamins and minerals, balance our internal bio-systems, and boost immunity. As an added bonus, the sour flavor of cultured foods will even help to curb cravings for sweets and other processed, devitalized foods, which we all know are grossly over-consumed by most modern Americans.

The Culturing Process

Traditional sauerkraut was generally prepared with root vegetables like cabbage, carrots, radishes, beets, etc. etc., by shredding them, adding salt, and pounding them to allow the contractive nature of salt to pull the organic water from the veggies to create a natural brine. Allowed to sit undisturbed for a period of two to three weeks, the root veggie mixture would become pleasantly tart and soft, resulting in an enzyme-rich, probiotic-rich superfood. The beneficial bacteria responsible for orchestrating this culturing process are mostly from the *Lactobacillus* and *Bifidus* species. This class of microbes cultures many delicious delights such as salsa, chutney, ginger/root beer, sour cream and more. As these bacteria divide, they produce a substance called lactic acid, which is responsible for that characteristic sour flavor we associate with cultured foods. Bacteria typically divide every 20 to 30 minutes at temperatures between 41° and 140°F. Their division is exponential, i.e., one microbe becomes two, which become four, which become eight, which divide into 16, then into 32, and so on. Microbes need optimal conditions to reproduce including moisture, slight acidity, time and warmth. In cooler temperatures foods culture at a slower pace. Warmer temperatures encourage microbial division resulting in a faster culturing process. The ideal temperature for culturing is between 75° to 85°F. Most foods culture well in this temperature range within 24 to 96 hours, depending on the individual needs of the medium being cultured.

My Experience

I have been preparing my own cultured foods since 1992. I have cultured everything from veggies and butter to fruits, meats, seeds, grains, tea, juice, cow's milk, goat's milk and nut milks. My first teacher of cultured foods was Ann Wigmore. I successfully prepared her veggie kraut recipe for years in big candy store style bubblegum jars before using any kind of culture starter. I simply relied on the organisms present on the vegetables and in my immediate environment to initiate the culturing process. Ann's traditional culturing style took too long for my liking, so I began to research cultured foods on the Internet and soon learned about a culture starter called "whey" from the book *Nourishing Traditions*. Adding whey to my veggie kraut recipe took the culturing process from more than two weeks to just five days! I was thrilled! Since discovering whey, I have experimented with all types of culture starters including powdered/freeze-dried starters, culturing water grains, and liquid starters - all yielding delicious results. Like Ann Wigmore, I prefer *not* to add sea salt to my culturing recipes. Let me explain...

What about sea salt? Is it necessary?

Salt is anti-microbial in nature. Therefore, it may very well inhibit the proliferation of all types of microbes (yeast, fungus, mold, bacteria, etc. etc.) whether they are pathogenic, neutral, or beneficial. My belief is that salt makes it bit more difficult for the culturing process to take hold. Salt is mineral rich and can actually alkalize the culturing environment if too abundant. The beneficial microbes found in cultured foods prefer a slightly acidic environment (just like your colon), so adding salt may cause them to work harder to produce lactic acid to make the culturing environment more to their liking. The longer the culturing process takes to initiate, the greater the chance of pathogen invasion.

What about Mold, Fungus and Yeast?

The key to keeping mold, fungus and yeast from growing on the surface of your cultured foods is to keep what you are culturing **UNDER** the brine or away from oxygen at all times. Beneficial microbes flourish in an *anaerobic* environment. Be sure to fill jars near to the top - leaving just about an inch or less of open space - to allow for expansion during culturing. Hand-tighten each jar. Do not over tighten. Too much space at the top of a jar or vessel will allow too much oxygen to remain inside the jar providing the perfect conditions for mold, fungus and wild yeast to grow on the surface of liquids or on parts of the food that may peek out of the brine. There is nothing wrong with the food or liquid under the brine. Scraping away any scum at the top will usually render the culture successful and edible. Your nose and your taste buds will let you know if the culturing food has been contaminated. If so, throw it away and start over. Many people are overly germ-phobic these days. The minute they see a speck of mold or fungus appear they throw away the entire batch, which is completely unnecessary in most cases.

Your Experience: Preparing your own cultured foods!

If you have never ventured into the land of culturing, I highly recommend it. Many commercial superfoods are available at natural food markets across the nation, but creating your own from local, raw, organic ingredients is much more delicious, nutritious and economical; and certainly much more fun! It takes some time and effort to prepare your own cultured foods, but the microbes will do most of the work for you while you tend to other important activities in your life. Don't be overly concerned about sterilizing jars and utensils. A thorough washing with chemical-free soap and hot water will do just fine. Try not to worry so much about measuring out exact amounts of food and culture. This process is pretty flexible. Just make sure to fill each jar near to the top to minimize oxygen exposure. Keeping several size wide mouth mason jars, lids and rims on hand (half-pint, pint, and quart) will help take care of any leftovers too small to put in a larger jar, but too large of an amount to throw away. Also, keep in mind that different foods require different lengths of culturing time. If a recipe suggests that a particular food will be cultured and ready to eat within 24 hours, don't take this information literally. There are variables that will cause a food to need further culturing time. Just be sure to sample foods *as they are culturing* to see when and if they're ready. Eventually you will know by the color and smell, but until then, always taste test. Once your batch is ready, it should be refrigerated. Refrigeration slows down the culturing process and even halts it at 38°F and below. Storing cultured foods at 38°F will lock in the flavor, texture and tartness and will keep them fresh for many months. An inexpensive refrigerator thermometer, available at most hardware stores, will help you set your fridge to the correct temperature.

Culturing is a bio-individual process!

Culturing is truly an art *and* a science. It does take some time to perfect. It also is a bio-individual process, so if you wish to use a culture starter *or not*, and if you choose to add sea salt *or not*, simply experiment to see what works for you as an individual. If you do choose to inoculate with a starter, be sure to select one of high quality to give the culturing process a hardy jumpstart. Once you practice with a few batches, you will have a system in place that will yield consistent results. Again, each batch will vary slightly in time, taste, texture and tartness, so use your trusty buds to determine when *you* feel each batch has cultured to your liking!

For detailed instructions on culturing kefir, coconut water kefir, coconut meat pudding, vegetables, butter, yogurt and more please visit our "Recipes" webpage at <http://www.immunitrition.com>. To receive hands-on culturing lessons, join us at a future "Certified Healing Foods Specialist (CHFS) Training" near you. For a CHFS Info Packet, send your request to CHFS@immunitrition.com or call 877-773-9229.