



Fermented & cultured foods: the surprising health benefits

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by Cynthia Lair

Some call them bacteria or bugs but the nice name for this lively population is "flora." More than 500 different species make up the flora in our bodies, weighing in at between 2 and 5 pounds.



This colony of microbes doesn't just coexist within us. Our health is dependent upon their ability to stay healthy and report for work each day. Here's why.

Five ways bacteria help

Twenty-four hours a day our gut flora work to help us thrive. Here's a top five list of chores the microbes do for us:

1. Prevent the growth of pathogenic bacteria by recognizing and squashing out the invaders that might make us sick.
2. Aid digestion by breaking down food, extracting nutrients and even synthesizing some nutrients (such as vitamin K and biotin).
3. Regulate the constant regeneration of the gut lining.
4. Produce hormones that regulate fat storage.
5. Prevent depression.

What? Prevent depression? Seems so.

Findings published in "Proceedings of the National Academy of Science" show a link between probiotics and lower levels of stress hormones, and protective effects against depression.

Not only that, these trillions of good guys — live microorganisms in fermented and cultured foods — also have been linked to obesity prevention. Accumulating research indicates lean people tend to have a higher proportion of two types of beneficial bacteria than obese people.

Scientists and researchers only are beginning to study and realize how crucial the vitality and makeup of our flora is to our body's overall health. The microbes living in the gut are anaerobic — meaning they die as soon as they are outside the body. So it wasn't until we could snoop around inside the body undetected with microscopic instruments that some of this information could come to light.

All the important work of the flora can be accomplished only if the good gut bacteria outnumber the harmful bacteria. A ratio of 85 percent good microbes to 15 percent bad is ideal. But most Americans house the reverse (20 percent good and 80 percent bad) and it's wreaking havoc on our health.

When the bad guys are in charge, our immune system is weak. Allergies, skin problems, irritable bowel syndrome and even some autoimmune diseases are being linked to a feeble first line of defense.

Why don't we have more friendlies and fewer unfriendlies? What's to blame?

Five ways we kill good bacteria

Well, here are the top five ways we destroy or handicap our hardworking good microbes:

- Antibiotics are indiscriminate. They kill all biotics — not just the bad guys. Sure, we hopefully aren't prescribed antibiotics that often, but many Americans consume tiny doses daily when eating meat from sources where antibiotics are used routinely. Contraceptive pills, painkillers and cyclin drugs also are thought to stimulate the growth of bad bacteria or eliminate the essential good guys.
- Natural foods grown organically are full of vitamins, minerals and amino acids that help usher in and grow friendly bacteria. A diet of poor-quality, non-organic, highly processed food may not kill good bacteria but may encourage bad bacteria to

thrive and be a factor in the increasing number of food allergies.

- Our push toward super-cleanliness during the last century has helped us get rid of many infectious diseases, but the double-edged sword may be lopping off the heads of our good bacteria. Using antibacterial soaps and antibacterial cleaners, and pasteurizing foods — these seemingly progressive practices also destroy friendly microflora.
- American addictions to sugar and white flour may not kill good bacteria in the gut but consumption of these foods helps the bad guys proliferate. Dr. Dale Jacobson's epic essay on digestion (jacobsonchiropractic.files.wordpress.com/2011/08/microvilli1.pdf) describes eating sugary, white-flour products as "basically making a paste in your gut" that "promote[s] gut worms and other exciting parasites." That sure seems like a description of bad gut guys getting the upper hand.
- Chlorinated water, which we drink, swim and bathe in, is an enemy of the good bacteria in our gut. Like antibiotics, chlorine is indiscriminate in what bacteria it kills.

Stress, that fluttery "I can't ever get all these things done" feeling, would be number 6. It gets honorable mention.

But before you stress out about not having enough good microbes populating your gut and decimate even more good guys, let's push on to the good news.

Cultured and fermented foods

Cultured and fermented foods, rich in the good microbes that help our flora flourish, have been consumed by humans for millennia. Turning cabbage into sauerkraut, milk into yogurt, and soybeans into miso isn't new. These practices were necessary to preserve food through lean times when fresh vegetables weren't available or the cows weren't lactating.

A study from the "Journal of Toxicology and Environmental Health" found rats fed the artificial sweetener SPLENDA showed a decrease in beneficial

Our ancestors may not have been aware of the details of gut microbe populations but intuitively knew they helped preserve not just the food, but their health. Unfortunately, as our need to preserve food disappeared, we've

intestinal bacteria.

The study confirmed that disruption in the number and balance of intestinal microflora may interfere with essential gut functions.

simply gotten out of the habit of making these foods and including some at every meal.

"Probiotics" has become a buzzword in response to the current understanding of how the gut works and the role fermented foods play in keeping our

flora happy. Yogurt makers started marketing their product as "full of probiotics" (as if real yogurt could be made any other way). Taking probiotic pills has become a part of many people's daily regime.

But do pills do the same thing as eating food laden with good bacteria? The answer remains to be researched.

Most folks sense the body can derive what it needs much more efficiently from natural foods than it can from pills and powders. So in recent years we've been seeing a plethora of do-it-yourself cooking teachers educating others about how to make traditional foods that help our friendly microbes flourish.

One of the forerunners is Sandor Katz, who came out with his DIY book, "Wild Fermentation," in 2003. Readers get complete instructions on how to make sauerkraut, kimchi, sourdough bread, yogurt, miso, tempeh, cider, ginger beer, vinegar and more. Yes, more!

Ingesting these active fermented foods daily can boost the population of good microbes in your gut by leaps and bounds. Katz partially attributes his comeback from AIDS to his discovery of making and eating live, unpasteurized, fermented foods.

Cultured and fermented foods at PCC

Not into making your own? To the rescue come local Seattle food artisans Richard Climenhage and Julie O'Brien, owners of Firefly Kitchens. They both got so turned on to the importance of a healthy gut and so disheartened by the lack of live, unpasteurized, fermented foods available, they started their own line

DIY fermenting and culturing

- **Sign up** for "Get Cultured: Fermented and Cultured Foods." It's a hands-on PCC Cooks class taught by Birgitte Antonsen, N.T.P. You'll help make cultured vegetables,

of fermented vegetable products.

"The fermentation doesn't just preserve the foods and make them rich in healthy microbes," says O'Brien, "it also makes the nutrients in the food more bioavailable and creates crazy-good flavors." Firefly has won three consecutive Good Food Awards, which celebrate tasty, authentic and responsibly made food. This national recognition, coupled with being thanked daily by customers ("No more heartburn!" "No indigestion!") keeps Richard and Julie krauting away.

Besides the Firefly line of fermented vegetable products, PCC also carries a wide range of yogurts, Britt's Pickles, unpasteurized miso and tempeh, kefir, and many brands of the increasingly popular fermented drink kombucha (see page 6 for more about probiotic products).

As we learn more about how important it is to keep our gut flora strong and vital, new cookbooks, videos, recipes and products embracing the art of fermentation keep popping up. Chefs are realizing that including foods with happy microbes adds flavor dimension to dishes. Freshly made krauts or small plates of homemade ban-chan (the assorted pickled or fermented sides served in Korean cuisine) are becoming a part of innovative new menus.

Our creative ancestors found a way to transform a perishable abundance of food into products such as sauerkraut and miso that could nourish through the lean times. Now, current research continues to reveal a need to return to these food practices to help heal our poorly functioning flora. Eating live, fermented foods must be the tastiest way imaginable to start trusting our gut again.

Cynthia Lair is an assistant professor at Bastyr University, author of two cookbooks and host of Cookus Interruptus (www.cookus.tv).

sauerkraut, fresh salsa, fruit chutney, ginger root beer and more.

Registration begins April 2. The classes, in PCC classrooms, will be taught in July.

- **Read** Sandor Katz's old book, "Wild Fermentation," and new book, "The Art of Fermentation," with practical information about how to ferment vegetables, fruits, grains, milk, beans, meats and more.
- **Make** Katz's recipe for sauerkraut: wildfermentation.com/making-sauerkraut-2/.
- **Buy** any of the probiotic foods at PCC, including Firefly Kitchens fermented vegetables, Britt's Pickles, yogurt, kefir, miso, tempeh, Good Belly drinks and kombucha. Use them to [make recipes using fermented foods](#) as ingredients.

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