



Diamond Tree Update

The Prebiotic/Probiotic Connection: *Why you need them. Why they Work. And What Diamond Tree is doing to take them to the next level.*

Technically, Probiotics are often described as, "dietary supplements that contain potentially beneficial bacteria or yeasts. WHO defines them as *Live microorganisms which when administered in adequate amounts confer a health benefit on the host.* The most common of these are based in Lactic Acid Bacilli (or LAB). They've been used in the food industry for many years. And they're most commonly found in foods such as yogurt and certain raw (unpasteurized) cheeses. In their perfect form, they act as a preservative by lowering the pH and creating fewer opportunities for spoilage organisms to grow. Probiotic bacterial cultures are intended to assist the body's naturally occurring gut flora in the process of reestablishing themselves. And such familiar flora as strains of the genera *Lactobacillus (acidophilus)* and *Bifidobacterium* are the most widely used and best know probiotic bacteria.

The rationale for probiotics is that the body contains a miniature ecology of microbes, collectively known as the gut flora. A number of bacterial types are thought to be thrown out of balance by a wide range of circumstances including the use of antibiotics or other drugs, excess alcohol, stress, disease, highly acidic foods (such as colas) or exposure to toxic substance in the environment, most of which now exist in legion and attack us through our food chain in virtually dozens of ways every day. The result of this is the fact that these friendly flora decrease in such dramatic number that it creates a seed bed for such invasive elements as *Candida albicans* to enter the human system through the digestive system. And if you think this is a rarity, thing again, *because Candida is a fungus that is replete in every processed food we eat.*

Excessive *Candida* in the system is believed to be a root cause of such conditions as chronic fatigue syndrome, endometriosis, stomach ulcers, Crohn's Disease, and type II diabetes, just to name a few.

Maintenance of a healthy gut flora is essential to stem this rising tide of bacteria and fungi. It is, however, dependent on many factors. It is especially influenced by the quality of food intake, including probiotic-rich foods. Unfortunately, our intake of fresh fruits and vegetables, though they may prevent additional *Candida* build-up, do practically nothing to get rid of it. What's more, if you eat a probiotic rich food

such as yogurt, you run a double risk. One is the fact that almost all fruit or flavored yogurts contain sugar which is a growth medium for *Candida*. And, even if you ate only pure organic yogurt, you would have to partake of at least two quarts a day just to get the friendly probiotics you would get from one properly formulated strain of acidophilus. The fact is no probiotics can get the job done when it comes to the two steps necessary to secure maximum intestinal health without the help of essential prebiotics. And there have been virtually no effective prebiotic formulations synthesized from a number of foods, until very recently.





Dr. Michio Kushi

The "Father of Macrobiotics", Dr. Michio Kushi is a leading authority on macrobiotics and alternative medicine.

As a well known teacher, spokesperson and a prolific writer, Dr. Kushi is the author of several dozen books, including *The Macrobiotic Way*, *The Cancer Prevention Diet*, *The Book of Macrobiotics* and *One Peaceful World*. Among his many recognitions, he has received the Award of Excellence from the United Nations Society of Writers.

Dr. Kushi was recently honored for his work in June, 1999, when the Smithsonian Institute announced the acquisition of his collected work as part of their permanent collection. Also in June, 1999, Dr. Kushi was asked to speak before the United States Congress during a hearing on the role of diet in relationship to breast cancer.

Prebiotic Nutrition

In purely scientific terms, Prebiotics are a category of *non-digestible food ingredients that beneficially affect the digestive system by selectively stimulating the growth and/or activity of one or a limited number of bacteria in the colon*. Most prebiotics are carbohydrates, such as oligosaccharides, but may also be introduced into the system along with proteolytic enzymes and other amino acids.

By definition, prebiotics cannot be restricted to any particular bacterial group. But properly introduced into the system, they should act to help increase the number of *bifidobacteria and lactic acid bacteria* (such as *lactobacillus acidophilus*) into a healthy digestive system.

Typical dietary sources of prebiotics (some of which contain inulin) are soybeans, Jerusalem artichokes, raw oats, unrefined wheat and unrefined barley. But the drawbacks here are twofold: 1) You have to eat massive quantities of these foods (about 10 pounds a day) to get the prebiotics support you truly need to help balance your system; 2) "prebiotics" from forced commercial processing often carry sugars and preservatives that are a mixed blessing in the short terms and may be simply unhealthy in the long run.

Some companies try to milk "inulin" as the active ingredient in prebiotic foods, but inulin is ineffective as an isolated ingredient and only seems to work inside the synergy of the foods themselves - and only then when taken-in in massive quantities.



Fermena is a whole prebiotic formula exclusive to Diamond Tree.

The Fermena Solution To date, the Fermena formula, perfected by Smithsonian Laureate Dr. Michio Kushi, is the only whole food prebiotic formula designed to perform in perfect concert with the human digestive system every single time.

In short prebiotics are beneficial bacteria that live in the intestines. Probiotic foods (such as yogurt) attempt to infuse these beneficial bacteria into our digestive system but very little of these added "good" bacteria in probiotics foods ever reach our colon. On the other hand, prebiotic foods work as "feed bases" for *the good bacteria* already sitting dormant in your colon and help to increase their strength and numbers.

Prebiotics promote the growth of probiotics in the body by providing nutrients they need to survive and multiply. Prebiotics specifically encourage the growth of probiotics in the gut. *Without prebiotics*, probiotics couldn't live for long or do their job efficiently. And that's where it all begins...