



FOS, A Food For Friendly Bacteria To Boost Health

Fructooligosaccharides, which shall henceforth be referred to as FOS for obvious reasons, are sugars with chemical linkages known as osidic covalent bonds that resist enzymic hydrolysis, and so are broken down by neither the salivary nor the digestive enzymes. In other words, they are indigestible.

However, before discussing the biochemistry further, let's have a look at what they can be used for. Your body depends upon certain bacteria for its health. These are essential to help break down and digest certain foods, and also to provide a resistance to disease and infection. FOS is what is known as a prebiotic, which used to feed these friendly bacteria. Just like any other living organism, bacteria require nourishment and while they get plenty of food from our own diet, especially from the fiber content, they find FOS particularly appetizing.

Because fructooligosaccharides cannot be digested, it passes unchanged into the colon, where these bacteria live. As they break down the FOS and live on it, they multiply, and create an environment in your lower intestine that is hostile to many harmful bacteria such as Clostridia and E. coli. However, it is not only these harmful bacteria that cause problems with your digestion since there many other agents that can interfere with the smooth functioning of your gastrointestinal tract.

People all over the world are continually suffering from both minor and very serious digestive problems, ranging from heartburn and upset stomachs to severe diarrhea, Crohn's disease, irritable bowel syndrome and even bowel cancers. There is a multitude of reasons for that such as the effects of aging, poor diet and bacteria from contaminated food. Organic foodstuffs do not last long in many warm countries, and while spices can be used to hide the taste, they are not always successful in killing off the bacteria.

Your health depends on a healthy digestive system, and when that is wrong then you will feel ill. If your digestive system is running below par, then you will not feel good, and could suffer from a wide range of symptoms, including tiredness, nausea, constipation, diarrhea, fevers and depression. The health of your intestinal tract in particular is often neglected, and most people need to do something to give it a boost and improve its, and their, overall health.

That is what FOS can do. And it can do more than just feed friendly bacteria: it can help you maintain regular bowel movements, maintain healthy blood sugar levels, maintain a healthy immune system, break down hormones and rebuild them again (it is useful for the relief of the symptoms of PMS) and to keep down the cholesterol and fatty acid levels in



your blood. It is used to feed beneficial bacteria, not to replace them, and if you are on a probiotic supplement, you can take FOS along with it.

Fructooligosaccharides are also used as artificial sweeteners, and alternative names for them oligofructan and oligofructose. There are two classes of FOS, the first of which is produced commercially by the chemical or enzymic degradation of inulin, a polymer of D-fructose linkages terminated with D-glucose. This is produced commercially predominantly in Belgium and Holland, and it also occurs naturally in chicory and Jerusalem artichoke, and in lesser amounts in bananas, garlic, tomatoes and onions.

The second class of FOS is produced mainly in Japan. This is produced by a process known as the transfructosylation of a B-fructosidase from saccharose or aspergillus niger, a black mould found on onions and grapes. This is basically the same as the first class, although the chemical bonds are in different places.

While they resist breakdown by enzymes, they are fermented in the colon by anaerobic bacteria, bacteria that work in the absence of oxygen. Because they are fairly soluble, they can be added to dairy products such as yoghurt and used to feed the bacteria contained in the yoghurt. In fact many supplements containing acidophilus bacteria are fortified with FOS: you drink the bacteria along with its food.

Although FOS is only now assuming increasingly popularity in the West, it has been used as a dietary supplement in Japan for many years. Some of the specific health benefits that FOS conveys by promoting the health of essential bacteria, are:

Calcium and Magnesium Absorption

There have been several studies that have concluded that FOS and inulin improve the absorption of calcium in the intestine of both animals and humans. The fermentation of the FOS by bacteria reduces the pH of the gut, which increases the solubility of these minerals and hence extracts more of them from food. The increased solubility also helps them to be more easily absorbed through the intestinal wall into the bloodstream. FOS can therefore help to maintain bone density and prevent osteoporosis.

Strengthened Immune System

By taking a supplement of FOS, you can increase the density of friendly bacteria in your gut fivefold in a matter of weeks. This crowds out harmful bacteria, and so the level of toxins in your body is reduced. Your immune system is allowed to work properly to fight off infection and disease without having to work hard on keeping down the harmful bacteria in your gut.



Promotes Regularity

Apart from being a food for bacteria, since it is not digestible FOS is also a soluble fiber that draws water into your colon, and so promotes easy transport of feces by the peristaltic pumping action of the intestinal muscles. It also absorbs excess water in the chyme and feces and so helps to prevent diarrhea. Furthermore, improving the health of the friendly bacteria also improves your digestive health that also promotes regularity.

Increased Energy

The fermentation of FOS by bacteria produces gases and acids. These acids help the body to produce energy, and although not a massive energy boost, when allied to the improved digestion it is significant.

All of these benefits and more suggest that FOS is highly recommended in the event of sporadic and chronic gastrointestinal problems. It is a natural substance that does not have a direct influence on your body's biochemistry, but promotes the health and reproduction of those bacteria that do have a significant influence on intestinal health. Add that to the added benefits discussed above, and FOS is one of these supplements that could almost be called essential.

Many Brands Are Available



FOS 1000 mg 100 tabs

MSRP: \$18.98 - On Sale at **49% OFF MSRP - \$ 9.68**