

What are fructooligosaccharides and how do they provide health benefits?

July 16 2013

A new presentation today at the 2013 Institute of Food Technologists (IFT) Annual Meeting & Expo in Chicago focused on the health benefits of short-chain fructooligosaccharides (scFOS), which are low-calorie, non-digestible carbohydrates that can improve food taste and texture while aiding immunity, bone health and the growth and balance of important bacteria in the digestive track.

Fructooligosaccharides are naturally found in chicory, onions, asparagus, wheat, tomatoes and other fruits, vegetables and grains. They also can be derived from cane sugar and seaweed for use as a low-calorie (1.5—2 Kcal/g) food sweetener and supplement. As scFOS provides approximately 30-to-50 percent of the sweetness of regular sugar, it can be used to enhance flavor and lower the amount of sugar in a food product.

In addition, scFOS are considered prebiotics. After they are consumed, fructooligosaccharides move to the large intestine to stimulate the production of microbiota in the colon and gastrointestinal track.

Microbiotas are "friendly, beneficial" bacteria, said Kelly A. Tappenden, Ph.D., Kraft Foods human nutrition endowed professor at the University of Illinois at Urbana-Champaign and editor-in-chief of the Journal of Parenteral and Enteral Nutrition. Microbiotas produce essential nutrients such as short-chain fatty acids; control epithelial cell growth (the cells that line body cavities); prevent overgrowth of infectious organisms; boost intestinal immunity; and prevent inflammation, diarrhea and other

intestinal conditions. This "essential ecosystem" provides an important "balance between health and disease" in the body.

Fructooligosaccharides also increase calcium absorption in the body, an important consideration for pre- and post-menopausal women, ages 45 and older, who are losing critical bone mass that increases their risk for osteoporosis and bone fractures.

The regular addition of scFOS to the diet is "ideal for maintaining mineral density and (bone) strength," said Phillip Allsopp, Ph.D., research associate at the University of Ulster in Coleraine, Ireland.

Most Americans, including many formula-fed infants and children, do not get enough scFOS, said Cristina Munteanu, senior technical service technologist at Ingredion, Inc.

As an additive, scFOS is a clear, stable powder suitable for pasteurization, baking and beverages, said Munteanu. It can be found in milk, yogurts and other dairy products, as well as snacks, cereal, bars and candy.

Provided by Institute of Food Technologists

Citation: What are fructooligosaccharides and how do they provide health benefits? (2013, July 16) retrieved 15 May 2024 from

<https://medicalxpress.com/news/2013-07-fructooligosaccharides-health-benefits.html>

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