

Acceptability trials of fructooligosaccharides (FOS) added soup and beverages

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ABSTRACT

Fructooligosaccharides are prebiotics which beneficially affect the host by selectively stimulating the growth and activity of one or limited number of bacteria in the colon that can improve host health. The present study focuses on acceptability trials of FOS added soup and beverages namely, butter milk, lemon juice, milk and tomato soup at 2.5 per cent, 4 per cent, 5 per cent, 6 per cent, 7.5 per cent levels. The organoleptic attributes were determined by 25 semi trained panel members using 10 point numerical scoring test and difference test in triplicates. The organoleptic parameters included colour and appearance, taste, after taste, consistency and overall acceptability. Results revealed that all the FOS added products were well accepted up to 7.5 per cent level of addition and there were no significant changes observed in the overall acceptability of the products. Results obtained from the difference test revealed that consistency and overall acceptability of buttermilk significantly improved upon the addition of FOS at 7.5 per cent level. Also the colour and appearance of tomato soup improved significantly when FOS was added at 7.5 per cent level. Therefore, it can be concluded that FOS (7.5%) can be added in beverages and soup without affecting their organoleptic attributes and can form part of daily diets of human beings.

KEY WORDS : Fructooligosaccharides, Organoleptic, Addition, Soup, Beverages

How to cite this paper: Gupta, Neha and Sheth, Mini (2011). Acceptability trials of fructooligosaccharides (FOS) added soup and beverages. *Asian J. Home Sci.*, **6** (2) : 131-136.

Article chronicle: Received: 06.05.2011; Accepted: 12.10.2011

The consumption of foods and beverages containing prebiotics and probiotics is the current consumer global trend (Mark-Herbert, 2004). Consequently the global, functional food market is thriving with recent estimates indicating upto a \$ 50 billion annual share (Stanton *et al.*, 2005)

The supplementation of nutraceutical components and traditional nutritional ingredients improve the nutritional quality of beverages (Breithaupt, 2001). Fortification with novel functional ingredient such as prebiotic like FOS is a recent development in this direction (Luckow *et al.*, 2006). Prebiotics promote the growth or activity of a limited number of bacterial species especially probiotics in the gut. They selectively nourish beneficial intestinal flora, stimulate their proliferation and reinforce their action and imparts beneficial health effects in humans (Ziemer and Gibson, 1998).

FOS has attracted special attention because of its prebiotic properties and also due to its sweet taste being very similar to that of sucrose (Yun, 1996). It acts as functional food ingredient that exhibits specific physiological effect such as growth stimulating beneficial bifidobacteria in the digestive tract, decrease in total cholesterol and lipid in serum, relief of constipation and general improvement of human health (Tomomatsu,

1994).

In addition, FOS being slightly sweet in taste is likely to blend well with many products. In pure form, it has sweetness of about 30-35 per cent in comparison to sucrose. Its sweetening profile closely approaches that of sugar. The taste is very clean without any lingering effect. It mingles very well with delicate aromas and even enhances fruit flavours (Franck, 2002; 2008). FOS was used for partial substitution of sucrose in fruit juices without significantly affecting the overall quality (Prapulla *et al.*, 2009). However, the acceptability of FOS added in variety of food products need to be tested. Therefore, the present study focuses on acceptability trials of FOS addition in the beverages and soup on their organoleptic attribute.

RESEARCH METHODS

Procurement of raw materials:

Food grade fructooligosaccharide (Frutafit HD, 250880119) was procured from S.A Pharmachem. Pvt. Ltd. Other materials required to develop FOS incorporated food products including sugar, lemon procured from the local market; milk and buttermilk were procured from Sugam parlor supplied by Amul dairy.