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# Production of Xylooligosaccharides (Xos) from Sugarcane Bagasse and Assessment of its Prebiotic Potential by *In-Vitro* Method

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Xylooligosaccharides are potential prebiotic components retrieved from xylan using xylanase enzyme which are stable over a wide range of pH and temperature. According to the biological properties, they are non-carcinogenic, selective proliferation of Probiotics, antioxidant etc. Probiotics are live microorganism which confers health benefits to the consumed host viz., reduces the serum cholesterol level, alleviation of lactose intolerance symptoms, lowering the risk of colon cancer etc. The synergistic combination of Prebiotics and Probiotics doubles the health benefits when they are consumed. Synbiotics implants and improves the survival of gut microbiome population, enhances the production of Short Chain Fatty Acids (SCFA) etc. In this study, the Xylooligosaccharides (XOS) were produced from the agricultural waste, sugarcane bagasse by two step process: Alkaline extraction of xylan from substrate and the enzymatic hydrolysis of xylan. XOS's are combined with the probiotics isolated from fermented Soybean, Fish and Koozh. XOS was substituted with carbon source of the medium and their growth was maximum when compared with the actual medium. In XOS substituted medium, the bacteriocin produced by *Bifidobacterium* B (360 AU) inhibits the *P. aeroginosa* and *Lactobacillus* FN1 inhibits the growth of *P. fluroscence*, E. coli and *P. aeroginosa* (643 AU, 1320 AU, 1929 AU). The demands on the advancement of value added nutraceutical food products coupled with health benefits attract attention worldwide. This demand may be retrieved by the usage of Synbiotics.

## Biography

Nagamani Kathiresan, Research Scholar pursuing Ph.D. under the guidance of Dr. David Ravindran Abraham, Professor, Department of Biology, Gandhigram Rural Institute-Deemed to be University, Dindigul, Tamil Nadu, India. She is an enthusiastic, adaptive and a fast-learning person with a broad and acute interest in the formulation of functional food utilizing affordable scientific techniques. Her area of specialization is food microbiology and research emphasizes on the Probiotics, Prebiotics and Synbiotics for human health. She had also qualified ASRB-ICAR NET 2018 and received prizes for oral presentation in National and International seminars.

## Notes: