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Development of prebiotic bakery products from millets and xylooligosaccharides

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Statement of the Problem: Development and standardization of bakery product (cookies) from millet and xylooligosaccharides (XOS). Prebiotics are defined as non-digestible food ingredients that beneficially affect the host by selectively stimulating the growth of one or a limited number of bacterial species in the colon such as *Bifidobacteria and Lactobacillus*, which have the potential to improve host health. XOS, a class of non-digestible food ingredients having low degree of polymerization are produced during the hydrolysis of xylan and have been generally recognized as safe by Food and Drug Organization. Millets are recognized as important substitutes for major cereal crops to cope with food shortage and to meet the demands of increasing population of developing countries. Development of low cost nutritious foods using millet will go a long way in combating the malnutrition. The diet from millet based to refined wheat and rice diets contributed to increased prevalence of diabetes and other health ailments.

Methodology & Theoretical Orientation: Xylooligosaccharides were extracted from rice bran and finger millet seed coat was used in the preparation of bread and cookies. The xylooligosaccharides was used as a replacement for sugar, both bread and cookies are made out of refined wheat flour (50%) and millet flour (50%). The nutrient content and sensory attributes of developed products were analyzed.

Findings: The nutritional analysis indicated that in products with xylooligosaccharides from finger millet seed coat (FXOS) to the level of 30% in cookies (millet cookies and refined wheat flour cookies) and to the level of 10% in bread (millet bread and white bread) was having higher amount of slowly digestible starch and resistant starch.

Conclusion & Significance: Xylooligosaccharides enriched bread and cookies give prebiotic functional foods to the consumer.

Biography

Malathi D, PhD, is specialized in the field of Food Science and Nutrition and has thirty five years of experience in teaching, research and extension. She is expert in various processing techniques and value added products from different food crops. She is involved in popularizing the developed technologies through demonstrations, radio talks, etc., that created awareness about the preservation, processing and therapeutic values. She has attended 13 national and 4 international training programs. She is conducting training programs on fruits and vegetables preservation, development of therapeutic bakery products, confectionery products and instant food mixes to farmers, industrial persons, entrepreneurs and general public. She has worked in 12 national and 4 international research projects and published 36 international and 75 national research papers.

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