Development of non-dairy symbiotic food to ensure food safety & combat hidden hunger deficiency

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Project Objectives

- To screen efficient probiotic isolates of genera *Lactobacillus, Streptococcus,* and *Leuconostoc* from indigenous sources and develop probiotic consortium
- Development and validation of synbiotic product using RTR technology using non-dairy based substrates.
- Determination of the effectiveness and efficacy of probiotic intervention in ensuring food safety.

Description

As we enter the new millennium, people are aware that diet plays a major role in preventing diseases and promoting health. Nutrition has progressed from the discovery of essential nutrients and prevention of dietary deficiency, to the promotion of a state of well-being and health with reduction of the risk of disease. Therefore, there is an increasing trend for foods containing probiotic cultures. One of the most significant groups of probiotic organisms are the lactic acid bacteria (LAB), commonly used in fermented dairy products. These bacteria have a long history of safe use in food. There is an upsurge interest in these species as research is beginning to reveal the many possible health benefits associated with lactic acid bacteria. Probiotic food formulations have a great economic value and it has been accepted that these contribute in improving human health. During the last 20 years much of the research on LAB focused on dairy products. Investigations now include different LAB involved in wide variety of fermentation process. This project aims in the designing of functional foods, comprising of a combination of probiotic consortium and prebiotics. We will have developed a consortium of LAB isolates which will comfortably ferment non-dairy substrates. The fermented food formulation will be developed such that it will be in the ready-to-constitute basis. In-vitro studies will be done to provide scientific evidence to the probiotic claims of LAB isolates. Further, probiotic and prebiotic research may be especially useful is in preventing repeated episodes of diarrhea. Repeated incidences of lengthy episodes of diarrhea can contribute to malnutrition due to enteropathy with ineffective energy and nutrient absorption. In recent years, attention has turned to ascertaining if probiotics and/or prebiotics could be used to improve the nutritional status of malnourished individuals. Eventually we will have designed and developed a ready-to-constitute non-dairy synbiotic functional food which will be the first of its kind in this field.