

Utilizing our indigenous food microbial resource as a tool to combat malnutrition and provide food security

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The problems of food security and malnutrition is rampant in developing countries like India with about 8% of the Indians without two square meals a day and more than half the women and children being anaemic. Fermentation can be one of the tools to combat the problem of mal-nutrition in the developing countries as the process improves nutritional value of foods using easily available seasonal raw materials and without requirement of any sophisticated processes and infrastructure facilities. Vegetables such as cabbage, carrot, cucumber, green mangoes, tomatoes, lemon, etc. are being regularly used for development of fermented vegetables. Lactic acid bacteria are most common microbes involved in fermentation of vegetables. During fermentation, the growth of desirable bacteria results in the production of diversity of metabolites including enzymes capable of breaking down complex carbohydrates, proteins and lipids which add to vitamins, organic acids, flavour and amino acid pool of the product. The plant based materials could serve as a very good protective and carrier media for beneficial bacteria called probiotics. Under the Niche Area of Excellence on Synbiotic Dairy Products, AAU has formulated several fruit and vegetable based synbiotic products by fermentation of milk with probiotic *Lactobacillus helveticus* MTCC 5463 and added with inulin (prebiotic). They include curd blended with shreds of cucumber or carrots or piece of banana or sapota, whey drink with orange juice and lassi with carrot juice, spirullina, safed muesli and probiotic carbonated whey drink. It could be concluded that fermented fruit and vegetable milk products with probiotic microorganisms have great potential in health food sector as a means to alleviate poverty and malnutrition.

Biography

Jashbhai B. Prajapati is the Head of Dairy Microbiology Department. His major areas of research are Fermented foods, probiotics, synbiotics, lactic acid bacteria and their nutritional and health benefits. He is the coordinator of Swedish South Asian Network on Fermented Foods, Erasmus Mundus Fellowship Program, Niche Area of Excellence on "Functional Fermented Dairy Products with Synbiotics" sponsored by Indian Council of Agricultural Research and a Member in Indian National Committee of International Dairy Federation (IDF) in 3 groups. He has handled number of research projects and has published more than 200 papers, chapters in books and one text book on Dairy Microbiology.

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