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Optimization of viability in probiotics by microencapsulation of probiotic cultures, growth promoters, and cryoprotective agents

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Man's inquisitive desire to relish tasty food has now changed to food that has therapeutic and curative properties. Past two decades has witnessed a tremendous increase in worldwide scale of cultured products containing probiotic bacteria. Most probiotic strains are used in ice cream, fermented milks, yoghurts and pharmaceutical products for their anecdotal health effect. Probiotic bacteria have been incorporated into fermented and non-fermented ice cream which is an ideal vehicle for delivery of this organism in the human diet. Microencapsulation is a useful tool to improve the delivery of bioactive compounds into foods, particularly probiotics, minerals, vitamins, phytosterols, lutein, fatty acids and antioxidants. Microencapsulation of bacterial cells is currently gaining attention to increase viability of probiotic bacteria in probiotic ice cream. An attempt has been made to develop probiotic ice cream using *Lactobacillus acidophilus* and *Bifidobacterium bifidum* by micro encapsulation of probiotic cultures with addition of growth promoters (Ginger & Honey) and cryoprotective agent (Glycerol). Thus, from the above studies it can be concluded that probiotic ice cream (T1) prepared from whole milk with 6% fat & 9% S.N.F., 15% sugar, 0.5% emulsifier/stabilizer plus probiotic cultures was found to be best for colour and appearance, body and texture. Whereas as per shelf life of the product concern, encapsulated probiotic culture (T2) found to be the best even after 30 days. As per flavour and taste, melting resistance and overall acceptability, probiotic ice cream with Ginger and Honey (T4) found to be best among all the treatment.

Biography

John David is a vibrant university professor in shiats University, India, in the field of Dairy Technology, having a teaching experience of 21 years. He is a passionate research worker having more than 80 research publication in his credit. Prof. David has guided 10 Ph.D. theses. He has written 7 books of national and international repute in the field of Food and Dairy Technology. He has been bestowed with Young Scientist award in the year 2006 and has been honored with "Pride of the Nation" (Rashtriya Gaurav) and "Gem of Education" (Shiksha Ratan) award for his distinguished service to the nation in the year 2014.

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