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Microbiological Considerations for Milk Products

Editorial

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Renewed interest of consumers towards healthful food has projected probiotic supplemented food as a functional food in the current era of self-care and complementary medicine. Cultured milk products have been extensively used as a vehicle for incorpora-tion of probiotics to enhance its prophylactic proper-ties resulting in diverse probiotic supplemented foods. Consumers are purchasing probiotic foods based upon label information but they are not confident regarding its health claims. Most of the probiotic supplemented food available in the global market could not meet the desired level of viable population of probiotics.

Reviewed literature indicated that cultured milk prod-ucts must contain sufficient population of beneficial microorganisms during food processing, at the point of sale and in host gastro-intestinal tract to exhibit health benefits. Stability of probiotics in supplement-ing media as well as gastrointestinal tract environment is of prime concern for the retention of desired level of viable population to exert health benefits. Various techniques such as selection of acid and bile resistant strains, use of oxygen impermeable packaging materi-als, two-step fermentation, stress adaptation, inclusion of micro-nutrient, sonication of bacteria and micro-encapsulation could be adopted to retain desired level of probiotics. For sustaining minimum therapeutic dosage (106 cells/ml) higher initial concentration (108-109 cells/ml) of beneficial cultures in milk may be suggested.

Technological and dietetic characteristics of probiot-ics differ with the species, therefore generalization of health benefits for a particular strain is not scientific.Further well-designed placebo-controlled studies are emerging for determining the optimal dose, duration of treatment, selection probiotic strains, their mode of actions and efficacy of multi-strain preparations prior to their recommendations for therapeutic or preven-tive use.