

## DEVELOPMENT OF FUNCTIONAL FOODS: LOW-FAT ICE CREAM

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**Background:** The increasing incidence of lifestyle and diet-related diseases have led consumers to reduce consumption of certain dietary components such as fats which has been linked to the increased risk of obesity, cardiovascular diseases and cancer. Ice cream, a popular frozen dessert, is an excellent source of food energy because of its high fat and sugar content. It is a desirable food for growing children and those who need to put on weight but its controlled use is necessary for those who need to reduce fat intake. There is a good market potential for food products with reduced fat content to help consumers enjoy their favorite foodstuffs while adhering to a nutritious diet with low fat. **Objective:** To develop a low-fat ice cream and determine the shelf-life when packed in plastic cups and cans. **Methodology:** A low-fat ice cream product was developed by using basic formulation and process of ice cream preparation. The formulation and process were standardized by up-scaling production, and packaging and shelf life studies were conducted at -18°C. The most acceptable formulation of low-fat ice cream was packed in three types of packaging materials, (1) ice cream plastic cups, (2) half gallon plastic ice cream container, and (3) half gallon ice cream cans. These were stored in a freezer at -18°C. Chemical, microbiological, physico-chemical analyses and sensory evaluation were conducted periodically to determine the quality of the product during storage of six (6) months. **Results:** A low-fat ice cream with vanilla flavor and creamy white color was developed. It contains 3.5 % protein and 139 kcal per 100g. The fat content of low-fat ice cream 1.7%, which was lower than that of the commercial product having a fat content of 10.9 %. It was found very acceptable by laboratory panels in terms of color, appearance, texture, taste and general acceptability using the 7-point Hedonic Scale. The product was shelf-stable for 26 weeks when packed in either plastic or can ice cream containers and stored in a freezer at -18°C or below. **Conclusion:** The product adds to the list of food innovations geared toward the development and commercialization of functional foods. **Recommendation:** (1) Conduct pilot scale production of the product to determine technical and economic feasibility of the products for commercial production. (2) Conduct studies on scientific evidences for health claims.