Formulation of Orange-fleshed Sweet Potato (*Ipomoea batatas*) Puree Incorporated Ice Cream

B.U. Ranatunga and J.W.A. Sajiwanie

Department of Food Science and Technology, Sabaragamuwa University of Sri Lanka, Belihuloya, Sri Lanka

Orange Fleshed sweet potato is a cheap and abundant yet underutilized root crop in Sri Lanka. Even though functional and nutritional benefits of sweet potato were reported by many studies, scanty of value added products are found in the local market. Further, ice cream is a popular dairy product which can be utilized as an excellent carrier to deliver these nutritional and functional benefits of sweet potato. Therefore, the objective of this study is to formulate sweet potato incorporated ice cream along with probiotic culture BB12. For this purpose, three ice-cream formulations were prepared by replacing cows' milk with sweet potato puree (10%, 20% and 30%). Textural properties of newly formulated ice cream were evaluated with compared to commercially available product by using Brookfield texture analyzer. Consumer preferences for the three ice cream formulations were evaluated using 9 point hedonic scale with 37 applicants and the data were statistically analyzed. The results showed that textural properties of all three formulations were largely deviate from commercially available samples. Ice cream formulation which added 20% sweet potato puree was the best accepted for color, flavor, odor, texture and overall acceptability. 103.6% over run was obtained for most preferred ice cream sample. The estimated shelf life of the product was approximately 4-5 weeks.

Keywords: Consumer preference**,** Ice cream, Orange-fleshed sweet potato, Textural properties