

The Effect of Incorporation of Inulin as a Fat Replacer on the Quality of Milk Products Vis-À-Vis Ice Cream

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Abstract : The influence of different levels of inulin as a fat replacer on the quality of ice cream was investigated. The physicochemical, rheological and textural properties of control ice cream and ice cream prepared with inulin in different proportions were determined and correlated to the different parameters using Pearson correlation and Principle Component Analysis (PCA). Based on the overall acceptability, ice cream with 4% inulin was found best and was selected for preparation of ice cream with inulin:SPI in different proportions. Compared with control ice cream, Inulin:SPI showed different rheological properties, resulting in significantly higher apparent viscosities, consistency coefficient and greater deviations from Newtonian flow. In addition, both hardness and melting resistance significantly increased with increase in the SPI content in ice cream prepared with inulin: SPI. Also hardness value increased for inulin based ice cream compared to control ice cream but it melted significantly faster than the latter. Colour value significantly decreased in both the cases compared to the control sample. The deliberation shall focus on the effect of incorporation of inulin on the quality of ice-cream.

Keywords : fat replacer, inulin, ice cream, viscosity, principal component analysis

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