

Development of Lucuma (*Pouteria campechiana* (Kunth) Baehni) Syrup Enriched Ice Cream

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Lucuma (*Pouteria campechiana* (Kunth) Baehni) is an underutilized but economically important fruit tree species enriched with fiber, minerals, beta-carotene and phenolics. The objective of this study was to develop a locally available lucuma fruit syrup enriched ice cream integrated with better physiochemical properties and sensory attributes. The standard methodology of ice cream making was followed and lucuma syrup incorporated at the levels of 5%, 10 % and 15% (v/v) with ice cream. A sensory evaluation was done based on a 9-point hedonic scale using 20 untrained panelists. Prepared ice cream was tested for physiochemical and microbiological properties. According to the sensory evaluation, the ice cream prepared with 10% of lucuma syrup recorded higher scores for appearance, aroma, body and texture, creaminess, flavor, iciness, melting, viscosity, mouthfeel, taste and overall acceptability ($p < 0.05$) except color. Color intensity increased with the increasing concentration of lucuma syrup. The proximate composition of different treatment was differ significantly ($p < 0.05$) with the storage period. The average of protein, fat, ash, fiber, moisture and carbohydrate content of developed lucuma syrup incorporated ice cream samples were 3.03 ± 0.03 - $4.15 \pm 0.15\%$; 6.9 ± 0.2 - $8.88 \pm 0.12\%$; 1.4 ± 0.23 - $1.8 \pm 0.05\%$; 0.26 ± 0.01 - $0.78 \pm 0.22\%$; 49.2 ± 0.1 - $52.7 \pm 1.65\%$ and 32.81 ± 0.04 - $38.31 \pm 0.07\%$ respectively. Total plate count and yeast and mold counts increased during storage period but within the acceptable levels whereas coliform count was absent in all samples throughout the three months of storage. In terms of shelf life, these ice cream samples performed well more than three months under refrigerator condition. In conclusion, 10% lucuma syrup incorporated ice cream was identified as a superior formulation for commercialization based on sensory, physicochemical and microbiological properties.

Keywords: Lucuma syrup, Ice cream, Sensory evaluation