

A/OP/12

Formulation of *Veralu* (*Elaeocarpus serratus*) Fruit Sauce Incorporated Soft Vanilla Ice Cream and Evaluation of Quality Parameters

Edirisinghe EAIT¹, Piyasena MP², Adikari AMJB², Arsecularatne DAM³

¹Department of Agricultural Systems, Faculty of Agriculture, Rajarata University of Sri Lanka

²Department of Animal and Food Sciences, Faculty of Agriculture, Rajarata University of Sri Lanka

³Ceylon Cold Stores PLC, Ranala, Kaduwela, Sri Lanka

Background: *Veralu* (*Elaeocarpus serratus*) is a nutritious, seasonal fruit indigenous to Sri Lanka. Yet it remains underutilized due to high perishability and lower market demand, leading to a significant postharvest loss. Ice cream, a widely consumed dairy-based frozen dessert, presents opportunities for value addition through fruit incorporation.

Objective: This study aims to incorporate *veralu* fruit sauce in soft vanilla ice cream and evaluate its quality parameters.

Methods: *Veralu* fruits harvested at commercial maturity were pulped to prepare three fruit sauce formulations with different ratios of fruit pulp and sugar on total weight basis: T₁ (25% pulp, 40% sugar), T₂ (30% pulp, 35% sugar), T₃ (35% pulp, 35% sugar). Ingredients in each treatment were blended to obtain a sauce and pasteurized at 75°C for 15–20 seconds. Prepared sauce samples were rippled into three soft vanilla ice cream samples at 20% (v/v), hardened immediately, and stored at –18°C. Ice cream samples were evaluated for physical, chemical, and microbial properties. The most preferred ice cream sample was selected through a sensory evaluation, with an adequate number of untrained panelists, using a 5-point hedonic scale. Sensory data were analyzed by the Friedman test at 5% significance level using MINITAB.

Results: All ice cream samples exhibited a freezing point depression factor of around 20, indicating favorable scoopability. Sensory evaluation identified the ice cream containing *veralu* fruit sauce from T₂ (30% pulp, 35% sugar) as the most preferred sample. It exhibited 38.33% total solids, 8.85% fat, and 11.42% milk solid-not-fat, maintaining all the chemical parameters within the SLSI specifications. The selected ice cream and its fruit sauce remained microbiologically stable for Aerobic Plate Count and Total Coliform count up to 1.5 months under frozen conditions at –18°C.

Conclusion: Findings confirm that *veralu* fruit sauce can be successfully incorporated into soft vanilla ice cream, while adding value to underutilized *veralu* fruits.

Keywords: Frozen dessert, Underutilized, *Veralu* fruit