

**DEVELOPMENT OF COCONUT MILK-BASED ICE CREAM
INCORPORATED WITH SOURSOP (*Annona muricata. L*) FRUIT
PUREE**



By

Mohamed Jamaldeen Ahila Banu



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ABSTRACT

Ice cream is a frozen dessert made from dairy products, such as cream or milk, combined with sugar, flavorings, and other ingredients. Coconut milk has nutritional benefits and is a superior source of several components. Soursop (*Annona muricata*) is an underutilized fruit crop in some countries like Sri Lanka. This study aimed to develop coconut milk-based ice cream incorporating soursop fruit puree, an innovative approach aiming to provide a lactose-free alternative with potential health benefits from soursop. This study was carried out on coconut milk-based ice cream with varying levels of soursop fruit puree to enhance its nutritional and sensory attributes. Soursop puree was added at five different levels 10 % (T₁), 20 % (T₂), 30 % (T₃), 40 % (T₄), and 50 % (T₅). The final ice cream products were analyzed for nutritional qualities including moisture, ash, fibre, protein, fat, pH, and total soluble solids (TSS), overrun, meltability rate the ice cream was also evaluated for organoleptic characteristics such as colour, texture, flavour, taste, mouthfeel, overall acceptability, the compositional analysis revealed that while the proportion of soursop puree increased from 10 to 50 %, the moisture (60.33 to 69.67 %), ash (0.45 to 0.73 %), fibre (2.79 to 4.26 %), protein (4.01 to 4.81 %), fat (8.97 to 9.31 %), total soluble solids (47.73 to 52.56 %), and meltability rate (1.67 to 3.93 %) were significantly ($p < 0.05$) increased among the treatments. Conversely, pH and overrun were decreased significantly ($p < 0.05$) from 7.23 to 6.90 and 75.67 to 61.00 % respectively. The sensory assessment demonstrated that there was significant difference ($p < 0.05$) among the treatments. The formulation containing 40 % soursop puree (T₄) achieving the highest acceptability scores in terms of colour, texture, flavour, taste, mouthfeel, and overall acceptability. The study concluded that the T₄ formulation, with 40 % soursop puree, offers the best balance of nutritional and sensory qualities, making it a promising option for coconut milk-based ice cream production.

Keywords: Coconut milk, Ice cream, Physico-chemical characters, Sensory attributes, Soursop fruit.

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