

**DEVELOPMENT OF A SUGAR FREE TWO BAR
ICE PALAM BY INCORPORATING 'KOTHALA
HIMBUTU' (*Salacia reticulata*) STEM EXTRACT**

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ABSTRACT

This study was an attempt to produce a sugar free two bar palam which consist with 'Kothala Himbutu' (*S. reticulata*) incorporated water ice and Vanilla flavoured 'Lite' ice cream as the "shell" and the "core" of the product respectively. The current study was carried out at Ceylon Cold Stores PLC Ranala, Sri Lanka. Fresh *S. reticulata* stems were collected from Katharagama area for the product development process. The appropriate dosage of *S. reticulata* stem extract was decided according to the Ayurvedic and ITI recommendations. The process was begun with the conventional decoction of *S. reticulata* stems. Water ice mixture was prepared with *S. reticulata* extract, Polydextrose (Litesse™), Erythritol (Cargill™), Sucralose (Splenda™), stabilizer (Cremodan 201), Water and Citric acid. It was pasteurized at 80 °C for five minutes and cooled to 4 °C and flavors were added. Gregoli Stick Line machine was used to produce two-bar palam. 60 mL was filled in to moulds and frozen at -32 °C. After partial freezing, 30 mL of mix was sucked out and Vanilla favoured diet ice cream mix was filled. Wooden sticks were inserted at the next stage and frozen completely. Finally, they were packed in Biaxially Oriented Poly Propylene (BO-PP) and stored below -18 °C. Three sensory evaluations were done to develop the shell of the product. Data obtained from the sensory evaluation were analyzed by non-parametric Friedman test with 95% confidence level, by MINITAB 15 package. Results of the sensory evaluation revealed that the ice palam consisted with 10% *S. reticulata* extract, 7.15% Erythritol and 0.03% of Sucralose, 15.8% Polydextrose, 0.45% Cremodan and 0.05% Citric acid. Pomegranates flavor (0.4 mL/L) was selected as the most compatible flavor for the final product. The moisture, ash and fat content were 76.8083%, 0.485% and 3.325% respectively. Microbiological result of the final product was lower than Sri Lankan Standard specification for ice cream under deep frozen storage. According to the organoleptic and microbiological results, the product was acceptable for minimum four weeks of period.

Key words: *S. reticulata*, two-bar, palam, sugar free