

## **A Healthy and Nutritious Jelly from Sweet Cheese Whey**

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### **Abstract**

Whey produced as a by product of cheese industry is not utilized for a production process in Sri Lanka. The high nutritive value of cheese whey provides a good nutrient source for the humans, if an edible product is produced. The objective of the experiment was to develop a ready to eat novel healthy jelly from sweet cheese whey. After determining the physico chemical parameters of fresh sweet whey, a preliminary experiment was conducted to select the suitable formulation using 100ml of whey with sugar (12 and 15g) and gelatine (1.5, 2.0 and 2.5g). Based on the results of the sensory evaluation conducted using five point hedonic scale with 15 well trained panelists, best proportion {cheese whey: sugar: gelatine (100ml: 15g: 2g)} was selected.

Improvements were made by adding fruits and fruit flavour to the best proportion and another sensory evaluation was conducted. Shelf life of the best improved product (both fruit and fruit flavour added) was determined based on the microbiological (coliform, TCC, Yeast and Mould) and physico chemical (pH and titratable acidity %) parameters examined for two weeks in three day intervals. The product was compared with three market available jellies for sensory and physico chemical parameters using t-test. The data of the sensory evaluation were analyzed by Kruskal Wallis-non parametric test.

Developed product was negative for coliforms and highest TCC ( $3.6 \times 10^4$  CFU/ml), and yeast & mould count ( $2.8 \times 10^2$  CFU/ml) were observed in 15<sup>th</sup> day of storage at 4 °C. Further, pH and titratable acidity% were slightly changed at 9<sup>th</sup> day of storage. Results indicated that the ash% and total solid% of the developed product were similar to market available moss jelly. Protein% ( $8.98 \pm 0.11$ ), fat% ( $0.41 \pm 0.04$ ) and brix value ( $22.75 \pm 0.5$ ) were significantly higher in the developed product than the market available jellies. However, pH and relative viscosity were significantly different ( $P < 0.05$ ) in the developed product.

Further, the product can be stored for two weeks under refrigeration conditions (4 °C) without any quality deterioration. It can be concluded from the above study that the sweet cheese whey can be effectively utilized for the production of ready to eat novel healthy jelly.

**Keywords:** jelly, physico chemical parameters, sweet cheese whey