

# **Development and Evaluation of the Black clam (*Villorita cyprinoides*) Incorporated Uncooked Palmyrah Tuber Flour-based Instant Soup Mix Powder**

**\*J. Yathushini and S. Simmaky**

Department of Biosystems Technology, Faculty of Technology,  
University of Jaffna, Sri Lanka

\*Yathushinijeyarasa@gmail.com

Palmyrah tuber soup is a popular and traditional dish among the Northern Sri Lankan population. Palmyrah tuber flour is rich in fiber, which can increase body strength and reduce hunger. Black clam (*Villorita cyprinoides*) is a good source of protein, vitamins, and minerals, and also contains high levels of antioxidants. Therefore, this study focused on developing an instant soup mix incorporating uncooked palmyrah tuber flour (UPTF) and black clam. The physicochemical, nutritional, and sensory parameters of the soup mix were evaluated. Before preparing the soup mix, the Palmyrah tuber flour was debittered. Additionally, fresh black clam meat was boiled at 95 °C for 15 minutes to reduce microbial contamination. Three different ratios of black clam powder to UPTF (5:45, 10:40, 15:35) were tested. Based on sensory evaluation by 30 untrained panelists using a 7-point Hedonic scale, the formulation with a 10:40 ratio of black clam powder: UPTF was selected as the best formulation. The proximate composition of the selected soup mix revealed the following: moisture ( $3.62 \pm 0.025\%$ ), protein ( $7.57 \pm 0.03\%$ ), ash ( $1.88 \pm 0.07\%$ ), fat ( $7.87 \pm 0.07\%$ ), fiber ( $10.1 \pm 0.25\%$ ), and carbohydrate ( $66.86 \pm 0.16\%$ ). In the overall formulation, bulk density, moisture content, and pH increased with the addition of black clam meat, whereas water absorption, solubility, swelling power, and viscosity increased with the inclusion of UPTF.

**Keywords:** Black clam, Debittering, Sensory evaluation, Uncooked palmyrah tuber flour