

Sensory Acceptability and Characterization of Shrimp Shell Flour-Based Nuggets

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Abstract: *This study explored the development and evaluation of shrimp shell flour-based nuggets through three distinct formulations, aiming to determine their sensory acceptability and analyze the nutritional and physicochemical properties of the most preferred variant. Sensory attributes—including appearance, aroma, taste, texture, and overall appeal—were assessed by 20 food experts and 30 consumer respondents using an adopted 9-point hedonic scale. The results revealed that Formulation B consistently received the highest acceptability ratings across all sensory parameters. Statistical analysis using One-Way ANOVA confirmed significant differences among the three formulations in terms of aroma, taste, texture, and composite appeal. Nutritional analysis of the most favored formulation (Formulation B) showed it to be rich in protein (20g per serving, contributing 40% of the daily value and 28% of RENI for adult males), low in carbohydrates, and moderate in fat and sodium content. Physicochemical analysis confirmed high protein content (40.24 g/100g), total fat (25.19 g/100g), and notable mineral content (ash at 4.90 g/100g), with a moisture content of 28.36 g/100g. The findings suggest that shrimp shell flour-based nuggets, particularly Formulation B, offer a sustainable and nutritionally valuable food product with strong sensory appeal, supporting the potential for broader application in healthy and eco-friendly food innovations..*

Keywords: Shrimp Shell, Flour-Based Nuggets, Food Innovation, Sensory Acceptability

