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Development and Acceptability of Calcium-Enriched Cookie Using Eggshell Powder

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Abstract:*This study aimed to develop calcium-enriched cookies using eggshell powder and evaluate their sensory acceptability and nutritional quality. Specifically, it sought to assess the acceptability of three cookie formulations based on appearance, aroma, taste, texture, and overall appeal; and identify significant differences in sensory attributes across formulations. The most preferred formulation was also analyzed for its physicochemical composition, particularly fat, protein, sugar, and calcium content. Using a mixed-method approach combining experimental and descriptive designs, the cookies were prepared with varying ingredient proportions and tested at the Food Science Laboratory of Surigao del Norte State University. Statistical analyses included MANOVA, ANOVA, and post-hoc tests to assess sensory ratings. Results revealed that all formulations were acceptable, but Formulation C was significantly preferred and rated "Like Very Much" in all sensory attributes. The physicochemical analysis of Formulation C confirmed its potential as a functional food, with high calcium content and balanced nutritional components, making it a promising product for health-focused consumers.*

Keywords: Calcium-enriched cookies, eggshell powder, sensory evaluation, functional food, nutritional fortification

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