

# Development and Acceptability of Gluten-free Macaroons using Palmyra (*Borassus flabellifer*) Fruit

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**Abstract:** This study aimed to develop gluten-free macaroons using Palmyra (*Borassus flabellifer*) fruit as the main ingredient and to evaluate their sensory acceptability and nutritional composition. Specifically, it assessed the acceptability of three macaroon formulations based on appearance, aroma, taste, texture and compared the sensory acceptability of the three formulations. Data were collected using a 9-point Hedonic Scale and analyzed through mean, and standard deviation, MANOVA and Bonferroni's test to determine significant differences across formulations. The results revealed that among the three formulations, Formulation A was the most acceptable across all sensory attributes and was significantly different from the other two. No significant differences in acceptability were found based on participant profiles, suggesting broad market appeal. Physicochemical analysis of Formulation A showed moderate fat, protein, and sugar content, supporting its potential as a nutritious and appealing gluten-free snack product.

**Keywords:** Palmyra fruit, gluten-free macaroons, sensory evaluation, consumer acceptability, food formulation

