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# Acceptability of Palau (*Cyrtosperma merkusii*) Butter Cookies

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**Abstract**
This study examines the level of acceptability of Palau (*Cyrtosperma merkusii*) Butter Cookies among different demographic groups based on variations in the proportion of Palau flour used in the formulation. Findings suggest that cookies made with 50% Palau flour were highly rated by elementary students for general acceptability, despite appearance concerns. High school students prioritized texture, while teachers favored flavor. Increasing the Palau flour proportion to 75% highlighted taste as an area for improvement, especially among elementary students, while high school students desired enhancements in flavor. At 100% Palau flour, both elementary and high school students rated the cookies within an acceptable range, with texture receiving the highest praise. Despite variations in Palau flour proportions, the cookies garnered acceptable ratings across all groups, with texture consistently influencing acceptability among younger demographics and flavor being prioritized by teachers. Consumers generally found cookies made with lower proportions of Palau flour more acceptable, with those at 50% proportion being rated highest overall. Analysis confirms a significant difference in acceptability among the proportions, with cookies containing 50% Palau flour being the most preferred compared to those with 75% or 100% Palau flour.

**Keywords**
Acceptability, Butter Cookies, *Cyrtosperma merkusii*, Palau, Sibagat

## INTRODUCTION

Giant swamp taro (*Cyrtosperma merkusii*), locally known as Palau, is a staple root crop in the Philippines, particularly in Mindanao. It has great potential as an alternative starch source, offering economic opportunities for local farmers and serving as a nutritious ingredient in various food products. This study explores the feasibility of using Palau flour in butter cookies and evaluates its acceptability among different consumer groups.

## MATERIALS AND METHODS

### Research Design

This study utilized a quantitative descriptive research design, incorporating surveys and sensory evaluations. Sensory evaluation tests were conducted to assess the respondents' perceptions of taste, texture, appearance, and flavor of the Palau Butter Cookies.

### Research Respondents

The study respondents included elementary and high school students, as well as faculty members from five schools in Sibagat, Agusan del Sur. Stratified random sampling was employed, ensuring diverse representation across different age groups and educational backgrounds.

**Recipe for Palau Butter Cookies**

| Ingredient | 100% Palau Flour | 75% Palau Flour | 50% Palau Flour |
|---|---|---|---|
| Palau Flour | 2 cups | 1.5 cups | 1 cup |
| All-Purpose Flour | - | 0.5 cup | 1 cup |
| Salt | 1 tsp | 1 tsp | 1 tsp |
| Butter | 1 piece | 1 piece | 1 piece |
| Sugar | 1 cup | 1 cup | 1 cup |
| Eggs | 2 | 2 | 2 |
| Vanilla | 2 tsp | 2 tsp | 2 tsp |
| Baking Soda | 1 tsp | 1 tsp | 1 tsp |

**Data Gathering Procedure**

The study followed a structured process, including cookie preparation, survey distribution, sensory evaluations, and statistical analysis.

## RESULTS

**Acceptability of Palau Butter Cookies at Different Proportions**

| Proportion | General Acceptability Score |
|---|---|
| 100% Palau Flour | 3.95 (Acceptable) |
| 75% Palau Flour | 4.10 (Acceptable) |
| 50% Palau Flour | 4.19 (Highly Acceptable) |

Results indicate that as the proportion of Palau flour decreases, acceptability ratings increase, with cookies made at 50% Palau flour receiving the highest preference.

**Statistical Analysis**

Analysis of Variance (ANOVA) confirmed a significant difference ($p = 0.001$) in acceptability among the proportions, leading to the rejection of the null hypothesis and highlighting 50% Palau flour as the optimal formulation.

## DISCUSSION

Consumers, particularly younger respondents, favored cookies with a lower proportion of Palau flour, which resulted in better texture and flavor. This aligns with existing studies suggesting that reduced flour content enhances moisture retention and sensory appeal in baked goods.

## CONCLUSION

The study confirms that Palau Butter Cookies with 50% Palau flour are the most preferred by consumers. Future research should explore modifications to improve the flavor and appearance of cookies with higher Palau flour proportions.


## FUNDING INFORMATION

No funding agency was involved in this study.


## DECLARATION OF CONFLICT

The author declares no conflict of interest in the conduct of this study.


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## REFERENCES


1. Agriculture Magazine. (2022). Giant swamp taro shows potential as supplemental food source. Agriculture Magazine. Retrieved from https://agriculture.com.ph/2022/08/14/giant-swamp-taro-shows-potential-as-supplemental-food-source-dost-pcaarrd/
2. Arellano, J. (2024). Quality of giant swamp taro (*Cyrtosperma merkusii*) corm jam as affected by various ingredient proportions. Journal Research Administration. Retrieved from http://journalra.org/index.php/jra/article/view/1132/982
3. Baguio, D., Obillo, R., Bustamante, G., Cabanatan, S., Valdemoro, J., & Longatang, M. (2023). Sensory acceptability of (giant swamp taro) as palawan noodles. Studocu. Retrieved from https://www.studocu.com/ph/document/eastern-samar-state-university/education/researchedited-2-research/85351063

4. Quittner, J. (2021). The effect of flour proportion on cookie texture and flavor. Food Science Review, 38(2), 134-145.
5. Dhal, S., & Martinez, J. (2023). Ingredient ratios and consumer preferences in baked goods. International Journal of Culinary Science, 45(3), 289-303.