ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 5 (May 2026)

An Edible Composition Comprising Gumamela (*Hibiscus spp.)* Corolla-Based Salad in Multiple Dressing Variants and a Process for Its Preparation

Erika Love P. Labinghisa
West Visayas State University – Pototan Campus
loveerikapachica@gmail.com

Date Submitted:
March 11, 2026

Date Accepted:
April 28, 2026

Date Published:
May 19, 2026

DOI:
10.5281/zenodo.20287225

ABSTRACT

This study developed and evaluated an edible composition comprising gumamela (Hibiscus spp.) corolla-based salad prepared with multiple dressing variants. Specifically, it sought to formulate a standardized preparation process, assess the sensory quality and acceptability of the product in terms of appearance, taste, texture, and general acceptability, determine whether significant differences existed among dressing variants, and identify the most acceptable formulation. An experimental research design was employed. Fifteen randomly selected fourth-year Hotel and Restaurant Management students served as sensory jurors and evaluated three dressing variants—Snow Island Dressing, Granny's Dressing, and Thousand Island Dressing—using a five-point Hedonic Scale. Data were analyzed using mean, standard deviation, and one-way analysis of variance at the 0.05 level of significance. Results revealed that all variants were generally acceptable. Snow Island Dressing obtained the highest ratings in appearance (M = 4.40), texture (M = 4.13), taste (M = 4.00), and general acceptability (M = 4.26). Granny's Dressing and Thousand Island Dressing were also rated positively across sensory attributes. One-way ANOVA results showed no significant differences among the three dressing variants in appearance, taste, and general acceptability. The study concludes that gumamela corolla may be utilized as a locally available, aesthetically appealing, and value-added ingredient for salad preparation. It recommends further product development, nutritional analysis, shelf-life testing, and entrepreneurial exploration of gumamela-based food products.

Keywords: *gumamela, Hibiscus spp., edible flowers, salad dressing, sensory evaluation, food innovation*

INTRODUCTION

Daily vegetable consumption is essential for maintaining health; however, contemporary food trends often give limited attention to nutritional value, affordability, and the creative use of locally available plant resources. Vegetable salads are familiar food products, yet they are not always used in simple gatherings because of cost, ingredient availability, and limited awareness of alternative edible materials. In this context, food innovation using accessible plants can help widen consumer choices while promoting practical and community-based food preparation. Gumamela (Hibiscus spp.), commonly known as rosemallow, belongs to the family Malvaceae and is widely cultivated in home gardens and landscapes. Although commonly recognized as an ornamental plant, hibiscus has long been associated with food, medicinal, and industrial uses. Its flowers are generally mild in flavor, visually appealing, and capable of enhancing food presentation when properly prepared. Edible flowers have also been used in different culinary traditions as garnishes, flavor enhancers, and functional food components.

The use of gumamela corolla as a salad ingredient presents a practical opportunity for product development because the plant is abundant, inexpensive, and familiar in many local communities. When combined with appropriate dressing formulations, gumamela corolla may become an acceptable edible composition with aesthetic,

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 5 (May 2026)

nutritional, and livelihood potential. The availability of multiple dressing variants may further improve product acceptability by allowing consumers to select flavors that best complement the flower and vegetable components.

This study therefore explored the development of an edible gumamela corolla-based salad with multiple dressing variants. It aimed to evaluate its quality and acceptability in terms of appearance, taste, texture, and general acceptability, and to determine which dressing variant produced the most acceptable product. The study contributes to local food innovation by demonstrating how an underutilized ornamental plant can be transformed into a value-added culinary product.

Literature Review

Edible Flowers and Food Innovation

Edible flowers have historical roots in several culinary traditions, including Roman, Chinese, Middle Eastern, and Indian cuisines. They are valued not only for visual appeal but also for their potential contribution to flavor, texture, and nutrient diversity. In food preparation, edible flowers are most effective when their flavor complements the dish and when they are handled under hygienic conditions.

Hibiscus species have received attention in food and pharmacological literature because of their phytochemical content and functional properties. Da-Costa-Rocha et al. (2014) described Hibiscus sabdariffa as a plant with diverse phytochemical and pharmacological relevance. Although the present study focused on gumamela corolla as a culinary ingredient rather than as a medicinal product, related literature supports the broader potential of hibiscus-type plants as food resources.

Dressing Variants and Sensory Acceptability

Salad dressings influence the overall acceptability of salad products because they contribute flavor, mouthfeel, aroma, and visual quality. Food science references emphasize that product acceptability is shaped by the interaction of ingredients, processing techniques, and sensory characteristics (Hui et al., 2006). In this study, three dressing variants were used to determine how different flavor profiles influenced the acceptability of the gumamela corolla-based salad.

Sensory evaluation is a useful method for determining consumer response to newly developed food products. Hedonic scales are commonly used to measure the degree to which respondents like or accept a product. In applied product development, consumer-oriented evaluation helps identify promising formulations and supports decisions about product refinement and market potential (Malhotra, 2000).

Local Resource Utilization and Community Relevance

The transformation of locally available plants into value-added food products is consistent with the principle of innovation diffusion. Rogers (2003) emphasized that innovations become meaningful when they are understandable, observable, and adoptable by potential users. Gumamela-based salad may be easily introduced to communities because the raw material is accessible and the preparation process can be adapted for home-based or small-scale production.

Food product development also has implications for livelihood and community resource utilization. Burke and Rogers (2006) explained that innovation in organizations and communities requires manageable change processes and practical adoption strategies. The gumamela corolla-based salad fits this perspective because it uses a familiar plant and converts it into an affordable food product with potential entrepreneurial value.

METHODS

Research Design

The study employed an experimental method of research to develop and evaluate an edible composition using gumamela (Hibiscus spp.) corolla as the primary novelty ingredient in salad preparation. The design was appropriate because the study involved standardized formulations, controlled dressing variants, sensory evaluation, and statistical comparison of product acceptability.

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 5 (May 2026)

Product Formulation and Preparation Process

The preparation process was conducted in two phases. Phase I involved the standardization of the edible composition and the preparation process. Preliminary trials were conducted to refine the formulation, particularly the treatment of gumamela corolla and the vegetables. Initial trials showed that blanching the corolla together with the vegetables adversely affected product quality; therefore, the preparation process was adjusted to preserve color, texture, and sensory appeal.

The process consisted of cleaning and preparing the gumamela corolla and vegetables, blanching vegetables separately for approximately two minutes to preserve crispness, draining and cooling the ingredients, and combining the prepared components with the assigned dressing variant. The dressing formulations included Snow Island Dressing, Granny's Dressing, and Thousand Island Dressing. The final product was chilled before evaluation to allow flavor blending.

Table 1. *Standardized Granny's Dressing Recipe*

Ingredient	Treatment A	Treatment B	Treatment C
Olive Oil	---	1 1/2 tbsp.	---
Vinegar	---	6 tbsp.	---
Garlic Powder	---	3/4 tsp.	---
Sugar	---	1/4 tsp.	---
Salt	3/4 tsp.	3/4 tsp.	3/4 tsp.
Pepper	3/4 tsp.	3/4 tsp.	3/4 tsp.

Table 2. *Standardized Snow Island Dressing Recipe*

Ingredient	Treatment A	Treatment B	Treatment C
Mayonnaise	---	1 1/2 medium clove	---
Chopped White Onion	---	1 tsp.	---
Garlic Powder	---	1 tsp.	---
Vinegar	1/2 tbsp.	1/2 tbsp.	---
White Pepper	1/2 tsp.	1/2 tsp.	1/2 tbsp.
Sugar	1/2 tsp.	1/2 tsp.	1/2 tsp.
Salt	1/2 tsp.	1/2 tsp.	1/2 tsp.
Olive Oil	---	1/2 tbsp.	---

Table 3. *Standardized Thousand Island Dressing Recipe*

Ingredient	Treatment A	Treatment B	Treatment C
Ketchup	---	1 cup	---
Mayonnaise	---	1 cup	---
Garlic Powder	1 1/2 tsp.	1 1/2 tsp.	1 1/2 tsp.

Jurors and Sensory Evaluation Instrument

Fifteen (15) randomly selected fourth-year Hotel and Restaurant Management students served as sensory jurors. A researcher-made sensory evaluation score sheet based on a five-point Hedonic Scale was used to evaluate the gumamela corolla-based salad variants in terms of appearance, taste, texture, and general acceptability.

Table 4. *Hedonic Scale for Appearance, Taste, and Texture*

Scale	Description for Sensory Attributes
4.21–5.00	Liked very much
3.41–4.20	Liked moderately
2.61–3.40	Neither liked nor disliked
1.81–2.60	Disliked moderately
1.00–1.80	Disliked very much

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 5 (May 2026)

Table 5. *Scale for General Acceptability*

Scale	Description for General Acceptability
4.21–5.00	Very much acceptable
3.41–4.20	Moderately acceptable
2.61–3.40	Neither acceptable
1.81–2.60	Moderately unacceptable
1.00–1.80	Very much unacceptable

Data Analysis

Means and standard deviations were used to describe the sensory ratings of the three dressing variants. One-way analysis of variance (ANOVA) set at the 0.05 alpha level was used to determine whether significant differences existed among the variants. When applicable, results were subjected to post hoc interpretation using the Scheffe test.

Ethical Considerations

Participation of the sensory jurors was voluntary and limited to the evaluation of food samples prepared under standardized conditions. Jurors were informed of the purpose of the evaluation, and their responses were treated with confidentiality. The study did not include medical claims regarding gumamela and was limited to sensory acceptability and food product development.

RESULTS AND DISCUSSION

Sensory Quality and Acceptability of the Gumamela Corolla-Based Salad

The sensory evaluation results indicate that all three dressing variants were positively received by the jurors. Snow Island Dressing consistently obtained the highest mean scores across appearance, texture, taste, and general acceptability, suggesting that its flavor profile and visual compatibility were most suitable for the gumamela corolla-based salad. Granny's Dressing and Thousand Island Dressing were also rated within acceptable ranges, demonstrating that gumamela corolla can be paired with different dressing formulations.

Table 6. *Sensory Ratings in Terms of Appearance*

Treatment	Appearance M	Description	SD
Snow Island Dressing	4.40	Liked very much	.57
Granny's Dressing	4.24	Liked very much	.59
Thousand Island Dressing	3.97	Liked moderately	.56

In terms of appearance, Snow Island Dressing received the highest rating (M = 4.40), followed by Granny's Dressing (M = 4.24) and Thousand Island Dressing (M = 3.97). The result suggests that the light-colored Snow Island Dressing may have enhanced the visual appeal of the gumamela corolla and vegetable components.

Table 7. *Sensory Ratings in Terms of Texture*

Treatment	Texture M	Description	SD
Snow Island Dressing	4.13	Liked moderately	.62
Granny's Dressing	3.97	Liked moderately	.57
Thousand Island Dressing	3.84	Liked moderately	.59

For texture, all variants were described as liked moderately. Snow Island Dressing again obtained the highest mean (M = 4.13), suggesting that its dressing consistency was more compatible with the crisp vegetable components and the delicate gumamela corolla.

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 5 (May 2026)

Table 8. *Sensory Ratings in Terms of Taste*

Treatment	Taste M	Description	SD
Snow Island Dressing	4.00	Liked moderately	.62
Granny's Dressing	3.71	Liked moderately	.57
Thousand Island Dressing	3.80	Liked moderately	.59

In terms of taste, Snow Island Dressing obtained the highest score (M = 4.00), followed by Thousand Island Dressing (M = 3.80) and Granny's Dressing (M = 3.71). The finding implies that the mild flavor of gumamela corolla can be complemented by moderately creamy or tangy dressing formulations.

Table 9. *General Acceptability Ratings*

Treatment	General Acceptability M	Description	SD
Snow Island Dressing	4.26	Very much acceptable	.28
Granny's Dressing	4.00	Moderately acceptable	.57
Thousand Island Dressing	3.95	Moderately acceptable	.60

For general acceptability, Snow Island Dressing achieved the highest rating (M = 4.26) and was interpreted as very much acceptable. Granny's Dressing (M = 4.00) and Thousand Island Dressing (M = 3.95) were both moderately acceptable. These results identify Snow Island Dressing as the most promising dressing variant for the gumamela corolla-based salad.

Differences among Dressing Variants

The one-way ANOVA results showed that the observed differences among the dressing variants were not statistically significant at the 0.05 level. This means that while Snow Island Dressing had the highest descriptive ratings, the sensory evaluations did not provide sufficient statistical evidence to conclude that one dressing variant was significantly different from the others in appearance, taste, or general acceptability.

Table 10. *One-Way ANOVA Results in Terms of Appearance*

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.368	2	.684	2.263	.117
Within Groups	12.696	42	.302		
Total	14.064	44			

Table 11. *One-Way ANOVA Results in Terms of Taste*

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.657	2	.328	.917	.407
Within Groups	15.037	42	.358		
Total	15.694	44			

Table 12. *One-Way ANOVA Results in Terms of General Acceptability*

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.844	2	.425	1.636	.207
Within Groups	10.904	42	.260		
Total	11.753	44			

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 5 (May 2026)

The non-significant ANOVA findings support the acceptability of all three dressing variants. From a product development perspective, this is advantageous because consumers or small-scale producers may select from different dressing options depending on taste preference, ingredient availability, and production cost. Nonetheless, Snow Island Dressing remains the most recommendable variant based on descriptive mean scores.

Implications for Food Product Development

The findings suggest that gumamela corolla can be used as a novel salad component that combines aesthetic value, local availability, and potential product differentiation. The product may be introduced in school-based food innovation projects, community livelihood activities, and small-scale entrepreneurial initiatives. Because the product uses a locally abundant ornamental plant, it also supports resource utilization and practical food innovation in local communities.

CONCLUSION

The study concludes that gumamela (Hibiscus spp.) corolla can be developed into an edible salad composition when prepared using standardized procedures and combined with appropriate dressing variants. The sensory evaluation showed that the product was generally acceptable across appearance, texture, taste, and general acceptability.

Among the three variants, Snow Island Dressing emerged as the most acceptable formulation based on descriptive mean ratings, particularly in appearance and general acceptability. However, the ANOVA results showed no significant differences among the dressing variants, indicating that all formulations may be considered acceptable options for gumamela corolla-based salad preparation.

Overall, the study demonstrates the potential of gumamela corolla as a locally available, value-added, and innovative food ingredient. Its use may contribute to community-based food development, small-scale production, and the promotion of underutilized edible plant resources.

Recommendations

Further product development should be conducted to refine the formulation, improve flavor balance, and test additional dressing variants that may complement gumamela corolla. Nutritional analysis and phytochemical screening are recommended to determine the nutrient composition and possible functional properties of the gumamela corolla-based salad. Shelf-life testing and microbiological analysis should be conducted to establish safe storage conditions, packaging requirements, and product stability. Future studies should involve a larger and more diverse group of evaluators, including household consumers, food service practitioners, and potential buyers, to strengthen the generalizability of sensory acceptability findings. Schools, community livelihood groups, and small food enterprises may explore gumamela corolla-based salad as a value-added product for local food innovation and entrepreneurship.

References

Burke, W. W., & Rogers, G. E. (2006). Managing change and innovation in organizations. SAGE Publications.

Da-Costa-Rocha, I., Bonnlaender, B., Sievers, H., Pischel, I., & Heinrich, M. (2014). Hibiscus sabdariffa L. – A phytochemical and pharmacological review. Food Chemistry, 165, 424–443. https://doi.org/10.1016/j.foodchem.2014.05.001

Hui, Y. H., et al. (2006). Handbook of food science, technology, and engineering. CRC Press.

Malhotra, N. K. (2000). Marketing research: An applied orientation. Prentice Hall.

Rogers, E. M. (2003). Diffusion of innovations (5th ed.). Free Press.