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Acceptability of Papaya (Carica L.) as Sweetened Delight

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Abstract:- Papaya fruits (Carica L.) are consumed worldwide and are an essential component of the diet because they are extremely beneficial to our health. Papaya, which is readily available throughout the year in the Philippines, is also one of the most popular fruits in the country. Although the papaya fruit has been the subject of many studies, little is known about serving green papaya as dessert. Sixty people took part in the product testing. The benchmark test was evaluated by the researchers in collaboration with 40 Bachelor of Science in Hospitality Management students and 15 faculty members. Following the benchmark test, 30 students from the School of Engineering participated in a pilot test. The researchers conducted the final test after giving the pilot test, and 60 respondents from Biliran Province State University took part. These respondents were made up of students who used score cards to assess the qualities of the sweetened papaya dessert in terms of color, flavor, texture, firmness, and overall acceptability. The study's conclusions showed that both trials gave the product's quality a high approval rating. The panelists considered papaya fruit suitable for a dessert.

Keywords:- *Acceptability, Papaya, Product Innovation, Biliran Province State University*.

I. INTRODUCTION

Papaya fruits (Carica L.) are consumed worldwide because they are healthy. Papaya is a popular year-round fruit in the Philippines. Vitamin A, C, E, K, folate, and pantothenic acid are abundant. Contains magnesium, potassium, and calcium. Carica papaya is a large herbaceous plant in the Caricaceae (papaya family) that originated in Central America. Its large, sweet, melon-like fruits are grown in tropical areas worldwide. Papaya is known for its nutritional and medicinal properties. Papaya fruits, leaves, seeds, root, bark, juice, and latex are used for nutrition and medicine (Kumar and Sreeja, 2017). People recognize the importance of eating and living healthily, so they pay more for healthy food.

Papaya is a widely grown plant that is readily available for consumption in the Philippines. Because the fruit is inexpensive and high in nutritional value, it will benefit everyone greatly. This plant is available in vegetable markets and can be seen and grown all year in the Biliran, Philippines area.

Because papaya is so cheap, the researchers decided to use it as the primary ingredient in their study. This allowed participants to use the product without spending a lot of money.

Filipinos typically eat dessert, or "panhimagas," as the local term is. These desserts are predominantly sweet. Nowadays, nutritional information heavily influences food selection in order to provide nutritional benefits. Desserts are typically associated with candies or sweets among Filipinos. It's something that gets you excited after meals.

In Region 8, bocarillo is a popular dessert or sweet treat. Coconut is one of the main ingredients. The researchers came to the conclusion that there had to be a cheaper and tasty alternative. Instead of coconut, the researchers used papaya, a type of fruit, to produce papaya sweetened delight.

Therefore, this research work aimed to formulate a new kind of dessert that will inspire everyone especially those who like sweets.

II. OBJECTIVES OF THE STUDY

The study generally aimed to determine the degree of acceptability of papaya (Carica L.) sweetened delight, specifically, to:

- Acceptability-in terms of color, flavor, texture, and firmness.
- Determine the general acceptability of sweetened papaya delight.
- Determine the best formulation of sweetened papaya delight.

III. MATERIALS AND METHODS

A. Materials

The tools used in the conduct of the study were mixing bowl, measuring cups, frying pan, laddle, peeler, spoon, plastic container and weighing scale.

B. Preparation of Papaya Delight

Green Papaya were harvested from home garden in Naval, Biliran. the backyard. Sugar was purchased in the different stores in the province. The papaya was in the same type, size, color, and weight. The green papaya were washed with running water, and were cut using a kitchen knife.

C. Sensory Evaluation

Convenience sampling design was employed in the selection of the respondents of this study. Samples were tested by 60 students using 9-points hedonic scale. 1 to 9 (1: dislike extremely, 9: like extremely) points for 4 attributes including color, texture, flavor, firmness and overall acceptability. An amount of 50 g of the sample was served in plastic containers, coded with a random 3-digit number.

D. Statistical Analysis

This is an experimental study with a completely randomized design (CRD) and six treatments as independent variables. In this study, constant level of papaya and different levels of sugar were used to determine the best formulation of a sweetened papaya delight. The sensory evaluation results determined the best formulation. SPSS software was used in th**e** interpretation and analysis of the collected data. It used one-way ANOVA to determine if there was a difference between the variables.

IV. RESULTS AND DISCUSSION

Table 1 presents the quality descriptions of the sensory attributes of sweetened papaya delight for the six treatments as rated by the 60 panelists.

For Treatment 1 which consists of 20 percent sugar and 80 percent of papaya, the panelists perceived its color as green to white, chewy in texture, slightly papaya to -well-blended papaya and sugar flavor, and its firmness being soft. For Treatment 2 which consists 40 percent of sugar and 64 grams of papaya, the panelists perceived its color as light green, light chewy texture, slightly papaya flavor and slightly soft for its firmness. For Treatment 3 which consists of 60 percent sugar and 64 grams of papaya, the panelists perceived its color as light green, light chewy in texture, well blended papaya and sugar flavor and is slightly soft for its firmness.

As to Treatment 4 (50 percent of sugar), it was observed as light green color; its texture as light chewy to hard; its flavor as more perceptible sugar than papaya to sugar flavor only; and is firm. In terms of Treatment 5 (60 percent of sugar), panelists perceived it as light green in color; light chewy to hard texture; more perceptible sugar than papaya to sugar flavor only, and is firm. For Treatment 6 (70 percent of sugar), it was discerned as a color white, hard texture, more perceptible sugar than papaya to sugar flavor, and is firm.

Table 1. Quality Descriptions of the Sensory Attributes of Sweetened Papaya Delight

Treatment	Sugar (%w/w)	Color	Texture	Flavor	Firmness
1	20	green to white	chewy	Slightly papaya flavor to -well-blended papaya and sugar flavor	soft
2	30	light green	light chewy	Slightly papaya flavor	slightly soft
3	40	light green	light chewy	Well-blended papaya and sugar flavor	slightly soft
4	50	light green	light chewy to hard	More perceptible sugar than papaya to sugar flavor	firm
5	60	light green	light chewy to hard	More perceptible sugar than papaya to sugar flavor	firm
6	70	white	hard	More perceptible sugar than papaya to sugar flavor	firm

As presented in Table 2, Treatment 3 had the highest mean of 6.88 interpreted as like moderately, treatment 5 had the lowest mean of 5.87 interpreted as like slights in terms of color.

As to its texture, Treatment 2 had the highest mean of 6.73 interpreted as like moderately while Treatment 4 had the lowest mean of 5.95 as like slightly.

As to its flavor acceptability, Treatment 2 had the highest mean of 6.43, as interpreted as like slightly; Treatment 6 had the lowest mean of 5.63 as interpreted as like slightly. In terms of firmness, Treatment 2 had the highest mean of 6.55, interpreted as like moderately; Treatment 6 had the lowest mean of 5.93, interpreted as like slightly.

As to the general acceptability, Treatment 3 had the highest mean of 6.73, interpreted as like moderately, Treatments 4 and 5 had the lowest mean of 6.03, interpreted as like slightly in terms of color acceptability; treatment 1 had the highest mean of 7.550, interpreted as like very much; treatment 4 had the lowest mean of 6.083, interpreted as like slightly.

Based on the table, the sensory acceptability in terms of color, texture, flavor, and firmness of the sweetened papaya delight obtained an overall mean of 6.36 interpreted as like

slightly which implies that all the characteristics of the sweetened papaya delight are accepted.

Table 2. General Acceptability of Sweetened Papaya Delight

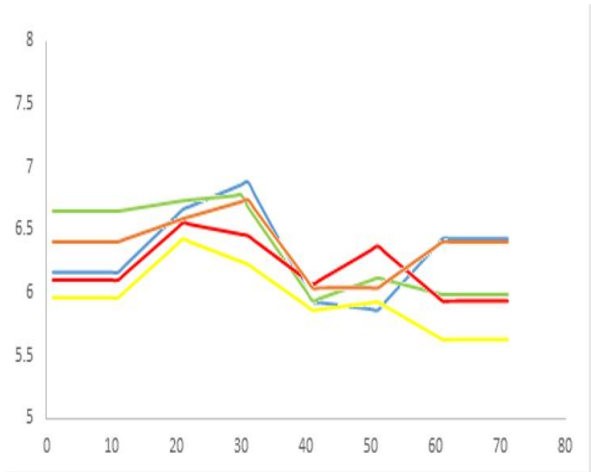
Treatment	Level of sugar (%)	Color*	Texture*	Flavorns	Firmnessns	General Acceptabilityns
1	20	6.17a	6.65a	5.97a	6.10a	6.40a
2	30	6.67a	6.73ab	6.43a	6.55a	6.58a
3	40	6.88ab	6.68a	6.23a	6.45a	6.73a
4	50	5.93ac	5.93ac	5.87a	6.06a	6.03a
5	60	5.87bd	6.12a	5.93a	6.36a	6.03a
6	70	6.43a	5.98a	5.63a	5.93a	6.40a
Mean		**6.33**	**6.35**	**6.01**	**6.24**	**6.36**

Means with common letter within a column are not significantly different at 5% significance level based on Tukey's HSD.

9-point Hedonic Rating Scale: 1=dislike extremely, 2=dislike very much, 3=dislike moderately, 4=dislike slightly, 5=neither like nor dislike, 6=like slightly, 7=like moderately 8=like very much, 9=like extremely

As revealed in table 3 below, color, texture, flavor, firmness, and general acceptability were represented with blue, green, yellow, red, blue, and brown. The optimum formulation is at 38% of sugar where the majority of the acceptability parameters meet (color, texture, firmness and general acceptability). Hence, Treatment 3 is considered to be the optimum formulation of the sweetened papaya delight.

Table 3. Optimum formulation of Sweetened Papaya Delight



V. CONCLUSIONS AND RECOMMENDATIONS

The formulated green papaya sweetened delight has an average acceptable descriptive rating, indicating that an overall improvement is required to enhance the product's quality. In addition, the green papaya delight has the potential to be a nutritious dessert with added health benefits.

It is important to consider the color, texture, flavor, and firmness of the confection as well as its nutritional value when preparing it. Farmers are encouraged to plant more papaya because, in addition to its use as a vegetable, it can be used to create new products, such as sweetened treats, etc. Educators and parents are strongly encouraged to offer children papaya-sweetened treats as an alternative to other desserts. It is also suggested that a study on the nutritional value of papaya-sweetened delight be conducted.

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