

## Development of Pineapple Delicacies: For Extension and Incomegenerating Projects of Evsu-Occ

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### ABSTRACT

The Philippines is one of the tropical countries that produce the pineapple which can adapt to the climate and because of its variety of uses. It is used in cuisines as snacks, beverage, and ingredient in many dishes, dessert, and export as fresh product. The leaves are process into fine clothing materials and quality doilies. Aside from its economic uses, eating the fruit is beneficial to health as it is loaded with nutrients namely Vitamin A, C, beta and carotene. It also contains low amounts of protein, fat, ash and fiber. It also has antioxidants that reduces oxidative damage caused by free radicals (Tochi et al., 2008, Wikipedia; Pitekere; 2012).

### Keywords

Pineapple, Delicacies

### INTRODUCTION

The Philippines is one of the tropical countries that produce the pineapple which can adapt to the climate and because of its variety of uses. It is used in cuisines as snacks, beverage, and ingredient in many dishes, dessert, and export as fresh product. The leaves are process into fine clothing materials and quality doilies. Aside from its economic uses, eating the fruit is beneficial to health as it is loaded with nutrients namely Vitamin A, C, beta and carotene. It also contains low amounts of protein, fat, ash and fiber. It also has antioxidants that reduces oxidative damage caused by free radicals (Tochi et al., 2008, Wikipedia; Pitekere; 2012).

Ormoc City takes its pride as one of the producers of Pineapple of the country aside from rice and sugar cane. Its fruit are sweet that even the core can totally be eaten. This also becomes a Pasalubong item for visitors who came to the place. Several small sari-sari stores mainly sell fresh pineapple fruits. These are sold either as whole or halves with a stick inserted. Seldom pastry products from pineapple are sold in Ormoc in spite of the huge supply of pineapple in the area whole year around. Unlike in other parts of the country where they are abundant in a particular fruit, its people develop pastry items from these fruits. In Baguio City for instance, it has developed several pastry products from strawberries such as strawberry jam, jelly, candy, ice cream, wine, vinegar and among others. Most visitors who visited the place would be attracted to buy these pasalubong items. This is also what the researchers observed in Davao City. Since Davao is known for its Pomelo, several food delicacies are likewise produced that are not only consumed by the people of Davao but most likely sold as pasalubong to tourist and visitors alike. These varieties of fruit delicacies provide additional income to their City.

It is in this context that drew the researchers to develop delicacy products out of pineapple, not only as pasalubong items but additional income to the people of Ormoc. Aside from this reason, the research was conducted in response to the researchers commitment for their other functions namely research, extension and production.

## OBJECTIVE OF THE STUDY

This study aimed to developed delicacies out of pineapple as extension and income generating project of the EVSU-OCC Campus.

Specifically, it aimed to determine the best appropriate preparation in the development of the following delicacies namely Pineapple Macaroons, Pineapple Boat tart, Pineapple Yema and Pulvoron. It further sought answers to the following questions;

1. What is the level of acceptability of the different formulation of the Pineapple delicacies as to;
  - a. Aroma
  - b. Taste
  - c. Texture
  - d. Appearance
2. Is there a significant difference in the level of acceptability of the different formulation of pineapple delicacies as to;
  - a. Aroma
  - b. Taste
  - c. Texture
  - d. Appearance

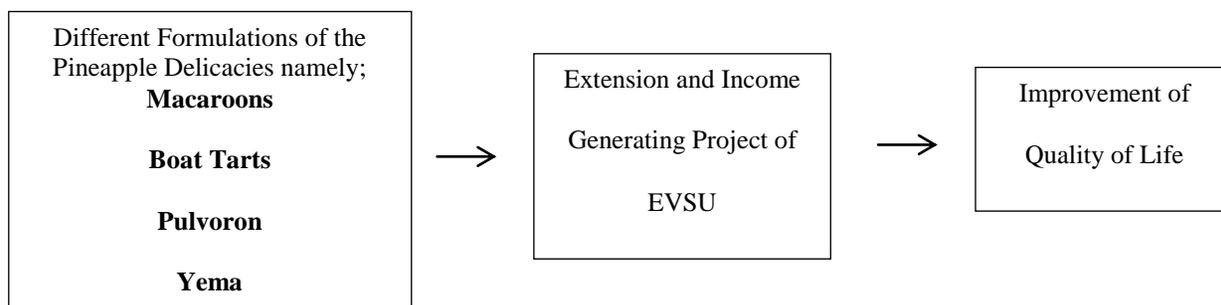
## CONCEPTUAL FRAMEWORK

Eastern Visayas State University Ormoc City Campus is an institution that is mandated to respond to the development thrusts of the government as stipulated in its four-fold functions namely instruction, research, production and extension. The country needs effective performing Universities and Colleges who will not only produce quality graduates who are motivated, competent and progress minded but likewise socially conscious professionals. EVSU Ormoc has to excel in the delivery of the four fold functions to be an instrument that can empower not only itself and its graduates but its community as a whole for the improvement of the quality of life.

The Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACUP) defines the respective functions of State Universities and Colleges (AACUP, 2000) which is the basis of this study. Research is an avenue through which new knowledge and technology is generated and discovered. Extension involves the application of research to improve the quality of life of the people. Production refers to the activities that relate to the creation of goods and services through the transformation of inputs into outputs (Medina, 2003).

For these reasons, the researchers deemed it imperative to conduct research that will address the above-mentioned functions. Since, Ormoc City is abundant in Pineapple as it is always available whole year round and based from common observations that it is usually the fruits that are sold in the City, the researchers developed delicacies from pineapple so that once acceptable, these delicacies could be added income not only to the EVSU-Ormoc Campus but to the entire Ormoc City as well. This would also be an added attracting factor to tourists and visitors alike to appreciate the indigenusness of the people of Ormoc.

Below shows the schematic diagram of the study and the different formulations of the Pineapple delicacies namely Pineapple Boat tarts, Pineapple Macaroons, Pineapple Pulvoron and Pineapple Yema.



## Methodology

This study was an experimental type of research to determine the best formulation in the preparation of the Pineapple delicacies. In this study, Pineapple delicacies refer to Pineapple Boat tart, Pineapple Yema, Pineapple Pulvoron and Pineapple Macaroons and the Pineapple fruit was one of the common ingredients.

The study undergone 2 stages namely ; Preparation of the different formulations of the four (4) Pineapple delicacies and Taste test to determine the level of acceptability of the different Pineapple Delicacies.

### Preparations of the Different Formulations for the Pineapple Delicacies

There were four Pineapple delicacies prepared namely; Pineapple Macaroons, Pineapple Boat Tart, Pineapple Pulvoron and Pineapple Yema. Each type of Pineapple delicacy varied only in the amount of Pineapple but other needed ingredients were made constant.

**Pineapple Coconut Macaroons.** There were three formulations for this delicacy namely; F1- Pineapple Macaroons (1/2 Cup of Pineapple); F2 Pineapple Macaroons (2/3 cup of pineapple) and F3-(1 cup of Pineapple).

**Pineapple Boat Tart.** There were three formulations prepared for this delicacy namely; F1 - Pineapple boat tart (1/3 Cup of Pineapple); F2 Pineapple boat tart (2/3 Cup of Pineapple) and F3-Pineapple boat tart (1 Cup of Pineapple).

**Pineapple Pulvoron.** There were three types of formulations namely; F1- 1/2 cup Pineapple); F2 -(2/3 cup pineapple) and F3- (1 cup pineapple).

**Pineapple Yema.** The formulations for Pineapple yema included were F1 -(1/2 cup Pineapple); F2-(2/3 cup pineapple) and F3-(1 cup Pineapple).

### Taste Test on the Level of Acceptability of the Pineapple Delicacies

The different Puto delicacies were subjected to taste test using 30 respondents randomly selected in EVSU- Ormoc City. The following rating scales were used to determine their level of acceptability in terms of Aroma, Taste, Texture and Appearance namely;

Numerical Rating	Qualitative Interpretation
9	Like extremely
8	Like very much
7	Like moderately
6	Like slightly
5	Neither like nor dislike
4	Dislike slightly
3	Dislike moderately
2	Dislike very much
1	Dislike extremely

The mean score of the respondents for each Pineapple delicacy is then computed and interpreted using the following range;

Range	Interpretation
8.2 – 9.0	Like extremely
7.1 – 8.1	Like very much
6.2 – 7.0	Like moderately
5.3 – 6.1	Like slightly
4.4 – 5.2	Not like nor dislike
5 – 4.3	Dislike slightly
2.6 – 3.4	Dislike moderately
1.9 – 2.5	Dislike very much
1.0 – 1.8	Dislike extremely

### STATISTICAL ANALYSIS

The study used weighted mean to determine the level of acceptability, and ANOVA to test for significant differences.

### FINDINGS OF THE STUDY

As shown in Table 1, F1( Pineapple macaroons with 1/2 cup of Pineapple) and F2 (2/3 cup of Pineapple) were like very much except on taste in F2 which was moderately like by the respondents. The average rating obtained for F1 and F2 were 7.8 and 7.65 respectively. The results indicate that it is possible to make Pineapple macaroons with the given formulations of 1/2 and 2/3 cups of Pineapple added in the ingredients as they were very much like by the respondents.

**Table 1. Level of Acceptability of the Pineapple Macaroon**

Attribute	F1(1/2 C)	Interp.	F2(2/3 C)	Interp.	F3(1 C)	Interp.
Aroma	8.0	LVM	7.4	LVM	7.1	LM
Taste	7.7	LVM	7.7	LVM	7.1	LM
Texture	7.7	LVM	8.0	LVM	7.0	LM
Appearance	7.7	LVM	7.5	LVM	7.0	LM
Ave.	7.8	LVM	7.65	LVM	7.05	LM

Legend: LVM – Like very much; LM – Like moderately

As shown in Table2, Pineapple Boat Tarts in F1 and F3 formulations were very much like by the respondents with average ratings of 7.7 and 7.3 respectively while the F2 (2/3 cup of pineapple) was found like extremely by the respondents with an average rating of 8.4, This means that although all of them have shown positive response from the respondents, it is the F2 formulation that was favored by the respondents.

**Table 2. Level of Acceptability of the Pineapple Boat Tart**

Attribute	F1(1/2 C)	Interp.	F2(2/3 C)	Interp.	F3(1 C)	Interp.
Aroma	7.9	LVM	8.2	LE	7.3	LVM
Taste	7.8	LVM	8.5	LE	7.3	LVM
Texture	7.4	LVM	8.4	LE	7.1	LVM
Appearance	7.6	LVM	8.6	LE	7.5	LVM
Ave.	7.7	LVM	8.4	LE	7.3	LVM

Legend: LVM – Like very much; LM – Like extremely

As shown in the Table 3, in F1 – Pulvoron( ½ Cup Pineapple), the taste as well as the appearance were like very much, (7.1 and 7.2) by the respondents while texture (6.7) and aroma (6.5) were like moderately. On the other hand, F 2 and F3 were like slightly in almost of .the attributes except on taste which F2 got a rating of like moderately and in F3 on its aroma. From the given data, its shown that the different formulations pineapple Pulvoron from the addition of the crushed fresh pineapple fruit were not acceptable by the respondents.

**Table 3. Level of the Pineapple Pulvoron**

Attribute	F1(1/2 C)	Interp.	F2(2/3 C)	Interp.	F3(1 C)	Interp.
Aroma	6.5	LVM	5.9	LS	6.2	LM
Taste	7.1	LVM	6.6	LM	5.9	LS
Texture	6.7	LM	5.5	LS	5.6	LS
Appearance	7.2	LVM	5.9	LS	6.1	LS
Ave.	6.9	LM	6.0	LS	5.95	LS

Legend: LVM – Like very much; LE – Like extremely;  
 LM – Like moderately; LS – Like slightly

As shown in Table 4, the respondents rated the three formulations of Pineapple Yema as like moderately on texture and appearance while aroma and taste were like very much. The results indicate that the respondents favored the three formulations only in terms of their taste and texture.

**Table 4. Level of Acceptability of the Pineapple Yema**

Attribute	F1(1/2 C)	Interp.	F2(2/3 C)	Interp.	F3(1 C)	Interp.
Aroma	7.2	LVM	7.3	LVM	7.1	LVM
Taste	7.1	LVM	7.6	LVM	7.2	LVM
Texture	6.3	LM	6.2	LM	5.9	LS
Appearance	6.7	LM	6.6	LM	6.4	LM
Ave.	6.8	LM	6.9	LM	6.7	LM

Legend: LVM – Like very much; LM – Like extremely;  
 LM – Like moderately; LS – Like slightly

As shown in Table 5, on Pineapple Macaroons, the three formulations did not differ considering that the P-values obtained were greater than the P-values at 0.05 level of significance hence the null hypotheses were accepted that there were no significant differences on the given attributes of three formulations.

On Pineapple Boat Tarts, the attributes that were found having significant differences were that of texture and aroma on the three types of formulations since the P-values were less than the P-values at 0.05 level of significance. Hence, the Pineapple Boat Tarts differed in texture and appearance.

On Pineapple Pulvoron, the three formulations significantly differed in terms of taste, texture and appearance considering that the obtained P-values were lesser than the P-values at 0.05 level of significance, hence the null hypotheses were rejected.

On Pineapple Yema, the three formulations did not differ considering that the obtained P-values were greater than the P-values at 0.05 level of significance hence the null hypotheses were accepted.

**Table 5. ANOVA Results Whether Significant Difference Exists on Acceptability Level of Pineapple Delicacies**

Attributes	F	P – value	Decision
<b>Pineapple Yema</b>			
Aroma	2.79	0.073	NS
Taste	1.2	0.30	NS
Texture	2.95	0.06	NS
Appearance	0.861	0.43	NS
<b>Pineapple Boat Tart</b>			
Aroma	1.472	0.24	NS
Taste	2.69	0.08	NS
Texture	5.19	0.009*	Sig.
Appearance	4.203	0.02*	Sig.
<b>Pineapple Pulvoron</b>			
Aroma	1.9	0.14	NS
Taste	5.86	0.004*	Sig.
Texture	5.97	0.004*	Sig.
Appearance	8.76	0.003*	Sig.
<b>Pineapple Yema</b>			
Aroma	0.271	0.764	NS
Taste	0.09	0.909	NS
Texture	0.73	0.487	NS
Appearance	0.30	0.74	NS

## CONCLUSIONS

Based from the given results, the following conclusions are arrived at;

### On Level of Acceptability

The two formulations of Pineapple Macaroons namely F1(1/2 c) and F2 (2/3 c) are like very much by the respondents. All formulations of Pineapple Boat Tarts are very much and extremely like by the respondents.

The Pineapple Pulvoron of the three formulations are not accepted by the respondents since they rated the delicacies as like slightly or moderately.

The Pineapple Yema of the three formulations are like moderately by the respondents.

### On the Result of ANOVA

In terms of texture and appearance, the Pineapple Boat Tarts significantly differed hence the null hypotheses are rejected. The Pineapple Pulvoron also differed in terms of taste, texture and appearance thus the rejections of the null hypotheses.

### Recommendations

Pineapple delicacies such as Boat Tarts and Pineapple Macaroons can be an income generating projects of the Campus. The technology developed could be shared to the communities in Ormoc.

Pineapple Pulvoron and Yema need to be improved and identify other formulations to come up with acceptable results.

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