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Corn (*Zea Mays*) and Banana (*Musa Acuminata*) Flour Nutri-Bun

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ABSTRACT: The study focused on the development and marketability of corn and banana flour nutri-bun using corn flour, banana peel flour, banana flesh flour and banana blossom flour which can be readily found in the locality. This product development research included four major phases; (1) development of corn and banana flour nutri-bun, (2) Determination of the nutri-bun's nutritive value, (3) determination of the level of acceptability of corn and banana flour nutri-bun, and (4) determination of the level of marketability of corn and banana flour nutri-bun. The level of acceptability of the finished products in terms of appearance/color, aroma, taste and texture was determined through a sensory evaluation by four different groups of respondents: Food experts and non-experts both male and female. The nutritive content of corn and banana peel flour nutri-bun, corn and banana flesh flour nutri-bun, corn and banana blossom flour nutri-bun corn and banana four nutri-bun were determined through a test by the Department of Agriculture (DA), Tuguegarao City, Cagayan. The laboratory results were interpreted by Nutritionist-Dieticians to determine whether the products were fit for human consumption.

Results of the study revealed that Sample 1, 2 and 3 described by the respondents as "*moderately acceptable*". Meanwhile, Sample 4 described by the respondents as "*highly acceptable*".

On the other hand, the level of marketability in terms of consumer demands, supply availability, and production cost described by the respondents were "*strongly agree*".

However, no significant difference were found in the level of acceptability of corn and banana flour nutri-bun as evaluated by the respondents.

The shelf-life of banana peel powder is three months, same with the banana blossom powder and corn flour. However, the banana flesh powder can be stored up to one month and three weeks. The nutri-bun products can be stored and best consumed until seven days from the production date.

KEYWORDS: Acceptability, Banana Fruit, Banana Blossom, Marketability, Nutritive Analysis, Shelf Life

INTRODUCTION

In the Philippines, malnutrition is one of the most serious consequences of poverty. Filipinos must live on less food since they have less money to buy it; even when food is stable, it is widely available in some regions where people have enough money to buy it (Kim Thelwell, 2019)

And with an equal distribution of income, there is a lower need for food supply in undeveloped areas inhabited by low-income residents. Food quality is also declining - rice used to be the main source of food for the Filipino people, but has now been replaced by faster, cheaper but less nutritious noodles. As a result, malnutrition is widespread.

"The COVID-19 epidemic has made things very difficult," Nograles added. With all of COVID-19's issues, the government must do all possible to stretch our limited resources. In the face of these challenges, we must rely on the advancement of science and technology to bridge the gaps and give better Filipino children with the nutritious food they require to survive and grow.

"Nutribun is an example of the government's scientific approach to addressing hunger and malnutrition," Nograles continued. "DostFNRI Enhanced Nutribun is very tasty, very nutritious, has a better texture, is made primarily from squash to taste, and is enriched with protein, iron, and vitamin A, among other things."

Moreover, the Nutribun of the 1970s was a loaf of bread made with good intentions. Nutribun is designed as a simple "edible food" for community-based primary school nutrition programs to combat child malnutrition in the Philippines. Schools in economically depressed areas where children are underweight than their normal age were significant buyers of Nutribun (Orillos, J. 2018)

Corn, on the other hand, is one of the Philippines' most significant crops. In terms of agricultural resource use, it is only second to rice. It is crucial for the development of the livestock and production industries because it is utilized not only for human consumption but also for animal feed and industrial application.

Fortunately, Ilagan today, acknowledged that the country's corn capital is experiencing economic development while playing a key role in Isabela province as its capital since its inception as a province.

The City of Ilagan is rich in varieties of bananas, including the well-known Saba. This is what makes delicious banana bread made of the best part of a banana tree. The peel of the fruit and its blossoms are among the most neglected parts of the plant. People often eat banana flesh and throw away the peel and leaves. Although banana flowers are cooked as patties and in other dishes, bread and baked goods are rarely used.

According to a magazine by Supaluck Kraithong and Utthapon Issara, the impact of environmental issues is influenced by agricultural waste from agriculture. To prevent the long-term problem, the development of additional products from agricultural production highlighted new technologies, theoretical approach to scientific theory, and the application of food science. The banana peel and banana blossom are classified as a product that empowers the development of a new food product. In addition, there are several scientific reports showing that leaf-like and flower-bearing structures are rich in macro-and micro-nutrient and beneficial health effects that promote an anti-inflammatory effect, or anti-inflammatory stress, etc. Because of its benefits, the scientist is trying to develop a banana leaf and blossom into new born food products such as plant-based meats, confectionery products and snacks.

As people today aim to be healthier, the researcher aims to show that being healthier is less expensive. Bread is made with sugar, a fat that should not be eaten daily. This research will also be of benefit to the agricultural industry, as Bananas and Maize are ubiquitous and known as a healthy fruit due to their many health benefits, with maize and especially white maize being the main products of the City of Ilagan. These raw materials are considered local products and are commonly found on farms, plains and mountains. San Antonio County in the City of Ilagan, Isabela is best known for its many banana varieties from Barangay Sindun Bayabo, Villa Imelda and other parts of San Antonio County. Most Barangay Towns grow maize as their livelihood.

The researcher aims to develop a basic diet that can be eaten during trial times. Foods that provide energy to the body and essential nutrients packed in a single batch. This is to address major problems during a disaster, and one of the government's programs is to combat malnutrition by providing healthy food. Public schools have their own meal plans and Local Government Units with the help of Barangay Health Workers provide a one-time supply system.

Also, the researcher wants to develop a new type of nutri-bun, a product that can be a source of income and socially acceptable for many benefits.

So, to make a difference, the researcher conducted the study using corn flour, banana fruit, and banana blossom to make nutri-bun products for the benefit of the people of Ilagan City, Isabela, and beyond. The main reason why the researcher is motivated and interested in further exploring and developing nutri-bun products that are not widely produced and given to both children and adults is because of their nutritional value.

Therefore, This study aims at the Development and Marketability of Corn and Banana Flour Nutri-bun.

MATERIALS AND METHODS

The materials and methods used in developing corn and banana flour nutri-bunare presented below.

Materials

The following tools, equipment and ingredients shall be used during the conduct of the study.

Table 1. Tools and equipment used in the conduct of the study

Preparation Tools	Measurig Tools	Mixing Tools	Cutting Tools	Equipment
Plates	Measuring spoon	Spatula	Dough cutter	Gas range
Bowl s	Measuring glass	Spoon	Kitchen knife	Oven
Sifter	Measuring cup	Mixing bowl		Kneading machine
Tray		Rubber Spatula		Weighin g scale
Plastic or Stainless				

Basin				
Rolling pin				
Baking sheet				

Table 2. Ingredients use in the preparation of nutria-buns.

Ingredients	Sample 1 (Corn and Banana Peel Flour Nutri- bun)	Sample 2 (Corn and Banana Flesh Flour Nutri-bun)	Sample 3 (Corn and Banan a Blossom Flour Nutri-bun)	Sample4 (Corn and Banan a FlourNutri- bun)
	Measurements:	**Measure ments:**	**Measurements:**	**Measurements:**
Bananapeel (powder)	16 g.			5 g.
Bananaflesh (powder)		16 g.		5 g.
Banana blossom (powder)			16 g.	5 g.
Corn flour	32 g.	32 g.	32 g.	32 g.
Bread flour	112 g.	112 g.	112 g.	112 g.
Yeast	1 tsp.	1 tsp.	1 tsp.	1 t.
Lukewarm Fresh milk	37.5 g.	37.5 g.	37.5 g.	37.5 g.
Sugar	30 g.	30 g.	30 g.	30 grams
Lukewarm water	37.5 g.	37.5 g.	37.5 g.	37.5g.
Egg	15 g.	15 g.	15 g.	15 g.
Margarine	1 Tbsp	1 Tsp.	1 Tbsp.	1 Tbsp.

Developmental Procedure

In order to perform the research properly, the flowchart of the procedures in corn and banana flour nutri-bun was followed consistently. The needed tools, equipment and ingredients were prepared in the preparation of nutri-bun. This study used corn flour, banana peel flour, banana flesh flourand blossom flour. The developmental procedure begins with selecting, sun drying, powdering, and storing corn flour. The banana peel flour began withwashing, slicing, sun-drying, powdering and storing.The banana flesh flour started with peeling, slicing, sun-drying, powdering, and storing. Meanwhile, preparation for the banana blossom flour startedwith selecting, washing, slicing, sun-drying,powdering and storing. After the preparation of cornflour and banana peel, flesh and blossom flour, the preparation of nutri-bun came next. The entire process is shown in Figure 1.

Data Gathering Procedure

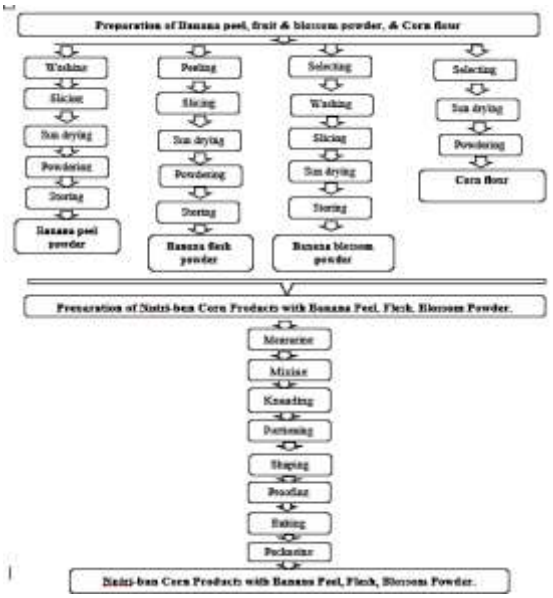

Figure 1. The flow diagram in corn and banana flour nutri-bun.

Permission to conduct the study throughsensory evaluation was conducted with the respondents consisting of food experts, adults, teenagers, and children.

After permission was granted, the administration of questionnaires followed. Directions in relation to the accomplishment of the questionnaires were discussed by the researcher to the evaluators personally. Copies of the questionnaire – checklist were retrieved after being accomplished by the respondents.

Following the safety protocol given by theInter-Agency Task Force (AITF), the researcher andthe participants wore a facemask and face shield during the conduct of the study. Also, social distancing and hand and body sanitation were strictly observed.

Table 3. Range of numerical rating and its descriptive equivalent in Acceptability and Marketability of Corn and Banana Flour Nutri-bun.

Scale	Numerical Rating	Descriptive Rating (Acceptability)	Descriptive Rating (Marketability)
5	4.5-5.00	Highly Acceptable	tronglyAgree
4	3.50-4.49	Moderately Acceptable	oderatelyAgree
3	2.50-3.49	Acceptable	Agree
2	1.50-2.49	Slightly Acceptable	Moderately Disagree
1	1.00-1.49	Not Acceptable	isagree

Sensory Evaluation

The finished products was subjected to sensory evaluation. Forty (40) evaluators assessed the products, consisting of ten (10) Food experts from Bread and Pastry Production (BPP) Trainers of IPTC and ISAT TESDA and selected bakery shops of City of Ilagan, Isabela. As well as ten (10) Adults, ten (10) Teenagers, and ten (10) Children from the residents of Centro San Antonio, City of Ilagan, Isabela. The respondents were undergo sensorial evaluation of nutri-bun. Data on the appearance, aroma, taste and texture and general acceptability of nutri-bun were collected and decoded for statistical analysis.

The instrument used for data gathering was a questionnaire-checklist using qualitative analysis method to determine the acceptability of the products. The responses as to the level of acceptability of corn and banana flour nutri-bun in terms of appearance, aroma, taste and texture using five-point hedonic scale and the responses as to the marketability in terms of consumer demand, supply availability and production cost were as shown in Table 3.

RESULTS

Result of Acceptability of the Corn and Banana Flour Nutri-Bun in terms of Appearance, aroma,taste, and texture

Table 4 shows the results for the level of acceptability of the Corn and Banana Flour Nutri- Bun in terms of appearance, aroma, taste, and texture.

Table 4. Level of acceptability of Corn and BananaFlour Nutri-Bun in terms of appearance, aroma, taste, and texture

Sensory characteristic	Corn And Banana Peel Flour Nutri-Bun		Corn And BananaFlesh Flour Nutri-Bun		Corn And Banana Blossom Flour Nutri-Bun		Corn And Banana Flour Nutri- Bun	
	Means	Desc.	Means	Desc.	Means	Desc.	Means	Desc.
Appearance	4.00	MA	4.55	HA	4.23	MA	4.55	HA
Aroma	3.53	MA	4.30	MA	4.10	MA	4.68	HA
Taste	3.55	MA	4.00	MA	3.93	MA	4.73	HA
Texture	3.85	MA	4.30	MA	4.08	MA	4.70	HA

*1.00-1.49: Not Acceptable (NA); 1.50-2.49: Slightly Acceptable (SA); 2.50-3.49: Acceptable (A); 3:50-4.49: Moderately Acceptable (MA); 4.50-5.00: Highly Acceptable (HA)

Corn (*Zea Mays*) and Banana (*Musa Acuminata*) Flour Nutri-Bun

Table 4 presents the level of acceptability of corn and banana flour nutri-bun as perceived by the different groups of respondents in terms of sensory characteristics. Based on the sensorial evaluation, Sample 1 was rated *"moderately acceptable"* in terms of appearance (4.00), aroma (3.53) taste (3.55) and texture (3.85).

Sample 2 was rated *"moderatelyacceptable"* in terms of aroma, taste and texture as indicated by the obtained means of 4.30, 4.00 and 4.30 respectively. However, it was rated *"highly acceptable"* in appearance (4.55), which means its appearance was very favorable to the respondents due to its light, soft and creamy taste which please the taste buds of adults and children. They also like its aroma and smooth texture making it melt in theirmouth.

However, Sample 3 was rated *"moderatelyacceptable"* by the evaluators in terms of appearance (4.23), taste (3.93), and texture (4.08). Itindicates that Sample 1 and Sample 3 are least palatable to the respondents. It is because the floursused in Sample 1 and sample 3 affected the appearance of the nutri-buns making them less attractive and palatable. They had coarser texture than those of Sample 2 and Sample 4.

Lastly, it can be noted that Sample 4 was rated by the respondents as *"highly acceptable"* in terms of appearance (4.55), aroma (4.68), taste (4.73) and texture (4.70). This means that the fourthsample was the most liked product by the respondents. This is because the appearance of Sample 4 was lighter and more pleasing than Sample1 and 3. It is the softest nutri-bun of the samples. It also has smooth texture and natural aroma.

Result of Marketability of Corn and Banana Flour Nutri-Bun as evaluated by the evaluators in terms of consumer demands, supply availability, and production cost

Table 5 shows the results for the level ofmarketability of Corn and Banana Flour Nutri-Bunas evaluated by the evaluators in terms of consumerdemands, supply availability, and production cost.

Table 5. Level of marketability of Corn and Banana Flour Nutri-Bun as evaluated by the evaluators in terms of consumer demands,supply availability, and production cost

	Marketability Indicators	Mean	Description
A	**Consumer Demands**		
1	The Corn And Banana Flour Nutri-Bun can meetthe demand of market supply and consumers.	4.65	StronglyAgree
2	It can satisfy the consumers because of itsnutritive value.	4.68	StronglyAgree
3	It can be sold at a lowerprice compared to other commercial breads.	4.60	StronglyAgree
4	It can be liked by people of all ages.	4.60	Strongly Agree
5	Corn And Banana FlourNutri-Bun can give the consumer health benefits.	4.83	StronglyAgree
	Sub-Mean	**4.67**	**Strongly Agree**
B	**Supply Availability**		
1	Corn flour, Banana fruit and Banana blossom is available all year round.	4.63	Strongly Agree
2	The raw materials can be produced easily.	4.73	Strongly Agree
3	Dry ingredients in making Corn and Banana Flour Nutri-Bun like sugar, flour, yeast, and salt are locally available.	4.83	Strongly Agree
4	Liquid ingredients in making Corn And Banana Flour Nutri-Bun like evaporated milk, egg and water are locally available.	4.80	Strongly Agree
5	Corn And Banana Flour Nutri-Bun need less effort to produce.	4.50	Strongly Agree
	Sub Mean	4.70	Strongly Agree
C	**Production Cost**		
1	The ingredients cost less.	4.80	Strongly Agree
2	It can be prepared in your	4.53	Strongly Agreee

	own kitchen area.		
3	Less manpower is needed in making the products.	4.55	Strongly Agree
4	It needs less effort in producing the products.	4.63	Strongly Agree
5	It requires less capital in producing the products.	4.70	Strongly Agree
	Sub Mean	**4.64**	**Strongly Agree**
	Overall Mean	**4.67**	**Strongly Agree**

Results in Table 5 show that the level of marketability Corn and Banana Flour Nutri-Bun in terms of consumer demands, supply availability, andproduction cost is Very High, since the evaluators strongly agreed with the marketability indicators. The indicators A5 "*Corn and Banana Flour Nutri- Bun can give the consumer health benefits*" has the most agreeable rating when it comes to Consumer Demand with a mean of 4.83; B3 "*Dry ingredients in making Corn and Banana Flour Nutri-Bun like sugar, flour, yeast, and salt are locally available*" has the most agreeable rating when it comes toSupply Availability with a mean of 4.83; and C1 "*The ingredients cost less*" has the most agreeable rating when it comes to Production Cost with a meanof 4.80.

Furthermore, the sub means of 4.67, 4.70 and 4.64, and most importantly, the overall mean rating of 4.67 imply that the evaluators reveal that the product is favorable to the target market.

Result of Comparison of Evaluation by Respondents on the level of acceptability ofCorn and Banana Flour Nutri-Bun.

Table 6-9 show the results for the comparison in the level of acceptability of Corn and Banana Fliyr Nutr-bun as evaluated by the evaluators when grouped according to respondents for each sample.

Table 6. Analysis of variance results comparing thelevel of acceptability of Sample 1 (Corn and Banana Peel Flour Nutri-Bun) as evaluated by the evaluators when grouped according to respondents.

Descriptives

Age Group	N	Mean	SD	Descriptive Rating
Food Experts	10	3.750	.986	Moderately Acceptable
Adults	10	3.725	.777	Moderately Acceptable
Teenagers	10	3.500	.773	Moderately Acceptable
Children	10	3.950	.725	Moderately Acceptable

The table shows the means and standard deviations on the level of acceptability of Sample 1 (Corn and Banana Peel Flour Nutri-Bun) as perceived by the evaluators when gruped according to profile: Food Experts (M= 3.750, SD= .986); Adults (M= 3.725, SD = .777); Teenagers (M=3.500, SD= .773); and Children (M=3.950, SD=.725).

ANOVA Table

	Sumof Squares	df	Mean Square	F	Sig.
Between Groups	1.017	3	.339	.503	**.683**
Within Groups	24.281	36	.674		
Total	25.298	39			

Legend: *significant at .05 level

Table 6 presents the analysis on thesignificant difference in the level of acceptability ofSample 1 (Corn and Banana Peel Flour Nutri-Bun) as perceived by the evaluators when grouped according to profile – the dependent variable being the profile group to which the evaluators were classified and the independent variable being the degree of the product's level of acceptability. The

result of the ANOVA revealed that there is *no significant difference* on the level of acceptability ofSample 1 (Corn and Banana Peel Flour Nutri-Bun) as perceived by the evaluators when grouped according to profile: F(3,36) = .503, p = .683. Thus we failed to reject our null hypothesis. This impliesthat their perception on the level of acceptability of Sample 1 (Corn and Banana Peel Flour Nutri-Bun) does not differ when grouped according to profile.

Table 7. Analysis of variance results comparing thelevel of acceptability of Sample 2 (Corn and BananaFlesh Flour Nutri-Bun) as evaluated by the evaluators when grouped according to respondents

Descriptives

Profile Groups	N	Mean	SD	Descriptive
Food Experts	10	4.225	.721	Moderately Acceptable
Adults	10	4.275	.478	Moderately Acceptable
Teenagers	10	4.150	.530	Moderately Acceptable
Children	10	4.500	.333	Highly Acceptable

The table shows the means and standard deviations on the level of acceptability of Sample 2 (Corn and Banana Flesh Flour Nutri-Bun) as evaluated by the evaluators when grouped accordingto respondents: Food Experts (M = 4.225, SD =.721); Adults (M = 4.275, SD = .478); Teenagers (M= 4.150, SD = .530); and Children (M = 4.50, SD =.333).

ANOVA Table

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.681	3	.227	.797	**.504**
WithinGroups	10.263	36	.285		
Total	10.944	39			

Legend: *significant at .05 level

Table 7 presents the analysis on thesignificant difference in the level of acceptability ofSample 2 (Corn and Banana Flesh Flour Nutri-Bun)as evaluated by the evaluators when grouped according to respondents – the dependent variable being the profile group to which the evaluators wereclassified and the independent variable being the degree of the product's level of acceptability. The result of the ANOVA revealed that there is *no significant difference* on the level of acceptability ofSample 2 (Corn and Banana Flesh Flour Nutri-Bun)as evaluated by the evaluators when grouped according to respondents: F(3,36) = .797, p = .504. Thus, we failed to reject our null hypothesis. This implies that their perception on the level of acceptability of Sample 2 (Corn and Banana Flesh Flour Nutri-Bun) does not differ when grouped according to respondents.

Table 8. Analysis of variance results comparing thelevel of acceptability of Sample 3 (Corn and BananaBlossom Flour Nutri-Bun) as evaluated by the evaluators when grouped according to respondents

Descriptives

Profile Groups	N	Mean	SD	Descriptive
Food Experts	10	4.050	.695	Moderately Acceptable
Adults	10	4.000	.905	Moderately Acceptable
Teenagers	10	4.225	.558	Moderately Acceptable
Children	10	4.050	.725	Moderately Acceptable

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The table shows the means and standard deviations on the level of acceptability of Sample 3 (Corn and Banana Blossom Flour Nutri-Bun) asevaluated by the evaluators when grouped accordingto respondents: Food Experts (M = 4.050, SD = .695); Adults (M = 4.000, SD = .905); Teenagers (M = 4.225, SD = .558); and Children (M = 4.050, SD = .725).

ANOVA Table

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	.292	3	.097	.182	**.908**
Within Groups	19.256	36	.535		
Total	19.548	39			

Legend: *significant at .05 level

Table 8 presents the analysis on the significant difference in the level of acceptability ofSample 3 (Corn and Banana Blossom Flour Nutri- Bun) as evaluated by the evaluators when grouped according to respondents – the dependent variable being the profile group to which the evaluators wereclassified and the independent variable being the degree of the product's level of acceptability. The result of the ANOVA revealed that there is *no significant difference* on the level of acceptability ofSample 3 (Corn and Banana Blossom Flour Nutri- Bun) as evaluated by the evaluators when grouped according to profile: F(3,36) = .182, p = .908 Thus, we failed to reject our null hypothesis. This means that their perception on the level of acceptability of Sample 3 (Corn and Banana Blossom Flour Nutri- Bun) does not differ when grouped according to respondents.

Table 9. Analysis of variance results comparing thelevel of acceptability of Sample 4 (Corn and Banana Flour Nutri-Bun) as evaluated by the evaluators when grouped according to respondents

Descriptives

Profile Groups	**N**	**Mean**	**SD**	**Descriptive**
Food Experts	10	4.725	.492	Highly Acceptable
Adults	10	4.600	.474	Highly Acceptable
Teenagers	10	4.500	.514	Highly Acceptable
Children	10	4.825	.265	Highly Acceptable

The table shows the means and standard deviations on the level of acceptability of Sample 4 (Corn and Banana Flour Nutri-Bun) as evaluated bythe evaluators when grouped according to respondents: Food Experts (M = 4.725, SD = .492);Adults (M = 4.600, SD = .474); Teenagers (M = 4.500, SD = .514); and Children (M = 4.825, SD = .265).

ANOVA Table

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	.606	3	.202	1.009	**.400**
Within Groups	7.212	36	.200		
Total	7.819	39			

Legend: *significant at .05 level

Table 9 presents the analysis on thesignificant difference in the level of acceptability ofSample 4 (Corn and Banana Flour Nutri-

Bun) as perceived by the evaluators when grouped accordingto respndents – the dependent variable being the profile group to which the evaluators were classifiedand the independent variable being the degree of theproduct's level of acceptability. The result of the ANOVA revealed that there is *no significant difference* on the level of acceptability of Sample 4 (Corn and Banana Flour Nutri-Bun) as evaluateded by the evaluators when grouped according to respondents: F(3,36) = 1.009, p = .400 Thus, we failed to reject our null hypothesis. This means that their perception on the level of acceptability of Sample 4 (Corn and Banana Flour Nutri-Bun) does not differ when grouped according to respondents.

These results imply that the evaluators'respective profile groups is not a discriminating factor regarding their perception towards the acceptability of the Nutri-Buns across all samples.

This is similar to the studies of Joysree Royand Md. Nazrul Islam (2020), Bandal, Suresh and Talib Mohammed (2014) which found that cornflour, banana peel, flesh and blossom powder can beutilized as main ingredients in making healthy breads.

The Chemical Composition of Corn and BananaFlour Nutri-Bun to Moisture, Ash, Crude Protein, Crude Fiber, and Crude Fats.

In Table 10, the proximate analysis of Nutri-bun products was presented. Proximate analysis included the moisture content, ash content,crude protein content, crude fat content, total carbohydrates content and energy content. These analyses are important for determination of food quality, microbial stability and can be used for nutritional labeling. Based on the results of proximate analyses of the Corn and Banana Peel Flour Nutri-Bun, the percentage of crude protein is 7.54%, crude fiber .59%, crude fat 4.70%, Moisturecontent 24.48%, and Ash is .82%. Corn and BananaFlesh Flour Nutri-Bun, the percentage of crude protein is 7.36%, crude fiber .19%, crude fat 3.65%,Moisture content 27.10%, and Ash is .78%. Corn and Banana Blossom Flour Nutri-Bun, thepercentage of crude protein is 7.91%, crude fiber

.92%, crude fat 4.03%, Moisture content 26.99%, and Ash is 1.11%. Corn and Banana Flour Nutri- Bun, the percentage of crude protein is 7.36%, crudefiber 1.05%, crude fat 4.70%, Moisture content 26.95%, and Ash is .91%.

Table 10. Proximate Analyses Results of Nutri-bun Products.

Lab No.	Sample Description	Crude Protein	Crude Fiber	Crude Fat	Moisture	Ash
		%	%	%	%	%
FT-202 1-0253	Corn and Banana Peel Flour Nutri-Bun	7.54	0.59	4.70	24.48	0.82
FT-202 1-0254	Corn and Banana Flesh Flour Nutri-Bun	7.36	0.19	3.65	27.10	0.78
FT-202 1-0255	Corn and Banana Blossom Flour Nutri-Bun	7.91	0.92	4.03	26.99	1.11
FT-202 1-0256	Corn and Banana Flour Nutri-Bun	7.36	1.05	4.70	26.95	0.91

Note:1) Sample will be kept only for a month fromthe date received.

2) Environmental Conditions, Temperature: 25°C ±3, Relative Humidity: 40-60%

Protein content is an important factor for consumers of wheat and flour as it is related to many processing factors, such as water absorption. The protein content can also be associated with the characteristics of the finishedproduct, such as texture and appearance. When proteins are combined with water, they formgluten (North American Export Grain Association. (2011)

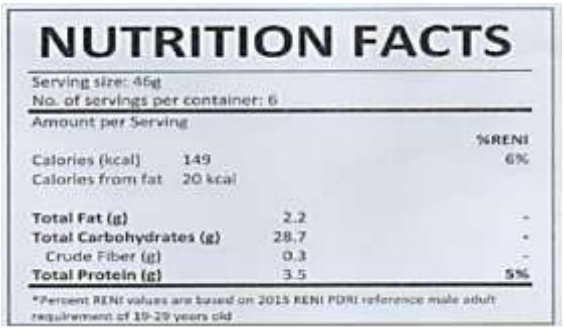
Crude fiber was the measure of the amount of undigested cellulose, pentosan, lignin, andother components of this type in the current diet.(Braceros (2011)

Fat content determines free fatty lipids of flour. This structure can be used as a basis for determining processing

temperatures and auto- oxidation which can lead to rancidity and can affect food taste.

Ash content refers to the mineral flour.Bakers should know the amount of ash as it willaffect water absorption, nutrients (mineral content), fermentation function. Ash to flour canalso touch color, giving it a darker color to finished products. Some specialty products that require mainly white flour call for low ash content while other products, have high ash (Keran, H., Salkić, M., et al., 2009).

Moisture provides a measure of water content and a solid solid content of flour. It also determines the storage capacity and quality of theflour. Above 14% high humidity attracts fungi, bacteria, and insects all in the last days. Organicmatter in flour will begin to grow in high humidity, releasing odors and flavors.


NUTRITION FACTS

Serving size: 46g
No. of servings per container: 6
Amount per Serving

		%RENI
Calories (kcal)	149	6%
Calories from fat	20 kcal	
Total Fat (g)	2.2	-
Total Carbohydrates (g)	28.7	-
Crude Fiber (g)	0.3	-
Total Protein (g)	3.5	5%

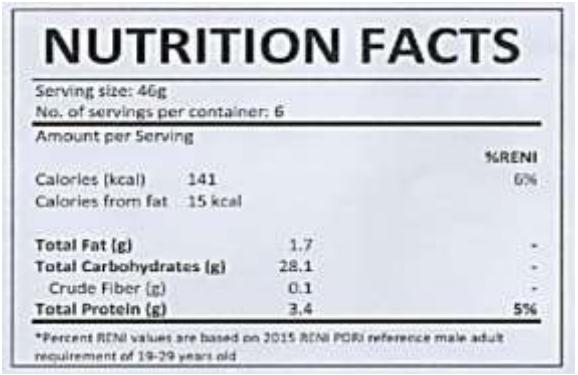
*Percent RENI values are based on 2015 RENI PDRI reference male adult requirement of 19-29 years old

Figure 2. Nutrition Facts Results of Corn andBanana Peel Flour Nutri-Bun.

SAMPLE NET. WEIGHT: 276 g

Based on the results of nutrition facts analyses of the Corn and Banana Peel Flour Nutri-Bun. There are 6 number of servings in one container, each serving has 46 g weight having a total net weight of276 g. It contains 149 kilo Calories 6% of Recommended Energy and Nutrient Intake based on male adult requirement. Calories from fat 20 kilocalories, 2.2 g. total fat, 28.7 g. Total Carbohydrates with .3 g. crude fiber, and 3.5 g.

Total Protein which makes the 5% RecommendedEnergy and Nutrient Intake.


NUTRITION FACTS

Serving size: 46g
No. of servings per container: 6
Amount per Serving

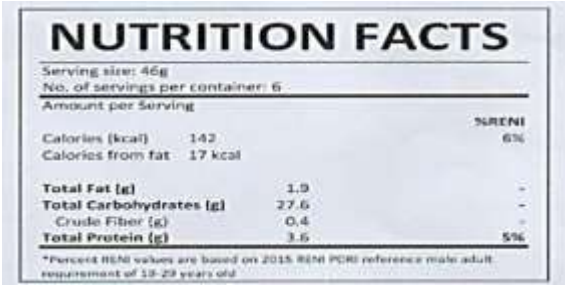
		%RENI
Calories (kcal)	141	6%
Calories from fat	15 kcal	
Total Fat (g)	1.7	-
Total Carbohydrates (g)	28.1	-
Crude Fiber (g)	0.1	-
Total Protein (g)	3.4	5%

*Percent RENI values are based on 2015 RENI PDRI reference male adult requirement of 19-29 years old

Figure 3. Nutrition Facts Results of Corn andBanana Flesh Flour Nutri-Bun

SAMPLE NET. WEIGHT: 276 g.

Based on the results of nutrition facts analyses of the Corn and Banana Peel Nutri-bun. There are 6 number of servings in one container, each serving has 46 g weight having a total net weight of 276 g. It contains 141 kilo Calories 6% ofRecommended Energy and Nutrient Intake based on male adult requirement. Calories from fat is 15 kilocalories, 1.7 g. total fat, 28.1 g. Total Carbohydrates with 0.1 g. crude fiber, and 3.4 g. Total Protein which makes the 5% Recommended Energy and Nutrient Intake.


NUTRITION FACTS

Serving size: 46g
No. of servings per container: 6
Amount per Serving

		%RENI
Calories (kcal)	142	6%
Calories from fat	17 kcal	
Total Fat (g)	1.9	-
Total Carbohydrates (g)	27.6	-
Crude Fiber (g)	0.4	-
Total Protein (g)	3.6	5%

*Percent RENI values are based on 2015 RENI PDRI reference male adult requirement of 19-29 years old

Figure 4. Nutrition Facts Results of Corn andBanana Flesh Flour Nutri-Bun

SAMPLE NET. WEIGHT: 276 g.

Corn (*Zea Mays*) and Banana (*Musa Acuminata*) Flour Nutri-Bun

Based on the results of nutrition facts analyses of theCorn and Banana Flesh Flour Nutri-Bun. There are 6 number of servings in one container, each servinghas 46 g weight having a total net weight of 276 g. It contains 142 kilo Calories 6% of Recommended Energy and Nutrient Intake based on male adult requirement. Calories from fat 17 kilocalories, 1.9 g.total fat, 27.6 g. Total Carbohydrates with .4 g. crudefiber, and 3.6 g. Total Protein which makes the 5% Recommended Energy and Nutrient Intake.

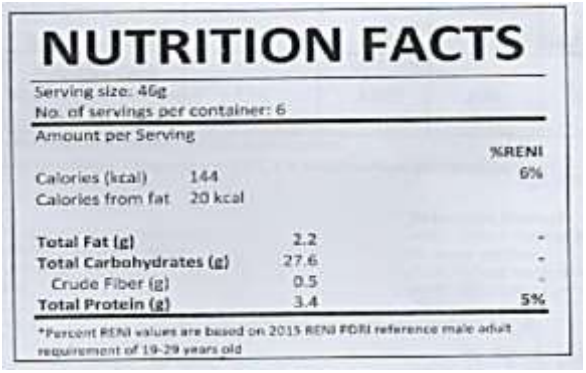


Figure 5. Nutrition Facts Results of Corn andBanana Flour Nutri-Bun

SAMPLE NET. WEIGHT: 276 g.

Based on the results of nutrition facts analyses of the Corn and Banana Flour Nutri-Bun. There are 6number of servings in one container, each serving has 46 g weight having a total net weight of 276 g.It contains 144 kilo Calories 6% of RecommendedEnergy and Nutrient Intake based on male adult requirement. Calories from fat 20 kilocalories, 2.2
g. total fat, 28.7 g. Total Carbohydrates with .5 g. crude fiber, and 3.4 g. Total Protein which makes the 5% Recommended Energy and Nutrient Intake

Shelf - Life of Banana Peel Powder

1. After having produced the Banana Peel flour the researcher stored it in a clean, dryclear container and kept at room temperature.

2. The following was observed in the BananaPeel Powder kept at room temperature.

First week. The banana peel flour had a perfectdarkish color, neutral smell, perfect texture.

a. Second week. Same observation on the firstweek, there was a perfect darkish color, neutralsmell, perfect texture.

b. Third week. Same observation on the 2nd weekhad a perfect darkish color, neutral smell, perfect texture, no molds, and no pest.

c. Fourth week. Same observation on the 3rd weekhad a perfect darkish color, neutral smell, perfect texture, no molds, and no pest.

d. Fifth week. The powder doesn't change its color, no sign of molds, the smell doesn't changenor produce a strong aroma, there are no pests observed.

e. Sixth week. Same observation on the 5th week,the powder doesn't change its color, no sign of molds, the smell doesn't change nor produce a strong aroma, there are no pests observed.

f. Seventh week. Same observation on the 6th week, the powder doesn't change its color, no signof molds, the smell doesn't change nor produce a strong aroma, there are no pests observed.

g. Eighth week. The powder is still fine, no sign ofspoilage, no change in color, texture is still good, no strong nor sour smell.

h. Ninth week. Same observation on the 8th week powder is still fine, no sign of spoilage, no changein color, texture is still good, no strong nor sour smell.

i. Tenth week. Same observation on the 9th week powder is still fine, no sign of spoilage, no changein color, texture is still good, no strong nor sour smell and still can be stored up to 1 month at roomtemperature.

Shelf - Life of Banana Flesh Powder

1. After having produced the Banana FleshFlour the researcher stored it in a clean, dry clear container and kept at room temperature.

2. The following was observed in the BananaFlesh Powder kept at room temperature..

a. First week. The banana flesh flour had a perfectdirty white color, no smell, perfectly fined texture.

b. Second week. Same observation on the 1st week,there was a perfect dirty white color, no smell, perfectly fined texture.

c. Third week. Same observation on the 2nd weekhad a perfect dirty white color, no smell, perfectlyfined texture, no molds, and

no pest.

d. Fourth week. Same observation on the 3rd weekhad a perfect perfect dirty white color, no smell, perfectly fined texture, no molds, and no pest.

e. Fifth week. The powder doesn't change its color, no sign of molds, the smell doesn't changenor produce a strong aroma, there are no pests observed.

f. Sixth week. The powder quite change its color alittle bit darker than its usual color, no sign of molds, the smell doesn't change nor produce a strong aroma, there are no pests observed.

g. Seventh week. The powder change its color into a light brownish one, no sign of molds, the smell doesn't change nor produce a strong aroma, there are no pests observed, may still be used as additiveson buns.

h. Eighth week. The powder change its color into adark brown, no sign of molds, the smell doesn't change nor produce a strong aroma, there are no pests observed, may not be used as additives on buns, because it may affect the appearance and the palatability of the product.

Shelf - Life of Banana Blossom Powder

1. After having produced the Banana Blossom flour the researcher stored it in a clean, dry clear container and kept at room temperature.
2. The following was observed in the BananaBlossom Powder kept at room temperature.

a. First week. The banana blossom flour had a perfect blackish color, strong smell of dried blossom, perfect texture gets easily powdered whentouch.

b. Second week. Same observation on the first week, there was a perfect blackish color, strong smell of dried blossom, perfect texture gets easilypowdered when touch.

c. Third week. Same observation on the 2nd week had a perfect blackish color, strong smell of dried blossom, perfect texture gets easily powdered whentouch, no pests, no molds.

d. Fourth week. Same observation on the 3rd weekhad a perfect blackish color, strong smell of dried blossom, perfect texture gets easily powdered whentouch, no pests, no molds.

e. Fifth week. The powder doesn't change its color, no sign of molds, the smell doesn't change nor produce a foul aroma, the strong smell of driedblossoms still there, there are no pests observed.

f. Sixth week. Same observation on the 5th week,the powder doesn't change its color, no sign of molds, the strong smell of dried blossoms stillthere, there are no pests observed.

g. Seventh week. Same observation on the 6th week, the powder doesn't change its color, no signof molds, the smell doesn't change, there are no pests observed.

h. Eighth week. The powder is still fine, no sign ofspoilage, no change in color, texture is still good, no strong nor sour smell.

i. Ninth week. Same observation on the 8th week powder is still fine, no sign of spoilage, no changein color, texture is still good, no strong nor sour smell.

j. Tenth week. Same observation on the 9th week powder is still fine, no sign of spoilage, no change in color, texture is still good, no sour smell and stillcan be stored up to 1 month at room temperature.

Shelf - Life of Corn flour

1. After having produced the corn flour theresearcher stored it in a clean, dry clear container and kept at room temperature.
2. The following was observed in the cornflour kept at room temperature.

a. First week. The corn flour had a perfect white color, smell like freshly dried corn, perfect texture.

b. Second week. Same observation on the firstweek, there was a perfect white color, no foul smell, perfect texture.

c. Third week. Same observation on the 2nd weekhad a perfect a perfect white color, no foul smell, perfect texture, no molds, and no pest.

d. Fourth week. Same observation on the 3rd weekhad a perfect a perfect white color, no foul smell, perfect texture, no molds, and no pest.

e. Fifth week. The powder doesn't change its color, no sign of molds, the smell doesn't changenor produce a strong aroma, there are no pests observed.

f. Sixth week. Same observation on the 5th week, the powder doesn't change its color, no sign of molds, the smell doesn't change, there are no pestsobserved.

g. Seventh week. Same observation on the 6th week, the powder doesn't change its color, no signof molds, the smell doesn't change, there are no pests observed.

h. Eighth week. The powder is still fine, no sign ofspoilage, no change in color, texture is still good, no strong nor sour smell.

i. Ninth week. Same observation on the 8th week powder is still fine, no sign of spoilage, no changein color, texture is still good, no strong nor sour smell.

j. Tenth week. Same observation on the 9th week powder is still fine, no sign of spoilage, no changein color, texture is still good, no strong nor sour smell and still can be stored up to 1 month at roomtemperature.

Shelf-life of Corn and Banana Peel Flour Nutri-bun

1. After having produced the corn and banana peel flour nutria-bun the researcherstored it in a clean, dry clear container and kept at room temperature.
2. The following was observed in the cornflour kept at room temperature..

a. First day. The corn and banana peel flour nutria-bun had a perfect taste, aroma, attractive and appealing to the eye, perfect texture.

b. Second day. Same observation on the first day,there was a perfect aroma, appearance, taste and texture.

c. Third day. Same observation on the 2nd day hada perfect taste, aroma, attractive and appealing to the eye, and perfect texture.

d. Fourth day. The nutri-bun taste was still good;aroma smelled good, nice appearance, and good texture.

e. Fifth day. Same observation on the fourth day. The taste was still good; aroma smells good, nice appearance, and good texture, no molds observed.

f. Sixth day. The nutri-bun was still delicious; smelled good and no sour smell, still appealing tothe eye, and dough is soft and easy to slice, no molds observed.

g. Seventh day. Nutri-bun still tastes the same, nosour smell, no molds yet it became firm and compact, the porosity decreases.

h. Eight day. Nutri-bun started to deteriorate its taste, slightly sour smell, no molds yet it becamefirmer, and compact, the porosity decreases, sizedecreases.

i. Nine day. Nutri-bun already have medium sourtaste, sour smell, no molds yet it became firmer, and compact, the porosity decreases, size decreases. Not advisable to consume anymore.

Shelf-life of Corn and Banana Flesh FlourNutri-bun

1. After having produced the corn and banana flesh flour nutri-bun the researcherstored it in a clean, dry clear container and kept at room temperature.
2. The following was observed in the cornflour kept at room temperature.

a. First day. The corn and banana flesh flour nutria-bun had a perfect taste, aroma, attractive andappealing to the eye, perfect texture.

b. Second day. Same observation on the first day,there was a perfect aroma, appearance, taste and texture.

c. Third day. Same observation on the 2nd day hada perfect taste, aroma, attractive and appealing to the eye, and perfect texture.

d. Fourth day. The nutri-bun taste was still good;aroma smelled good, nice appearance, and good texture.

e. Fifth day. Same observation on the fourth day.The taste was still good; aroma smells good, nice appearance, and good texture, no molds observed.

f. Sixth day. The nutri-bun was still delicious; smelled good and no sour smell, still appealing tothe eye, and dough is soft and easy to slice, no molds observed.

g. Seventh day. Nutri-bun still tastes the same, nosour smell, no molds yet it became firm and slightly compact, the porosity decreases.

h. Eighth day. Nutri-bun started to deteriorate its taste, no sour smell, no molds yet it became firmer,and compact, the porosity decreases, size decreases.

i. Ninth day. Same observation to 8th day, nutri-bun already deteriorates its taste yet not sour, nosour smell, no molds yet it became firmer, and compact, the porosity decreases, size decreases. Not advisable to consume anymore.

j. Tenth day. Nutri-bun has slightly sour taste, nosour odor, no molds yet it became firmer, and compact, the porosity decreases, size decreases. Not advisable to consume anymore.

Shelf-life of Corn and Banana Blossom FlourNutri-bun

1. After having produced the corn and banana blossom flour nutri-bun the researcher stored it in a clean, dry clear container and kept at room temperature.
2. The following was observed in the cornflour kept at room temperature.

a. First day. The corn and banana blossom flour nutri-bun had a perfect taste, aroma, attractive andappealing to the eye, perfect texture.

b. Second day. Same observation on the first day,there was a perfect aroma, appearance, taste and texture.

c. Third day. Same observation on the 2nd day hada perfect taste, aroma, attractive and appealing to the eye, and perfect texture.

d. Fourth day. The nutri-bun taste was still good;aroma smelled good, nice appearance, and good texture.

e. Fifth day. Same observation on the fourth day.The taste was still good; aroma smells good, nice appearance, and good texture, no molds observed.

f. Sixth day. The nutri-bun was still delicious; smelled good and no sour smell, still appealing tothe eye, and dough is soft and easy to slice, no molds observed.

g. Seventh day. Nutri-bun still tastes the same, nosour smell, no molds yet it became firm and compact, the porosity decreases.

h. Eight day. Nutri-bun started to deteriorate its taste, slightly sour smell, no molds yet it becamefirmer, and compact, the porosity decreases, size decreases.

i. Ninth day. Nutri-bun already have medium sourtaste, sour smell, no molds yet it became firmer, and compact, the porosity decreases, size decreases. Not advisable to consume anymore.

j. Tenth day. Nutri-bun has slightly sour taste, nosour odor, no molds yet it became firmer, and compact, the porosity decreases, size decreases. Not advisable to consume anymore.

Shelf-life of Corn and Banana Blossom FlourNutri-bun

1. After having produced the corn and banana blossom flour nutri-bun the researcher stored it in a clean, dry clear container and kept at room temperature.
2. The following was observed in the cornflour kept at room temperature.

k. First day. The corn and banana blossom flour nutri-bun had a perfect taste, aroma, attractive andappealing to the eye, perfect texture.

l. Second day. Same observation on the first day,there was a perfect aroma, appearance, taste and texture.

m. Third day. Same observation on the 2nd day hada perfect taste, aroma, attractive and appealing to the eye, and perfect texture.

n. Fourth day. The nutri-bun taste was still good;aroma smelled good, nice appearance, and good texture.

o. Fifth day. Same observation on the fourth day.The taste was still good; aroma smells good, nice appearance, and good texture, no molds observed.

p. Sixth day. The nutri-bun was still delicious; smelled good and no sour smell, still appealing tothe eye, and dough is soft and easy to slice, no molds observed.

q. Seventh day. Nutri-bun still tastes the same, nosour smell, no molds yet it became firm and compact, the porosity decreases.

r. Eight day. Nutri-bun started to deteriorate its taste, slightly sour smell, no molds yet it becamefirmer, and compact, the porosity decreases, size decreases.

s. Ninth day. Nutri-bun already have medium sourtaste, sour smell, no molds yet it became firmer, and compact, the porosity decreases, size decreases. Not advisable to consume anymore.

Shelf-life of Corn and Banana Flour Nutri-bun

1. After having produced the Corn and Banana Flour Nutri-bun the researcher stored it in a clean, dry clear container andkept at room temperature.
2. The following was observed in the cornflour kept at room temperature.

a. First day. The Corn and Banana Flour Nutri-bunhad a perfect taste, aroma, attractive and appealing to the eye, perfect texture.

b. Second day. Same observation on the first day,there was a perfect aroma, appearance, taste and texture.

c. Third day. Same observation on the 2nd day hada perfect taste, aroma, attractive and appealing to the eye, and perfect texture.

d. Fourth day. The nutri-bun taste was still good;aroma smelled good, nice appearance, and good texture.

e. Fifth day. Same observation on the fourth day.The taste was still good; aroma smells good, nice appearance, and good texture, no molds observed.

f. Sixth day. The nutri-bun was still delicious; smelled good and no sour smell, still appealing tothe eye, and dough is soft and easy to slice, no molds observed.

g. Seventh day. Nutri-bun still tastes the same, nosour smell, no molds yet it became firm and compact, the porosity decreases.

h. Eight day. Nutri-bun started to deteriorate itstaste, slightly sour smell, no molds yet it becamefirmer, and compact, the porosity decreases, sizedecreases.

i. Ninth day. Nutri-bun already have medium sourtaste, sour smell, no molds yet it became firmer, and compact, the porosity decreases, size decreases. Not advisable to consume anymore.

Nutri-bun Products Costing

Table 11. Corn and Banana Peel Flour Nutri-bun

Item Description	Quantity	Cost (₱)
banana peel(flour)	16 grams.	.25
corn flour	32 grams.	2
bread flour	112 grams	5
Yeast	1 teaspoon	1
Lukewarm Fresh milk	37.5 grams	2.5
Sugar	30 grams	1
Lukewarm water	37.5 grams	-
egg	15 grams	2.5
Margarine	1 Tablespoon	2
LPG Gas	10%	2
Subtotal		18.25
Value Added Tax	10%	1.825
Total		20.045

Number of Yield: 7 Recipe Cost: ₱ 20.04

Mark-Up = Recipe Cost x Mark-up = ₱ 20.045 x 30% = ₱ 6.01	Selling Price = $\frac{\text{Recipe Cost}}{\text{+ Mark-up}}$ No. of Yield = 7 = $\frac{\text{₱ 20.045 + ₱ 6.01}}{}$ = ₱ 26.058/ 7 = ₱ 3.72

Selling Price = ₱ 3.72 per yield

Table 12. Corn and Banana Flesh Flour Nutri-bun

Item Description	Quantity	Cost (₱)
banana flesh(flour)	16 grams.	.25
corn flour	32 grams.	2
bread flour	112 grams	5
Yeast	1 teaspoon	1
Lukewarm Fresh milk	37.5 grams	2.5
Sugar	30 grams	1
lukewarm water	37.5 grams	-
egg	15 grams	2.5
Margarine	1 Tablespoon	2
LPG Gas	10%	2
Subtotal		18.25
Value Added Tax	1.825	3.00
Total		20.045

Corn (*Zea Mays*) and Banana (*Musa Acuminata*) Flour Nutri-Bun

Number of Yield: 7 Recipe Cost: ₱ 20.045

Mark-Up = Recipe Cost x Mark-up = ₱ 20.045 x 30% = ₱ 6.01	Selling Price = RecipeCost + Mark-up No. of Yield 7 = ₱ 20.045 + ₱ 6.01 = ₱ 26.058/ 7 = ₱ 3.72
Selling Price = ₱ 3.72 per yield	

Table 13. Corn and Banana Blossom Flour Nutri-bun

Item Description	Quantity	Total Cost (₱)
banana blossom (flour)	16 grams.	2
corn flour	32 grams.	2
bread flour	112 grams	5
Yeast	1 teaspoon	1
Lukewarm Fresh milk	37.5 grams	2.5
Sugar	30 grams	1
lukewarm water	37.5 grams	-
egg	15 grams	2.5
Margarine	1 Tablespoon	2
LPG Gas	10%	2
Subtotal		20.00
Value Added Tax	10%	2.00
Total		22.00

Number of Yield: 7

Recipe Cost: ₱ 22.00

Mark-Up = RecipeCost x Mark-up = ₱ 22.00 x 30% = ₱ 6.6	Selling Price = RecipeCost + Mark-up No. of Yield 7 = ₱ 22.00 + ₱ 6.6 = ₱ 28.6/ 7 = ₱ 4.09
Selling Price = ₱ 4.09 per yield	

Table 14. Corn and Banana Flour Nutri-bun

Item Description	Quantity	Total Cost (₱)
banana peel (flour)	1 teaspoon	.25
banana flesh	1 teaspoon	.25

(flour)		
banana blossom (flour)	1 teaspoon	2
corn flour	32 grams.	2
bread flour	112 grams	5
Yeast	1 teaspoon	1
Lukewarm Fresh milk	37.5 grams	2.5
Sugar	30 grams	1
lukewarm water	37.5 grams	-
egg	15 grams	2.5
Margarine	1 Tablespoon	2
LPG Gas	10%	2
	Subtotal	20.50
Value Added Tax		10%
	Total	22.55

Number of Yield: 7
Recipe Cost: ₱ 22.55

Mark-Up = Recipe Cost x Mark-up = ₱ 22.55x 30% = ₱ 6.765	Selling Price = Recipe Cost + Mark-up No. of Yield 7 = ₱ 22.55+ ₱ 6.765 =₱ 29.315/ 7 = ₱ 4.19
Selling Price = ₱ 4.19 per yield	

CONCLUSIONS

In view of the findings above, the Corn and banana flour nutri-bun contains high calories enough to sustain the 6% of Recommended Energy and Nutrient Intake based on male adult requirement. It also has fat, carbohydrates, fiber, and protein. This study concludes that corn and banana flour nutri-bun follows strict processes was highly accepted by the group of respondents in terms of appearance, aroma, taste, and texture; corn and banana flour nutri-bun has the best sensory characteristics compared to other three samples. The corn and banana flour nutri-bun meet high level of marketability in terms of consumer demand, supply availability, and production cost. Significant differences found along with the product acceptability are due to varied perceptions of respondents belonging to different groups and backgrounds. These differences are also caused by varied ingredients of nutri-bun products used in producing the four products. The shelf-life of banana peel flour is three months, same with the banana blossom flour and corn flour. However, the banana flesh flour can be stored up to one month and three weeks. The nutri-bun products can be stored and best consumed until seven days from production date.

Overall, the Corn (*Zea Mays*) and Banana (*Musa Acuminita*) Flour Nutri-bun can be produced for home use and have high potential for commercialization.

ETHICAL CONSIDERATION

The researcher ensured that the study wasdone in a way that was respectful of the participants and any people who might be affectedby the research. The procedures were followed in accordance with the University's regulations and standards in which the panellist was participating.

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