

ACCEPTABILITY LEVEL OF BANANA MUFFIN WITH MANGO JAM FILLING

Margie Y. Dela Cruz
margie.delacruz@gsc.edu.ph

Ivony S. Asprilla
ivony.asprilla@gsc.edu.ph

ABSTRACT The general objective of this study was to determine the level of acceptability of Banana Muffin with Mango Jam Filling in terms of color, aroma, taste, texture, palatability, appearance, and mouthfeel. As of today, there were a lot of pastry products that have been introduced to us. However, some of them were expensive; some people could not afford to buy one to develop a new bread product and determine its acceptability level. In the conduct of this study, the researchers used the convenience sampling technique. There were thirty (30) pieces of Banana Muffin with Mango Jam Filling for thirty (30) respondents. This study used the indirect method of collecting data. This was done using the survey instrument given to the thirty (30) respondent, which included the faculty, staff, and students who were available for the conduct of the assessment. Mean and standard deviation were used as statistical tools for data analysis and decision-making to determine the acceptability level of the bread product. The findings of this study revealed that Banana Muffin with Mango Jam Filling was highly acceptable in terms of color (Mean=4.60, SD=0.62), aroma (Mean=4.60, SD=0.67), taste (Mean=4.77, SD=0.43), texture (Mean=4.47, SD=0.51), palatability (Mean=4.77, SD=0.50), appearance (Mean=4.80, SD=0.41), and mouthfeel (Mean=4.87, SD=0.35). Therefore, Banana Muffin with Mango Jam Filling was highly acceptable as a bread product. This meant that banana muffin added with mango jam as its filling produced a highly satisfying color, aroma, taste, texture, palatability, appearance, and mouthfeel.

Keywords: *banana muffin, filling, level of acceptability*

INTRODUCTION

Background of the Study

The name "muffin" either comes from the German word "muffe" or the French word "moufflet," meaning soft bread. Muffins are called quick bread because they contain no yeast. According to Baking Industry Research Trust, muffins are small cup cake-like baked products, more elastic and less tender than cupcakes. They have bell-shaped tops, can be sweet or savory, and are leavened with baking powder or soda. A muffin's shape should have a uniform, well-rounded top, free from peaks, with no cracks, and be large in proportion to weight. The outside color should be an even golden brown and be tender, with a pebbly or slightly rough and shiny surface. The inside texture should be moist, tender, and light with an even, round-holed grain. The inside color should be creamy white or slightly yellow and free from streaks. Muffins may vary by adding fruits, nuts, herbs, cheese, chopped meats, or spices to the batter. Muffins are high in complex carbohydrates and B vitamins and are often a good source of fiber if they contain bran, fruits, and vegetables or are made with whole wheat flour.

(Retrieved from <http://www.ndwheat.com/uploads/resources/412/muffins.pdf> on December 10, 2017).

This study aimed to develop high-quality bread from banana and mango. Banana is one of the favorite fruits of Filipinos. Likewise, mango is well-known in Guimaras. Hence, the researchers developed and determined the acceptability level of banana muffin with mango jam filling to further validate the findings of this study.

Objective of the Problem

Generally, this study aimed to determine the acceptability level of banana muffin with mango jam filling in terms of color, aroma, taste, texture, palatability, appearance, and mouthfeel.

METHODOLOGY

The developmental research design was used in this study employing a survey instrument. It was administered using a research instrument and provided textual descriptions from the evaluated final product of banana muffin with mango jam filling. Developmental research had been defined as the systematic study of designing, developing, and evaluating instructional programs, processes, and products that should meet the criteria of internal consistency and effectiveness. It involved situations in which the product-development process was analyzed and described, and the final product was evaluated. Research instruments were given to the respondents of this study composed of thirty (30) faculty, staff, and students at Guimaras State College, Mclain, Buenavista, Guimaras who were requested to assess the acceptability level of banana muffin with mango jam filling in term of its color, aroma, taste, texture, palatability, appearance and mouthfeel using the 9-point hedonic scale. The respondents were chosen using convenience sampling. This sampling technique was a type of non-probability sampling in which people were sampled simply because they were convenient sources of data for researchers. Data were gathered using a research survey instrument. The validity of the research instrument of this study was established utilizing the expertise of three validators who assessed the bread product. The experts each reviewed the survey instrument and scored it according to its color, aroma, taste, texture, palatability, appearance, and mouth feel of banana muffin with mango jam filling. The scoring index was measured from 1 (poor) to 5 (excellent). Cronbach's alpha was used in this study to test the internal consistency, which was, how closely related a set of items was as a group. It was considered to be a measure of scale reliability.

When the research instrument was pilot tested, the reliability was computed using the Statistical Package for the Social Sciences (SPSS, Version 17) with Cronbach's alpha of 0.960. This meant very high reliability since it was greater than 0.70

Materials Used in Preparing Banana Muffin with Mango Jam Filling

The materials used in preparing Banana Muffin with Mango Jam Filling were the following:

Medium sized bowl	Oven	Cups	Teaspoons
Small bowl	Quart Pot	Masher	Stove
Muffin tins	Knife	Tablespoons	Pastry bag

Ingredients in Preparing Banana Muffin

The ingredients needed in preparing banana muffin were the following:

3 ½ cups of Whole Wheat Flour	3 pieces of eggs
3 teaspoons of Baking Powder	1 ½ cups of white sugar
3 teaspoons of Baking Soda	1 ½ teaspoons of salt
1 cup of melted butter	9 fingers of bananas (Saba)

Directions in Preparing Banana Muffin

First, preheat the oven to 350 °F. Then, peel the fingers of bananas and mash them in the medium sized bowl. Add the melted butter, egg, and sugar, then mix well. In a separate bowl, combine the flour, baking powder, baking soda, and salt. Pour the flour mixture into the banana mixture, and mix well. Spoon mixture into muffin tins by filling the tins 3/4 full. Bake in the oven for 15 minutes or until golden brown

Ingredients in Preparing Mango Jam

The ingredients needed in preparing mango jam were the following:

2 cups of ripe mango	¼ teaspoon of butter
1 tablespoon of lemon juice	1 pouch of pectin
2-3 cups of white sugar	

Directions in Preparing Mango Jam

First, peel and pit mangoes. Measure exactly at 2 cups, and put it into a 2 or 4-quart pot. Second, grind or crush the fruit with a potato masher. Stir in lemon juice. Then, place the mixture on the stove and cook over medium heat, stirring regularly. After about 4 to 5 minutes, add sugar and butter to the pot. Bring mixture to a full rolling boil on high heat, while stirring constantly. Stir in pectin. Return to a full rolling boil, and boil for one minute, and stir constantly. Remove from the heat. Skim off any foam with a spoon. Ladle immediately into the storage container.

Procedures in Preparing Banana Muffin with Mango Jam Filling

The following steps in preparing the Banana Muffin with Mango Jam Filling were:

Step 1: Prepare all the ingredients and materials.

Step 2: Start with the muffin first.

Step 3: Then, work with the fillings.

Step 4: Fill a pastry bag with a small tip. Push tip through the bottom of the paper liner to fill each muffin.

Step 5: And lastly, make it more attractive and then serve.

In this study, when pieces of banana muffin with mango jam filling were prepared, the researchers provided the respondents with a research instrument to assess and evaluate the bread product. The respondents were given five (5) to do it. This study used the survey instrument in collecting data given to the thirty (30) respondents which includes the faculty, staff, and students in order to assess the acceptability level of banana muffin with mango jam filling. The respondents filled out the survey instrument to assess the level of acceptability of banana muffin with mango jam filling with the following indicators: color, aroma, taste, texture, palatability, appearance, and mouth feel. Results of the assessment were collected, organized, encoded, and interpreted into the data sheet and computed using the Statistical Package for the Social Science (SPSS, version 17) for data analysis. In this study, means and standard deviations were used to determine the acceptability level of the banana muffin with mango jam filling.

RESULTS AND DISCUSSION

Level of Acceptability of the Banana Muffin with Mango Jam Filling

Table 1 shows the acceptability level of Banana Muffin with Mango Jam Filling. Results revealed that Banana Muffin with Mango Jam Filling was highly acceptable in terms of color (Mean= 4.60, SD= 0.62), aroma (Mean= 4.60, SD= 0.67), taste (Mean= 4.77, SD= 0.43), texture (Mean= 4.47, SD= 0.51), palatability (Mean= 4.77, SD= 0.50), appearance (Mean= 4.80, SD= 0.41), and mouth feel (Mean= 4.87, SD= 0.35). This meant that Banana Muffin with Mango Jam Filling was a highly acceptable bread product with an overall mean of 4.70 and a standard deviation of 0.50. This also meant that Banana Muffin with Mango Jam Filing produced a highly satisfying color, aroma, taste, texture, palatability, appearance and mouth feel as a bread product.

This supports and conforms to the study of Ararilla, et al. (2015), that the acceptability level of Native Banana Muffin was highly acceptable in terms of its color, aroma, taste, texture, palatability, appearance, and mouth feel. This meant that Native Banana Muffin was a highly acceptable bread product.

This also supports the study of Katie Cunningham, et al. (2016) on Apple Cinnamon Muffins with Flour Substitutes that increase and alter the fiber content in muffins without reducing the appeal of taste or texture negatively. The increasing amount of gastrointestinal issues because of not consuming enough fiber was the drive for this experiment. All muffins will be gluten-free and the control will be 100% all-purpose gluten-free flour. Three experiments will be conducted. The first will compare the control muffin to a muffin containing half oat bran and half gluten free flour. The second experiment compares the control muffin to a muffin with more than half coconut flour but less than half gluten-free flour. The last experiment compares the control muffin to a muffin made of half flaxseed meal and half gluten-free flour. Sensory evaluations were conducted using a 5-point hedonic scale to measure the acceptability of overall acceptability, texture, moisture, and flavor. A three-point hedonic scale measures the overall acceptability of appearance. Objective evaluations were recorded by using a Vulcan to measure weight, volume, and height. It was determined that the oat bran substitution muffin was the most liked overall, with the control muffin being a close second. The coconut flour muffins were the least overall liked based on appearance and control muffins were most liked based on appearance. The control muffins were liked overall based on the texture. The most liked sample based on flavor is oat bran with the control muffin following closely. The flaxseed meal muffins were most liked overall based on moisture.

Table 1. Acceptability Level of Banana Muffin with Mango Jam Filling

Indicators	N	Mean	Standard Deviation	Interpretation
Color	30	4.60	0.62	Highly Acceptable
Aroma	30	4.60	0.67	Highly Acceptable
Taste	30	4.77	0.43	Highly Acceptable
Texture	30	4.47	0.51	Highly Acceptable
Palatability	30	4.77	0.50	Highly Acceptable
Appearance	30	4.80	0.41	Highly Acceptable
Mouth feel	30	4.87	0.35	Highly Acceptable
Over-all	30	4.70	0.50	Highly Acceptable

Scale: 1.00-1.80, Not Acceptable; 1.81-2.60, Fairly Acceptable; 2.61-3.40, Acceptable; 3.41—4.20, Very Acceptable; 4.21-5.00, Highly Acceptable

CONCLUSIONS

The banana muffin added with mango jam as its filling produced a highly satisfying color, aroma, taste, texture, palatability, appearance, and mouthfeel. Therefore, Banana Muffin with Mango Jam Filling was highly acceptable as a bread product.

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