

Review Article

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Organoleptic Quality and Chemical Quality of Fish Meatspogo (Aluterus Monoceros) with Substitution Moringa Leaf (Moringa Oleifera Lam)

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ABSTRACT

Introduction: Meatballs are one of the most popular products by consumers. Until now, the meatballs have a standard taste so that it has the potential to be developed, one of which is being developed by adding new innovations to the pogo fish ball product with the addition of Moringa leaves. Pogo fish (aluterus monoceros) is a fish that is easy to find in coastal areas with cheap and affordable prices, this fish should be consumed by coastal communities because it can improve the nutritional status of children during growth. Moringa (Moringa oleifera) is a plant that is widely available in the surrounding environment and has leaves that contain vitamin A, tannins, steroids, flavonoids and other compounds that are beneficial to the body. This study aims to determine the acceptability and chemical analysis of the nutritional content of pogo fish balls with the addition of Moringa leaves.

Method: The type of research used is descriptive. The panelists in this study were as many as 25 people who were selected from level II and III students of the D-IV Nutrition Study Program. Panelists are required to be healthy, not sick, not smoking, not color blind, not hungry and willing. The data collection technique carried out an acceptance test in the taste test laboratory, majoring in nutrition, and a chemistry test at the laboratory of the Faculty of Mathematics and Natural Sciences (FMIPA) at Haluoleo University in 2022.

Results: The research shows that the panelists' acceptance is the taste received by the panelists, namely the X1 treatment. The aroma received by the panelists was in the X1 treatment. The color received by the panelists is in the X2 treatment. The texture received by the panelists is in the X1 treatment. The highest chemical quality was obtained by product X3 protein 16.76%, fat 4.76%, carbohydrates 10.80%, water 32.86% and iron (Fe) 21.04 mg/100g.

Conclusion: Acceptance of pogo fish balls with Moringa leaf substitution in terms of taste, aroma, color and texture, namely the taste received by the panelists, namely in the X1 treatment. The aroma received by the panelists was in the X0 treatment. The color received by the panelists is in the X0 treatment. The texture received by the panelists was in the X1 treatment. The highest chemical quality of pogo fish balls was obtained by X3 treatment of 16.76% protein, 4.76% fat, 10.80% carbohydrates, 32.86% water and 21 iron (Fe) 04mg/100g
Keywords: Pogo Fish, Moringa Leaves, Meatballs, Acceptance Test, Chemical Quality.

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Introduction

Meatballs are one of the most popular products among consumers. Starting from children to adults and even parents. It tastes delicious, highly nutritious, can be eaten with and in conditions anything and is very easily accepted by anyone. Meatballs are a processed food made from animal protein such as seasoned and finely ground fish, chicken and beef. The fish that has not been used for meatballs is the pogo fish (aluterus monoceros) with the addition of Moringa leaves. Moringa plan Moringa plant oleifera) is one of the most extraordinary plants ever discovered, where scientifically Moringa

3 is a nutritional source with medicinal properties whose contents are beyond the usual content of plants in general, so Moringa is believed to have the potential to end malnutrition, hunger, as well as prevent and cure various diseases.

Pogo Fish (alutus monoceros) is a fish that lives, breeds and looks for food around coral. Coral fish are generally small and relatively sedentary and most of them are ornamental fish. Indonesian coral waters contain at least 10 main families of coral fish contributing to fisheries production, namely Caesionidae, Holocentridae, Pogo Fish Fish balls are a form of diversification of fishery products that have high economic value. Muttaqin stated that fish meatballs are a preparation made from crushed meat which is added with spices,

flour and food additives, then the process of crushing the meat, making dough, molding and boiling is carried out. Judging from its nutritional aspect, meatballs are a food that contains high levels of animal protein, minerals and vitamins. One of the parameters that determines the quality of fish meatballs is the level of elasticity. The level of elasticity of good quality meatballs means that the meatballs have the ability to break due to pressure forces, and the nutritional content contained in good quality meatballs means that they have sufficient nutritional content to meet the nutritional needs of the body Kusnadi.

According to Latif the organoleptic test results of snakehead fish meatballs with the addition of Moringa leaves and carrots were the results of calculations regarding the color of snakehead fish meatballs, panelists preferred products with 5 grams of Moringa leaves and 40 grams of carrots, namely (Moringa Based on the research above, the concentration that will be used to substitute Moringa leaves is 5 grams, 10 grams and 15 grams for making pogo fish meatballs.(alutus monoceros)with the substitution of Moringa leaves. Based on the above, meatballs are needed that are different from usual meatball products. Meatballs must be born from innovation that is made in such a way that it has appeal to consumers. Meatballs from Pogo fish with the substitution of Moringa leaves which were born from innovation with the substitution of Moringa leaves. It is hoped that these meatballs will have a big opportunity in culinary tourism and become a favorite meatball and that people can eat healthy, highly nutritious food.

Methods

The type of research used is Descriptive, this aims to examine the Organoleptic Quality and Chemical Analysis of the Nutritional Content of Pogo Fish Meatballs (Aluterus Monoceros) with Moringa Leaf Substitution. Four (4) treatments were carried out, namely: X1 = Pogo Fish: Moringa Leaves = 195 gr: 5 gr. X2 = Pogo Fish: Moringa Leaves = 190 gr: 10 gr. X3 = Pogo Fish: Moringa Leaves = 185 gr: 15 gr. Panelist requirements: The panelists are 25 people selected from female students at level II and III of the D-IV Nutrition study program. This research was carried out on March 13-16 2022 at the Food Technology Science Laboratory and Taste Testing Laboratory, Kendari Health Polytechnic Nutrition Department and Haluoleo University FMIPA Laboratory. Types and Methods of Data Collection: the data that will be collected is primary data, namely: Pogo fish organoleptic test data (alutercus monoceros)with the substitution of Moringa leaves, it is obtained using an Organoleptic assessment form which is a test of the acceptability of the color, aroma, taste, texture of the product produced. Data on chemical analysis of protein, fat, iron (Fe), carbohydrates and water content in pogo fish meatballs (aluterus monoceros)with adding Moringa leaves using nutritional content analysis of the most liked products. Data Processing: Organoleptic test data that has been collected is processed computerized using the SPSS 20 data processing application, with nonparametric tests. Chemical analysis of protein, fat, water content, carbohydrates and iron (fe) were analyzed quantitatively in the FMIPA laboratory at Haluoleo University. Data Presentation: presented in table and narrative form.

Result

Figure 1: Acceptability of Pogo Fish Meatballs based on Taste Attributes

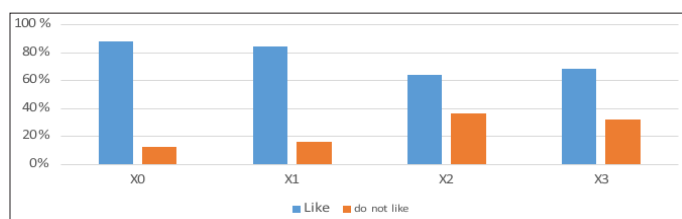


Figure 1 shows the largest percentage most accepted by the panelists in terms of taste, namely treatment X1 (96%) and the lowest percentage of treatment that the panelists did not like was treatment X3 (40%).

Figure 2: Acceptability of Pogo Fish Meatballs based on Aroma Attributes

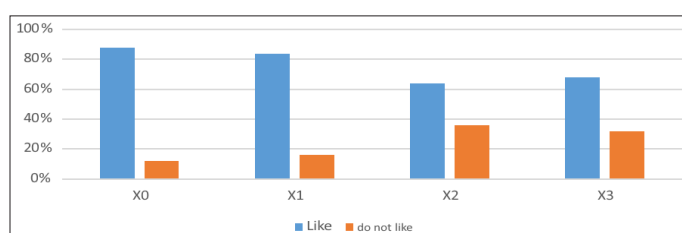


Figure 2 shows the largest percentage most accepted by the panelists in terms of aroma, namely at treatment X0 (88%) and the lowest percentage of acceptance that the panelists did not like was treatment X2 (36%).

Figure 3: Acceptability of Pogo Fish Meatballs Based on Color Attributes

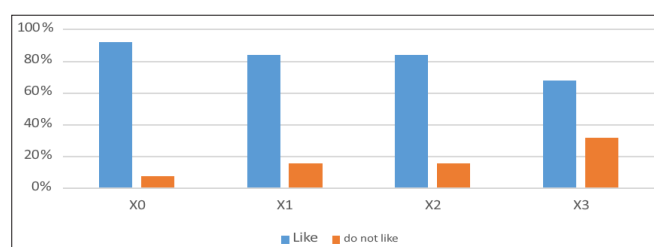


Figure 3 shows the largest percentage most accepted by the panelists in terms of color, namely in treatment X0 The lowest (92%) and the percentage acceptance that was not liked by the panelists was treatment X3 (32%).

Figure 4: Acceptability of Pogo Fish Meatballs Based on Texture Attributes

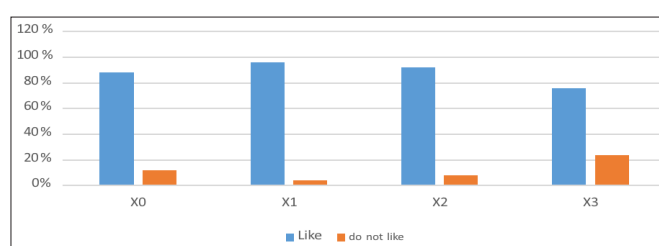


Figure 4 shows the largest percentage that is most accepted by acceptance of the level of liking for the panelists in the texture category, pogo fish meatball treatment with the namely treatment X1 (96%) and the substitution of Moringa leaves, which lowest percentage that is not liked by many panelists liked, was obtained

in the panelists is treatment X3 (24%).

Discussion

Taste aspect

Taste is an important factor in a food product, the texture and combination of a food ingredient will influence the taste produced by that ingredient. Taste is influenced by several factors, namely chemical compounds, temperature, concentration and interactions of other taste components. Organoleptic testing of respondents on the taste of pogo fish meatballs with the addition of Moringa leaves based on the panelists' level of preference is very influential on the physical and psychological factors of the panelists, where this really determines the results of the respondents who will be tested [1].

Taste is greatly influenced by the herbs or spices added to food. The same spices give food a distinctive taste according to the origin of the ingredients. Each type of ingredient used has a distinctive smell so that when consumed it smells delicious. Describe the type of spices used. The taste of pogo fish eatballs without the moringa leaf substitution treatment has a savory taste and has its own distinctive taste, in pogo fish meatballs treated with fish balls without treatment X0. Meanwhile, the addition of (10 gr) X2 and (15 gr).

Aroma Aspect

Aroma is one of the parameters that determines the delicious taste of a food product. In the food industry, aroma testing is considered very important because it quickly provides an assessment of the product results. Whether consumers like the product or not, the aroma that arises from the addition of spices and boiling is partly made up of chemical compounds that are volatile in nature so they evaporate along with the free water that is released contained in these foods.

The pogo fish meatballs that the panelists liked were treatment (X0) without the substitution of Moringa leaves. The panelists preferred this product because this product has an identical aroma to pogo fish, where this aroma is similar to fish meatballs in general [2].

Color Aspect

Color is one of the most important quality attributes in meatballs. The role of color is very real because generally panelists will get their first impression, whether they like or dislike a food product, from its color. With this, if it has an unattractive color, the color factor can be considered. Apart from that, color also plays an important role in the panelists' food acceptance.

The color received in this treatment was the color of pogo fish meatballs without Moringa leaf substitution. In treatment (X0), it was pale white because Moringa leaf was not substituted. Mix pogo fish meat and Moringa leaves to get a brown color with green markings. This color of meatballs is generally what is often consumed

people when enjoying fish ball snacks. The pale white color found in pogo fish meatballs occurs due to the Maillard reaction during boiling [3-7]. Due to the heat reaction, boiling for too long will make the pogo fish meat and Moringa leaves turn brown with green streaks.

Textural Aspects

Texture is one of the things that differentiates pogo fish meatballs

from other fish products, namely in the form of soft fibers. The texture of meat greatly influences the final product produced and determines the level of consumer preference for the product, which states that texture is a factor that influences assessment, because the texture of a food will be felt when consumers eat it. Pogo fish meatballs generally have a soft texture, the spices added to the mixture during processing can cause the texture of the meatballs to become rough.

The texture of the pogo fish meatballs without the addition of Moringa leaves (X1) has a soft, chewy texture because the pogo fish meatballs were not given the Moringa leaf substitution treatment, whereas the texture of the pogo fish meatballs with the addition of Moringa leaves, (10 gr) X2 and (15 gr) X3, Due to the treatment, X2 and the level of consumer liking can be measured using organoleptic tests using sensory devices. The use of this test includes the development of new products, where testing of food ingredients is not only seen from the chemical aspect, but also from the taste and aroma aspects. Therefore, organoleptic tests need to be carried out to find out how much meatball products using pogo fish meat and Moringa leaves are liked by the panelists. The level of liking for food is influenced by several factors, namely the sensory characteristics of the food, the nature of the food, information about the food, and the desire to consume it. This shows the level of liking for meatballs pogo fish without treatment and using treatment showing high level of liking [7-9].

Based on study shows that average Panelists' acceptance of the level of liking for the Pogo fish meatball treatment with the addition of Moringa leaves which was much liked by the panelists was obtained in treatment This X2 is most liked by the panelists. Next, product X1 with 195 grams of pogo fish meat and the addition of 5 grams of Moringa leaves with an average score of (3.48), then product) and finally product X3 with 185 grams of pogo fish and the addition of 15 grams of Moringa leaves with an average amount (2.92).

Conclusions and Suggestions

Conclusion

The acceptability of pogo fish meatballs with the substitution of Moringa leaves in terms of taste, aroma, color and texture is the taste received by the panelists, namely in treatment X1. The aroma received by the panelists is in the treatment X0. The color received by the panelists is treatment X0. The texture received by the panelists was treatment X1 [10-12].

Suggestion

Expected for society It is better to use pogo fish to be processed into meatball products so that the attraction of consuming this fish is higher.

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