

THE PREFERENCE LEVEL OF CRISPY BONYLIP BARB AS A SNACK PRODUCT

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ABSTRACT

Bonylip barb (Osteochilus hasselti) is generally prepared by frying or steam. Actually, when viewed from the nutritional content and taste, Bonylip barb fish has the potential to be developed to diversify products made from Bonylip barb fish. The diversification effort is to increase its added value. One of the product diversifications of Bonylip barb fish is crispy. The purpose of this study was to provide information about the processing of crispy Bonylip barb as a snack in an effort to increase public consumption of fish protein. The method used in this research is experimental. The level of preference for crispy Bonylip barb produced was tested with a hedonic test consisting of two treatments and 20 semi-trained panelists as replicates. The treatment in making crispy Bonylip barb is Bonylip barb without coating material (A) and Bonylip barb with the use of coating material (B). The parameters observed in this research were the level of preference for appearance, aroma, texture and taste of crispy Bonylip barb. The data obtained from observing the level of preference (color, aroma, texture, taste) were analyzed descriptively. The results of the research can be concluded that crispy Bonylip barb with the treatment of using coating materials is the most preferred treatment by panelists with median value of preference level for appearance 9, aroma 7, texture 7 and taste 9. The average value of preference for appearance 7.8, aroma 6.9, texture 7.5 and taste 7.8.

Keyword : - Fish snack, Crispy Bonylip barb, Preference level, Hedonic test, Diversification product

1. INTRODUCTION

Bonylip barb fish (*Osteochilus hasselti*) is a native Indonesian fish that lives in fresh waters, such as rivers and swamps [1]. Bonylip barb is a type of river or fresh water fish that is similar in shape to carp and silver barb, only the difference is that it is smaller in size, has an elongated body and has a longer dorsal fin. Bonylip barb is one of Indonesia's endemic fish which has been cultivated commercially. Bonylip barb is popular in West Java, almost 80% of national production of nilam fish comes from West Java, Indonesia [2] Bonylip barb has a lot of spines, thin flesh and a very large portion of the gonads so that Bonylip barb is less desirable for direct consumption [3]. But on the other hand, nilam fish has a very delicious meat taste [4], so that if it is processed, many people will like products made from Bonylip barb.

Bonylip barb is an important food ingredient as a source of nutrients. According to research results from the Center for Development and Quality Testing of Fishery Products, fried Bonylip barb has a fairly large protein content reaching 38.83%, calcium content 0.98%, and water content 3.14%. In addition to its high protein content, Bonylip barb also has the advantage of having a high egg content when it reaches adulthood. However, like carp, nilam also

has quite a lot of thorns between the meat, making it rather difficult to serve as a raw material for processed fish products, especially fish jelly products. Therefore, to overcome this problem, it is necessary to innovate processed Bonylip barb products.

In general, Bonylip barb is processed by frying or pepes. Actually, when viewed from the nutritional content and taste, Bonylip barb has the potential to be developed to diversify products. The diversification effort is to increase its added value. One of the product diversifications of Bonylip barb is crispy.

Increasing consumption patterns of fishery products is carried out by developing processed forms. At present the form of processed fishery that is being developed leads to a ready-to-eat processed form. Crispy Bonylip barb is a modern snack innovation made from small Bonylip barb (3-5 cm per piece; 2.5-3 months old) covered in seasoned flour and dry fried. Crispy Bonylip barb can be called a new business after previously popular snacks such as crispy mushrooms, crispy tofu, and crispy potatoes. Besides the delicious taste, the nutritional content of crispy Bonylip barb is also more. Crispy Bonylip barb besides containing protein also contains calcium which comes from the bones or thorns.

Raw materials used in the processing of fishery products must come from fresh fish in order to obtain high quality products. The fresher the fish used, the quality of protein, fat and other nutrients has not suffered further damage caused by putrefactive microorganisms and enzymes. The fish used as raw material for crispy Bonylip barb products is small fish (3-5 cm).

The advantages of crispy Bonylip barb include that the price is more affordable because the main raw material in the form of Bonylip barb is cheaper than fish that are commonly used for raw materials similar to baby fish, namely carp and tilapia, the fish consumed are small fish so this has the advantage including the edible portion is 100% because all parts can be consumed, amino acids, fatty acids, and other components are still simple so that the digestibility in the body is greater compared to fish that are already large in size.

Crispy Bonylip barb is a dry food product. Crispy Bonylip barb is consumed not only for main meals but as snacks or snacks, side dishes or side dishes. Along with increasing public knowledge about the importance of fish protein consumption, the demand for fishery products is increasing.

Crispy Bonylip barb can also be used as a souvenir or souvenir apart from self-consumption. If the community is able to produce crispy properly according to quality standards, then crispy Bonylip barb can be used as a superior product that is characteristic of handicrafts from an area. Thus it can support the tourism sector and can help improve people's welfare.

The problems faced by the community are limited knowledge regarding the diversification of processed fishery products, especially in processing crispy Bonylip barb, limited skills in producing processed Bonylip barb fish products, and knowledge regarding the packaging of the products produced. Based on this, it is necessary to transfer knowledge and information regarding crispy Bonylip barb processing technology. Thus, people can consume nutritious snacks and the products produced are liked by people of all ages. The purpose of this study was to provide information about the processing of crispy Bonylip barb as a snack in an effort to increase public consumption of fish protein.

2. MATERIALS AND METHOD

2.1 Tools and Materials

The equipment used for the processing of crispy nilem is a knife, cutting board, spice crusher, plate, plastic container/basin, pan, scoop, stove, and scales.

The materials used consist of the main material and the material for the coating. The main ingredients used include small Bonylip barb fish measuring 3-5 cm per head, garlic, candlenut, coriander, ice water, pepper, lime. The coating ingredients include wheat flour, rice flour, baking powder, salt and ground pepper.

2.2 Research Methods

The method used in this research is experimental. The level of preference for crispy Bonylip barb produced was tested with a hedonic test consisting of two treatments and 20 semi-trained panelists as replicates. The treatment for making crispy nilem are:

A : crispy Bonylip barb without coating material

B : crispy Bonylip barb with the use of coating materials

The formulation used in the processing of crispy Bonylip barb is presented in Table 1.

Table -1: Crispy Bonylip barb Formulation

Ingredients	Amount (grams)
The main ingredient	
Nilem fish (3-5 cm)	500
Garlic	3
Candlenut (roasted, crushed)	1
Coriander powder	0.5
Ice water	150
Salt	2
Pepper powder	0.25
Lime	50
Cooking Oil	750
Coating Material	
Flour	200
Rice Flour	50
Baking Powder	0.25
Salt	1
Pepper Powder	0.25

2.3 Research Procedures

This research was divided into 3 stages, namely handling Bonylip barb fish, making crispy Bonylip barb, and observation.

2.3.1 Fish Handling

- Washing: nilem fish is washed clean to remove dirt that sticks to the body of the fish and mucus on the scales if any. Washing is done in running water so that the remaining dirt still attached to the fish is wasted. Washing is done using clean water, colorless and odorless.
- Fish Handling: for making crispy nilem or other processed fishery products, ice is often used during the process of handling fresh fish. During the process of making nilem crispy ice is used to keep the temperature of the fish low so that the quality of the fish decreases slowly. The goal is to inhibit the growth of spoilage microbes and keep fish protein from being denatured by too high temperatures.

2.3.2 Making Crispy Bonylip barb

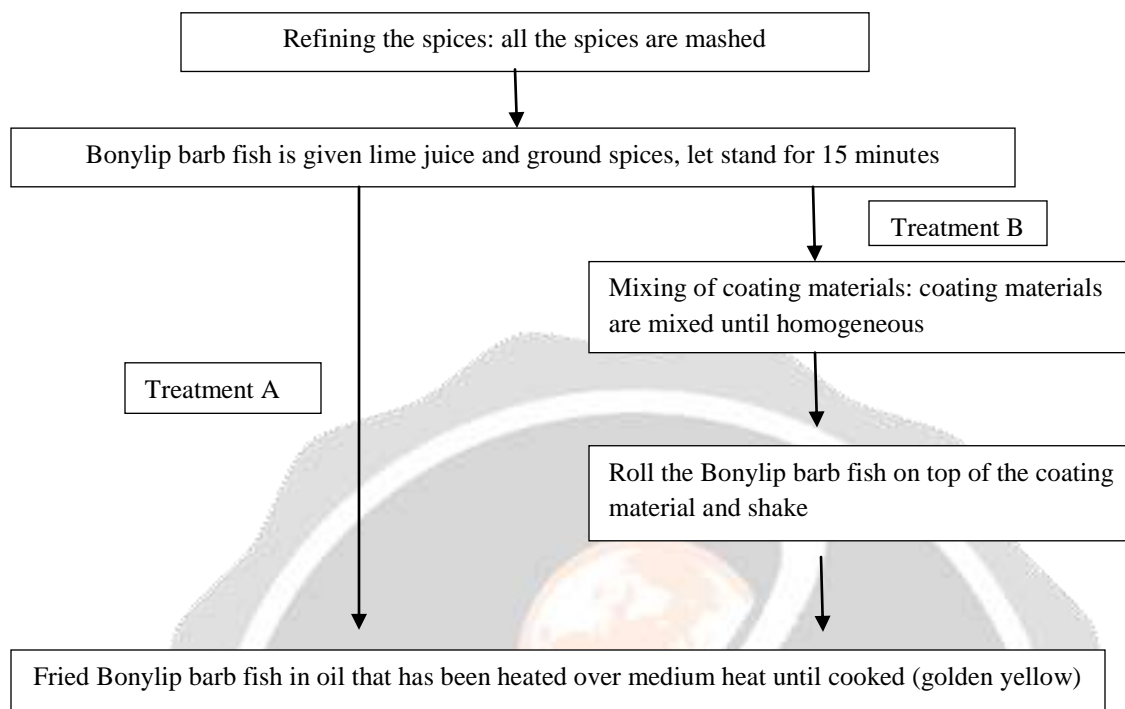


Chart -1: The Process of Making Crispy Bonylip barb fish

2.3.2 Observation

The parameters observed in this research were the preference level for appearance, aroma, texture and taste of crispy Bonylip barb fish. Based on their level of preference, the hedonic test was carried out by 20 semi-trained panelists. The score of the panelist's preference level used ranges from 1 to 9, namely the preference level is tested using the hedonic test [5].

2.4 Data analysis

The data obtained from observing the level of preference (color, aroma, texture, taste) were analyzed descriptively comparatively.

3. RESULT AND DISCUSSION

The organoleptic characteristics of crispy Bonylip barb fish tested include appearance, aroma, texture and taste which can be observed through hedonic testing. The hedonic test was carried out to determine the panelist's response to the level of preference for the crispy Bonylip barb product produced.

3.1 Appearance of Crispy Bonylip barb

Appearance is one of the important things in determining the level of panelists' preference for a product. Usually the first thing consumers pay attention to when choosing a product is its physical appearance. A food ingredient that has nutritional value, tastes good and has a good texture, is not enjoyed if it has a color that gives the impression that it has deviated from its proper color [6]. The results of the hedonic test on the appearance of crispy Bonylip barb are presented in Chart -2.

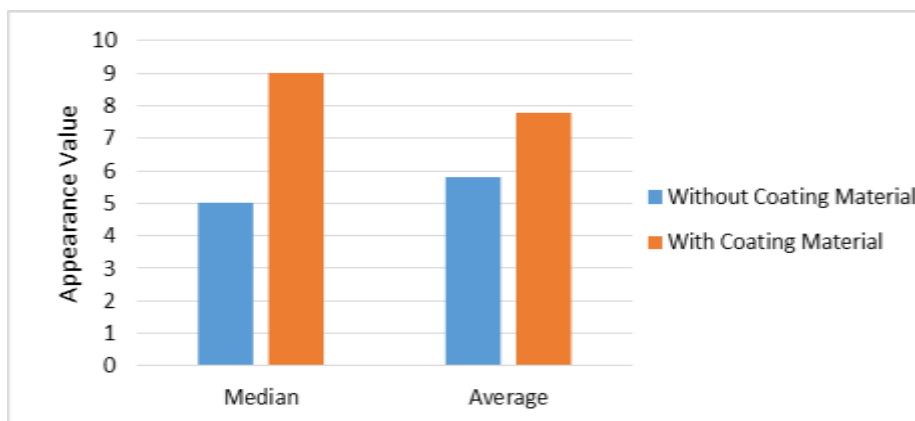


Chart -2: Hedonic Test Results for Crispy Bonylip barb Appearance

Based on Chart 2. the results of the panelists' assessment of the appearance of crispy Bonylip barb without coating material with the addition of coating material, namely the median value of 5 to 9 and the average appearance value of 5.8 and 7.8, which means that the appearance of crispy Bonylip barb ranges from normal to very liked by the panelists. The highest average appearance value is found in the treatment with the use of coating materials.

Crispy Bonylip barb with the use of coating material has a complete appearance, uniform shape and brownish yellow color. While crispy nilem without coating material has an unattractive shape and the shape of the fish is less intact because there are fish that are broken or lost due to the stirring process during frying. Besides that, the oil content can be seen which causes the appearance to be a bit dull.

The color of crispy Bonylip barb with the use of coating material becomes brownish yellow caused by a reaction between protein (primary amine groups) and reducing sugars from carbohydrates found in wheat flour and rice flour used as coating materials. This reaction is called the Maillard reaction or non-enzymatic browning [6]. Furthermore, during the frying process the Maillard reaction will occur [7].

3.2 Aroma of Crispy Bonylip barb

Aroma is one of the important organoleptic parameters for consumers in determining the preferred food. The aroma test is considered important in the food industry because it can quickly provide an assessment of the results of the product, whether the product is liked or disliked by consumers [5]. Aroma is an important parameter to test because aroma can quickly give an assessment of a product and can affect the taste of a food product. The smell of crispy Bonylip barb from the hedonic test results is presented in Chart -3.

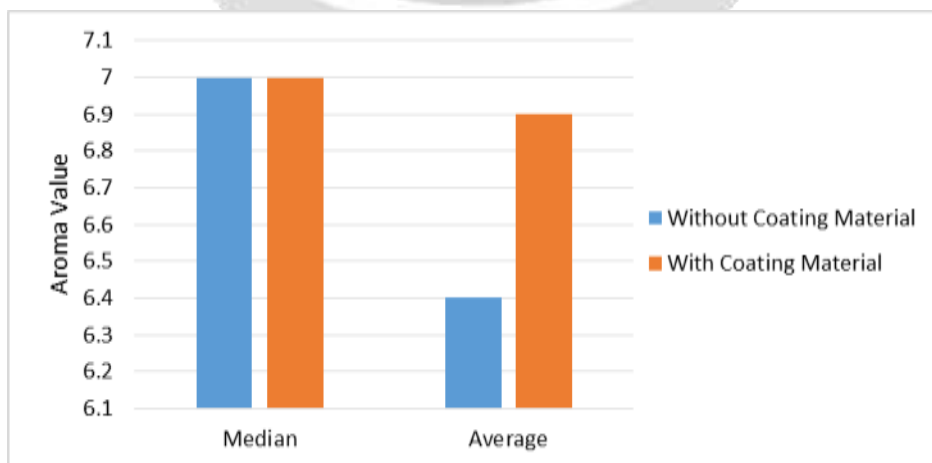


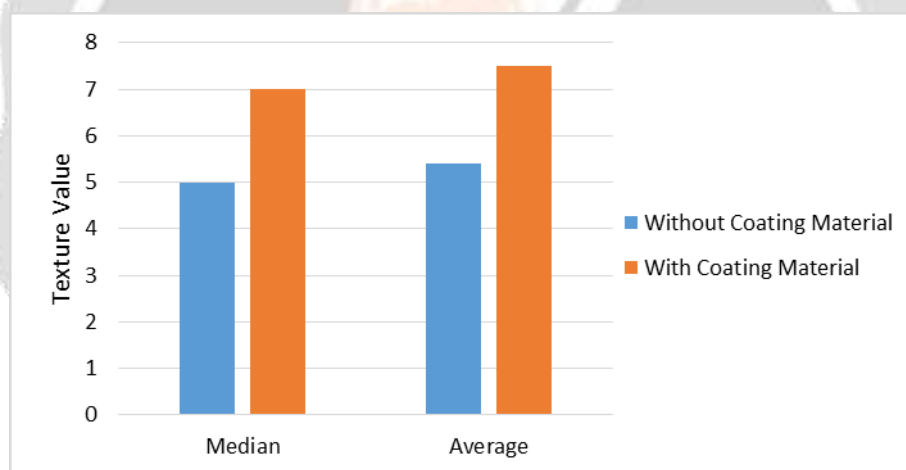
Chart -3: Hedonic Test Results for Crispy Aroma

Based on Chart -3. the results of the panelists' assessment of crispy Bonylip barb aroma without coating material with the addition of coating materials, namely the median value of 7 and the average aroma value of 6.4 and 6.9. The mean value showed that the crispy Bonylip barb aroma in all treatments was liked by the panelists. The smell of crispy Bonylip barb has almost the same aroma, which is the distinctive smell of Bonylip barb fish. The use of coating materials does not cover the distinctive aroma of Bonylip barb fish.

The highest average value of crispy Bonylip barb aroma was found in the treatment with the use of coating materials, having a preferred aroma where the aroma was obtained from the specific aroma of fish, spices and the appropriate formulations of wheat flour and rice flour. Suitable flour formulation can enhance product aroma. According to [8], suggest that if the contents of the fish are given adequate treatment, unwanted odors can be minimized.

3.3 Texture of Crispy Bonylip barb

Texture is an important characteristic of food products that can affect panelist acceptance. According to [5], if you want to assess the texture of a food ingredient, use the fingertips which include the assessment of wetness, dryness, hardness, smoothness, roughness, and oiliness. Crispy Bonylip barb texture from the hedonic test results is presented in Chart 4.

**Chart -4: Hedonic Test Results for Crispy Bonylip barb Texture**

Based on the results of the assessment of the preference for crispy Bonylip barb texture without coating material, it shows a median value of 5 with an average value of 5.4, while crispy Bonylip barb with the use of coating material shows a median value of 7 and an average value of 7.5. The highest average value in crispy Bonylip barb treatment with the use of coating materials. This average value means that the texture of crispy Bonylip barb with coating material is very liked by the panelists.

Crispy Bonylip barb with coating material has a crunchy texture, not hard and not brittle. The texture of crispy Bonylip barb is influenced by the ingredients used. Coating materials are wheat flour and rice flour which contain starch. According to [9], gelatinized starch can affect the product texture by absorbing water, forming a gel, or increasing the viscosity of the sol. Furthermore, the texture of food is influenced by moisture content, fat content, type and amount of structure of carbohydrates (cellulose, starch and pectin materials) and protein contained in these materials [10].

3.4 Taste of Crispy Bonylip barb

Taste is a response to chemical stimuli that reach the tongue's taste buds and is part of the organoleptic test for preference assessment [11]. Taste is a factor that plays the most important role in determining the consumer's final decision to accept or reject a food product. Even though the other assessment parameters are good, if the taste does not provide satisfaction (delicious), then the product will be rejected by consumers. The average taste of crispy Bonylip barb is presented in Chart -5.

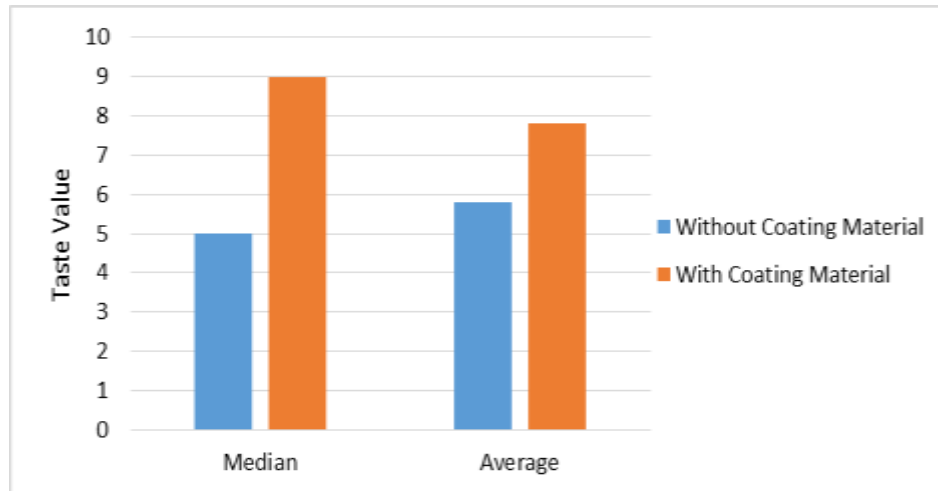


Chart -5: Hedonic Test Results for Crispy Bonylip barb Taste

Based on the results of the assessment of the crispy Bonylip barb taste, the median value was 5 and 9 and the average value was 5.8 and 7.8, meaning that the crispy Bonylip barb taste was in the usual acceptance criteria and was very liked by the panelists. The highest average value of crispy Bonylip barb was found in the treatment of crispy Bonylip barb with the use of coatings, which has a tastier and tastier taste than crispy Bonylip barb without coatings. The taste is obtained from the combination of fish taste, spices and the appropriate flour formulation.

The taste of a food ingredient is influenced by several factors, namely chemical compounds, temperature, and interactions with other flavor components. Taste attributes consist of salty, sweet, sour and bitter tastes [6]. The taste attribute is influenced by the formulation used [11].

4. CONCLUSIONS

Based on the research results, it can be concluded that crispy Bonylip barb with coating material treatment is the most preferred treatment by panelists with median value of preference for appearance 9, aroma 7, texture 7 and taste 9. The average value of preference for appearance 7.8, aroma 6.9, texture 7.5 and taste 7.8. Crispy Bonylip barb can be used as a snack product because it is liked by the panelists.

5. REFERENCES

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