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Compressing Hedonic Test Between Milkfish *(Chanos chanos)* and Skipjack Fish *(Katsuwonus pelamis)* Process.

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Abstract—Meatballs are the sort of processed fish meat that is most known with all society environments. The aim of this researchy was to decide and to analyze the level of preference for processing fish balls by means of hedonic tests according to indicators of color, aroma, texture and taste. The method of data collection was carried out by Experimental and questionnaires given by the panelists. The types of fish used were milkfish (Chanos chanos) and skipjack tuna (Katsuwonus pelamis). Based on the results of the tests carried out, it showed that the panelists stated that they really liked the weight of a value of 4 on milkfish meatballs in terms of color, aroma and taste and liked the weight of a value of 3 on texture. Meanwhile, for skipjack fish balls, the panelists stated that they really liked the weight of a value of 4 on aroma and texture and liked the weight of a value of 3 on color and taste This shows that the panelists prefer milkfish meatballs to skipjack fish balls. While the results of the evaluation of the processing of two types of fish balls based on SNI 01-7266.1-2006, including indicators of color, aroma, texture and taste indicate that milkfish meatballs (Chanos chanos) tend to be preferred by panelists compared to skipjack fish balls (Katsuwonus Pelamis).

Keywords—fish ball, hedonic test.

I. INTRODUCTION

Indonesia's marine area is rich in fishery products from abundant types of fish because most of its territory is in the form of oceans. In general, fish consumption is very good for health and endurance. Therefore, the utilization of fish must be maximized. There are so many processed fishery products on the market to meet the protein needs of the community. one of them is from the Jelly Fish product type. Fish meatballs are fishery products made from processed surimi or crushed fish meat which is sprinkled with flour and mixed with spices and then printed based on certain sizes and shapes. One type of processed fish products that is very popular is meatballs.

Meatballs are processed fish meat products, where it is first be mashed and then be blended with ground spices, flour and then shaped like small balls and boiled in hot water. This processed product is very common and technically processing is also make quite easily and can be done by anyone. This is also because meatballs have a high nutritional content of fish and the presence of other additives provides a taste that is liked by all levels of society (Widyaningsih, 2006).Generally, meatballs are provided with noodles, vegetables, dumplings and various flavors of gravy and are loved by the community. It could be seen from the total of sellers of meatball noodles, ranging from restaurants to small stalls and wheelbarrows. The revenue of one serving of meatball noodles varies greatly depending on the level of quality the meatballs. This quality is largely determined by the fish quality used as well as the additional ingredients quality and other factors, such as processing, hygiene at the time of product manufacture.

The raw material for fish balls is selected from fresh fish species so as to produce good quality meatball products. The types of meat used in the processing of white meat meatballs include Cunang fish, grouper, mackerel and snapper, with the purpose of producing white meatballs as well. However, in this study, the types of fish meat used were milkfish (Chanos chanos) and skipjack tuna (Katsuwonus pelamis).

II. LITERATURE REVIEWS

2.1 Description of Milkfish (Chanos chanos)

Milkfish is dominant export commodities known as milkfish. This fish has the specific and unix of a slender body, branched fins and agile into the water, has scales like glass and white flesh. Milkfish has a uniqueness, namely that its mouth is toothless and its food is seabed plants. It needs to be identified that the length of the milkfish intestine is 9 times the body length (Murtidjo 1989).

Milkfish has morphological characteristics of an elongated body, slightly flattened, without scutes on the abdomen, eyes covered with mucus, has large scales on the pectoral and pelvic fins, long and branched caudal fin, small scales of the cycloid type, toothless, anal fin far behind the dorsal fin (Saanin, 1984).

The original habitat of milkfish is in marine waters, with its Euryhaline properties, this fish is known to be able to live in fresh water. Milkfish cultivators generally carry out maintenance in brackish water ponds or on the coast.

Milkfish is widely consumed by Indonesian people because of its high nutritional value. Milkfish has nutritional content per 100 grams, namely 129 kcal of energy, 150 grams of phosphorus, 20 grams of calcium, 2 mg of iron, 150 SI of vitamin A, 0.05 grams of vitamin B1, 74 grams of water, 20 grams of protein and 4.8 grams fat, so it is classified as high protein and medium fat fish. (Saparinto, 2006).

2.2 Description of Skipjack tuna (Katsuwonus pelamis)

Skipjack tuna (Katsuwonus pelamis) is a medium-sized fish from the Scombridae Family, which is the only species of the Katsuwonus genus. Skipjack tuna is the largest with a body length of up to 1 meter and a weight of more than 18 kg. The skipjack tuna that is mostly caught is about 50 cm long, known in English as skipjack tuna (Sinar 2010).

Collete (1993) in Rukka (2006) describes the characteristics of a claw with a fusiform body, elongated and somewhat round, gill rakes numbering 53-63 on the first strand. The claw has two separate dorsal fins, on the first dorsal fin there are 14-16 hard fingers, weak fingers on the other place fin followed by 7-9 finlets.

Skipjack tuna is a kind of fish that contains high protein and low fat. Skipjack tuna contains 22.6/100g protein and 2.1/100g meat fat. Besides, skipjack contains calcium, phosphorus, minerals, iron and sodium, vitamin A (called retinol) and vitamin B (called Thiamin, Riboflavin, and Niacin). Meanwhile, the advantages of consuming skipjack tuna are to prevent heart disease, prevent cholesterol disease, accompany appropriate diet program and nourish the cardiovascular system.

2.3 Fish Meatball (Fish Meatballs)

Meatballs are defined as fish meat that has been mashed (fish meat content is not less than 50%), mixed with starch flour, then shaped into balls by hand the size of a marble or larger and put in hot water until the meatballs float, a sign that the meatballs are cooked. . The meatball dough is processed by cutting the fish meat into small pieces, then finely chopped using a knife or using a blender so that the fish meat obtained becomes even smoother.

The fish used of fish balls must be selected from species that have high levels of nutrition and delicacy, are not too fishy, and are really still fresh. Several types of fish, whether freshwater, brackish or saltwater, It is also could be made for producing fish balls.

The criteria for good fish balls can be seen from the quality requirements of the meatballs contained in the meatballs SNI 01-7266.1-2006.

Tabel. 1. The criteria for good fish balls

No	Indicator	Information
1.	Form	Fine round, uniformly sized, clean and brilliant not gloomy.
2.	Color	White evenly without other foreign colors.
3.	Flavor	Delicious, delicious, dominant fish taste according to the type of fish used.
4.	Scent	The distinctive smell of fresh boiled fish is dominant according to the type of fish used and the distinctive smell of the spices is quite sharp.
5.	Texture	Compact, elastic, no fibrous meat without thorns or bones, not mushy, not meat without spines or bones, not mushy, not wet, watery and not brittle

2.4 Hedonic Test Method

The hedonic test or what is called the preference test is a method used for panelists to be asked to give their personal responses about likes or dislikes. These levels of preference are called hedonic scales. For example, very much like, like, somewhat like, neutral, somewhat dislike, dislike, very dislike and very, very dislike. (Rahayu, 2001).

The hedonic scale can be collapsed according to the desired scale range. It also can be mde into a numerical scale by using quality level mark based on the level of preference.

The preference test is basically a test in which the panelists express their response in the form of whether they are happy or not with the nature of the material being tested. Panelists are asked to express their opinions spontaneously, without comparing them with the standard sample or the samples previously tested. Therefore, on the contrary, the way of presentation in a row is not presented together (Puji Astuti, 2014).

This test is generally used to assess consumer reactions to a material or produce consumer reactions to the sample being tested. Therefore, panelists should be drawn from a large number, which represents a particular population. In the hedonic test, the senses that are usually used are the sense of taste, the sense of smell and the sense of touch.

The hedonic test is more specific than just the impression of liking or disliking. Hedonic quality can be general, namely good or bad and specific, such as soft-hard for meat, fluffier-hard for rice, crunchy-soft for cucumber. The hedonic scale ranges from extreme good to extreme bad (Setyaningsih et al. 2010).

III. RESEARCH METHODS

The method used in this research is an experimental method which is carried out directly in the laboratory. The treatment in this study was to determine the level of preference (hedonic test) on different fish balls to determine the level of preference for color, aroma, texture, taste in fish balls by providing information and scores very much like (5), very like (4) , like (3), somewhat like (2) and dislike (1) and evaluate the existing indicators. The treatments given were: Milkfish Meatball sample with code B and Skipjack Fish Meatball sample with code C.

The work procedures in carrying out the research are:
1. Prepare fish ball products that will be used as samples
2. Placing the sample at the place of presentation
3. Provide an explanation of how to fill out the questionnaire sheet to the researcher.
1. 4. Provide samples with code B for milkfish meatballs and C for skipjack fish balls, drinking water and a questionnaire sheet.
4. Panelists start testing (tasting fish balls)
5. Evaluating the Taste, Aroma, Color and Texture of Fish Meatballs
6. Perform data analysis

IV. RESULT AND DISCUSSION

4.1 Hedonic Test Results of Milkfish Meatballs (Chanos chanos) and Skipjack Ika Meatballs (Katsuwonus pelamis)

The results of hedonic tests on indicators of color, aroma, texture, taste in milkfish meatballs (Chanos chanos) and skipjack fish balls (Katsuwonus Pelamis) can be seen in table 2:

Tabel 2. The results of hedonic tests

Wains-cot	Color		Aroma		Texture		Taste	
	Code B	Code C	Code B	Code C	Code B	Code C	Kode B	Kode C
Wainscot 1	4	3	3	4	3	3	4	4
Wainscot 2	4	3	4	4	3	5	5	4
Wainscot 3	4	5	5	4	2	4	3	2
Wainscot 4	4	4	5	5	4	5	3	3
Wainscot 5	4	4	4	4	3	4	4	4
Wainscot 6	4	3	4	4	3	4	3	3
Wainscot 7	3	2	4	1	3	2	4	1
Wainscot 8	4	4	5	5	4	5	3	3
Wainscot 9	4	3	3	4	3	3	4	4
Wainscot 10	3	4	4	3	3	4	3	3
Aver-age	**3,75**	3,5	*4,12*	3,62	*3*	3,87	*3.62*	3

Information indicators that refer to the criteria for fish balls according to the Indonesian National Standard (SNI 01-7266.1-2006). carried out by the panelists there are indicators of color, aroma, texture and taste:
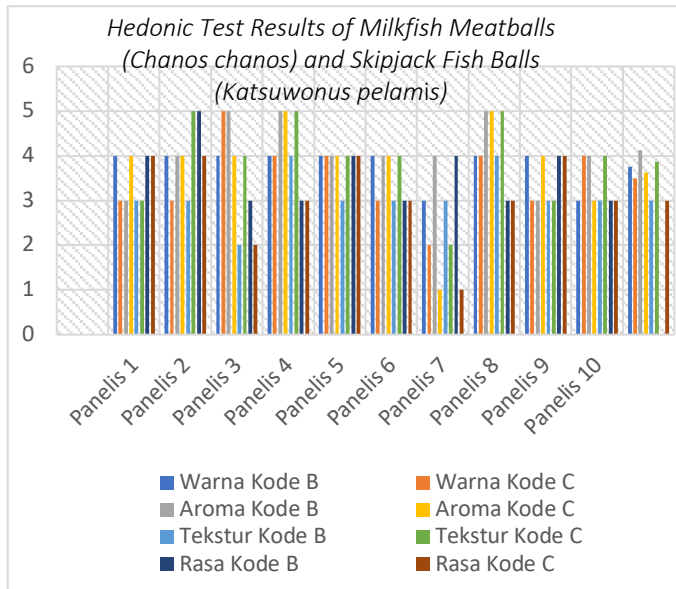
Figure 1. Hedonic Test Result of Milkfish Meatballs

4.2 Color

Table 1 shows that the most color value for milkfish meatballs is 3.75, which is higher than the average color value for skipjack fish balls, which is 3.5. Panelists' assessment of the color showed that they liked it very much (4) and the color assessment of skipjack fish balls showed that they liked it (3). The procedure for reporting the indicator of the hedonic test if the number behind the comma is greater than five then the number in front of the comma increases by one digit so that the indicator value of the color of the milkfish meatball is 4, which is very like. (BSN. SNI 2346:2011).the maximum force required to break (share force).

4.3 Aroma

Table 1 shows that the average value of the aroma of milkfish meatballs is 4.12 higher than that of skipjack fish balls with a value of 3.62. The panelists' evaluation of the aroma of milkfish meatballs indicated that they liked it very much (4) and for the assessment of the aroma of skipjack fish balls it showed that they really liked it (4).

4.4 Texture

Table 1 shows that the average value of the texture of skipjack fish balls is 3.87 which is higher than the average value of the texture of milkfish meatballs with a value of 3. The panelists' assessment of the texture of skipjack fish balls showed that they most liked it (4) specifically of panelists' assessment of Milkfish texture shows the criteria for liking (3).

4.5 Taste

Table 1 shows that the average value of the Taste indicator of milkfish meatballs is 3.62 higher than the average value of the Taste indicator of skipjack fish balls with a value of 3. Panelists' assessment of the taste of milkfish meatballs shows Very Like (4) and for the assessment on the taste of skipjack fish balls, shows the criteria Like (3).

V. Conclusion

The results of the hedonic test showed that the preference level of the panelists stated that they really liked (4) on milkfish meatballs (Chanos chanos) in terms of color, aroma and taste and liked (3) on texture. While the skipjack fish ball (Katsuwonus pelamis) panelists stated that they really liked (4) in terms of aroma and texture and liked (3) in color and taste. This shows that the panelists prefer milkfish meatballs to skipjack fish balls.

Acknowledgment

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