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THE ORGANOLEPTIC QUALITY OF TRIGGERFISH NUGGETS (*Canthidermis maculata*) WITH HI-PROTEIN WHEAT FLOUR AND WHITE BREAD FILLING

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Abstract

Triggerfish (*Canthidermis maculata*) is a type of demersal fish that is abundant but still minimal in processing, even though this fish has good nutritional value and have soft meat textured, white meat, and cheap price, this characteristic makes triggerfish suitable to be used as processed products such as nuggets. The aim of this study was to identify the organoleptic qualities of triggerfish nuggets with two different fillers: high-protein wheat flour and white bread. The research method is the experiments with the aim of obtaining a description of the organoleptic quality of triggerfish nuggets. The acquisition of the description results was done with two nugget designs, from two nugget products found the quality of wheat flour triggerfish nuggets with a golden brown color, fishy aroma, good ability, and savory taste. While the quality of triggerfish nuggets with a white bread filler has a golden yellow color, a fishy aroma, excellent find and savory taste. These two types of fillers make a significant difference in the decryption of texture quality or the level of ability of trigerfish nuggets.

Keywords: *nugget, triggerfish, organoleptic quality*

Abstrak

Ikan kambing-kambing (*Canthidermis maculata*) merupakan jenis ikan demersal yang melimpah namun masih minim pengolahannya, padahal jenis ikan ini memiliki nilai gizi yang baik serta bertekstur daging lunak, dagingnya berwarna putih, dan murah harganya, karakteristik ini menjadikan ikan kambing-kambing cocok untuk dijadikan produk olahan seperti nugget. Tujuan dari penelitian ini adalah untuk mendiskripsikan kualitas organoleptik nugget ikan kambing-kambing dengan dua bahan pengisi berbeda yakni tepung terigu protein tinggi dan roti tawar. Metode penelitian berupa eksperimen dengan tujuan memperoleh deskripsi kualitas organoleptik nugget ikan kambing-kambing. Perolehan hasil deskripsi dilakukan dengan dua rancangan nugget didapati mutu organoleptik nugget ikan kambing-kambing berbahan pengisi tepung terigu memiliki deskripsi warna coklat keemasan, aroma tidak amis, keempukan yang baik, dan rasa yang gurih. Sedangkan mutu nugget ikan kambing-kambing dengan bahan pengisi roti tawar memiliki warna yang kuning keemasan, aroma yang tidak amis,

keempukan yang sangat baik dan rasa yang gurih. Dua jenis bahan pengisi ini memberikan perbedaan yang signifikan pada dekripsi mutu tekstur atau tingkat keempukan nugget ikan kambing-kambing.

***Kata kunci**:* nugget, ikan kambing-kambing, mutu organoleptik

Introduction

The use of triggerfish (*Canthidermis maculata*) as abundant marine catch fish but has low selling value has not been done optimally. The triggerfish is a type of demeral fish that is recognized have meat characteristics similar to chicken meat but has not been processed with a variety of variants. Generally, triggerfish are processed into salted fish so that the quality of their storage can be improved.

The triggerfishes are the fish with low economic value, even though this fish has important fatty acid content such as eicosapentaenoic acid (eicosapentaenoic acid, EPA), dokosahexaenoic acid (docosahexaenoic acid, DHA) and high in other essential fatty acids [Williams S.S, Munasinghe D.H.N, 2018]. The results of the study also revealed that the content of fatty acids in the triggerfish is higher than the fatty acids that the chickens have.

The manufacture of nuggets that made from fish is now widely encountered, but the use of high-economy fish such as mackerel fish is more of an option for its manufacture, even though there are still types of low-economy fish that can also be used for nugget making. Such as the triggerfish, that is a type of demersal fish which abundant and relatively cheap. However, it does not have the type of processing that can increase its sales and storage power. Generally people use triggerfishes by preserving them into salted fish and fish meatballs.

Nuggets are a type of high-protein side dishes that made from animal basic ingredients and mixed from other ingredients through the process of irrigation and frying (Departemen perindustrian RI, 2002). Nuggets are fast food products that are in demand by the wider community, the use of fish meat at a low economical price can certainly increase the price of processed fish.

The use of triggerfish into practical food and nutritional value such as nuggets can increase the utilization of triggerfish meat and increase its nutritional value. The purpose of this study was to describe the organoleptic quality of triggerfish nuggets with the use of two different types of fillers in the form of medium protein wheat flour and fresh bread.

Method

The ingredients that used in the design of making the first triggerfish nuggets are 500 grams of triggerfish's meat (fillets), 150 grams of wheat flour, 100 grams of chicken eggs, 20 gr of garlic, 1 tsp of pepper, 28 grams of powdered milk, 10 grams of granulated sugar, 10 grams of salt, celery leaves, 5 sheets of lime leaves, and 250 grams of panir flour. While the ingredients used in the second experimental design are 500 grams of triggerfish (fillets), 150 gr 150 gr of fresh bread, 100 grams of chicken eggs, 20 grams of garlic, 1 tsp of pepper, 28 grams of milk powder, 10 grams of granulated sugar, 10 grams of salt, celery leaves, 5 sheets of lime leaves, and 250 grams of panir flour.

The method carried out in this study is an experimental method with two experimental designs of triggerfish nuggets. In the first experimental design used high protein wheat flour ingredients as nugget fillers, while in the second design used white bread as nugget fillers. Then both designs were tested on eight trained panelists to describe the organoleptics quality of those product.

Result and Discussion

Descriptive test results by eight trained panelists showed that of the two types of triggerfish nuggets tested there were differences in terms of nugget texture characteristics, nugget testing results were obtained as follows :

Tabel 1. Intensity of the triggerfish nuggets color

Organoleptic Quality	Description	Nuggets made from wheat flour fillers (Hi Protein)		Nuggets made from fresh bread fillers	
		P	%	P	%
Colour	Concentrated Chocolate	-	-	1	12,5
	Golden brown	7	87,5	7	87,5
	Faded Chocolate	1	12,5	-	-
	Pale	-	-	-	-
	Very Pale	-	-	-	-

The length of the frying time of 2 minutes 15 seconds for each nugget obtained the intensity of the value for the color of the triggerfish's nuggets made from white bread fillers which is rated by 87.5% panelists is 24.25 with a description of the color of the nugget is golden brown, as well as the intensity of the color value of 24.37 for triggerfish nugget nuggets with protein wheat flour filler ingredients.

Tabel 2. The intensity of the triggerfish nuggets Aroma

Organoleptic Quality	Description	Nuggets made from wheat flour fillers (Hi Protein)		Nuggets made from fresh bread fillers	
		P	%	P	%
Aroma	Very Fishy	-	-	-	-
	Fishy	-	-	-	-
	Neutral	-	-	-	-
	A Little Fishy	3	37,8	2	25
	Not Fishy at all	5	62,5	6	75

Based on the descrription tests on the aroma of triggerfish nuggets, it's obtained the intensity of the value for the description of the aroma by 75% of panelists obtained an average value of 22.5 for nuggets that made from fresh bread fillers with a description of the aroma value of triggerfish nuggets, and an average value intensity of 23.2 for nugget nuggets made from high protein wheat flour fillers rated by 62.5% panelists. Description of the aroma of unmistakable nuggets and smells fragrant with stronger aroma intensity in nuggets with the use of high protein wheat flour as a filler ingredient.

Tabel 3. The intensity of the triggerfish nuggets tender

Organoleptic Quality	Description	Nuggets made from wheat flour fillers (Hi Protein)		Nuggets made from fresh bread fillers	
		P	%	P	%
Tender	Very Tender	3	37,8	8	100

	Soft	3	37,8	-	-
	A bit Tender	2	25	-	-
	Less Tender	-	-	-	-
	Hard	-	-	-	-

The Nuggets of triggerfish made from wheat flour fillers with an average value intensity of 23 are rated by 37.8% panelist have a good description of nuggets of ability, and for nuggets goat fish made from fresh bread fillers have an average value intensity of 24 which is rated by 100% panelists with nugget descriptions have excellent ability. This proves that nugget fillers will affect the quality of the fulcrum produced.

Tabel 4. The intensity of the triggerfish nuggets taste

Organoleptic Quality	**Description**	**Nuggets made from wheat flour fillers (Hi Protein)**		**Nuggets made from fresh bread fillers**	
		P	%	P	%
Taste	Very Savoury	6	75	7	87,5
	Savory	2	25	1	12,5
	A bit Savoury	-	-	-	-
	Less Savory	-	-	-	-
	Insipid	-	-	-	-

The Triggerfish nuggets that filler with ingredients in the form of high protein wheat flour obtained a taste description value of 23 which was assessed by 75% of panelists with nugget descriptions having a very savory taste, while goatfish nuggets with filler ingredients in the form of fresh bread obtained a taste description value of 23.3 which was assessed by 87.5% panelists with a very savory taste description as well.

Conclusion

The results of the description test of organoleptic quality of Triggerfish nuggets are engineered using two different filler ingredients, namely with the use of high protein wheat flour and white bread, then both types of nuggets are described as color quality, aroma, ability, and taste.

The descriptive tests that have been conducted, found differences in the intensity of each organoleptic quality of triggerfish nuggets. For a higher color intensity on it nuggets with high protein wheat flour fillers compared to the color intensity of triggerfish fish nuggets with fresh bread fillers.

Then the aroma of goat-goat fish nuggets with high protein wheat flour fillers is more intense than triggerfish 's fish nuggets with white bread fillers. Furthermore, the intensity of decryption of triggerfish fish nuggets with high protein wheat flour fillers is lower than goat's fish nuggets with fresh bread fillers.

The last of the descriptions of the tests of triggerfish nuggets with wheat flour filler ingredients has a lower savory taste intensity compared to triggerfish nuggets with white bread filler ingredients. From the results of the description test concluded that the use of different filler ingredients in the manufacture of triggerfish nuggets provides a different level of ability, this is in line with the results of research (Ma'ruf, W.2019) which examined the use of different types of cornstarch as nugget fillers provide different physical results and organoleptic characteristics, especially on the characteristics of nuggets.

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