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ARTICLE REVIEW PINDANG BANDENG PRESTO

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ABSTRACT

Pindang bandeng presto is a processed fish product that is widely produced in Indonesia. The purpose of this article review is to get information about the stages of the process of making presto milkfish and its quality standards marketed in Indonesia. Based on the results of the library study above obtained information on the stages of the presto bandeng making process as follows: receipt of raw materials, sorting, weeding, washing, soaking, packaging, steaming, cooling, packing, packaging, marking, and storage. The quality standards of presto bandeng pindang in Indonesia are based on sensory parameters, chemistry, microbial spruce, heavy metal spruce and physical spruce.

Keywords: quality, spruce, manufacture, standard.

INTRODUCTION

One of the processed milkfish that is widely produced in Indonesia is pindang bandeng presto. Bandeng presto is widely consumed because it can meet nutritional needs and the price is relatively cheap. Nutrients contained in milkfish include protein, fat, vitamins and minerals. The protein content of milkfish ranges from 20-24%, the amino acid glutamate 1.39%, unsaturated fatty acids 31-32% and has macro and micro mineral content namely Ca, Mg, Na, K, Fe, Zn, Cu and Mn (Hafiludin, 2015).

Bandeng presto or so-called soft thorn milkfish is a milkfish that is processed by providing high pressure and temperature. The purpose of processing milkfish by means of dipresto is to facilitate the community in consuming milkfish (Falistin et al., 2015).

According to SNI No: 4106.1-2009, presto/soft thorns are processed products produced by fisheries with whole fish raw materials that are treated as follows: receipt of raw materials, sorting, weeding, washing, soaking, packaging, steaming, cooling,

packing, packaging, marking, and storage. Soft thorn bandeng is one type of diversification of fishery product processing, especially as a modification of the development that has the advantages of bones and thorns from the tail to the head soft so that it can be eaten without causing thorn interference in the mouth (Arifudin, 1988). The purpose of this article review is to get information about the stages of the process of making presto milkfish and its quality standards marketed in Indonesia.

The importance of Processing Bandeng Fish into Pindang Presto Products

Processing fish into presto pindang products is very important to do. In general, the purpose of fish processing is to improve quality or quality value, extend shelf life, inhibit the activity of microorganisms that can poison the body, facilitate the digestive process, get a diversity of food types, improve the shape, taste, texture, and aroma. The special purpose of processing milkfish into presto pindang products is to make it easier for milkfish to be consumed safely and comfortably because milkfish is famous for its many thorns in its meat.Klasifikasi Ikan Bandeng (*Chanos chanos*)

The bandwagon, which is chanos chanos, was first discovered by a man named Dane Forsskal in 1925 in the red sea. Milkfish (Chanos chanos) in Makassar has the name bale bolu is a fish that is easily sought after in the market, because many Indonsia people cultivate it. This milkfish is also a type of pelagic fish that used to forage on the surface, such as seaweed, pellets, worms, plangton (Aziz, et al. 2013). Furthermore, it is said that milkfish is a type of fish capable of living in fresh water, brackish, sea during its growth. Adult milkfish will return to the sea to breed. The classification of milkfish according to Sudrajat (2008) is as follows:

Kingdom : Animalia

Class : Actinopterygi

Ordo : Gonorynchiformes

Family : Chanidae

Genus : Chanos

Species *: Chanos chanos*

Figure 1. Milkfish

Bandeng (Chanos chanos, Forskal) is one of the strategic commodities to meet the needs of protein that is relatively cheap and favored by consumers in Indonesia. Pasaribu (2004) suggests that milkfish are exported in the form of bait and consumption milkfish. Milkfish as a foodstuff, is a source of nutrients that are important for the human survival process.

The nutritional composition contained in the meat of milkfish as found in Table 1. The protein content of milkfish meat is more than 20% so that milkfish can be used as a food source of protein. Amino acids contained in milkfish meat are essential amino acids that are needed by the human body.

Table 1. Nutritional Content of Milkfish

Nutrition	Units	Value / 100 g
Proximate		
Water	g	70.85
Energy	kcal	148
Energy	kJ	619
Protein	g	20.53
Fat	g	6.73
Ash	g	1.14
Carbohydrate	g	0.00
Fiber, total diet	g	0.0
Mineral		
Calsium, Ca	mg	51
Iron, Fe	mg	0.32
Magnesium, Mg	mg	30
Phosphorus, P	mg	162
Kaliam, K	mg	292
Sodium, Na	mg	72
Zinc, Zn	mg	0.82
Copper, Cu	mg	0.034
Manganese, Mn	mg	0.020
Selenium, Se	mcg	12.6
Vitamins		
Vitamin C	mg	0.0
Thiamine	mg	0.013
Riboflavin	mg	0.054
Niacin	mg	6.440
Pantothenic acid	mg	0.750
Vitamin B-6	mg	0.423

Folate, total	mcg	16
Folic Acid	mcg	0
Folate, food	mcg	16
Folate, DFE	mcg_DFE	16
Vitamin B-12	mcg	3.40
Vitamin A, RAE	mcg_RAE	30
Retinol	mcg	30
Vitamin A, IU	IU	100
Fat		
Fatty acids, total saturated	g	1.660
Fatty acids, total monounsaturated	g	2.580
Fatty Acid, total polyunsaturated	g	1.840
Cholesterol	mg	52
Amino Acids		
Tryptophan	g	0.230
Threonin	g	0.900
Isoleusin	g	0.946
Leusine	g	1.669
Lysine	g	1.886
Methionine	g	0.608
Sistine	g	0.220
Phenylalanine	g	0.802
Tyrosine	g	0.693
Valin	g	1.058
Arginine	g	1.229
Histidine	g	0.604
Alanine	g	1.242
Aspartate acid	g	2.102
Glutamate acid	g	3.065
Glysine	g	0.986
Proline	g	0.726
serine	g	0.838

Source: USDA National Nutrient Database for Standard Reference, (2009)

Stages of Making Presto Milkfish Products

In the processing of soft or presto thorn milkfish can be done using 2 ways, namely traditionally and modernly. In traditional processing of soft thorn milkfish, the container used for cooking is usually a modified drum or a large dandang. Processing of soft thorns traditionally uses the principle of processing pindang fish.

Processing of soft thorn milkfish is traditionally done using the principle of inflammation. In the process of cultivation, fish are preserved by steaming or boiling it in a normal salty and pressurized environment, with the aim of inhibiting activity or killing rotting bacteria and enzyme activity (Afrianto and Liviawaty, 1989).

Figure 2. Presto Milkfish

In modern times, the processing of soft thorn milkfish uses an autoclave for cooking. The principle of using an autoclave in the ripening of soft thorn milkfish is to use high pressure, about 1 atmosphere. With high pressure the process of ripening soft thorn milkfish with autoclave will mature faster with a length of about 2 hours and fish bones can be immediately soft than using drums or drums. According to Arifudin (1983), processing soft thorn bandeng is one of the diversification efforts. The processing process uses a high temperature (115 - 121 °C), with a pressure of one atmosphere. This high temperature and pressure is achieved using a high-pressure steamer (autoclave) or on a household scale with a pressure cooker.

The process of processing soft thorn milkfish with high-pressure hot water vapor causes bones and spines to become soft. In addition, this high-pressure hot water vapor also serves to stop the activity of fish-rotting microorganisms, the hardness of fish bones due to the presence of organic and inorganic materials in the bones. Inorganic materials include elements of calcium, phosphorus, magnesium, chlorine and flour while organic matter is collagen fibers. Bones become brittle and easily destroyed when the organic matter contained in them dissolves (Soesetiadi, 1977).

Here is the process of processing pindang bandeng presto traditionally

- Preparing raw materials, namely fresh milkfish,
- Washing milkfish with clean water,
- Weeding by halving the fish and then removing the contents of the stomach from the anus until the gills are then taken dirt,
- Washing milkfish for the second time,

- After washing, lubricate salt on the fish where it is done by arranging the fish intermittently, each layer of fish is given salt,
- Put the fish in a large saucepan and cook the milkfish for 6-10 hours,
- After the fish is cooked then cool at room temperature
- After cold do the packaging of milkfish using newspaper, cardboard, or polyethylene plastic.

In addition to the traditional way, the processing of presto milkfish can be done in a modern way, namely with the following stages:

- Prepare Raw materials for fresh milkfish
- Weeding by halving the fish and then removing the contents of the stomach from the anus until the gills are then taken dirt,
- Washing milkfish up to 4-5 times
- Rinsing seasoning while arranging milkfish into a press pan intermittently
- Presto pot in boiling water to boil milkfish
- Cooking milkfish boiled for 2 hours until sizzling
- After cooking, cooling at open room temperature is carried out
- Presto milkfish fryer with egg whisk mixture
- After cooking, packaging is carried out using plastic mica

Presto milkfish entrepreneurs usually pay attention to the composition of the seasoning that will be used to soak milkfish where the seasonings prepared are garlic, turmeric, salt and water.

Product Quality According to SNI or Other Standards

Table 2. Quality requirements and Food Safety of Fish Milkfish contents According to SNI 8375:2017

Parameters	Unit	Requirement			
a. Sensory	Number	Min. 7,0*			
b. Chemistry:					
- Ash content	%	Max. 4			
- Protein Levels	%	Min. 14			
c. Microbial Spruce		**n**	**c**	**m**	**M**
- ALT	Colony /g	5	2	10^4	10^5
- Staphylococcus aureus	Colony/g	5	1	10^2	10^3
d. Heavy Metal Spruce **					
- Cadmium (Cd)	mg/kg	0,1			
- Mercury (Hg)	mg/kg	0,5			
- Lead (Pb)	mg/kg	0,3			
- Arsen (As)	mg/kg	1,0			
e. Physical Spruce					

- Flith	-	0

Note:

***** for each sensor parameter parameter
****** if needed
n number of sample
c 2 sampling classes: the maximum number of examples allowed to exceed the maximum requirements limit listed in m 3 sampling class: the maximum number of examples whose requirements are between m and M and shall not exceed the maximum requirements limit listed at the maximum listed on M and M as well as other examples of examples of others must be less than the value of m
m 2 sampling classes: example: maximum requirement limit
M 3 sampling class: example: maximum maximum requirement requirement limit

td is not enforced
Max Maximum
Min Minimum

Stages of Obtaining a Certificate of Indonesian National Quality Standards

The Indonesian National Standard is a standard set by the government for various production products made by the people of Indonesia, whether they are produced individually or produced by a entity or company. In accordance with the Regulation of the Minister of Trade No.72/M-DAG/PER/9/2015 which requires goods in certain categories to be produced in accordance with SNI.

The application of SNI to products, makes it easier for consumers to find the products they need. This becomes more value for producers, because they will have quality assurance on the goods they produce and market, so their possibility to penetrate the market becomes easier. For this reason, it is highly recommended for business people to use SNI on every product they produce.

Getting a product that is in accordance with SNI itself is not so difficult, this can be obtained by doing several conditions and trials including:

1. **Filling out the SNI SPPT Application Form**

   This SNI Mark Usage Product Certificate Form (SPPT) will require several documents as attachments such as Photocopy of legalized ISO 9001:2000 Quality Management System certificate and Certificate from LSSM country of origin of products that already have mutual recognition agreements with KAN.

2. **Verify Application**

   After collecting the document, LSPro-Pustan will verify several things, including: the range of audit locations, and the ability to understand the local language

3. **Audit of Producer Quality Management System**

In this System Audit will be carried out checking the suitability of the implementation of the quality management system that we do in the business we run**.**

4. **Product Sample Testing and Assessment**

In this stage the LSPro-Pustan Team will come to the production site and take a sample of the product to be tested, After the process is carried out, it will be seen whether the test results have been in accordance with the SNI. If it turns out that it is not suitable, then we will be asked to test the product ourselves until it is appropriate and then it is worth checking again by the LSPro-Pustan team.

5. **Certification Decision**

After all the above processes, the team will close up the results of the audit and testing that has been carried out.

6. **Provision of SPPT-SNI**

The LSPro-Pustan team will clarify our efforts after the panel meeting is over, then the product can get an SNI certificate.

Things that must be improved from Presto Milkfish Products to make it more desirable to the community

As one of the fishery products, milkfish is a commodity that is very easy to experience quality setbacks (rot) so it takes effort to find out the characteristics of milkfish meat from its chemical composition which includes proximate, amino acids, fatty acids, minerals and vitamins. The information will be useful in utilizing milkfish resources as a fulfillment of people's food needs. Handling and storing fish to the consumer is a very important factor to maintain the quality of fish so as not to quickly experience quality deterioration (Bao et al., 2007; Kandeepan and Biswas, 2007; Gandotra et al., 2012). Several studies on milkfish in Indonesia have been conducted before, according to Elfrida et al. (2012) which suggests the influence of temperature and storage time on the growth of bacteria and fungi on the quality of milkfish.

The presto process can reduce the nutritional content of milkfish. The use of high pressure and temperature can decrease the quality of presto milkfish fat indicated by an increase in the number of free fatty acids which is about 2.55%. (Falistin et al., 2015). In addition, the use of increasing pressure can lead to a decrease in the fat and protein content of presto milkfish (Anggo et al., 2018). Changes that occur during the presto process can affect the shelf life of the presto bandeng. Presto milkfish are

generally able to last for two days at room temperature storage, so efforts are needed to extend the shelf life of presto milkfish, one of which is by vacuum packaging.

Conclusion

Based on the results of the library study above obtained information on the stages of the process of making presto milkfish as follows: receipt of raw materials, sorting, weeding, washing, soaking, packaging, steaming, cooling, packing, packaging, marking, and storage. The quality standards of presto bandeng pindang in Indonesia are based on sensory parameters, chemistry, microbial spruce, heavy metal spruce and physical spruce.

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