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Product Review Article "SALTED FISH JAMBAL ROTI"

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Abstract

Salted fish jambal roti is a processed fish product made through a salting process. This article aims to review the salted fish products of jambal roti in terms of the stages of processing salted fish jambal roti and the quality of the products produced. Based on the literature review, information was obtained that the stages of making salted fish jambal roti are washing, sorting, removing the head and entrails, immersion in water, salting, cleavage in the form of butterflies, drying, brushing on thick parts, and the final drying and storage process. The quality of salted fish jambal roti is regulated based on SNI number 8376: 2017. The quality of salted fish jambal roti is influenced bythe degree of freshness of the fish used, the quality and quantity of salt used and the length of the salting process.

Keywords: salting, quality, strength, ash content, protein content.

INTRODUCTION

Fish is still believed to be the main source of animal protein for humans. Fish is not only used as food, but can also be used to produce health products, feed, cosmetics, and so on. Fish can produce health products and cosmetics because fish contain collagen in their skin. Collagen is very useful for the health of human skin. Fish can be used for feed in the form of fish meal.

Fish as a food ingredient is very easy to spoil. Fish preservation and processing are very important to do in an effort to maximize fish as food. The purpose of fish processing is to preserve fish, turn fish into products that consumers like, maintain the quality of fish as food and increase the added value of fish.

The method of fish processing that is widely carried out in Indonesia is salting. There are

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several reasons that cause this salting method to be the most widely done way to preserve fish, namely: 1) The salting technique is a very simple technology and can be done by everyone 2) The technology that uses salt is the cheapest way of preservation 3) Processed products combined with drying have long durability, so that they can be stored or distributed to distant areas without requiring treatment special. 4) Salted fish products are cheap, so they can be affordable for all walks of life

The mechanism of fish preservation through the salting process is as follows 1) Salt absorbs water from the fish body through the osmose process. As a result, the water content in the body of fish that is the living medium of bacteria is reduced. Lack of water in the environment where bacteria live results in metabolic processes in the bacterial body being disrupted. Thus the process of deterioration of fish quality by bacteria can be inhibited or stopped. 2) In addition to absorbing the water content of the fish's body, salt also absorbs water from the body so that the bekteri will undergo plasmolysis (separation of plasma nuclei) so that the bacteria will die.

One of the products resulting from processing and preservation using the salting method is salted fish jambal roti. The terminology of bread jambal arises as a result of sensory characteristics that change after frying. The frying process will change the texture of the fish to be brittle like bread (Irianto, 2012). The raw material for salted fish jambal roti is ikan manyung (Arius spp.). This article aims to review the salted fish products of jambal roti in terms of the stages of processing salted fish jambal roti and the quality of the products produced.

Morphology and Taxonomic Classification of Mayung Fish (Arius spp.)

The morphological features of the fish are the shape of the depresa head and compressa body, the body is not scaly, the dorsal fin is hard and sharp fingers, the mouth cannot be poked out, has four pairs of breech, the tail fin is torn, and has fins additional (adifose fin) located behind the dorsal fin (Saanin, 1984; Ridwan and Brojo, 1985). The types of mayung fish that inhabit Indonesian waters are *Arius crossocheilus, Arius argyropleuron, Arius leiotetocephalus, Arius sagor, Arius truncatus, Arius maculatus, Arius utik, Arius microcephalus, Arius thalassinus, Arius caelatus and Arius venosus* (Burhanuddin et. al., 1987).

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Figure 1. Mayung Fish (Source: https://id.wikipedia.org/wiki/Manyung)

Manyung fish is used as raw material in the processing of "jambal roti fish" in Pangandaran, generally a type of Arius thalassinus, known as kadukang fish. The head, back and tail are brownish-black, the belly is brownish-white (Survey, 2004).

According to Saanin (1984), the classification of arius thalassinus-type manyung fish is as follows:

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Phylum : Chordata

Order :

Ostariophysi

Family : Ariidae

Genus : Arius

Species : Arius thalassinus

Manyung fish can be grouped as large demersal fish. Caught mayung fish can be 25 – 70 cm in length and even reach 150 cm. The weight of manyung fish ranges from 19 kg – 45 kg.

Mayung fish populations in Indonesia can be found in all coastal waters of the Seas of Java, Sumatra, Kalimantan, South Sulawesi, and Arafura. While outside Indonesia can be found along the coast of India, Thailand, and along the coast of the South China Sea and the southern part of the Australian coast.

The nutritional content of mayung fish meat is rich in protein and fat. The complete

nutritional content of mayung fish can be seen in Table 1

Table 1. Nutritional content of fish meat

No	Komposisi	Jumlah
1	Protein	12,7-21,2 g
2	Air	0,2-2,9 g
3	Lemak	75,1-81,1 g
5	Abu	0,9-1,6 g
6	Karbohidrat	0,4-0,6 g
7	Kalsium	14,0-98,0 mg
8	Fosfor	148,0-440,0 mg
9	Magnesium	34,0 mg
10	Kalium	109,0-468,0 mg
11	Vitamin A	96,0 IU
12	Vitamin C	0,0-11,7 IU
13	Riboflavin (B1)	80,0-197,0 µg
14	Pyridoksin (B6)	370.0 µg
15	Thiamin (B1)	40,0-45,0 µg
16	Niacin	0,5-45,0 µg
17	Sianokobalamin (B12)	2,2-2,5 µg

Source : Wheaton and Lawson, (1985) in Zulfikar (2016).

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Salted Fish Jambal Roti

Salted fish jambal roti is a processed product of mayung fish meat that is preserved by adding a lot of salt. Jambal roti is the name given to fish that has been processed with the raw material of manyung fish (Arius thalassinus). Jambal roti production centers are very popular in java island, such as Pangandaran, Pekalongan, Cirebon, and Cilacap. Jambal roti itself is a product of fermented salt made from manyung fish.

The characteristic of jambal roti fish includes a fragrant aroma caused by the degradation of proteins and fats that produce methyl kenon compounds, butylaldehyde, amino acids and other compounds. In addition, the high content of amino acids affects the taste of jambal roti. Another characteristic is the soft and compact texture as a result of the work of proteolytic enzymes produced by microorgenism (Rahayu et al, 1992 in Eko Irianto Day 2013). The popularity of jambal roti is mainly characterized by the specific flavor and smell as well as the distinctive texture such as sand.

To get salted fish jambal roti which has super quality and must be from manyung fish that is still fresh and has not been put into the frezeer. The popularity of salted fish jambal roti is mainly characterized by a specific flavor and smell as well as a distinctive texture such as sand. The processing process of salted fish jambal roti includes salting, fermentation, and drying processes that affect the aroma quality and texture of jambal roti.

This fermentation process is the most decisive factor, since at this stage there is a characteristic taste and aroma caused by the growth of microorganisms. Rahayu, et. al (1992) posits that the manufacture of salted fish jambal roti involves a fermentation process. The fermentation process carried out in fish results in a proteolytic reaction which is a process of biological decomposition of simpler and controlled compounds.

During the fermentation process, fish proteins will be hydrolyzed into amino acids and pepsides, then amino acids will further decompose into other components that decompose in the formation of the taste of the product. Generally, salted fish jambal roti is produced through the stages of washing, sorting, removing the head and entrails, soaking in water, salting, cleavage in the form of butterflies, drying, brushing on thick parts, and the final drying and storage process in the production of salted fish jambal roti, namely by storing it in a frezeer or packaged directly.

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Stages of the process of making salted fish jambal roti

The making of jambal roti fish is carried out as follows:

1. The fish was cut off its head and then removed its entrails and washed.
2. Fish are salted by introducing salt into the abdominal cavity of the fish. The amount of salt used is 25-35 % of the weight of a whole fish). The fish is arranged in salt, in a salting bath whose base has been coated with a layer of salt. The top layer is a layer of salt. The salting trough is tightly closed. After four days of salting, the fish is removed and salt is removed from the abdominal cavity of the fish.
3. The fish is split from the direction along the back towards the abdomen so that the fish is split in half, along the stomach does not break off. The thick flesh on the back of the fish is split again (ditoreh). Obtained wet product "roti guava fish".
4. With the help of a fluffy brush, the product "roti guava fish " is washed thoroughly.
5. The product "roti jambal fish " is dried in the sun on para-para for 2 – 3 days or until dry. Every 3-4 hours a fish reversal is carried out. At the time of drying the product is smeared with a solution of brown sugar and garlic to taste (about 200 g of brown sugar : 100 g of garlic : 1 L of water). The product is considered dry if there are no finger marks on the fingers.

Nutritional Characteristics of salted fish jambal roti

Salted fish products jambal roti as other a sin fish productshave a salty taste. This salty taste is the limit in consuming jambal roti fish. The nutritional content and amino acid profile of salted fish jambal roti are found in Table 2.

Based on Table 2, the amino acid profile of bread guava can be obtained information that glutamic acid gives an important role in the formation of flavors of jambal roti products, in addition to aspartate acid, alanine, valine and glycine. The ash content of salted fish jambal roti is very high (19.4%), indicating the presence of a high mineral content. The high ash content is due to the increasing amount of salt (NaCl) that enters the fish meat during the making of roti guava. The length of the salting process carried out in the manufacture of salted fish jambal roti is 4 days. Kadar salt in fermented fish products with salting is influenced by the salt content used.

Table 2. . Proximate Composition, Salt Content, and Amino Acid Profile of Salted Fish Jambal Roti.

v

Jenis Analisis	Kandungan
Kadar air (%b.b.)*)	49,38
Kadar protein (%b.b.)*)	30,26
Kadar lemak (%b.b.)*)	0,60
Kadar abu (%b.b.)*)	19,64
Kadar garam (%b.b.)*)	4,20
Asam amino (%b.b.)**)	
• Asam aspartate	1,94
• Treonin	1,20
• Serin	0,79
• Asam glutamate	5,08
• Glisin	1,60
• Alanin	2,15
• Valin	1,76
• Metionin	1,16
• Isoleusin	1,56
• Leusin	1,72
• Fenilalanin	1,05
• Histidin	0,81
• Lisin	1,74
• Agrginin	0,83

Source : Irianto, 2013

The composting of salted fish jambal roti is strongly influenced by several factors, namely, the level of freshness of the fish used, the quality and quantity of salt used and the length of the salting process. The qualityof salty jambal roti in Indonesia is regulated based on SNI number 8376:2017 as contained in Table 3.

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Table 3. Quality and safety requirements of salted fish jambal roti

Parameter	Satuan	Persyaratan			
a. Sensori		Min. 7,0*			
b. Kimia:					
- Kadar air	%	Maks. 50			
- Kadar garam	%	15 - 20			
- Kadar abu tak larut dalam asam	%	Maks. 0,3			
c. Cemaran mikroba:		n	c	m	M
- *Escherichia coli*	APM/g	5	1	< 3	3,6
- *Salmonella*	Per 25 g	5	0	Negatif	td
d. Cemaran logam					
- Kadmium (Cd)	mg/kg	Maks. 0,1			
- Timbal (Pb)	mg/kg	Maks. 0,3			
- Merkuri (Hg)	mg/kg	Maks. 0,5			
e. Cemaran fisik					
- *Filth*		0			

CATATAN

* untuk setiap parameter sensori

n jumlah contoh uji

c 2 kelas pengambilan contoh : jumlah maksimum contoh yang diperbolehkan melebihi batas persyaratan maksimum yang tercantum pada m
3 kelas pengambilan contoh : jumlah maksimum contoh yang persyaratannya berada antara m dan M dan tidak boleh satupun contoh melebihi batas persyaratan maksimum yang tercantum pada M serta contoh yang lain harus kurang dari nilai m

m 2 kelas pengambilan contoh: batas persyaratan maksimum

M 3 kelas pengambilan contoh: batas persyaratan maksimum

td tidak diberlakukan

Maks. Maksimum

Min. Minimum

Conclusion

Based on the literature review, information was obtained that the stages of making salted fish jambal roti are washing, sorting, removing the head and entrails, immersion in water, salting, cleavage in the form of butterflies, drying, brushing on thick parts, and the final drying and storage process. The quality of salted fish

jambal roti is regulated based on SNI number 8376: 2017. The quality of salted fish jambal roti is influenced bythe degree of freshness of the fish used, the quality and quantity of salt used and the length of the salting process.

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