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Processing and Sensory Quality of Dried Rebon Shrimps from the Katapang Doyong Coastal Area, Pangandaran Regency

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Method Article

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ABSTRACT

This research aims to analyze the production process and organoleptic quality of dried shrimp produced in Katapang Doyong, Pangandaran-West Java, Indonesia. The research method used was a survey method. The research procedure was conducted in two stages. The first stage observed the process of making dried shrimp products, and the second stage tested the organoleptic quality of the dried shrimp produced. The analysis of dried shrimp production was conducted by observing the production site and interviewing workers and business owners. The

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organoleptic quality testing was performed using scoring tests. The research results concluded that the production process of dried shrimp in Lapang Katapang Doyong, Pangandaran consisted of three stages, namely cleaning, drying through the sun-drying process, and packaging. The organoleptic quality of the dried shrimp produced averaged above 8. Overall, it meets the requirements of food quality and safety as stipulated in the National Standardization Agency, with a minimum organoleptic value of 7 for dried shrimp.

Keywords: Food safety; drying; packaging; flavor; scoring test.

1. INTRODUCTION

Pangandaran is one of the districts that has shrimp resources that can be relied on as a supplier of raw materials for processing in Indonesia. Shrimp production in Pangandaran is among the highest compared to other fish commodities [1]. One of the most commonly caughtshrimp species is rebon shrimp [2].

Rebon shrimp is one type of shrimp with a small size when compared to other types of shrimp. The small size makes this type of shrimp called "rebon". Rebon shrimp has the following classification:

Kingdom : Animalia
Filum : Crustaceae
Class : Arthropoda
Ordo : Malacostraca
Famili : *Penaeidae*
Genus : *Penaeus*
Species : *Mysis relicta*

Dried shrimp or ebi and fermented shrimp paste or shrimp paste are common products made from small-sized shrimp, particularly rebon shrimp, in Indonesia, especially in the Pangandaran region. The production of dried shrimp involves the drying process under the sun. Katapang Doyong is one of the centers of dried shrimp production in Pangandaran. However, the processing is still in the home industry scale, mainly catering to local demand. This research aims to analyze the production process and organoleptic quality of dried shrimp in Katapang Doyong, Pangandaran, West Java, Indonesia.

2. RESEARCH METHODS

This research was conducted from February 27, 2023 to March 28, 2023. The research method used is the survey method. The research procedure was carried out in two stages. The first stage observed the process of making dried rebon shrimp products and the second stage tested the organoleptic quality of dried rebon shrimp produced. Analysis of dried shrimp production was carried out by observation to the production site and interviews with workers and business owners. Organoleptic quality testing was done by scoring test. The scoring test scoring format is in Table 1. The data obtained were analyzed descriptively.

Table 1. Organoleptic quality assessment score of dried shrimp

Organoleptic Characteristics	Score
Appearance	
- Whole, clean, neat, luminous by type	9
- Whole, clean, less neat, luminous according totype.	8
- Whole, clean, slightly dirty.	7
- Intact, less clean, slightly dirty.	6
- Slightly physically damaged, less clean, someparts rusted.	5
- Slightly physically damaged, color has changed.	4
- Partially destroyed, dirty.	3
- Destroyed, very dirty, color changed from specifictype.	1
The Smell	9
- Fragrant, type-specific, with no additional smell.	8
- Almost neutral, slight additional smell	7
- Neutral, little additional odor.	6
- Annoying additional smell, not foul, slightly rancid.	5

-	Rancid, a bit musty, ammoniacal smell.	4
-	Rancid, a bit musty, ammoniacal smell.	3
-	Unpleasant, slightly foul, strong ammonia.	2
-	Rotten	1
Taste		9
-	Very delicious, type-specific, no added flavors	8
-	Very good, type-specific, no added flavor	7
-	Tasty, type-specific, little added flavor	6
-	Somewhat tasty, type-specific, little additionalflavor	5
-	Average, type-specific, little additional flavor	4
-	Less tasty, some additional flavor is disturbing	3
-	Not tasty, slightly foul	2
-	Very bad, spoiled	1
Textures		
-	Solid, compact, flexible, fairly dry	9
-	Solid, compact, flexible, less dry.	8
-	Too hard, not fragile	7
-	Solid, not fragile	6
-	Soft, wet, not easily decomposed	5
-	Dry, brittle, decomposes easily.	4
-	Soft, brittle, easy to decompose	3
-	Soft, wet, decomposes easily.	2
-	Wet, watery, decomposes clearly	1
Fungi		
- None/not visible		9
- Existing/visible		1

Source : Badan Standarisasi Nasional [BSN]. [3]. SNI 2709.1:2010

3. RESULTS AND DISCUSSION

3.1 Overview of Dried Shrimp Producers

Dried rebon shrimp producers in Lapang Ketapang Doyong, Pangadaran are home industries. The processing is done by the owner and assisted by 2-3 people. The equipment used is still very simple and can be obtained from the surrounding area.

The raw material used in this processing is rebon shrimp caught by local fishermen. In addition to raw materials in the form of rebon shrimp, this business also requires equipment used during the processing process, namely tarpaulins for drying and broom sticks to separate and clean the dirt that sticks in rebon shrimp.

In one production, 100 kg of fresh rebon shrimp are used and 25 kg of dried rebon shrimp are produced. The processing of rebon shrimp is done every day and is usually adjusted to the catch of fishermen.

3.2 Processing of Dried Rebon Shrimp

The processing of dried rebon shrimp carried out in Lapang Katapang Doyong consists of 3 stages only, namely cleaning, drying and packaging. Cleaning is intended to remove dirt attached to the shrimp during catching. According to information from workers, rebon shrimp are caught by fishermen using beach seine fishing gear. According to Sirait [4], cleaning fish or shrimp when processing dried fish or shrimp is very important to get a clean product and superior quality.

The next stage after washing is drying. Drying of rebon shrimp in Katapang Doyong field is done through the drying process. The drying technique is as shown in Fig. 2. The drying time ranges from 2 - 3 days, depending on weather conditions. Weather factors determine the length of the drying process and determine the quality of the product and the yield of dried shrimp or fish produced [5]. During the drying process, every 1/2 day, rebon shrimp are stirred to get even drying.

Fig. 1. Drying process of rebon shrimp

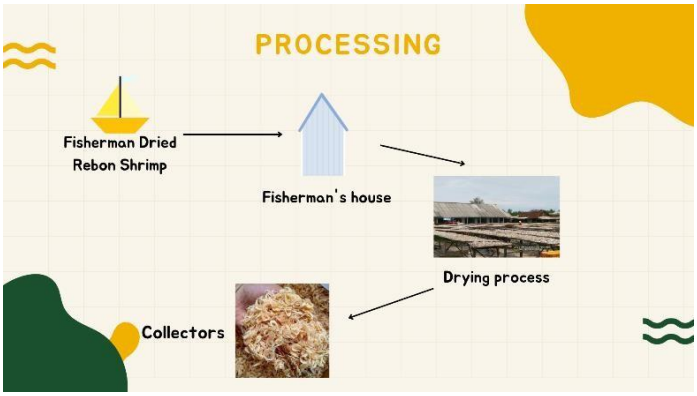

Fig. 2. Chain Process from Raw Materials to Marketing of Dried RebonShrimp in Katapang Doyong Field, Pangandaran

The last stage of making dried rebon shrimp is packaging. The packaging used is bamboo baskets. After that, it is ready to be marketed. The production of dried rebon shrimp in Lapang Katapang Doyong is not sold directly to consumers but sold to intermediary traders. Product sales are carried out only in large parties (must be more than 10 kg of dried rebon shrimp). The process chain from raw materials to marketing of dried rebon shrimp products is shown in Fig. 2.

3.3 Organoleptic Quality of Dried Rebon Shrimp

Organoleptic is the first product characteristic recognized by both producers and consumers. According to Gusnadi et al. [6], organoleptic quality can be tested using human senses as the main tool to measure the acceptance of food. Organoleptic quality testing of dried rebon shrimp was carried out with a scoring test that refers to Table 1. Organoleptic observations of dried rebon shrimp were made on appearance, taste, smell, texture, and fungi. The scores obtained are shown in Fig. 3.

Based on Fig. 3, it can be seen that the organoleptic value obtained is at least 8. Overall, it meets the quality and food safety requirements. As stipulated in SNI, the quality and food safety requirements for rebon shrimp for organoleptic value are at least 7.

According to Tarwendah [7], appearance is the first characteristic seen, liked and judged by consumers in selecting or consuming a product. The results of the appearance organoleptic test on dried rebon shrimp produced in the Katapang Doyong field obtained a score of 9, namely intact, neat, clean, radiant, according to the type. It can be seen from the color which is not much different when it is fresh [8].

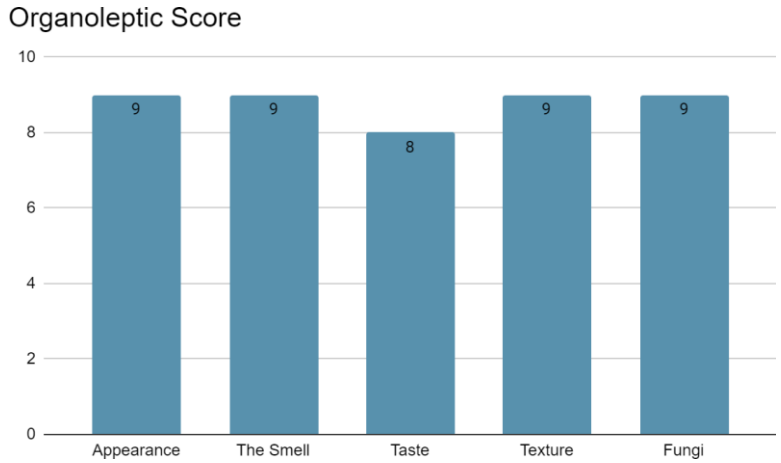

Fig. 3. Organoleptic test results of rebon shrimp in Katapang Doyongfield

The results of the taste organoleptic test on dried rebon shrimp produced in the katapang doyong field obtained a score of 8, namely very good, specific type, without additional flavors. The results of the smells organoleptic test on dried rebon shrimp produced in the katapang doyong field obtained a score of 9, namely type-specific fragrant (typical of shrimp) and without additional odor. The results of the texture organoleptic test on dried rebon shrimp produced in the katapang doyong field obtained a score of 9, namely solid, compact, flexible and quite dry. The results of the organoleptic fungus test on dried rebon shrimp produced in the katapang doyong field obtained a score of 9, namely there was not even a little mold on the processed dried rebon shrimp.

4. CONCLUSIONS

The production process of dried rebon shrimp carried out in Katapang Doyong field, Pangandaran consists of three stages, namely cleaning, drying through drying process and packaging. The organoleptic quality of dried rebon shrimp produced is on average above the value of 8. Overall, it meets the quality and food safety requirements. As stipulated in the SNI, the quality and food safety requirements for pomegranate shrimp for organoleptic value are at least 7.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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