



# PROCESSING OF DRIED ANCHOVY (*STOLEPHORUS SP*) IN *SMALL AND MIDDLE BUSINESS INTERPRISE (USAHA KECIL MENENGAH CALLED UKM TERI SEBATIK, SEBATIK ISLAND, NUNUKAN REGENCY, NORTH KALIMANTAN*

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**Abstract:** *Sebatik Island is known as a producer of anchovies (Stolephorus sp.) Border with a total production of 4-5 tons every month. This matter leads Sebatik Island to be a center of producing anchovies in Nunukan Regency, specifically the borderline of Indonesia and Malaysia. Processing efforts carried out by the community produced various forms of products such as dried anchovies. This processing effort in addition to being able to increase the added value of anchovies could also be in the process of processing anchovies, so the community income was more optimal. The purposed of writing this final project is to find out the processing process of dried anchovies (Stolephorus SP) at Teri Sebatik Small and Middle Business Interprise (Usaha Kecil Menengah called UKM). The carried out methods are interviews, and literature studies. It is found that a foundation in the development of learning media or the further application of learning media. In addition, it was also an added value for scientific knowledge in the field of fisheries. It is also found that processing could be defined as the process of manufacturing product from raw materials, and raw basic materials, and from handling and preserving activities of product. The stages of processing Dried Anchovies consists of Raw Material Reception, Washing, Drying, Frying, Spin oil, Seasoning Mixing, Packaging, Weighing, Marketing.*

**Keywords:** anchovy, production, processing.

## 1 INTRODUCTION

Sebatik is one of the sub-districts in Nunukan Regency, North Kalimantan Province, Indonesia. Sebatik District is located at the eastern end of Nunukan Regency, located on Sebatik Island, which is divided in two from Sabah, Malaysia. This sub-district has the highest population density in Nunukan Regency and significant potential in agriculture, plantation, and fisheries, especially rice, banana, cocoa, fish, and shrimp. With the potential of this abundant marine fishery resources, now it can be utilized little by little with the advancement of science and technology through catching, cultivation or through preservation or processing. It is hoped that the fisheries sector will be able to provide a greater role in economic growth, increase foreign exchange, improve food and community nutrition and provide employment opportunities in an effort to increase fishermen's income. One of the natural resources on the island of Sebatik is anchovy. Anchovies contain protein, minerals, vitamins, and other nutrients that benefit health and intelligence. Anchovy protein contains several kinds of essential amino acids. Due to biological and natural factors, there are variations in the chemical composition and composition of its

constituents. Biological factors include the type of fish, age, and sex. Natural factors are external factors that do not come from fish, which can affect the composition of fish meat. This group of factors consists of the area of life, the season, and the type of food available.

One of the superior products that many Sebatik people like is anchovy products as it has a high economic value; like other types of marine fish, anchovy also has a high protein content. Anchovy has a high nutritional value with minerals, vitamins, unsaturated fats, and proteins arranged in essential amino acids needed for the growth of the human body and intelligence (Muchtadi and Sugiyono, 1989).

The high value of Indonesia's wealth, especially the fisheries sector, is supported by the vastness of Indonesia's oceans. It also provides its points for increasing people's income.

### 1.1 Definition of Anchovy

Anchovy is a group of small marine fish belonging to the Engraulidae tribe. This name includes a variety of fish with a silver-green or bluish body color. Although some members of the Engraulidae have a maximum length of 23 cm, the name anchovy is

usually given to fish with a maximum length of 5 cm. The snout is blunt with small sharp teeth on both jaws. The main prey of anchovy is plankton.

## 1.2 Definition of Processing

*Processing* is an activity to do or work on an item and so on in order to achieve a perfect form. *Processing* can be defined as the process of making a product from raw materials and originating materials, as well as activities for handling and preserving these products (Winarno F.G, 1994). The following are semi-finished ingredients from fishery products: Sardines, Terasi, Surimi, Fish Fillet, Smoked Fish, Fish Meatballs, Canned Fish, Pressed Milkfish, and Fish/Squid Jerky.

### 1.2.1 Anchovy Processing

Anchovy is usually processed in the form of salted anchovy and fresh anchovy. The difference between the two is that the processing of fresh anchovy does not use salt, while salted anchovy is processed using salt with a ratio of 6 kg of salt to 30 kg of anchovy. Salting is a method of preservation with the principle of penetration of salt into fish meat, and is influenced by various physical and chemical factors, such as diffusion, osmosis, and a combination of chemical and biochemical processes depending on the type of fish.

The drying process in principle is the process of reducing the water content in fish. To prevent bacteria and enzymes from working in fish, in addition to reducing the water content in fish, it is also necessary to control the temperature and RH (Relative Humidity/humidity) of the air in which fish are stored. Some important variables in the fish drying process are temperature, air flow rate and drying time. Fish weight varies. To reduce bacterial and enzyme activity, fish weight should be kept below 30% (Sofyan, 2016).

### 1.2.2 Types of Processed Anchovy

In addition to making salted fish, anchovies can be processed and made into various processed dishes that are delicious, delicious, and nutritious. Here are a number of processed anchovy dishes that can be made:

- Anchovy Sauce

Anchovy chili sauce recipes are also widely liked. In addition to its unique taste and more pronounced spiciness, the anchovy chili sauce is delicious, eaten only with warm rice without other side dishes. It is

even more delicious if this anchovy sauce is mixed with petai, fried peanuts, chili sauce, or green chili sauce.

- Pepes Anchovy

Pepes anchovy is also very famous and liked because it tastes very good. By using spices and additional ingredients needed, Pepes with banana leaves is very distinctive. How to cook it by steaming also keeps the nutritional content of anchovies intact.

- Stir-fried Anchovy

Stir-fried dishes with anchovies are one of the favorite foods of the Indonesian people. Anchovy can also be mixed with other desired ingredients, such as cassava leaves, melinjo skin, or other ingredients. Spicy dishes can also be an exciting option.

- Anchovy Rice

Anchovy is one of the small pelagic fishery commodities that has substantial economic value and contains high protein nutritional value. Anchovy is a perishable food, so it is necessary to do good handling and to maintain a good quality of fish during the procurement process to the production process, for example, by drying fish. Dry (salted) anchovy is a fishery product produced from the salting and drying process, which can extend the shelf life of fish (Laisa, Dkk 2013).

## 2 RESEARCH METHOD

This research conducted by using qualitative research.

### 3.1.1 Data Collection Method

The data writing method used in the preparation of this final project is as follows:

1. The data were obtained by conducting interviews and observations on parties directly involved in the processing of Sebatik Anchovy.

2. Literature Study

Study of literature from libraries and the internet as a comparison and support material as well as an addition to writing.

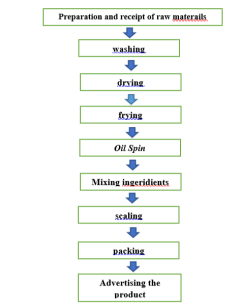
### 2.1 Tools and Materials

Tools used in this study are gas stove, vacuum sealer (plastic press tool), digital scales, frying pan, spatula, knife, blender, clothesline, and oil spinner. Meanwhile, the ingredients used are anchovy, peanuts, standing pouch packaging, shallot/white onion, red chili, sugar, cooking oil, salt, ginger, soy sauce, and flavoring.

### 2.2 Procedure

The stages of working procedures for processing dried anchovy (*Stolephorus SP*) are as follows:

- Receipt raw material for anchovy cleaning of the head and dress.
- The an... using clean water a... the sun for about o... m in a 50 kg skillet f... m heat for the first... ) minutes to get the... ies.
- After fr... ed and then put into... machine to remove... chovy.
- Put the... n containing hot oil over low heat until the aroma is fragrant and the color is slightly reddish/yellowish.
- Add enough seasoning.
- Then the anchovies are put into a 50 kg skillet containing the sauteed spices.
- Then Enter the peanuts that have been fried as much as 25 kg.
- Then stir until the anchovy and peanut sauce are mixed evenly using a spatula.
- Then drain in the prepared container and let stand until cool.
- Then prepare a pack of 150g.
- Put the anchovy into the package and weigh it using a digital scale containing 150g each.
- Then the packaging is pressed using a Vacuum Sealer.
- The product is ready to be marketed.



picture 3.4 dried anchovy processing flow (*Stolephorus SP*)

Filling materials are:

- Anchovy
  - 50 kg of anchovy put in a large frying pan filled with hot oil.
  - Fry using medium heat until the anchovy changes color to a golden brown.
  - Remove and let stand until cool.
- Peanuts
  - Peanuts as much as 25 kg into a large skillet with hot oil.
  - Fried over medium heat until the peanuts turn yellowish.
  - After that, remove and let stand until cold.
- Anchovy Sauce
  - Prepared a blender.
  - Cut the onion/white onion into two parts.
  - Thinly sliced ginger.
  - Cut red chili.
  - Prepared enough flavoring.
  - Put one by one into the blender to smooth the ingredients that have been cut.

- Prepare a container to store the anchovy sauce that has been mashed.

### 3 RESULT AND DISCUSSION

From the results of the study, it can be concluded that the conventional processing of dried anchovy (*Stolpehorus SP*) into finished products includes several stages, namely: Preparation and receipt of raw materials, washing, drying, frying, separating oil (Spin oil), mixing spices, weighing, packaging, and marketing.

Processing of dried anchovy (*Stolephorus SP*) on Sebatik Island, Sungai Pancang with the following procedure:

#### 1. Preparation and Receipt of Raw Materials

The raw material used is anchovy obtained from the fishermen of Bagan. Most of the raw materials obtained are in a dry condition that has removed the clean head (dikope).

#### 2. Washing

The dried anchovies are washed again to remove the dirt that is still attached, and reduce the bacteria present in the anchovy.

#### 3. Drying

Anchovy that has been washed in the sun one to two days of drying.

#### 4. Frying

Anchovy that has been dried in the sun is then fried first in the first stage of frying in approximately 30 minutes to get the crispy taste of the anchovy.

#### 5. Oil Spin Machine

The Spin Oil Machine aims to separate or reduce the oil and water levels in fried anchovies, this machine is very helpful when processing food through the frying process.

#### 6. Mixing spices

The mixing of spices gives a delicious color, taste, aroma to the dried anchovies that are produced.

#### 7. Weighing

Weighing is done to determine the net weight of dried anchovy (*Stolephorus SP*) products.

#### 8. Product packaging

Packaging is a material used to wrap food, whether in direct contact with food or not, creatively designed packaging that relates shape, structure, color, material, writing, and other elements to product

information. One of the packages used for dried anchovy products (*Stolephorus SP*) in Sebatik Island, Sungai Pancang is the Standing Pouch packaging.

#### 9. Marketing

Product marketing is an activity that must be carried out to introduce products more broadly to the public. Marketing must know and understand how to adjust the level of customer desire so that the product can be sold.

## 4 CONCLUSION

Based on the test which already done in previous, it can be concluded that the conventional processing of dried anchovy (*Stolpehorus SP*) into finished products includes several stages, namely: Preparation and receipt of raw materials, washing, drying, frying, oil separation (Spin oil), mixing of spices, weighing, packaging, and marketing.

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