MINISTRY OF
MARINE AFFAIRS AND FISHERIES
REPUBLIC OF INDONESIA

SIMPLE COOKING

FISH RISSOLE

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Training Module

published by

MINISTRY OF
MARINE AFFAIRS AND FISHERIES
REPUBLIC OF INDONESIA

prepared by

The Agency For Marine And Fisheries Research And Human Resources
Center of Training and Extention of Marine and Fisheries
The Institute For Fisheries Training And Extention in Banyuwangi

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PREFACE

Fish is a foodstock that is high in protein. It contains 18% protein consisting of ensential amino acids that do not degrade by cooking. The fat content is 1-20% which is easily digested and can be used directly by body tissues. Most of the fat content is unsaturated fatty acids needed for growth and can lower blood cholesterol. Fish meat has shorter protein fibers than beef or chicken protein fibers. Therefore, fish and their products are used by people who have digestive problems. Vitamins in fish also vary, namely vitamins A, D, Thiamin, Riboflavin, and Niacin. Fish also contains minerals that are more or less the same as minerals contained in milk such as calcium, phosphorus, but higher than milk. Fish are generally thick and white, making it possible to make a variety of processed foods. Fish as food is not only consumed in its original form, but most of it is processed first into various forms and other types of food. Processing is done by adding various types of food additives (diversification of food ingredients). Fish that are used commercially are generally fish that have economic value, while most of them have not been used optimally, such as the use of fish in various processed fish products.

The development of various processed fishery products can be used as an alternative to foster fish consumption habits for the community, as well as an effort to increase the nutritional value of the community. One form of processed fish products is fish risoles. Risoles were formerly called roinsolles which became known in the 13th century. At that time, this food was just a pan cake fried in a frying pan using butter or beef fat/lard. In the next development, this food is then filled with minced meat. In French culinary terms, risseller means to make chocolate.

A rissole is always wrapped in bubble pastry or the like, usually fried, but sometimes baked in the oven. The taste of rissole can be salty or sweet. Sweet taste is obtained by sprinkling it with powdered sugar and complementing it with fruit sauce. Risoles or just risol (English: rissole), are pastries filled with meat, usually minced meat, and vegetables wrapped in an omelette, and fried after being coated in breadcrumbs and beaten egg. The contents of the rissoles can be chicken, beef, fish meat, shrimp, button mushrooms, carrots, potatoes or beans. Omelet dough is made from a mixture of flour, egg yolk, butter (margarine), and water or milk. There are two types of risoles known in Indonesia, namely vegetable risoles mixed with stir-fried meat, and risoles containing "Ragout". Risoles can be eaten with diluted peanut sauce, bottled chili sauce, or cayenne pepper.

Fish rissoles are a diversified product of fish processing made from ground fish meat/ othosimi mixed with spices, vegetables and spices wrapped in skin then panired and fried. This fish rissoles will give you a different dish. The taste will also be very different from the risoles that are generally on the market. The composition of spices and fish that complements it will further add to this one more special meal. Even when you first bite you will become addicted.

I. EQUIPMENT AND INGREDIENTS

1. EQUIPMENT

Equipment Standardization

1. The equipment used is made of materials that are safe for processing and do not contaminate food products (no rust, smooth surface and easy to clean).
2. Equipment used during food processing is in a sanitary condition.
3. Equipment that has been cleaned and sanitized must be stored in a clean place, preferably the surface of the equipment is facing down to protect it from dust, dirt or other contamination.

Equipment Type

- Food processor
- Basin
- Baking trays
- Knife
- Cutting board
- Spoon
- Scales
- Measuring cup
- Mug
- Frying pan/ wok
- Boiling pot
- Drain pan
- Wooden Spatulas
- Stove
- Vegetable spoon
- Teflon diameter 18 cm
- Food thong
- Balon wish/ kocokan telur
- Spatula silicon
- Baking matte
- Blender
- Tissu
- Banana leaves
- Packing box
- Table
- Apron
- Gloves
- Headgear
- Masks

2. INGREDIENTS

Ingredients Standardization

1. Free from microorganisms and parasites that cause food borne illness
2. Foodstuffs still have a shelf life (not expired)
3. Storage of materials and food products in a clean place.
4. Raw materials, food additives (BTP), complementary ingridients and final products must be stored separately.
5. Storage of raw materials and food products must be in accordance with the storage temperature.
6. Materials that easily absorb water should be stored in a dry place such as salt, sugar and powdered spices.
7. Raw materials must be inspected and separated from finished products. Raw materials and fillers should be handled in such a way that they are clean and suitable for food processing and should be stored under conditions that protect them from contamination and minimize spoilage. Raw materials and fillers must not contain microorganisms that can cause poisoning or disease outbreaks for humans

Ingredients Formulation

Fish resoles stuffing :

- Tuna meat : 500 gr
- Carrot : 200 gr
- Potatoes : 200 gr
- Garlic : 60 gr
- Onions : 100 gr
- Celery : 25 gr
- Sugar : 40 gr
- Salt : 10 gr
- Powdered borth : 10 gr
- Pepper powder : 6 gr
- UHT milk : 400 ml
- Margarine : 30 gr (for sauteing)
- Wheat flour : 50 gr (thickener)
- Water : 200 ml (mix with wheat flour)

Ingredients for wrapper :

- Wheat flour : 700 gr
- Egg : 6 eggs
- Powdered borth : 5 gr
- Salt : 5 gr
- Sugar : 10 gr
- Coconut milk : 1400 ml
- Margarine : 20 gr (for coating)
- Cooking oil : 1 liter (for frying)

Ingredients for breading

- Breadcrumbs : 500 gr

Note :

- Butter mix dough : (made from 400 ml of wrapper dough)
- Glue dough : (made from 50 ml wrapper dough)

II. PROCESSING FISH RISSOLE

Fish Ingredients

Basically almost all types of fish can be used. Various types of fish can be used for making fish risoles, especially thick and white fish such as snapper, tuna, marlin and others. To make fish rissoles, you must use fresh and good quality fish. The quality of protein in fresh fish is still high, and its water binding capacity is still good. The most important raw material requirement is the freshness of the fish. The fresher the fish used, the better the quality of the fish risoles produced.

Fish raw materials used must be clean, free from any odor that indicates spoilage, free from signs of decomposition and free from other natural properties that can degrade quality and endanger health. Organoleptically, raw materials must have at least the following freshness characteristics:

Appearence : intact, clean, bright, firm kin, sturdy and strong.
Odor : Fresh and distinct aroma.
Texture : elastic, dense, firm and compact.

According to Ilyas (1983) the main objective of obtaining fish quality is to maintain high freshness and preserve the authenticity of the fish's body color. Rough and careless handling must be prevented and when being loaded onto the ship make sure that the fish do not hit hard objects, do not fall from height, and make sure that the fish experience minimum strugle before its death.

Efforts that can be made to preserve the original color of fish and meat are to make the fish die quietly, to prevent bleeding in the body, to stop the physiological activities of the flesh cells and to destroy the spirial cord. Furthermore, the fish should be protected from the hot sun, and the wind that dries the skin, and immediately cover the fish to keep it moist and cool.

The basic ingredients used in the manufacture of fish risoles is fish meat or fish othosimi.

Othosimi

Othosimi is a processed semi-finished fishery product (Intermediate product) in the form of crushed frozen fish meat that has been leached, salted, polyphosphate, washed, filtered, pressed, packed and frozen. The name othosimi comes from the Japanese language which means crushed meat. Othosimi is usually made from trash fish, namely non-economical types of fish (the price is relatively cheap), white flesh and selected fish with high elasticity properties. Usually, fish that are made into othosimi are kuniran, white / gulamah glass fish and others. However, it is possible to use more expensive fish such as mackerel, red snapper, grouper, snapper. The advantages of othosimi from ordinary fish meat that have not been treated (mince fish) are that the meat is whiter, cleaner, does not smell fishy, is less fibrous, is free from thorns and foreign objects and has high flexibility/elasticity and is shaped like jelly. Therefore, othosimi is also known as jelly fish.

Chicken Eggs

Whole eggs consist of several components, namely 66% water and 34% dry matter which is composed of 12% protein, 10% fat, 1% carbohydrate and 11% ash. Egg yolk is one of the components that contain the most nutrients in eggs. Egg yolks contain about 48% water and 33% fat. Egg yolks also contain vitamins, minerals, pigments, and cholesterol. Eggs have several components in it, namely: 1. Egg white (Thick white) or egg albumen. Egg whites are composed entirely of protein and water. Compared to yellow eggs, white eggs have a very low taste and color. 2. Egg yolk (Yolk) contains wet and solid parts (yolk solid). Egg yolks have a more complete nutritional composition than egg whites and consist of water, fat, carbohydrates, minerals and vitamins.

UHT Milk (Liquid milk)

UHT milk is liquid milk made from fresh cow's milk that has gone through a pasteurization process using an ultra-high temperature processing technique. UHT liquid milk is processed by heating to more than 135 degrees Celsius for 1-2 seconds. The goal is to kill the bacteria contained in the milk without destroying the nutritional content of the milk. UHT liquid milk is a good source of protein, fat, calcium, and vitamin D.

Coconut milk

Coconut milk is a milky white liquid that comes from grated old coconut meat that is moistened / given water before being squeezed and filtered. Its opaque appearance and rich taste are due to its oil content, the bulk of which is saturated fat. Coconut milk is a popular food ingredient in Southeast Asia, South Asia, the Caribbean, and South America. Coconut milk has a fat taste that can be used as a flavoring to make dishes savory. Coconut milk contains three main nutrients, namely fat by 33.80%, protein by 6.10%, and carbohydrates by 5.60%.

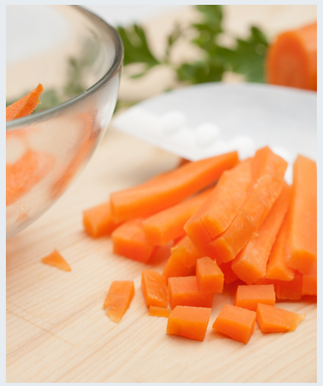
Additive Ingredients

Other additional ingredients are needed to add to the taste of fish risoles so that they are delicious, such as: sugar, salt, pepper powder, powdered broth, garlic, onions and celery.

III. MAKING FISH RISSOLE

1. STUFFING

- Prepare the equipments.
- Weight the ingredients according to the formulation.
- Wash the tuna meat using salt, lime/lemon juice and running water. The use of salt and washing aims to remove dirt, residual blood and fishy odor that is still attached to the fish flesh. Wash the fish 3 times to keep the fish clean. After that drain.
- Put the fish in a food processor and puree the fish meat. If not using a food processor machine, it can be chopped using a knife.



- Peel the potatoes and carrots, then cut them into cubes. Prepare a boiling pot.
- Boil the water, after boiling, boil the carrots and potatoes for ± 5 minutes.
- Lift and drain.
- Add ground fish meat/ othosimi, vegetables (carrots, potatoes and celery), salt, sugar, pepper powder and stock powder. Stir until evenly mixed.
- Enter the milk and flour solution, cook until the filling dough dries.
- Set aside and chill.

2. MAKING WRAPPER

- Prepare a bowl/basin. Pour the flour into, add salt, sugar, powdered broth and coconut milk and stir until it becomes a liquid dough using a whisk.
- Break the the eggs then add them to the risoles wrapper dough, mix well. Set aside 400 ml of dough as butter mixture and 50 ml as adhesive solution to glue the skin/ wrapper when rolling fish rissoles.

- Prepare a flat pan / Teflon + 18 cm in diameter, spread a little margarine on the surface and heat the Teflon.
- Pour 1 tablespoon of the risoles skin dough, shake it left and right to evenly distribute the skin mixture over the entire surface of the pan/Teflon.
- Cook until the surface of the risoles skin looks hard, remove and pour the risoles skin on a tray / baking sheet.
- On the risoles skin, use a banana leaf sheet as an insulator, so that the risoles skin does not stick to one another. Do this until the dough runs out.

Tips for kneading wrapper dough: Use non-stick Teflon and spread margarine on the surface of the Teflon. Do not use too much margarine so that the omelette skin is smooth, not perforated and curly at the edges.

3. SHAPPING (FORMING) THE FISH RISSOLE

- Sheets of fish rissoles that have been molded into shape can be covered with a clean damp cloth to maintain the texture and softness of the skin.
- Prepare a sheet of fish rissole wrapper on the table surface or in a baking matte, pour 2 tablespoons of fish rissole filling on the surface of the wrapper and flatten it slightly wide, fold the fish rissole skin like folding a tube roll until the fish rissoles dough is covered with skin.
- Give a little glue / adhesive mixture at the end of the omelette skin and glue it. We recommend to apply preassure when rolling the fish risoles to make sure that it is compacted and pressed, so that the fish risoles do not deflate when fried.
- The total length of the product is 7-8 cm, the diameter is 2-3 cm.
- Repeat the process for all the ingridients.

4. BUTTERING AND BREADING

- Prepare the butter dough (taken from the skin dough) and the breading ingredients of breadcrumbs.
- Dip fish rissoles in butter solution, roll onto breadcrumbs and repeat for all risoles.
- Heat the oil in a frying pan, fry the fish risoles until cooked (golden yellow color. Try not to flip the fish risoles while frying so that the breadcrumbs don't fall out. Remove and drain. Absorb excess oil with paper towel.

IV. SERVING, PACKING AND STORING

1. SERVING

Fish rissoles are ready to be served with a complement of tomato sauce, chili sauce and mayonnaise.

2. PACKING AND STORING

Fish rissoles can also be stored directly in the freezer with a closed package. Packaging is one way to protect products or preserve food and non-food products. Packaging is not only intended to preserve packaged products, it is also a support for transportation, distribution and is an important part of efforts to overcome competition in marketing.

After the product is frozen, on the way from the product to the final consumer it can experience various forms of physical, chemical and biological damage (eg damage caused by animals or microorganisms).

Packaging with suitable packaging materials is very useful to prevent the drying process (dehydration), especially for frozen products which are very sensitive to drying. Therefore, good and proper storage conditions and packaging techniques are needed. Then the selected packaging material must be adjusted to the properties of the product, the duration of storage and its condition.

Product packaging techniques are as follows: (a). Containers and/or packaging must be designed so that they are attractive, economical, and adequately protect the final product. (b). Containers and/or packaging must be carried out in conditions that can prevent transmission to the product. (c). The container and/or packaging must be as tight as possible, so that there are no air voids between the product and the packaging to prevent surface drying (dehydration). (d). The packaging and or packaging of frozen fishery products in master cartons and cartons must be carried out carefully and so that they are resistant to the effects of loading and unloading treatment. (e). The final product that has been contained and/or wrapped must always be carefully protected against the possibility of transmission and contamination by dirt

Fish rissoles are stored in the freezer at -180C, and can last for ± 6 months.

V. CONCLUSION

Fish rissoles is a product development from processed fish which has a characteristic savory taste, soft and has a crunchy texture due to the addition of breadcrumbs. Fish rissoles are very suitable to be served as a main dish or side dish.
ment of tomato sauce, chili sauce and mayonnaise.

The stages of processing the fish rissoles are as follows: Making Fish Risoles Filling, Making Fish Risoles Skin Forming and Frying Fish Risoles Activities Buttering and Breading Packaging and Storage of Fish Risoles.

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