Applying Sanitation and Hygiene Principles in Fish Karipap Processing

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CHAPTER I
PREFACE

1.1 Backgroud

Foodstuffs are not only consumed in their original form, but most of them are pre-processed into various forms and other types of food. Processing is done by adding different kinds of food (food diversification). If food is not processed further, it will experience changes due to physiological, mechanical, physical, chemical and microbiological influences.

The food processing process must meet food safety aspects, such as being safe, quality and nutritious. In order to produce safe, quality and nutritious food, food producers must implement hygiene and sanitation practices in food processing, namely efforts to control the factors of raw materials, processes, people, places and equipment that can or may cause disease or disturbance. health.

Sanitation and Hygiene is one of the important aspects that can determine the quality of a final product. Sanitation in the food industry, or also known as Food Sanitation, is an effort to prevent the possibility of growth and development of spoilage and pathogenic microorganisms in food, beverages, equipment and buildings that can damage food quality and endanger humans. Hygiene is a preventive health effort that focuses its activities on individual health efforts, as well as human personal health efforts. Hygiene is more aimed at employees.

Fish as a food ingredient in addition to high protein content, also has a high biological value, which is up to 80%, has little binding tissue, generally thick and white flesh, making it possible to make various kinds of preparations.

Commercialized fish are fish that have economic value, while most of the fish have not been used optimally and their added value can be increased by being used as the basic ingredients of processed fish products.

One form of processed fish products is processed from fish meat with additional spices that are quite popular with the public, namely Karipap fish (Fish curry puff).

Karipap is a snack food originating from Maritime Southeast Asia. These are small pies consisting of curry with chicken and potatoes in a deep-fried or baked pastry shell. The curry filling is made thick enough to prevent it from spilling out of the snack.

Karipap or curry puff looks like pastel at first glance, but the skin is layered and the texture is crunchier. As the name implies, the contents of karipap are curry-seasoned potatoes. Karipap skin consists of several layers because one dough after another is paused with fat. After the karipap is fried, the curry puff will be crispier than the pastel texture.

1.2 General Learning Objectives

After completing this lesson, the training participants can understand and know the technology of manufacturing fishery products, especially fish processing into fish curry puffs.

1.3 Specific Learning Objectives

After completing this lesson, the training participants can explain the application of the principles of sanitation and hygiene to raw materials, equipment, workers and the environment, the preparation of tools and materials for making fish curry puffs, the stages of the process of making fish curry puffs and packaging. and storage of fish curry puffs.

CHAPTER II
EQUIPMENTS AND INGREDIENT FORMULATION

2.1 EQUIPMENT

1. Equipment Standard

a. The equipment used is made of materials that are safe for processing and do not contaminate food products.
b. Equipment used during food processing is in a sanitary condition.
c. Equipments that have 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.

2. Types of equipments

a. Baskom/mixing bowl
b. Food Processor
c. Gas stove
d. Table
e. Teflon frying pan
f. Wooden Spatula
g. Drain pan
h. Scraver
i. Bake mate
j. Roliing pin
k. Digital scale
l. Blender
m. knife
n. Cutting board
o. Bowl
p. Apron
q. Table Spoon
r. Tea Spoon
s. Food procesor
t. Plate
u. Tissu
v. Gloves and Masks

2.2 Ingredient formulation

1. Ingredient standard

a) Free from unwanted physical and chemical changes resulting from enzymes, microbial activity, rodents, insects, parasites and damage caused by pressure, cooking and drying.

b) Free from microorganisms and parasites that cause food borne illness.
c) Foodstuffs still have a shelf life (not expired).
d) Storage of materials and food products in a clean place.

2. Ingredient formulation

Stuffing :

- 500 gr minced fish meat
- 200 gr small diced carrot, boiled for 5 minutes
- 200 gr small diced potato, fry untill crisp
- 50 gr spring onions cut into small pieces
- 40 gr mashed red onions
- 20 gr mashed garlic
- 15 gram kemiri (hazelnut)
- 15 gr big red chili
- 5 gr gallagal
- 5 gr turmeric
- 5 gr ginger
- ½ teaspoon pepper powder
- ½ teaspoon coriander powder
- ½ tablespoon salt
- 1 tablespoon of sugar
- ½ teaspoon powdered broth
- 100 ml coconut milk
- 3 lime leaves
- 3 Koja Bay Leaves
- 3 Lemongrass stalks
- 20 gr cornstarch + 100 ml of water: Make a thickener solution
- 1 tablespoon of margarine for sauteing ground spices
- 1 liter of vegetable oil for frying the fish karipap.

Wrapper A (water Dough):

- 250 gr medium protein wheat flour
- 2 teaspoon of tapioca (cassava flour)
- 50 gr butter
- ½ teaspoon of salt
- ¼ teaspoon powdered broth
- ½ teaspoon sugar
- ¼ teaspoon pepper powder
- 2 tablespoon vegetable oil
- 110 ml of water

Wapper B (Oil Dough):

- 180 gr medium protein wheat flour
- 1 teaspoon of tapioca (cassava flour)
- 70 gr Shorthening
- 30 gr butter
- ¼ teaspoon of salt
- ¼ tablespoon of powdered broth
- ¼ tablespoon sugar
- ¼ tablespoon pepper powder

CHAPTER III
APPLYING SANITATION AND HYGIENE

3.1 Applying Sanitation and Hygiene

Food processing industries are trying to find breakthroughs and new innovations in order to survive the ever competitive domestic and international markets. One of the main challenges faced by the national food industry is to create high quality as well as human safe food products that are free from harmful contaminants. Sanitation and hygiene in food products means applying principles of sanitation and hygiene in every stage of the entire food handling process from the beginning of harvest to consumption by humans.

Fish are perishable food that requires precautions by applying strict principles of sanitation and hygiene. Fresh fish that has just been caught must be weeded as soon as possible, and then washed carefully, before being further processed (cooling, freezing, etc.). Food sanitizing may be done through the following methods:

1. Dispose of sources of contaminants in fish such as entrails, gills and all layers of the skin surface.
2. Running the fish under clean water.
3. Using facilities and infrastructure that meet the hygiene requirements.
4. Employing clean and healthy workers.
5. Using preservation methods that do not change the components/nutrients contained in fresh meat.
6. Packaging methods according to the requirements.

Sanitation and hygiene requirements for fishery products are stipulated in the Ministerial Decree of Marine Affairs and Fisheries Number 52A/KEPMEN-KP/2013 concerning Requirements for Quality Assurance and Safety of Fishery Products in the Process of Production, Processing and

Distribution. The requirements for quality assurance and security of fishery products must be applied by every fishery business actor, both individuals and business entities, including cooperatives that carry out production, processing and distribution activities.

CHAPTER IV
PROCESSING FISH KARIPAP

4.1 Karipap fishery (Fish Curry puff)

Oriental cake is a type of traditional Chinese cake with a unique shape and a very thick oriental flavor, because it contains air and oil dough. Water dough is the outer skin dough with the basic ingredients of flour, fat, sugar, honey and water. While the oil dough is a dough consisting of flour and fat.

The difference between Continental pastry and oriental pastry dough is in the water and oil dough. In Continental pastry there is pastry margarine or more popularly known as korsvet. So, the oil dough in oriental pastry works the same as pastry margarine or corsvette in Continental pastry to form layers or sheets of pastry (Ismayani, 2005). Curry puffs are processed with an oriental pastry technique where corsvet is replaced with shortening mixed with margarine and low protein flour. Curry Puff or commonly called dizzy karipap or layered pastel skin is a type of food that is quite popular in Indonesia, Malaysia, Thailand and Singapore.

There are various fillings in the fish curry puff. In general, the main filling ingredients for fish curry puffs are pieces of meat and pieces of potato. The filling in fish curry puffs is classified as not durable because in the manufacture of curry there is coconut milk which is easily damaged. In order for the fish curry puff to last a long time, it must be frozen. Fish curry puff in frozen form will make the dough and fish curry puff filling last longer in storage, and can be used practically and quickly. The process of storing the dough at a low temperature of about -18C. In producing frozen fish curry puff storage matters because in storing frozen food, stability of temperature in the refrigerator (freezer) must be acheived so that the quality of the food is maintained. Similar to frozen fish curry puff, during storage, the temperature of the freezer must be monitored so that the shelf life can be longer and the quality is maintained.

4.2. Ingredients

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.

The main raw material or ingredients used in the manufacture of fish curry puffs are fish meat or fish othosimi. The fish used must be of good quality, white flesh and processed according to the Indonesian National Standard to ensure good quality final products. While supporting ingredients are additional materials needed in the processing process. The main ingredients and supporting ingredients used in the manufacture of fish curry puffs are:

a. Othosimi

Othosimi is a semi-finished processed fishery product (Intermediate product) in the form of crushed frozen fish meat that has been pulverized by leaching, salting, polyphosphate, washing, filtering, pressing, packing and freezing. The name othosimi comes from the Japanese language which means crushed meat. Othosimi is usually made from trash fish, which are non-economical types of fish (the price is relatively cheap), white flesh and fish with high elasticity. Usually, the fish that are often made othosimi such as fish eye shake, kuniran, white / gulamah glass fish and others. However, it is possible to use expensive fish such as mackerel, red snapper, grouper or snapper, but

the selling price would be too high and difficult to market, unless the othosimi factory is located in an area where these fish are relatively cheap.

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 not too fibrous, free from thorns and foreign objects and has high flexibility / elasticity and is shaped like jelly. Therefore, othosimi is also known as jelly fish.

b. 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.

c. Carrot

Carrots are vegetables that contain many beneficial nutrients for all ages, especially for children. Carrots have an important role for the body, because carrots contain alpha and beta carotene. Both types of carotene are important in human nutrition as provitamin A. Beta carotene compounds in the body are converted into vitamin A which plays a role in maintaining defense and immunity, maintaining healthy skin, lungs, and helping the growth of new cells. Carrots are a great source of detoxifying foods that have the ability to regulate imbalances in the body. According to experts, carrots have enough bioactive compounds such as carotenoids and fiber to significantly improve health.

d. Spring onions

Shallots (Allium fistulosum) is one of the plants that is used as a flavoring ingredient as well as food fragrances and a mixture of various dishes. Scallion has a specific aroma so that dishes with scallions have a fragrant aroma and give a more delicious and delicious taste to the dish. The nutritional value of leeks is also high, so almost everyone likes it. The chemical content of leek plants that can be used as an antibacterial is flavonoids, tannins and phenols.

Tannins have antibacterial activity related to the ability to inhibit microbial cells, and interfere with protein transport in the inner layer of bacterial cells, while the mechanism of action of flavonoids as antibacterial is to form complex compounds with extracellular proteins so that they can damage bacterial cell membranes.

e. Wheat flour

Wheat flour is flour made from wheat seeds through a milling process, which is then developed into various types of food. Products that are usually consumed are fish pempek, seaweed noodles, fish cakes, seaweed biscuits and other processed fish. In wheat flour there is gluten, which is a compound in wheat flour that is chewy and elastic. Wheat flour sold in the market consists of several types based on the protein they have, namely: low protein flour, containing between 8-9% gluten protein, medium protein flour with a protein content of about 10-11%, high protein flour with a protein content of 10-11%. 11-13% protein.

4.3 The Process of Making Fish Curry / Curry Puff Fish.

a. Making Fish Curry Puff Wrapper, Stage 1.

1. Wrapper A (water dough) prepare a bowl, add flour, tapioca flour, pepper powder, stock powder, sugar and salt, then mix well. Add the butter using a pastry knife, then mix the dry ingredients evenly until coarse grains are formed. Add cold water and cooking oil, then stir gently with your fingers until the dough can be clumped. Let stand for 15 minutes until the dough relaxes. Cover with plastic wrapping and set aside.
2. Wrapper B (Dough Oil) prepare a bowl, add flour, tapioca flour, pepper powder, stock powder, sugar and salt and mix well. Add the butter and shortening and stir until the ingredients are well blended and the dough can be clumped. Let stand for 15 minutes until the dough relaxes. Cover with plastic wrapping and set aside.

b. Making Fish Curry Puff Wrapper, Stage 2.

1. Prepare the bakemate, sprinkle with a little flour evenly. Open the dough wrapper A, place it on the bakemate, flatten it with a rectangular rolling pin with a thickness of 1 cm and set aside. Open dough wrapper B, place on bakemate, flatten dough B with a rolling pin into a smaller rectangle with a thickness of 1 cm and set aside. Place the dough wrapper B on top of the dough wrapper A, fold the dough like folding an envelope, then roll the dough and flatten it again until it becomes thin with a thickness of 1 cm. Then roll the dough lengthwise and trim. Divide the dough into 24 parts.
2. Place 1 portion of dough on a floured table surface. Roll slowly until flat. Do it slowly and carefully so that the dough does not tear. Arrange the skin dough that has been formed and fill it in a flat pan. Do this until all the dough is used up. The rest of the dough used for printing can be clumped together, rolled out thin and printed.

c. Makin Fish Curry Puff Stuffing

1. Prepare equipment for the process of making fish curry puff. Prepare and weigh the raw materials, according to the predetermined formulation. Ground the curry spices that include shallots, garlic, turmeric, ginger, galangal, candlenut, big chili.

Figure 1 Preparing equipments and ingredients

2. Prepare a frying pan, melt 1 tablespoon of margarine, stir-fry the mashed curry spices, add coriander powder, pepper powder, stock powder, sugar, salt, crushed lemongrass stalks, koja bay leaves, lime leaves, stir until fragrant and turns golden brown. Add the mashed fish meat, mix well untul it forms small granules. Then add carrots, potatoes, stir well then add liquid coconut milk, stir evenly and then add scallions, mix well. Turn down the heat and cook it over medium heat until the water dries up and then remove from the stove.

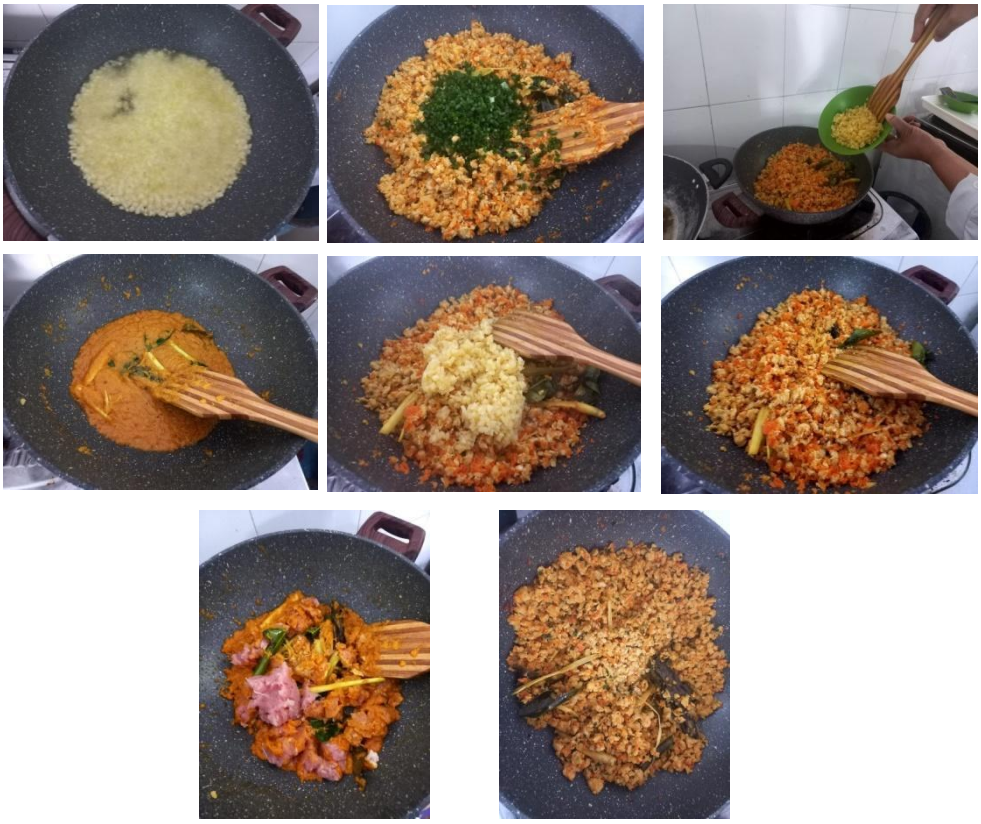

Figure 2 stir-fry the curry stuffing

d. Forming and frying the karipap

1. Satu buah karipap ikan menggunakan satu lembar kulit. Berat kulit total adalah 12-15 gr dengan diameter ± 10 cm.
2. Lembaran kulit karipap ikan yang telah selesai dicetak dapat diletakkan di atas nampan dan ditutup dengan kain basah yang bersih untuk menjaga tekstur dan kelembutan kulit.
3. Siapkan selembar kulit karipap ikan di permukaan meja, tuangkan adonan karipap ikan yang telah ditimbang atau bisa juga menggunakan ukuran dua sendok makan di permukaan kulit dan ratakan agak lebar, lipat kulit karipap ikan seperti melipat setengah lingkaran hingga adonan karipap ikan tertutup kulit. Beri sedikit tekanan pada bagian ujung kulit dan rekatkan. Lakukan hingga semua kulit dan isi karipap ikan habis tercetak. Sebaiknya isi karipap ikan dengan padat dan ditekan pada saat dicetak, agar karipap ikan tidak mengempes ketika digoreng.
4. One fish karipap using one sheet of wrapper. Total wrapper weight is 12-15 g with a diameter of ± 10 cm.
5. Sheets of fish karipap wrapper that have been cut to shape can be placed on a tray and covered with a clean damp cloth to maintain the texture and softness of the skin.
6. Prepare a sheet of fish karipap wrapper on the table surface, pour the fish karipap stuffing that has been weighed or you can also use the size of two tablespoons on the surface of the wrapper and spread it slightly wide, fold the fish karipap wrapper into a semi circle until the fish karipap dough is covered completely. Put a little pressure on the ends of the skin and glue

with egg white. Repeat the process for the rest of the ingredients. It is better to compact the stuffing, so that the fish karipap does not deflate when fried.

Figure 3 forming the karipap

Figure 4 a karipap

7. Heat enough cooking oil in a frying pan, fry until golden brown and turn the fish curry until the color is evenly brown. Try not to press the fish curry with a spatula, so the oil doesn't seep in. Lift and drain. Absorb excess oil with kitchen towel. This fish curry can be served with chili sauce or cayenne pepper.
8. 

Figure 5. Frying and serving the fish karipap

e. Packing and Freezing

All products that will be stored frozen must be packaged in advance in a container that can protect the product from contamination and deterioration. Packing is done in a clean room. Access to the packaging room is restricted to authorized employees only. The packaging is checked for cleanliness before use. For products that have undergone cooking, the temperature should be lowered quickly until it reaches room temperature.

Freezing food is the process of reducing the temperature of food ingredients until the inside of the food has a temperature of no more than -18C. Fish curry can be stored in the freezer if you want to enjoy it another time. The method of storing fish curry in the freezer is done by placing the fish curry in

the freezer in a position that is still arranged on the tray, not stacked on top of each other. For freezing, place the fish curry in a plastic or other airtight container. If you are going to eat it, immediately fry the fish curry in hot oil in a frozen state, no need to thaw. If thawed, the skin of the fish karipap will be wet and perforated.

8.4 Stages of Making Fish Karipap