

Analysis of the application of good manufacturing practices (GMP) and sanitation standard operating procedures (SSOP) for products "*Emping Singkong Super Telur Bu Siti*" in Bantul, Yogyakarta

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ABSTRACT

Cassava (*Manihot esculenta* Crantz) is used by Mrs. Siti to be processed into cassava chips. In processing a food product, it is mandatory to implement employee sanitation and hygiene to ensure food safety. Therefore, it is necessary to evaluate the implementation of Good Manufacturing Practices (GMP) analysis based on the Regulation of the Minister of Industry of the Republic of Indonesia No. 75 of 2010 and evaluation analysis of the implementation of Sanitation Standard Operating Procedures (SSOP) based on Head of BPOM Regulation Number HK.03.1.23.04.12.2207 of 2012 to determine the implementation of GMP and SSOP. The data collection methods used in this practical work report are observation, interviews, and literature studies. The analysis technique is by the fishbone method. The analysis results of GMP implementation show six aspects of critical (critical) deviations, including buildings, materials, final products, employees, and elimination of nuisance pests from processing units. The results of the analysis of SSOP implementation show that there are three aspects that are not in accordance with the provisions, which should include the condition and cleanliness of surfaces in contact with food ingredients, preventing cross-contamination, and eradicating nuisance pests. Based on the results of the fishbone diagram analysis, it can be concluded that there is a need for improvement in the cassava chip production process. Namely, employees are required to wash their hands before and after the production process, clean up trash around the factory, and maintain the cleanliness of raw materials, such as washing vegetables before use. So, there needs to be socialization regarding GMP and hygiene.

Keywords: GMP, SSOP, Sanitation, Hygiene, Fishbone

INTRODUCTION

Good Manufacturing Practices (GMP), also known as Good Processed Food Production Methods (CPPOB), are guidelines that explain aspects of food safety, quality, and nutrition for Home Industries (IRT) to produce processed food that is of good quality, safe and good. For consumption. Law No. 36 of 2009 describes health, which is contained in Article 111 Paragraph (1), which states that food and drinks consumed by the public must be based on health standards and or requirements. The law also explains that food and drinks that are not in accordance with standards and do not meet health requirements are strictly prohibited from being distributed. This rule is in line with the goals of GMP, including informing IRTs of the basics of food safety so that they can implement CPPB-IRT and produce safe and high-quality food products to meet the needs of domestic and international customers (Rudiyanto, 2016).

Sanitation is one of the main components that must be possessed by food businesses in the context of implementing GMP. Sanitation is an effort made to regulate various aspects of the environment that have an impact on humans, especially those that have a negative impact on physical development, health, and the ability to sustain life, as well as efforts so that food, workplaces are free from contamination by bacteria, insects, pests, or animals, other (Hermawan, 2016).

Sanitation Standard Operating Procedures (SSOP) are standard requirements carried out to implement environmental management principles through activities related to sanitation and hygiene. The mandated sanitation program referred to in the SSOP aspect is used by companies to improve product quality and guarantee and provide a food production safety system (Triharjono et al., 2013). SSOP is a documented process or procedure used by industry to help achieve the anticipated overall goal or objective of manufacturing products in a high quality, safe, and organized manner. The main

factor causing health problems or diseases in the body is the food products consumed. Therefore, it is important to prevent food-borne illnesses, one of which is sanitation (Utami et al., 2021). The application of this SSOP is in accordance with the Regulation of BPOM No. HK.03.1.23.04.12.2207 of 2012 concerning Procedures for Inspecting Food Production Facilities for Home Industries (BPOM RI, 2012).

Based on the description above, it is necessary to evaluate the analysis of the implementation of GMP and the analysis of the application of (SSOP in the production of cassava chips at UMKM *Emping Singkong* Super Telur Bu Siti to find out the implementation of GMP and SSOP.

RESEARCH METHOD

Materials

1. Cassava

Cassava is the main raw material used in the *emping* production process. The part of cassava that is often used is the tubers (Rosyidi et al., 2021). Cassava in 100 grams contains an energy of 154 kcal. Cassava also has complete nutrition, which contains 1 gram of protein, 36.8 grams of carbohydrates, 0.3 grams of fat, 77 mg of calcium, 24 mg of phosphorus, 1.15 mg of iron, vitamin B1 0.06 mg, fiber, minerals, potassium, magnesium, vitamin A, water, and vitamin C 31 mg (Septiriyani, 2017). The type of cassava used depends on the supply from farmers, but the most used is glutinous cassava or white cassava.

2. Leek

Leek (*Allium fistulosum L.*) is a type of plant that functions as a flavoring ingredient, can be used as a food fragrance, and is used as a mixture of various types of dishes. Leeks have a distinctive aroma, so dishes that are added to leeks have a better taste (Fera et al., 2019). Leeks are used in the process of making *emping singkong* to add a savory taste to products *emping*

3. Egg

Purebred chicken eggs are used for various kinds of mixtures in food preparations and also have many advantages. Namely, they have a high nutritional content, and the price is relatively lower when compared to other protein sources. Purebred chicken eggs also have many functions in a variety of processing (Rorimpandey et al., 2020). Eggs are added to the process of making *emping singkong*. In addition to improving the taste of chips, eggs also function to control the texture of the cassava chip dough, which will be printed whether the cassava is too dry or too wet.

4. Celery

Celery has a distinctive smell, which is often used as a mixture for various preparations such as meatballs, soup, noodles, soup, and other dishes. According to Adawiyah & Afa (2018). apart from being used as a vegetable ingredient, celery is also popular with Indonesians and foreign countries such as European, American, and Asian countries as an additional ingredient in cooking spices. Celery is used in the process of making *emping singkong* to add a savory taste to the chips.

5. Red chili

Red chili is used to add a spicy taste to cassava chips. Chili is a raw material whose price is quite high at times. The price of *emping singkong* follows the increase or decrease in the price of red chilies.

6. Salt

Salt is used to give a salty taste to cassava chips. The salt used in the process of making *emping singkong* is the iodized salt of the Green Leaf brand.

7. Cyclamate

The artificial sweetener used is a brand of three sugar canes. An artificial sweetener is used because it does not cause the *emping singkong* to burn when fried. The brand of artificial sweetener used is three canes.

Methods

The process of making *emping singkong* is as follows:

1. Peeling cassava.
2. Washing cassava in clean water.

3. Steaming cassava for 2 hours.
4. Pounding cassava.
5. Adding supporting raw materials (red chilies, eggs, leek, celery, salt, and cyclamate).
6. Kneading.
7. Milling.
8. Making *emping*.
9. Drying in the sun.
10. Packaging.

Data Analysis

The data collection method used in this practical work report is the method of observation, interviews, and literature study. The analysis technique is Root Cause Analysis, which is then followed by the Fishbone method.

RESULT AND DISCUSSION

Evaluation of the Implementation of Good Manufacturing Practices (GMP)

GMP is a standard that helps industrial businesses, especially in the food, cosmetic, pharmaceutical, and medical equipment sectors, to improve the quality of their goods, especially regarding the safety and security of people who use or consume their products. GMP affects both aspects of the operational process and the production process. The most important thing in implementing GMP is to prevent product contamination during the production process, provide product information to consumers, and ensure that the product is safe for use or consumption. Physical factors (such as factory buildings, vehicles, machines, and other items used in manufacturing), hygiene factors, and control factors, such as GMP training and evaluation, are all included in GMP control (Rudiyanto, 2016).

The evaluation of the implementation of Good Manufacturing Practices (GMP) in UMKM *Emping Singkong Super Telur Bu Siti* is carried out based on the Regulation of the Minister of Industry of the Republic of Indonesia No. 75 of 2010, which was evaluated based on a table which contains aspects of conformity between conditions in the field and conditions that should be based on aspects of the GMP scope. There are 18 aspects of the scope of Good Manufacturing Practices (GMP) in the CPPOB guidelines covering the requirements applied in the food processing industry, which can be seen as a whole in Appendix 5 covering location, building, sanitation facilities, machinery and equipment, material, process monitoring, final product, laboratory, employees, packaging, product labels and descriptions, storage, maintenance and sanitation program, freight, documentation and record keeping, training, product withdrawals, implementation of guidelines (Kemenperin RI, 2010).

Evaluation of inappropriate aspects of the scope of Good Manufacturing Practices is carried out based on the criteria set out in the CPPOB guidelines by the Regulation of the Minister of Industry number 75/M/IND/PER/7/2010, namely in the following categories:

1. Noodle deviation (minor) = Requirement "can," i.e., explaining if it is not fulfilled, it has the potential that does not affect product safety
2. Noodle deviation ma (major) = Requirement "should," i.e., explains if it is not fulfilled, it will have the potential to affect food safety.
3. Noodle deviation kr (critical) = Requirements "must," i.e., explain if not fulfilled, will affect product safety directly.

Based on the aspects of Good Manufacturing Practices (GMP), the results of the evaluation were obtained based on observations made in UMKM *Emping Singkong Super Telur Bu Siti*, which is shown in Table 1. It is known that there are six aspects of Good Manufacturing Practices (GMP) categorized as having a critical deviation of "must" requirements, explaining if it is not fulfilled, it will affect product safety directly. These aspects include location, the production environment is close to cowsheds and chicken coops, and there is garbage piled up around the production site. Industrial or commercial activities can contaminate processed food, and in Point 3) The factory environment and production site must be clean from scattered trash and unused goods.

Table 1. Observation of Good Manufacturing Practices (GMP) Deviations in *Emping Singkong* Production.

| No | GMP Aspect | Deviation | Deviation Category |
|----|------------------------------------|---|--------------------|
| 1 | Location | The production environment is adjacent to the cowshed and chicken coop | Critical |
| | | There is garbage piled up around the production site | Critical |
| 2 | Building | The production site is wide, and production is carried out outdoors/in open space. | Critical |
| 3 | Sanitation Facilities | Lack of means for cleaning equipment | Major |
| 4 | Machinery and Equipment | The milling machine and other equipment are located outdoors | Major |
| 5 | Ingredients | Supporting raw materials (celery, green onions, chilies) do not go through the washing process. | Critical |
| 6 | Process Monitoring | Not equipped with detailed production process instructions, types and quantities of materials, and other necessary information | Major |
| 7 | The final product | There is a moldy final product because the drying is not optimal, and it is constrained by rainy weather. | Critical |
| 8 | Laboratory | Does not have a laboratory | Major |
| | | Can use government or private laboratories | Minor |
| 9 | Employee | Employees do not use head-covering gloves in carrying out the production process. | Major |
| | | Employees eat and talk during the production process | Critical |
| 10 | Packaging | The packaging uses PP-type plastic, which, if exposed to excess pressure, can be destroyed. | Major |
| 11 | Product Labels and Descriptions | Labels are not made in different shapes for each product variation | Major |
| 12 | Storage | Storage of raw materials is placed on the floor | Major |
| 13 | Maintenance and Sanitation Program | Production equipment is not cleaned and washed to remove dirt | Critical |
| 14 | Freight | The transport container uses the same container | Major |
| 15 | Documentation and Record-keeping | Do not have complete and structured documentation and records regarding cleaning activities and other provisions related to the production process. | Major |
| 16 | Training | Lack of training and coaching regarding GMP | Major |
| 17 | Product Withdrawal | There is no product withdrawal process | Major |
| 18 | Implementation of Guidelines | The implementation of CPPOB has not been maximized | Major |

Building, namely production carried out outside the room/open space, not in accordance with the aspect c. Room construction must be made of materials that are easy to maintain, clean, or disinfect. The structure of the space for the food processing factory/production place consists of work surfaces, walls, roofs, floors, doors, windows, ventilation, and glass materials. Materials, namely supporting raw materials (celery, green onions, chilies), do not go through a washing process. This is not in accordance

with the aspect of material requirements. Point 3) The materials used must not be harmful or harmful to health and meet quality standards or requirements that have been set.

The final product, namely a final product that is moldy due to non-optimal drying and is constrained by rainy weather, does not comply with the aspects of the final product requirements in point 1) The final product must meet the requirements set by the competent authority and must not be detrimental or harmful to the health of consumers.

Employees, namely employees eating and talking during the production process, are not in accordance with the aspects of employee requirements. Point 4) Employees must wash their hands before doing work and may not eat, drink, spit, smoke, or carry out other actions around the production site, which can result in contamination of the product.

Maintenance and sanitation program, i.e., production equipment is not cleaned and washed to remove dirt, not in accordance with the aspects of machine cleaning and sanitation point. a) Machinery and production equipment that are directly related to materials and products must be cleaned and sanitized regularly. Improvements to the conditions in these six aspects need to be followed up immediately so that product safety and quality are maintained. This condition is evaluated based on the points contained in the GMP aspect in Appendix 5, namely based on the criteria set out in the Regulation of the Minister of Industry number 75/M/IND/PER/7/2010.

Root Causes Analysis (RCA) and Cause and Effect Diagram Analysis (Fishbone)

Root Cause Analysis (RCA) is a problem-solving technique that seeks the root cause of a problem or unexpected event. Root cause analysis is a technique to help determine "what happened," "how it happened," and "why it happened." The main objective of this method is to pinpoint variables expressed in terms of nature, magnitude, location, and time because of certain routines, behaviors, and circumstances that need to be changed to prevent unnecessary errors (Wibowo et al., 2018). The analysis technique with Root Cause Analysis for the kr (critical) category is carried out to find the root cause of the problem using the Fishbone method.

Kaoru Ishikawa developed the fishbone diagram, otherwise known as the Ishikawa diagram, which is one of the seven basic methods of quality control. In a brainstorming session, the possible causes of the problem are identified using Ishikawa diagrams, a reactive risk management technique. The advantages of Ishikawa diagrams include making cause and effect diagrams easy to read so that people are more willing to use the technique, identifying significant root causes of problems, increasing productivity, and improving internal and external communication (Hisprastin & Musfiroh, 2020).

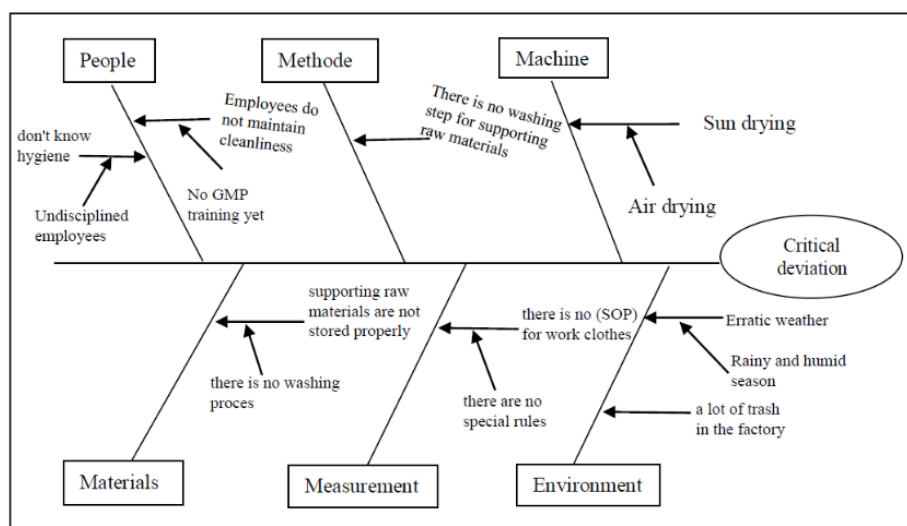


Figure 1. Fishbone Diagram.

Based on the results of evaluating the discrepancies in these aspects, then look for the root causes that cause these aspects to be categorized as critical deviations with a fishbone diagram. There are six aspects of critical deviation. All categories of critical deviation that have been described in the fishbone diagram will be analyzed to obtain a recommendation for improvement. The results of the fishbone

diagram analysis can be seen in Figure 1. Fishbone analysis of kr (critical) deviation categories based on Table 1, namely aspects of location, buildings, materials, final products, employees, maintenance, and sanitation programs.

Recommendations for Improvements Regarding Implementation of Good Manufacturing Practices (GMP)

Recommendations for Improvements Regarding the Implementation of Good Manufacturing Practices (GMP) for deviations from the kr (critical) category based on fishbone analysis, including:

1. Provide counseling on GMP implementation to business owners and employees.
2. Clean up trash and items that are piled up around the production site and move unused items to the warehouse to keep the production environment clean.
3. Providing facilities for cleaning materials, namely supporting raw materials (celery, leeks, chilies) so that they go through a washing process to remove dirt before being used for the cassava chips production process.
4. Providing a means of baking machine as a drying tool if it is constrained by the rainy season because there is no sun heat, and the chips cannot dry optimally so that the products are moldy and do not sell moldy final products.
5. Business owners make SOPs for work clothes and make agreements with workers to wear attributes such as head coverings, masks, and gloves to create hygienic and quality products.

Implementation Evaluation Sanitation Standard Operating Procedures (SSOP)

Sanitation Standard Operating Procedures (SSOP) is a standard procedure implemented to implement environmental management principles through activities related to sanitation and hygiene. In this scenario, SSOP turns into a regulatory sanitation program for an industry to improve output quality and ensure food safety systems. As the main requirement for sanitation and its implementation, the sanitation principles that will be applied in the SSOP are divided into 8 aspects (Triharjono et al., 2013).

The purpose of implementing SSOP is to ensure product quality, guarantee basic food safety controls, and minimize product contamination. The evaluation was carried out by comparing the conditions in UMKM *Emping Singkong* Super Telur Bu Siti in accordance with BPOM Regulation No. HK.03.1.23.04.12.2207 of 2012 concerning Procedures for Inspecting Household Industry Food Production Facilities (BPOM RI, 2012). The description of the SSOP aspect is as follows:

1. Water safety

The source of clean water used for the production process should be sufficient and meet the requirements for the quality of clean water and drinking water. The water used for the production process must be clean water and preferably in sufficient quantities to meet all needs in the production process.

2. Condition and cleanliness of surfaces in contact with food

All tools and equipment that meet food must be designed and made of materials that are easy to clean. All fixtures and equipment used must be cleaned using an effective method.

3. Prevention of cross-contamination

Workers may not wear jewelry during the production process; Workers are prohibited from talking to other workers during the production process; Workers must wear masks, head coverings, and gloves.

4. Maintain handwashing, sanitation, and toilet facilities.

Sanitation and handwashing facilities must be easily accessible to workers; the Provision of hand dryers Provision of toilets must be sufficient and suitable for the number of workers and must always be kept clean.

5. Protection from contaminants

Each food and non-food material must be protected from physical, chemical, and biological contamination. Trash bins can accommodate waste from the production process and are placed far from the production site. The use of chemicals must follow the rules of use that have been determined.

6. Proper labeling, storage, and use of toxins
 Food and non-food materials must be stored separately to avoid contamination; Packaging must be able to protect the product from physical, chemical, and biological contamination.
7. Monitoring of personnel health conditions that may lead to contamination.
 Workers who are sick or injured can be a direct source of contaminants in all processes, including processing, packaging, and the final product, and are not allowed to work until conditions are normal.
8. Eliminate nuisance pests from the processing unit.
 The production site must be able to protect products from dirt, dust, and other contamination during the production process. Production rooms, warehouses, and other rooms must be free from insects, pests, and roaming animals such as rats, cats, chickens, and others.

The results of the SSOP implementation were obtained based on the results of direct observation and interviews with the owners of MSME *Emping Cassava*. Overall, they do not yet have complete facilities to support the implementation of SSOP aspects.

Table 2. Implementation Evaluation Sanitation Standard Operating Procedures (SSOP) in UMKM *Emping Singkong Super Telur Bu Siti*.

| No | SSOP | Conditions in the Field | Condition Should | Suitability |
|----|--|---|--|---|
| 1 | Water safety | Water used for production processes such as washing cassava and steaming cassava uses water from wells. | The source of clean water used for the production process should be sufficient and meet the requirements for the quality of clean water and drinking water. The water used for the production process must be clean water and preferably in sufficient quantities to meet all needs in the production process. | In accordance with the conditions, that should be because the water from the well is also used for drinking water. |
| 2 | Condition and cleanliness of surfaces in contact with food | <ol style="list-style-type: none"> a. The knife used to cut raw materials uses b. iron c. The mat used for drying the chips uses clean, clear plastic d. There are several tools that are not cleaned before and after the production process | <ol style="list-style-type: none"> a. All tools and equipment that come into contact with food must be designed and made of materials that are easy to clean. b. All fixtures and equipment used must be cleaned using an effective method. | There are points that are not in accordance with the conditions they should be. Namely, There are several tools that are not cleaned before and after the production process. |
| 3 | Prevention of cross-contamination | <ol style="list-style-type: none"> a. Workers do not use jewelry and other accessories during the production process | <ol style="list-style-type: none"> a. Workers are not allowed to wear jewelry during the production process b. Workers are prohibited from chatting with each other and talking to | There are points that are not in accordance with the conditions they should be, namely: <ol style="list-style-type: none"> a. Workers talk during the |

| No | SSOP | Conditions in the Field | Condition Should | Suitability |
|----|--|---|---|--|
| | | <ul style="list-style-type: none"> b. Talking during the production process c. Workers do not use head coverings, masks and gloves | <ul style="list-style-type: none"> other workers during the production process c. Workers must wear masks, head coverings and gloves | <ul style="list-style-type: none"> production process, which should be prohibited during the production process b. Workers do not use head coverings, masks, and gloves, which should be mandatory |
| 4 | Maintain handwashing, sanitation and toilet facilities | <ul style="list-style-type: none"> a. Sanitation and handwashing facilities are located around the production site and are easy to reach b. There is one toilet facility sufficient for the number of workers | <ul style="list-style-type: none"> a. Sanitation and hand washing facilities must be easily accessible to workers b. The provision of toilets must be sufficient for the number of workers and must be kept clean | <p>In accordance with the conditions that should be, i.e.</p> <ul style="list-style-type: none"> a. Sanitation and handwashing facilities are easily accessible b. Provision of toilets sufficient for the number of workers |
| 5 | Protection from contaminants | <ul style="list-style-type: none"> a. Food and non-food materials are stored in different places b. The waste collection site is far from the production site | <ul style="list-style-type: none"> a. Each food and non-food material must be protected from physical, chemical, and biological contamination b. Trash bins can accommodate waste from the production process and are placed far from the production site. d. The use of chemicals must follow the rules of use that have been determined. | <p>In accordance with the conditions, it should be ie</p> <ul style="list-style-type: none"> a. Food and non-food materials are stored in different places b. The waste collection site is far from the production site |
| 6 | Proper labeling, storage, and use of toxins | <ul style="list-style-type: none"> a. Labeling is sufficient to meet the standards, including product name, P-IRT number, composition, production location, and flavor variants. | <ul style="list-style-type: none"> a. Food and non-food materials must be stored separately to avoid contamination; b. Packaging must be able to protect the product from physical, chemical, and biological contamination. | <p>In accordance with the conditions, it should be</p> |

| No | SSOP | Conditions in the Field | Condition Should | Suitability |
|----|--|--|---|---|
| | | b. The packaging uses PP-type plastic, which is glued with an impulse Sealer machine to protect the product. | | |
| 7 | Monitoring of personnel health conditions that may lead to contamination | Workers who are sick, injured, and unable to attend for some reason do not go to work and have permission. | Workers who are sick or injured can be a direct source of contaminants in all processes, including processing, packaging, and the final product, and are not allowed to work until conditions are normal. | In accordance with the conditions, it should be. Namely, workers who are sick do not enter until their conditions are normal. |
| 8 | Eliminate nuisance pests from the processing unit | a. The production area is outdoors, so the chickens can roam b. There is no periodic checking of pests | a. The production site must be able to protect products from dirt, dust, and other contamination during the production process b. Production rooms, warehouses, and other rooms must be free from insects, pests, and roaming animals such as rats, cats, chickens, and others | Not in accordance with the conditions, it should be a. production place outdoors so easily b. contaminated c. There is no checking for insects and pests |

Based on Table 2, it is known that there are three aspects of the implementation of *Sanitation Standard Operating Procedure (SSOP)* that have not been implemented properly or are not in accordance with the conditions that should be. The first aspect is the condition and cleanliness of surfaces that met food ingredients, such as there are several tools that are not cleaned before and after the production process. This is not in accordance with the conditions it should be. Namely, all fixtures and equipment used must be cleaned using an effective method based on conditions in the field that can affect the quality of the final product. The second aspect is the prevention of cross-contamination. There are several points that are not in accordance with the proper conditions, such as workers chatting with each other and talking to other workers during the production process and workers not using head coverings, masks, and gloves. This is not in accordance with the proper conditions. i.e., workers are prohibited from talking during the production process, and workers are required to wear head coverings, masks, and gloves. Based on the conditions in the field, it can affect the sanitation and hygiene of the production process. The last one is eliminating pests from the processing unit because the production site is open outdoors so that chickens can roam in the production area and contaminate the product, and there are no periodic checks for pests. This is not in accordance with the conditions it should be. Namely, the production site must protect the product from dust, dirt, and other contamination when production takes place, and the production room, warehouse room, and other rooms must be free from insects, pests, and animals that roam around, such as rats, cats, chickens, and others. Conditions in the field can cause product contamination directly because open environmental conditions cause dust and dirt to easily contaminate products, and roaming animals can directly affect products.

Recommendations for Improvements Regarding Implementation Sanitation Standard Operating Procedures (SSOP)

Recommendations for improvement related to the implementation of the Sanitation Standard Operating Procedures (SSOP) that have been evaluated are:

1. Designing SOPs for cleanliness of production equipment and providing education regarding the importance of cleaning tools before and after being used for the production process to maintain the cleanliness of production equipment so that pollution and contamination do not occur.
2. Business owners urge employees to use completely hygienic clothing to prevent cross-contamination due to mutual chatting and talking with other workers during the process. Production takes place, and workers do not use head coverings, masks, and gloves. This can affect the sanitation and hygiene of the production process.
3. Business owners make boundaries for the production area so that no chickens and other animals can roam around the production area and carry out periodic checks on the insects, pests, and animals that roam around, such as rats, cats, chickens, and others, to ensure that nothing enters the production area.

CONCLUSION

In the application of Good Manufacturing Practices (GMP), there are still six aspects of critical deviations from the "must" requirements, namely explained that if it is not fulfilled, it will affect product safety directly, including location, building, materials, final product, employees, and eliminating pests from processing units. In the application of Sanitation Standard Operating Procedures (SSOP), there are three aspects that have not been carried out according to the conditions they should be, including the condition and cleanliness of surfaces in contact with food ingredients, prevention of cross-contamination, and removal of nuisance pests from the processing unit. Recommendations for improvement related to the implementation of GMP are holding counseling on application, cleaning up piled-up waste, providing oven-machine facilities and business owners making SOPs for work clothes. Then, recommendations for improvement related to the implementation of SSOP are designing SOPs for the cleanliness of production equipment, urging the use of complete hygiene clothing, and making boundaries for the production area.

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