

Republic of the Philippines  
DEPARTMENT OF AGRICULTURE  
Diliman, Quezon City

FISHERIES ADMINISTRATIVE)  
ORDER NO. 211 :  
Series of 2001 )

SUBJECT : Requirements for pre-processing and processing plants, the SSOP thereof and the processing and quality requirements for shellfish

Pursuant to Section 62 of R.A. 8550 in relation to the GATT-WTO Agreement on Sanitary and Phytosanitary Measures and the FAO Code of Responsible Fisheries, this guideline on the requirements for pre-processing and processing plants for shellfish, the Sanitation Standard Procedure thereof and the processing of shellfish is hereby promulgated for the information and guidance of all concerned.

**SECTION 1. Definitions of Terms.**- For purposes of this Order, the following definitions shall apply:

- a. *Approval Number.* – A number assigned to a pre-processing plant certifying to its compliance with the requirements established by the BFAR.
- b. *Faecal coliform.* – Aerobic, gram-negative, non-spore forming rod-shaped bacteria present in the guts of animals and human beings that can pose food safety problem.
- c. *Good Manufacturing Practices (GMP).* – Practices and procedures implemented in processing plants to ensure product safety, product quality and prevention of economic fraud.
- d. *Hazard Analysis Critical Control Point (HACCP).* – A preventive food quality management system in the production and processing that identifies, evaluates, and controls hazards which are significant to food safety.
- e. *Pre-processing plant or establishment.* – A facility where preliminary processing or preparation of product is undertaken.
- f. *Processing.* – The act of subjecting shellfish to steaming, boiling, freezing or packing in hermetically sealed container and to heat treatment prior to consumption.
- g. *Shellfish.* – All species of univalves and bivalves which are filter feeders such as lamellibranch mollusks such as gastrophods.
- h. *Standard Sanitation Operating Procedures (SSOP)* – are the set of practices, procedures, and rules designed for the promotion and maintenance of health and cleanliness in the processing plant.

- i. *Self-cleaning.* – Soaking live shellfish in clean seawater for 12 hours or more to remove dirt, mud and sand.

**SECTION 2. Requirements for pre-processing and processing establishment.**

– Pre-processing and processing establishment for shellfish shall comply with the following minimum requirements in addition to the environmental regulations:

a. *Premises.*

- 1) Premises and surroundings shall be free of animals, rodents, garbage and other potential sources of contaminations or pollutants;
- 2) Proper drainage for wastewater shall be provided.

b. *Physical facilities and equipment.*

- 1) Adequate working area for processing under sanitary and hygienic conditions;
- 2) Design and layout shall be in such a way that clean and dirty parts of the operation shall be separated to prevent contamination of the product.
- 3) Processing plant shall comply with the following:
  - a) Flooring shall be made of concrete or waterproof material; properly sloped to facilitate the flow of liquid waste; floor surfaces smooth, clean and sanitized before and after operation; free from cracks and crevices; drainage canal provided with cover.
  - b) Walls shall be made of smooth concrete; cleaned and sanitized regularly at pre-determined time; and free from gaps and openings.
  - c) Entrance/exit doors shall be provided with plastic curtains or screen and swinging outward; and properly maintained.
  - d) Ceiling or roof linings designed for easy cleaning and properly maintained;
  - e) Properly illuminated; all lights at the working area shall be provided with covers that are easily cleaned and well maintained.
  - f) Exhaust fan or similar device to extract hot air or steam during cooking/steaming shall be provided.

**SECTION 3. Requirements for Sanitation Standard Operating Procedures (SSOP) in pre-processing and processing plants.**

- a. Safety of Water and Ice Used.

- 1) Water for processing used in cooking and steaming shall be potable, clean or bacteriologically safe and free from faecal coliform.
  - 2) Free chlorine level of 1 to 1.5 ppm shall be monitored and recorded at least twice a day.
  - 3) Water from approved or government source shall be analyzed for microbial safety at least twice a year; monthly for deep well or private source and record thereof be kept and made available for verification during inspections;
  - 4) Water for ice making shall be potable and microbiologically acceptable. Ice purchased from private sources shall be analyzed to determine its acceptability. Processors shall also conduct a quarterly laboratory analysis of its ice used and record thereof shall be kept and made available during inspection.
  - 5) Deep well source shall be provided with cover to prevent entry of dust and extraneous materials that might contaminate the water.
- b. Condition and cleanliness of utensils/equipment and working clothes of workers.
- 1) All equipment such as cooking or steam vat, shucking utensils, working tables and other containers used shall be of food grade material and shall be cleaned and sanitized before and after use;
  - 2) Equipment and utensils used shall be free from rust and kept well maintained;
  - 3) Handles of shucking/shelling knives shall not be made of wood, non-corrosive, cleaned and sanitized before and after operation;
  - 4) Workers shall wear clean and appropriate working clothes;
- c. Prevention of cross-contamination on shell meat, packaging materials and other contact surfaces.
- 1) All workers shall wash their hands before starting to work, after toilet use, after touching dirty objects, and after each work break;
  - 2) All food contact surfaces shall be properly cleaned and sanitized before and after use.
  - 3) Packaging materials used shall be properly stored and protected from contamination.
  - 4) Only clean packaging material shall be used.
  - 5) Chlorinated hand dip shall be provided inside the working area with the free chlorine concentration of 5 to 10 ppm and monitored at pre-determined time.
- d. Maintenance of hand washing, sanitizing and toilet facilities.
- 1) Entrance into the processing area shall be provided with footbath and hand washing/sanitizing facilities with free chlorine concentration of 150 to 200 ppm.

- 2) Toilet and hand washing facilities shall be provided with faucets (not hand operated) and liquid soap.
  - 3) Chlorinated hand dip shall be provided inside working area with free chlorine concentration of 5 to 10 ppm; monitored at pre-determined time; and records kept and made available during inspection.
  - 4) Adequate number of flushable toilet bowls shall be provided; cleaned and sanitized.
  - 5) Toilet doors swinging outside; floors should be provided with drainage.
- e. Protection of packaging material and contact surfaces from adulteration.
- 1) All packaging material shall be properly stored separately from other cleaning and toxic compounds; protected from dust and dirt and not in direct contact with the floor;
  - 2) All food contact surfaces shall be non-corrosive, cleaned and sanitized before and after use.
- f. Proper labeling, storage and use of toxic compounds.
- 1) Cleaning, sanitizing and toxic substances shall be correctly labeled and properly stored.
- g. Control of employees' health and conditions.
- 1) Workers shall undergo medical check-up before employment; record thereof shall be made available for verification by inspectors.
  - 2) Annual medical check-up shall be required.
  - 3) Workers shall have short, clean and unpolished fingernails.
  - 4) Workers with hand cuts or wounds shall not be allowed to work.
  - 5) Eating, drinking, and smoking shall be prohibited in the pre-processing and processing plants.
  - 6) Spitting can be done in properly designated area.
- h. Exclusion of pests and animals.
- 1) Pre-processing plant shall be properly enclosed to prevent entry of pests, animals, insects and rodents.
  - 2) Pest control program shall be established and implemented;

**SECTION 4. Requirements relating to pre-processing plant.** – Pre-processing plant where preliminary preparation or processing are undertaken prior to transport to the main processing plant shall be approved by BFAR based on the following:

- a. The pre-processing plant shall comply with the provision of Sections 2 and 3 of this Order;
- b. An approval Number shall be assigned by BFAR for each pre-processing plant that has complied with the requirements.
- c. Pre-processing plants owned and managed by an accredited processing plant manufacturing the final product shall no longer be required to have an Approval Number, Provided, it has complied with the requirement of Sections 2 and 3 of this Order.
- d. Health control and monitoring during the processing shall be established and implemented by trained personnel and workers.

**SECTION 5. Requirements in the processing of shellfish.** - Shellfish transported to the pre-processing plant shall be prepared or processed immediately and shall comply with the following:

- a. Only shellfish that are packed in clean containers shall be accepted and shall be inspected upon arrival.
- b. Grading shall be sorted immediately; dead, damaged shells, and other extraneous materials such as barnacles and other species shall be removed and discarded.
- c. Grading according to size and species shall be done in a sanitary and hygienic manner without delay.
- d. Shellfish shall be washed in sanitary and hygienic manner to remove dirt and adhering mud.
- e. Shellfish such as nylon shell, abalone, and scallops shall be soaked in clean seawater or potable water with salt added (3% brine) for adequate period of time (overnight) for self-cleaning.
- f. Water temperature shall be maintained between 3 degrees Celsius and 7 degrees Celsius; monitored at pre-determined time, and record thereof kept and made available during inspection.
- g. Water shall be cleaned as frequently as necessary to eliminate dirty and other extraneous materials.
- h. Equipment shall be of food grade material, easy to clean, sanitize, and properly maintained.

**SECTION 6. Requirements relating to raw and cooked shell meat.** - Shellfish intended for pre-processing, as raw and cooked meat shall comply with the following requirements:

- a. Cooking or heat treatment intended to relax the adductor muscles for easy shucking shall comply with the following:
  - 1) Water used for cooking shall be potable.
  - 2) The time and temperature for cooking shall be dependent on the species and size.
  - 3) Cooking shall be followed by rapid cooling until the internal temperature of the meat is 7 degrees Celsius within two (2) hours.

- 4) Cooking and cooling temperature shall be monitored and recorded at pre-determined intervals; and record thereof shall be kept and made available for verification during inspection.
  - 5) Cooking utensils shall be of non-corrosive material; well maintained; cleaned and sanitized before and after use.
  - 6) Steaming/cooking shall be carried out in sanitary and hygienic conditions.
- b. Shucking to remove meat from shell shall comply with the following requirements:
- 1) Shucking shall be carried out under sanitary and hygienic conditions; equipment and utensils made have approved food grade materials; cleaned and sanitized before and after use.
  - 2) Workers shall always wash their hands at frequent intervals as necessary;
  - 3) Cooked meat shall be kept chilled at a temperature between 4 degrees Celsius to 0 degree Celsius. Time and temperature monitored and recorded; and record thereof kept and made available for verification during inspection.
  - 4) Shells and other waste materials shall be disposed of as frequently as possible.

**SECTION 7. Requirements relating to the processing of shellfish products.** – Processors shall develop and implement a Hazard Analysis Critical Control Point (HACCP) system in the processing of shellfish products.

- a. Frozen shellfish products shall comply with the following requirements:
- 1) Shell meat intended to be frozen or quick-frozen shall comply with the quality requirement of Sections 6 and 8 of this Order.
  - 2) Sterilization in hermetically sealed containers shall comply with the following requirements:
    - a) Potable water shall be used.
    - b) Retorting and heat treatment shall be based on internationally approved process schedule. Records of heat treatment, temperature and fill-in weight shall be monitored and records shall be kept and made available for verification during inspection by BFAR.
    - c) Retort equipment shall be equipped with device to monitor temperature and pressure, and installed in a place accessible for reading.
    - d) Samples shall be drawn from each production date and subjected to incubation test and microbial test in an approved laboratory, and record shall be kept and made available for verification during inspection by BFAR.

- e) Can code or marks shall be assigned per batch to identify the lot of the products.
- f) Checks for can integrity shall be carried out including visual check for external can damage.

**SECTION 8. Quality requirements for shellfish.** – Shellfish intended for export and for domestic consumption shall comply with the following requirements:

a. Acceptable microbiological levels:

1) **Fresh/Frozen Meat:**

Aerobic plate count (APC) – 500,000/g sample  
Escherichia coli - 16 MPN/g sample  
Salmonella - absent in 25 g sample  
Shigella - Negative  
Vibrio Cholera - Negative

2) **Cooked Frozen Meat:**

Aerobic plate count (APC) – 500,000/g sample  
(35 degrees to 37 degrees Celsius incubation)  
Salmonella - absent in 25 g sample  
Staphylococcus - 1000/g  
Escherichia coli - 11 /g

3) **Canned product:**

Anaerobic count - negative in 25g sample  
(Incubation at 37 degrees Celsius for 10 days)

b. Acceptable level of PSP toxins:

PSP toxin - 40 microgram/100g meat

c. Chemical contaminants:

Mercury - 0.5 ppm  
Lead - 0.5 ppm  
Cadmium - 1.0 ppm  
Tin - 200.0 ppm

**SECTION 9. Requirements in the inspection of pre-processing and processing plants.** – Approved pre-processing and processing plants for shellfish shall be inspected at regular intervals to include:

a. Verification of compliance to the provisions of this Order.

- b. Monitoring of the processing of shellfish pursuant to the provisions of this Order.
- c. Verification on the traceability of the final product to include the identification and marking.

**SECTION 10. Local Legislation.** - The LGUs shall, by appropriate ordinance, penalize the following prohibitions:

- a. Operation of a pre-processing plant without a valid Approval Number issued by the Bureau of Fisheries and Aquatic Resources; and/or found not in compliance with the minimum requirements therefor, notwithstanding any license issued by the local government unit concerned or other government agencies;
- b. Processing of shellfish products without a valid and approved Hazard Analysis Critical Control Point (HACCP) System, a food safety control program verified and properly implemented and has not complied with the minimum requirements of Sections 2 and 3 of this Order.
- c. Processing of shellfish products that are found to contain and/or contaminated with toxins, microorganisms and chemicals injurious to human health.

**SECTION. 11. Effectivity.** - This Order shall take effect fifteen (15) days after its publication in the Official Gazette and/or in two (2) newspapers of general circulation and fifteen (15) days after its registration with the Office of the National Administrative Register.

(Signed)  
**LEONARDO Q. MONTEMAYOR**  
Secretary

Recommended by:

(SIGNED)  
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