

JIFSAN Good Aquacultural Practices Program

Standard Operating Procedures





Standard Operating Procedures

Standard operating procedures explain how an aquaculture company implements steps to assure the safety and quality of its products. They describe how Good Aquaculture Practices (GAQPs) are implemented, including the U.S. Good Manufacturing Procedures and other prerequisites to HACCP, such as product traceability and recall.

Definitions

Standard Operating Procedures (SOPs)

SOPs are company-specific procedures that describe how Good Manufacturing Processes and other food product safety concerns are addressed. Standard Operating Procedures (SOPs), including those specifically related to sanitation (Sanitation Standard Operating Procedures, SSOPs), are important components of an effective safety and quality program that constitute Good Aquaculture Practices (GAQPs).

Good Aquaculture Practices (GAQPs)

GAQPs is the entire food safety program covered by this course, including HACCP and SOPs that apply to aquaculture operations.

SOPs are Written Procedures

Long, detailed narratives (manuals) are often not used and are easily forgotten. Short step-by-step procedure lists are more useful. Post simple bulleted lists where the information is needed for quick reference, such as handwashing instructions at hand sinks, or procedures and locations for storing toxic chemicals in the chemical dry-storage area.

Properly prepared SOPs are easy to follow and provide instructions appropriate for employee training and quick reference. Various formats are acceptable for written procedures but simple and short is best. Post instructions where they are available for quick reference. For example post:

- Handwashing instructions at hand sinks



Examples of pressure and foam washing (Courtesy Hydro Systems Company).

- Procedures and locations for storing toxic chemicals in the chemical dry-storage area
- SOPs should be simple but complete. Include enough detail in SOPs so that employees know exactly what is expected of them. A sample cleaning SOP follows. It applies to a shrimp grading and packing facility. As such, it describes the use of more sophisticated cleaning and sanitizing equipment and procedures than what would be typically needed for a pond-side facility or a simple shrimp collection point for trucking to a processing plant.

Example—Sequence for Detergent Cleaning

Cleaning Crew—Daily cleaning, end of day

1. Uncover drains/trenches, apply detergent to floor and scrub with brooms.
2. Apply detergent to tabletops and other surfaces, and scrub with white brushes.
Start chest-high and work your way down.
3. Push detergent to drains with floor brooms.
4. Rinse with water.

Standard operating procedures should be written and include a sequential description of steps, their frequency and responsible individual(s). Each

section should be followed by a list of how the procedures are monitored (for example, employee supervision or lab tests), who monitors (plant supervisors, quality control personnel), and what corrections will be enacted if problems are discovered.

The following are examples of SSOPs for cleaning and sanitizing procedures introduced in the Good Manufacturing Practices and sanitation presentations. Specific operations will not be discussed in depth but are presented here as an aid when preparing your own written standard operating procedures. The stepwise procedures, responsible individual(s), and frequency are included in this example. Details for monitoring, testing and corrections should be included also, and should correspond with the information on forms used for monitoring.

Example—How to Clean

Cleaning Crew, Quality Assurance Supervisor Packing Room, end of day

- 1) Pick up boxes, footrests, pallets, etc. from floor.
- 2) Sweep up meat/fat particles.
- 3) Wet surfaces with water.
- 4) Apply detergent with applicator 1 using warm water.
 - a. Walls, tables, sinks, shrimp tubs
 - b. Doors, strip curtains
 - c. Waste barrels, chairs, footrests
 - d. Floors and drains
- 5) Scrub with “green pads” or brushes (approximately 10-15 minute standing time).
- 6) Scrub floors and drain channels with push brooms/brushes.
- 7) Rinse thoroughly.
- 8) Apply sanitizer with applicator 2.

Example—How to Clean

Knives, cutting boards, pans, gloves and aprons—end of day

- 1) Fill left side of sink with warm detergent solution.

- 2) Fill right side of sink with warm water.
 - 3) Clean articles in detergent with pads or brushes.
 - 4) Dip in water.
 - 5) Spray with sanitizer (applicator 2).
 - 6) Store on racks, shelves, or hooks to dry.
- Instructors should discuss with students the parts of this example SOP that are relevant for the local industry. For example, setting up a shrimp basket cleaning station near the shrimp collection/trucking point, off the ground and supplied by potable water.

Example SSOP and Monitoring Forms

Turn to the example SSOP in the Appendix in your manuals: “Cleaning and Sanitation Programs: Shrimp Aquaculture Operations.”

Review this example plan. The example is for cleaning and sanitizing only. SOPs should address all GAQPs programs that potentially impact the safety of aquaculture products. Review the daily and monthly audit forms at the back of the plan carefully. They address the 8 key sanitation concerns included in the FDA HACCP regulation. Monitoring is required and becomes an essential part of each company’s GAQP program. Students and instructors should discuss how this plan could be improved.

As we have learned, the Good Manufacturing Practices involve many essential concerns for aquaculture companies. The topic is large and students are encouraged to review references provided in this manual. Other prerequisites to HACCP, such as product traceability and recall programs are equally important so that you know where your products are grown, under what conditions, their status at all times while under your control, and where they go when they leave your firm.