

Best Practices for Processing Quality Finfish

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Ensuring finfish quality is crucial to maintaining food safety and customer satisfaction. The information below outlines some of the best practices to consider for handling and maintaining the quality and shelf life of finfish.

Storage and Handling

Rapid Chilling and Freezing

Rapidly chill the fish to temperatures below 40°F (4°C) to prevent bacterial growth and loss of quality. This process can be accomplished using mechanical refrigeration or ice or gel packs. The overall goal is to focus on practices that minimize the handling, time, and elevated temperature exposure of the fish.

Rapid freezing: Freeze finfish quickly to maintain texture and quality. Quick freezing results in smaller ice crystals, preserving the natural texture.

Temperature Control and Storage

To prevent spoilage and the growth of pathogenic bacteria in fish and seafood products always store them at the correct temperatures. Keep finfish at temperatures below 40°F (4°C) to prevent bacterial growth. Use a refrigerator or a cooler with ice packs. Ideally, temperatures of 34-36°F (1.1 - 2.2°C) will maintain the quality and safety of fish products.

Prevention Of Cross-Contamination From Unsanitary Surfaces

Sanitation and Good Manufacturing Practices (cGMP, FDA - 21 CFR Part 117). Food contact sanitation refers to the practices and procedures in place to ensure that any surfaces or equipment that come into contact with fish or seafood products are clean, sanitized, and safe for food preparation. Proper sanitation in the seafood industry is crucial to prevent contamination and maintain quality and food safety. Below are some key aspects of fish food contact sanitation.

Cleaning and Sanitizing Surfaces

Regular cleaning: All surfaces, cutting boards, knives, and processing equipment must be cleaned thoroughly after each use to remove fish residues.



Finfish

Photo: Gulf of Maine Research Institute

Sanitizing solutions: To kill bacteria and other pathogens, use approved sanitizing solutions (such as chlorine-based, paracetic acid, or quaternary ammonium compounds). Follow recommended concentrations and contact times.

Personal Hygiene

Handwashing: Employees handling fish must wash their hands frequently with soap and water, especially after using the restroom, handling raw fish, or touching contaminated surfaces.

Gloves and aprons: Use disposable gloves and regularly clean and maintain aprons and coats to prevent direct contact between hands and fish. Change gloves frequently, especially when switching tasks, and wash your hands before changing gloves.

Utensils and Equipment

Best practices: All utensils and equipment should be made from non-porous materials with a sanitary design (sanitation can be easily performed).

Separate equipment: Use different utensils and equipment for raw and cooked fish to prevent cross-contamination.

Cleaning and sanitizing: All utensils and equipment should be pre-rinsed, washed with clean water, rinsed, and sanitized before reuse.

- **Pre-Rinse:** Scrape or wipe off excess food. Use a brush or a scraper to remove any leftover food particles from the surface.
- **Wash with cleaner:** Use hot water to help break up protein, dissolve fats, and remove bacteria effectively. Add appropriate commercial cleaner at the concentration recommended by the manufacturer.
- **Scrub:** Use a clean brush to scrub the surface thoroughly, paying particular attention to crevices and corners. If the water becomes dirty or greasy, replace it with a fresh, cleaner solution.

- **Rinse:** Rinse with clean, hot water: Thoroughly rinse off all soap and residue from the surface.
- **Sanitize:** Prepare a sanitizing solution: use a commercial sanitizer following the manufacturer's instructions.
- **Apply the sanitizer:** You can submerge smaller items and use a dedicated spray bottle or sprayer to saturate surfaces with sanitizer. Ensure the surface remains wet for at least one minute to kill bacteria effectively.
- **Air dry:** Let the surface air dry. Avoid using a towel, as it can reintroduce bacteria. If you must use a towel, use disposable paper towels or change cloth towels frequently.

Ice machines and ice storage.

If you utilize ice to cool or maintain product temperatures, you should pay attention to the sanitation and maintenance of your ice machines and ice storage containers/vats. The sanitation of your ice can significantly impact your product quality and shelf life.

Note: Frequency of in-plant sanitation: switching between allergens, every shift change or when you observe visible soils are high OR you want a "clean break" with a record to create a separate batch.

Source Water Quality: Water quality and safety.

All water used in processing, such as sanitation, ice, and product glazes, should be regularly tested to prevent food quality, shelf-life, and safety.

Testing: Regularly test the source water for contaminants, including bacteria, parasites, heavy metals, and chemicals.

Safety standards: Ensure that the source water meets the safety standards set by regulatory

authorities. Different countries have specific regulations regarding permissible levels of contaminants in water.

Processors should inspect and maintain hoses and nozzles, which may include cleaning and sanitizing. Use food-grade hoses, connections, and sprayers – not garden equipment.

Training and Education

Employee Training

Train employees about proper sanitation practices, the importance of hygiene, and the correct use of cleaning and sanitizing agents.

Supervision

Supervise employees to ensure they adhere to sanitation protocols consistently.

Documentation and Record Keeping

Maintain records of cleaning and sanitizing activities, including dates, methods that were used, and personnel involved. These records may be necessary for regulatory compliance.

Regular Inspections

Self-Inspections: Conduct regular self-inspections to identify and address potential sanitation issues and equipment issues before they become problems.

Questions to Ask Chemical Sanitation Vendors (services and cost savings)

- Cost savings if you use automatic dosing equipment and purchase chemicals at higher concentrations.
- Providing SOPs for using chemicals and SSOPs for the sanitation of food contact surfaces and equipment.
- Verification equipment such as swabs and ATP luminometers.

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