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Seafood Guide 8

Best Practices for Seafood Delivery and Mailing

When planning to offer seafood products for delivery, it is important to develop procedures for shipping and handling to ensure your seafood is received in the best possible condition. Seafood is a highly perishable food commodity that begins to deteriorate immediately after death. To maintain high quality products and ensure safety, it is important to handle, hold, and transport seafood in a way that minimizes deterioration. This guide outlines best practices for handling, holding, and transporting seafood products to ensure quality. Producers must still follow all food safety guidelines and requirements to prevent or eliminate food safety hazards.

Handling and Processing

- Rinse fish and maintain the environment (vessel, farm, facility) and equipment that comes in contact with your seafood in as clean and sanitary a condition as possible to avoid contamination and increase shelf-life, the maximum amount of time a product is fit for human consumption.
- Bring products to frozen or refrigerated storage temperatures as quickly as possible.
- If the seafood will be processed in any way prior to sale, be sure to do so in compliance with state and federal regulations. Refer to the NY seafood regulatory guides and other resources in this series for more information.

Sanitation

In addition to ensuring that your products are processed and handled in sanitary conditions, it is important to ensure that high sanitation standards and practices are maintained throughout transport to avoid contamination and product deterioration. Refer to NYSG Seafood Guide #5 for more information on best sanitation practices.

When contracting with external transportation services, make sure that they have effective safeguards in place to prevent damage to packaging and contamination of your products during transport.

Timing

Know how long it will take to get your seafood to the buyer. The shipping time may affect the packaging and refrigerant/refrigeration needs. It is best to choose the fastest shipping method to ensure your seafood arrives in top quality. It is best to have seafood arrive within 24 hours of shipping.

Temperature Control

Reducing risk of microbial growth is crucial to maintaining seafood safety and quality, temperature controls are an effective way of controlling microbial growth. Fresh seafood should be maintained as close to freezing temperatures as possible (31-32F) and frozen products should be maintained below at least-10F, which prevents bacteria, yeasts and molds from growing and further deteriorating the product. For the best results, keep the temperature as low as possible at all times throughout processing and transport.

- The temperatures the product is exposed to throughout processing and transport will significantly affect its quality and shelf life.
- Keep in mind that although microbial growth can be reduced or stopped with freezing, there are other chemical, biochemical and physical changes that can occur to affect the quality of the frozen product over time.

- The actual shelf life of your seafood will depend on many factors, including; species, fat content, quality at time of freezing, handling and temperature exposures prior to being frozen, and the temperature(s) maintained throughout storage and transport of the product.

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Cold-Chain Management

There are many steps you can take to ensure that the cold chain is maintained to ensure your products arrive in top quality

- Coordinate with your shipping company to ensure proper temperatures are maintained throughout transit.
- The use of refrigerants may be necessary to maintain product temperatures, especially when refrigerated transport is not available.
- Products should be packaged appropriately to provide adequate insulation and protection from thermal abuse.

Packaging

The type and amount of packaging necessary will depend on a variety of things. Below are some things you should consider while determining your packaging needs.

- Species and quantity being transported
- Fresh or frozen
- Distance and timing for transport
- Type of transport: car, rail, air, truck (refrigerated or not)

Knowing the answers to the questions above will help you determine your packaging needs. Consider the options below:

- **Insulation** such as foam boxes or foil/bubble liners will be important to ensure temperature is maintained.
- **Leak-Proof packaging**, such as wax boxes, plastic liners, or plastic coolers are important to protect product if thawing occurs during transport
- **Refrigerants** are important for maintaining product temperature throughout transport.

It is also good to consider the environmental impact of the packaging used and try to source eco-friendly packing materials. Below are some companies that supply eco-conscious materials. This list is not exhaustive and NYSG does not endorse any of the suppliers linked: Notpla | Green Cell Foam | Natural Blue Thermal | TemperPack | Nature Pack | Nelson Jameson

Refrigerants

There are three kinds of refrigerants, and you must determine which is best to meet your needs, and also which are allowable, based on the type of transportation you plan to use. Keep in mind some transportation providers will have restrictions on what can and cannot be shipped.

- **Phase change materials** such as gel packs which don't produce excessive water as they thaw are commonly used to safely transport perishables.
- **Wet ice,** or traditional ice, is another option but is best for shorter distances or where drainage is available to collect water as the ice melts.
- **Dry ice**, or solidified carbon dioxide is more commonly used for transport of frozen products. While common and fairly inexpensive, it can be dangerous to handle and many shippers will have strict regulations on when and how dry ice can be used.

Regulations

Finally, it is important to be sure you are familiar with any regulations specific to the transportation and distribution of whatever seafoods you are working with.

- The Food and Drug Administration (FDA) has a website dedicated to the transportation of foods.
- The US Department of Agriculture (USDA) has drafted a guidance for protecting perishable foods during transport by truck and another on mail order food safety.
- You might also consider investing in a copy of the International Air Transport Association's (IATA) perishable cargo regulations manual if planning to ship by air.

Additional Resources

- University of Florida- Protecting Perishable Foods During Transport by Truck and Rail
- UPS Shipping Temperature Sensitive Goods
- USPS Guidelines for Shipping Seafood
- Fedex Guide to Shipping Perishables
- DHL Perishable Logistics

This publication was developed by Michael Ciaramella MSc, PhD (mc2544@cornell.edu) to support the NY seafood industry as a result of project A/EEP-52 funded under award NA20OAR4170487 from the National Sea Grant College Program.

Updated August 24, 2023