

New Time Temperature Requirements – Guidance Document

The goal of these new requirements is to control the safety of molluscan shellfish for human consumption by preventing unnecessary growth of bacterial pathogens resulting from improper or ineffective cooling or from time to temperature abuse.

There are several pathogens that can cause illness from consumption of molluscan shellfish. Not all known pathogens associated with shellfish reproduce in the shellfish. However there are several pathogens that multiply in shellfish and present a health concern. Most Vibrios grow in shellfish and the rate of growth is dependent upon temperature. To minimize illness, these regulations include controls to limit exposure to warm temperatures. The controls begin at harvest and are applied at every level of processing and handling. This guidance document provides an explanation of those controls.

- **Harvest Time to Temperature Control**

The harvester must provide harvest records to the original shellfish dealer demonstrating compliance with the applicable time and temperature requirements. This record shall be in the form of a harvester tag that includes the time of harvest. The time harvest begins is the time when the first shellstock in a lot is taken from the water or, in the case of intertidal harvest, the time the first shellfish is taken from the flats.

Harvested shellstock shall be delivered within 18 hours from the time of harvest (Chapter 9.08(A)*) on the shellstock tag to temperature control, i.e. into a certified dealer's cooler or direct market/consumer within the State of Maine, from May 1st to September 30th and within 24 hours from October 1st to April 30th. Note that this time of harvest to temperature control means that the shellstock must be in the cooler at the end of the time limit, not just arriving at the dealer.

DMR Recommendation: Harvest operations that include culling or processing (e.g. cleaning oysters on an aquaculture site) before delivery to the initial dealer should conduct such activities under a shade cover during the summer months or whenever ambient air temperatures are above 65 degrees.

Should the harvesting technique used involve re-submerging (e.g. wet storage), the Department must approve the harvesting technique to assure that the harvest method does not promote post harvest growth of food-borne pathogens associated with shellfish. Re-submerging of harvested product will require a wet storage permit from the Department. For more information, contact the Shellfish Dealer Inspection Supervisor: John Fendl (592-8934 or john.fendl@maine.gov)

- **Conveyances Used to Transport Shellstock from Harvester to Dealer**

Conveyances used to transport shellstock from the harvest area to the original dealer shall be constructed to prevent contamination, deterioration, or decomposition of the shellstock during transport.

Conveyance means any type of container used to transport shellfish. The controls of the National Shellfish Sanitation Program (NSSP) are intended to address the container in which the shellfish are being held during transport from landing to final consumer.

Refrigeration or icing of the conveyance from harvest to original dealer is not required. However, the temperature inside the conveyance shall not exceed the outside air temperature whenever the air temperature is above 50°F. This means if the outside air temperature is 70°F the shellstock cannot be transported in a closed container that is more than 70°F (for example the trunk of a car which is 95°F). Shellstock may not be shipped in a manner that would cause the temperature of the shellstock to increase.

- **Dealer Requirements for Receiving Shellstock From Harvesters**

Dealers receiving shellstock from a harvester must only accept shellstock that is accompanied by a tag that includes the time of harvest, and is within the time to temperature requirements of DMR Chapter 9.08(A) (within 18 hours from May 1st to September 30th and within 24 hours from October 1st to April 30th). Although a record is not required of the shipment temperature from the harvester, dealers should make sure the shellstock was not transported in a manner that would cause the temperature of the shellstock to increase.

The dealer must document and maintain a HACCP record that the shellstock was shucked, iced, or placed in a refrigeration unit at or below 45°F (7.2°C) within the time to temperature requirements of DMR Chapter 9.08(A). DMR Recommendation: a “Shellfish Receiving and Sales Log” that has an additional column for the dealer to document the time the shellstock was iced or placed in refrigeration. See example Shellfish Receiving and Sales Log on the DMR website:
http://www.maine.gov/dmr/rm/public_health/certification.htm

All shellstock obtained from a licensed harvester shall be placed in a storage area maintained at 45°F (7.2°C) or less or adequately iced within two hours of receipt. This two hour requirement does not allow the dealer to exceed the time to temperature requirements of DMR Chapter 9.08(A).

DMR Recommendation: Dealers do NOT tarp or cover product in the cooler during the initial cooling phase as direct observations have shown this to significantly increase cooling times.

- **Conveyances Used to Transport Shellstock from Dealer to Dealer.**

Shellstock being transported from dealer to dealer must be shipped in containers which can be easily cleaned and maintained to prevent contamination. If shellstock is shipped with other cargo, the shellstock must be protected from contamination by the other cargo. Shellstock must be refrigerated or cooled at all times when shipping from dealer to dealer. Conveyances with mechanical refrigeration must be pre-chilled to 45°F (7.2°C) or below prior to loading. It is acceptable to use ice as a means of cooling. The dealer shall keep a record of compliance with the pre-chilling requirement; this record is not intended to be a HACCP record. DMR Recommendation: the dealer may simply add a column to his Shipping Log that shows “temperature of conveyance prior to loading or check mark if iced”.

- **Requirements for Shipping Shellstock to Another Certified Dealer**

The documentation required for all shipments must include the time of shipment, the means of cooling, and indicate the temperature to which the conveyance was pre-chilled if mechanical refrigeration was the means of cooling. If a dealer ships product that has not been cooled to an internal temperature of 50°F, the shipping documentation must provide such notice to the receiving dealer along with the time the product was received by the initial dealer (start time for the 10 hour limit for cooling to an internal temperature of 50°F. Additionally, shipments over four hours shall be accompanied with a

time/temperature recording device indicating continuing cooling. The receiving dealer must document that the product has reached an internal temperature of 50°F (10°C) within 10 hours.

This documentation is not intended to be a HACCP record but will accompany the bill of lading and will be used by the receiving dealer to determine the length of shipment.

See example Pre-chilling Log on the DMR website:

http://www.maine.gov/dmr/rm/public_health/certification.htm

Shipments of four hours or less will not be required to have a time/temperature recording device. The documentation stating the time of shipment will accompany the bill of lading and will be used to determine if shipment is less than four hours.

- **Requirements for Receiving Shellstock From Another Certified Dealer**

Dealers receiving shellstock from another certified dealer must document and maintain a record that the shellstock was received iced; in a conveyance at or below 45°F (7.2°C); or at an internal temperature of 50°F (10°C) or less. Dealers must also document and maintain a record that the shipment was accompanied by documentation indicating the time of shipment and that the conveyance was pre-chilled. If the shellstock was shipped prior to meeting the required internal temperature than receiving dealers must also document the time the original dealer received the product and that a time/temperature device indicating that continuous cooling has occurred was present for shipments over four hours.

When a dealer receives shellstock that was not cooled to an internal temperature of 50°F (10°C) prior to shipment, the receiving dealer must review the data of the time/temperature recording device and document in a record that continuing cooling has occurred since the time of shipment. For shipments that have multiple deliveries, it is acceptable for each delivery to have an individual time/temperature recording device or be shipped with a single time/temperature recording device that each receiving dealer can use for documentation.

Shellstock that has been refrigerated must not be allowed to remain without ice, mechanical refrigeration or other approved methods of refrigeration for more than two hours at points of processing or transfer such as loading docks.

***DMR Regulations Chapter 9.08 Shellstock Time to Temperature Controls**

Harvested shellstock shall be delivered within 18 hours from the time of harvest (Chapter 9.06(B)(5)) on the shellstock tag to temperature control, i.e. a certified dealer or direct market/consumer within the State of Maine from May 1st to September 30th and within 24 hours from October 1st to April 30th. Time and temperature control requirements must be set in accordance with the NSSP Model Ordinance, Chapter VIII Control of Shellfish Harvesting and DMR Chapter 15.02(A)(91).

- A. The time to temperature requirements for the harvesting of all shellstock to ensure that harvesters shall comply with Level 3 from the NSSP Model Ordinance which is an Average Monthly Maximum Air Temperature of >60 °F - 80 °F (15 °C - 27 °C) and a Maximum Hours from Exposure to Temperature Control of 18 hours from May 1st to September 30th and with Level 2 from the NSSP Model Ordinance which is an Average Monthly Maximum Air Temperature of 50°F - 60 °F (10°C - 15 °C) and a Maximum Hours from Exposure to Temperature Control of 24 hours from October 1st to April 30th.