

National Shellfish Sanitation Program
Guide for the Control of Molluscan Shellfish
2007

Section II. Model Ordinance
Chapter XIII. Shellstock Shipping

Guide Contents

Exceptions. Shellstock Shippers are not required to pack shellstock in a building that complies with Sections .02 and .03 of this chapter when the Authority has determined that a shellstock shipper's practices and conditions do not warrant requiring shellstock to be packed in a building.

.01 Critical Control Points.

- A. Receiving Critical Control Point - Critical Limits. The dealer shall ship or repack only shellstock that is:
- (1) Obtained from a licensed harvester who has:
 - (a) Harvested the shellstock from an Approved or Conditionally Approved area in the open status as identified by the tag; and [C]
 - (b) Identified the shellstock with a tag on each container or transaction record on each bulk shipment; or [C]
 - (2) Obtained from a dealer other than the original harvester who has:
 - (a) Shipped the shellstock adequately iced, or in a conveyance at or below 45°F (7.2°C) ambient air temperature or less; or in a conveyance capable of lowering the temperature of the shellstock and will maintain it at 50°F (10°) or less [C]; and
 - (b) Identified the shellstock with a tag on each container. [C]
- B. Shellstock Storage Critical Control Point - Critical Limits. The dealer shall ensure that:
- (1) If wet storage in artificial bodies of water is practiced, water quality meets the requirements outlined in Chapter X.08; and [C]
 - (2) Once placed under temperature control and until sale to the processor or final consumer, shellstock shall be:
 - (a) Iced; or [C]

- (b) Placed in a storage area or conveyance maintained at 45° F (7.2° C) or less; and [C]
- (c) Not permitted to remain without ice, mechanical refrigeration or other approved methods of refrigeration, as required in §B(1) or §B (2) for more than 2 hours at points of transfer such as loading docks. [C]

.02 Sanitation.

A. Safety of Water for Processing and Ice Production.

(1) Water Supply.

- (a) The dealer shall provide a potable water supply in accordance with applicable federal, state and local regulations. [C]
- (b) If the water supply is from a private source, the dealer shall make arrangements to have the water supply sampled by persons recognized by the Authority and tested at laboratories sanctioned or certified by the Authority: [K]
 - (i) Prior to use of the water supply; [C]
 - (ii) Every six months while the water supply is in use; and [K]
 - (iii) After the water supply has been repaired and disinfected. [S^C/K]

(2) Ice Production. Any ice used in the processing, storage, or transport of shellstock or shucked shellfish shall be made on-site from potable water in a commercial ice machine; or [C]

(3) Shellstock Washing.

- (a) Water from either a potable water supply or a growing area in the approved classification shall be used to wash shellstock. [C]
- (b) If the dealer uses any system to wash shellstock which recirculates water, the dealer shall:
 - (i) Obtain approval for the construction or remodeling of the system from the Authority. [K]
 - (ii) Provide a water treatment and disinfection system to treat an adequate quantity of water to a quality acceptable for shellstock washing which, after disinfection, meets the coliform standards for drinking water, and does not leave any unacceptable residues in the shellstock; and [C]
 - (iii) Test bacteriological water quality daily; [S^C/K]
- (c) The dealer may use ultra-violet (UV) disinfection in the recirculating wash

water system, provided that the turbidity of the water to be disinfected shall not exceed 20 nephelometric turbidity units (NTUs) measured using the method in the APHA *Standard Methods for the Examination of Water and Wastewater*. [K]

- (4) Plumbing and Related Facilities. The dealer shall design, install, modify, repair, and maintain all plumbing and plumbing fixtures to:
 - (a) Prevent contamination of water supplies; [C]
 - (b) Prevent any cross-connection between the pressurized potable water supply and water from an unacceptable source [C]
 - (c) The dealer shall install and maintain in good working order devices to protect against backflow and back siphonage. [K]

B. Condition, and Cleanliness, of Food Contact Surfaces.

Additional Guidance - Section IV Guidance Documents
[Chapter III Harvesting, Handling, Processing, and Distribution .01 Shellfish Industry Equipment Guide](#)

- (1) Equipment and utensil construction for food contact surfaces.
 - (a) Except for equipment in continuous use and placed in service prior to January 1, 1989, the dealer shall use only equipment which conforms to *Shellfish Industry Equipment Construction Guides*. [K]
 - (b) The dealer shall use only equipment and utensils, including approved plastic ware and finished product containers which are:
 - (i) Constructed in a manner and with materials that can be cleaned, and sanitized, maintained or replaced in a manner to prevent contamination of shellfish products; [K]
 - (ii) Free from any exposed screws, bolts, or rivet heads on food contact surfaces; and [K]
 - (iii) Fabricated from food grade materials. [K]
 - (c) The dealer shall assure that all joints on food contact surfaces
 - (i) Have smooth easily cleanable surfaces and [K]
 - (ii) Are welded [K]
 - (d) All equipment used to handle ice shall be kept clean and stored in a sanitary manner, and shall meet the construction requirements in Chapter XI.02.B.(1) (a), (b), and (c). [K]
 - (e) Shellstock washing storage tanks and related plumbing shall be fabricated from safe materials and tank construction shall be such that it:

- (i) Is easily accessible for cleaning and inspection; **[K]**
 - (ii) Is self-draining; and **[K]**
 - (iii) Meets the requirements for food contact surfaces **[K]**
- (2) Cleaning and sanitizing of food contact surfaces.
- (a) Food contact surfaces of equipment, utensils and containers shall be cleaned and sanitized to prevent contamination of shellfish and other food contact surfaces. The dealer shall:
 - (i) Provide adequate cleaning supplies and equipment, including three compartment sinks, brushes, detergents, and sanitizers, hot water and pressure hoses shall be available within the plant; **[K]**
 - (ii) Sanitize equipment and utensils prior to the start-up of each day's activities and following any interruption during which food contact surfaces may have been contaminated; **[K]**
 - (iii) Wash and rinse equipment and utensils at the end of each day. **[K]**
 - (b) Containers which may have become contaminated during storage shall be washed, rinsed, and sanitized prior to use or shall be discarded. **[K]**
- (3) If used, the finger cots or gloves shall be:
- (a) Made of impermeable materials except where the use of such material is inappropriate or incompatible with the work being done; **[O]**
 - (b) Cleaned more often, if necessary **[K]**;
 - (c) Properly stored until used; and **[K]**
 - (d) Maintained in a clean, intact, and sanitary condition. **[K]**

C. Prevention of Cross Contamination.

- (1) Protection of shellfish.
- (a) Shellstock shall be stored in a manner to protect shellstock from contamination in dry storage and at points of transfer. **[S^{C/K}]**
 - (b) Shucked shellfish shall be protected from contamination. **[S^{C/K}]**
 - (c) Shellstock shall not be placed in containers with standing water for the purposes of washing shellstock or loosening sediment. **[K]**
 - (d) Equipment and utensils shall be stored in a manner to prevent splash, dust, and contamination. **[S^{K/0}]**

(2) Employee practices.

- (a) The dealer shall require all employees to wash their hands thoroughly with soap and water and sanitize their hands in an adequate handwashing facility:
 - (i) Before starting work; **[K]**
 - (ii) After each absence from the work station; **[K]**
 - (iii) After each work interruption; and **[K]**
 - (iv) Any time when their hands may have become soiled or contaminated. **[K]**
- (b) In any area where shellfish are stored and in any area which is used for the cleaning or storage of utensils, the dealer shall not allow employees to:
 - (i) Store clothing or other personal belongings: **[O]**
 - (ii) Eat or drink; **[K]**
 - (iii) Spit; and **[K]**
 - (iv) Use tobacco in any form. **[K]**

D. Maintenance of Hand Washing, Hand Sanitizing and Toilet Facilities.

- (1) Handwashing facilities with warm water at a minimum temperature of 110° F (43° C), dispensed from a hot and cold mixing or combination faucet, shall be provided. **[S^{K/O}]**
 - (a) Handwashing facilities shall be provided which are:
 - (i) Convenient to work areas: **[O]**
 - (ii) Separate from the three compartment sinks used for cleaning equipment and utensils; **[K]**
 - (iii) Directly plumbed to an approved sewage disposal system, and **[S^{O/K}]**
 - (iv) Adequate in number and size for the number of employees, and located where supervisors can observe employee use; **[K]**
 - (b) The dealer shall provide at each handwashing facility:
 - (i) Supply of hand cleansing soap or detergent; **[K]**
 - (ii) Conveniently located supply of single service towels in a suitable dispenser or a hand drying device that provides heated air; **[O]**
 - (iii) Easily cleanable waste receptacle; and **[O]**

- (iv) Handwashing signs in a language understood by the employees; [O]
- (2) Sewage [K] and liquid disposable wastes [K] shall be properly removed from the facility.
- (3) The dealer shall provide
 - (a) Toilet room doors that are tight fitting, self closing, and do not open directly into a processing area. [K]
 - (b) An adequate number of conveniently located, toilets. [K]
 - (c) Each toilet facility with an adequate supply of toilet paper [K] in a suitable holder. [S^{K/0}].

E. Protection from Adulterants.

- (1) Shellfish shall be protected from contamination while being transferred from one point to another during handling and processing. [K]
- (2) Any lighting fixtures, light bulbs, skylights, or other glass suspended over food storage or processing activities in areas where shellfish are exposed shall be of the safety type or protected to prevent food contamination in case of breakage. [O]
- (3) Food contact surfaces shall be protected from contamination by adulterants by using cleaning compounds and sanitizing agents only in accordance with applicable federal and state laws and regulations. [K]
- (4) Shellstock shall be packed in clean containers. [K]
- (5) Protection of ice used in shellfish processing.
 - (a) Any ice which is not made on site in the shellfish processing facility shall be inspected upon receipt and rejected if the ice is not delivered in a way so as to be protected from contamination. [S^{C/K}]
 - (b) Ice shall be stored in a safe and sanitary manner to prevent contamination of the ice. [S^{C/K}]
 - (c) Any ice used in the processing, storage, or transport of shellstock or shucked shellfish shall come from a facility sanctioned by the Authority or the appropriate regulatory agency. [C]
- (6) Adequate ventilation shall be provided to minimize condensation in areas where food is stored, processed or packed. [S^{K/C}]
- (7) The dealer shall assure that any steam used in food processing or that comes in contact with food contact surfaces is free from any additives, or deleterious substances consistent with federal and state laws and regulations. [K]

F. Proper Labeling, Storage and Use of Toxic Compounds.

(1) Storage of toxic compounds.

- (a) The dealer shall assure that only toxic substances necessary for plant activities are present in the facility. [K]
- (b) Each of the following categories of toxic substances shall be stored separately:
 - (i) Insecticides and rodenticides; [K]
 - (ii) Detergents, sanitizers, and related cleaning agents; and [K]
 - (iii) Caustic acids, polishes, and other chemicals. [K]
- (c) The dealer shall not store toxic substances above shellfish or food contact surfaces. [K]

(2) Use and labeling of toxic compounds.

- (a) When pesticides are used, the dealer shall apply pesticides in accordance with applicable federal and state regulations to control insects and rodents in such a manner to prevent the contamination of any shellfish or packaging materials with residues. [K]
- (b) Cleaning compounds and sanitizing agents shall be labeled and used only in accordance with applicable federal and state laws and regulations. [K]
- (c) Toxic substances shall be labeled and used in accordance with the manufacturer's label directions. [K]
- (d) Provide a test kit or other device that accurately measures the parts per million concentration of the chemical sanitizing agent in use [K]

G. Control of Employees with Adverse Health Conditions.

- (1) The dealer and the supervisor shall take all reasonable precautions to assure that any employee with a disease in the communicable stage which might be transmissible through food shall be excluded from working in any capacity in which the employee may come in contact with the shellfish or with food contact surfaces. The pathogens causing diseases which are transmissible from food workers through food are those determined by the US Centers for Disease Control and Prevention, in compliance with the Americans with Disabilities Act, and published in the *Federal Register*. These include: [K]
 - (a) Norovirus

Additional Guidance - Section IV Guidance Documents

[Chapter III.07 Guidance for Reinstating a Previously Infected Employee](#)

- (b) Hepatitis A virus,
 - (c) *Shigella* spp.,
 - (d) Enterohemorrhagic or Shiga Toxin-producing *Escherichia coli*, or
 - (e) *Salmonella typhi*;
- (2) All employees shall immediately report to the dealer and/or the supervisor information about their health and activities as they relate to diseases that are transmissible through food. All employees shall report the information in a manner that allows the dealer and/or supervisor to reduce the risk of shellfish-borne disease transmission, including providing necessary additional information, such as the date of onset of symptoms of an illness, or of a diagnosis without symptoms, or if the employee: **[K]**
- (a) Has any of the following symptoms:
 - (i) Vomiting
 - (ii) Diarrhea,
 - (iii) Jaundice,
 - (iv) Sore throat with fever, or
 - (v) A lesion containing pus such as a boil or infected wound that is open or draining on any part of the body, or
 - (b) Has an illness diagnosed by a health practitioner due to:
 - (i) Norovirus
 - (ii) Hepatitis A virus,
 - (iii) *Shigella* spp.,
 - (iv) Enterohemorrhagic or Shiga Toxin-producing *Escherichia coli*, or
 - (v) *Salmonella typhi*;
 - (c) Had a previous illness, diagnosed by a health practitioner, within the past 3 months due to *Salmonella typhi*, without having received antibiotic therapy, as determined by a health practitioner;
 - (d) Has been exposed to, or is the suspected source of, a confirmed disease outbreak, because the employee consumed or prepared food implicated in the outbreak, or consumed food at an event prepared by a person who is infected or ill with:
 - (i) Norovirus within the past 24 hours of the last exposure:

- (ii) Enterohemorrhagic or Shiga toxin-producing *Escherichia coli* or *Shigella* spp. Within the past 3 days of the last exposure;
 - (iii) *Salmonella typhi* within the past 14 days of the last exposure;
 - (iv) Hepatitis A virus within the past 30 days of the last exposure; or
- (e) Has been exposed by attending or working in a setting where there is a confirmed disease outbreak, or living in the same household as, and has knowledge about, an individual that works or attends a setting where there is a confirmed disease outbreak or living in the same household as, and has knowledge about, an individual diagnosed with an illness caused by:
- (i) Norovirus within the past 24 hours of the last exposure;
 - (ii) Enterohemorrhagic or Shiga toxin-producing *Escherichia coli*, or *Shigella* spp. Within the past 3 days of the last exposure;
 - (iii) *Salmonella typhi* within the past 14 days of the last exposure; or
 - (iv) Hepatitis A virus within the past 30 days of the last exposure.
- (3) If an employee with an infected wound protects the lesion by keeping it covered with a proper bandage, a dry, durable, tight-fitting impermeable barrier, and a single-use glove for a hand lesion, the dealer and/or supervisor may allow the employee to work in the shellfish processing facility without additional restrictions. **[K]**
- (4) The dealer shall notify the State Shellfish Control Authority and Health Department when *notified* by an employee *of a diagnosis or exhibits symptoms of hepatitis*, and shall ensure that the employee is excluded from working in any capacity in which the employee may come in contact with the shellfish or with food contact surfaces or that may transmit the illness to other employees. **[K]**

H. Exclusion of Pests. The dealer shall operate his facility to assure that pests are excluded from the facility and processing activities. Animals shall not be allowed in those portions of the facilities where shellfish are stored, handled, processed, or packaged or food handling equipment, utensils, and packaging materials are cleaned or stored. **[K]**

.03 Other Model Ordinance Requirements.

A. Plants and Grounds.

(1) General.

- (a) The physical facilities shall be maintained in good repair. **[O]**

(2) Flooding.

- (a) Facilities in which shellfish are stored, packed, repacked or reshipped shall be located so that these facilities are not subject to flooding during ordinary high

tides. [C]

(b) If facilities are flooded:

(i) Shellfish processing, repacking or shipping activities shall be discontinued until the flood waters have receded from the building; and the building is cleaned and sanitized. [C]

(ii) Any shellfish coming in contact with the flood waters while in storage shall be destroyed; or discarded in non-food use. [C]

(3) The dealer shall operate his facility to provide adequate protection from contamination and adulteration by assuring that dirt and other filth are excluded from his facility and activities. [S^{C/K}]

(4) The dealer shall employ necessary internal and external insect and vermin control measures to insure that insects and vermin are not present in the facility.

(a) Tight fitting, self closing doors: [K]

(b) Screening of not less than 15 mesh per inch; [K] and

(c) Controlled air current. [K].

(5) Plant Interior.

(a) Sanitary conditions shall be maintained throughout the facility. [O]

(b) All dry area floors shall be hard, smooth, easily cleanable; and [O]

(c) All wet area floors used in areas to store shellstock, process food, and clean equipment and utensils shall be constructed of easily cleanable, impervious, and corrosion resistant materials which:

(i) Are graded to provide adequate drainage; [O]

(ii) Have even surfaces, and are free from cracks that create sanitary problems and interfere with drainage; [O]

(iii) Have sealed junctions between floors and walls to render them impervious to water; and [O]

(d) Walls and Ceilings. Interior surfaces of rooms where shellfish are stored, handled, processed, or packaged shall be constructed of easily cleanable, corrosion resistant, impervious materials [O].

(6) Grounds around the facility shall be maintained to be free from conditions which may result in shellfish contamination. These conditions may include:

(a) Rodent attraction and harborage; and [O]

(b) Inadequate drainage. [O]

B. Plumbing and Related Facilities.

- (1) All plumbing and plumbing fixtures shall be designed, installed, modified, repaired, and maintained to provide a water system that is adequate in quantity and under pressure, and includes cold and warm water at all sinks; [K]
- (2) Adequate floor drainage, including backflow preventers such as air gaps, shall be provided where floors are:
 - (a) Used in shellstock storage; [K]
 - (b) Used for food holding units [K] (e.g. refrigeration units);
 - (c) Cleaned by hosing, flooding, or similar methods [K]; and
 - (d) Subject to the discharge of water or other liquid waste including three compartment sinks on the floor during normal activities. [K]
- (3) A safe, effective means of sewage disposal for the facility shall be provided in accordance with applicable federal and state laws and regulations; [S^{C/K}]
- (4) Installation of drainage or waste pipes over food processing or food storage areas, or over areas in which containers and utensils are washed or stored shall not be permitted. [K]

C. Utilities.

- (1) The dealer shall ensure that ventilation, heating, or cooling systems do not create conditions that may cause the shellfish products to become contaminated. [S^{C/K}]
- (2) The dealer shall provide lighting throughout the facility that is sufficient to promote good manufacturing practices. [S^{C/K}]

D. Disposal of Other Wastes.

- (1) Disposal of waste materials shall be conducted in accordance with appropriate federal and state laws and regulations. [O]
- (2) All areas and receptacles used for the storage or conveyance of waste shall be operated and maintained to prevent attraction, harborage, or breeding places for insects and vermin; and [O]

E. Equipment Condition, Cleaning, Maintenance, and Construction of Non-Food Contact Surfaces.

- (1) The dealer shall use only equipment, including approved plastic ware, which is constructed in a manner and with materials that can be cleaned, sanitized, maintained, or replaced; and [O]

- (2) The dealer shall use easily cleanable, corrosion-resistant, impervious materials, free from cracks to construct any non-food contact surfaces in shellfish storage or handling areas. [O]
- (3) Cleaning activities for equipment shall be conducted in a manner and at a frequency appropriate to prevent contamination of shellfish and food contact surfaces. [K]
- (4) All conveyances and equipment which come into contact with stored shellstock shall be cleaned and maintained in a manner and frequency as necessary to prevent shellstock contamination. [O]

F. Shellfish Storage and Handling.

- (1) The dealer shall:
 - (a) Assure that shellstock is:
 - (i) Alive; [K]
 - (ii) Reasonably free of sediment [O]; and
 - (iii) Culled; [K]
 - (b) The dealer shall not commingle shellstock during shucking unless the dealer is included in the Authority's commingling plan. [K]
- (2) The dealer shall inspect incoming shipments and shall reject dead or inadequately protected shellstock; [K]
- (3) A dealer whose activity consists of trucks or docking facilities only shall:
 - (a) Have a permanent business address at which records are maintained and inspections can be performed; and [K]
 - (b) Not repack shellstock. [K]
- (4) A dealer who stores or repacks shellstock shall have:
 - (a) His own facility for proper storage or repacking of shellstock; or [K]
 - (b) Arrangements with a facility approved by the Authority of the storage or repacking of shellstock. [K]

G. Heat Shock. - N/A

H. Supervision.

- (1) A reliable, competent individual shall be designated to supervise general plant management and activities; [K]
- (2) Cleaning procedures shall be developed and supervised to assure cleaning activities

do not result in contamination of shellfish or food contact surfaces. [K]

(3) All supervisors shall be:

(a) Trained in proper food handling techniques and food protection principles; and [K]

(b) Knowledgeable of personal hygiene and sanitary practices. [K]

(4) The dealer shall require:

(a) Supervisors to monitor employee hygiene practices, including handwashing, eating, and smoking at work stations, and storing personal items or clothing. [K]

(b) Supervisors to assure that proper sanitary practices are implemented, including:

(i) Plant and equipment clean-up; [K]

(ii) Rapid product handling; and [K]

(iii) Shellfish protection from contamination. [K]

(c) Supervisors shall not allow unauthorized persons in those portions of the facilities where shellfish are stored, handled, processed or packaged or food handling equipment, utensils, and packaging materials are cleaned or stored. [K]

(d) Employees shall:

(i) Be trained in proper food handling and personal hygiene practices, and [K]

(ii) Report any symptoms of illness to their supervisor. [K]