

MEMORANDUM

DATE: April 9, 2013

TO: Virginia Department of Health, Division of Shellfish Sanitation

FROM: Julie Henderson, Plant Program Manager
Division of Shellfish Sanitation

THROUGH: Robert E. Croonenberghs, Ph.D., Director
Division of Shellfish Sanitation

SUBJECT: Plants – Cooler Process Study

Purpose

The purpose of this memo is to describe and clarify the requirements for a cooler process study conducted by a certified dealer who chooses not to monitor the internal shellstock temperature for each incoming lot of shellstock oysters from the harvester, as specified by the National Shellfish Sanitation Program (NSSP) Model Ordinance and required by State *Vibrio* Control Plans.

Policy

Virginia's *Vibrio* Control Plan currently requires that original dealers cool shellstock oysters to an internal temperature of 55°F within 5 hours after being placed under temperature control in order to control the pathogenic growth of *Vibrio* after harvest. Original dealers must monitor and record the internal shellstock temperature in order to comply with the cooling requirement.

An alternative to monitoring the shellstock oyster internal temperature would be a properly designed cooling process study that demonstrates that the cooling critical limit is met. Factors including ambient air temperatures, shellstock temperatures upon receipt, amount of shellstock to be cooled, arrangement of shellstock in the cooler, and opening of the cooler door are examples of things to be considered in the process study. Ideally shellstock temperatures are taken in the area of the cooler that is likely to have the least cooling ability. For example, shellstock temperatures should be taken in the middle of a pallet close to the door in the warmest area of the cooler.

Once a study is completed, the study should detail requirements needed to achieve compliance with the critical limits. Requirements could include arrangement of shellstock in the cooler. The written process study is to remain with the Hazard Analysis Critical Control Point (HACCP) records. This policy assumes that the refrigeration unit has a continuous temperature recording device (TRD) or the dealer manually monitors the cooler ambient temperature each day.

Cooler process study requirements

1. Determine the parameters of the cooler process study based on expected maximum load.
2. Over three (3) days record the internal shellstock temperature at the time of loading into the cooler.
4. Over three (3) days record the internal shellstock temperature after five (5) hours of refrigerated storage.

Once the process study is conducted and the dealer has documented that the cooler is capable of cooling the shellstock oysters to 55°F within 5 hours, the dealer may only monitor the cooler ambient temperature. The process study must be conducted prior to only monitoring ambient cooler temperature and must be conducted for use during each of the following time periods:

May 1 through May 31

June 1 through August 31

September 1 through October 31

The basis for these requirements is that the average maximum monthly air and water temperatures increase during the *Vibrio* harvest control period. In order to have a cooler process that is validated during these periods the study must be conducted during these specific periods prior to the implementation of ambient temperature monitoring. Data for the average monthly maximum water and air temperatures can be found in the Virginia *Vibrio* Control Plan. The data for water temperature was derived from NOAA sites distributed throughout Virginia coastal waters. The data for air temperature was derived from the NOAA National Weather Service site located at the Norfolk Naval Air Station chosen since it is centrally located in the Eastern Virginia region.

Any subsequent changes to maximum shellstock loading, cooler capacity or to the cooler compressor would require additional process studies.

