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(MERcenaria mercenaria) RELAYING

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COMMENTS ON THE USE OF CONTAINERS FOR HARD CLAM

(MERCENARIA MERCENARIA) RELAYING

The relaying of hard clams (Mercenaria mercenaria) from marginally polluted waters to approved harvesting waters for natural cleansing represents a multi-million dollar fishery in Virginia. By law, relaying has been confined to direct on-bottom placement of clams. This process is extremely inefficient and prone to product losses as high as 30% owing to mortality associated with handling, predation, stressful environmental conditions and inherently poor recovery procedures. This loss can be significant as approximately 25 million clams were harvested and relayed during the 1986 season (personal communication, Herbert Sadler, VHRC). Containerized relaying offers a potentially superior alternative to these problems. However, it had not been approved by the Virginia Department of Health (VDH) due to lack of documentation on effective purification within containers.

At the urging of industry participants and following discussions with VDH officials, VIMS scientists conducted a three month investigation on the use of containers for relaying in order to provide the background data required for permitting. Results of the study demonstrated that clams held in containers effectively and efficiently cleansed themselves to bacterical levels acceptable for human consumption. Additionally, clams held within the containers experienced losses of 5% or less, while clams held on adjacent bottoms had losses exceeding 20%.
Given the information developed by VIMS, containers are an effective means for relaying clams and offer a means of increasing resource utilization by reducing unnecessary losses. Presented below are draft recommendations for cage construction and usage developed by VIMS personnel.

Shellfish to be relayed within containers (i.e. cages) shall be limited to the hard clam *Mercenaria mercenaria*. Persons, firms or corporations wishing to pursue containerized relaying shall meet the criteria set forth in Section 28.1-179 of the Code of Virginia and Part I, National Shellfish Sanitation Program Manual of Operations. Persons, firms or corporations wishing to use containers shall petition the Virginia Marine Resources Commission (VMRC) demonstrating their ability to handle containers, describing the area where containers will be deployed and providing a description of the containers to be used. Permission to use containers shall be determined on a case-by-case basis and shall require consultation with personnel from the Virginia Department of Health. Applicants shall also be required to meet "Shellfish Shipper With Storage" requirements as outlined in Part II, National Shellfish Sanitation Manual. In addition the following shall be adhered to.

**CONTAINER CONSTRUCTION**

1. Container size shall not exceed 4'x4'x1' unless a scientifically conducted study demonstrates the purification effectiveness of the larger container design. Such a study would be financed by the initiating industry participant and conducted by a competent organization approved by the Virginia Department of Health (VDH).
2. Containers shall not be solid-walled, but be constructed of some type of mesh material of sufficient mesh size not to restrict water flow. Mesh size shall not be less than 1 inch measured diagonally across the longest axis of square, rectangular or diamond shaped mesh or less than 1 inch diameter of circular mesh/rings. Construction material shall not be of materials known to contain toxic substances, nor shall the containers be coated with anti-fouling compounds. Containers shall be maintained in such a manner that fouling does not accumulate to such a degree that water flow through the container is impeded.

3. Container height (excluding any skids or legs) shall be no greater than 12". The container shall be permanently marked at the 6" level (measured from the bottom) around the entire circumference of the cage in such a manner as to be clearly visible.

4. Each container shall be fitted with skids or legs to hold the container off-bottom and constructed in a manner that will not impede water flow under the container. Skids shall be no smaller than 4"x4"; legs shall be no shorter than 4". Skids or legs may be larger if it is necessary to assure the container does not rest on-bottom, but cannot be so large as to place the container at a depth that could constitute a hazard to navigation.

5. Access to each container shall be designed so that it can be secured with a standard VMRC seal and so that the container cannot be opened without breaking the seal.

LOADING AND DEPLOYMENT

1. Areas where containers are to be relayed shall be clearly marked and easily identified.
2. Loading of containers and their deployment shall be conducted under VMRC supervision (see Section 28.1-179 Code of Virginia).

3. Containers shall be deployed in such a manner and spacing so that different lots are separated and easily identified. Spacing shall be such that no less than 25 feet shall be between adjacent groups of containers. Within groups, individual containers shall be no closer than six feet to any other container within the group.

4. The volume of clams loaded into any one container shall not exceed a 6" depth measured from the bottom of the container, excluding skids or legs (see #3, Container Construction).

5. Each container deployed shall be sealed with a VMRC standard seal and the seal number recorded for future harvesting.

**HARVEST**

1. All containers shall remain in the relaying area for a minimum of 15 days.

2. Requests to harvest specific containers shall be made in the same manner as on-bottom relaying with the inclusion on the request form of the VMRC seal numbers to be released.

3. Upon reharvesting release, the seal on each container to be harvested shall not be broken by anyone except a VMRC inspector.

**SUPPORTING DOCUMENTATION**
