Clam Culture for New Growers

The Basics of Harvesting and Handling Hard Clams

- Classification and management plans for SHAs
- State and federal requirements - licenses, tags, time/temperature matrix
- Boat and vehicle requirements
- Harvesting equipment
- How to harvest and handle clam product
- Harvesting strategies and market sizes
- Where to sell your clams
- Other considerations

Updated 2020
Water Classifications
(Excerpted from Comprehensive Shellfish Control Code, Chapter 5L-1)

- Shellfish can only be harvested from waters classified approved, or conditionally approved.
- Areas classified conditionally approved are periodically closed to harvesting based on pollution events, such as rainfall or increased river flow.
- FDACS Shellfish Environmental Assessment Section (SEAS) is responsible for classifying and monitoring SHAs.

38 Shellfish Harvesting Areas (SHAs) in Florida
Shellfish Harvesting Areas (SHAs)

- Each SHA has a specific management plan
- Prior to harvest, check open or closed status of SHA
- SHAs periodically close to harmful algal blooms, such as red tide, or storm events
- SHA maps, mgmt plans and status can be viewed from the FDACS Division of Aquaculture’s website: https://www.fdacs.gov/AgricultureIndustry/Aquaculture/Shellfish/Shellfish-Harvesting-Area-Classification/Shellfish-Harvesting-Area-Maps

Contact DACS SEAS Offices:
Western Gulf: (850) 236-2200
Central Gulf: (850) 653-8317
Big Bend: (352) 543-5181
South Gulf: (941) 613-0954
Atlantic: (321) 984-4890
Aquaculture Certification
“AQ” Card

- Obtained from Florida Department of Agriculture and Consumer Services (FDACS), Division of Aquaculture
- Any person engaged in aquaculture required to obtain aquaculture certification (“AQ” card)
- Identifies the culturist, lease, product and facility
- Authorized user agreement for “sharecroppers” or employees
- Renewed annually
- Cost of $100
- Valid from July 1 to June 30
- Contact FDACS for more info at (850) 617-7600
Aquaculture Certification
“AQ” Card

Harvester Education Training Requirements

• As of 2014 the NSSP Model Ordinance was modified to include new food safety training requirements

• Under this mandate, shellfish leaseholders, authorized users, employees or harvesters are required to obtain training on handling practices prior to certification

• No certification or recertification will be issued without proof of training

• Training must be completed every year

• Can be completed online at https://learningMyFWC.remote-learner.net/logon/index.php
Hours of Harvesting & Transporting
(Excerpted from Comprehensive Shellfish Control Code, Chapter 5L-1)

• Harvesting activities must be conducted between sunrise and sunset
• Clams must be delivered directly to a certified shellfish wholesaler to comply with **Time/Temperature Matrix**:

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Clams Refrigeration Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>November, December, January, February, and March</td>
<td>Clams refrigerated by <strong>10 PM</strong> within same day of harvest</td>
</tr>
<tr>
<td>April, May, and October</td>
<td>Clams refrigerated within <strong>12 hours</strong> of time of harvest, or the same day, whichever is earliest</td>
</tr>
<tr>
<td>June, July, August, and September</td>
<td>Clams refrigerated within <strong>10 hours</strong> of time of harvest, or the same day, whichever is earliest</td>
</tr>
</tbody>
</table>
Bulk Aquaculturist Tag
(Excerpted from Comprehensive Shellfish Control Code, Chapter 5L-1)

- Harvester must place a durable, waterproof tag of a minimum size of 2 5/8” by 5 ¼” to clams at time of harvest.
- Bulk tagging is allowed for clam farmers operating with an aquaculture certificate.

BULK AQUACULTURIST TAG

Harvester SPL# or AQ#___________________________________________________________
Date of Harvest________________________ Time of Harvest__________________________
Time of Refrigeration, if applicable______________________________________________
Legal Harvest Area
Name or #_______________________________________________________________
Specific Harvest Location
Name or #_______________________________________________________________
Type of Shellfish___________________________________________________________
Quantity of Shellfish__________________________________________________________
Sold To:_________________________________________________________________

THIS TAG IS REQUIRED TO BE ATTACHED UNTIL CONTAINER IS EMPTY OR RETagged AND THEREAFTER KEPT ON FILE FOR 90 DAYS.
Boat Requirements for Clamming

(Excerpted from Comprehensive Shellfish Control Code, Chapter 5L-1)

- Constructed, operated and maintained to protect clams from contamination
- Fuel tanks or other contamination sources may not come into contact with clams
- False bottoms and bulkheads fore and aft to prevent clams from coming in contact with bilge water
- No dogs or other animals allowed on boat
- Type III marine sanitation device, portable toilet, or other sewage disposal receptacle that will not spill
- Effective shading to protect clams from exposure to sun, birds, and other adverse conditions
U.S. Coast Guard Requirements for Commercial Fishing Vessels (16-26’)

- Boat must be registered commercial and comply with U.S. Coast Guard commercial fishing industry vessels
  - Personal Flotation Devices – Type I, II, III, V
    - One PFD per person on vessel
    - 62 square inches of reflective tape (31 in² front & back)
    - Approved PFD light attached to front shoulder area
    - Vessel name or FL number
  - Throwable Flotation Device
    - 1 cushion or orange 24-inch ring life buoy with 60 feet of line
    - Vessel name or FL number
U.S. Coast Guard Requirements for Commercial Fishing Vessels (16-26’)

- Boat must be registered commercial and comply with U.S. Coast Guard commercial fishing industry vessels
  - Distress Signals
    - One flag or smoke signals for day or 3 approved flares for both day and night
  - Fire Extinguishers
    - Outboard engine and portable gas tanks: not required
    - 1 B-1 type
  - Sound producing device
- Marine Safety Office Inspections
  - No charge, receive decal
  - Check with local USCG Marine Safety Officer or USCG Auxiliary
Vehicle Requirements - Clam Harvest
(Excerpted from Comprehensive Shellfish Control Code, Chapter 5L-1, FAC)

- Maintained to protect clams from contamination
- No dogs or other animals allowed on truck bed at any time
- Effective shading to protect clams from exposure to sun, birds, and other adverse conditions
- Clams held under conditions which allow air circulation and promote cooling
Clam Harvesting

- Bags can be harvested by hand, hookah, SCUBA or use of a winch from boat
- Use of mechanical harvesting devices (e.g., dredges, drags) are limited and require approval from Governor and Cabinet
Clam Harvesting

- Can use winch on boat to help pull bags off bottom
- Clam bags are heavy and can weight 50-80 lbs
Clam Harvesting

- Clams are also bottom planted under cover netting in Florida.

- In 2016, the use of handheld or hand-drawn hydraulically or mechanically operated devices were approved for harvesting clams on aquaculture leases.

Pump-driven box harvester
Clam Harvesting Equipment

Boom / davit – SS or aluminum

12 V Winch with capstan

Pulley
Clam Harvesting Equipment

Power roller rig with winch
Clam Washing

Tumbler on boat – washing clams at lease area

Washing of shellstock by harvester may only occur on the lease or at the shellfish wholesaler within time frame defined by the time/temperature matrix.
Clam Processing

Receiving by boat or land

Washing using a tumbler
Clam Processing

Grading and counting by size

Bagging and tagging
## Clam Sizes / Grades

<table>
<thead>
<tr>
<th>Grade Name</th>
<th>Hinge* Size (inches)</th>
<th>Number per pound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pasta</td>
<td>5/8 - 3/4”</td>
<td>18 - 25</td>
</tr>
<tr>
<td>7/8 (Button)</td>
<td>7/8 - &lt;1”</td>
<td>14 - 18</td>
</tr>
<tr>
<td>Littleneck</td>
<td>1”</td>
<td>10 - 13</td>
</tr>
<tr>
<td>Midneck</td>
<td>&gt;1 - &lt;1 ¼”</td>
<td>7 - 9</td>
</tr>
</tbody>
</table>

* Distance across the hinge or shell width
# Dockside Clam Prices

## by Grade, Levy County

<table>
<thead>
<tr>
<th>Year</th>
<th>Pasta</th>
<th>≤7/8”</th>
<th>≤1”</th>
<th>≤1 1/8”</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>$1.00/lb</td>
<td>$0.07-.08</td>
<td>$0.10-.11</td>
<td>$0.11-.12</td>
</tr>
<tr>
<td>2012</td>
<td>$0.75-.80/lb</td>
<td>$0.06-.07</td>
<td>$0.08-.10</td>
<td>$0.09-.12</td>
</tr>
<tr>
<td>2016</td>
<td>$1.00-1.15/lb</td>
<td>$0.09-.10</td>
<td>$0.12-.13</td>
<td>$0.13-.14</td>
</tr>
<tr>
<td>2018</td>
<td>$1.10-1.20/lb</td>
<td>$0.09-.10</td>
<td>$0.12-.14</td>
<td>$0.13-.14</td>
</tr>
</tbody>
</table>

Prices over years reflect supply and demand and impacts of economic recessions, oil spills, hurricanes, reduced seed supply, etc.
When to harvest clams?

- Use calipers or grader rack to estimate size distribution of clams
- Determine percentage of 1”, 7/8”, and 5/8” (shell width) clams
When to harvest clams?

Seasonal growth of clams in Cedar Key

Littleneck clams

Shell Length (mm)


Winter Plant  Spring Plant  Summer Plant  Fall Plant
When to harvest clams?

- Keep records of clam growth and survival per plant
- Relate production performance to key environmental factors – e.g., temperature, salinity
  - Archived water quality info for selected lease areas is available at [http://shellfish.ifas.ufl.edu](http://shellfish.ifas.ufl.edu)
Clam Theft

- Theft is a risk in clam farming
- Signage on informational lease markers can contain the language: “Harvesting Prohibited Except By Lessee”
- Additional signage can be placed at adjacent boat ramps and marinas
- Cultured shellfish is protected by law and a reward program is administered by FDACS
Selling Clams

• Molluscan shellfish – clams and oysters - are the most highly regulated food product in the U.S.
• Growers can NOT sell their clams direct to the public
• Growers can only sell to a certified shellfish wholesaler
• There are over 50 certified shellfish wholesalers located throughout Florida
• Or you can become a certified shellfish wholesaler
• Contact the FDACS Division of Aquaculture for a listing of certified shellfish wholesalers and requirements on becoming a shellfish wholesaler
Selling Clams

- Growers can direct market by “buying back” their clams from a certified shellfish wholesaler.
- Dealer tags remain attached to the product.
- Retails sales in 3 categories—mobile vendor, point and event sales.
- Contact FDACS Division of Aquaculture for requirements on records, transportation, and authorizations.

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### Steps to Selling Farmed Shellfish at Retail Markets

1. Harvest and delivery to a certified shellfish processor.
   - Farmers must follow all standard shellfish tagging and harvesting rules.
   - All farmed shellfish must be received and placed under refrigeration by a certified shellfish processor the same day as harvest within the correct time indicated on the Refrigeration Time for Shellfish at a Certified Dealer table.

2. Shellfish are received, processed and tagged with a processing tag by a certified shellfish processor.

3. After processing, certified aquaculturists may sell their farmed shellfish to retail through different methods.

4. All retail sales methods require the following records and procedures:
   - Must have a valid Aquaculture Certificate of Registration or AQ card on hand during transportation and sale.
   - All records and receipts of sales must be retained by the certified aquaculturist for a minimum of 2 years, and may be subject to inspection by the Department at any time.
   - All dealer or processor tags must be removed and retained for a minimum of 90 days following sale.
   - All sales receipts must contain the following information:
     - Name and address of seller
     - Seller’s Aquaculture Certificate of Registration number
     - Name and ID Number of the Certified Shellfish Processor
     - Quantity and type of aquaculture product sold (oysters or clams)
     - Temperature of product at sale (must be below 45°F)
     - Date of sale

### Product Flow Chart for Retail Sales of Farmed Shellfish

- Shrimp Aquaculture
- Shrimp Processor
- Aquaculture product shipped from processor in a container with dealer tags attached
- Retail sales conducted in 3 possible categories

- Point Sales
- Mobile Vendor
- Event Sales

Transportation Requirements:
- All aquacultured shellfish having a certified processing shellfish facility must be transported in a clean, pre-chilled enclosed container.
- Refrigeration (mechanical or ice) must be maintained below 45°F at all times.
- All ice must be obtained from a licensed commercial vendor.
- A thermometer must be kept inside the container at all times and final temperature must be recorded on all sales receipts and tags upon delivery to the customer.
For additional information on pertinent rules and regulations, go to FDACS Division of Aquaculture’s website, [https://www.fdacs.gov/Divisions-Offices/Aquaculture](https://www.fdacs.gov/Divisions-Offices/Aquaculture) and click on Aquaculture Publications

- Shellfish Harvest Tagging Requirements
- Interstate Shellfish Sanitation Conference
- Shellfish Processing Fact Sheet
- Shellfish Harvest Area information
- Refrigeration Requirements for Shellfish
Cultured clams - a new seafood product for Florida

For marketing information and promotional materials, contact FDACS Division of Marketing and Development and visit their website, [https://www.fdacs.gov/Divisions-Offices/Marketing-and-Development](https://www.fdacs.gov/Divisions-Offices/Marketing-and-Development)