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 <u>https://learningMyFWC.remote-learner.</u> <u>net/logon/index.php</u>



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 <u>Time/Temperature Matrix</u>:

November, December, January, February, and March	Clams refrigerated by 10 PM within same day of harvest
April, May, and October	Clams refrigerated within 12 hours of time of harvest, or the same day, whichever is earliest
June, July, August, and September	Clams refrigerated within 10 hours of time of harvest, or the same day, whichever is earliest

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

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:

Boat Requirements for Clamming (Excerpted from Comprehensive Shellfish Control Code, Chapter 5L-1)

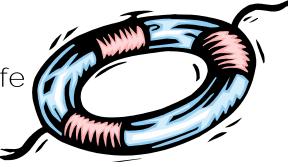
- Constructed, operated and maintained to protect clams from contamination
- Fuel tanks or other contamination sources may not come into contact with clams
- False bottoms and bulkheads fore and aft to prevent clams from coming in contact with bilge water



- 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
 - o One PFD per person on vessel
 - o 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
 - o 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
 - o Outboard engine and portable gas tanks: not required
 - o 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

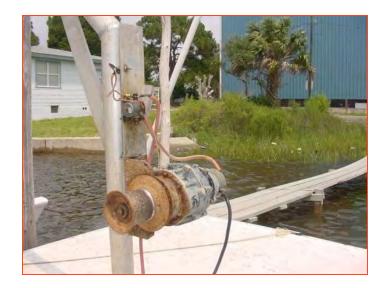
- Clams are also bottom planted under cover netting in Florida
 - In 2016, the use of handheld or handdrawn hydraulically or mechanically operated devices were approved for harvesting clams on aquaculture leases

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



Receiving by boat or land



Clam Processing



Washing using a tumbler

Clam Processing



Grading and counting by size

Bagging and tagging



Clam Sizes / Grades

Grade Name	Hinge* Size (inches)	Number per pound
Pasta	5/8 - 3/4''	18 - 25
7/8 (Button)	7/8 - <1"	14 - 18
Littleneck	ן יי	10 - 13
Midneck	>1 - <1 1/4"	7 - 9

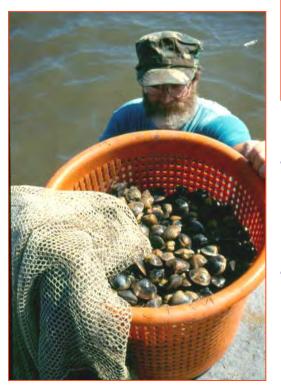
* Distance across the hinge or shell width



Dockside Clam Prices by Grade, Levy County

Year	Pasta	<u><</u> 7/8"	<u><</u> 1"	<u><</u> 1 1/8"
2008	\$1.00/lb	\$0.0708	\$0.1011	\$0.1112
2012	\$0.7580/lb	\$0.0607	\$0.0810	\$0.0912
2016	\$1.00-1.15/lb	\$0.0910	\$0.1213	\$0.1314
2018	\$1.10-1.20/lb	\$0.0910	\$0.1214	\$0.1314

Prices over years reflect supply and demand and impacts of economic recessions, oil spills, hurricanes, reduced seed supply, etc.



When to harvest clams?

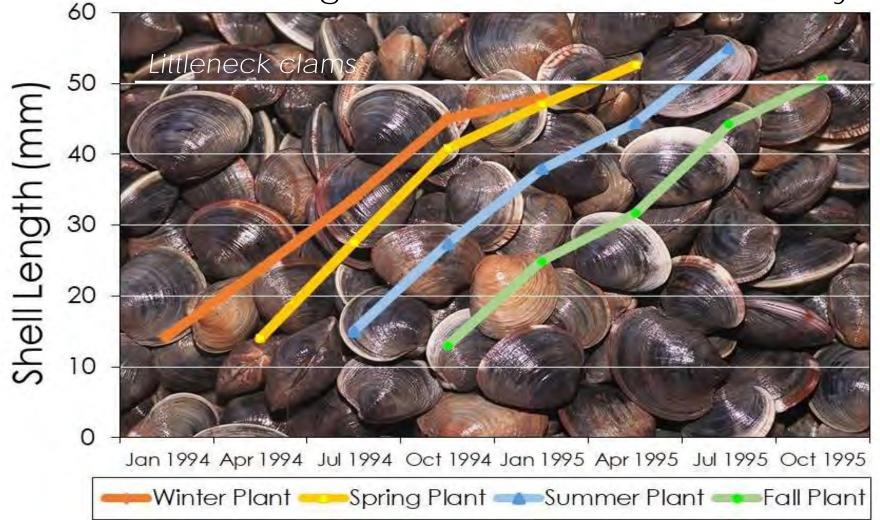
- Use calipers or grader rack to estimate size distribution of clams
- Determine percentage of 1", 7/8", and 5/8" (shell width) clams



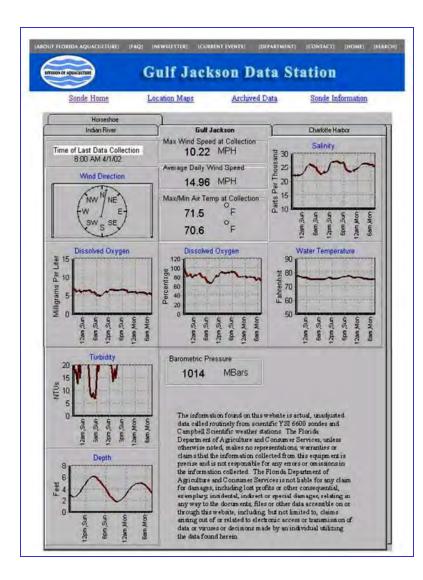


When to harvest clams?

Seasonal growth of clams in Cedar Key



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 <u>http://shellfish.ifas.ufl.edu</u>



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

Cultured Shellfish Are Protected By Law Terr STORE BY Law Terr STORE States Cultured States Cultured Shellfish

REPORT VIOLATIONS

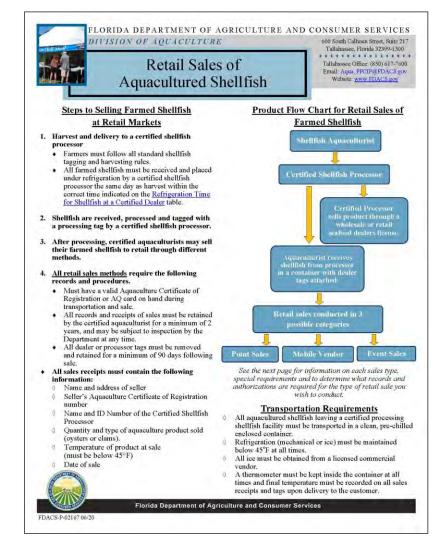
DIVISION OF AQUACULTURE



- Molluscan shellfish clams and oysters are the most highly regulated food product in the U.S.
- Growers can <u>NOT</u> 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



Additional Information

ORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES VISION OF TOUACULTURE Reference Guide: Shellfish Transportation Regulations Harvester Trans Protection from contamination and temps control. Burtan hags or umbreiles are okay. Tarps or plastics are not okay, as they hold in heat LOBIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES acts. Contact FWC st (850) 488-4676 (INISION OF ADVACULTURE not MyFWC over horrselesetive-wildlife/amount/ for mor Shellfish Harvest Areas: Ford time tools our batteries de to incontous chemacals. Information and Regulation These of sole Gasoline or oil caris Intilizer, root et Name and address of seller (harvester, processor, etc.) Citation for non-compliance: Bule SL-1.0005721. F.A.C. Nume and address of purchaser (processor, distributor, etc.)
 Seller's Aquacillure Certificate of Regularition Number (i)
 Florida aquaculture product) or Salmator Products License Division Office Area Classifications Additional Certified Shellfish Processor Approved - Normally o spills or hurmful algoe h pen to harvest. Closed for atypical events-looms. Blue areas on SHA maps. Transportation Requirements: alaethieola Bay - (850) 653-8 Cedar Key - (352) 543-5181 fort Charlotte - (341) 613-059 Melbourne - (321) 984-4859 Barton - (863) 578-1871 Conditionally Approved - Periodically closed due to rainfall or rover flow e areas on SILA maps. Shelllish must be man enclosed of Product's origin (including state Citation for non-compliance: Rule SL-L 008(12), J. A.C. Restricted, prohibited and unclassified - Harvest never permitted. Orange, red or annurised axes on SHA maps. Refrigeration Requirements for Delivery to a Certified Shellfish Tags Maps and Status ile on the water at the start of each ha Citation for non-compliance: Rule SL-1.008, F.4.C. Citation for non-compliance: Rule 51-1.008(12), F.4.C. dan include: Who, whu, where, when and how nd the open/closed status of all sh Harvest Areas (SHA) can -----White tags used when product meets to These may be sold for half shell marke Types of Sheilfish Tags: • White tags - Non-res HARVESTER TAG White tags may not be retagged as green if he't doesn't meet time and tem Green lags - Re Tractional Base Cure only for shucking of ray NOT he sold for raw crossmetion iana Tags should not be in Florida We also strongly recommend that y join the Division's SHA notification listery. By joining, you will accomaticable be notified of charges WHEN the same area on the same day Harvester Tagging Requirements: 52-1,007(5), F. U. IT TARE IS REQUIRED THE ANTIACHED LINES, CONTINUES IS EAST Processor Tag or Container Requirements: 51-1.007(1) & (6), 1 Refrigeration Requirements for Shellfish at a Certified Dealer Ossiers he placed in a cosier at a certified shellink processing facility (coles and countrity LORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES TISTON OF THE DELLET ME Shellfish Processing: **Rules and Regulations** BUILDINGS Shellfish products in Florida include. Shellfish products in Florida include, cullofs species of owsters, clams, mussab, either slucked or in the shell, frash or frozen, and raw in-shell scallops. All shellfish officed for connected or retail safe must be processed at a certified shellfish deprivative and Consumer Services. Division of Appacellume is responsible for inspection and The Hardware and structures need to be suitable in size and design to facilitate amistary operations for food processin There must be sufficient space for the placement of couptonent, storage of materials and food processing activities. The building must be constructed so that floors, walls and

REFRIGERATION / COOLING Shellfish intended for raw consumpti-

the presence of naturally occurring pathogenic bacteria in their tissues. Post-harvest temperature control is artifical to minimize bacterial arowst

harvester must be placed under refrigeration at or below 45°F by

secific times. These times vary a the type of shellfish being has such a the type and the cooling

nts for Shellfish

doinn os a being used. For more into-



For additional information on pertinent rules and regulations, go to FDACS Division of Aquaculture's website, 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

ssible for inspecting and ing all shellfish processing as. The following ceilings may be kept clean to prevent centamination of food, food packaging materials and food contact surfaces. If must provide adequate lighting and following are o become certified: · Shellfish Processing Certification All facilities must provide en ith sanitary and accessible toilet

- Wholesale Saliwater Products License of Aquaculture Certificate of Registration;
- Dealer Taga: Required processing equipmen
 Facility source water analysis:
- HACCP plan:
 Certification Inspection: and

· Employee training program.

Certified lacilities are classified as a shellstock shipper, shucker-packer, or repacker. Once certified, a facility is inspected quarterly by the division to ensure compliance and consumer ocessing are in The Comprehensiv selffish Control Code, Rule Chapte >1: FAC, and located on the

thipment. On they must be All equipment must be constructed so that it is smooth and easily cleanable to refrigeration at or below 45°F (Unle out the cont tion of food under an approved tong Shellfish must remain u refrigeration except duri netrods in processing. B nod-contact surfaces - any surface that ornes in contact with food - must be or more than two cumulative hos

vide adequate lighting on, a sufficient, sanitar

litics. Handwashing facilities mus iso be established in easily accessible

pply and a proper waste wage treatment system.

FOURPMENT

Cultured clams - a new seafood product for Florida

Seafood Safe Handling Tips

- When shopping, purchase seafood last and keep it cold during the trip home.
- Keep raw and cooked seafood separate to prevent bacterial cross-contamination. After handling raw seafood, thoroughly wash
- knives, outling surfaces, sponges and hands with hot, soapy water

Buying and Storing Tips

- · Clarms should have a mild sea breeze odor and shells should be free of cracks.
- Clarms should never be exposed to surider temperature change. Do not place live clams directly on los or immerse in water for storage DUrboses.
- · Store at a constant 41 degrees in the refrigerator in a container with the lid slightly open. They will remain alive for up to seven days. Drain excess liquid daily.
- · Live clams should close tightly when shell is tapped. Discard clams that do not close
- Shucked clams will keep up to seven days in the refrigerator

Cooking Tips

- · Rinse live clams thoroughly under cold running ater prior to cooking.
- Clams become plump and opaque when thoroughly cooked.
- Easy grilling: Place clams about 4 inches from hot coals. Grill for approximately 10 minutes or until clarns open.
- Easy oven roasting. Place clams on a baking sheet on the middle rack. Roast at 350 degrees for 10 minutes or until clams open.
- Serve roasted, steamed and grilled clams in shells with melted buffer or a sauce.

How Much to Buy

· 6 to 10 whole clams per serving depending or



Two commercially important types of clarns are harvested in Florida, the northern quartog (Mercenaria mercenaria) and the southern quartog (Mercenaria campechiensis). Hard clams, mostly of the Mercenaria mercenaria variety, are farmed-raised in Fiorida on leased coastal water bottoms in several east and west coast counties. Seed clams are planted under nets or in mesh bags and monifored until they reach market size in 1 to 11/2 years. Hard clams are also wild-caught in Florida's coastal waters.

Nutritional Value Per Serving: For approximately 4 ounces (114 grams) of raw, edible portions: Calones 60, Calones fromFat 10, Total Fat 1g, Saturated Fat 0g, Trans Fatty Acid 0, Cholesterol 65mg, Total Carbohydrates 3g, Protein 10g, Omega 3 Fatty Acid 0 10g

Clam Sizes

Middleneck, littleneck and pasta are names related to the size of the clam. The number per pound and hinge size below is approximate.

Middleneck	7-9 per pound	1 % Inch hinge
Littlenack	10-19 per pound	1 Inch hings
1% inch	14-18 per pound	% inch hinge
Pasta	18-25 per pound	34 inch hinge

Mislabeling seafood is illegal. If you believe a seafood product purchased from a seafood refail store or supermarket seafood counter is mislabeled, please contact the Florida Department of Agriculture and Consumer Services at (850) 617-7280

Always ask for Fiorida seafood and look for the Fresh From Florida" logo

FreshFromFlorida.com/Seafood

Florida D







Fresh

Florida

For marketing information and promotional materials, contact FDACS Division of Marketing and Development and visit their website, <u>https://www.fdacs.gov/</u> Divisions-Offices/Marketing-and-Development





