University of Florida Cooperative Extension Service

# THE BIVALVE BULLETIN

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## Florida Clam Market Research: Focus Group Findings

In an effort to assist the Florida clam culture industry expand their markets, the Department of Agriculture and Consumer Services (DACS), Bureau of Seafood and Aquaculture Marketing conducted focus group sessions during 2003 to explore the best possible approaches. The market research project targeted two components of the supply chain for farm-raised clams: 1) Trade organizations, namely wholesalers, brokers, retailers, and foodservice institutions; and, 2) Consumers in large cites (Atlanta, Orlando, and Boston).

Specific information gathered from these two focus groups, or audiences, were as follows: 1) Identify and characterize the national wholesale, food service, retail and consumer buyers of farm-raised clams; 2) Determine the means and the message content needed to positively influence buyers; 3) Identify and characterize the socioeconomic status of national consumers that influences them to purchase clams; 4) Identify current food preparation and eating habits, 5) Determine key educational and marketing outlets; 6) Determine buying habits and key market areas including geographic and seasonal demand for product forms, quality, and price; 7) Identify informational channels that influence purchasing; and, 8) Identify sales messages to positively sway consumers' purchasing decisions.

Findings from focus group sessions are provided in a report compiled by DACS representatives and marketers at Kerr and Downs Research. The report is divided into sections to present research results conducted with organizations in the supply chain separate from results of consumer research. Insights from this research can provide guidance and directional ideas for marketing Florida farm-raised clams. Following are some of the recommendations from this report.

Wholesalers and Distributors The best strategy the clam industry can formulate for this group is to provide a consistently high quality product with constant availability at a competitive price. All clams regardless of source must compete with each other, as well as with other more popular shellfish and finfish. Presently, consumer demand for clams is not sufficient for wholesalers to experience any market pressure to carry them. Hence, clams must provide a good margin and be available in sufficient quantities and quality so wholesalers begin to rely on clams for a percentage of their revenue and profit. Further, the industry should exhibit at trade shows and promote Florida farm-raised clams at industry events.

Seafood Markets The industry should educate these retailers on how to sell, store and package clams. In addition, brochures should be provided for high volume seafood markets and chain markets to distribute to

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## Industry Reports Available

A lot of good information was provided at the Annual Clam Industry Meeting held in Ocala this past November, some of which is summarized in this newsletter issue. **Missed the meeting?** Either contact the DACS Bureau of Seafood and Aquaculture Marketing at (850) 488-0613 or the Shellfish Extension Office at (352) 543-5057 to receive copies of reports and other handouts. The meeting and educational materials were developed in partnership with the USDA Risk Management Agency under their Targeted Partnerships for Risk Management Education Program.

## Clam Market Research (continued)

customers. The brochures should be designed to focus on the fun/social nature of eating clams, show recipes, and educate consumers on the health aspects of eating clams. Create and celebrate a Florida Clam Week!

Restaurants Target high volume seafood and chain restaurants for distributing free samples of clams dishes to consumers before they order food. Prepare brief educational brochures for wait staff to familiarize them with Florida clams, the health benefits, and different ways to serve clams. Also, distribute table tents.

Trade Organizations The clam industry must assist in identifying and understanding the consumer. Focus should be placed on the following segments when designing promotional materials: new entrants into the market, current low volume clam eaters, young urban professionals, younger children trying new foods, time-crunched couples or families looking for interesting and simple dishes, and health-conscious individuals.

Consumers Marketing efforts directed to consumers should be focused on in-store activities. Efforts should include the following: offer samples for consumers to taste; enhance displays; provide recipes; use value-added packaging by preparing clams for sale, ready to eat; and, again, highlight the social aspects of eating clams. These efforts should be focused on southeastern states and should emphasize Florida clams. A website for Florida clams can provide recipes, preparation tips, and, even link to sites informing consumers where to buy them. Advertising efforts should be on outdoor billboards near seafood markets and 5 to 10 second radio spots. The best slogans for promoting clams include: *ExCLAMation!*, *Florida Clams are Jammin* and *Florida Party Steamers*.

## Organizational Structures and Strategies

What makes a successful industry organization? To answer this question, a study was conducted in 2003 by the University of Florida to characterize structures of successful and relevant agriculture and aquaculture organizations in Florida and the U.S., and to identify revenue-generating strategies that provide the resources necessary for these organizations to succeed in meeting industry needs. The information gathered from this study is available in a recently completed report, *Organizational Structures and Strategies for the Hard Clam Aquaculture Industry in Florida*, which provides suggestions, advice and options for organizational development. Highlights from this report follow.

Of the 85 organizations identified and mailed surveys in this study, 30 responded. Half represented aquaculture industries and half represented agriculture commodities like dairy, vegetables, fruits and poultry. Non-profit trade organizations were the common structures representing a majority of the respondents. Yet, these fell under several IRS tax classifications. The remaining were structured under a cooperative and one was a state agency.

Membership dues were the primary source of revenue for these organizations. There were various types of dues, which ranged from flat fees to production and acreage-based assessments, as well as check-off programs and marketing orders. A fixed rate dues, with an average of $100, was reported by the majority using a voluntary dues structure. Several implemented a dues structure that was assessment based but had fixed rate categories and some were based purely on an assessment. Regardless, all were implemented on an honor basis. The organizations utilizing mandatory structures represented large industries and strong memberships. Additional methods of generating revenue are included in the report.

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## 10 Secrets of Profitability

*Provided by Dr. Jerome S. Osteryoung, Jim Moran Institute for Global Entrepreneurship*

How important is profitability? By focusing on revenue, a business owner will not automatically receive profits. Maximizing revenues does not mean that you are maximizing profits. Happiness is a profitable business!

1. Focus on costs to increase profits. Improving profits by $10,000 is the same as increasing sales by $200,000 for most businesses. What are some areas to look at to reduce costs? Try advertising, communications, and benefits.
2. Incentivize each and every worker. People work harder with incentives. You get congruence with goals of business and workers. It also means less management. Work is more fun with incentives.
3. Work smarter, not harder. Burnout happens to business owners who think they can work harder and harder. The economic reward system is not for labor but for smart work. Use your mind to figure out how to work smarter.
4. Figure out what your customers need. The object of business is not to sell your product but to serve your customers. Ascertain what your customers needs are and then try to fit your product into this need. Ask your customers if there is anything additional that you can provide them.
5. Find a mentor. Mentors do work. How to find a mentor? Most people are honored to be a mentor. Only cost is an occasional meal. If you try this, you will love this.
6. Get great employees. Employees are the key to any business. Forget about training and hire for character. If an employee or a customer gives you a headache, then get rid of them. Great employees will make your job easier and better. Pay employees as much as you can, within reason.
7. Do not compete on price. If you can avoid competing on price, you are better off (but this is hard). Compete on quality. Compete on service. Determine how to price your product.
8. Do take vacations. Avoid burnout. There are examples of entrepreneurs who did not take time off. Take long vacations. When you forget what day it is, that's a fine vacation.
9. Focus on customer service. Always try to exceed your customers expectations. Do a customer satisfaction survey. Customer service starts when the customer calls in until the product is delivered. Learn to deal with an irate customer.
10. Understand financial statements. What is the purpose of these things? Find out how important these statements are. Master how to read financial statements!

# 2004 Clam Seed Suppliers

These hatchery and nursery operations are supplying hard clam, *Mercenaria mercenaria, seed* to Florida growers this year. Contact suppliers for information on seed sizes, price, color variation and availability.

**Atlantis Clam Farm - H, N**
Merritt Island, FL 32952
Contact: Barry Moore
(321) 453-2685
*clamsix@aol.com*

**Bay Shellfish Co. - H, N**
Terra Ceia, FL 34250
Contact: Curt Hemmel
(941) 721-3887 or 722-1346 (Fax)
*bayshellfish@earthlink.net*

**Brewer's Clams - H, N**
Cocoa, FL 32927
Contact: Gray Brewer
(321) 632-4920

**The Clam Bed - H, N**
Wabasso, FL 32970
Contact: Bill Thompson
(772) 589-6138

**Cedar Creek Shellfish Farms - H, N**
New Smyrna Beach, FL 32169
Contact: Mike Sullivan
(386) 426-0113 or 847-3202 (cell)
*shellfish@ucnsb.net*

**Cedar Key Raceways - N**
Cedar Key, FL 32625
Contact: Jim Hoy
(352) 543-6970
*Jameshoy@Earthlink.net*

**Clams R' Us - N**
Vero Beach, FL 32968
Contact: Joe Weissman
(772) 538-1051
*Weissm_J@bellsouth.net*

**Cole's Clam Nursery - N**
Placida, FL 33946
Contact: Dot Cole
(941) 697-3181

**First Choice Clam Seed - N**
Titusville, FL 32796
Contact: Greg Nelson
(321) 267-1667
(321) 383-1324 (after 7PM)

**David Grudin - N**
Nettles Island Marina
Jensen Beach, FL 34996
Contact: David Grudin
(352) 250-0667
*dgrud@yahoo.com*

**Harbor Branch Clams - H, N**
Fort Pierce, FL 34946
Contact: Joe Weisman
(772) 538-1051
**or)** Richard Baptiste
(772) 465-2400, ext. 414
*baptiste@hboi.edu*

**Hydrosphere Research - H**
Alachua, FL 32615
Contact: Craig Watts
(386) 462-7889
*craig@hydrosphere.net*

**Kibbe & Company - N**
St. James City, FL 33956
Contact: John Pfeiffer
(954) 436-8828 or
(239) 707– 5322 (cell)

**Matt's Clams - N**
Cedar Key, FL 32625
Contact: Matt Kennedy
(321) 724-8712 or 266-3704 (cell)

**Orchid Island Shellfish Co. - N**
Sebastian, FL 32958
Contact: Ed Mangano
(772) 589-1600
**or)** Kevin Soderberg
(321) 508-6200
*ksoderberg@cfl.rr.com*

**Pelican Inlet Aquafarms - H, N**
Cape Coral, FL 33914
Contact: Edwin Connery
(888) SAY- CLAM
(239) 283-2002
*highimage@aol.com*

**R & I Mariculture - H, N**
Mims, FL 32754
Contact: Jed Illig
(321) 267-1716
*raniclams@yahoo.com*

**Research Aquaculture - H, N**
Jupiter, FL 33458
Contact: Tom McCrudden
(561) 702-8159
**or)** Alligator Point, FL 32346
Contact: Andy Arnold
(850) 510-3866

**Santa Fe Mariculture - H, N**
Sebastian, FL 32958
Contact: David Clowdus
(321) 733-5503

**SeaPerfect - H, N**
Charleston, SC 29422
Contact: Knox Grant
(800) 728-0099
*knoxgrant@seaperfect.com*

**Southern Cross Seafarms - H, N**
Merritt Island, FL 32953
Contact: Bill Leeming
(321) 459-1022
**or)** Cedar Key, FL 32625
Contact: David Grudin
(352) 543-5980

**H - Hatchery**
**N - Nursery**

# RESEARCH UPDATE: Use of Triploidy to Enhance Production of Molluscan Shellfish

## Background

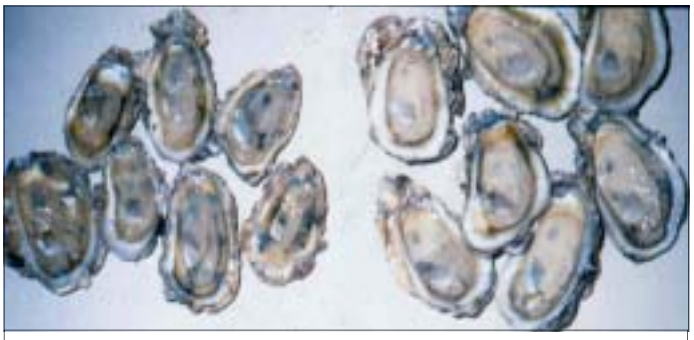
Most sexually reproducing organisms are diploid, meaning they have *two* sets of chromosomes. Their offspring inherit *one* set of chromosomes from the maternal gamete (the egg) and *one* set from the paternal gamete (the sperm). Diploidy results when fertilization unites the two. Triploids are organisms with *three* sets of chromosomes in each cell. Therefore, triploidy is typically an unnatural state, as it must be produced artificially. Two features prevail in triploid organisms: 1) triploid cells are larger to accommodate the increase in DNA, and 2) triploids have poorly developed gonads producing far fewer gametes than diploids. In the early 1970s, triploidy was proposed as a genetic modification of potential value in aquaculture. The benefits derive indirectly from the fact that triploid organisms generally are sterile. Therefore, triploidy can be beneficial when reproductive output of the animal causes a decline in product quality, causes mortality, or impedes growth.

## Triploid Oyster Culture

Triploid mollusks were first produced at the University of Maine in the early 1980s. Methods to induce polyploidy were developed using oysters, soft shell clams, bay scallops, and hard clams. However, at that time the concept of triploid shellfish was new and its utility obscure. Hatcheries in the Northeast were still small and experimentation of this sort was not easily incorporated into commercial facilities. By contrast, hatcheries were a well-established component of the oyster industry in the Pacific Northwest, an area that grows the non-native Pacific oyster. Because it is more fecund than the American oyster, it is a less marketable product when sexually mature. In addition, summer mortality, a phenomenon probably associated with the extraordinary reproductive effort of Pacific oysters, was a problem in some bays in Puget Sound. Triploidy offered a solution. Researchers and commercial interests worked together in the development and utilization of triploids for the West Coast industry. Today, 50-60% of the total production of Pacific oysters are triploids.

Oyster culture in the Southeast began receiving attention in the early 1990s due to the high growth rates achieved in warmer water temperatures. Growth of the American oyster in Florida is more rapid than in any other region of its range. Yet, high water temperatures are not totally beneficial and can actually debilitate oysters by prolonged spawning. Spatfall is noted from April through November. With the increase in production of gametes, a decrease in glycogen, or "fat," content is noted resulting in poor meat quality. To evaluate the potential of triploidy on performance of oysters cultured in subtropical waters, diploid (2N) and triploid (3N) seed were planted on a training site in Apalachicola Bay and grown in polyethylene bags supported by rebar racks during 1991-2. After 12 months, both groups had shell lengths exceeding 3 inches and similar survivals (63%). On the other hand, weight (whole and meats) measurements and condition indices were significantly different between 2N and 3N oysters during the spawning season of the second year. These differences are shown here.

Prolonged spawning may also contribute to reduction in disease resistance due to elevated stress which, when coupled with increased prevalence of pathogens, results in annual mortalities as high as 60% of the adult oyster stocks. This was suggested in the Apalachicola study and evaluated in follow-up trials conducted during 1994-5 in Cedar Key. Triploid oysters showed lower bacterial levels, including *Vibrio*, than diploids. Triploids may have better host defenses since energy allocated to reproduction in diploids may be utilized by triploids for other metabolic functions.



*Diploid oysters on the left and triploid oysters on the right after 58 weeks in culture at Apalachicola, September 1992.*

## Triploid Clam Culture

In contrast to oysters, there is limited information regarding the value of triploid hard clams to the industry along the East Coast. Inconclusive results were found in preliminary studies of ploidy induction conducted in New Jersey and South Carolina. In Florida, the need for increased growth or meat quality is minimal in cultured clams. However, there is a need for increased stress (for example, heat) resistance in subtropical waters where there is an autumnal as well as a spring spawn, meaning that clams go through two to three spawning events prior to harvest. Combined summer environmental stresses of heat and low food availability following spawning in Florida waters may be the underlying cause of increased mortality. Through joint funding from the USDA Agricultural Research Service and Florida Sea Grant, researchers at Harbor Branch Oceanographic Institution and the University of Florida will begin this year investigating triploidy, a basic breeding technique, for improvement of hard clam production in subtropical waters. More to follow in future issues of *The Bivalve Bulletin.*

**Sources of Information**

Stan Allen, Sandra Downing and Ken Chew. 1989. *Hatchery Manual for Producing Triploid Oysters*, University of Washington, Washington Sea Grant Program (WSG 89-3). 27 pgs.

Leslie Sturmer, David Vaughan and Stan Allen. 1993. *The potential of triploidy in enhancing oyster culture in Florida*, World Aquaculture Society Conference Abstracts, pp. 47-48.

John Scarpa, Leslie Sturmer, Everette Quesenberry and David Vaughan. 1996. *Performance of triploid oysters grown by Project OCEAN participants*, J. Shellfish Research 15: 512-3.

# State Roll Call

*A quick insight on the condition of the hard clam culture industry, market prices and demand along the East Coast of the U.S. provided by aquaculture extension specialists*

## Massachusetts

Quahogs are both farmed and harvested from the wild, and are not differentiated in the Northeast markets. Quahog prices for littlenecks have taken a significant nosedive since 9/11 and the synchronous tightening of the stock market. Prior to that time, growers and harvesters were getting between $0.15-0.24 per piece with an average of about $0.24. This past year, prices were between $0.10-0.18 with an average around $0.14. The problem with lowered clam prices is increasing supply coupled with decreased demand associated with a decline in disposable income. To counteract this, there is a concerted effort to change business structures, to expand markets, and to develop branded products. The industry is also actively discouraging new entrants.

## Rhode Island

Wild harvest is the state's primary product. Things got so bad in the fall that harvesters went on strike for a few days to protest the low prices. Yet, the state is actively trying to expand its aquaculture sector and is promoting new development. Since reliable technology does not exist to raise quahogs cost-effectively in shallow subtidal areas given the seasonal conditions, new folks are focusing on other species - oysters, surf clams and soft shell clams.

## Connecticut

Production has greatly increased in a decade from 146,250 bushels in 1990 to 335,084 bushels in 2000. In turn, value of littlenecks has decreased by 25% because of market flooding. Some shellfishermen have targeted niche markets to increase value. Value of larger clams is steady with product readily sold to New York markets. There is increased fishing pressure due to migration of workers from the failed lobster and oyster fisheries. Fewer new industry members are expected as most of the seed grounds have been leased.

## New Jersey

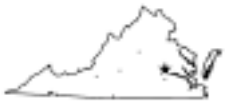
The hard clam industry has lost about 15-20% of its growers over the past 5 years. Farming is much harder due to negative impacts from Brown Tide and massive blooms of macro-algae. Also, growth rates are much longer than they were 10-15 years ago. As for the market, the price is down by 30% and demand is off by 60%. Also getting beat up in the winter with cheap clams from Florida. No one is entering the industry and some are now considering leaving. Little is being done about marketing with many believing the competition is within the state and not from the growing aquaculture industries in the South.

## Delaware

There is no commercial hard clam culture in the state although it is feasible in the coastal bays. All bottom leases were eliminated in the mid-1970s because of opposition from wild clam harvesters. Prospects for reinstating leases are slim due to extensive shoreline development, conflicting use of the bays for boating, fishing and other recreation.

## Maryland

The industry is small with about eight growers limited to the coastal bays. Due to the small size and local marketing, no problems have been encountered in sales and growers are optimistic that the local industry can grow. Several are part of a cooperative that obtains funding from a local rural development center. They can borrow up to 80% for seed purchases limiting their exposure while they get established. The greatest current problem is getting leases.



## Virginia

Over the past several years prices being received by clam growers have declined. This decline began prior to 9/11. Most growers believe the decline was a result of two factors - the overall economic slide and increased product on the market. Prices this past year have been stable, with some growers getting a little more than others by doing more "marketing" as opposed to "selling". The rush to enter the industry ended a couple of years ago when prices began dropping. Most growers are just trying to hang-on, by becoming more efficient, reducing plantings or by diversifying (not necessarily in the clam business). Despite the market conditions, the demand is still strong. Supply is available and not limiting.

## North Carolina

Grower prices trended downward over the last two years, although it started rebounding at the end of 2003. Low prices and storm events have combined to put several operations out of business and have reduced the level of interest in clam farming. As evidenced by a recent ban on new leases in Core Sound, a perfect body of water for clams, the state has not encouraged or supported shellfish aquaculture to the extent required to develop a thriving productive industry.

## South Carolina

Although the industry has gone through growing pains, it has grown with an increase in fishermen entering the business. Since 9/11 prices are down about 25-40%. Demand has also seen declines. Farmers are attempting to increase their markets locally.

*"We have a coast-wide crisis of oversupply in clams that has depressed prices by 10-30%. Because clams are more of a commodity crop, it may be that efforts to identify brand awareness, source differentiation and niche markets may have little impact on pricing. New markets need to be developed to absorb current and future production capacity."*

**- East Coast Shellfish Growers Association Newsletter, November 2003**

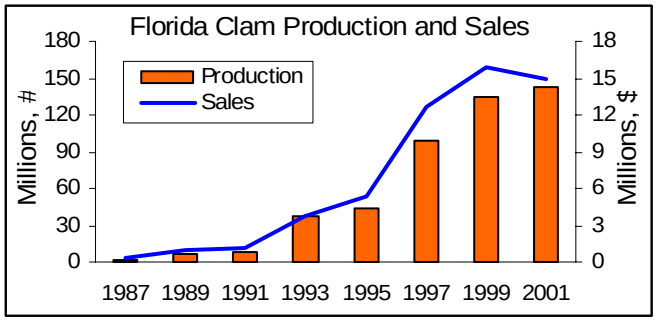
## Organizational Development (continued)

The core of an organization is their board of directors. This study indicated boards ranged in size from 5 to 38 directors, with an average of 14. Most were elected, and some appointed. Over 80% had paid administrative staff with 1 to 4 full-time positions. Those remaining either sought partial services or relied on volunteer time from members. Most organizations reported having an open membership and over half had representation from multi-states or multi-commodities. Responding organizations ranged in size from 17 to 9,000 members. On average, membership represented about 60% of the total industry. Although size related to the size of the industry, it did not seem to have a relation to the activities the organization participated in or services offered to members. Services fell into three categories: lobbying/ advocacy, promotion/marketing, education/communication.

Respondents provided insight into key issues that needed to be considered before developing an organization. Several referenced obstacles that could interfere in the process. Finally, respondents provided advice for aspiring organizations based on their own experiences. Common themes were: prioritizing issues, earning participation by majority of the industry, gaining commitment of industry leaders, and hiring a professional staff. Based on survey findings, the report also provides several options the Florida clam industry could evaluate in assessing how to organize through a unified approach, including maintain status quo, join an existing organization, or create a statewide organization.

## Upcoming Florida Aquaculture Survey

It's time again for the Florida Aquaculture Survey which is conducted every other year by the Florida Agricultural Statistics Service (FASS). All aquaculture producers, including clam growers, certified through the DACS Division of Aquaculture will be contacted soon by telephone and asked for information regarding their production and sales in 2003. All information received is considered confidential. Survey results, available in June, will be used to measure and document the importance of the clam aquaculture industry to the economies of the state and its coastal communities. In the 14 years of FASS surveys, clam sales have risen from $0.4 million in 1987 to over $15 million in 2001. In turn, clam production has increased from less than 3 million to over 142 million. For information about the 2003 survey, contact Jeff Geuder at (800) 344-6277 or *nass-fl@nass.usda.gov*.

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This newsletter is published through the University of Florida Cooperative Extension Service.
For more information contact::

**Leslie Sturmer-Taiani**
**Shellfish Aquaculture Extension Program**
**Cedar Key Field Lab**
**P.O. Box 89**
**Cedar Key, FL 32625**
**Phone: (352) 543-5057**

E-Mail: LNST@mail.ifas.ufl.edu

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