

Wholesale Market Survey for Sunray Venus Clams

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Assessing wholesale dealers' attribute demand for the Sunray Venus clam was accomplished by a facilitated mail survey. The facilitators were a small group of participating shellfish wholesale dealers (primary dealers). A group of five "primary" certified shellfish wholesale dealer firms located in Cedar Key, Florida participated in this study. These firms have a strong history of handling cultured hard clams, and may be most likely to handle cultured Sunray Venus clams in the future. Understanding the product attribute assessment by, and requirements of, these firms and their own "downstream" dealers, is vital to initiating acceptance of cultured Sunray Venus clams within the existing market channels.

The "primary" wholesale dealers were asked to assist in evaluating cultured Sunray Venus clams on the basis of product attributes and their own requirements for product handling. Each dealer was asked to evaluate shell stock (live) Sunray Venus clams and, in turn, provide shell stock to their own "downstream" dealer, broker, or shipper clients. Cultured sunray venus clams and a "survey kit" was sent to a total of 30 clients. Each of these survey kits contained: (1) up to two 100-count samples of cultured Sunray Venus clams, (2) information on the nutritional, microbial and sensory attributes of Sunray Venus clams, (3) a summary of the consumer acceptance study recently conducted by UF (Adams et al. 2009), and (4) a product attribute survey instrument to be sent directly to the UF Food and Resource Economics Department. Via the survey instrument, each of the wholesale dealers and downstream dealers were asked to provide suggestions/comments on product appearance, condition, shelf life, size, sensory attributes, handling methods, volume/frequency requirements pertaining to potential future orders, and other attributes. The Sunray Venus clams were properly tagged by the primary dealer prior to distribution to their downstream dealers. Harvesting, processing, and shipping of the Sunray Venus clams were in compliance with federal and state regulatory requirements for molluscan shellfish. In addition, nine shipments were sent to wholesale distributors, who expressed great interest in the Sunray Venus clams at the 2011 International Boston Seafood Show. Three of the five primary wholesalers also submitted survey responses.

Sunray Venus clams were shipped to the "downstream" dealers, brokers, or shipper clients on the following dates: 1) November 8-9, 2010, 2) December 7, 2010, 3) January 19, 2011, and 4) May 3, 2011.



Survey Response Summary

Note: "n" refers to the number of respondents who provided a response to that specific question. Also, the % responses may not add to 100% as some respondents may have chosen more than one category per question.

Business Description

1) Describe your primary seafood business. Totals per category (% responses), n=35.

Distributor	26	(74.3%)
Retailer	6	(17.1%)
Other	4	(11.4%)
Restaurant	3	(8.6%)
Broker	1	(2.9%)

2) Location of primary business. Totals per region (% responses), n=33.

Southeast	16	(48.5%)
West Coast	8	(24.2%)
Northeast	5	(15.2%)
Mid-Atlantic	4	(12.1%)

3) Describe your total seafood sales in 2009. Totals per category (% responses), n=30.

>\$10M	16	(53.3%)
\$5M-\$9.9M	2	(6.7%)
\$1M-\$4.9M	6	(20.0%)
\$500-999K	4	(13.3%)
\$100-499K	2	(6.7%)
< \$100K	0	(0.0%)

4) Average sales by category. % responses, n=34.

Molluscan shellfish	34	(38.3%)
Shrimp/Crab/Lobster	25	(38.2%)
Finfish	27	(32.7%)
Other	18	(13.8%)

5) Molluscan shellfish carried in product line. Scale of 1 (most important) to 5 (least important). Average ranking per category, n=32.

Oysters	2.17
Clams	2.28
Scallops	2.48
Mussels	2.96
Other	4.35

Evaluation of Sunray Venus Clams Received

6) Odor detectable upon receipt? Totals by response (% responses), n=31.

No	17	(54.8%)
Yes	14	(45.2%)

If yes, describe the odor. Scale of 1 (very unpleasant) to 5 (very pleasant), n=22.

Average response: 4.6

7) Overall condition of clams upon arrival. Scale of 1 (extremely poor) to 10 (extremely good), n=34.

Average response: 9.2

Rating of Important Attributes

8) Shell appearance. Scale of 1 (very unattractive) to 8 (very attractive), n=33.

Average response: 7.3

9) Meat color. Scale of 1 (very unattractive) to 8 (very attractive), n=34.

Average response: 7.1

10) Taste by preparation method. Scale of 1 (extremely poor) to 8 (extremely good).

Average response for raw preparation, n=19: 5.4

Average response for cooked preparation, n=34: 6.6

If cooked, how? Totals per category (% responses).

Steamed	18	(72.0%)
Micro-waved	7	(28.0%)
Baked	0	(0.0%)
Broiled	0	(0.0%)

11) Texture. Scale of 1 (very tough) to 8 (very soft), n=34.

Average response: 5.1

12) Detection of grittiness? Totals per category (% responses), n=33.

No grit at all	15	(50.0%)
Some grit	14	(46.7%)
Excessive grit	1	(3.3%)

Note: Below are total responses per category by shipment date.

<u>Category</u>	<u>Nov. 2010</u>	<u>Dec. 2010</u>	<u>Jan. 2011</u>	<u>May 2011</u>	<u>Local</u>
<i>No grit at all</i>	4	5		4	2
<i>Some grit</i>	4	1	2	6	1
<i>Excessive grit</i>	1				

The "excessive grit" response was provided by a respondent, who also indicated that the Sunray Venus clams received had unacceptable shelf life. Further, the January 2011 shipments of clams were harvested from a bottom plant that had not been purged.

13) Shell color change when cooked? Totals per response (% responses), n=32.

Yes	24	(75.0%)
No	8	(25.0%)

14) Meat yield description. Totals per category (% responses), n=34.

About as expected	19	(55.9%)
More than expected	15	(44.1%)
Less than expected	0	(0.0%)

15) Shell thickness as compared to other clams. Totals per category (% responses), n=34.

Just right	24	(70.6%)
Relatively thin	7	(20.6%)
Relatively thick	3	(8.8%)

16) Shelf life. Totals per category (% responses), n=31.

Acceptable	28	(90.3%)
Unacceptable	3	(9.7%)

Note: All “unacceptable” shelf life responses were associated with Sunray Venus clams shipped in November 2010. One respondent indicated that 3 days after receiving clams, 30 had died and that one “mudder” was present. Another participant indicated that gaping in a retail showcase after a short time was the second biggest problem with Sunray Venus clams followed by a “sandy, very gritty mouth feel.” The final “unacceptable” shelf life respondent commented that this was an area that needed work, but was unsure at which temperatures were best for storage of Sunray Venus clams.

Opinions of Your Customers

Shell Appearance

- Beautiful
- Had a unique appearance
- Colorful and different shape than average clam
- Very nice, clean, shell color both raw and cooked, best part
- Positive (just in the fact that it is unique)
- Good
- OK
- Good
- Good
- Nice
- A bit strange
- Was OK, was a little different.
- Very nice, color was pleasant and clean.
- Very good
- A little different
- Attractive
- Attractive, Mother Nature provides great art in her handiwork.
- Very good acceptance
- Fresh, excellent appearance
- Very attractive, nice color before and after cooking
- Good
- Nice shape, exterior pattern and white interior
- Nice shape, color and size
- Smooth, pretty very enticing

Meat color

- Looked normal
- As expected of a clam
- Normal
- Meets expectations, looks “clean”
- Good
- OK
- Good
- Good
- Nice
- Good
- Appealing
- Visually appealing creamy color
- Very nice
- Clean, white parts unfamiliar
- Very good acceptance
- White, some gray in belly
- Super white and clean
- Good
- Light, nice color when cooked
- Good
- Bigger black area was less appealing to some.
- Very Interesting when cooked
- Good

Taste (raw and cooked)

- Delicious, mild, slightly briny, fresh
- It did not taste good raw, but was delicious steamed.
- Nice salty flavor with a little bit stronger clam flavor
- Taste was very good.
- Only ate cooked, taste is excellent.

Taste (raw and cooked) - continued

- Good
- Good taste
- OK
- Poor

- No cooked, ate raw- good taste
- Nice
- Raw – salty, cooked – not as salty
- Raw – strong but tasty, cooked – clamtastic
- Good
- Unfortunately they were all cooked. Good meat flavor, but not as sweet as soft shells (“pissers”).
- Sweet; some remarked they taste similar to mussels.
- Very good acceptance

- Sweet and salty
- Raw – salty, fresh, very meaty, white; Cooked – tender, sweet, great flavor
- Good
- Taste was sweet and very pleasant.
- Good
- Taste raw and cooked a little bland, mellowed said by one, not a sharp clam taste as warm water lobster to coldwater lobster.
- Excellent

Texture

- Tender
- As expected
- Normal clam texture
- Good, slightly chewy
- Very good
- Tough
- Good
- OK
- Good
- Little tough
- Nice
- Not as tough as other clams
- Excellent

- Firm meat, not too tough, good bite
- Not too soft, not too rubbery; very good texture
- Very good acceptance
- Firm, except for belly. I could tell when I chewed the belly, which turned me off!
- Good
- Smooth (cooked), slight grit (raw)
- Good
- Chewy, crunchy, not as soft as other littleneck clams
- Creamy and smooth
- Good

Grittiness

The respondents below received 15/16” SW graded Sunray Venus clams with an average shell width of 0.93 ± 0.05 inches and shell length of 2.42 ± 0.13 inches, shipped 11/8-9/2010.

- | | |
|---|--------|
| • None | • None |
| • Some, but not excessive | • None |
| • Sandy, very gritty, biggest detractor | • None |
| • Fair | • None |

The respondents below received 7/8” SW graded Sunray Venus clams with an average shell width of 0.88 ± 0.07 inches and shell length of 2.32 ± 0.19 inches, shipped 12/07/10.

- | | |
|-------------------------|----------------|
| • A few had fine sands | • None |
| • None to very slightly | • Average |
| • Very good acceptance | • None to some |
| • No grit | |

The respondents below received 13/16” SW graded Sunray Venus clams with an average shell length of $0.84 \text{ in} \pm 0.07$ inches and shell length of 2.14 ± 0.25 inches, shipped 1/19/11. These clams were shipped immediately and not purged.

- | | |
|-------------------------------------|--|
| • A bit more sandy than usual clams | • Some were real gritty as others were clean |
|-------------------------------------|--|

The respondents below received $3/4''$ SW graded Sunray Venus clams with an average shell width of 0.78 ± 0.06 inches and shell length of 2.01 ± 0.16 inches, shipped 5/03/11.

- Little or none
- None
- Slight grit, but not offensive
- No
- Very small amount
- Fairly clean
- Minor in a few samples

Yield

- Plump
- Less than expected
- Average for clam
- Yield to shell was good, plump.
- Favorable, but not significant marketing advantage since clams are sold by count rather than meat/yield.
- Good
- Good yield
- OK
- Good
- Great clam, very full
- Good
- Excellent
- Fair to good
- Good yield
- Good meat-fill; full
- Very good acceptance
- Full meat content
- Good
- Same as large Manila clam
- Yield after cooked was good, filled whole shell.
- As expected, great
- Good

Shell Thickness

- Not a problem
- Normal for clams
- Not important as long as handled so as not to crack shell.
- Fine, unless breakage in handling becomes a problem.
- OK
- Little thin
- Good
- Good
- Just right
- Good
- Thin
- Just right
- No broken
- Very thin; surprisingly strong
- Very good acceptance
- Adequate for handling
- Firm
- Average
- Took a bit longer to open
- A little thinner shells, broke trying to open for raw clams.
- Normal
- Adequate

Shelf Life

- Fine, no problem
- Very good
- Good shelf life, little loss
- Good. We didn't keep them long enough to have waste so not sure how long we could keep them.
- Normal range
- Great
- Shelf life of ours was good, seven days
- ?
- Excellent
- Acceptable
- Excellent
- Didn't have for very long – none were open or broken
- Very good acceptance
- N/A
- N/A

- Good/average
- About 2 weeks in right conditions
- Good
- Made it from Thursday to Thursday fine but till Tuesday which is almost two weeks from harvest, they were all open (gaping) but close when shaken, still alive.
- Good to better
- Good

Note: For the following responses, Sunray Venus clams were from the November 2010 shipments, which contained the largest clams.

- Second biggest problem. Already gapping in retail sources after short time.
- Fair
- Have to work on

Concerns, Suggestions, or Comments of Survey Recipients and Their Customers

17a) Handling and Storage

- No
- Lasted fine in the refrigerator
- Would have to see how they do in hot summer months.
- Careful handling important so as not to crack shell.
- Appears similar to other clams, somewhat more fragile.
- Would like to see how they hold up in the summer months.
- Didn't try to store them.
- No
- Received 190 clams on 11/10. Examined on 11/13. Had 30 dead clams. One clam had black contents that smelled extreme sewer smell when cooked.
- No
- Need to know best temperature to keep product.
- None
- No
- No
- None
- No
- Some extra care should be given handling this product.
- Same as Florida clams
- N/A
- Good job
- Well drained ice

17b) Packaging/Shipping

- No
- Arrived in good condition.
- Good job on both of these
- Clams as received were good. There would be a concern when being trucked by other handler.
- Not sure what is planned, but similar to hard shell should suffice.
- Will they crack easier than hard clams?
- No
- We received them overnight, would be curious if shipped in an air container.
- No problem
- No
- Styrofoam
- 10 lb units work best, 60 or 80 lb master, air
- None
- No
- None
- No
- 100ct should be fine. I would box several units together for final distribution.
- Same as Florida clams
- Must be shipped with either gel ice packs or some ice, depending on distance.
- N/A
- Well packed

18) Size Preferred and Why

The respondents below received 15/16" SW graded Sunray Venus clams with an average shell width of 0.93 ± 0.05 inches and shell length of 2.42 ± 0.13 inches, shipped 11/8-9/10.

- Smaller size – better plate presentation
- Smaller clams used in Northern California are sautéed with butter
- With the very full meat content, you may want to market these as smaller clams – the larger ones were chewy
- Doesn't matter
- Size was ok
- 10-15 to lb work best, just good selling
- Larger, more eye appealing
- Only received one size
- 1", the bigger meat covers a cracker
- Sized shipped is good. Not too small or large.
- Good size – 7/8" – very nice

The respondents below received 7/8" SW graded Sunray Venus clams with an average shell width of 0.88 ± 0.07 inches and shell length of 2.32 ± 0.19 inches, shipped 12/07/10.

- Good size
- Good shell size – the ones we received
- Probably smaller
- A minimum size should be established to ensure a viable, profitable market
- We got only one size
- Either
- Same sizes, not visible by naked eye
- Size is good, about 2 inches (SL)
- Received 15/16" New York State Law 1" hinge height. They are a little lenient on farm raised clams.
- No preference
- Probably smaller than the ones we had as a test batch.

The respondents below received 13/16" SW graded Sunray Venus clams with an average shell width of 0.84 ± 0.07 inches and average shell length of 2.14 ± 0.25 inches, shipped 1/19/11.

- Sufficient size
- Tapas in Spain use smaller version of this clam – the size you sent plus a smaller choice may help marketing

The respondents below received 3/4" SW graded Sunray Venus clams with an average shell width 0.78 ± 0.06 inches and an average shell length of 2.01 ± 0.16 inches, shipped 5/03/11.

- Slightly larger
- Little small
- A bigger size would have been better so I would not have had to shuck as many
- It was a good size for a new type of clam, not too big or small
- The size was fine for sample. We use both littlenecks and middlenecks for our customers.
- The sizes of the samples were smaller than in Boston. This may be fine commercially if it shortens grow out cycle.
- Perhaps slightly bigger but size shipped ok
- A little larger

Market Demand Questions

Potential Market Demand. Totals per category (% responses), n =33.

Could sell some ...	15	(45.5%)
High market demand	14	(42.4%)
Demand likely low	4	(12.1%)

Comments

- If price is right and availability is good they would sell.
- There are a lot of different clam products they would have to compete against.
- Our use of clams is about 10-20, 100ct bags per week. Market will need to be developed.
- Definitely has potential for significant volume in retail and food service. Pricing will be important. Similar/parity w/hard shell to gain market share initially.
- Compares very favorably to hard clams. Very easy to prepare. Meat “buttery” even when prepared w/o any additional ingredients. Attractive shell an added plus.
- Excellent product - if priced right should sell well.
- Not sure, would depend on price.
- If they could be produced for like prices of hard clams I am sure the market can handle them.
- Really tough meat
- Hard shell clams are the preferred clam in this market, these would have to be a lot cheaper to sell. Plus shelf life was too poor. We currently get no mortality for 10 days on Florida clams.
- Not any better than existing clam products. Difficult to get people to change over or add to menu.
- Taste (negative connotation)
- Depends on price, but clam’s taste and yield could yield high market demand.
- Could take some time to break thru, not knowing the supply.
- Being a totally new item, it will take some time to develop the market.
- Depends on price! Product was very nice, cooked good and tasted good.
- This is a good fit if price is reasonable. Overall impression is of higher value to chefs than other types of clams. Fits our target market, white tablecloth establishments.
- We have a large variety of clams and this is similar to one we carry.
- Difficult to introduce new products into established markets. It requires a lot of time and dedication.
- Too many other choices/options available.
- This cannot be determined until the market is tested.
- It would take some time to unseat the traditional clam in the marketplace.
- One of a kind appearance and taste Great
- Taste, texture, color
- This is similar to the Manila clam. The Manila already has a strong following. This would basically be put up against the Manila market.
- Most of our customers have Manila clams on the menu.
- My choice is all of the above. Depending on price of clams more than littlenecks, demand likely low. Price same as little necks, could sell some. If price around my cost (\$1/dozen) could sell a lot to introduce into the market.
- Many of our customers prefer limited and hard to find items.
- Tapas in Spain use smaller version of clam—the size you sent plus a smaller choice may help marketing.
- Northern California is Manila clam area.

Attractive Attributes for Market Demand. Totals per category (% of total attribute responses), n=94, total respondents=33.

Taste	25	(26.6%)
Shell appearance	21	(22.3%)
Yield	14	(14.9%)
Price	13	(13.8%)
Meat color	11	(11.7%)
Texture	10	(10.6%)

Comments

- When steamed, they were delicious.
- The pink color on cooked clams is most appealing.
- Pricing will determine trial usage and conversion opportunities.
- Taste is most important and impressive, but texture, yield, shell appearance are all additional positives.
- I believe these already come out of Mexico(?) and are sold to Vegas and other local areas. Some of our customers use more SRV clams than hard clams and I believe the price is very comparable.
- Look good, price cheap
- Taste is a drawback.
- Can't talk about price since we don't know. Would just call them Sunray Florida clams since Venus has bad history.
- Would be interested in estimated price landed mid-Atlantic.
- Price should start out competitive w/traditional clam price to encourage use.
- Don't know pricing.
- By all factors, very desirable
- Great meat fill

Season of Peak Demand. Totals per category (% of total season responses), n=41, total respondents=32.

All year	13	(31.7%)
Summer	10	(24.4%)
Winter	9	(22.0%)
Spring	4	(9.8%)
Fall	5	(12.2%)

Number That Could be Sold During Peak Season.

Per day: 1000 clams
 Per week: 100 lbs, 1000lbs+, 15(?), 10-20 bags, 500lbs, 1000, 10-20 bags, 100, 1000-2000, 2000, 100lbs, 5000, 300-500
 Per month: 3000 (1 store), 6000, 50 lbs
 Other comments: Not sure, not sure until we try to sell, unknown, depends on price

Estimated per Piece Wholesale Price.

Average price per clam: \$0.183 (n=22)
 Average price per clam based on business description:
 Restaurant \$0.400 (n=1)
 Broker \$0.180 (n=1)
 Distributor \$0.172 (n= 13)
 Retailer \$0.160 (n=3)
 Other (Processor) \$0.160 (n=1)
 Other responses: \$2.50/lb, \$1.25/lb, \$5.99(?)

Other Comments regarding the Potential Marketability of Sunray Venus Clams

- I believe these could be successful.
- Price would be a big factor in getting customers to try something new.
- Price is determined by your cost in getting them to me.
- Significant potential. Taste and appearance are the driving factors. Production volume would need to be significant to get major retailers on board.
- Would like to know more about seed availability.
- Needs to be purged.
- They are very beautiful clams. I am worried about price, if they have to be purged, how costly they are to grow, and market acceptance.
- The one clam that had black contents and had extreme sewer smell when cooked pretty much ruined the whole experience.
- Tough to answer questions until attempt to sell is made.
- Problem – there is something about the taste – bland, flat – not sweet.
- I think good if price is right. Great yield. Name Venus scares me.
- Our opinion was they are a very nice clam. Since they are about 1 year from being available, it's very difficult to project volume, price or anything else.
- Excited about market potential. How/when can we buy?
- It is going to require a marketing plan, effort, money and time.
- Not a salty finish. This would compete with New Zealand cockles, Pacific Manila clams, and North Atlantic steamers (piss clams).
- We buy by the lb. on Manila clams. These should be sold the same. There is potential, but price and availability are an issue. Must be consistent! It takes roughly 1 yr to develop a new product such as this. In this year you find out all the “peaks” and “valleys”. You guys have to establish a market for them. The market dictates the volume to be sold in which season.
- Pricing subject to availability. ASAP on shipping.
- Push the tapas market. These restaurants/chefs are very popular. The clams will take off from there to a wider market.