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Contract Report on Behalf of Promar International Project "Evaluation of Cultivated Clam Pilot Crop Insurance Program"

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"Evaluation of Cultivated Clam Pilot Crop Insurance Program"

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Comments on Virginia Crop Insurance Pilot Program

Regarding Promar's February 10, 2011 listening session comments:

Optional units are more of a concern for the big players than for the small players. Small players often have limited lease availability so everything they plant may be in one spot so they can only use one unit. The big players have multiple leases in the same creek and in different creeks and the seaside. Part of their risk management strategy is to plant in different geographic areas to minimize one event taking out their entire crop. They may plant near the head of a creek for more reliable protection from the weather or at the mouth of the creek for protection from fresh water inputs. By not having optional units for these locations, their ability to manage risk is compromised.

Some people did not think that the $0.15 price was appropriate, but no mention if they thought it was too high or too low. Smaller independent growers who do not market clams themselves sell to bigger growers or distributors at $0.10 for 7/8 inch clams and $0.14 for 1 inch clams. If one plants before July 16, this pricing gives quite an incentive to have a crop insurance loss the next spring. Actually, if one typically only grows 7/8 inch clams, insurance claims give the grower a 50% premium over the normal selling price not including the savings from labor for not having to harvest the clams.

Regarding inventory reporting, there are very different needs for small versus large growers. Small growers may only buy seed once or twice a year and have only one or two reporting events. Large growers typically plant nearly every week from April through November. A better reporting program for large growers would be helpful.

The story of fraudulent planting in Accomack at first seems plausible due to the detail it contains, but if you look at it more closely, it doesn't ring true. First, if insured through Rain and Hail, the beds would have been inspected within 30 days of planting to check the planting density. Even if insured through RCIS, to qualify for an insurance claim there must have been an EVENT that is insurable and that likely occurred with other growers in the area. Just the loss of clams is not enough to collect an insurance claim. The person propagating the fraud would need to be sure of collecting insurance in order to compensate for the fact that he used twice as much labor and netting to plant his clams, that the 2/3 of the seed planted elsewhere are uninsured, and the cost of doubling his labor to harvest both locations. As far as planting in areas that freeze, that would not be a high probability bet since we can often go four or five years without a significant freeze. While it is likely that there are fraudulent insurance claims made, the examples cited seem to require a lot of effort with a low probability of payoff. The biggest incentive to fraud is the $0.15 payout for less than one year old clams.

Regarding Program Diagnostic Instrument:

Page 1 - 3. Production in the bay is a result of all the creek leases being taken. The greater risk of loss in the bay is because of their very exposed locations. Salinity issues are actually reduced in the bay compared to the creeks but are greater than on the seaside.

Page 2 – 14. The primary market for littleneck clams is probably grocery chains and the main mode of consumption is probably steamed.

Page 14 – 3) Modifying stages would make the insurance program more fair to more people and would eliminate one of the main incentives for "gaming" the program (getting $0.15 for less than one year old clams).

4) GPS positions required for insurance should be precisely qualified so that growers can provide useful coordinates. The coordinates for the outline of a lease could require 10 to 20 points while the center of the lease would require only one, but neither is really much help on the ground. A lease can be 200 acres with the clams planted on only two of the acres. Neither the outline of the lease nor the center of the lease would facilitate the finding of a particular group of clams under this situation. The best way to designate an area may to give the four coordinates of a named block on the grower's lease map where a particular group of plantings are located. Most growers will usually block out their planting areas in this way and usually apply marking stakes to the block. If the assessors/adjusters had coordinates for the four corners of any given block, they could accurately find any group of clams in question.

Recent Trends and Activity Associated with Clam Aquaculture in Virginia – 2010

Recent Growth in Hard Clam Aquaculture

Aquatic harvesting and fisheries have historically been an important economic sector in Virginia. Primarily fisheries have been based upon wild stocks of fish and shellfish. In relatively recent years there has been increased interest in the potential for culturing marine products. Indeed culture techniques were employed extensively in the historic oyster industry prior to endemic diseases destroying the bulk of the wild oyster resource. Today oyster aquaculture is becoming more common and new developments there offer some promise of a possible return to a primary economic endeavor.

Clearly, the most exciting advancement in Virginia's recent history with aquaculture has been the development of extensive culture of the hard clam.

The hard clam, *Mercenaria mercenaria* (Linne, 1758) is a euryhaline bivalve found along the eastern and Gulf coasts of North America ranging from the Gulf of St. Lawrence to the Yucatan Peninsula. It has been the focus of important commercial fisheries along the Atlantic coast. Hard clams are consumed in a wide variety of ways. Generally, the larger clams (>80 mm) are used in chowder and the more succulent littlenecks (< 60 mm) ("nicks") and cherrystones (61-80 mm) ("cherries") are eaten either steamed or raw on the half shell.

Background

Hard clams are grown on coastal submerged lands leased from the Commonwealth of Virginia. As with other forms of shellfish aquaculture, successful clam farming requires good water quality, free from bacterial and industrial contamination. Generally the three steps of production include the seed production, nursery and grow-out. The seed production occurs in land-based hatcheries. Brood stock clams are spawned in a controlled, indoor environment. The hatcheries are relatively capital intensive. The spawned juvenile clams are kept in the hatchery until they reach a size where they can be transferred to a land based or field nursery area. There are probably eight active private hatcheries in Virginia, all but one on the eastern shore. It is estimated that there are about 50 smaller growers who are actively involved in planting seed. Of the growers without hatcheries, many buy ready-to-plant seed of at least 10 mm shell length, while others buy smaller, less expensive seed and grow to planting size in raceways, upwellers, "spat bags", or nursery beds on bottom.[1]

The development of Virginia's industry has centered on the eastern shore where five or six firms contribute an estimated 75% of the overall clam production.[2] The practice of clam

[1] "Clam Aquaculture in Virginia," Dr. Mike Pierson Status of Clam Culture in the United States. February 19, 2000. Virginia Sea Grant Marine Advisory Program.

farming on the western shore is relatively insignificant in terms of overall production, but at times has been an important adjunct to small aquaculturists. Recent years of heavy rainfall have created salinity regimes on the western shore below those needed by hard clams to grow. Reportedly this has virtually halted clam growth and severely curtailed any sales of western shore clams.

By any measure, the supply of aquaculture product continues to grow for almost two decades with recent planting and harvest leveling off. Such growth underscores the importance of evaluating future prospects for expansion in hard clam aquaculture.

The aquaculture methods developed by the Virginia Institute of Marine Science (VIMS) in the late 1960s have provided the technology necessary for an aquaculture industry that has evolved into a multi-million dollar economic engine on Virginia's Eastern Shore. The hard clam is currently considered the most valuable seafood commodity produced among the Eastern Shore's diverse agricultural portfolio -- worth over $20 million at the "farm gate" last year.

Those early VIMS experiments with aggregates on submerged bottom led to the first successful technology for protecting hard clam seed from natural enemies. Predators (primarily blue crabs, but also cow nose rays and others) destroy nearly all unprotected clams smaller than one inch, the most common market size for hard clams. The new methods involved spreading shell, gravel, or other materials (aggregate) over sand or mud bottom before planting seed. With such added protection, large-scale planting became economically feasible.

In addition to enhancing production from commercial clam beds, associated techniques developed by VIMS during the late 1960s provided the vital methods for emerging clam hatcheries to produce a virtually limitless supply of seeds from selected, fast growing parent stock. Further milestones in applied research by the VIMS faculty also provided the means to hold millions of young clams in trays to avoid predation before setting them out on newly developed aggregates.

As a result of Virginia's early development there the State has lead a growing clam aquaculture industry in the U.S. During 1998 (the last year comprehensive federal statistics were published) a reported production of 177,575,000 clams from 360 farms generated farm gate sales of $50,076,000. Of that total, Virginia and Florida were by far the largest suppliers, respectively producing 40% and 43% of the total farm supply. [3] As there was not consistent reporting of production and economic trends in the shellfish aquaculture industry by the U.S. Department of Agriculture (USDA) or other entities VIMS initiated a shellfish grower survey beginning with the 2005 production year. VIMS has subsequently conducted five consecutive surveys with the

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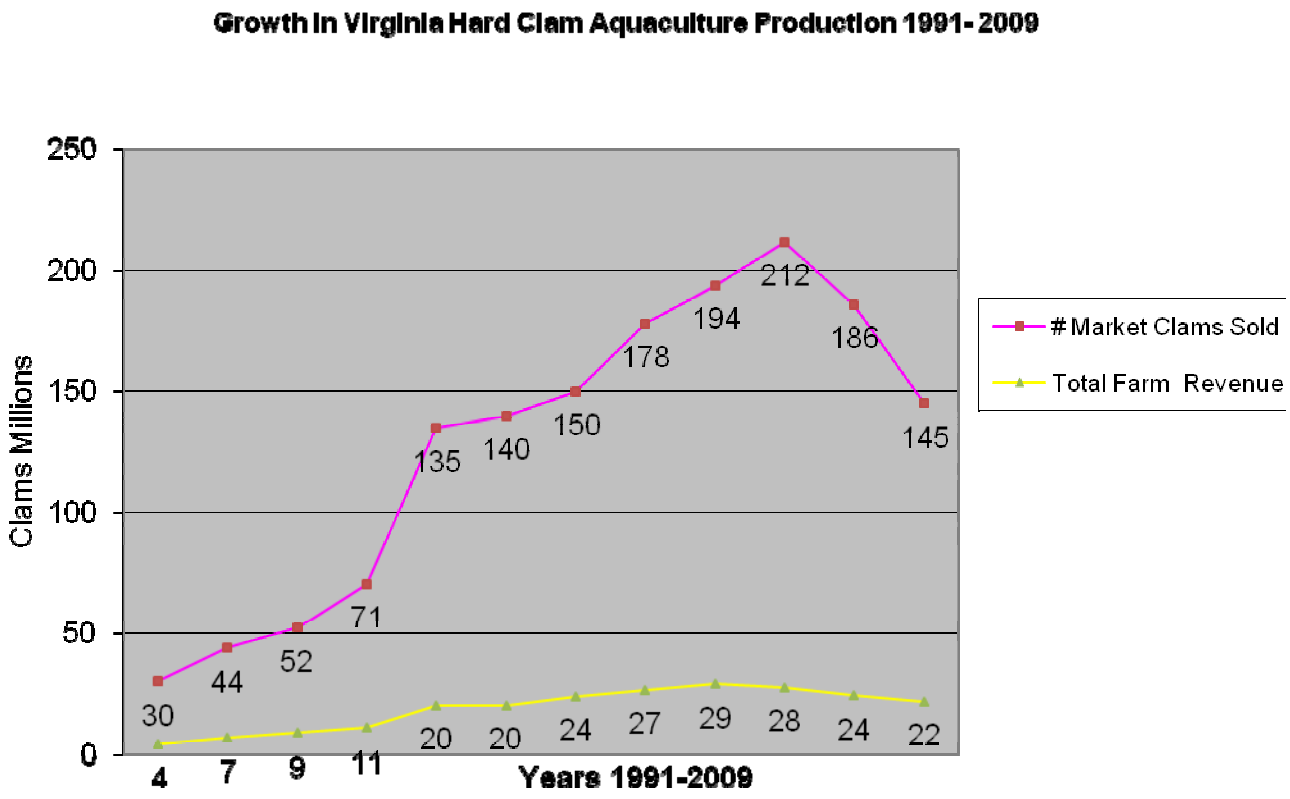
[2] Without the existence of a clam aquaculture permit or certification, prior to 2008, it was impossible to exactly count the number of growers or leases actually being used for clam farming. There is now a permit requirement for bivalve aquaculture leases.

[3] USDA 1998 Census of Aquaculture. http://www.nass.usda.gov/census/census97/aquaculture/aquaculture.htm

2010 growing season annual survey underway at the time of this report. [4] Plans are to continue the annual assessment for Virginia's shellfish aquaculture industry and the generation of regular "Shellfish Aquaculture Situation and Outlook Reports."

As depicted in the figure below, Virginia showed a continued increase in aquaculture supply from an estimated 30 million littlenecks in 1991 to an estimated 2 million clams in 2007. The value of those harvests rose also, from an estimated $4.1 million in 1991 to $29 million in 2006 this estimate reflects and average farm gate price of $.13 per clam in 2006. The average reported price has risen and stabilized at $.15 per clam in 2009 with contraction in overall supply.



[4] See: http://web.vims.edu/adv/aqua/MRR2010_6.pdf for the most recently completed annual shellfish grower survey.