Impacts of COVID-19 on U.S. mollusk businesses:

Quarter 1 Results

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Introduction

On March 23rd, 2020 Virginia Tech Seafood AREC and The Ohio State University Extension initiated an online survey of the U.S. aquaculture, aquaponics, and allied businesses. This survey was designed to capture and quantify the effects of the coronavirus disease (COVID-19) on the aquaculture, aquaponics, and allied industries. The survey closed April 10th, 2020 at 11:59 pm. The survey will be distributed at the conclusion of every quarter for 2020, to attempt to capture the evolving impacts of COVID-19 over time.

Survey methods are detailed in the Virginia Cooperative Extension Fact Sheet VCE-AAEC-218, available at: https://www.arec.vaes.vt.edu/arec/virginia-seafood/research/Impacts_of_COVID19.html.
This report is a supplemental report to the overall survey that summarizes results of **mollusk farm** respondents.

Results

Characterization of Mollusk Respondents

Quarter 1 survey results showed that there were **184 mollusk farm participants**, that represent approximately 21% of the U.S. mollusk farmers reported in the 2018 Census of Aquaculture (USDA, 2019). Fifty percent of mollusk respondents sold their products to a distributor, with 9% selling direct to consumers, 16% selling to restaurants, 12% to a processor, and 5% to other aquaculture farms (Table 1).

Table 1. Primary marketing channel for mollusk respondents.

Category	Percentage
Distributor	50%
Restaurants	16%
Processor	12%
Direct to consumers	9%
Other aquaculture farms	5%

Responding mollusk farms varied in terms of their production scale. Respondents reported annual sales from $1 to $1,000 to in excess of $1 million (Table 2). The greatest percentage (19%) of respondents reported sales in the range of $100,000 to $250,000, this was followed by farms with sales greater than $1 million (18%), $50,001 to $100,000 (17%), and $250,001 to

$500,000 (11%). Annual sales scales for $500,001 to $1 million, $25,001 to $50,000, and $10,001 to $25,000 were all tied at 8% of respondents. Five percent of respondents had annual sales less than $10,000.

Table 2. Scale of mollusk respondent farms/businesses.

Category	Percentage
$100,001 - $250,000	19%
> $1 million	18%
$50,001 - $100,000	17%
$250,001 - $500,000	11%
$500,001 - $1 million	8%
$25,001 - $50,000	8%
$10,001 - $25,000	8%
No response	7%
$5,001 - $10,000	3%
$1,001 - $5,000	1%
$1 - $1,000	1%

In terms of USDA defined aquaculture regions, 52% of respondents were located in the Northeastern Aquaculture Region. This was followed by the Southern Aquaculture Region (41%) and the Western Aquaculture Region (7%).

Table 3. Participation by aquaculture region.

Category	Percentage
Northeastern Aquaculture Region	52%
Southern Aquaculture Region	41%
Western Aquaculture Region	7%

Key Findings

Ninety-seven (97%) percent of mollusk respondents reported that their farm or business had been impacted by the COVID-19 pandemic. Less than two percent said that their mollusk business had not been impacted, and < 2% were uncertain or unsure whether their farm or business had been impacted. Those who reported that their mollusk farm or business had not been impacted, were asked if their farm or business expected to be impacted in 2020; 50% said "probably yes", 33% said it would "definitely" be impacted, and 17% said "probably not". No respondents said that their business would "definitely not" be impacted.

Asked whether their farm or business would survive the next 3 months without external intervention (such as government assistance), only 24% said, "yes". Fifty-nine percent reported that their farm or business would "maybe" survive 3 months without external assistance, and **17% said that their farm or business would not survive 3 months without external assistance** (1% of respondents did not respond to this question). When asked the same question, but for the next 6 months, only 10% said that their farm or business would survive, 48% said "maybe," and **41% said that their farm/business would not survive the next 6 months**

without external assistance (1% did not respond). Responses related to 12 months without external assistance were that **62% indicated that they would not survive**, 31% said that their farm or business would "maybe" survive, and only 7% said that they would survive (1% did not respond to this question).

Lost Sales

Ninety-eight percent of mollusk farm respondents indicated that they had lost sales due to the COVID-19 pandemic. Fourteen percent of mollusk respondents indicated that they had lost sales to international or export markets outside the U.S. In terms of the volume of sales that had been lost, 18% reported losses in the range of $10,001 to $25,000; another 16% said that they reported losses in the range of $25,001 to $50,000, followed by 13% that could not estimate the losses at the time they responded to the survey. Twelve percent reported losses of $50,001 to $100,000; 11% lost from $1,001 to $5,000; 10% lost $5,001 to $10,000; 8% $100,001 to $250,000; 4% of respondents reported losing $250,001 to $500,000, and 3% lost $500,001 to $1 million or in excess of $1 million. Respondents noted that March is normally a strong month for sales; with one respondent reporting 3 months of consecutive losses and another reporting $5 million in losses for the first quarter.

Reported lost sales included canceled private and government contracts; **90% percent of mollusk farm respondents reported losing private contracts** for sales and 6% reported losing government (state or federal) contracts for sales.

Respondents were further asked what challenges they expected to experience on their farms or businesses as a result of the coronavirus pandemic in 2020. **Ninety-nine percent of mollusk farm respondents indicated that they expected to lose sales in 2020**, with 15% expecting to lose sales to international markets. In terms of the volume of sales expected to be lost, 15% of respondents reported that they were not able to estimate the volume at this time. Seventeen percent estimated that lost sales would be in the range of $100,001 to $250,000; 16% $50,001 to $100,000; 13% $25,001 to $50,000 or $10,001 to $25,000; 8% $250,001 to $500,000; 6% $5,001 to $10,000; 4% greater than $1 million; 3% $500,001 to $1 million or $1,001 to $5,000; and 1% $1 to $1,000. Six respondents reported that their farm or business expects to experience in excess of $2 million in lost sales; with one respondent estimating a loss of $15 million.

When asked how long mollusk respondents thought their farm or business could survive without sales before suffering longer term cash flow effects, 51% said 1 – 3 months, 17% said 4 – 6 months, 14% said less than 1 month, 12% did not respond to this question, 3% said between 7 and 10 months, while another 3% reported more than 10 months. **It should be noted that some respondents completed the survey 4 weeks prior to the preparation of this report.**

Labor

Forty-two percent of respondents reported that they had laid off employees as a result of the COVID-19 pandemic. While 24% of respondents indicated that they "will have to soon". Thirty-four percent had not laid off employees. The numbers of employees laid off varied amongst respondents, but the majority (56%) of mollusk farm or business respondents indicated that they had laid off 1 to 3 employees. Another 20% had laid off from 4 to 6 employees, 11% between 11 and 15 employees, 7% greater than 20 employees, and 4% between 7 and 10

employees. **An individual respondent reported having laid off as many as 329 employees**. One respondent reported having to move in excess of 290 employees to standby, in addition to implementing pay cuts for employees earning above a set salary level and owners working without pay.

Respondents were also asked how many weeks before they would have to decide whether to lay off employees. **Sixty-four percent of mollusk respondents indicated that they would have to decide within 1 – 3 weeks whether to lay off employees.** Fourteen percent said that they had less than a week to decide whether to lay off employees, and another 14% said that they had between 4 to 6 weeks to make that decision. Only 2% of respondents indicated they had more than 10 weeks to make a decision about laying off employees. **Again, it should be noted that the data collection period was open for 3 weeks, which means that some respondents completed the survey 4 weeks before the preparation of this report.** Mollusk respondents were further asked how many employees they would need to lay off at that time. Eighty-one percent said that they would have to lay off from 1 – 3, 10% said that they would have to lay off between 4 and 6 employees, 5% between 7 and 10 employees, and 2% more than 20 employees. Respondents who indicated more than 20 employees, did not specify an exact number. Of those employees who had been laid off, 40% of mollusk respondents indicated that these were "Short-Time" or "Shared-Work" employees.

Thirty-eight percent of mollusk farm respondents had experienced some type of labor challenge. Some respondents reported employees to have missed work due to the COVID-19 pandemic. Those who missed work included those who were instructed to self-quarantine at home due to symptoms exhibited. Twenty-three percent of mollusk farm or business respondents indicated that employees had missed work, while 77% reported that employees had not missed work due to the coronavirus. **Of those respondents who reported employees missing work, 32% reported 11 to 14 lost days, 27% reported in excess of 14 lost days**, 22% reported 7 to 10 lost days, and 10% reported between 4 to 6 or 1 to 3 lost days of work.

Some respondents commented on labor challenges related to being unable to manage or harvest crops due to illness or shelter in place orders. One respondent expressed challenges with trucking or delivery of product due to labor shortages, another respondent commented on the inability to sell product direct to consumers because employees are unable to complete required Food and Drug Seafood Hazard Analysis of Critical Control Point training.

Challenges to the Farm or Business

Mollusk farm respondents reported a variety of different challenges to their farms and business that included production challenges not related to labor; including effects of holding market-ready product for extended periods of time, interruptions to inputs such as gear or seed, delays in permitting, inspections, or training to be able to access new markets, lower farm-gate prices, and challenges with financial services. Thirty-two percent of mollusk farm or business respondents reported experiencing production challenges not related to labor. Forty-six percent of mollusk farm respondents reported "other" challenges for production, of which seed was the primary challenge. Several respondents mentioned challenges with obtaining new seed or being able to pay for seed orders due to a current lack of revenue. A few respondents also commented that holding market ready product on their farms is preventing them from planting new seed, which

will have longer term effects on their business. Some respondents likewise noted that it was not possible to obtain additional gear or equipment to expand their ability to hold product or plant new seed. Sixteen percent of respondents reported increased costs for production. Comments related to increased costs of production were in reference to the cost of moving product to markets or holding market ready products. Respondents also noted challenges with obtaining specialized equipment or services for repair or maintenance. Vessel repair and fabrication were specifically mentioned by respondents. A few respondents noted interruptions in construction services that will lead to additional costs to complete those projects in the future.

Nearly half (48%) of mollusk respondents indicated that they could hold market-ready product for 1 to 3 months before it would interfere with future crops. Twenty-two percent said that they could hold market-ready product for 4 to 6 months before it would become a problem for future crops or plantings, and 11% said that they could hold market-ready product for less than 1 month before experiencing consequence for future crops. Only 7% of respondents could hold market-ready product for more than 10 months before experiencing issues with new crops or plantings. As noted earlier, several respondents indicated concerns about a lack of space for new seed. A few respondents noted that holding market ready product was increasing the density of product in their culture units, potentially leading to increased mortalities. Some respondents noted that their products were sensitive to the warmer water temperatures which could increase mortalities if products are not harvested soon; resulting in fewer sales.

Compounding the challenges described above is that larger shellfish are often less marketable and bring lower prices. Many respondents commented that products (especially half-shell oysters) would grow beyond the target market size before markets opened back up, making them less valuable. Clam farms and businesses also noted that holding product would lead to reduced value. Several respondents commented on reduced quality of larger products, which would affect price, and general increased risk of keeping product in the water longer. These comments included discussion about the potential for diseases to cause mortality, crowding of culture units as product sizes increased, and natural mortality of products due to age. A few respondents expressed concerns that the ideal marketing period for their products had already passed and that their only recourse was to sell at reduced prices or dump their product. A few respondents indicated concerns about product prices falling in response to an influx of supply when markets re-open.

Challenges related to production inputs (feed, therapeutants, etc.) were reported by 22% of mollusk farm respondents. Additional production challenges reported by mollusk farm respondents included: challenges with repair, construction, consulting, or engineering services (36%), financial services (31%), and 17% of respondents who could not specify specific production challenges at this time.

Financial services challenges mentioned by respondents included: loan service needs for the 2020 growing season, not being able to pay off equipment loans and other financial obligations due to not being able to generate revenue. A few respondents noted challenges with obtaining loans or financing due to their inability to demonstrate sales or unfavorable financial positions (debt/asset ratio). In terms of expectations for the coming months, 45% of respondents expected

to face labor challenges, 42% expected to face production challenges, and 23% of respondents expected increased costs of production.

Marketing of Products

Sixty-nine percent of respondents indicated that holding market-ready product would make it less marketable in the future. Seventy-nine percent responded that holding product would result in a reduced quantity sold and 74% responded it would result in a reduced price for products. A few respondents expressed concerns that the ideal marketing period for their product had already passed (March – April). One respondent expressed concerns about a long term loss of demand for their product. A few respondents expressed concerns about dropping prices as farms and businesses rush to sell product when markets reopen. Several respondents expressed challenges in switching to a new marketing channel. One such comment discussed the inability for employees to obtain necessary certifications and training to be able to sell direct to consumers. Another comment in a similar vein expressed challenges with obtaining the necessary licenses to adjust their marketing strategy. One respondent expressed challenges with trucking and delivery to get products to consumers. A different respondent commented that missing their ideal marketing period would result in them foregoing any sales in 2020. Several respondents commented that they have no ability to generate revenue without sales.

Increased Demand for Products

Two percent of mollusk respondents reported increased demand for their products. Of those respondents that indicated an increased demand for their products, 25% could not estimate the value of increased sales at the time of completing the survey. The remaining respondents either experienced between $5,001 and $10,000 in increased sales (25%), between $1 and $1,000 (25%), or chose not to respond to this question (25%).

Assistance to Farms/Businesses

The survey also included questions on the types of assistance that might be helpful to the farm or business of respondents. Seventy-two percent of mollusk respondents indicated that federal assistance would increase the likelihood of survival of their farm or business. Fifty-seven percent said that assistance from the state, 28% from local government, and 19% from associations would be helpful.

When asked more specifically about the types of assistance that would be helpful to their farm or business, 40% of respondents said that waiving or delaying state fees would be helpful, 32% said assistance identifying new markets, 31% said loan guarantees, 27% said specialty crop insurance, and 8% said tariff relief. Fifteen percent of respondents suggested other measures that would be helpful to their farm or business. Several respondents commented that grant programs at state or federal levels would be helpful to their farm or business. A couple of respondents specifically mentioned support for buying and planting seed. A few respondents mentioned that loans were not helpful given their current financial positions. One respondent mentioned support from Extension to stay informed of current financial, insurance, and market opportunities. Another respondent commented on debt forgiveness programs, while another mentioned financial support programs for shellfish farms that should parallel government programs for disaster relief for lost income to fishermen. When asked if there were existing programs for which their farm or business does not currently qualify that would be of assistance during the

pandemic, only 14% said, “Yes,” with 11% saying, “No,” and 75% did not respond to this question.

Additional comments by mollusk respondents included a variety of suggestions regarding insurance products. These comments focused on the need for better insurance products and the risks of holding product for extended periods of time due to natural disasters (hurricanes and storms). Respondents also provided additional comments on the topic of assistance for identifying new markets. Many of these comments focused on assistance establishing direct to consumer marketing channels. Some respondents commented that encouraging the consumption of mollusks in the home would be helpful to their business. A couple of respondents suggested it would be helpful to have assistance with establishing export markets for their products.

The most common comments made by mollusk farm and businesses respondents to the survey centered on grants and cash payments to farms. The second-most frequent comments were related to various forms of financial services, including loan guarantees, low-interest loans, debt forgiveness, exemption of interest payments, and deferred loan payments. Additional suggestions focused on programs to buy less-marketable shellfish for restoration purposes. In addition, a few respondents made comments about requiring additional funding through the CARES Act.

At the state level, several respondents made comments about grants and cash payment programs. There were also comments made by respondents about suspending certain requirements or waiving fees for licenses and permits; some focusing specifically on barriers to transition towards direct to consumer sales. A few respondents suggested that states should purchase oysters for restoration purposes while markets remain closed. One respondent commented that it would be helpful if states could enact emergency leases to allow for expansion to hold market ready product so that it would not interfere with future crop plantings. A few comments suggested that states waive or temporarily reduce state taxes.

At the local level, comments focused primarily on the need to promote local sales and consumption of local products. A few comments addressed keeping local markets open to provide an avenue to sell direct to consumers. A few comments also mentioned the delay of local lease fees and property taxes would be helpful to farms or businesses.

Beyond government assistance, mollusk respondents also suggested ways for aquaculture associations to help their farms or business. The majority of comments focused on continued promotion and advocacy for U.S. raised aquaculture products. A few comments suggested providing information on financial, marketing, and training programs to help farms and businesses. One comment suggested the organization of a “drive through” seafood market, while another suggested organizing a seafood festival when markets reopen.

Discussion and Conclusion

Responses by mollusk farms and businesses to the Quarter 1 survey show that the U.S. mollusk industry has been severely impacted by the COVID-19 pandemic. Nearly all (98%) responding mollusk farms or businesses had experienced lost sales, with 90% having had orders from private companies canceled and 6% having had government (state/federal) orders canceled. One

respondent reported losses for the first quarter of 2020 of $5 million, with another respondent estimating lost sales for 2020 to be $15 million. While lost sales were the immediate impact for farms and businesses, other challenges were mentioned related production challenges, financing, and other essential services that are critical to survival of the farm or business. A majority of respondents (69%) indicated that holding market ready product would make it less marketable in the future; with consequences for sales volumes, sales prices, but also the ability of farms to purchase and plant new seed. This suggests longer term consequences for mollusk farms and businesses that will likely extend beyond 2020. Of serious concern is that only 24% of mollusk farm and business respondents indicated that their farm or business would survive the next 3 months without external assistance. There is a critical need to find solutions for the challenges identified by mollusk farms/businesses. Given that survey results showed that there will be longer-term effects on the U.S. mollusk industry (only 7% of respondents indicated they were confident of surviving 12 months without external intervention), it will be important to continue to monitor changes throughout the year.

Key findings from mollusk farm and business respondents include:

- 97% have been impacted by COVID-19
- 90% have had orders/contracts canceled
- 66% have or will soon have to lay off employees
- 98% have experienced lost sales
- 24% can survive 3 months without external intervention

References

United States Department of Agriculture. 2019. 2018 Census of Aquaculture. National Agricultural Statistics Service, USDA, Washington, District of Columbia, USA.