POMS UPDATE - SUMMER 2016/17 # 4 Jan '17.

We started this newsletter to provide a brief update to Tasmanian oyster growers on what was/is happening with POMS. Our aim has been to inform industry so that they can make better decisions about their operations. However, we have been pleasantly surprised that many 'mainlanders' and 'bureaucrats' have also been interested in receiving the newsletter, and we are more than happy to circulate it to anyone who is interested. Nonetheless, we have decided to keep the format as is for the present – brief summary focussed on the Tasmanian oyster industry.

As we have said previously, we are collating information for the newsletter that is currently available to us, but it is not an official record of events.

BIOSECURITY TASMANIA - JOHN PRESTON

The areas impacted by POMS in Tasmania at this stage remain the same as where the virus first appeared in February 2016. The final area to succumb was Little Swanport where samples taken on the 17 January 2017 were confirmed as being infected after a PCR test at Mt Pleasant Laboratory. The results of this test were quite interesting in that there were two groups of oysters submitted that were very different in appearance and provided unexpected results.

The first group consisted of 7 oysters that were clearly dead with most soft tissue missing, only a little gill mantle remained. The oysters were gaping quite widely. The second group were 23 oysters in a 30 to 40 mm size range that outwardly appeared very fit and healthy. There were no obvious clinical signs of POMS and the oysters were not losing water or showing signs of any physical distress. Both groups of oysters came from the same part of the lease and were in close physical proximity. One group showed indicative signs of POMS, the other group, nothing.

When the results came back I was not surprised to find that all 7 of the gaping oysters were confirmed by PCR to have POMS. What did surprise me was that 11 of the 23 other healthy looking oysters were confirmed to have POMS as well. In addition another 3 oysters results were suspicious. In total of the 30 oysters submitted, 21 of the 30 were either suspicious or positive and 18 were recorded as positive.

This is interesting to me as it confirms that POMS can be present in significant numbers of oysters on the farm without showing clinical signs. This supports earlier reports where "active" virus is not observed until oysters are graded or stressed in some way.

It is also a clear message to everyone to not be complacent about POMS on their farms. Lack of obvious disease activation does not mean that you don't have POMS and everyone should remain vigilant and continue to engage in sound Biosecurity practices as they go about their farming business.

Looking ahead I will be undertaking the POMS Summer surveillance sampling in Great Bay on Wednesday 8 February 2017. This will be a really interesting survey, where the results will be significant either way.

Firstly, a positive result will alter the areas classification to "Infected" and as such this classification will apply to all Leases in the D'Entrecasteaux Channel. Conversely, a negative result will mean that the current "Intermediate" classification will be amended to "Free". As a result, if the area becomes "Free" it will require re-testing at the end of summer. It is expected that results should be known by the middle of the following week.

Finally, I remind everyone to be aware of what they are doing in a "POMS" context and to call me either with concerns or information, or if they have any questions in relation to POMS. IF I can't help personally, I will find someone who can.

My contact details are: John Preston:

mob: 0428 504 150 or phone; 6165 4825

Email: john.preston@dpipwe.tas.gov.au

UTAS IMAS - CHRISTINE CRAWORD and SARAH UGALDE

Window of infection study

The big question at the moment is whether POMS is finished for this summer, or whether mortalities will continue to occur. We are continuing with our window of infection research where we are putting out new 2240 spat every two weeks to see if there are patterns in the time sequence of mortality. This work will continue until around the end of February when our supply of spat runs out.

Our latest results show an average of 28% mortality for our sentinel spat in Blackman Bay. However, our comparison of intertidal to subtidal spat at Blackman Bay provided a wide range in mortalities: intertidal sites 0-54% and subtidal 9-92%. We found no mortalities in our spat in Dunalley Bay, in either intertidal or subtidal locations. At Little Swanport earlier this week mortalities averaged 32%, although spat that had been in place for 4 weeks had much lower mortalities (12.9%), which suggests a handling effect. Last week sentinel spat mortalities at Pipeclay Lagoon averaged 25%, and were variable at Island Inlet averaging 10% across 6 farms and 57% at the two most south-western sites.

POMS mortality evaluations

Our next major research effort is POMS mortality evaluations (previously referred to as Outbreak Investigations) in POMS infected areas – working with oyster farmers to count the numbers of live and dead oysters on their farms using a uniform counting method, counting oysters from a sufficient number of baskets/trays to provide meaningful data, and documenting all the relevant information about each batch of oysters that are being counted.

This work is being done in collaboration with ASI and Peter Kube from CSIRO. They are concentrating on the genetic information and we are focussing on farm management and environmental effects. We conducted some preliminary counting trials at Shellfish Culture's

Pipeclay Lagoon farm depot last week and developed a guide for determining number of baskets/trays to be sampled, and number of oysters within each basket to be counted.

Data that we would like for each batch of oysters counted includes:

- Location within lease (including if possible height in water column and location on row)
- Genetics of each batch (naïve, EBV) and ploidy,
- sub-batch – splitting into fast, average or slow growers,
- time on lease and any history of lease movements
- time and type of handling in previous two weeks
- size and density of oysters
- Environmental information (we will collate much of this) – temperature, salinity, substrate type, tide/current movements, proximity to channel, proximity to feral oyster beds, biodiversity etc.

We are happy to work in with any oyster farmers who want to do mortality counts on their farms and have good records for their batches of oysters. We can assist with determining how many baskets of oysters to sample and oyster sampling methods (so everyone does it the same way and results can be compared across different environmental conditions and farm management methods). We can also provide templates for data records if required, and will assist with counting oysters on farms as much as possible.

Our aim from this study is for all of us to learn as much as we can about the virus this summer, using information collected in a standardised manner across a number of farms. This will inform farm management decisions by each grower going forward, as well as leading to more detailed and focussed research by us next season.

We would also like to reiterate our previous request to please keep records of what you observe on your farm in relation to the POMS outbreak, and to pass this information on. At the end of the season, we will be collating all the data and information that we have, and plan to have a one day workshop (date to be determined) for all involved in the Tasmanian oyster industry to discuss the results and plan for the future.

Any questions of us or information to pass on, please give us a call or send an email.

Contact: Christine Crawford: 0428 277 222 or Christine.Crawford@utas.edu.au

Sarah Ugalde: 0467 750 337 or Sarah.Ugalde@utas.edu.au

ASI - MATT CUNNINGHAM

YC16 Breeding season

The YC16 breeding season has all but concluded. The 76 families produced are in the nursery system at IMAS and range from around 3mm down to about 1mm. Now that the families have been successfully produced, our focus has been getting the spat up to size (2-3mm) to be deployed into the field for a "small spat" POMS challenge. The first 40 families to be produced have reached this size and a sub sample of each family was deployed into Pipeclay lagoon this week. The remaining 36 families are 3 weeks behind the first lot so should be deployed into the field in around 3 weeks. We will be watching this trial with great interest.

YC15 Trials

We have recently collected data from our YC15 trial at Pipeclay. As the table below shows our families at Pipeclay had a more extreme POMS hit than they did in Pittwater. Georges River in NSW still takes the cake as far as extreme POMS events are concerned. The majority of our YC15 broodstock are housed at Pipeclay so they have had good selection pressure applied, which is good news in terms of their value as commercial broodstock. It is, however, hard to take too much joy out of this, knowing the devastation this outbreak has caused. Peter Kube from CSIRO says the most encouraging thing about the results from this trial is that the top performing families are consistent across sites and showing excellent survival. **Note: These are results for 1 year old animals**

SITE	Average Survival	Best Fam	Worst Fam
Pittwater	50%	97%	3%
Pipeclay	30%	82%	1%
Georges R	22%	85%	0%

Commercial sampling

Assessments of the commercially produced ASI families has begun in Pittwater and Pipeclay Lagoon. We have developed a sampling strategy that will be consistent across batches, racks and regions. It is too early for ASI to start releasing results from this as we simply have not assessed enough sites. I will say that I am buoyed by some of the preliminary results I have seen. As soon as we have sufficient confidence that we have good representative data we will be releasing the results. If you have some of the new season high EBV stock on your farm and would like to work with ASI on data collection please email me at matt@asioysters.com.au

Finally just to repeat if you have any questions regarding EBV's and predicted survival of the ASI lines please feel free to contact me at the above email or on 0417965405.
Cheers Matt

POMS LIAISON OFFICER - ELLIS COX

In early November 2016 I took on the role of POMS Liaison Officer. This role was created from Federal Government funding for the purpose of assisting the industry to identify strategies to support the Tasmanian oyster industry as it adapts to operating in a POMS infected environment. I am located within the Marine Farming Branch and report to a Steering Committee made up of Industry Representative bodies (OT, TSIC), Government agencies (Biosecurity, Water and Marine Resources, Agribusiness), IMAS and Industry Growers.

As part of this brief the POMS Recovery Steering Committee has directed me to develop a recovery strategy document to assist growers in the development of strategies for the ongoing sustainability of individual businesses and the industry as a whole. I hope to have this strategy document available to growers later this year.

Over the past few months I have been liaising with bio-security officers, researchers, industry representatives and oyster growers to build an understanding of the Tasmanian oyster industry and the POMS disease. A number of ideas and strategies have been identified by Australian researchers and in other oyster growing countries such a France and New Zealand. However, questions remain about which of these strategies might be practical, cost-effective options for Tasmanian growers to consider.

As we learn more about the characteristics of the disease, how and where it is likely impact each season and the success of the POMS resistance breeding programs, the path forward for growers is likely to become more certain.

I am very interested in speaking to anyone about this disease and invite all of you involved in the industry to contact me to discuss your ideas and concerns.

My contact details are: Tel:(03) 6165 4848, Email: Ellis.Cox@dpipwe.tas.gov.au

Finally, a very sad picture from Pipeclay Lagoon, but we are learning lots about POMS this summer.