

POMS UPDATE - SUMMER 2016 # 1 November

INTRODUCTION:

Christine Crawford from IMAS and John Preston from Biosecurity Tasmania have got together and decided to provide regular updates to industry on what is happening with POMS on Tasmanian oyster farms over the summer of 2016/17. John will focus on Biosecurity Tasmania management issues and Christine will provide updates on research occurring as part of the CRC-P Future Oysters program. Christine and John will coordinate updates at least once a month and provide them to industry via Oysters Tasmania. They will also provide relevant information and reports on the Oysters Tasmania website.

JOHN PRESTON - BIOSECURITY TASMANIA

Spat Movement Paper

I will be contacting all Bay Groups during November to finalise the adoption of the Spat Movement Paper and specific Bay Group Permit requirements as described at Shellfish Futures. If anyone requires a copy of the Spat Movement Paper please contact me.

BT POMS Surveillance Program

I will also be contacting growers in areas targeted for the BT POMS surveillance program to gather information on stock profiles in the targeted surveillance areas. The areas identified for surveillance by BT this summer are Circular Head, Port Sorell, Georges Bay, Great Bay and Norfolk Bay. BT's surveillance program is different to that being undertaken by Christine's research project. BT is looking for evidence of the **presence of the virus (before mortalities)** whereas Christine is looking for **active disease (clinical signs of disease including mortalities)**.

I will be monitoring water temperatures prior to commencement of surveillance testing using the Yield sensor data and grower provided data.

Oyster Hatcheries

I will be working with Hatcheries to progress their Biosecurity Plans to the stage where they are all externally audited.

Movement Permits

As all existing movement permits expired on 31 October, I urge growers to make **application for replacement permits through www.pomstas@dpiwwe.tas.gov.au** Permits will be granted in most cases until 31 March 2017 but may be revoked earlier if required.

Contact

For any POMS related matters please contact me on [0428 504 150](tel:0428504150) or [6165 4825](tel:61654825), or email john.preston@dpipwe.tas.gov.au

CHRISTINE CRAWFORD – UTAS, with Jeff Ross and Sarah Ugalde

The Australian Government has funded an industry focused project CRC-P Futures Oysters in Tasmania, NSW and SA that has three themes: Better Oysters, Healthy Oysters, and More Oysters. A major component is the ASI selective breeding research program in the Better Oysters theme.

In the Healthy Oysters theme IMAS has a project 'Advanced understanding of POMS to guide farm management decisions in Tasmania' with Objectives:

- 1 To determine i) the periodicity of infection of OsHV-1 virus in Tasmania, ii) advance the understanding of the drivers of POMS disease outbreaks, and iii) develop a predictive framework that allows the Tasmanian oyster industry to forecast danger periods for POMS.
- 2 To develop farm husbandry and handling protocols to maximise oyster production in POMS infected growing areas by investigating oyster survival in relation to: i) subtidal versus intertidal culture, ii) high water flow areas compared with low flow, iii) reduced handling, iv) size and timing of spat onto growout farms, and v) stocking density.
- 3 To investigate the value of real time data from Tasmanian oyster farms to optimise PO production systems (The Yield).

Although the CRC-P project still has not been finalised, we are proceeding on the assumption that it will go ahead because the research needs to get underway asap.

We are currently concentrating on setting up for Objective 1, to determine the window of infection for POMS in south eastern Tasmania, associated environmental conditions and whether there is one virus outbreak or several waves of the disease. This involves placing sentinel spat on representative farms every fortnight and recording oyster mortality and environmental characteristics (e.g. water temperature) after two weeks, and taking a subsample for later PCR analysis for the OsHV-1 virus. We are focussing on five Growing Areas that were affected by POMS earlier this year: Blackman Bay, Upper Pittwater, Lower Pittwater, Little Swanport, and Pipeclay Lagoon, and have commenced deployment of the sentinel spat. We plan to have these spat on all farms by 16 November and will then focus more on Objective 2. Our sincere thanks go to Phil Glover for his advice and for constructing the floating baskets with mooring system to hold the sentinel spat. We are also extremely grateful to Shellfish Culture for donating 110,000 spat to the project.

This research is being conducted in collaboration with the University of Sydney because of their previous experience and research on POMS. Their POMS information is available on the website <https://oysterhealthsydney.wordpress.com/our-poms-research/>

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KEVIN ELLARD – DPIPWWE

As most oyster producers will be aware, archived plankton samples collected in the Hobart port four weeks prior to the first report of POMS in Tasmania were retested to determine if the OsHV-1 virus was present. These samples were collected as part of surveillance for marine pests. Approximately half of the samples tested returned positive results for OsHV-1, suggesting that this method might be an alternative surveillance tool. Surveillance for POMS currently relies on intensive sampling of oysters using qPCR testing, however this method is expensive.

As part of the *Advanced understanding of POMS to guide farm management decisions* Project, officers from DPIPWWE Biosecurity Tasmania and the South Australia Research and Development Institute will collect a series of plankton samples throughout the year in an attempt to determine if the virus can be detected prior to disease occurring in oyster growing regions. We will work closely with Christine's team involved in the *define the window of infection for POMS in Tasmania* activity. Plankton samples will have the DNA extracted using SARDI's Root Disease Testing Service (RDTS) extraction method, and be tested at the CSIRO Australian Animal Health Laboratories.

Ports and other high-risk sites near Pacific oyster growing regions in Tasmania and South Australia will be sampled using plankton tows and sentinels to validate methods in 'free' areas and to provide information on the risk to uninfected areas from shipping and other identified threats.

MATT CUNNINGHAM – ASI

We have a lot of activity at the moment with the 2 main areas of focus being the preparation of field trials for our YC15 family lines and preparation for production of our YC16 families. As is the case for all in industry post the arrival of POMS, the vast majority of our protocols and operating procedures have required a significant overhaul which means that we don't really have any straight forward tasks anymore.

Field Trials

To be able to collect high quality POMS mortality data we need to set up well designed replicated field trials. As many of you will have seen POMS outbreaks patterns can be somewhat cryptic across leases and even racks. Properly designed field trials allow us to measure the genetic effect in terms of POMS resistance and eliminate any spatial influences. Over the last 3 weeks we have set up trials in Pittwater, Little Swanport and Pipeclay Lagoon to ensure we have trials in a variety of sites. A big thanks to Barilla Bay, Shellfish Culture and Oyster Bay Oysters for working with ASI on these trials. In addition to this we will be collecting data from commercially produced ASI lines to allow us to make robust predictions of performance for younger spat. We have started to talk to commercial

producers regarding this process which will be an opportunistic approach backed up by good stock record keeping.

YC16 family line production

We have had to completely refurbish the IMAS facility to achieve a level of biosecurity which will allow us to successfully produce these families. The broodstock conditioning area is now complete and we have our most resistant YC14 and YC13 lines in the system. We next turn our attention to completing the larval rearing and spat settlement areas. Due to the significant amount of work required at the facility our spawning dates have been pushed back. The first families will be spawned on the 21st of November and the last of the families will hopefully be settled New Year's day. A big thanks to the guys at IMAS for the work they have done to this point and to ASI staff in advance for the weekend and Holiday work they will be doing over the next 2 months.

I would also like to take this opportunity to thank all of ASI's partner organisations for their efforts so far but in particular Peter Kube from CSIRO. ASI is a small organization but we gain strength from our collaborative relationships with groups such as CSIRO. Peter has been involved in the selective breeding program for over 10 years and his technical input and support has been a major reason for the successful outcomes we have achieved so far.

We hope that you find this POMS newsletter interesting and we welcome feedback, especially on what information you would like included in these updates.

Christine and John



Floating baskets with sentinel spat



ASI field trials