THE UNIVERSITY OF SYDNEY

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Pacific Oyster Mortality Syndrome (POMS): Fact Sheet 5

Restocking after POMS

Pacific Oyster Mortality Syndrome (POMS) is a serious disease of Pacific oysters that is caused by infection with *Ostreid herpesvirus 1* (OsHV-1). Research supported by FRDC at the University of Sydney revealed that this virus can survive for 2-3 days in seawater and for at least a week in dried oyster tissues[1] however, it persists elsewhere in the environment for much longer periods and this leads to recurrent seasonal outbreaks[2,3,4]. There is profound risk and there are many practical difficulties for restocking a farm after an outbreak of POMS.

The window of infection

POMS is a seasonal disease. Based on detailed observations of POMS on farms in NSW, the seasonal onset is related to water temperature, but water temperature alone is not enough to explain the outbreaks. Nevertheless, the outbreaks in NSW since 2010 have not commenced until average daily water temperatures reached 20°C, and have not ceased in autumn until they fell below 16°C. The effect of water temperature was confirmed in laboratory trials. These temperatures are associated with a danger period called **the window of infection.** It lasts from late October until late May around Sydney, NSW. Water temperature may be a useful marker of potential risk.

POMS disease expression during the window of infection

In each estuary there are two to four discrete virus exposure events each season[2,3,4]. However, not every bay in an infected estuary is affected every year, and there are substantial variations in the severity of outbreaks between years (unpublished observations). This can lead to a false sense of security and temptation to restock too early. In NSW, all attempts since 2010 to restock commercial quantities of *C. gigas* in POMS affected estuaries during the warmer months have failed.

When is it safe to restock after POMS?

The window of infection of POMS for Tasmania is unknown, and needs to be determined as a matter of priority. This will require detailed experimental studies over a number of years. **The following recommendations are made in good faith. They are untested. They will be modified when more data become available.**

We recommend NOT RESTOCKING farms in an infected estuary until average daily water temperature has stabilised at or below 16°C in the autumn. Furthermore, we recommend harvesting oysters that are market ready before average daily water temperatures reach 20°C the following spring/summer. Oysters that cannot be sold are at risk of POMS. Please see POMS Fact Sheet 2 for husbandry recommendations. Water temperatures are being monitored in a consistent manner on representative leases in Tasmania, New South Wales and South Australia as part of FRDC project 2014-040. Data are available at www.oysterhealthsydney.org - see “Our POMS Research” page.

[1]Hick P, Evans O, Looi R, English, C, Whittington RJ 2016. Stability of Ostreid herpesvirus-1 (OsHV-1) and assessment of disinfection of seawater and oyster tissues using a bioassay. Aquaculture. 450, 412 – 421.

[2]Paul-Pont, I., Dhand, N.K., Whittington, R.J., 2013. Influence of husbandry practices on OsHV-1 associated mortality of Pacific oysters *Crassostrea gigas*. Aquaculture 412, 202-214.

[3]Whittington, R., Dhand, N., Evans, O., Paul-Pont, I., 2015. Further observations on the influence of husbandry practices on OsHV-1 µVar mortality in Pacific oysters *Crassostrea gigas*: age, cultivation structures and growing height. Aquaculture 438, 82-97.

[4]Whittington, R., Hick, P., Evans, O., Rubio, A., Alford, B., Dhand, N., Paul-Pont, I., 2015. Protection of Pacific oyster (*Crassostrea gigas*) spat from mortality due to *Ostreid herpesvirus-1* OsHV-1 µVar) using simple treatments of incoming seawater in land-based upwellers. Aquaculture 437, 10-20.