THE UNIVERSITY OF SYDNEY

2nd February 2016

Pacific Oyster Mortality Syndrome (POMS): Fact Sheet 3

Disinfection procedures

Pacific Oyster Mortality Syndrome (POMS) is a serious disease of Pacific oysters that is caused by infection with *Ostreid herpesvirus 1* (OsHV-1). This virus can survive for more than 2 days in seawater and in dead oysters for at least 1 week at 20°C, even as dried tissue on a plastic surface[1]. Therefore, it is not just the movement of live oysters that can spread disease. It is critical to disinfect water and equipment to prevent disease in new locations and to prevent recurrence of infection at a later time.

The key to successful decontamination is to identify *all* potential sources of contamination and to thoroughly clean before disinfecting.

Cleaning

For water, remove solid wastes by settling or using a coarse filter.

For equipment and infrastructure, use manual scraping or a high pressure hose. In each case the solid material should be collected and disposed of in landfill, by incineration or other suitable means. Waste water should be treated as below.

Disinfection after cleaning

Recent research[1] has shown that the following methods are suitable:

Water. Heat to a minimum temperature of 50°C for 5 minutes. Alternatively add Virkon (Virkon®S or Virkon® Aquatic) to a final concentration of 1% and leave for 10 min. Alternative chemical disinfectants are listed below. Ultraviolet light is not recommended because the dose is difficult to measure and may be ineffective if there are suspended particles; ozone has not been evaluated.

Dead oysters, waste and contaminated equipment. Where possible, immerse in a water bath and heat to a minimum of 50°C for 5 minutes or apply one of the following chemicals at these concentrations for the duration indicated: Virkon (1% for 10 min); sodium hydroxide (20 g/L for 10 min); iodine (0.1% for 5 min); benzalkonium chloride 0.2% for 10 min (e.g. 'Disinfectant Hospital Grade', Livingstone International). Alternatively, these chemical disinfectants can be applied as a spray that wets all surfaces for the recommended contact time.

Sodium hypochlorite (bleach) is not effective even at 200 ppm available chlorine.

Plan

Consideration of efficacy, environmental and legislative factors will determine the disinfection protocol that is suitable for each situation. Further information is provided in **AQUAVETPLAN**: http://www.agriculture.gov.au/animal-plant-health/aquatic/aquavetplan.

The AVPMA provides guidelines for use of chemical disinfectants (http://www.apvma.gov.au) and adherence to the directives of biosecurity agencies is essential.

[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.