

Fouling animals and their effect on the growth of silver-lip pearl oysters, *Pinctada maxima* (Jameson) in suspended culture

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Abstract

A comparison was made of the growth of 1-year-old silver-lip (or gold-lip) pearl oysters, *Pinctada maxima*, cleaned every 2, 4 or 8 weeks or after 16 weeks. The diversity of fouling animals was recorded and their dry weight (DW) estimated. Survival was 100% in all treatments, with the exception of a single death in one replicate cleaned every 4 weeks. The DW of fouling animals increased steadily over the first 10 weeks of the experiment before declining during weeks 10 to 16. Significant ($P < 0.05$) differences in the DW of fouling animals between treatments was observed and pearl oyster growth was affected by fouling. The wet weight, shell height and shell length of pearl oysters cleaned every 2 or 4 weeks was significantly greater ($P < 0.05$) than that of pearl oysters cleaned every 8 weeks or after 16 weeks. The most common fouling animals were barnacles, *Pinctada* spp., *Pteria* spp., *Crassostrea* spp. and polychaete worms. Some pearl oysters that were left uncleaned for 8 or 16 weeks had shell deformities caused by *Pteria* spp. invading the shell margin. Based on this study, fouling animals should be removed on a monthly basis to maximise growth and reduce the risk of growth deformities. More regular cleaning, whilst having no deleterious effects on pearl oyster growth or survival, appears to be unnecessary and may add to operational costs. ©1997 Elsevier Science B.V.

Keywords: Pearl oyster; *Pinctada maxima*; Cleaning; Fouling; Growth

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