

Spat culture of Blak lip pearl oyster (*Pinctada margaritifera*) produced on Lengeh hatchery in Michaeil and Hendurabi Island

Abstract

Dramatic depletion in number of black lip pearl oyster, *Pinctada margaritifera* in their natural beds despite almost two decades of catch prohibition, encouraged researchers of Iranian Fisheries Research Organization to find a scientific solution to restock the lost oysters. Following successful artificial propagation and producing spat, finding the sites that secure good growth and survival is very important. We tried to compare the growth and survival of oysters in two old natural beds, Michaeil and Hendourabi Island in the Northern part of Persian Gulf.

After 14 weeks of settlement spat with an initial size of 16.85 ± 2.85 mm were randomly divided into 2 groups, in each group containing 600 individuals that were in triplicate. One group was transferred to Michaeil and Hendourabi and both groups were set at a depth of 10 m and kept for a year. Juvenile oysters at Michaeil sized 73.35 mm were almost 2 cm larger than at Hendourabi ($P < 0.05$) after a year of culture. Mortality rate was 20 % in Michaeil that was two times higher than at Hendourabi. Daily growth rate (DGR) showed similar trend during the culture period in both culture sites while it was faster in Michaeil. Maximum and minimum DGR were recorded in May and October in Michaeil with rate of 0.32 mm day^{-1} and in February in Hendourabi Island with a rate of 0.01, respectively. Linear model was the best model for predicting the length of oyster over the time in both sites. Hinge length and thickness were both bigger in Michaeil, however, length was more stable to show the difference between two sites. More nutrients in Michaeil, that appeared to reduce visibility through the year ($P < 0.05$) may justify the results of faster growth rate in this site while more sediment on the shells of this area could be a reason of higher mortality rate. This research concludes that both sites are good for pearl oyster culture, however, using new culture methods and equipments that reduce the sedimentation rate on the shells give higher priority to the Michaeil.

Key word : *Pinctada margaritifera* , Michaeil , Hendourabi, Spat , Daily growth rate, Blak lip pearl oyster