

ABSTRACT:

The black lip pearl oyster *Pinctada margaritifera* is one of the three valuable species of pearl oyster for the cultured pearl industry of the world. Due to its high economical value, endangered species status in Persian Gulf, its historical and social importance, and the technical feasibility to produce pearl oysters seeds in hatchery, Persian Gulf Shellfish Research Center in northern part of Persian Gulf, Iran developed the spat production of this important species for the first time. Ten pairs of matured *P. margaritifera* broodstocks collected from the pearl oysters beds in Lavan Island, Persian Gulf during Jun-July 2004, were transferred to the hatchery at the Persian Gulf Shellfish Research Center. All the broodstocks were thoroughly brushed free of fouling organisms and washed with freshwater. The spawning and larval cultured procedures were generally the same as described for *P. fucata* and *P. margaritifera* by Algarswami et al., (1983, 1987). The oysters subjected to thermal stimulation (temperature elevated from 20 °C to 30 °C). Around 70% of oysters spawned approximately after an hour. Fertilization was normal ranging between 97-98% and early larval development was viable. Six one-tone fiberglass tanks holding 1µ filtered and UV sterilized seawater with gentle aeration were used for culturing the larvae. Pure culture of three micro algae, *Isochrysis aff galbana*, *Chaetoceros calcitrans* and *Chaetoceros mulleri* were used as diets. Feeding started with *I. galbana* and a combination of *I. galbana* and *C. calcitrans* from day 4 of rearing period. The initial larval density was 50

larvae/mL at D-Shape larval stage and reduced to 1 larvae/mL at later stages. The larvae reached to the D-Shape stage between 20-24 hours, Umbo stage on day 6-12, Eye-spot on day 17-21 and Pediveliger and Plantigrad on day 22-30. Oyster Spats were settled on collectors after 32 days of rearing period. Survival rate was 70% at D-Shape stage, 60% for Umbo stage, 50% for Eye-spot and 30% for Spat. Total produced spat 123500 in two years and realized and transferred 23500 spat to sea.

Keyword:

Persian Gulf , Hormozgan province , Broodstock , Black lip pearl oyster, *Pinctada margaritifera* , Propagation , Polarbody , D-shape stage , Eye spot stage, Plantigrade stage , Spat .Microalgae,