

Trial cultivation of pearl oyster (*Pinctada vulgaris*) in Trincomalee Bay

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Abstract

Culture potential of the oriental pearl oyster, *Pinctada vulgaris* naturally available in the pearl banks of the Gulf of Mannar was studied at two selected sites, Cod Bay and Claphanberge in the Trincomalee Bay during March to December 2004. Floating raft was used to suspend the oysters in the water column at a depth between 6 and 7.5 m. Box containers were used to hold the oysters

Pearl oysters for cultivation were obtained from the wild, from Cheval Paar in the pearl banks of the Gulf. A mixture of oysters consisting spats, juveniles and adults were used in cultivation. Forty oysters of randomly selected were placed in each container and size distribution was measured. A total of 32 containers were suspended in the raft at Cod Bay and 14 were at Clephanberge. Size measurements, shell length and breath were taken once a month and were used to study the growth parameters using EFEFAN I program incorporated in the FiSAT package. The parameters of the growth model and resulting size at age estimates were compared between farming sites and with the wild population. Holding containers were fortnightly monitored to remove the fouling organisms, predators and the dead shells. Water quality parameters, pH, salinity, dissolve oxygen (DO) and biological oxygen demand (BOD) were measures at the framing sites.

The initial mortality of pearl oysters was 44% at Cod Bay and 35% at Clephanberge. High mortality was reported for spats and juveniles. After one month mortality declined into 8-10 % and seven months after it was reduced to 1% in Cod Bay but increased in Clephanberge. Growth parameters estimated were L_{∞} 102 mm and k 0.6 year⁻¹ and L_{∞} 98 k 0.58 year⁻¹ respectively at Cod Bay and Clephanbrege. It shows that the rate of growth under *ex situ* condition in both sites is higher than the *in situ* condition. However, fouling is high in both sites and frequent removal is appeared to be necessary to maximize growth and survival of oysters.