

Performance of newly developed culture basket types for suspended rack culture of edible *Perna perna* (brown mussels) in the Puttalam Estuary, Sri Lanka

C. Medagedera, H. Galahitigama, S. Corea* and M. Faheem

National Aquatic Resources Research and Development Agency (NARA), Crow Island, Colombo 15, Sri Lanka

It is essential to find out suitable culture method to increase the community based farming of edible *Perna perna* in Puttalam Estuary. The present study was carried out to select appropriate culture method to investigate the growth and convenience of handling in *Perna perna* culture in relation to prevailing water quality parameters in the existing culture sites in Puttalam Estuary, Sri Lanka. Experimental culture of *Perna perna* (brown mussels) was conducted using hanging type newly developed culture structures at oyster farming location. Spats were collected from Negombo Lagoon and brought to the culture location. Three types of culture structures were studied; plastic box structure, round pouch made by flexible net and round pouch made by hard net. Culture structures were hanging vertically from wooden framed racks allowing them to be compared. After the seven months of culture period, there was no significant difference in growth rate (GR_L) of cultured *Perna perna* in three different culture structures over the experimental period ($P < 0.05$). The highest final length was obtained in plastic box structure. There was no significant difference in growth rate (GR_w) ($P > 0.05$) against the tested culture structures in Anawasala (Janasavipura) farming site. Suspended rack culture, the plastic box structure seemed preferable because it was stronger, lasted longer and allowed easy handling, cleaning and maintenance. Material cost is not different with other two structures and relatively easy to purchase compared to hand made other two structures. The physical water parameters at the location were not greatly different.

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*Corresponding author – email: scorea@nara.ac.lk