

Hatchery Technology for Quality Seed of Mud crab (*Scylla spp.*)

Preamble:

Mud crab is an economically important portunid crab species, *Scylla spp.* found in all estuaries, coastal lagoon and near shore water of India. Due to their delicacy and high nutritive value, mud crab attain very high demand in export and domestic market. Mud crab culture systems commonly practiced in India are grow out (culture for seed to market size crabs), fattening and production of soft shell crabs using seed collected mainly from the wild. There has been a noticeable decline in the mud crab production in the natural habitat throughout Indian coastal waters due to overexploitation and indiscriminate fishing of juvenile crab by artisanal fishermen. There is an urgent need to produce good quality hatchery seed to meet the demand of farmers.

To address this, College of Fisheries (Dr. B.S. Konkan Krishi Vidyapeeth),Ratnagiri has developed the backyard hatchery technique of mudcrab in collaboration with Rajiv Gandhi Science and Technology, Govt. of Maharashtra, Mumbai for commercial scale seed production and demonstrate the viable technology for seed production which will promote the adoption of the technology by entrepreneurs, farmers and fishermen along the coast of Maharashtra.

Details of the Mud crab Hatchery Unit

Mud crab hatchery unit consist of four sections; Broodstock management, Embryonic development, Live feed management and Larval rearing management upto seed production.

During the broodstock management, holding tanks are prepared by providing a layer (5-10 cm) of washed medium coarse sand collected from seashore over the bottom of the tank as an ideal substrate (Fig.1) .The brooders are stocked @ 1 No/sq.m. Filtered seawater is filled to a depth of 80-100cm and aeration is provided. PVC pipes of 6 inch diameter, tiles etc. are provided as hideouts. Water exchange is done @ 40-50 % of alternate day with filter water. Water quality parameters are maintained within the range during operation. The guidance CD is prepared which is provided the process of seed production. It guides about to how manage the broodstock, how to identify the embryonic developmental stages in captivity, how to develop the live feed culture and maintained and what precautions should be taken during the larval development. A manual book “ *Nimkharya Panyatil Khekada* ”

bijotpadan" has been also prepared in Marathi language with the intension of it can be easily understood by by entrepreneurs, farmers and fishermen along the coast of Maharashtra.

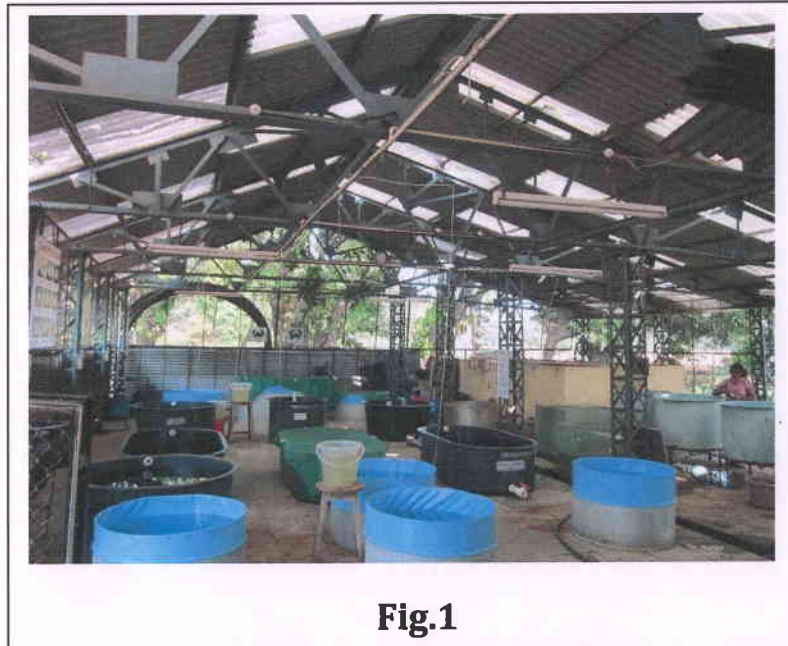


Fig.1

Salient Features

- Clean and active crab (*Scylla spp.*) with hard shell and complete limbs (more than 500gm) are considered for seed production .
- Black eggs berried female crabs are transferred to hatching tank (500ml) with moderate aeration (Fig.2).
- Initially Rotifer and subsequently Artemia nauplii and Artemia biomass are used as live feed during larval rearing period. Microalgal species is culture in large scale for feeding the marine rotifer, *Brachionus rotundiformes* (Fig.3).
- The mud crab larval development involves five zeal stages viz. Zora I to Zora V, Megaflop and finally Crab instar, crablet (seed).
- Crab instars are highly cannibalistic in nature. Therefore, hideouts to be kept in the tank for reducing cannibalism. Generally growing Megalopae/ Instars of 0.3 to 0.4 cm carapace width (CW) to crablets of 2.5 cm carapace (Fig.4) .
- The rearing period is around 30-40 days.



Fig.1



Fig.2

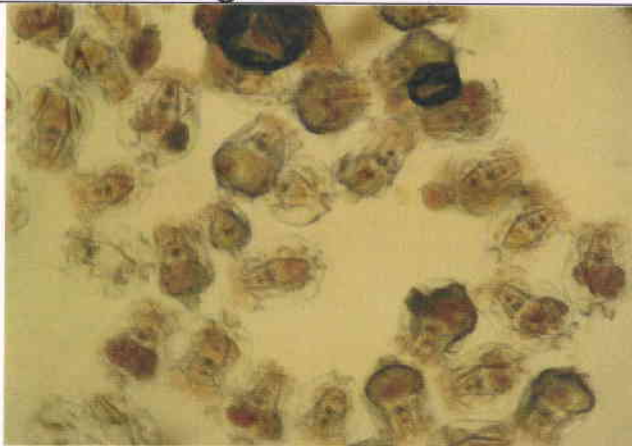


Fig.3



Fig.4

**Hatchery Technology for Quality Seed of Mud crab (*Scylla spp.*)
Available at College of Fisheries, Ratnagiri**