

Updates on the Larviculture of Mud Crab at SEAFDEC/AQD

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Abstract

Although the mud crab hatchery technology has been developed, issues such as high cost of production due to the need for additional facilities and labor for natural food culture, inconsistent survival rate at megalopa stage due to Molt Death Syndrome (MDS), and disease due to luminescent bacteria (*Vibrio* spp.), remain to be addressed. Refinements on the existing mud crab larviculture technology were done to address these problems.

Poor nutrition, low water temperature and application of prophylaxis during the zoea I stage have been identified as possible causes of MDS. Six shrimp formulated diets (FD) were tested, and 3 of these proved to be suitable for mud crab larviculture. Larval performance was compared using the 3 diets + natural food (NF, rotifers and *Artemia*) and NF alone as control. No significant difference was noted in the survival among the 4 treatments, although BP Nippai fed larvae had higher values. Lesser occurrence of MDS was observed in all the larvae fed FD+NF. Three mud crab larval diets with various attractants (squid, annelids, and squid + annelids) were also formulated and fed to the larvae. Results showed no significant difference among the 3 diets. The results of another experiment investigating the effects of the reduction of natural food showed that larvae fed 50% NF + 50% FD and 75%NF + 25% FD had higher survival compared to those fed 75% AD +25% NF and no NF at all. The results indicate that the larvae cannot survive with formulated diet alone. It has been observed that frequency of antibiotic application can be reduced to every 5 days if good quality mud crab larvae are used. Formalin stress test proved to be a reliable method to determine the quality of a batch of newly hatched zoeae. All prophylactic treatments are stopped when megalopae reach the benthic stage.

To accelerate the dissemination of science-based mud crab hatchery technology to industry stakeholders, SEAFDEC/AQD entered into an agreement with private hatchery operators, State Universities and Colleges, and Local Government Units on giving assistance during initial hatchery operations. Technicians were given free training, followed by in-situ hatchery operations with assistance from SEAFDEC/AQD with the funding from PCAARRD-DOST. Crablets are now being produced by the collaborators. Increase in the production of hatchery-reared crablets will eventually reduce the dependence on wild-sourced mud crab seed stock for farming.