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## LABORATORY PRODUCTION OF SEED OF GREEN MUSSEL *PERNA VIRIDIS*

Adult mussels (*Perna viridis*) with mature gonad were induced to spawn at the Kovalam Field Laboratory of CMFRI by subjecting them to thermal stimulation. The mussels were kept at 18° - 20°C for half an hour and transferred quickly to sea water at 30° - 32°C. Within an hour, spawning occurred and the orange coloured eggs settled at the bottom of the tank.

The fertilized eggs measuring 45 - 50  $\mu$  in diameter were washed well and allowed to develop in a 200-l fibre glass tank containing pure sea water. The straight-hinge or D-shape larvae, measuring 65 - 70  $\mu$ , were obtained in about 24 hours after fertilization. The larvae were screened through 41  $\mu$  bolting silk and transferred to a 1000-l larval rearing tank. The larval density was adjusted to 5000 larvae per litre. From the third day onwards the larvae were fed with a mixed microalgal culture containing *Chaetoceros* sp., *Skeletonema* sp. and other every minute algal cells. Aeration was provided to maintain oxygen level and also to keep the larvae and the algal cells in suspension. Half the quantity of water in the rearing tank was changed on alternate days.

The larvae passed through various development stages, namely umbo, eyed stage and pediveliger stage and attained a length of 280 - 300  $\mu$  on the 15th day after fertilization. The pediveliger possessed a well developed foot, with which it started crawling and exploring the substratum, a pair of dark eye spot, 4-5 rudiments of gills and degenerating velar lobe. Experimental spat collectors such as tile, velon screen, frayed nylon rope, byssal threads of green mussel, glass wool and shells of oyster and mussel were introduced in the tank. First spatfall was observed on the 16th day and continued for about a week. Intense spatfall at 2-8 spat per sq. cm was obtained on glass wool, byssal threads and tiles. The length of a just settled spat was 320  $\mu$ . Posterior elongation of the shell took place when the larvae were 22 days old with a length of 390 - 420  $\mu$  and possessed 6-7 gill filaments. At the end of one month (July 1983) the spat measured 1.25-1.50 mm in length and had 3-4 patches of green colour along the margin of the shell. The spat usually ascended the wall of the tank and congregated at the water level. They attained a length of 3.5-4.0 mm in about 45 days.

For the first time in India the sea mussel has been bred successfully in the laboratory. This paves the way to further advances in the development of technology for large-scale production of mussel seed in hatchery.

K. RANGARAJAN