

HATCHERY MANAGEMENT FOR THE WINDOW-PANE SHELL, *PLACUNA CENTA* LINNAEUS, 1758

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ABSTRACT

To relieve pressure on wild stock population, hatchery technique for the window-pane shell, *Placuna placenta* Linnaeus has to be developed. A study was conducted to determine the suitable algal diet for *P. placenta* during gonad development and larval rearing. Sexually immature *P. placenta* broodstock were reared in the estuary or in tanks for four months. Tank-reared animals were fed daily mixture of *Isochysis galbana* (T-ISO) Parke and *Tetraselmis tetrahele* (G.S. West) at 100,000 cells/ml, 1:1 (100-I:T), or 200,000 cells/ml, 3:1 (200-3I:T) combinations. Monthly gonad histological examination showed that sexual maturity was attained by animals fed 200-3I:T diet after four months but not in 100-I:T. Estuary-reared broodstock had the highest gonad index among treatments after the first month, but did not reach sexual maturity until the end of the conditioning period. Sexually mature *P. placenta* from 200-3I:T fed-group spawned when exposed to UV light-irradiated seawater. One-day old larvae were reared in UV light-irradiated seawater until metamorphosis to plantigrade. Larvae were fed daily with monoalgal diet of *I. galbana*, *T. tetrahele*, or *Chaetoceros calcitrans* (Takano) at densities of 10,000-30,000 cells/ml. Larval settlement was observed in all diets after 14 days. Survival rate at metamorphosis was highest (12.60%) when diet of *I. galbana* was used, but lowest in *T. tetrahele* (5.1%) ($P < 0.05$). Average shell length increment during the 14 days rearing period were 11.0, 11.38, and 9.92 $\mu\text{m day}^{-1}$, for *Isochrysis*, *Tetraselmis* and *Chaetoceros* fed larvae, respectively.