

Effects of stocking density on growth performance and survival of three male morphotypes in all-male culture of *Macrobrachium rosenbergii* (De Man)

ABSTRACT

A study was conducted to appraise the effect of different stocking densities on three male morphotypes named blue claw (BC), orange claw (OC) and small male (SM) at harvest in all-male culture and to assess the growth performance of BC, OC and SM in each isolated culture. Trials involving three stocking densities of all-male prawn viz., 20, 30 and 40 juvenile m^{-2} were carried out in replicates. After 4 months of culture, BC, OC and SM were sorted from all tanks and restocked at 5 m^{-2} in treatments BC, OC and SM respectively for 80 days. A difference in prawn density significantly ($p < 0.05$) affected adversely on morphotypes. The highest survival rate combined with good yield performance was from 20 juvenile m^{-2} stocking density with 21% BC, 62.5% OC and 16.5% SM, respectively. In isolation culture, the average specific growth rate of the SM population (1.22) was significantly higher than that of the OC (1.01) and the BC (0.43) population. The survival of the SM population was 100% while for others it was 72%. Absolute weight of prawn was significantly greater in the male OC (23.87 g) than the SM (19.57 g) and the BC males (6.31 g). Impacts of isolated culture on population structure were much more pronounced in the SM population than others.

Keyword: Freshwater prawn; *Macrobrachium rosenbergii*; Heterogeneous individual growth; Male morphotypes; Stocking density; Isolation culture