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The Effect of Salinity on Larval Growth and Survival of Penaeus indicus (Decapoda: Penaeidae)

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Abstract: This study was conducted to determine optimum salinity for the larval growth, survival and development of Penaeus indicus. For this, PZI (protozoea 1) larvae were stocked in 2-L round bottom glass flasks in two replicates at 20, 25, 30 and 35 ppt salinities and were reared on live diets until PL (postlarvae) stages. Highest survival (91%) and greatest growth (6.48 mm) at postlarval stages (PLI/2) were obtained with the larvae cultured at 25 ppt ($P<0.05$). The highest salinity (35 ppt) gave a significantly lower survival (69%) ($P<0.05$) but similar total length (6.05 mm) ($p> 0.05$) compared to the other salinities. Larval mortality rate at 5 ppt and 35 ppt were 1.65 and 5.04% day-1. Larval growth rate of the larvae reared at all salinities ranged between 0.63 and 0.68 mm day-1. The fastest larval development at the metamorphosis was achieved at 20 and 25 ppt. The larvae (PZI) at 28°C and 25 ppt metamorphosed into PLI stage within only 7 days. Hence, the optimum salinity for the larval culture of P. indicus originated from India lies between 20 and 25 ppt.

Key Words: Penaeus indicus, larvae, salinity, feeding, live feeds, micro-algae

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