

Evaluation of growth performance of *Tachypleus gigas* (Muller 1785) under two different culture systems.

ABSTRACT

Information on the growth of *Tachypleus gigas* is not well established as compared to its temperate counterpart *Limulus polyphemus*. Lack of documented study on *T. gigas* has further encouraged research on the growth and molting frequency under different culture methods. This report compares the size and weight increments and molting frequency of *T. gigas* larvae cultured using conventional (80-90% water change/day) and non-conventional (recirculating aqua culture system) methods. Size increment was measured based on prosomal width and weight increments of the larvae. Molting frequency was determined for the larvae from 6 to 11-month old. The larvae culture using these two methods molted 3 times during the culture period. Result of t-test showed that there was no significant differences ($p>0.05$) in the molting frequency of the larvae between the two methods. The final prosomal width for *T. gigas* larvae cultured using conventional method was 23.50 mm which is significantly ($p<0.05$) smaller as compared to 27.99 mm using non-conventional method. Similarly the final weight of the 11-month-old larvae cultured using conventional method was 0.61 g which is comparatively lower than those cultured under recirculating aqua culture system, 0.92 g. Water parameters (pH, salinity, temperature, dissolved oxygen and ammonia) for both systems were monitored and it was found that the conventional and non-conventional method of culture does not differ in salinity, temperature and pH except for dissolved oxygen (DO) and ammonia.

Keyword: Horseshoe crab; *Tachypleus gigas*; Growth; Molting; Recirculating aquaculture system.