

**STUDY OF EFFECTIVENESS OF AQUAMIMICRY  
ON THE SEED PRODUCTION OF BLACK TIGER  
PRAWN (*Penaeus monodon*)**

A dissertation submitted to the  
Faculty of Animal Science and Export Agriculture  
Uva Wellassa University  
in partial fulfillment of the requirement of  
the degree of  
Bachelor of Aquatic Resources Technology

by

**MOHAMAD RAMEES RASEEL AHMED**

**Aquatic Resources Technology Degree Programme  
Department of Animal Science  
Faculty of Animal Science and Export Agriculture  
Uva Wellassa University of Sri Lanka  
2017**

## ABSTRACT

Currently, Aquamimicry concept was introduced and practiced in shrimp farms in aiming of providing natural estuarine condition for the culture species. The success of this method includes reducing feed conversion ratio, minimizing water exchange and improving post larvae quality. In light of this, an attempt was undertaken to investigate the effect of Aquamimicry on the seed production of black tiger prawn (*Penaeus monodon*), compared with a control tank (without natural estuarine condition). The result showed that several issues significantly improved with the administering Aquamimicry system in the experimental tanks compared with the tanks without Aquamimicry system. Data were analyzed using MANOVA ( $P < 0.05$ ) in SPSS software to determine significant differences of growth parameters. The size variation was observed lower in the control tanks than in the experimental tanks. Moreover, the muscle gut ratio of PL<sub>15</sub> was about  $80 \pm 1.677\%$  in the Aquamimicry tanks and  $78.5 \pm 2.905\%$  in the control tanks during the two cycles of production. The fouling organisms were more in the control tanks compared to the experimental tanks. The average lengths of PL<sub>10</sub> and PL<sub>15</sub> were maximum when reared in the experimental tanks compared to the control tanks. Which shows significant difference and the values are  $10.56 \pm 0.043\text{mm}$  in experimental tanks and  $10.38 \pm 0.043\text{mm}$  in the control tanks. Several test were perform to test the Post larvae quality but those test did not show any significant difference. During stress test the experimental tanks showing more survival than the control tanks. And also the test for the necrosis and abnormalities and swollen hind gut also shows a decreased percentages than a control tanks with a difference of 1.5%, and 0.17% respectively. The final survival rate of PL<sub>15</sub> from the control and experimental tanks was  $44.9 \pm 0.825\%$  and  $50.22 \pm 0.477\%$  respectively. The present investigation indicated that Aquamimicry concept played an important role in the health, growth and survival of *Penaeus monodon* larvae.