GROWTH PERFORMANCE OF BLACK TIGER SHRIMP (*Penaeus monodon*) BASED ON THREE DIFFERENT BROOD STOCK COLLECTING AREAS HENDALA, BERUWALA AND MULLAITIVE IN SRI LANKA

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ABSTRACT

Seed production of shrimp aquaculture industry in Sri Lanka totally depends on wild captured Brood stocks. Among the 17 recorded brood stock collecting areas, Hendala, Beruwala and Mullaitive areas provide proportionally higher amounts of brood shrimps to the industry. This study was carried out to investigate the differences of the growth performances of the cultured shrimps in accordance to the collecting area of the brood stock to produce post larvae (PL). 15 days old PL pertaining to three different collecting areas including three replicates for each area were stocked in Fiberglass tanks ($6m^2$) with the stocking density of $266m^{-2}$. Water quality, feeding and other management practices were maintained almost equally in all culture tanks. Initial PL quality, initial & subsequent average total length and average body weight were measured weekly up to the end of the culture period of 45 days. Data were analyzed using one-way ANOVA ($P<0.05$) to determine significant differences of growth parameters. Survival rates, Instantaneous mortality and specific growth rates were calculated. It was revealed that no significant difference ($P>0.05$) of the initial body length and weight of PL stocked taken from three different areas. Though, initial quality parameters of the PL according to the brood stock collection area were not different significantly, lowest PL quality was recorded as 83% from Mullaitive area and both Hendala and Beruwala were recorded as 94%. After the culture period, highest significant ($P<0.05$) average body weight (1.04 ± 0.08g), average body length (36.8 ± 1.23mm), highest significant instantaneous mortality rate (5.33 ± 0.66) & lowest survival rate (51.0 ± 9.53) were recorded for the PL produce using brood stock collected from Mullaitive area. There was no significant difference ($P >0.05$) of the specific growth rate of the all cultured shrimps. Overall results indicated that, there was no significant difference between the PL produce from brood stock collected in three different areas.

Keywords: *Penaeus monodon,* Post larvae quality, Brood stock