

**EFFECT OF HIGH-DENSITY EARLY NURSERY DURATION ON
GROWTH AND SURVIVABILITY OF POST-LARVAE OF CATLA
(*Catla catla*) AT CARP BREEDING CENTER, UDAWALAWA**

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Catla catla is one of the Indian carps reared in Sri Lanka for table fish production. Survivability of *C. catla* early larval stages was found to be considerably low in the culture system at Udawalawa Carp Breeding Center. Therefore, this study was carried out to investigate the effect of high-density early nursery (HDEN) duration on the survival rate and growth performances of *C. catla* post-larvae (CPL). The experimental design was a Complete Randomized Design. Five-day-old CPL were stocked in 20 m³ cement tanks with a density of 1500 PLm⁻². Larvae samples were collected randomly at 10 (T1), 11 (T2), 12 (T3) and 13 (T4) days post-hatch (DPH) and restocked in nurseries at low stocking density (500 PLm⁻²) (LSD). Each treatment was in triplicates. Average body weight (ABW), average body length (ABL), and fish mortality were recorded weekly. Survival rate (SR) and growth performances i.e. specific growth rate (SGR), body weight gain (BWG), body length gain (BLG), daily growth rate (DGR), and condition factor (CF) were calculated. According to the results, the highest ($p < 0.05$) survival rate (96.41%) was recorded in T1 followed by T2 (85.8%). However, the survival rate was not different ($p > 0.05$) among the treatments at the end of the LDN period. Growth performances of the CPL reared under high stocking densities at the nursery were not different significantly among the treatments. However, in LDN, significantly higher BLG and CF were observed in T1, T2 and T3, T4 respectively ($p < 0.05$). Hence, it can be concluded that the survival of *Catla catla* post-larvae was inversely associated with early nursery duration. Therefore, ten days post-hatch was ideal for rearing *Catla catla* post larvae with maximum survival and without any sacrifice in growth performances.

Keywords: Days post-hatch, Growth performances, Specific growth rate, Stocking density