Improved survival and growth performances with photoperiod and feeding schedule manipulation in bagrid catfish Mystus nemurus (Cuvier & Valenciennes 1840) larvae

Abstract

Manipulation of photoperiod: 24 h light (24L), 12 h light:12 h dark (12L:12D) and 24 h dark (24D); and feeding schedules: day and night feeding (DNF), day feeding (DF) and night feeding (NF) was conducted to determine effects on survival, cannibalism and growth of larval bagrid catfish Mystus nemurus 2-14 days after hatching (dAH). Photoperiod insignificantly affected all parameters. Feeding schedule significantly affected survival and total length at 6 ($P < 0.049$; $P < 0.009$), 10 ($P < 0.033$; $P < 0.000$) and 14 dAH ($P < 0.013$; $P < 0.000$), respectively, but affected cannibalism at 10 ($P < 0.043$) and 14 dAH ($P < 0.013$). Survival for DNF was significantly higher than DF. Cannibalism for DNF was significantly lower than NF at 10 and 14 dAH. Total length for DNF was significantly higher than DF and NF at 10 and 14 dAH. At 14 dAH, feeding schedule significantly affected feed intake, final weight and coefficient of variation. For feed intake and final weight, DNF was significantly higher than DF and NF. For coefficient of variation, NF was significantly higher than DF. This study suggests that larval bagrid catfish can be reared at 24L, 12L:12D or 24D but should be fed day and night for improved growth, survival and reduced cannibalism.