

Effects of different diets on growth, survival and body composition of *Rutilus frisii* kutum larvae

ABSTRACT

The main objective of this study was to investigate the effect of different diets on Caspian kutum larval growth, survival and body composition, thus the Caspian kutum was examined in diets, Starved (S), Egg yolk (E), Artemia nauplii (A) and Artemia nauplii plus egg yolk (A+E). Totally four dietary treatments were tested in triplicate for 30 days. A significant growth difference between fry fed was observed in Artemia plus egg yolk ($p < 0.05$). Final mean lengths and weights for each treatment (S, A, E, A+E), respectively were 7.0 ± 0.07 , 26 ± 0.91 , 23.5 ± 0.91 , 28.6 ± 0.18 mm (Mean \pm SE, $n = 12$) and 4.9 ± 0.08 , 57 ± 2.14 , 51 ± 2.18 , 74 ± 3.64 mg (Mean \pm SE, $n = 12$). The larvae accumulated increasing protein in Treatment A+E and lipid in treatment E ($p < 0.05$). Also, the highest survival rate, $70.9 \pm 2.1\%$ was in the treatment A+E and was significantly higher compared to $59.5 \pm 1.45\%$ and $56.6 \pm 0.98\%$ and in the other group ($p < 0.05$). During culture period some other factors such as DGC (Daily Growth Coefficient), DWG (Daily Weight Gain), DLG (Daily Length Gain) and SGR (Specific Growth factor Rate) were measured. The obtained result showed that diet Artemia plus egg yolk is promising for use in Caspian kutum culture for in early stages of life cycle.

Keyword: Stress test; Starvation; Growth rate; Body composition; Caspian kutum