

A survey on replacement of fish oil with vegetable oils for enrichment of *Artemia urmiana* nauplii and its effect on survival and growth of rainbow trout larvae (*Oncorhynchus mykiss*)

Kazemi E.¹, Agh N.² and Meshkini S.³

¹ Aquaculture Dept., Faculty of Natural Sciences, Urmia University, Urmia, I.R. of Iran

² Artemia and Aquatic Animals Research Institute, Urmia University, Urmia, I.R. of Iran

³ Faculty of Veterinary Medicine, Urmia University, Urmia, I.R. of Iran

Abstract

The importance of start feeding on growth, survival and quality of larvae and role of *Artemia* as a nutritious live food with ability of carrying various essential nutrients is a well documented fact. In this study the possibility of replacing fish oil with vegetable oils for enrichment of *A. urmiana* nauplii and its use in start feeding of rainbow trout larvae were investigated. Six feeding treatments were used in two phases to feed the rainbow trout larvae from the beginning of the exogenous feeding for a period of two months. The feeding treatments during the first 10 10 days included: 1) Commercial diet, 2) *A. urmiana* nauplii enriched with fish oil, 3) *A. urmiana* nauplii enriched with Sunflower oil, 4) *A. urmiana* nauplii enriched with Canola oil, 5) *A. urmiana* nauplii enriched with Soybean oil, 6) Newly hatched un-enriched *A. urmiana* nauplii. The larvae in all groups were fed on commercial diet during the second phase from day 11 until end the experiment. Survival percentage of the larvae fed on *Artemia* nauplii enriched with canola and sunflower oils were significantly higher than those fed on commercial diet. Total length, wet weight and dry weight of the larvae in all treatments received *Artemia* nauplii during first phase were significantly higher compared to those fed on commercial feed from the beginning. Highest growth was obtained in the larvae fed on *Artemia* nauplii enriched with canola oil. The results of this research showed that vegetable oils can play essential role in enrichment of *Artemia* nauplii and feeding the rainbow trout.

Keywords: Rainbow trout, starter feeding, Artemia, Enrichment.