Effect of Feeding Rainbow Trout Larvae (*Oncorhynchus Mykiss*) With *Artemia*nauplii Enriched With Vegetable Oils on Resistance Against O2, Salinity and Temperature Stresses

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Abstract

Chronic stresses can influence the behavioral and physiological activities of animals and can lead to reduction of resistance against disease and decrease in growth rate and production.*Artemia*nauplii enriched with essential nutrients particularly fatty acids have been used to promote growth, survival and resistance of different species of aquatic animals to various environmental stresses as well as infectious diseases. In this study we investigated the resistance to environmental stress (temperature, salinity and hypoxi) in larvae of rainbow trout fed *Artemia*nauplii enriched with vegetable oils. The experiment was carried out in 6 triplicate treatments for a period of 10 days. The feeding treatments included: 1) commercial starter feed for trout (Control) 2) *Artemia*nauplii enriched with fish oil, 3) *Artemia*nauplii enriched with sunflower oil, 4) *Artemia*nauplii enriched with canola oil, 5) *Artemia*nauplii enriched with soybean oil and 6) newly hatched nauplli of *Artemia*. The results showed significant differences in tolerance of fish larvae to high temperature (20 and 25°C), hypoxia stress (5 ppm) and salinity stress (10, 15 and 20 $mg.l^{-1}$) among different groups. Highest survival to all experimental stresses (except in one case) was observed in larvae fed *Artemia*nauplii enriched with canola oil compared to those fed control diet ($p<0.05$), but in most cases not significant with larvae fed *Artemia*nauplii enriched with fish oil.

Keywords: *Rainbow trout, starter feeding, Environmental stresses, Artemia, Enrichment.*

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