

Introducing standard protocol for enrichment of *Artemia urmiana* nauplii with Canola oil

Abstract

This research was performed to introduce a standard protocol for enrichment of *Artemia urmiana* with Canola oil. *Artemia urmiana* nauplii were enriched at three densities (50000, 100000 and 200000 nauplii L⁻¹) and three concentrations of Canola oil (0.1, 0.2 and 0.3 g L⁻¹). Their effects were evaluated on survival, total length and profile of fatty acids at 6, 9, 12, 15 and 18 hours after the onset of enrichment. Cysts of *A. urmiana* were hatched according to the standard method. *A. urmiana* nauplii were stocked at above densities in 7 L cylindrical containers. Canola oil emulsion was added at concentrations of 0.1, 0.2 and 0.3 g L⁻¹ at the beginning and 12 hours after the onset of enrichment. The results of analysis showed that enrichment of *A. urmiana* with 0.3 g L⁻¹ Canola oil at 100000 nauplii L⁻¹ for 18 hours was considered as the best treatment. *Artemia* nauplii enriched in this treatment had significantly higher levels of (n-3) PUFA and survival and minimum total length comparing to other treatments. The treatment had significantly higher levels of (n-6) PUFA than all treatments except treatment with a density of 50,000 nauplii L⁻¹ with 0.1 g L⁻¹ Canola oil for 18 hours.

Keywords: *Artemia urmiana*, Canola oil, Fatty acids, Standard protocol for enrichment.