

## The Effect of Highly Unsaturated Fatty Acid (EPA, DHA) Enriched *Artemia* naupliion Growth and Survival of White Leg Shrimp (*Litopenaeus vannamei*) Postlarvae

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### Abstract

This study was carried out to determine the influence of highly unsaturated fatty acid (EPA, DHA) enriched *Artemianauplii* on growth and survival of postlarvae of *Litopenaeusvannamei*(PL-1 to PL-15) in Persian Gulf and Oman sea ecology research center of Bandar Abbas. A complete randomized design with 5 treatments and 3 replicates using 15 tanks containing 20 liters water each was chosen. The *Artemianauplii*were enriched with (0 to 4%) cod liver oil (treatments A to E) and the larvae were fed 6 times per day at 4 hours intervals. The postlarvae of treatment D which fed with *Artemianauplii*, 3% of enrichment significantly increased compared to other treatments ( $p<0.05$ ).The highest survival rate regarding treatment E postlarvae which fed with *Artemianauplii*, 4% enrichment However with treatment D (3%) and C (2%) no significant difference ( $p>0.05$ ) was found. The postlarvae of treatment control (A) which was fed with *Artemianauplii* that it was not enriched, had the lowest growth and survival rate.The present study demonstrated that the highly unsaturated fatty acid enriched *Artemianauplii*has positive effect on enhancement of growth performance and survival rate of white leg shrimp postlarvae.

**Keywords:** Unsaturated fatty acid, *Artemia* nauplii, Growth, Survival, White leg shrimp, *Litopenaeus vannamei*

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