

عنوان مقاله:

Research Article : Dietary effect of *Artemia urmiana* enriched with a brown macroalgae premix (*Padina australis*, *Sargassum ilicifolium*, and *Stoechospermum marginatum*) on the growth performance, nutritional value, phytochemical, and antioxidant properties of *Litopenaeus vannamei*

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خلاصه مقاله:

The aim of this investigation is to evaluate the effects of *Artemia urmiana* metanauplii enriched with a premix extract of brown macroalgae including *Padina australis*, *Sargassum ilicifolium*, and *Stoechospermum marginatum* (macroalgae premix extract; MPE) on growth performance, survival, carcass quality traits, and antioxidant properties of *Litopenaeus vannamei* (PL۱۵). A total of ۱۲۰۰ PL۱ (۱۹±۰.۹۷ mg) were randomly divided into ۴ groups (۱۰۰ individuals in each group (in triplicate)). The control group was fed only with non-enriched metanauplii (MPE۰) and other groups were fed with metanauplii enriched with ۲۰۰ (MPE۲۰۰), ۴۰۰ (MPE۴۰۰), and ۶۰۰ (MPE۶۰۰) mg L^{-۱} for ۱۵ days. Our findings revealed that the highest specific growth ratio (SGR), percentage weight gain (WG), protein efficiency ratio (PER) and dry matter were recorded in the group fed with MPE۶۰۰-enriched metanauplii. The feed conversion ratio (FCR) in the group fed with MPE۶۰۰ was less than in other experimental treatments ($p < 0.05$). The highest levels of polyunsaturated fatty acid (PUFA), eicosapentaenoic acid (EPA), docosahexaenoic acid (DHA), arachidonic acid (ARA), total sterols, and total amino acid content were observed in the shrimp fed with metanauplii enriched with MPE۶۰۰ ($p < 0.05$). The phenol, flavonoid, superoxide dismutase (SOD), and catalase (CAT) contents were increased by increasing levels of MPE in the metanauplii diet ($p < 0.05$). This study demonstrates the positive effect of metanauplii enrichment with ۶۰۰ mg L^{-۱} MPE on growth performance, carcass quality, and antioxidant properties of *L. vannamei*.

کلمات کلیدی:

Litopenaeus vannamei, *Artemia* enrichment, seaweed, Live feed, Growth

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