

عنوان مقاله:

Study on nursery growth performance of Pacific white shrimp (*Litopenaeus vannamei* Boone, ۱۹۳۱) under different feeding levels in zero water exchange system

محل انتشار:

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خلاصه مقاله:

Effect of different feeding levels on water quality, growth performance, survival rate and body composition of Pacific white shrimp *Litopenaeus vannamei* post larvae were studied in zero water exchange system. Shrimp post larvae with mean weight of 74.46 ± 6.17 mg were fed for ۳۲ days in ۳۰۰L fiberglass tanks containing ۱۳۰L water at density of ۱ post larvae L⁻¹. There were five treatments including control and four biofloc treatments with different feeding levels of ۱۵%, ۱۵%, ۱۲%, ۹%, ۰% of body weight per day, respectively. The results showed that there were no significant differences in water parameters such as dissolved oxygen and pH between different treatments ($p > 0.05$). There were significant differences in water ammonia level between different treatments ($p < 0.05$). The maximum (0.39 mg/L) and minimum (0.12 mg/L) levels of ammonia were observed in control and biofloc treatment with minimum feeding level (۹%BW/day), respectively. The highest body weight gain (1.55 g), growth rate (48.50 mg per day), specific growth rate (9.64% /day), biomass gain (182.1 g) and body length increase (33.62 mm) were observed in biofloc treatment with maximum feeding level. The highest feed conversion ratio and the lowest feed efficiency were obtained in control ($p < 0.05$). The proximate body composition analysis revealed an increase in lipid, protein and ash in biofloc treatments. Results showed that using biofloc technology can decrease water exchange amount and improve feed utilization in nursery culture of Pacific white shrimp. Moreover, presence of biofloc improved the water quality which led to the enhancement in growth performance in nursery stage of shrimp.

کلمات کلیدی:

Biofloc technology, Zero-water exchange system, Water quality, Growth performance, Body composition, Nursery, Pacific white shrimp

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