

Sadek, M.F. and Nabawi, S.S.M. (2021). Effect of water salinity on growth performance, survival %, feed utilization and body chemical composition of the Pacific white shrimp, *Litopenaeus vannamei* juveniles. Egyptian Journal of Aquatic Biology and Fisheries. 25(4): 465 – 478.

Abstract

The current study was carried out to investigate the effect of water salinity (5, 15, 25 and 35‰) on growth performance, survival, feed utilization and body chemical composition of the Pacific white shrimp, *Litopenaeus vannamei*, juvenile in the water environment of Qaroun Lake. Juveniles of *L. vannamei* with an initial body weight (2.77 ± 0.12 g) were acclimated to laboratory conditions for 14 days before being randomly distributed into eight circular fiberglass tanks with a volume of 1.5m³ for 80-days at stocking density of 40 juveniles/tank. All tanks were provided with continuous aeration. Results revealed that survival (%) was within the range of 90–98.75%, recording insignificant differences. Results of growth performance parameters were the highest with shrimp reared in water salinity (5‰) compared to the other salinity percentages. The best FCR (lowest values) was recorded with shrimp reared in water salinity of 5‰. While, shrimp reared in water salinity (35‰) showed the worst FCR. The lowest body protein content was recorded with shrimp reared in water salinity of both 5 and 15 ‰. The opposite trend was recorded for body ether extract. Based on the obtained results, the optimum growth rate of *L. vannamei* was obtained when reared in water salinity of 5‰ under experimental conditions which makes it suitable for cultivation in water environment of Lake Qarun.

Keywords: Pacific white shrimp, Water salinity, Growth performance, feed utilization, Body chemical composition.