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Effect of Water Exchange and Stocking Density in Development of Shrimp Postlarvae (*Litopenaeus Vannamei*) Cultured With Biofloc

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Abstract: Nowadays, some shrimp farmers have implemented nursery systems prior to stocking in ponds, allowing them to have greater control of survival in early stage of the shrimp. The Biofloc technology comprises a complex formation of heterotrophic bacteria, protozoa, algae, metazoan, feces and remains of dead organisms. Hence, the aim of the present study was to evaluate the efficiency of a Biofloc to increase survival and growth of shrimp postlarvae (PL).The experimental design consisted in four treatments: (T1 and T2) 3000 or 6000 PLs/m^2 without water exchange. (T3 and T4) 3000 or 6000 PLs/m^2 with 50% water exchange a week. The Biofloc was activated supplying molasses as a carbon source (2 g a day). The results showed that T1 was the best treatment (survival >60%). In contrast the treatment 3 was the worst. However, only the T3 showed significant differences against the others. Regarding growth data, the average weight was lower when grown with higher density.

In conclusion, the best results were obtained without water changes. The stocking density did not affect the survival and growth, indicating that the culture system is a powerful tool to optimize the space in shrimp nursery.

Keywords: Shrimp, Biofloc, Postlarvae, Aquaculture.

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