The Effect Of Polyculture White Shrimp Vannamei And Seaweed On Different Plant Distance On Growth, Survival And Phytoplankton Abundance

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Abstract

The aim of the study was the effect of white shrimp polyculture, and seaweed in an effort to increase the growth and survival of white shrimp and seaweed and control the abundance of phytoplankton. The research method was a completely randomized design with 4 treatments and 3 replications namely T1 (10V + 10 cm RL): given 10 seeds / m^2 white shrimp and seaweed 10 cm spacing, T2 (10V + 20RL) = 10 seed / m^2 white shrimp and seaweed planting distance of 20 cm, T3 (10V + 30RL) = 10 seed / m^2 white shrimp and seaweed distance 30 cm, T4 (10V + 40RL) = given 10 seed / m^2 white shrimp Vannamei and seaweed plant distance 40 cm), and observed abundance of plankton used sample collected (April-August 2018) from site (T1),(T2),(T3) and (T4) of this penculture pond. The weight of *Gracillaria* sp 150 g / to treatment with the long line system was placed around the plot of waring area of 1 m^2 in the pen culture pond area of 300 m^2. Data collection included: absolute weight growth, survival, FCR, and water quality data (temperature, salinity, pH, O_2, NO_2, NH_3). Data were analyzed for variance and to find out the middle values between treatments, Tukey Test analysis was performed. The results showed that the presence of white shrimp and seaweed polyculture engineering at different plant distance had a significant effect ($P < 0.05$), on growth and survival and effected community structure and abundance of phytoplankton. The highest absolute weight growth in white shrimp (*L. vannamei* (g) on T4 (27.53 ± 0.04 g), white shrimp survival (90.25%), white shrimp of FCR (FCR = 1.19 ± 0.05^b), and also on seaweed *Gracillaria verocosa* on T4 has the highest growth of absolute weight of seaweed (*G. verocosa*) (g), namely 2905.05 ± 7.5^b, survival of T4 seaweed (93.33 ± 0.25% and abundance of phytoplankton

Keywords

White shrimp; seaweed; polyculture; phytoplankton.

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