

MOHAMMAD ARIZAL MUSTOFA. NIM 190341100053. Pengaruh Kelimpahan Fitoplankton Terhadap Pertumbuhan Udang Vannamei (*Litopenaeus vannamei*). Dibawah bimbingan Dr. Apri Arisandi, S.Pi., M.Si

ABSTRAK

Fitoplankton memainkan peran penting dalam budidaya udang vannamei (*Litopenaeus vannamei*) dengan menyediakan naungan, oksigen terlarut, dan nutrisi, serta menekan pertumbuhan alga berbahaya dan menyerap toksin. Penelitian ini bertujuan untuk mengevaluasi kelimpahan fitoplankton dan pengaruhnya terhadap pertumbuhan udang vannamei di tambak udang CV. Bahari Sentosa Raya (BSR) di Poto Tano, Sumbawa Barat. Analisis data dilakukan menggunakan regresi linear sederhana untuk mengidentifikasi hubungan antara kelimpahan fitoplankton dan pertumbuhan udang. Penelitian ini menemukan 37 genus fitoplankton dari 8 divisi: Chlorophyta, Cyanophyta, Dinoflagellata, Bacillariophyta, Euglenophyta, Haptophyta, Chrysocophyta, dan Cryptophyta. Kelimpahan fitoplankton berkisar antara 95×10^4 hingga $781,25 \times 10^4$ sel/L. Rata-rata pertumbuhan harian udang vannamei adalah 3,73%, dengan pertumbuhan harian berkisar antara 0,73% hingga 8,78%. Hasil analisis menunjukkan bahwa kelimpahan fitoplankton berpengaruh signifikan terhadap pertumbuhan udang vannamei, dengan nilai koefisien determinasi (R^2) sebesar 0,182, menunjukkan bahwa kelimpahan fitoplankton berkontribusi sebesar 18,2% terhadap pertumbuhan udang vannamei, sementara 81,8% dipengaruhi oleh faktor lain.

Kata Kunci : Fitoplankton, Pertumbuhan, Udang Vannamei, Tambak Udang

MOHAMMAD ARIZAL MUSTOFA. 19.03.4.1.1.00053. The Effect of Phytoplankton Abundance on the Growth Rate of Vannamei Shrimp (*Litopenaeus vannamei*). Under the Guidance of **Dr. Apri Arisandi, S.Pi., M.Si**

ABSTRACT

Phytoplankton play a crucial role in vannamei shrimp (*Litopenaeus vannamei*) aquaculture by providing shade, dissolved oxygen, and nutrients, as well as suppressing harmful algae growth and absorbing toxins. This study aims to evaluate phytoplankton abundance and its impact on vannamei shrimp growth in the shrimp ponds of CV. Bahari Sentosa Raya (BSR) in Poto Tano, West Sumbawa. Data analysis was conducted using simple linear regression to identify the relationship between phytoplankton abundance and shrimp growth. This study identified 37 genera of phytoplankton from 8 divisions: Chlorophyta, Cyanophyta, Dinoflagellata, Bacillariophyta, Euglenophyta, Haptophyta, Chrysocophyta, and Cryptophyta. Phytoplankton abundance ranged from 95×10^4 to 781.25×10^4 cells/L. The average daily growth rate of vannamei shrimp was 3.73%, with daily growth rates ranging from 0.73% to 8.78%. The analysis results showed that phytoplankton abundance had a significant effect on vannamei shrimp growth, with a determination coefficient (R^2) value of 0.182, indicating that phytoplankton abundance contributed 18.2% to vannamei shrimp growth, while 81.8% was influenced by other factors.

Keywords : Phytoplankton, Growth Rate, Vannamei Shrimp, Shrimp Ponds