

ABSTRAK

Udang vaname (*Litopenaeus vannamei*) merupakan komoditas unggulan yang banyak dibudidayakan secara intensif di Indonesia. Salah satu komponen penting dalam sistem budidaya intensif adalah fitoplankton, yang berperan sebagai produsen primer dan bioindikator kualitas air. Penelitian ini bertujuan untuk mengetahui kelimpahan dan distribusi fitoplankton pada tambak intensif di Desa Nusawungu, Cilacap. Sampel diambil dari tiga kolam (B1, B6, B10) menggunakan metode observasi lapangan. Identifikasi dilakukan secara mikroskopis menggunakan haemocytometer, dan analisis kelimpahan dihitung dalam satuan sel/ml. Hasil penelitian menunjukkan bahwa sebanyak 33 genus dari enam divisi berhasil diidentifikasi, dengan dominansi Chlorophyta (*Chlorella/Nannochloropsis*) sebesar 65%. Kelimpahan tertinggi tercatat sebesar $1,25 \times 10^6$ sel/ml, dengan indeks keragaman tertinggi di kolam B1 ($H' = 1,49$), keseragaman terendah di B10 ($E = 0,39$), dan dominansi tertinggi di B10 ($C = 0,53$). Puncak kelimpahan terjadi pada 14 Januari 2025, berkorelasi dengan pemberian probiotik dan kondisi lingkungan optimal.. Hasil ini menegaskan pentingnya monitoring komunitas fitoplankton untuk menjaga stabilitas ekosistem dan mencegah blooming.

Kata kunci: Fitoplankton, udang vaname, budidaya intensif, kelimpahan, distribusi.

ABSTRACT

Vannamei shrimp (*Litopenaeus vannamei*) is a leading aquaculture commodity intensively cultivated in Indonesia. One of the key components in intensive farming systems is phytoplankton, which functions as a primary producer and a bioindicator of water quality. This study aimed to determine the abundance and distribution of phytoplankton in intensive shrimp ponds located in Nusawungu Village, Cilacap. Samples were collected from three ponds (B1, B6, B10) using field observation methods. Phytoplankton identification was conducted microscopically using a haemocytometer, and abundance was calculated in cells/ml. The results revealed 33 genera from six divisions, with Chlorophyta (Chlorella/Nannochloropsis) dominating at 65%. The highest abundance recorded was 1.25×10^6 cells/ml, with the highest diversity index found in pond B1 ($H' = 1.49$), the lowest evenness in pond B10 ($E = 0.39$), and the highest dominance in pond B10 ($C = 0.53$). The peak abundance occurred on January 14, 2025, correlating with probiotic application and optimal environmental conditions. These findings highlight the importance of phytoplankton community monitoring to maintain ecosystem stability and prevent harmful blooms

Keywords: *Phytoplankton, vannamei shrimp, intensive culture, abundance, distribution.*

