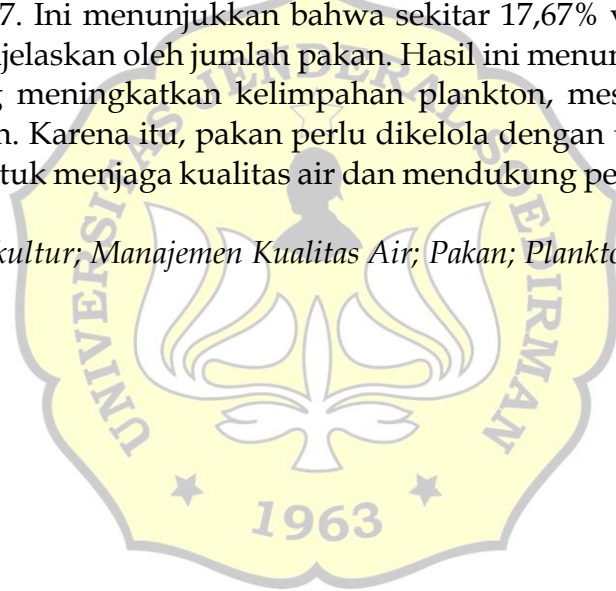


ABSTRAK

Udang vaname (*Litopenaeus vannamei*) dibudidayakan secara semi-intensif dengan pakan buatan sebagai sumber utama pertumbuhan, namun limbah pakan dapat meningkatkan nutrisi yang memengaruhi kualitas air dan kelimpahan plankton, di mana plankton berperan penting sebagai indikator ekosistem dan pakan alami. Penelitian ini bertujuan untuk menganalisis kelimpahan plankton serta hubungan antara pakan udang terhadap kelimpahan plankton pada tambak udang vaname mitra binaan PT CP Prima di Subang. Penelitian menggunakan metode survei dengan teknik *purposive sampling*, dan data dianalisis secara deskriptif dan kuantitatif. Pengambilan sampel dilakukan pada bulan Maret hingga Juni di petak kolam udang mitra binaan. Hasil penelitian menunjukkan, kelimpahan plankton terendah $560.000 \pm 166.433,2$ ind/mL (DOC 7) dan tertinggi $5.756.667 \pm 1.977.936,6$ ind/mL (DOC 49). Berdasarkan uji regresi linier sederhana menggunakan aplikasi SPSS, diperoleh persamaan regresi $Y=178.056,789+5.640,182X$, dengan nilai koefisien determinasi (R^2) sebesar 0,1767. Ini menunjukkan bahwa sekitar 17,67% variasi kelimpahan plankton dapat dijelaskan oleh jumlah pakan. Hasil ini menunjukkan pemberian pakan cenderung meningkatkan kelimpahan plankton, meski ada faktor lain yang berpengaruh. Karena itu, pakan perlu dikelola dengan tepat dan plankton dipantau rutin untuk menjaga kualitas air dan mendukung pertumbuhan udang.

Kata kunci: Akuakultur; Manajemen Kualitas Air; Pakan; Plankton; Udang Vaname



ABSTRACT

Vaname shrimp (Litopenaeus vannamei) is cultivated semi-intensively with artificial feed as the primary source of growth; however, feed waste can increase nutrient levels that affect water quality and plankton abundance, with plankton playing an important role as both an ecosystem indicator and a natural food source. The research purpose to analyze plankton abundance and the relationship between shrimp feed and plankton abundance in vaname shrimp ponds managed by PT CP Prima in Subang. The survey method with purposive sampling techniques, and data were analyzed descriptively and quantitatively. Sampling was conducted from March to June. The results the lowest plankton abundance was $560,000 \pm 166,433.2$ ind/mL (DOC 7) and the highest was $5,756,667 \pm 1,977,936.6$ ind/mL (DOC 49). Based on simple linear regression test using SPSS software, the regression equation $Y = 178,056.789 + 5,640.182X$ was obtained, with a coefficient of determination (R^2) of 0.1767. This indicates that approximately 17.67% of the variation in plankton abundance can be explained by feed quantity. These results indicate a positive relationship between feed supply and plankton abundance, although other factors beyond feed also influence plankton dynamics. Proper feed management and regular monitoring of plankton dynamics are essential.

Key words: Aquaculture; Water Quality Management; Plankton; Vannamei Shrimp; Feed

