

INTISARI

Penelitian ini bertujuan untuk mengetahui kandungan amonium, nitrat, fosfat dan hubungannya dengan plankton pada periode *blind feeding* (30 hari awal pemeliharaan) di tambak intensif budidaya udang vaname (*Litopenaeus vannamei* Boone) di Pesisir Kuwaru, Kabupaten Bantul. Metode pengamatan dilakukan pada 3 tambak dan data hasil pengamatan dianalisis secara deskriptif. Pengamatan dilakukan setiap 7 hari selama 30 hari awal pemeliharaan (*blind feeding period*). Penelitian dilakukan pada bulan September sampai Oktober 2017. Tambak menggunakan konstruksi *biocrete* dengan lapis plastik *High Density Poly Ethylene* (HDPE) ukuran 60 x 60 m² dengan kedalaman air 100 - 170 cm. Pengambilan sampel air dilakukan di 3 titik pengamatan (dekat pematang, tengah dan dekat *central drain*) dengan 2 kedalaman (permukaan dan dasar tambak). Hasil penelitian menunjukkan nilai kisaran (rata-rata) amonium 0,06 - 4,55 (0,81) mg/L, nitrat 0,35 - 2,30 (0,92) mg/L dan fosfat 0,16 - 1,48 (0,59) mg/L. Diversitas plankton selama pengamatan bersifat fluktuatif dengan nilai kisaran (rata-rata) diversitas fitoplankton 1,00 - 3,18 (2,34) dan diversitas zooplankton 0,00 - 0,97 (0,15). Densitas plankton bersifat fluktuatif selama pengamatan dengan nilai kisaran (rata-rata) densitas fitoplankton 25 - 471 (193) cell/mL dan densitas zooplankton 0 - 62 (23) cell/mL. Hubungan konsentrasi amonium (X_1), nitrat (X_2) dan fosfat (X_3) dengan densitas (Y_1) dan diversitas (Y_2) fitoplankton menunjukkan persamaan berupa $Y_1 = 22,05 - 46,29X_1 + 0,90 X_2 + 349,75 X_3$ ($R^2 = 0,552$) dan $Y_2 = 1,80 + 0,2 X_1 + 0,3 X_2 + 0,18 X_3$ ($R^2 = 0,332$).

Kata kunci : amonium, nitrat, fosfat, plankton, udang vaname

ABSTRACT

This study aims to determine the content of ammonium, nitrate, phosphate and its relationship with plankton in the blind feeding period (30 days of culture) in Intensive Brackishwater Ponds of Pasific White Shrimp (*Litopenaeus vannamei* Boone) in Kuwaru Coastal, Bantul Regency. Observation method was done on 3 ponds and the observation data was analyzed descriptively. Observations were made every 7 days during the 30 days of culture (blind feeding period). The study was conducted from September to October 2017. Ponds use biocrete construction with a 60 x 60 m² High Density Poly Ethylene (HDPE) plastic layer with a water depth of 100-170 cm. Water sampling was done at 3 observation points (near the embankment, middle and near the central drain) with 2 depths (surface and pond bottom). The results showed a range of ammonium (mean) 0.06 - 4.55 (0.81) mg/L, nitrate 0.35 - 2.30 (0.92) mg/L and phosphate 0.16 - 1,48 (0.59) mg/L. The plankton diversity during the observation was fluctuated with the range value (mean) of phytoplankton diversity of 1,00 - 3,18 (2,34) and zooplankton diversity of 0.00 - 0.97 (0.15). The plankton density was fluctuated during the observation with the range (mean) density of phytoplankton 25 - 471 (193) cell/mL and zooplankton density 0 - 62 (23) cell/mL. The relationship of ammonium (X_1), nitrate (X_2) and phosphate (X_3) concentration with density (Y_1) and diversity (Y_2) of phytoplankton showed the equation of $Y_1 = 22.05 - 46.29X_1 + 0.90 X_2 + 349.75 X_3$ ($R^2 = 0.552$) and $Y_2 = 1.80 + 0.2 X_1 + 0.3 X_2 + 0.18 X_3$ ($R^2 = 0.332$).

Key words: amonium, nitrate, phosphate, plankton, pasific white shrimp