Intisari

Penelitian ini bertujuan untuk mengetahui kualitas air budidaya udang vaname (*Litopenaeus vannamei*) semi intensif dalam tambak plastik. Penelitian dilakukan dengan metode pengamatan kualitas air budidaya udang vaname dalam 2 tambak plastik pada lahan pasir selama satu siklus produksi. Tambak udang yang digunakan terletak di Pantai Imorenggo, Dusun Imorenggo, Desa Karangsewu, Kecamatan Galur, Kabupaten Kulon Progo. Penelitian dilakukan pada bulan Desember 2015 - Februari 2016. Tambak tersebut masin-masing berukuran 2.000 m^2. Pengamatan kualitas air dilakukan pada umur 0 hari, 28 hari, 56 hari dan 75 hari setelah benur udang ditebar. Benur udang vaname yang berupa *post larvae* 10 dengan kepadatan 125.000 ekor (125 ekor/2 m^2). Pakan yang digunakan pada umur 0 - 30 hari adalah Ocalis Monolis dan pada umur 31 - 81 hari menggunakan Ocalis Vanalis. Kualitas air tambak dikelola dengan kincir 1 - 4 buah. Pengukuran kualitas air dilakukan di permukaan dan dasar tambak pada pagi dan siang hari. Pengambilan cuplikan air tambak dilakukan pada 5 titik. Kualitas air yang diamati meliputi suhu air, kecerahan, total padatan tersuspensi, salinitas, oksigen terlarut, karbondioksida bebas, alkalinitas, pH, bahan organik, amonia, serta densitas plankton. Berdasarkan hasil penelitian produksi udang 1502,5 kg/petak/siklus (7,5 ton/ha/siklus); ukuran (*size*) 67 ekor/kg; sintasan 80,8 %; dan nisbah konversi pakan 1,38 dapat disampaikan kesimpulan bahwa selama 75 hari budidaya menunjukkan kualitas air yang agak sesuai hingga sesuai. Kualitas air selama pemeliharaan udang menunjukkan menunjukkan suhu air 28 - 35 ^{0}C; kecerahan 17 - 86 cm; total padatan tersuspensi 0,7 - 2,4 mg/l; salinitas 3 – 14 ppt; oksigen terlarut 2,8 - 11,0 mg/l; karbondioksida bebas 0,0 - 47,6 mg/l; alkalinitas 62 - 162 mg/l; pH 6,9 - 7,9; bahan organik 22,8 - 127,5 mg/l; serta densitas plankton 5.301 – 609.489 individu/liter. Kandungan amonia air pada umur 28 – 75 hari sebesar 0,134 – 0,318 mg/l sudah melebihi kisaran optimum untuk pemeliharaan udang.

Kata kunci : amonia, kualitas air, tambak udang

Abstract

This research was aimed to investigate the water qualities of semi intensive white shrimp (*Litopenaeus vannamei*) ponds farming during cultivication in plastic ponds. The research used observation method for water qualities of semi intensive white shrimp pond farming during cultivication in 2 plastic ponds on sandy coastal area in one production cycle. White shrimp ponds located in the beach of Imorenggo, Imorengo sub-village, Karangsewu Village, Galur subdistrict, Kulon Progo District. The research was conducted on December 2015 – February 2016. The ponds had a size of 2,000 m^2. Water quality observation held on the day of culture were 0; 28^{th}; 56^{th}; and 75^{th} (harvest). White shrimp fries that used were post-larvae 10 days stage with stocking density 125,000 individuals (125 individuals/2 m^2). Feeds that used on 0 until 30^{th} day were Ocalis Monolis and on 31^{th} until 81^{th} used Ocalis Vanalis. Paddle wheels (1 – 4 units) were used to manage ponds water qualities. Water qualities measurement performed on the surface and bottom of the pond in the morning and noon. Sampling of water taken from 5 spots on ponds. Water quality parameters consisted of water temperature, transparance, total suspended solid, salinity, dissolved oxygen, free carbondioxyde, alkalinity, pH, organic matter, ammonia, and plankton density. The result of production white shrimp was 1502.5 kg/pond/cycles (7.5 ton/ha/cycles); size 67 individual/kg; survival rate 80.8 %; and food convertion rate 1.38 can submitted that during 75 day of culture showed that water qualities rather suitabe until suitable. The result showed that water temperature 28 – 35 ^{0}C; transparance 17 – 86 cm; total suspended solids 0.7 – 2.4 mg/l; salinity 3 – 14 ppt; dissolved oxygen 2.8 – 11.0 mg/l; free carbondioxide 0.0 – 47.6 mg/l; alkalinity 62 – 162 mg/l; pH 6.9 – 7.9; organic matter 22.8 – 127.5 mg/l; and the density of plankton 5,301 – 609,489 individuals/liter. Ammonia concentration in water during 28 – 75^{th} day of culture was 0.134 – 0.318 mg/l which exceeds of optimum range for white shrimp farming.

Key words : amonia, shrimp pond, water quality