

Intisari

Pengaruh Padat Tebar dan Ransum Pakan terhadap Sintasan dan Pertumbuhan Udang Vaname (*Litopenaeus vannamei* Boone, 1931) dengan Media Air Payau Buatan

Penelitian ini bertujuan untuk mengetahui pengaruh padat tebar dan ransum pakan dan untuk mengetahui interaksi padat tebar dan ransum pakan terhadap sintasan dan pertumbuhan udang vaname (*Litopenaeus vannamei*) dengan media air payau buatan. Penelitian ini berlangsung selama 7 minggu dimulai pada 1 Juli 2021 hingga 20 Agustus 2021 di Condongcatur, Kecamatan Depok, Kabupaten Sleman, D. I. Yogyakarta. Penelitian dilaksanakan dengan metode percobaan dengan rancangan acak lengkap menggunakan ember plastik kapasitas 10 L. Percobaan faktorial yang terdiri atas dua faktor yaitu padat tebar (3 ekor/2 L, 6 ekor/2 L, 12 ekor/2 L) dan ransum pakan (30% dan 45% dari biomassa), masing-masing perlakuan diulang sebanyak tiga kali. Benur udang vaname yang digunakan dalam penelitian adalah PL-24 dengan panjang berkisar 0,94 – 0,98 cm dan berat berkisar 0,013 – 0,016 g. Pemberian pakan dilakukan sebanyak 4 kali sehari dengan komposisi terdiri atas pakan komersial dengan kandungan protein 40% dan pakan alami *Artemia* sp. yang berumur 2 – 3 hari dengan kandungan protein 62,42%. Pakan komersial yang digunakan adalah pakan tepung dan pakan *crumble*. Perbandingan berat kering pakan komersial dan *Artemia* sp. yaitu 1:4,4. Pengamatan panjang, berat, jumlah udang dan juga kualitas air dilakukan seminggu sekali. Data sintasan, pertumbuhan dan rasio konversi pakan (FCR) dianalisis dengan ANOVA (*Analysis of variance*) menggunakan uji Duncan dengan tingkat kepercayaan 95%, sedangkan kualitas air dianalisis secara deskriptif. Hasil penelitian disimpulkan padat tebar berpengaruh nyata ($P < 0.05$) terhadap sintasan dan pertumbuhan. Sementara ransum pakan berpengaruh nyata ($P < 0.05$) hanya terhadap FCR. Tidak ada interaksi padat tebar dan ransum pakan terhadap sintasan dan pertumbuhan udang. Hasil terbaik diperoleh dari kombinasi perlakuan padat tebar 3 ekor/2 L dan ransum pakan 30% dengan sintasan 63,89%, pertumbuhan panjang dan berat mutlak sebesar 4,64 cm dan 1,03 g, serta nilai FCR yaitu 0,88.

Kata kunci: air payau buatan, padat tebar, pertumbuhan, ransum pakan, udang vaname

Abstract

Effect of Stocking Density and Feeding Rate on Survival Rate and Growth of Whiteleg Shrimp (*Litopenaeus vannamei* Boone, 1931) with Artificial Brackish Water

This study was aimed to determine the effect of stocking density and feeding rate and the interaction of stocking density and feeding rate on the survival and growth of whiteleg shrimp (*Litopenaeus vannamei*) with artificial brackish water. This research conducted for 7 weeks starting on July 1st, 2021 until August 20th, 2021 in Condongcatur, Depok, Sleman Regency, Special Region of Yogyakarta. The research was carried out using a completely randomized design method (CRD) with 10 L capacity containers. The treatments in this study consisted of two factors which were stocking density (3 ind/2 L, 6 ind/2 L, 12 ind/2 L) and feeding rate (30% and 45% of biomass) with each treatment repeated three times. The shrimp used in this study was PL-24 with average length of 0.94 – 0.98 cm and an average weight of about 0.013 – 0.016 g. Feeding was carried out 4 times a day with the composition of the feed consisting of commercial feed with a protein content of 40% and natural feed *Artemia* sp. aged 2-3 days with a protein content of 62.42%. The commercial feed used was flour and crumble feed. Comparison of dry weight of commercial feed and *Artemia* sp. was 1:4,4. Further investigation of length, weight, number of shrimp and water quality were carried out once a week. The result on growth, survival, and FCR (feed conversion ratio) were analyzed by ANOVA (Analysis of variance) using Duncan's test with significance level of 95%. Water quality analysis was carried out descriptively by comparing with the literature. In conclusion, stocking density significantly effect survival and growth ($P < 0.05$). Meanwhile, the feeding rate significantly effect FCR ($P < 0.05$). The best results were obtained from the combination of stocking density 3 ind/2 L and feeding rate 30% of biomass with survival rate of 63.89%, growth of length and weight 4.64 cm and 1.03 g and FCR value 0.88.

Keywords: artificial brackish water, feeding rate, growth, stocking density, whiteleg shrimp