Intisari

PENGARUH PADAT TEBAR TERHADAP PERTUMBUHAN DAN SINTASAN UDANG VANNAME (*Litopenaeus vannamei* Boone, 1931) DALAM BUDIDAYA SISTEM RESIRKULASI

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Penelitian ini bertujuan untuk mengetahui pengaruh padat tebar terhadap sintasan dan pertumbuhan udang vanname (*Litopenaeus vannamei*) dalam budidaya sistem resirkulasi. Penelitian dirancang dengan rancangan acak lengkap. Benih berukuran rata-rata ± 3 g dipelihara dengan kepadatan 125, 165, 205 ekor/m³ dalam bak berukuran 1 x 1 x 1 m, kedalaman air 0,9 m dengan 3 kali ulangan. Air laut yang digunakan berasal dari Pantai Sundak dengan salinitas 30 ppt. Budidaya menggunakan sistem resirkulasi dengan debit aliran ± 0,650 l/menit dan aerasi dengan blower. Udang diberi pakan dengan ransum 4% biomasa dan diberikan 4 kali sehari, pukul 07.00, 11.00, 15.00, dan 19.00 WIB. Sintasan dan pertumbuhan dianalsis menggunakan anova, produktivitas udang vanname dianalisis anova dan polinomial orthogonal, sedangkan kualitas air secara deskriptif. Hasil diperoleh : sintasan berkisar 71,04 – 75,3%; pertumbuhan panjang mutlak 3,93 – 4,63 cm; pertumbuhan berat mutlak 7,80 – 10,07 g;pertumbuhan panjang spesifik 0,98 – 1,04%; pertumbuhan berat spesifik 2,94 – 3,30% dan rasio konversi pakan berkisar 1,45 – 1,58. Kualitas air selama penelitian : 27,5 – 28,8℃; salinitas 16 – 21,8 ppt; DO: 2,33 – 4,2 mg/l; CO_2: 31 – 34 mg/l; pH: 6,1 – 6,24; dan alkalinitas 120 – 125,33 mg/l. Berdasarkan analisisis, padat tebar berpengaruh nyata ($P<0,05$) terhadap pertumbuhan: panjang mutlak, berat mutlak, panjang spesifik, berat spesifik, dan produktivitas udang vanname, tetapi tidak berpengaruh nyata ($P>0,05$) pada sintasan dan rasio konversi pakan. Berdasarkan analisis polinomial orthogonal padat tebar optimal sebesar 192 ekor/m³ dengan produksi biomassa 1,149 kg/m³

Kata kunci : padat tebar, sintasan, pertumbuhan, udang vanname.

Abstract

THE EFFECT OF STOCKING DENSITY ON THE GROWTH AND SURVIVAL RATE OF PACIFIC WHITE LEG SHRIMP (*Litopenaeus vannamei* Boone,1931) IN THE RECIRCULATING CULTURE SYSTEM

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This study to determine the effect of stocking density on survival and growth of vanname shrimp (*Litopenaeus vannamei*) in recirculation culture system. The study designed with a completely random. Seeds with an average size of ± 3 g were reared with a density of 125, 165, 205 individuals/m³ in a tub measuring 1 x 1 x 1 m, water depth of 0.9 m with 3 replications. The seawater used comes from Sundak Beach with a salinity of 30 ppt. Cultivation uses a recirculation system with a flow rate of ± 0.650 l/minute and aeration with a blower. Shrimp are fed with 4% biomass ration and given 4 times a day, at 07.00, 11.00 am, and 15.00, 19.00 pm. Survival and growth were analyzed using ANOVA, productivity was analyzed anova and orthogonal polynomials, while the water quality was descriptive. Results were obtained: survival ranges from 71.04-75.3%, absolute length growth of 3.93-4.63 cm; absolute weight 7.80-10.07g; specific length growth 0.98-1.04%; SGR 2.94-3.30% and FCR ranging from 1.45-1.58. Water quality during maintenance: temperature: 27.5 - 28.8℃; salinity 16-21.8 ppt; DO: 2.33-4.2 mg/l; CO_2: 31-34 mg/l; pH : 6.1-6.24 and alkalinity 120-125.33 mg / l. Based on the analysis, stocking density had a significant effect ($P < 0.05$) on growth: absolute length, absolute weight, specific length, specific weight, and vanname shrimp productivity, but no significant effect ($P > 0.05$) on survival and conversion ratio. feed. Based on orthogonal polynomial analysis, optimal stocking density was 192 indv/m³ with a biomass production of 1.149 kg/m³

Keywords: stocking density, survival rate, growth, vanname shrimp.