

INTISARI

Pengaruh Padat Tebar terhadap Sintasan dan
Pertumbuhan Ikan Nila Merah (*Oreochromis sp.*)
Strain Nilasa pada Medium Bersalinitas 15 ppt

Tujuan dari penelitian ini adalah untuk mengetahui sintasan, pertumbuhan, dan kualitas air pada budidaya ikan nila merah (*Oreochromis sp.*) *strain* nilasa, serta mengetahui padat tebar yang paling optimal bagi budidaya ikan nila merah *strain* nilasa. Penelitian ini dilakukan pada bulan Maret hingga Juli 2024 di Departemen Perikanan, Fakultas Pertanian, Universitas Gadjah Mada. Penelitian ini terdiri dari 4 perlakuan, 100, 150, 200, dan 250 ekor/m³ dan 3 kali ulangan. Benih yang digunakan berukuran 6 - 8 cm, dari Unit Kerja Budidaya Air Tawar (UKBAT) Cangkringan, Sleman, D.I. Yogyakarta. Ikan nila ini dipelihara dalam akuarium bervolume 80 liter air bersalinitas 15 ppt selama 90 hari dan diberi aerasi. Selama penelitian, dilakukan sifon setiap 15 hari sebanyak 5 % volume air setiap akuarium. Dosis pakan yang digunakan yaitu sebanyak 3 % dari total biomassa ikan. Parameter sintasan pertumbuhan ikan dianalisis menggunakan ANOVA (*Analysis of Variance*) dan uji lanjut Duncan dengan tingkat kepercayaan 95 %. Data hasil analisis yang berbeda nyata dilakukan uji polinomial ortogonal dan analisis *trend comparison*. Data parameter kualitas air dianalisis secara deskriptif. Hasil penelitian menunjukkan bahwa perlakuan 100 ekor/m³ memberikan hasil tertinggi pada sintasan 95,83 %; berat mutlak 64,29 g/ekor; laju pertumbuhan berat spesifik 2,5432 %/hari; panjang mutlak 9,95 cm; dan laju pertumbuhan panjang spesifik 0,957 %/hari. Nisbah konversi pakan paling rendah sebesar 1,29 hingga 1,36 yang diperoleh pada padat tebar 100 hingga 200 ekor/m³. Total produksi tertinggi 0,99 kg/akuarium (volume air 80L) dengan *size* 19 - 20 ekor/kg diperoleh pada perlakuan 250 ekor/m³ dan ukuran terendah dengan *size* 16 ekor/kg diperoleh pada perlakuan 100 ekor/m³. Kualitas air pada perlakuan 100-250 ekor/m³ menunjukkan kisaran suhu 27,1 - 30,5 °C; pH 6 - 8,4; O₂ terlarut 2,5 - 9,1 mg/L; CO₂ bebas 3 - 17 mg/L; TAN (*total ammonia nitrogen*) 0,013 - 1,125 mg/L; dan NH₃ bebas 0,0001 - 0,0052 mg/L.

Kata kunci : ikan nila merah, kualitas air, padat tebar, pertumbuhan, sintasan

ABSTRACT

Effect of Stocking Densities on the Survival and Growth of the Nilasa Strain of Red Tilapia (*Oreochromis* sp.) in 15 ppt Water Salinity

The aim of this study was to determine the effect of stocking densities on the survival, growth, and water quality of the nilasa strain of red tilapia (*Oreochromis* sp.), as well as to determine the optimal stocking density of the tilapia cultivation. This research was carried out in March to July 2024 at the Department of Fisheries, Faculty of Agriculture, Gadjah Mada University. This research consisted of 4 stocking density treatments including 100, 150, 200, and 250 ind/m³ and 3 repetitions. The tilapia seeds were used with a size 6-8 cm, obtained from the Cangkringan Freshwater Aquaculture Work Unit (UKBAT), Sleman, Special Region of Yogyakarta. Tilapia fishes were kept in an aquarium with a volume of 80 liters of 15 ppt water salinity for 90 days and given aeration. During tilapia cultivation, the water in the aquariums were siphoned every fifteen days as much as 5 % of the water volume each aquarium. The feed dose used was 3 % of the total tilapia biomass. Survival and growth parameters of tilapias were analyzed using ANOVA (Analysis of Variance) and Duncan's advanced test with a confidence level of 95 %. The data of test results that were significantly different were tested by an orthogonal polynomial and analyzed by trend comparison. Water quality parameters were analyzed descriptively. The results showed that the 100 ind/m³ treatment gave the highest results at a survival rate 95,83 %; an absolute weight of 64,29 g/head; a specific weight growth rate of 2,5432 %/day; an absolute length of 9,95 cm; and a specific length growth rate of 0,957 %/day. The lowest feed conversion ratio about 1,29 to 1,36 were obtained in the 100 to 200 ind/m³. The highest total production was 0,99 kg/aquarium in 80 L water volume with a size of 19 - 20 ind/kg obtained in the 250 ind/m³ treatment and the lowest total production with a size of 16 ind/kg obtained in the 100 ind/m³ treatment. Water quality in the 100 - 250 ind/m³ treatment showed a temperature range of 27,1 – 30,5 °C; pH 6 – 8,4; dissolved O₂ 2,5 – 9,1 mg/L; free CO₂ 3 – 17 mg/L; TAN (total ammonia nitrogen) 0,013 – 1,125 mg/L; and free NH₃ 0,0001 – 0,0052 mg/L.

Keywords : growth, stocking density, red tilapia, survival rate, water quality