

INTISARI

Pengaruh Salinitas terhadap Sintasan dan Pertumbuhan Ikan Nila Merah *Strain* Nilasa (*Oreochromis sp.*)

Penelitian telah dilakukan untuk mengetahui pengaruh salinitas air yang berbeda terhadap sintasan dan pertumbuhan ikan nila *strain* nilasa (*Oreochromis sp.*), serta untuk mengetahui salinitas yang optimal untuk sintasan dan pertumbuhan yang sesuai untuk budidaya ikan nila. Penelitian ini dilaksanakan pada bulan Desember 2023-Maret 2024 di Departemen Perikanan, Fakultas Pertanian, Universitas Gadjah Mada. Penelitian ini terdiri dari 4 perlakuan salinitas air yang meliputi 0, 5, 10, 15 ppt dan ulangan sebanyak 3 kali ulangan. Benih ikan nila yang digunakan berukuran 3-5 cm, yang diperoleh dari Unit Kerja Budidaya Air Tawar (UKBAT) Cangkringan, Sleman. Ikan nila dipelihara dalam akuarium bervolume 100 liter air selama 70 hari, sebanyak 20 ekor/akuarium. Selama pemeliharaan ikan nila, air dalam akuarium diberi aerasi dan setiap 10 hari dilakukan sifon. Dosis pakan yang diberikan sebanyak 3 % dari total biomassa ikan. Pengamatan dilakukan terhadap ikan nila yang dibudidayakan dan kualitas air. Parameter budidaya ikan nila yang diamati meliputi sintasan, pertumbuhan, rasio konversi pakan dan total produksi yang dianalisis dengan analisis sidik ragam (*Analysis of Variance/ ANOVA*), uji lanjut Duncan dengan tingkat kepercayaan 95 %. Data hasil analisis yang berbeda nyata dilakukan uji polinomial ortogonal. Data kualitas air dianalisis secara deskriptif. Hasil penelitian menunjukkan bahwa perlakuan salinitas air yang berbeda (0, 5, 10, dan 15 ppt) tidak berpengaruh nyata terhadap sintasan, namun berpengaruh nyata terhadap pertumbuhan, total produksi, dan rasio konversi pakan. Sintasan nila untuk semua perlakuan salinitas air yaitu 100 % sampai hari ke-70. Perlakuan salinitas air 0 ppt memberikan hasil ikan nila tertinggi pada pertumbuhan berat mutlak 59,9 g/ekor; laju pertumbuhan berat spesifik 0,0584 %/hari; pertumbuhan panjang mutlak 9,63 cm/ekor dan laju pertumbuhan panjang spesifik 0,0323 %/hari. Rasio konversi pakan terendah sebesar 1,23 diperoleh pada perlakuan salinitas air 9,46 ppt. Total produksi ikan nila tertinggi sebesar 0,673 kg 100 liter air/70 hari diperoleh pada perlakuan salinitas air 0 ppt. Kualitas air pada salinitas 0 -15 ppt menunjukkan suhu 25,2 - 27,9 derajat C; pH 6,8 - 8,5; O₂ terlarut 5 - 8,1 mg/L dan CO₂ bebas 7,0 - 15,0 mg/L.

Kata kunci : kualitas air, nila merah, pertumbuhan, sintasan, rasio konversi pakan

ABSTRACT

Effect of Salinity on The Survival Rate and Growth of Nilasa *Strain* Red Tilapia (*Oreochromis* sp.)

Research had been carried out to determine the effect of different water salinities on the survival and growth of the Nilasa strain of tilapia (*Oreochromis* sp.), as well as to determine the optimal salinity for survival and growth suitable for tilapia cultivation. This research was carried out in December 2023-March 2024 at the Department of Fisheries, Faculty of Agriculture, Universitas Gadjah Mada. This research consisted of 4 water salinity treatments including 0, 5, 10, 15 ppt and 3 repetitions. The tilapia seeds used were 3-5 cm in size, obtained from the Cangkringan Freshwater Aquaculture Work Unit (UKBAT), Sleman. Tilapia fish were kept in an aquarium with a volume of 100 liters of water for 70 days, 20 fish/aquarium. During tilapia maintenance, the water in the aquarium was aerated and was siphoned every 10 days. The feed dose given was 3% of the total fish biomass. Observations were made on cultivated tilapia fish and water quality. The tilapia cultivation parameters observed included survival, growth, feed conversion ratio and total production which were analyzed using analysis of variance (ANOVA), Duncan's advanced test with a confidence level of 95%. Data from analysis results that were significantly different were carried out by an orthogonal polynomial test. Water quality data was analyzed descriptively. The results showed that different water salinity treatments (0, 5, 10, and 15 ppt) had no significant effect on survival, but had a significant effect on growth, total production, and feed conversion ratio. Tilapia survival for all water salinity treatments was 100% until the 70th day. The water salinity treatment of 0 ppt gave the highest tilapia fish yield at absolute weight growth of 59,9 g/head; specific weight growth rate 0,0584%/day; absolute length growth was 9,63 cm/head and specific length growth rate was 0,0323%/day. The lowest feed conversion ratio of 1,23 was obtained in the water salinity treatment of 9,46 ppt. The highest total tilapia production of 0,673 kg 100 liters of water/70 days was obtained in the water salinity treatment of 0 ppt. Water quality at a salinity of 0 -15 ppt showed a temperature of 25,2 – 27,9 degrees C; pH 6,8 – 8,5; Dissolved O₂ 5 - 8.1 mg/L and free CO₂ 7,0 – 15,0 mg/L.

Key words: water quality, red tilapia, growth, survival, feed conversion ratio