

## INTISARI

### Pengaruh Padat Tebar Terhadap Pertumbuhan Lele (*Clarias sp.*) dan Kualitas Air dengan Pakan Berprobiotik

Penelitian ini bertujuan untuk mengetahui pengaruh padat tebar terhadap pertumbuhan, sintasan, produksi dan nisbah konversi pakan lele serta kualitas air dengan pakan berprobiotik serta untuk mengetahui padat tebar yang optimal dengan pertumbuhan, sintasan, produksi dan nisbah konversi pakan terbaik serta kualitas air yang sesuai untuk budidaya lele. Penelitian ini dilaksanakan pada bulan Maret s/d Juni 2022 di Unit Kolam Percobaan, Stasiun Penelitian, Departemen Perikanan, Fakultas Pertanian, Universitas Gadjah Mada. Lele dipelihara selama 100 hari dengan ember bervolume 70 L air air dan pergantian air 5 %/hari. Dosis pakan yang diberikan yaitu 5 s/d 2 % dari berat lele dengan probiotik dosis 4 ml/kg pakan. Penelitian ini terdiri dari 4 perlakuan yaitu 35, 70, 105 dan 140 ekor/70 L air air dan 3 kali ulangan. Probiotik yang digunakan adalah probiotik Raja Lele yang mengandung bakteri *Lactobacillus sp.*, *Acetobacter sp.* dan ragi (*yeast*). Parameter budidaya lele yang diamati meliputi pertumbuhan, sintasan, produksi, nisbah konversi pakan yang dianalisis dengan analisis sidik ragam (ANOVA), uji lanjut Duncan dengan kepercayaan 95% dan uji polinomial ortogonal, serta kualitas air yang dianalisis secara deskriptif. Hasil penelitian menunjukkan padat tebar lele berpengaruh nyata terhadap pertumbuhan, sintasan, produksi dan nisbah konversi pakan. Hasil terbaik diperoleh dari padat tebar 35 ekor/70 L air air dengan nilai tertinggi pertumbuhan berat mutlak  $63 \pm 3,3$  g/ekor; laju pertumbuhan berat spesifik  $0,0262 \pm 0,0003$  %/hari; pertumbuhan panjang mutlak  $14,1 \pm 0,2$  cm/ekor; laju pertumbuhan panjang spesifik  $0,0095 \pm 0,0001$  %/hari dan nilai terendah nisbah konversi pakan  $1,11 \pm 0,07$ . Sintasan lele tertinggi sebesar  $75,23 \pm 9,18$  % diperoleh dari padat tebar 59 ekor/70 L air dan produksi lele tertinggi sebesar  $2,2 \pm 0,2$  kg diperoleh dari padat tebar 105 ekor/70 L air air. Kualitas air pada padat tebar 35 ekor/70 L air menunjukkan suhu  $25,2-29,7^{\circ}\text{C}$ ; pH 4,4-8;  $\text{O}_2$  terlarut 0,39-3,61 mg/L;  $\text{CO}_2$  bebas 4-38 mg/L; alkalinitas 70-400 ppm dan amonia bebas 0-1,47 mg/L.

Kata kunci : kualitas air, nisbah konversi pakan, padat tebar, pertumbuhan, probiotik

## ABSTRACT

### The Effect of Stocking Density on the Growth of Catfish (*Clarias sp.*) and Water Quality Using Oral Probiotic

This study was aimed to determine the effect of stocking density on growth, survival rate, production, feed conversion ratio of catfish and water quality using oral probiotic and also to determine the optimal stocking density with the best result of growth, survival rate, production, feed conversion ratio of catfish and water quality for catfish cultivation. This research was carried out from March to June 2022 at the Research Station, Department of Fisheries, Faculty of Agriculture, Gadjah Mada University. Catfish cultivated for 100 days in a bucket with volume 70 L air of water and 5 % of daily water exchange. Feed was given at 5 to 2 % dose of weight with probiotic dose of 4 ml/kg feed. This research was designed with 4 treatments (35, 70, 105 and 140 ind/70 L water) and 3 replications. Probiotic used in this research was Raja Lele prbiotic containing bacteria of *Lactobacillus sp.*, *Acetobacter sp.*, and yeast. Parameters observed on this study were growth, survival rate, production and feed conversion ratio which was analyzed with ANOVA (Analysis of Variance), Duncan test with significance level of 95 % and polynomial orthogonal test, and water quality which was analyzed by descriptive analysis. The results of this study showed that stocking density had significant effect on growth, survival rate, production and feed conversion ratio of catfish. The best result was performed by treatment of 35 ind/70 L stocking density to show highest value with  $63 \pm 3.3$  g/ind of absolute growth rate (by weight);  $0.0262 \pm 0.0003$  %/day of spesific growth rate by weight;  $14.1 \pm 0.2$  cm/ind of absolute growth rate (by length);  $0.0095 \pm 0,0001$  %/day of spesific growth rate by length and to show lowest value  $1.11 \pm 0.07$  of feed conversion ratio. The highest survival rate was  $75.23 \pm 9.18$  % showed by 59 ind/70 L of stocking density and the highest production was  $2.2 \pm 0.2$  kg showed by 105 ind/70 L of stocking density. Water quality at 35 ind/70 L air of stocking density were 25.2-29.7 °C of temperature; 4.4-8; mg/L of pH; 0.39-3.61 mg/L of O<sub>2</sub>; 4-38 mg/L of free CO<sub>2</sub>; 70-400 ppm of alkilinity and 0-1.47 mg/L ammonia.

Keywords : feed conversion ratio, growth, probiotic, stocking density, water quality