

Kajian Lapang Kualitas Air dan Plankton pada Budidaya Lele (*Clarias* sp.) Intensif dalam Kolam Terpal Bundar dengan Padat Tebar yang Berbeda

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Intisari

Penelitian ini bertujuan untuk mengetahui kualitas air dan jumlah genus plankton pada budidaya lele (*Clarias* sp.) intensif dalam kolam terpal bundar dengan padat tebar berbeda. Penelitian dilaksanakan selama 2 bulan pada bulan Januari sampai Maret 2020. Penelitian dilakukan dengan metode pengamatan secara langsung terhadap 3 kolam dengan padat tebar 714 ekor/m³ dan 3 kolam dengan padat tebar 428 ekor/m³. Kolam yang digunakan yaitu kolam terpal bentuk bundar dengan diameter 3 m dan kedalaman air 1 m, dan volume 7 m³. Pengamatan kualitas air dilakukan setiap 15 hari pada pemeliharaan ikan hari ke 25 sampai 85. Data hasil pengamatan dianalisis secara deskriptif dan sidik ragam (*Analysis of Variance/ ANOVA*). Kualitas air kolam budidaya lele intensif kolam terpal bundar padat tebar 714 ekor/m³ dapat dikatakan optimal untuk budidaya lele intensif dibandingkan dengan padat tebar 428 ekor/m³ ditinjau dari perbedaan suhu, kecerahan, oksigen terlarut, pH, CO₂ bebas, alkalinitas, dan bahan organik. Senyawa amonium, nitrat dan fosfat padat tebar 714 ekor/m³ secara berurutan pada kisaran 9,5-23 mg/L; 0,8-2,3 mg/L; dan 6,4-10,6 mg/L termasuk dalam kesuburan mesotrofik sampai eutrofik, sedangkan padat tebar 428 ekor/m³ pada kisaran 6-32,6 mg/L; 0,6-1,8 mg/L; 7,1-11,6 mg/L termasuk dalam kesuburan mesotrofik sampai eutrofik. Kelompok fitoplankton yang ditemukan dengan padat tebar 714 ekor/m³ dan padat tebar 428 ekor/m³ secara berurutan dari kelas *Chlorophyceae* (23 genus; 18 genus), sedangkan kelompok zooplankton yang banyak ditemukan (dominan) dengan padat tebar 714 ekor/m³ dan padat tebar 428 ekor/m³ secara berurutan dari kelas *Tubulinea* (1 genus).

Kata kunci: kesuburan air, kualitas air, kolam terpal bundar, padat tebar, zooplankton

**Field Study of Water Quality and Plankton
in the Round Plastic Ponds of Intensive Catfish (*Clarias* sp.) Cultivation
with Different Stocking Densities**

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Abstract

This study aimed to determine water quality, amount and genus of plankton in the round plastic ponds of intensive catfish (*Clarias* sp.) cultivation with different stocking densities. The research was conducted for 2 months from January to March 2020. The pond used for the study was a round plastic pond with a diameter of 3 m, a water depth of 1 m, and a volume of 7 m³. The research was conducted by direct observation method of 3 ponds with stocking density of 714 fishes /m³ and 3 ponds with stocking density of 428 fishes /m³. Observation of water quality and plankton were carried out every 15 days on the catfish rearing days 25 to 85. The observed data were analyzed descriptively and by variance (Analysis of Variance / ANOVA). The water quality in the round plastic ponds of intensive catfish cultivation with a stocking density of 714 fishes/m³ was more suitable for intensive catfish farming compared to the stocking density of 428 fishes/m³ in terms of differences in temperature, brightness, dissolved O₂, pH, free CO₂, alkalinity, and organic matter. Ammonium, nitrate and phosphate compounds in the ponds water with stocking density of catfish 714 fishes/m³, respectively, in the range of 9.5-23 mg/L; 0.8-2.3 mg/L; and 6.4-10.6 mg/L were included in eutrophic waters; whereas ammonium, nitrate, and phosphate compounds in the pond water with a stocking density of catfish 428 fishes/m³ sequentially in the range 6-32.6 mg/L; 0.6-1.8 mg/L; 7.1-11.6 mg/L were classified as moderate fertility (mesotrophic) to high fertility (eutrophic). The phytoplankton group which was mostly found (dominant) in the pond water with stocking density of catfish 714 fishes/m³ and stocking density of catfish 428 fishes/m³ was a *Chlorophyceae* class (24 genus), while the zooplankton group which was mostly found (dominant) in pond water with stocking density fishes/m³ and stocking density 428 fishes/m³ was a *Tubulinea* class (1 genus).

Keywords: round plastic pond, stocking density, water fertility, water quality, zooplankton