

ABSTRAK

PERFORMA PERTUMBUHAN IKAN NILA *Oreochromis niloticus* (Linnaeus, 1758) YANG DIBUDIDAYAKAN PADA AIR EKS GALIAN PASIR DENGAN KOMBINASI PERLAKUAN FITOREMEDIASI DAN ADSORPSI

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Penambangan pasir merupakan kegiatan yang dapat menciptakan lapangan pekerjaan namun memiliki dampak negatif seperti terbentuknya danau-danau besar dengan kualitas yang kurang layak untuk budidaya perikanan. Fitoremediasi dan adsorpsi merupakan salah satu solusi untuk memperbaiki kualitas air sehingga mampu menunjang kegiatan budidaya ikan nila (*Oreochromis niloticus*). Penelitian ini bertujuan untuk mempelajari tingkat kelangsungan hidup dan pertumbuhan ikan nila yang dipelihara pada air eks galian pasir hasil fitoremediasi dan penerapan adsorpsi. Rancangan penelitian menggunakan empat perlakuan dan tiga ulangan, yaitu perlakuan A kontrol air bekas galian pasir tanpa fitoremediasi, perlakuan B air hasil fitoremediasi *Azolla pinnata*, perlakuan C air hasil fitoremediasi *Eichhornia crassipes*+arang kayu, dan perlakuan D air hasil *Azolla pinnata*+jerami padi. Ikan nila yang digunakan berukuran 2-3 cm dengan kepadatan 50 ekor/m². Parameter yang diamati yaitu pertumbuhan berat, panjang mutlak, kelangsungan hidup, rasio konversi pakan, dan kualitas air. Hasil penelitian menunjukkan bahwa pertumbuhan berat dan panjang mutlak berturut-turut yaitu perlakuan A (24,29±3,85 g; 7,92±0,47 cm), B (33,42±2,07 g; 9,13±0,32 cm), C (39,92±0,78 g; 10,14±0,35 cm), dan D (20,49±5,69 g; 7,49±0,63 cm). Tingkat kelangsungan hidup ikan nila berkisar antara 86-95%, dengan rasio konversi pakan yang diperoleh berkisar antara 0,9-1,35.

Kata kunci : adsorpsi, budidaya, fitoremediasi, ikan nila, pertumbuhan

ABSTRACT

THE GROWTH PERFORMANCE OF TILAPIA *Oreochromis niloticus* (Linnaeus, 1758) CULTIVATED IN EX-SAND MINING WATER WITH A COMBINATION OF PHYTOREMEDIATION TREATMENT AND ADSORPTION

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Sand mining is an activity that can create jobs but has negative impacts such as the formation of large lakes with less decent quality for aquaculture. Phytoremediation and adsorption is one solution to improve water quality so as to support tilapia (*Oreochromis niloticus*) culture. This study aimed to find out the survival rate and growth of tilapia fish reared in the ex-sand quarry water resulting from phytoremediation and application of adsorption. The study design used four treatments and three replications, namely treatment A (control) was water from water sand excavation without phytoremediation, treatment B water as a result of phytoremediation by *Azolla pinnata*, treatment C water as a result of phytoremediation by *Eichhornia crassipes*+wood charcoals, and treatment D water as a result of phytoremediation by *Azolla pinnata*+rice straws. Tilapia with a size of 2-3 cm was reared in a treatment tanks with a density of 50 tails/m². The observed parameters were weight growth, absolute length, survival, feed conversion rate, and water quality. The results showed that the absolute weight and length growth i.e. treatment A (24.29± 3.85 g; 7.92±0.47 cm), B (33.42±2.07 g; 9.13±0.32 cm), C (39.92±0.78 g; 10.14±0.35 cm), and D (20.49±5.69 g; 7.49±0.63 cm). The survival rate ranged from 86-95%. The conversion rate of the obtained feed ranges from 0.9-1.35.

Keywords: *adsorption, aquaculture, growth, phytoremediation, tilapia*