



## Intisari

### KINERJA AERATOR VENTURI PADA BUDIDAYA IKAN NILA MERAH (*Oreochromis sp.*) BERBASIS BAK

Penelitian ini bertujuan untuk mengevaluasi kinerja aerator venturi dan menganalisis pengaruh penerapannya terhadap kinerja pertumbuhan pada budidaya ikan nila merah (*Oreochromis sp.*) di dalam bak bulat. Sebagai pembanding (kontrol) digunakan aerator blower. Penelitian menggunakan rancangan acak lengkap dengan tiga ulangan. Kinerja aerator diukur dari *Standard Oxygen Transfer Rate* (SOTR) dan *Standard Aerator Efficiency* (SAE). Budidaya ikan nila merah berlangsung selama 8 minggu dan pada akhir pemeliharaan diukur kinerja produksi yang terdiri dari pertumbuhan, sintasan, dan rasio konversi pakan (FCR). Data dianalisis secara statistik menggunakan uji-t. Hasil penelitian menunjukkan bahwa kinerja aerator venturi lebih unggul dan berbeda nyata ( $P < 0,05$ ) dibandingkan dengan aerator blower. Aerator venturi menghasilkan SOTR sebesar 62,84 g O<sub>2</sub>/jam dan SAE sebesar 3,14 kg O<sub>2</sub>/kWh. Sementara itu, aerator blower hanya menghasilkan SOTR sebesar 24,77 g O<sub>2</sub>/jam dan SAE sebesar 1,24 kg O<sub>2</sub>/kWh. Kinerja pertumbuhan pada aerator venturi juga lebih unggul dan berbeda nyata ( $P < 0,05$ ) dibandingkan dengan aerator blower. Aerator venturi menghasilkan pertumbuhan berat mutlak lebih tinggi (55,33 g vs 50,07 g), FCR lebih efisien (1,16 vs 1,23), dan sintasan lebih baik (81% vs 77%).

Kata kunci: Aerator Venturi; Aerator Blower; Ikan Nila Merah; SOTR; SAE; Kinerja Pertumbuhan.



## Abstract

### PERFORMANCE OF VENTURI AERATOR ON CULTURE OF RED TILAPIA (*Oreochromis sp.*) IN TANK

This study aims to evaluate the performance of venturi aerator and to analyse the impact of its application on production performance in red tilapia (*Oreochromis sp.*) culture in round tanks. For comparison, the blower aerator is used as a control. This study used a completely randomized design with three replications. Aerator performance was measured using the Standard Oxygen Transfer Rate (SOTR) and Standard Aerator Efficiency (SAE). Red tilapia was cultured for 8 weeks, and at the end of culture, growth performance was measured, including growth, survival, and feed conversion ratio (FCR). Data were analysed statistically using t-test. The results demonstrated that performance of venturi aerator was better and significantly different ( $P < 0.05$ ) compared to blower aerator. The venturi aerator produced SOTR of 62.84 g O<sub>2</sub>/h and SAE of 3.14 kg O<sub>2</sub>/kWh. Meanwhile, blower aerator produced SOTR of 24.77 g O<sub>2</sub>/h and SAE of 1.24 kg O<sub>2</sub>/kWh. Growth performance on venturi aerator was also better and significantly different ( $P < 0.05$ ) compared to blower aerator. Venturi aerator yielded a higher absolute weight growth (55.33 g vs 50.07 g), a more efficient FCR (1.16 vs 1.23), and a better survival rate (81% vs 77%).

Keywords: Venturi Aerator; Blower Aerator; Red Tilapia; SOTR; SAE; Growth Performance