Intisari

Salah satu faktor paling penting dalam kualitas air adalah kandungan oksigen terlarut, yang sangat berpengaruh terhadap pertumbuhan yang cepat serta kelangsungan hidup yang baik pada nila merah. Penelitian ini bertujuan untuk mengetahui pengaruh model aerasi terhadap kualitas air serta pertumbuhan nila merah dalam kaitanya dengan peningkatan kadar oksigen terlarut. Penelitian ini dilaksanakan selama 42 hari di Laboratorium Akuakultur Sub Laboratorium Stasiun Penelitian Perikanan, Departemen Perikanan, Fakultas Pertanian, Universitas Gadjah Mada, Yogyakarta. Penelitian ini dilaksanakan dengan 3 perlakuan aerasi yang berbeda yaitu dengan aerasi *air lift pump*, aerasi *air lift pump* berfilter dan aerasi batu dengan 3 pengulangan tiap perlakuan. Hasil penelitian menunjukkan bahwa model aerasi *air lift pump* menghasilkan oksigen terlarut tertinggi yaitu sebesar 5,36 ± 0,03 mg/l. Penggunaan aerasi *air lift pump* menunjukkan hasil pertumbuhan mutlak panjang dan berat tertinggi berturut-turut sebesar 5,1 ± 0,1 cm dan 5,60 ± 0,04 g, dan laju pertumbuhan spesifik sebesar 1,85 ± 0,18 %/hari dan 2,94 ± 0,27 %/hari. Rasio konversi pakan terbaik yaitu diperoleh pada perlakuan aerasi *air lift pump* yaitu sebesar 1,09 ± 0,01. Nilai sintasan tertinggi diperoleh pada perlakuan aerasi *air lift pump* dengan nilai sintasan sebesar 96,6 ± 2,31%.

Kata kunci: aerasi, kualitas air, nila, oksigen terlarut, pertumbuhan

Abstract

One of the most important factors in water quality is the availability dissolved oxygen content, which is very influential on the fast growth and good survival of red tilapia.. This study aims to determine the effect of aeration models on water quality and the growth of tilapia in relation to an increase in dissolved oxygen levels. This research was conducted for 42 days in the Aquaculture Laboratory, Sub Laboratory of Fisheries Research Station, Department of Fisheries, Faculty of Agriculture, Gadjah Mada University, Yogyakarta. This research was conducted with 3 different aeration treatments, namely air lift pump aeration, filtered air lift pump aeration and stone aeration with 3 repetitions of each treatment. The results showed that the use of air lift pump aeration produced the highest dissolved oxygen, wich was 5.36 ± 0.03 mg / l. The use of an aerated air lift pump shows the highest absolute growth results in length and weight of 5.1 ± 0.1 cm and 5.60 ± 0.04 g, and a specific growth rate of 1.85 ± 0.18% / day and 2.94 ± 0.27% / day. The best feed conversion ratio is obtained in the air lift pump aeration treatment which was 1.09 ± 0.01. The highest survival rate was obtained in the air lift pump aeration treatment by obtaining a survival rate of 96.6 ± 2.31%.

Keywords : aeration, dissolve oxygen, growth, nile tilapia, water quality