

ABSTRAK

Tulungagung merupakan salah satu sentra perikanan darat yang besar di Jawa Timur. Bahkan di Indonesia, Desa Tanggung, Kec.Campurdarat, Kab.Tulungagung, terdapat sekitar 50 orang petani ikan dengan rata-rata jumlah kolam 5 sampai 10 kolam, dimana setiap kolam berisi sekitar 10.000 ekor ikan lele. Tujuan dalam penelitian ini adalah bagaimana mengembangkan prototipe teknologi aerator berozon untuk meningkatkan kualitas air kolam ikan dan keefektifan prototipe teknologi aerator berozon dalam meningkatkan kualitas air kolam ikan.

Berdasarkan langkah perancangan produk aerator air kolam lele dumbo berozon dengan pendekatan Pahl & Beitz (Ullman,VDI,Zeid French) didapatkan prototipe aerator air kolam lele dumbo berozon dengan spesifikasi debit ozon 120 l/menit, debit air kolam yang disirkulasi 10 l/menit, daya listrik total 500 Watt,dilengkapi empat roda, sistem bongkar pasang dengan mur dan baut, rangka siku solid dilapisi cat tahan karat, pada casing set inverter terdapat casing dalam dan casing luar, dan kabel solid berisolasi jenis PVC *double* (Poly Vinyl Chlorida). Dari hasil pengujian didapatkan hasil bahwa kadar DO (Dissolved Oxygen) mengalami perubahan dari 0,43 mg/l menjadi 0,30 mg/l yang berarti bahwa kadar DO (Dissolved Oxygen) semakin mendekati standar SNI (Standar internasional Indonesia) air kolam lele dumbo No.01-6484.5-2002 yaitu > 4 mg/l . Sedangkan nilai pH mengalami perubahan dari 8,15 menjadi 6,79 dan ini berarti nilai pH air kolam semakin mendekati standar SNI air kolam lele dumbo No.01-6484.5-2002 yaitu antara 6.5 – 8.5.

Kata Kunci: Kualitas air,Ozon,Reaktor.

ABSTRACT

Tulungagung is one of the big fisheries center in east java. Moreover in indonesia. Tanggung, village of Campurdarat, city Tulungagung, there are 50 fish farmers with averagely 5-10 fish ponds. In one fish ponds, there are thousand of catfish. The purpose of this research is, to develop aerator prototipe containing ozone to increase fish water quality

According to the product planning step of ozoned-dumbo catfish water reservoir aerator based-on the aprouch by of Pahl and Beiltz (Ullman,VDI,Zeid French) the specification of the ozoned-dumbo catfish water reservoir aerator prototype is that the with ozone discharge is 120 l/minute, water reservoir discharge is circulated at 10 l/minute, total energy is 500 watt, the prototype is completed with 4 wheels, assambly/dissambly system is egquiped with bolt and moor, 90°-angled solid framwork is layered by stain-proof paint of, set inverter,is egquiped with innerand buter casing and the double PVC(Poly Vinyl Chlorida)- isolated solid cable. From the test result, we obtained that the rates of DO (Dissolved Oxygen) changed from 0,30 mg/l to 0,43 mg/l. So, the result is getting closer to the SNI (Standar internasional Indonesia) of dumbo catfish ponds water standard number 01-6484.5-2002, which is > 4mg/L. On the other hand, the pH value changed from 8,15 mg/l to 6,79 mg/l. This means, that the pond pH value is getting closer to the SNI (Standar internasional Indonesia) value of lele dumbo pond water standard number 01-6484.5.2002, which is between 6,6-8,5.

Keywords: The quality of water , ozone and reactor