# STUDI PERBANDINGAN KUALITAS AIR PADA SISTEM RESIRKULASI ANTARA SISTEM YANG MENGGUNAKAN TANAMAN KANGKUNG DAN TANPA TANAMAN KANGKUNG DILIHAT DARI VARIABEL AMONIA ($NH_3$), NITRIT ($NO_2$), NITRAT ($NO_3$)

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## ABSTRAK

Air merupakan media budidaya yang sangat penting dalam perikanan Keterbatasan sumber air serta ketersedian air bersih semakin sulit untuk didapat, sehingga menjadi kendala dalam berbudidaya, dengan menggunakan sistem resirkulasi akan memutar air secara terus menerus sehingga mampu menghemat air dan kualitas air mampu dijaga. Kualitas air yang dapat mempengaruhi ikan lele yakni, Amonia, Nitrit dan Nitrat. Sistem resirkulasi menggunakan filter dengan perbandingan menggunakan filter konvensional dan filter konvensional yang ditambah dengan filter biologi menggunakan tanaman kangkung. Pengambilan sampel air dilakukan satu minggu sekali selama 1 bulan. Parameter yang diamati adalah amonia, nitrit, nitrat serta pengaruhnya terhadap survival rate ikan lele. Data disajikan dalam bentuk tabel dan grafik serta dianalisis secara deskriptif kuantitatif. Amonia dan nitrit perlakuan A, nilai rata-rata yang diperoleh cenderung lebih tinggi dibanding dengan perlakuan B namun rata-rata masih berada di bawah ambang batas yang telah ditentukan, sedangkan konsentrasi nitrat menunjukkan nilai yang tinggi pada perlakuan B dibandingkan perlakuan A. Ketiga variabel terdapat survival rate yang diperoleh perlakuan B lebih tinggi dibanding perlakuan A yaitu sebanyak 86,6% sedangkan perlakuan A memperoleh SR 69,3%. Terdapat perbedaan kualitas air dari kedua perlakuan, kualitas air perlakuan B lebih baik dilihat dari variabel amonia nitrit dan nitrat dengan menghasilkan SR tertinggi sebanyak 86,6%.

Kata kunci: Budidaya Sistem Resirkulasi, Kualitas Air, *Survival Rate*

# COMPARISON STUDY OF WATER QUALITY ON A RECIRCULATION AQUACULTURE SYSTEM BETWEEN SYSTEMS USING KALE PLANT AND WITHOUT KALE PLANTS AS SEEN FROM THE VARIABLES OF AMONIA ($NH_3$), NITRITE ($NO_2$), NITRATE ($NO_3$)

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## ABSTRACT

Water is a very important cultivation medium in fisheries. Limited water sources and the availability of clean water are increasingly difficult to obtain, so that it becomes an obstacle in cultivation, using a recirculation system will rotate the water continuously so as to save water and maintain water quality. Water quality that can affect catfish, namely, Ammonia, Nitrite and Nitrate. The recirculation system uses a filter with a comparison of using a conventional filter and a conventional filter coupled with a biological filter using kale plants. Water samples were taken once a week for 30 days. Parameters observed were ammonia, nitrite, nitrate and their effect on the survival rate of catfish. The data is presented in the form of tables and graphs and analyzed descriptively quantitatively. Ammonia and nitrite in treatment A, the average value obtained tends to be higher than in treatment B but the average is still below the predetermined threshold, while the nitrate concentration shows a high value in treatment B compared to treatment A. The three variables contained The survival rate obtained by treatment B was higher than treatment A, which was 86.6% while treatment A obtained an SR of 69.3%. There is a difference in the water quality of the two treatments, the water quality of treatment B is better seen from the ammonia nitrite and nitrate variables by producing the highest SR of 86.6%.

Keywords: Recirculation System Cultivation, Survival Rate, Water Quality