# THE REDUCTION OF AMMONIA IN THE RECIRCULATION SYSTEM BY THE ADDITION OF DIFFERENT FILTERS

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## ABSTRACT

Ammonia is one of important water quality parameter for fish in aquaculture. Fish excrete wastes from the rest of the feed and metabolism which contain ammonia. The problems commonly encountered is the accumulation rate of waste from the feed residues and the results of fish metabolism. Ammonia will be accumulated in the recirculation system and can reach harmful concentration for the fish if it is too over. The addition of filter can be done to reduce the ammonia in the recirculation system. This research aimed to determine the reduction rate of ammonia and to examine the type of filter which is effective in reducing the ammonia in the recirculation system. This research used a completely randomized design (CRD) with four treatments and three replications (control, zeolite, charcoal, and coral pieces). The research was conducted by using catfish seed 4-5 cm in terpaulin pool with size of 1 x 2 $m^2$ and the density of 400 fish / $m^2$. The main parameters in this research were ammonia, and the supporting parameters namely were temperature, pH, and dissolved oxygen. This results of this research indicated that the addition of different filters gave significant effect to decrease the ammonia. Based on the result of Duncan Test, the coral pieces were more effective in reducing ammonia in the recirculation system.

***Keywords: recirculation, zeolite, charcoal, coral pieces***