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Title: The effect of paddlewheel aerators on ammonia and carbon dioxide removal in intensive pond culture

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Abstract: In intensive pond fish culture, good water quality is critical for fish growth and survival. Various water management techniques have been developed to maintain adequate levels of dissolved oxygen and to prevent the accumulation of ammonia aerators on the removal of ammonia and carbon dioxide and to ascertain its well-established effect of maintaining optimum dissolved oxygen levels in ponds sustaining a high biomass. A 500-m^2 earthen pond was stocked with *Oreochromis niloticus* averaging 170 g each to attain a total biomass of 3,000 kg/ha. Un-ionized ammonia and carbon dioxide levels were monitored every four hours for both aerated and unaerated conditions in the same pond. Each treatment was monitored over 24-hour cycles. Results indicate as significant effect of aeration on the diel pattern for carbon dioxide but none on ammonia. Carbon dioxide levels accumulated through the night and peaked between 4 and 8 a.m. at which time aeration significantly reduced it. Ammonia concentration was highest at 4 p.m. regardless of treatment.

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