NOTICE OF PUBLICATION

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RESEARCH REPORTS

Sustainable Aquaculture for a Secure Future

Title: Simulation of Short-Term Management Actions to Prevent Oxygen Depletion in Ponds

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Abstract:

The study examined possible changes in dissolved oxygen concentration resulting from various short-term management actions that can be undertaken in response to cloudy conditions. The management actions were examined with a computer model of water quality in a pond, and include nutrient enrichment (fertilization, pH adjustment), water level control, and water exchange. Results of these simulations indicated that general management strategies directed at increasing nutrient availability were the least effective in counteracting the effect of the increase cloud cover. Flushing and reducing the water level in the pond were considerably more effective short-term management actions. Areas for field research were suggested to confirm the effectiveness of the various strategies.

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