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Sustainable Aquaculture for a Secure Future

Title: Acidification and reclamation of acid sulfate soil fishponds in Thailand

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Abstract: An experiment was conducted to examine the chemical characteristics of and the effects of fertilization on water quality and biological productivity in fishponds built in the acid sulfate soil region of Thailand. The acid soil acidified the overlying pond water rapidly to pH less than 4, but its acidification effect was reduced remarkably by repeated changing of the pond water with alkaline source water. Further improvement of the pond water was done by liming and enriching the ponds with inorganic and organic fertilizers. The pH in ponds receiving inorganic fertilizers ($N_{16}P_{20}K_0$) fluctuated widely necessitating repeated liming. Production of food organisms (phyto- and zooplankton) was relatively poor. Fish yield (*Oreochromis niloticus* and *Puntius gonionotus* stocked at a density of 3 fish/m^2) in five months was only 426 kg/ha. In comparison, the pH in ponds fertilized with chicken manure stabilized in the alkaline range and fluctuated little after initial liming. Relatively high plankton production was achieved and fish yield was 1,528 kg/ha. Methods of reclaiming the acid soils for productive fishponds are recommended.

This abstract was excerpted from the original paper, which was published in J.L. Maclean, L.B. Dizon, and L.V. Hosillos (Editors), Proceedings of the First Asian Fisheries Forum, 1986, Manila, Philippines, pp. 71-74.

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