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POND DYNAMICS/AQUACULTURE COLLABORATIVE RESEARCH SUPPORT PROGRAM



RESEARCH REPORTS

SUSTAINABLE AQUACULTURE FOR A SECURE FUTURE

Title: Evaluation of Nile Tilapia Pond Management Strategies in Egypt

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Abstract: Five pond management strategies for Nile tilapia *Oreochromis niloticus* L. production were evaluated in 0.1-ha earthen ponds in Egypt during a 145-day production cycle. Pond management strategies developed by the Pond Dynamics/Aquaculture Collaborative Research Support Programme (PD/A CRSP) were compared with a traditional and a modified Egyptian pond management strategy. Young-of-year Nile (mixed-sex or sex-reversed) tilapia were stocked into ponds at 20 000 fish ha⁻¹. Sex-reversed tilapia were stocked into chemical fertilization, organic fertilization plus formulated feed and feed only treatment ponds, whereas mixed-sex tilapia were stocked into organic fertilization plus formulated feed and chemical plus organic fertilization plus formulated feed treatment ponds. Nile tilapia yields ranged from 1274 to 2929 kg ha⁻¹. Nile tilapia yields in organic fertilization plus formulated feed treatments were significantly greater than the yield from chemical fertilization ponds. PD/A CRSP pond management strategies did not produce significantly greater Nile tilapia yields than the traditional Egyptian system, but a larger percentage of harvested tilapia in the organic fertilization plus feed treatments were classified in the first and second class size categories compared with the traditional Egyptian system. Organic fertilization plus formulated feed pond management strategies had the highest net returns, average rate of return on capital and the highest margin between average price and break-even prices to cover variable costs or total costs.

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