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Title: The role of chicken manure in the production of Nile tilapia, *Oreochromis niloticus* (L.)

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Abstract: Two grow-out experiments were conducted to evaluate the functional role of chicken manure for Nile tilapia, *Oreochromis niloticus* (L.), production in central Thailand. Experiment 1 examined the relationship between chicken manure input and net fish yield (NFY). Experiment 2 determined the value of chicken manure in providing tilapia particulate organic carbon, and/or dissolved inorganic carbon (DIC) for stimulating algal productivity. In both experiments supplemental urea and triple superphosphate (TSP) gave all treatments total nitrogen (N) and phosphorus (P) inputs of 28.0 kg/ha/week and 7.0 kg/ha/week, respectively.

Addition of chicken manure to inorganic fertilization did not enhance production of Nile tilapia. NFY in experiment 1 increased with decreasing manure loading, which corresponded to increasing TSP input. Regression analysis suggested that chicken manure-P was about 10% effective as TSP-P at increasing NFY. NFY was linearly correlated to net primary productivity ($r^2 = 0.62$, $P<0.001$), which was linearly correlated to total alkalinity ($r^2 = 0.77$, $P<0.001$). Treatment differences in alkalinity, community respiration or dissolved oxygen concentrations at dawn were not related to manure input. Simple economic comparisons discourage the purchase of chicken manure as a source of soluble N and P for increasing algal productivity in Thailand.

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