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RESEARCH REPORTS

Sustainable Aquaculture for a Secure Future

Title: Substitution of organic manure for pelleted feed in tilapia production

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Abstract: The partial substitution of organic manure for pelleted feed in monosex *Oreochromis niloticus* (20,000/ha) production ponds was studied in Honduras. Treatments were: (1) pelleted feed only (23% protein; 3% fish biomass/day), (2) organic manure (1000 kg total solids (TS)/ha per week chicken litter) only during the first 60 days, followed by pelleted feed only, and (3) organic manure (500 kg TS/ha per week chicken litter) and pelleted feed (1.5% fish biomass/day) offered simultaneously. Mean gross yields after 151 days were 5305, 4794, and 4351 kg/ha for treatments 1 through 3, respectively. At harvest, fish averaged 262, 284, and 251 g/fish, respectively. No significant differences were detected among treatments for gross yield or average individual weight. Feed conversion ratio for treatment 1 (1.83) was significantly greater than for treatment 3 (0.95). Layer chicken litter can replace 27 to 58% of pelleted supplemental feed without significantly affecting tilapia yield. Total production costs from enterprise budgets were \$5336/ha (feed only), \$4645/ha (manure followed by feed), and \$3471/ha (manure and feed simultaneously). Net returns to land, labor, and management were \$2469/ha, \$2956/ha, and \$3330/ha, respectively.

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