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Title:

Timing of supplemental feeding for tilapia production

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Abstract:

The staged addition of feed to fertilized fish ponds was evaluated by adding fertilizers to 15 ponds stocked with Nile tilapia *Oreochromis niloticus*, then adding feed at half ad libitum rates once fish in the ponds reached a target weight. Each pond was stocked with 750 fish  $(3 \text{ fish/m}^2)$ , and each treatment included three ponds with first feeding at (a) 50 g, (b) 100 g, (c) 150 g, (d) 200 g, and (e) 250 g. Ponds in Thailand (at the Ayutthaya Freshwater Fisheries Station, Royal Thai Department of Fisheries) were maintained for 236-328 d until the fish reached 500 g.

Growth was similar for all treatments under fertilizer alone (1.17 g/d) and was also similar when feed was applied (3.1 g/d). Feed application rates averaged 1.17% BW/d, indicating substantial use of natural food. Pond water quality did not deteriorate under supplemental feeding. Feed conversion rates averaged 1.03. Multiple regression indicated that 73.8% of the variance in growth was explained by design variables (feed input and days), while 86.2% of the variance in growth was explained by adding dissolved oxygen content and alkalinity into the equation.

The most efficient system was to grow fish to 100-150 g with fertilizers alone, then add feed. First adding feed (at 50% ad libitum) once fish reached 100 g produced the highest predicted annual revenues (\$6,164 per hectare). Results of this experiment indicated that either critical standing crop occurred early (before the first fish sample) or did not occur at all in these ponds.

This abstract was excerpted from the original paper, which was published in the Journal of the World Aquaculture Society, 27(4)1996:410.

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