

# Evaluation of yields and growth performance of Nile tilapia (*Oreochromis niloticus*), with ningu (*Labeo victorinus*) and African catfish (*Clarias gariepinus*) in earthen ponds in Kenya

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## Abstract

Hunger and malnutrition remain amongst the most devastating problems facing the majority of the world's poor and needy, more so in Africa. Polyculture of Nile tilapia, African catfish and *Labeo victorinus* is considered a management strategy with the potential to increase yields and profitability of tilapia farming and at the same time to reduce malnutrition in Sub-Saharan Africa. For its ready adoption, however, more information, particularly on stocking ratios and ideal densities of different species, is required to successfully transfer this technology to farmers. Accordingly, in a 150-day experiment, mixed-sex Nile tilapia (*Oreochromis niloticus*) were co-stocked with either African catfish (*Clarias gariepinus*) or Ningu (*Labeo victorinus*) in six 120 m<sup>2</sup> earthen ponds (1.0 m depth). The mean weights at the start of the study were 5g, 5g and 50g for Tilapia, Catfish and Ningu, respectively. The Nile tilapia were stocked with each of the two other species at a density of 4 fish per m<sup>2</sup> in a ratio of 3:1 (Tilapia: Catfish or Ningu). Fish were offered a 30% protein feed and the ponds fertilized fortnightly with chicken manure, urea and DAP. Mean daily growth rates, final weights, and yields of tilapia after 150 days were significantly ( $P < 0.05$ ) higher in the tilapia/catfish treatment. Gross and net yields varied significantly between the treatments with the highest yields being observed in the tilapia /catfish stocking ratio.

**Keywords:** Polyculture, mixed-sex tilapia, Catfish, Labeo

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