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AQUACULTURE & FISHERIES INNOVATION LAB

## RESEARCH REPORTS

Sustainable Aquaculture for a Secure Future

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**Title:** Growth, yields and economic benefit of Nile tilapia (*Oreochromis niloticus*) fed diets formulated from local ingredients in cages

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**Abstract:** Small-scale aquaculture in Africa is limited by cost of protein ingredient in fish feeds, which requires continuous research in ways of improving protein ingredients. We evaluated the suitability of replacing fishmeal with rice bran alone or rice bran in combination with atyid shrimp (*Caridina nilotica*) on growth performance and economic benefits of Nile tilapia (*Oreochromis niloticus*) cultured in cages suspended of statistic ponds. The best growth performance and feed conversion ratio (FCR) occurred in fish fed fishmeal followed by those fed a combination of rice bran and *C. nilotica*, while rice bran alone resulted in lowest fish growth performance. The best economic benefit was obtained from fish fed a combination of rice bran and *C. nilotica*. We therefore demonstrate that it is possible to replace expensive fishmeal in the diet of *O. niloticus* using combination of cheaper rice bran and *C. nilotica* without compromising economic benefits for the small-scale aquaculturists.

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