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Sustainable Aquaculture for a Secure Future

Title: Growth and economic performance of Nile Tilapia (*Oreochromis niloticus* L.) fed on two formulated diets and two locally available feeds in fertilized ponds

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Abstract: Lack of suitable diets for semi-intensive production of *Oreochromis niloticus* in Kenya has necessitated use of expensive diets designed for intensive production. To address this problem, two isonitrogenous (24% protein) diets were formulated and evaluated for production of *O. niloticus* in fertilized ponds. One diet contained vitamins and minerals premix (CV) while the other had no premix (CW). Growth of fish fed on the formulated feeds was compared with groups of fish fed on commercial pig pellets (PP) and wheat bran (WB). There were significant differences in mean weights, growth rates and feed conversion ratios between the formulated and the other diets. No significant differences in these parameters were observed between CV and CW and also between PP and WB. Fish that fed on the formulated feeds produced significantly lower number of juveniles than those fed on PP and WB. Fish fed on WB gave the best economic returns while those on PP had the least returns. Present results suggest that vitamins and minerals premix may not be necessary in diets for semi-intensive production of *O. niloticus*. Present results showed that the formulated feeds produced higher yields than PP and WB, but WB had the best economic returns among the test diets.

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