

GROWTH AND SURVIVAL OF SALINE TILAPIA (*Oreochromis niloticus x spilurus*) FED SINGLY WITH MORINGA ENRICHED FEEDS AND COMMERCIAL FEEDS

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ABSTRACT

The increase in fish production from aquaculture worldwide results high costs of feedstuff which consider as one of the major constraints in fish farming industry today. High demand on animal based protein source in feed formulation contributed to high cost of commercial feedstuffs. To lessen the cost of feed production, plant based protein were utilized as an alternative protein source in feed formulation. In this study, *Moringa oleifera* was used a source of protein in formulating feed for tilapia juveniles. The plant *M. oleifera* is internationally known for its various nutritive contents and high protein concentration which is locally known as “Malungay” *Moringa*-based feeds constitute 19.79 % CP as dietary protein added to other feedstuff.

The effectiveness of the formulated feeds from *M. oleifera* (MF) was tested by investigating the survival rate and growth performances of the hybrid saline tilapia (*Oreochromis niloticus x spilurus*) against commercial feeds (CF) in a 40-day culture period. Tilapia fingerlings (5-7 g) were reared in hapa nets installed in brackish water pond. Physico-chemical parameters were also recorded. Feed cost analysis were also determined for tilapia fed with MF and CF. Feed Conversion Ratio (FCR) values were 2.32 and 1.91 for MF and CF, respectively. Saline tilapia fed with MF has a final mean weight of 30.53±2.55 and length of 11.43±0.63 while, stocks fed with MF had weight of 36.67±6.74 and length of 12.04±1.19. However, statistical analysis (t-test, α 0.05) on the growth of saline tilapia (weight and length) revealed no difference for both MF and CF treatments (ρ >0.05). In addition, survival rate of saline tilapia administered with MF and CF showed comparable results (ρ >0.05). Moreover, all recorded water parameters such as salinity, temperature, pH and dissolved oxygen are within tolerable levels for tilapia culture. Finally, the present study showed that MF can replace CF for optimum growth of tilapia. Furthermore, MF is considerably cost-effective than MF.