EFFECTS OF FRESH GARLIC (*Allium sativum* L.) AND GINGER (*Zingiber officinale*) ON THE GROWTH OF NILE TILAPIA (*Oreochromis niloticus*) FINGERLINGS IN AQUARIA

By

MARYLY E. EDNALAGA

An Undergraduate Thesis submitted to the faculty of the College of Fisheries in partial fulfillment of the requirements for the degree of

BACHELOR OF SCIENCE IN FISHERIES

Department of Aquatic Resources, Ecology and Management
COLLEGE OF FISHERIES
CENTRAL LUZON STATE UNIVERSITY
Science City of Muñoz, Nueva Ecija
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EFFECTS OF FRESH GARLIC (*Allium sativum* L.) AND GINGER (*Zingiber officinale*) ON THE GROWTH OF NILE TILAPIA (*Oreochromis niloticus*) FINGERLINGS IN AQUARIA[1/]

ABSTRACT

The study was conducted to determine the growth and survival of Nile tilapia (*O. niloticus*) fed with fresh garlic, fresh ginger and combination of fresh garlic and ginger.

After the evaluation trial, Highest mean final weight was obtained from Treatment 2 (fresh garlic), followed by fish in Treatment 4 (combination), treatment 3 (fresh ginger) and Treatment 1 (control). Analysis of variance on the average final weight of the experimental fish showed no significant differences from each other (P>0.05).

Treatment 2 (fresh garlic) had highest mean final length, followed by Treatment 4 (combination of fresh garlic and ginger), Treatment 3 (fresh ginger), and Treatment 1 (control). However, all treatments were not significantly different (P>0.05) from each other on mean final length.

Analysis of variance on the survival rate of the experimental fish was not significantly different from each other (P>0.05). It could be concluded that adding fresh garlic and fresh ginger to the commercial diets of Nile tilapia had no effect on the survival rate.

Results showed that FCR of all fish fed with garlic, ginger and it`s combination were significantly lower than control group (P<0.05). Analysis of variance on the FCR of the experiment was significantly different (P<0.05).

Condition factor of greater than one showed the well-being of fishes fed with different experimental diets. The values of condition factor in Treatments 2 (fresh garlic) ,3 (fresh ginger) and 4 (combination of garlic and ginger) were higher than Treatment 1 (control).

The result shows that the temperature and pH was not significantly different among the four treatments (P>0.05). Analysis of variance on dissolved oxygen showed no significant differences on Treatments 1 (control), Treatment 2 (fresh garlic) and Treatment 3 (fresh ginger) (P>0.05) either morning or afternoon readings while Treatment 4 (combination of fresh garlic and ginger) was significantly different.

The results obtained in the present study demonstrated that fresh garlic, fresh ginger and the combination of garlic and ginger as a feed additive represents alternative solutions as a growth promoter.

Generally, based on the result of growth performance it can be recommended that 10 g of fresh garlic, fresh ginger and combination of fresh garlic and ginger per kg of feeds can be a natural growth promoter in Nile tilapia (*Oreochromis niloticus)* fingerlings. Further studies are encouraged to focus on the effect of fresh garlic, fresh ginger and combination of the two from fingerlings to grow-out stage.

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