

**SEX REVERSAL OF NILE TILAPIA (*Oreochromis niloticus*) USING AQUEOUS
EXTRACT OF MALABAR SPINACH (*Basella alba*)**

By

KRIS ANGEL G. PINEDA

An Undergraduate Thesis Presented 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 Aquaculture
COLLEGE OF FISHERIES
CENTRAL LUZON STATE UNIVERSITY
Science City of Munoz, Nueva Ecija**

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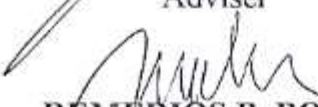
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REVERSAL OF NILE TILAPIA (*Oreochromis niloticus*) USING AQUEOUS EXTRACT OF MALABAR SPINACH (*Basella alba*)

ABSTRACT

Sex reversal using synthetic hormones is one of the methods of producing monosex fish for higher production. The study evaluated the effects of aqueous extract of Malabar spinach (*Basella alba*) in the sex-reversal and survival of Nile tilapia fry. The treatments evaluated were: Treatment I – control diet (0% *B. alba* Aqueous extract); Treatment II - diet with 18 mL extract from *B. alba*; Treatment III - diet with 27 mL extract from *B. alba*; Treatment IV - diet with 36 mL extract from *B. alba*; Treatment V - diet with 70 mg of 17 α -methyl testosterone.

Results of the study showed that Nile tilapia fed with diet containing 36 mL extract from *B. alba* had the highest percent male. Statistically, the percentage of males in the T1 (control diet) was significantly different ($P < 0.05$) compared to other treatment groups while fish fed with diets containing aqueous extract of *B. alba* (T2, T3 and T4) were not significantly different with those fish fed MT (T5) treated diet.

Nile tilapia fed with diet containing 18 mL extract from *B. alba* had the highest survival rate among the treatment groups with fish diets containing *B. alba* aqueous extract. Statistically, fish feed with pure commercial feeds (T1) and fish fed with diet containing 18 mL of aqueous extract of *B. alba* (T4) were significantly different ($P > 0.05$) compared to fish fed containing 70 mg of 17 α -methyl testosterone (T5), while fish fed with pure commercial feeds (T1) and treatments with aqueous extract of *B. alba* (T2, T3, T4) had no significant difference. The results indicate that the dietary treatment with aqueous extract of *B. alba* has no adverse effects on general fish health and have render the androgenic activity of the extract for producing an all-male-tilapia population.

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