SUMMARY

(1) This experiment was conducted to evaluate the use of ethanol-extracted from the medicinal plant, *Origanium vulgare* as a growth and immunity promoter for Nile tilapia, *Oreochromis niloticus* (L.) fingerlings. Fish (Average 12.33 g) were randomly distributed into four treatments; three replicates each at a rate of 15 fish per 140– L aquarium. Fish were fed one of the tested diets containing similar crude protein (30%) and gross energy (4.40 kcal / g), in addition to 0.0, 0.5 %, 1.0% or 1.5 % *Origanium vulgare* extract.

(2) Diets were given twice daily at a rate of 3 % of live body weight, for six days a week during 10 weeks. After the feeding trial, fish of each treatment were challenged by pathogenic *Pseudomonas aeruginosa* and *Pseudomonas flourscence,* which was separately injected by intraperitoneal (I/P) injection and they were kept under observation for 10 days to follow up any abnormal clinical signs and the daily mortality rate.

(3) The growth–promoting influence of *Origanium vulgare* extract was observed on fish. The maximum growth was observed at 0.5 % *Origanium vulgare* extract as compared to the control.

(4) No significant differences in fish survival were reported among the experienced treatments at ($P>0.05$), falling within the range of 93.3 – 100%. The control fish consumed less diet and gave a higher FCR, while fish fed diet containing 0.5 % *Origanium vulgare* extract demonsrated the highest protein efficiency ratio (PER), apparent protein utilization (APU), and energy utilization (EU).

(5) The supplementation of *Origanium vulgare* extract had no

significant (P>0.05) effect on the fish body composition (dry matter, crude protein, fat, and ash), mean which total protein, albumin, and globulin increased significantly (P<0.5) to the highest values at 0.5 % *Origanium vulgare* extract, as compared to the control. However, supplementation of *Origanium vulgare* extract did not significantly affect the albumin / globulin ratio (A/G).

(6) This present study, showed that 0.5 % *Origanium vulgare* extract in Nile tilapia diets, increased the fish resistance to *Ps. aeruginosa* and *Ps. flourscence,* indicating the effective role of Origanium vulgare extract in disease prevention in tilapia culture.

(7) The reduction in feed cost compared with control diet showed 12.52 % to produce one kg fish gain of treatment containing 0.5 % extracted *Origanum vulgare* levels.

(8) Evaluation to the use of ethanol-extracted from the medicinal plant, *Zingebare officinale* as a growth and immunity promoter for Nile tilapia, *Oreochromis niloticus* (L.) fingerlings. Fish (Average 12.33 g) were randomly distributed into four treatments; three replicates each at a rate of 15 fish per 140– L aquarium.

(9) Fish were fed one of the tested diets containing similar crude protein (30 %) and gross energy (4.40 kcal / g), with separate addition to 0.0, 0.5 %, 1.0 %, or 1.5 % *Zingebare officinale* extract. Diets were given twice daily at a rate of 3 % of live body weight, for six days a week during 10 weeks.

(10) After the feeding trial, fish of each treatment were challenged by pathogenic *Pseudomonas aeruginosa* and *Pseudomonas flourscence*,

which was given by intraperitoneal (I/P) injection and they were kept under observation for 10 days to follow up any abnormal clinical signs and the daily mortality rate.

(11) The growth–promoting influence of *Zingebare officinale* extract was observed on fish. The maximum growth was observed at 1 % *Zingebare officinale* extract as compared to the control. No significant differences in fish survival were reported among the experienced treatments at ($P>0.05$), falling within the range of 93.3 – 100%. The control fish consumed less diet and gave a higher FCR, while fish fed diet containing 1 % *Zingebare officinale* extract demonsrated the highest protein efficiency ratio (PER), apparent protein utilization (APU), and energy utilization (EU).

(12) Supplementation of *Zingebare officinale* extract had no significant ($P>0.05$) effect on the fish body composition (dry matter, crude protein, fat, and ash), mean which total protein, albumin, and globulin increased significantly ($P<0.5$) to the highest values at 1 % *Zingebare officinale* extract, as compared to the control.

(13) However, supplementation of *Zingebare officinale* extract did not significantly affect the albumin / globulin ratio (A/G). This present study, showed that 1 % *Zingebare officinale* extract in Nile tilapia diets, increased the fish resistance *to Ps. aeruginosa* and *Ps. flourscence*, indicating the effective role of *Zingebare officinale* extract in disease prevention in tilapia culture.

(14) The reduction in feed cost compared with control diet showed 11.09 % to produce one kg fish gain of treatment containing 1 % extracted *Zingebare officinale* levels.

(15) A - Efficiency of *Origanum vulgare* ethanolic extract against the pathogenic *Ps aurgonsia* among *Orechromis niloticus* the intrapretonial inoculation (I/P) of 0.2 ml (4 x 10^6 cells /ml) of *Ps aurgonsia* caused mortality (90 %) among *Orechromis niloticus*, while the treated *Orechromis niloticus* with ethonalic extract (turbines) of *Origanum vulgare* had mortality (30%)**.**

(16) The other two groups did not show any mortalities or clinical sings. *Origanum vulgare* (natural antimicrobial agent equal to *Chloramphenicol* (chemical antibiotic).

(17) Efficiency of *Origanum vulgare* ethanolic extract against the pathogenic *Ps flourscence* among *Orechromis niloticus* the intrapretonial inoculation (I/P) of (4 x10^6 cells /ml) 0.2 ml of *Ps flourscence* caused mortality (100 %) among *Orechromis niloticus*, while the treated *Orechromis niloticus* with ethonalic extract (turbines) of *Origanum vulgare* had mortality (40%)**.**

(18) The other two groups did not show any mortalities or clinical sings. *Origanum vulgare* (natural antibiotic) = *Chloramphenicol* (chemical antibiotic).

(19) Efficiency of *Zingebare officinale* ethanolic extract against the pathogenic *Ps aurgonsia* among *Orechromis niloticus* the intrapretonial inoculation (I/P) of (4 x 10^6) cells /ml of *Ps aurgonsia* caused mortality (90 %) among *Orechromis niloticus*, while the treated *Orechromis niloticus* with ethonalic extract (turbines) of *Zingebare officinale* had mortality (40%)**.**

(20) Efficiency of *Zingebare officinale* ethanolic extract against the pathogenic *Ps flourscence* among *Orechromis niloticus* the intrapretonial

inoculation (I/P) of (4 x 10^6) cells /ml of *Ps flourscence* caused mortality (100 %) among *Orechromis niloticus*, while the treated *Orechromis niloticus* with ethonalic extract (turbines) of *Zingebare officinale* had mortality (50%).

(21) Morphometric studies has been carried out crystalgrophy Imge processing soft ware (C.I.S.) to apply this tool for numerically and Imge evaluation of the effect of prepared nutral product antibiotics.