# SOME ASPECTS OF DUCK-BIGHEAD CARP-COMMON CARP-NILE TILAPIA INTEGRATED FARMING

By

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Thesis

Submitted in partial fulfilment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

in the

POSTGRADUATE INSTITUTE OF AGRICULTURE

of the

UNIVERSITY OF PERADENIYA



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November 1989.

# A B S T R A C T

Duck - fish integration is unique among the livestock - fish integration systems, because of the mutual compatibility of the two components involved. The present study explored the practical ways of integrating duck and fish farming in Sri Lanka.

Ponds fertilized with a basal application of duck litter mixed with dolomite at a ratio of 19:1 and 10,000 kg/ha dry weight (DW) rate gave a maximum planktonic growth between day 12 and 16. In this system it was found to be the best to stock fish during this period. The basal mixture added at the rate of 1,000 kg/ha/week (DW) twice a week, proved to be adequate as the supplementary fertilizer to a polyculture system comprising of male Nile tilapia ( Oreochromis niloticus ), common carp ( Cyprinus carpio ) and bighead carp ( Aristichthys nobilis ) at 4:3:2 ratio at a stocking density of 18,000 fish/ha.

It was found that a Nile tilapia - bighead carp polyculture system under extensive management should have Nile tilapia as the major component. The inclusion of bottom feeding common carp to the above system significantly increased the overall yields. Nile tilapia of 25 - 35 g, grew to a marketable size of over 150 g within 105 days indicating the possibility of obtaining three harvests annually.

Ducks could not control Nile tilapia recruitment. However, they

cleaned the pond skillfully, removed undesirable organisms and agitated the water; thereby providing better conditions for fish growth. On the other hand, growth rate, final live weight, egg production and average egg weight of pond-reared ducks were significantly higher compared with those of pen-reared ducks, without any access to water.

The results show that duck - fish integration system suits well to the local conditions. The observations of this study may be useful to other animal - fish ventures as well.