B-50 Rice-poultry-fish-integration: effect of broiler and layer manure on the yield of paddy and on the growth and survival of platy (*Xiphophorus musculatus*) and nile tilapia (*Oreochromis niloticus*)

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The advantages of rice-fish integration is being realized once again specially because of the dwindling profit margin due to high price of fertilizer. Integrated farming systems are considered to be a very important component for sustainable development in South Asian countries. The waste recycling ability of this kind

of integrated system is capable of minimising environmental pollution and reducing the variable cost of production of paddy.

The experiment was conducted in 8 paddy plots of 50 m^2 each with a pond refuge of 1m^2 at the centre of the plot. Both broiler and layer manure were applied at the rates of 1000 kg/ha and 400 kg/ha/week respectively as basal and top dressings for paddy as fertilizer. Control treatment plots were supplied with inorganic fertilizer as recommended. 13 pairs of Platy (*Xiphophorus musculatus*) and 50 fingerlings of Nile tilapia (*Oreochromis niloticus*) were stocked separately in the plots. 4 replicate treatments were carried out for each experiment.

The highest mean yield recorded was 6732.6 kg/ha in the treatment with broiler manure as fertilizer. The paddy yield obtained from the plots treated with broiler and layer manure had a significantly higher ($p< 0.05$) yield than those treated with inorganic fertilizer (5778.5 kg/ha).

None of the treatments showed any variation with growth and survival of both fish types. However the survival rate was considerably reduced due to siltation of the pond refuge as well as due to predation.

Results indicate that there is potential for obtaining higher paddy yields with broiler manure as the only fertilizer.

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