

## **Duck-fish integrated farming**

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### **Advantages**

- Pond fertilization by droppings
- Ducks get most of their total feed requirements from the pond in the form of aquatic weeds, insects, larvae, earthworms, etc. They need very little feed, and farmers normally give kitchen wastes, molasses and rice bran, for the purpose.
- No additional land required for duck rearing place (on dyke or over pond)
- Ducks as “Biological aerator” aerate the water while swimming
- Ducks loosen the pond bottom with their dabbling and help in release of nutrients from the soil, which increase pond productivity.
- Reduces production cost (fertilizer, feed, labour)

### **Duck farming**

#### ***Duck housing***

- The ducks do not need elaborate housing since they remain in the pond most of the day
- About 3 square feet space is required for a duck
- House can be made of bamboo, straw etc.
- The house should be well-ventilated
- The ducks start laying at the age of 24 weeks
- Laying boxes with straw may be kept in the duck house.

#### ***Duck strain***

- Egg is preferred to meat
- Indian runner, Khaki cambel (@250-300 eggs per year)

#### ***Stocking***

- Number varies from 200-300/ha to 600 to 800/ha
- About 3-4-month old ducklings are kept on the pond

#### ***Duck feed***

- Can find natural food from the pond
- Need very little supplementary feed which may come from household wastes, such as kitchen leftovers, rice bran and spoiled cereals, if any
- Alternatively, a balanced feed may be given at 50-100g/bird/day.

#### ***Duck waste***

- Each duck produces 60-kg waste/year which is sufficient to produce 3-4 kg fish.
- Droppings have 81% moisture, 0.91% nitrogen and 0.38% phosphate as dry matter basis

## **Fish farming**

### ***Pond selection***

- Avoid small pond to avoid water quality degradation
- Located comparatively high land to protect fish and birds from flood
- Dry place is preferred for chicken
- Closer to homestead is better

### ***Fish species***

- Species used under carp polyculture

### ***Pre-stocking management***

- Remodelling of pond if necessary
- Removal of weeds and unwanted animals
- Liming
- Manuring the pond with cattle dung at 500 kg/1 000 m<sup>2</sup>

### ***Stocking***

- The fingerlings of over 10 cm size should be stocked, as the smaller ones are likely to be preyed upon by the ducks
- Density around 600 pieces/1000 m<sup>2</sup>
- Surface feeder 40%, column feeder 20%, bottom feeder 30%, all layer 10%

### ***Fish feed***

- No supplementary feed required
- Duck waste used as direct feed by common carp
- Weeds/plants supply required for grass carp

### ***Fish harvesting***

- Partial harvesting and restocking

### **Fish, egg and meat production**

- Fish production of 3.5-4 ton/ha
- Meat production of 500-700 kg
- Egg production of 90,000-1,25,000

### **Precaution**

1. Regular liming required for disinfecting the ponds
2. Placing mats or plastic sheets for 1 to 3 weeks below the poultry house required while finding plankton blooms
3. Immediate irrigating the pond with fresh water required in case of fish mortality due to oxygen depletion