



Centre for Microfinance & Livelihood (CML), Guwahati

An Initiative of TATA TRUSTS

5th Floor, Divine Plaza, SuperMarket,
Guwahati -781005, Assam, India.

Email: cmlghy@gmail.com

Tel: +91 361-2229367

Website: www.cmlnortheast.com

Integrated fish cum duck farming

Benefits of fish cum duck farming

1. Water surface of ponds can be put into full utilization by duck rearing.
2. Fish ponds provide an excellent environment to ducks which prevent them from infection of parasites.
3. Ducks feed on predators and help the fingerlings to grow.
4. Duck raising in fish ponds reduces the demand for protein to 2 - 3 % in duck feeds.
5. Duck droppings go directly into water providing essential nutrients to increase the biomass of natural food organisms.
6. The daily waste of duck feed (about 20 - 30 gm/duck) serves as fish feed in ponds or as manure, resulting in higher fish yield.
7. Manuring is conducted by ducks and homogeneously distributed without any heaping of duck droppings.
8. By virtue of the digging action of ducks in search of benthos, the nutritional elements of soil get diffused in water and promote plankton production.
9. Ducks serve as bio aerators as they swim, play and chase in the pond. This disturbance to the surface of the pond facilitates aeration.
10. The feed efficiency and body weight of ducks increase and the spilt feeds could be utilised by fish.
11. Survival of ducks raised in fish ponds increases by 3.5 % due to the clean environment of fish ponds.
12. Duck droppings and the left over feed of each duck can increase the output of fish to 37.5 Kg/ha.
13. Ducks keep aquatic plants in check.
14. No additional land is required for duckery activities.
15. It results in high production of fish, duck eggs and duck meat in unit time and water area.
16. It ensures high profit through less investment.

Stocking Density of fish

- The pond is stocked after the pond water gets properly detoxified.
- The stocking rates vary from 6000 fingerlings/ha and a species ratio of 40 % surface feeders, 20 % of column feeders, 30 % bottom feeders and 10-20 % weedy feeders are preferred for high fish yields.

- Mixed culture of only Indian major carps can be taken up with a species ratio of 40 % surface, 30 % column and 30 % bottom feeders.
- In the northern and north - western states of India, the ponds should be stocked in the month of March and harvested in the month of October - November, due to severe winter, which affect the growth of fishes.
- In the south, coastal and north - eastern states of India, where the winter season is mild, the ponds should be stocked in June - September months and harvested after rearing the fish for 12 months.

Use of duck dropping as manure:

- The ducks are given a free range over the pond surface from 9 to 5 PM, when they distribute their droppings in the whole pond, automatically manuring the pond.
- The droppings voided at night are collected from the duck house and applied to the pond every morning.
- Each duck voids between 125 - 150 gm of dropping per day.
- The stocking density of 200-300 ducks/ha gives 10,000 - 15,000 kg of droppings and recycled in one hectare ponds every year.
- The droppings contain 81% moisture, 0.91% nitrogen and 0.38% phosphate on dry matter basis.

Duck husbandry practices:

The following three types of farming practice are adopted.

Raising large group of ducks in open water

- This is the grazing type of duck rearing.
- The average number of a group of ducks in the grazing method is about 1000 ducks.
- The ducks are allowed to graze in large bodies of water like lakes and reservoirs during the day time, but are kept in pens at night.
- This method is advantageous in large water bodies for promoting fish production.

Raising ducks in centralised enclosures near the fish pond

- A centralised duck shed is constructed in the vicinity of fish ponds with a cemented area of dry and wet runs out side.
- The average stocking density of duck is about 4 - 6 ducks/sq.m. area.
- The dry and wet runs are cleaned once a day. After cleaning the duck shed, the waste water is allowed to enter in to the pond.

Rearing ducks in fish pond

- This is the common method of practice.
- The embankments of the ponds are partly fenced with net to form a wet run.

- The fenced net is installed 40-50 cm above and below the water surface, so as to enable the fish to enter into the wet run while ducks cannot escape under the net.

Selection of ducks and stocking

- The kind of duck to be raised must be chosen with care since all the domesticated races are not productive.
- The important breeds of Indian ducks are Khakhi Campbell, Sylhet Mete and Nageswari.
- The improved breed, Indian runner, being hardy has been found to be most suitable for this purpose, although they are not as good layers as exotic Khaki Campbell.
- The number of ducks required for proper manuring of one hectare fish pond is also a matter of consideration.
- It has been found that 200 - 300 ducks are sufficient to produce manure adequate enough to fertilize a hectare of water area under fish culture.
- 2 - 4 months old ducklings are kept on the pond after providing them necessary prophylactic medicines as a safeguard against epidemics.

Feeding:

- Ducks in the open water are able to find natural food from the pond but that is not sufficient for their proper growth.
- A mixture of any standard balanced poultry feed and rice bran in the ratio of 1:2 by weight can be fed to the ducks as supplementary feed at the rate of **100 gm/ bird/day**.
- The feed is given twice in a day, first in the morning and second in the evening.
- The feed is given either on the pond embankment or in the duck house and the spilled feed is then drained into the pond.
- Water must be provided in the containers deep enough for the ducks to submerge their bills, along with feed.
- The ducks are not able to eat without water. Ducks are quite susceptible to aflatoxin contamination; therefore, mouldy feeds kept for a long time should be avoided.
- The ground nut oil cake and maize are more susceptible to *Aspergillus flavus* which causes aflatoxin contamination and may be eliminated from the feed.

Egg laying

- The ducks start laying the eggs after attaining the age of 24 weeks and continue to lay eggs for two years.
- The ducks lay eggs only at night. It is always better to keep some straw or hay in the corners of the duck house for egg laying.
- The eggs are collected every morning after the ducks are let out of the duck house.

Health care

- Ducks are subjected to relatively few diseases when compared to poultry.
- The local variety of ducks is more resistant to diseases than other varieties.
- Proper sanitation and health care are as important for ducks as for poultry.
- The transmissible diseases of ducks are duck virus, hepatitis, duck cholera, keel disease, etc.
- Ducks should be vaccinated for diseases like duck plague. Sick birds can be isolated by listening to the sounds of the birds and by observing any reduction in the daily feed consumption, watery discharges from the eyes and nostrils, sneezing and coughing.
- The sick birds should be immediately isolated, not allowed to go to the pond and treated with medicines.

Harvesting

- Keeping in view the demand of the fish in the local market, partial harvesting of the table size fish is done.
- After harvesting partially, the pond should be restocked with the same species and the same number of fingerlings.
- Final harvesting is done after 12 months of rearing.
- Fish yield ranging from 3500 - 4000 Kg/ha/yr and 2000 - 3000 Kg/ha/yr are generally obtained with 6 - species and 3 - species stocking respectively.
- The eggs are collected every morning. After two years, ducks can be sold out for flesh in the market. About 18,000 - 18,500 eggs and 500 - 600 Kg duck meat are obtained.



Duck cum fish farming