



Economic duck farming

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Duck farming occupy an important position in India. They form about 10% of the total poultry population in India and contribute about 7-8% of the total egg produced in country. Ducks lay more egg (about 300 eggs/ year) per bird per year than chicken and the size is also larger than hen egg by about 18-20 g. Duck has higher red muscle fiber in breast compared to chicken and is considered as red meat. Ducks have a profitable life from commercial points of view as they lay economically in about second year so this reduces the cost of production. Duck supplements their feed by eating fallen grains, snails, earthworms, insects, and small fishes. Ducks are hardy, easily brooded, and resistant to common avian diseases. Although it is more economical to raise ducks either for egg or meat purpose.

Among the egg laying breeds Khaki Campbell is best in India Indian Runner is also popular. It was developed in England. Khaki Campbell hens can produce an egg a day which is white in colour and more than 300 eggs per year. White Pekin is the most popular duck for meat purpose. It is fast growing and has low feed consumption with fine quality meat. Feed conversion ratio is 1:2.3 to 2.7. Drake (male) weight is 4 kg and duck weight is about 3.5 kg at maturity. Other meat type ducks are Aylesbury, Muscovy, and Rouen, Cayuga, Buff and Sweedish breeds. Ducks are also used for Ornamental purpose important breeds are Crested White, Carolina, Grey calls, White Calls, and Black East Indies.

Breeding and housing : Ducks do not require elaborate houses. The house should be well ventilated, dry, and rodents proof. Any type of brooder house may used for brooding ducklings. The temperature under the brooder should be 30-35°C for the first week and it should be

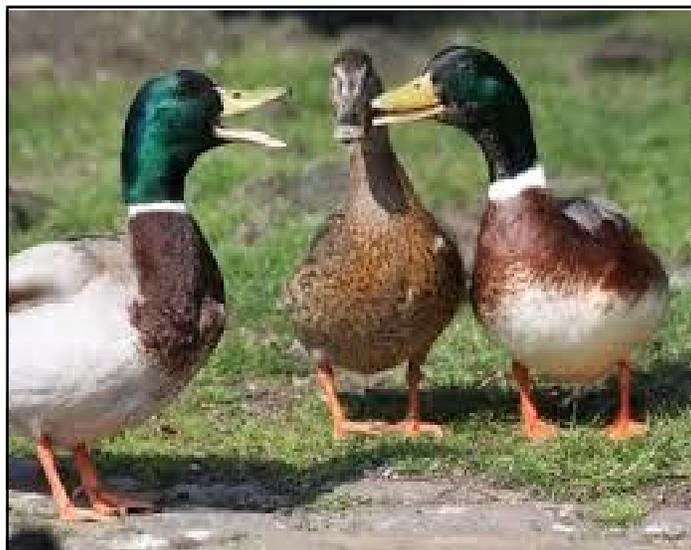
reduced 3°C every 4-7 days till it reaches 24°C during the fourth week. Duckling may be brooded in wire floor, litter or batteries.

A water channel continuous water channel is constructed inside the house. Duckling may be reared in intensive, semi intensive, or range system. In range system a flock of 1000 can be reared in one acre. According to season and weather condition artificial weather is necessary.

Adult stock: Under intensive system a floor space of 4 to 5 sq. ft. is essential, where as in semi intensive system a floor space of 3 sq. ft. in shelter and 12-17 sq. ft. in outfield is sufficient. A feeding space of 6-7 cm. is sufficient. For laying bird 30x30x45 cm. size box is sufficient for three birds. For layer light of 16 hours is

sufficient. In layer mating ratio of 1:6 to 7 and for meat breeds a ratio of 1: 4 to 5 is sufficient.

Feeding: Baby ducklings should eat waterfowl starter crumbles, a blend specially formulated for their growth and development. Chick starter can be used as a substitute, with cautions. if a chick starter is used, we must provide a niacin supplement in the feed or water. Niacin supplements in powder or tablet form– add 100 to 150 mg of niacin



per gallon of drinking water until 10 weeks of age. Livestock-grade brewer's yeast can be used to prevent niacin deficiency – add 5 to 7.5 lbs of brewer's yeast per 100 lbs of chick starter.

Annual daily consumption of duck is about 50 kg. It requires about 3-4 kg. feed for a dozen of egg and 3.22 kg. feed for 1 kg. of meat. Under intensive system dry mash pellets or crumbs should be provided in water source. Ducks have no teeth – they need grit in the form of small rocks to grind their food.

Common duck diseases and their control:

Duck plague : It is also known as viral enteritis and is caused by *Herpes virus*. Ducks of all ages are susceptible to it.

Symptoms: Affected birds are listless with drooping wings, ruffled feather, no desire to walk, dull cornea, nasal discharge, laboured breathing, greenish yellow diarrhoea conjunctivitis and drop in egg production may be seen.

Prevention and control : There is no any treatment only Vaccination with Duck plague vaccine can be used which should be given at the 8- 12 weeks.

Aflatoxicosis : It occurs due to ingestion of aflatoxin, the toxic metabolite of the fungus *Aspergillus flavus* from infected maize- meal, soya meal, and groundnut cakes. Out of 4 types of Aflatoxin (B1, B2, G1, G2) B1 is the most toxic. The minimum dose of toxin is the 0.03 ppm

Table 1 : The floor space, water and feeder space should be

| Sr. No. | Age | Floor space (sq. ft.) | | Feeder space (linear inches) | | Water space (linear inches) | |
|---------|-------------|-----------------------|----------|------------------------------|----------|-----------------------------|----------|
| | | Meat type | Egg type | Meat type | Egg type | Meat type | Egg type |
| 1. | Upto 3 week | 1.0 | 0.85 | 2 | 2 | 1 | 1 |
| 2. | Upto 8 week | 2.0 | 1.75 | 4 | 3 | 2 | 1.5 |
| 3. | Upto 20week | 4.0 | 3.00 | 5 | 3.5 | 2.5 | 1.75 |
| 4. | Adults | 5.0 | 4.00 | 6 | 4 | 3 | 2 |

Table 2 : Feed requirements of ducks at different age

| Sr. No. | Ingredients (kg/100 kg) | Starter (0-2 weeks) | Grower (3-8 weeks) | Grower (3-8weeks) | Layer and breeder(from point of laying) |
|---------|-------------------------|---------------------|--------------------|-------------------|---|
| 1. | Maize | 32.00 | 31.70 | 33.69 | 47.00 |
| 2. | Sorghum | 11.00 | 17.00 | - | 10.40 |
| 3. | Rice polish | 16.99 | 17.00 | 40.00 | - |
| 5. | Wheat bran | - | - | 10.00 | - |
| 6. | Rice bran | - | - | - | 8.0 |
| 7. | Salseed meal | 5.00 | 5.00 | - | - |
| 8. | Ground nut -cake | 11.00 | 9.00 | - | 11.00 |
| 9. | Sunflower-cake | 11.00 | 9.00 | 5.00 | 11.00 |
| 10. | Mustard oil cake | - | - | 5.00 | - |
| 11. | Maize gluten meal | - | - | - | - |
| 12. | Seasame-cake | - | - | - | - |
| 13. | Fish- meal | 12.00 | 10.00 | 5.00 | - |
| 14. | Meat-meal | - | 0.60 | - | 6.00 |
| 15. | Bone-meal | 0.70 | 0.24 | 0.70 | 1.30 |
| 16. | Salt | 0.24 | - | 0.20 | 0.05 |
| 17. | Limestone | - | - | 0.30 | 5.10 |
| 18. | Chlorine chloride | 0.50 | 0.05 | - | - |
| 19. | Minerals+ vitamins | 0.11 | 0.11 | 0.11 | 0.11 |
| | Total | 100.00 | 100.00 | 100.00 | 100.00 |

Source: Srivastava and Panda, Farmer's journal, September 1982

Table 3 : Vaccination schedule for ducks

| Sr. No. | Name of the vaccine | Route | Dose | Age of ducks |
|---------|---------------------|-------------------------|------|-------------------------------|
| 1. | Duck Cholera | Subcutaneous Ducklings, | 1 ml | 3-4 weeks |
| | (Pasteurellosis) | Adults | 2 ml | After 1 month of last vaccine |
| 2. | Duck plague | Subcutaneous Adults | 1 ml | 8-12 weeks |

per kg. of feed.

Symptoms: The important signs are poor growth, loss of appetite, falling of feather, lameness, purple discolouration of feet and drop in egg production. When aflatoxin present in high concentration it leads to death.



Prevention and control : For prevention the feed ingredients should be checked for aflatoxin. Replace the infected feed with good feed immediately.

Botulism : It is caused by C-type toxin produced by *Cl. botulinum*.

Symptoms: Clinical symptoms included dullness, ruffled feather, lameness, coma and death.

Prevention and control : When the dose of the toxin is low most of the birds can be saved by removing the sick birds and providing the rest with fresh and clean water. Avoid ducks scavenging on decaying plant materials. The Epsom salt in drinking water which acts as purgative can be used.

Aspergillosis : This is a respiratory disease caused by *Aspergillus fumigates*. It may be transmitted through the air.

Symptoms : The important signs are loss of appetite, laboured breathing, and emaciation. There is no treatment.

Prevention and control : To prevent the disease hatching egg should be properly cleaned and disinfected. Mouldy litter should be immediately removed.

Colibacillosis : It is a disease of young duckling from 2-3 week. and is caused by *E. Choli*.

Prevention and control : Both sulphonamides and broad spectrum antibodies are useful to control the disease. Good management and hygiene should be maintained.

Ornithosis : It is caused by *Chlamydia psittaci*.

Young ducks are more susceptible than adults. The disease is transmitted through the egg and contact.

Symptoms: Conjunctivitis, blindness, general weakness, watery diarrhoea and emaciation.

Prevention and control : Broad spectrum antibodies can control the disease. New purchased ducklings are raised in isolation from infected flock.

Duck viral hepatitis : It mainly affects duckling of 2 to 4 week of age.

Symptoms : It is characterised by an acute course and primarily hepatitis.

Prevention and control : There is no treatment for this disease. The day old duck may be protected with attenuated virus vaccine.

Duck cholera : It is an infectious disease caused by *Pasteurella Multocida* in ducks over 4 weeks of age.

Symptoms : In peracute form death occurs without any symptoms. In acute form the bird show loss of appetite, increased thirst, and mucous discharge from mouth, high body temperature, and diarrhoea. Liver and spleen are enlarged.

Prevention and control : we can use sulphra drugs. Vaccinate the birds first at the age of 4 week and again 18 weeks.

Parasites : Ducks are resistance to internal parasites. The internal parasites include flukes, tape worm, and round worm. The infestation is prevalent only among those ducks which have access to stagnant water, overcrowded ponds. The external parasites include lice, mite ticks and ticks.

Prevention and control : Different types of anathematic drugs should used for controlling parasitic control.

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