

EMERGING TRENDS IN BACKYARD DUCK FARMING IN INDIA

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Ducks are more productive and yield about 25 eggs more than courtyard chicken. Moreover, the Size of the duck egg is 10-15 gram greater than chicken egg. They have more profitable and prolific life because they lay eggs during second and third year also. Hence it will decrease the nourish cost. In general, ducks have the habit of laying eggs in the morning time since it is very easy to collect those eggs and have no fear about the missing of the eggs.

Duck farming is having **interdependent association with paddy cultivation**, so paddy cultivation and ducks can be combined in the whole paddy agriculture extents. These are reasonably intellectual birds and they can be simply skilled for their everyday routine and it decreases the labour for supervision. They are pretty resilient birds and can be definitely agonised and are unaffected to common avian diseases. Broiler or green ducks are very fast developing than chicken, with improved growth ratio and feed proficiency.

In India, duck farming is an emerging and can be developed by many places by the farmers on their own interest. It desires lot of consciousness in people for its improvement in prospecting future. Duck farming is a very lucrative business. Ducks are highly valuable birds around the world, reared for egg and meat production.

Ducks occupy an important position next to chicken farming in India. They form about 10% of the total poultry population and contribute about 6-7% of total eggs produced in the country. The duck, till recently, was practically reared only by the small and marginal farmers mostly in the Southern and Eastern coastal areas, North-eastern India and Jammu and Kashmir. People keep ducks for different reasons. Some keep ducks for breeding, others keep ducks for the meat or duck eggs, or both. Others may keep ducks to keep down the fly population on a farm that has livestock.

Advantages of duck farming:

Duck farming is easy because of the following advantages when compared to the rearing of other species:

- Ducks require lesser attention and thrive well in scavenging conditions.
- Need less space for raising ducks

- Highly resistant to common avian diseases
- Can eat all types of feed available
- Ducks lay more egg per bird per year than chicken.
- The size of the duck egg is larger than hen egg by about 15 to 20 gms.
- Have a longer profitable life. They lay well even in the second
- Ducks are quite hardy, more easily brooded.
- Ducks lay 95 – 98% of their eggs in the morning before 9.00 AM. Thus saving a lot of time and labour.

Systems of Duck Rearing:

There are many ways in which ducks can be reared. In practice farmers can adapt this rearing system to their own needs and the materials available.

Free range system:

The ducks are only kept enclosed at night. During the day the ducks are free to roam outside in search of feed. They are brought inside at night by putting some extra feed in the shelter. **The ducks only require night shelter and nests for laying eggs.** Ducks will stay around the place, provided you treat them well. An advantage of this system is that the ducks go to the feed and harvest it themselves. This way, nutrients become available that the farmer cannot reach otherwise.

Confined system:

The ducks are kept enclosed permanently, either in a covered shelter (indoor system) or with a run in the open. The ducks stay in the same place. It is easy to keep an eye on them and check them. An outside run makes it easier to give the ducks access to water, as a pond can be put in the open run area .

Indoor system:

The indoor system is for large-scale duck farms, where the production is mechanized to reduce labour costs . The system requires more investment than the other two systems of housing. Farmer has to provide all feed and water and clean it regularly. If properly managed, growth can be fast and production cheap. Provide a large shallow container with water so that ducks can wash

and bathe. Like open drinkers they should be located over a drained area covered with wire or slatted floor.

Integrated Duck Rearing Systems:

Duck keeping combines well with other forms of farming. In these systems the different forms of production complement each other and the farmer will have better production and more profit. Waste and by-products are used. It covers two well-known integrated systems.

Duck keeping combined with paddy cultivation:

In paddy fields ducks eat harmful insects and snails, this is a help for the paddy and at the same time the ducks get nutritious feed. The farmer spreads risks. For example if the rice yield is low there is still a yield of eggs and duck meat. Migratory duck farming is a method of duck farming practiced by the poor agricultural laborers in South India. **Farmer starts duck farming during December by rearing ducklings.** Ducklings were obtained from large farmers. By February as the harvest of second crop of paddy is over the laborers starts migration with the ducks.

The paddy cultivators of Tamil Nadu and Kerala generally welcome the ducks. The ducks feed on left away paddy grains on the field as well as snails and small fishes. Water stirring caused by the ducks activities inhibits the growth of weeds through photosynthesis reduction when the water becomes turbid. Their activities also enhance the rice root, stalk and leaf development, thereby accelerating rice growth. In addition, a reduced application of pesticides and fertilizers benefits the ecological system. During night the ducks are stays on the fields. One or two hours after sunrise, the ducks are released, by which time egg lying is almost completed and eggs can easily be collected. Owners of the land are given duck eggs as remuneration. The ducks grows well by feeding on paddy fields and the fields in turn become fertile by duck castings.

Duck keeping combined with fish ponds:

The waste from the duck shed can be recycled and may be used for fish culture in integrated duck-fish farming . This increases the production of natural food in the ponds, which in turn enhances the fish production. By integrating the duck and fish culture, more returns can be achieved. This gives

the good benefits to the farmers. If the ducks are allowed to swim freely in the fishponds, the waste can be dispersed uniformly in the ponds and it can also be used as a good fertilizer. Because of these, expenses for fertilizer, feed, supplementary feed for fish is minimized. Since the ducks are in the fishponds, it prevents the growth of the aquatic weeds and increases the biological productivity of the ponds. Because of the swimming action of the ducks, the amount of oxygen in the ponds gets increased.

Ducks eat the weeds, insects, larvae, worms etc present in the pond, and hence there is no need to add more additional feed to them. **In duck – cum fish culture, fishes with 10 cm length only to be stocked because fishes less than this length may be eaten by the ducks.** Fish seeds can be stoked at the rate of 10000 numbers/ha. Depending upon the nature of the fishpond and the availability of fish seeds the stocking density may vary.

Rising of ducks depends upon the type of the species and egg laying capacity . To get more meat and egg from the duck-fish culture, proper management plays a vital role. The shed should be well ventilated and stagnant of waste water should be prevented. **For fertilizing 1 ha pond, 200 ducks are sufficient.** Ducks get their natural food from the pond itself. **The domestic waste, rice bran, broken rice and pulses are more than enough for them.**

Duck, fish along with paddy cultivation:

In the same field where paddy is being cultivated duck and fish can be reared together.

Feeding Management of Ducks:

Most of the duck farmers fed with broken rice, rice bran, coconuts stem powder or similar products between hatching and 4 weeks of age . In some places ducklings are given sago and grains purchased from market as feed. According to Reddy , the duck farmers in Tamil Nadu fed their ducklings different diets according to age. After that insect, snails, kitchen waste, paddy grains and weeds are the food sources for ducks in addition to the feed received from foraging.

The duck excreta become the fertilizer for the rice paddy. Reddy reported main feeding source for adult ducks were post-harvested paddy fields

for grains, ponds and waterlogged areas for fish, snails and insects . Duck farmers in Kerala, Andhra Pradesh and Tamil Nadu feed adult ducks with the mixture of locally available feed ingredients.

Watering of Ducks:

Though ducks are water fowls and fond of water, in contrast to the prevailing myth among farmers, water for swimming is not essential at any stage of rearing . However, water in drinkers or water channels provided in the house should be sufficiently deep enough to allow the immersion of their heads and not themselves. If they cannot do this, their eyes will get scaly and crusty and in some cases, blindness may follow. In addition, they also clean their bills periodically and wash them to keep it clean.

Brooding of Ducklings:

Ducklings may be brooded on wire floor, litter or batteries . The brooding period of layer ducklings is 3-4 weeks. For meat type ducklings, brooding for 2-3 weeks is sufficient. In general, in colder season, brooding period may extend up to 1-2 weeks longer than the regular period. Provide hover space of 90-100 sq.cm per duckling under the brooder. A 100 watt bulb can brood 30-40 ducklings. The temperature of 32°C is maintained during the first week. It is reduced by about 3°C per week till it reaches 24°C during the fourth week.

In wire floor, space of 0.5 sq.ft per bird and in litter 1 sq.ft per bird is sufficient up to three weeks of age. Water in the drinkers should be 5.0-7.5 cm deep, just sufficient to drink and not to dip themselves. In deep litter brooding, the thickness of the litter will be 3 cm and above to absorb the excess moisture in the ducks' droppings. In extensive system, no artificial warmth is provided, but the heat of brooding shed is conserved by making "Closed tents" (Tent brooding) to provide the required warmth. The ducks are allowed to swim in water after the brooding period is over.

Grower Management:

Ducks may be reared in intensive and semi intensive system. Under intensive system, floor space of 3 sq.ft per bird up to 16 weeks of age is sufficient. Under semi intensive system of rearing, a floor space of 2-2.5 sq.ft per bird for night shelter and 10-12 sq.ft per bird for outside run is necessary for free flow of birds up to 16 weeks. Water in the drinkers should be 10 -12 cm deep to allow the immersion of their heads. Partitions up to the height of 60-90 cm separating the pen and run are adequate for control of ducks. In rural duck farming, straight run ducklings (male and female) will be reared up to 10 to 15 weeks of age .

Layer Management:

Under intensive system, a floor space of 4 sq.ft per bird is essential. In semi intensive system a floor space of 3 sq.ft per bird for night shelter and 10-12 sq.ft per bird of outside run space is required . For wet mash feeding 10 cm of feeding space and for dry mash or pellet feeding 7.5 cm of feeding space per bird is required. For the collection of clean hatching eggs, a nest box with 30x30x45 cm dimension shall be provided at the rate of one per three ducks. A light of 14-16 hours is necessary for optimum egg production. The age at first egg and 50 percent egg production are 120, 140 days and the annual egg number is 320 eggs for Khaki Campbell ducks in intensive farming. The daily feed intake during laying period will be 120-140 g. depending on the rate of egg production and body weight. The body and egg weights at 40 weeks of age are 1.8 kg and 68 grams, respectively.

Breeding Management:

The desirable sex ratio for good fertility and hatchability for ducks is 1:6 for intensive rearing and 1:15-20 for extensive rearing system. In extensive system of rearing of rural ducks, farmers keep a wide sex ratio of 1:20-25, however they get a reasonable good fertility of 70-80 percent . Drakes usually mate during swimming.

Health Care:

Ducks are more vigorous and less subject to diseases than chicken and turkeys. If diseases occur, it is most likely the result of unsanitary surrounding and faulty management or inherent weakness due to breeding. In order to

know whether a duck is sick you first have to know how a healthy duck looks. Table 2 lists the most important characteristics of healthy and unhealthy ducks.

Characteristics Healthy ducks Unhealthy ducks

General condition, first impression Lively Listless, unusually quiet;

Weight: Good Often light

Growth rate: Normal Too slow

Eyes: Lively, bright Listless, dull

Cloacae (genital / anal area): Large, soft, moist, pink Shrivelled, dry, discoloured

Skin: Soft, loose Wrinkled, dry

The most important information in this table tells how to recognize a healthy duck: how it should be growing, how the eyes and cloacae (genital/anal area) look and how the skin feels. A good way of becoming familiar with how a healthy duck looks is to regularly study ducks for a short while. This does not mean you have to pick up each duck every day, but just spend about 10 minutes observing the flock wandering around, noting how the ducks look and whether they are eating well. Good hygiene and vaccinating ducks are the two most important aspects of preventing ducks becoming ill

Vaccinations:

Some diseases are so infectious or so common that it is worth vaccinating the ducks to protect them. If duck keeping is very common in the area it is especially worthwhile vaccinating your duck:

S. No	Name of the vaccine	Route	Dose	Age of ducks
1	Duck Cholera (Pasteurellosis)	Subcutaneous	1. Ducklings, Adults 1 ml	3-4 weeks
2	Duck Plague	Subcutaneous	Adults 1 ml	8-12 weeks

Egg-Producing Duck Breeds

Khaki Campbell:

Khaki Campbell Duck

- Originated from England
- Medium sized breed
- Gain about 1.5-2 kg weight within two months of age
- Lay white coloured eggs
- Lay about 250-300 eggs per year

Indian Runner:

Indian Runner Ducks

- Originated from India
- Small sized duck breed
- Breed is white in colour
- Stay well both in ground and water
- The colour of the egg is white.
- Lay about 250 eggs per year

Bangladeshi Egg Laying Duck Breeds

- Originated from Bangladesh
- Small sized breed
- Lay about 60-70 eggs per year
- Very suitable for the weather of Bangladesh and other Asiatic countries

Magpie

Magpie Duck:

- Originated from England
- Black and white in colour
- Eggs are large and white in colour
- Lay 220-290 eggs per year

Ancona

Ancona Ducks

- Originated from England

- Medium sized breed
- Produce a variety of white, cream, blue-green
- Lay around 240 eggs per year

Duck Egg Nutrition:

Duck Eggs

- Higher in protein content than chicken eggs
- Have little more cholesterol than chicken egg
- Have higher fat content
- Have more vitamins and minerals
- Have high Omega-3-fatty acid
- People who are allergic to chicken eggs can tolerate duck eggs

FEEDING FOR DUCKS:

In most of the farms in India, the farmers used to feed the ducks in the method of country-side. Furthermost, the farmers of the farms fed up with wheat, rice, rice bran, coconut stem powder or somewhat which is eaten by the ducks. In some farms, the farmers are treating their poultry very effectively and also feed them nutritious foods which are brought from markets. According to a survey, in Tamilnadu the duck farmers are fed their ducklings' different diets according to age. Subsequently in addition to those feed received from foraging, insect, snails, kitchen waste, paddy grains and weeds are the food sources for ducks. The wastes from ducks are used as the fertilizer for the rice paddy. Duck farmers in Kerala, Andhra Pradesh and Tamil Nadu feed mature ducks with the mixture of locally obtainable feed element. Ducks must never have right of entry to feed devoid of water. During the first eight weeks, birds must always have right to use to feed, but advanced on they may be fed twice a day i.e. first in the morning and then late afternoon. Khaki Campbell duck ingests about 15.5 Kgs. of feed up to 20 weeks of age. After that the ingestion varies from 120 gms and beyond per bird per day and subject to the rate of production and accessibility of greens. Recommended nutrient necessities for layer and broiler ducks, feed scale for Khaki Campbell duck, regular live weight and feed consumption of broiler ducks and feed procedures keep an eye on at Duck Farm are provided.

WATERING OF DUCKS :

However ducks are water fowls and fond of water, in contradiction of the prevalent legend among farmers, water for swimming is not necessary at any stage of rearing. Though, water in drinkers or water canals providing in the house must be adequately profound sufficient to permit the absorption of their heads and not themselves. If they cannot ensure this, their eyes will get scabby and grumpy and in some cases, sightlessness may occur. In adding, they also spotless their bill at regular intervals and clean them to keep it clean.

BROODING OF DUCKS :

Ducklings may be clutch on wire ground, litter or battery. The dark era of layer ducklings is 3-4 weeks. For animal protein type ducklings, dark for 2-3 weeks is enough. In common, in winter season, brooding period may spread out up to 1-2 weeks longer than the steady period. Offer hover space of 95-100 sq.cm per duckling under the brooding period. A 100 watt bulb can brood 30-40 ducklings. The temperature of 32°C is preserved during the first week. It is condensed by about 3°C per week till it influences 24°C during the fourth week. In wire floor, space of 0.5 sq. per bird and in litter 1 sq. per bird is adequate up to three weeks of age. Water in the drinkers should be 5.0-7.5 cm deep, just necessary to drink and not to incline themselves. In deep litter brooding, the width of the litter will be 3 cm and above to fascinate the excess humidity in the ducks' composts.

Egg production in Ducks:

Ducks usually begin laying at about 6–7 months of age and should be laying at a rate of about 90% (i.e. 100 ducks laying 90 eggs daily) within 5 weeks of the onset of laying. The incubation period for duck egg is 28 days but Muscovy eggs hatch after 35 days. Duck eggs may be hatched naturally by placing them under a broody duck or even a broody chicken hen. In artificial incubators, satisfactory results are attained at a temperature of 37.5-37.2°C (99.5-99° F). The wet-bulb reading on the thermometer should be 30-31°C (86-88° F) during incubation for the first 25 days and 32.7-33.8°C (90-92° F) for the last three days of hatching. Eggs are sprinkled with lukewarm water having sanitizer once a day from 2nd day to 25th day and cooled for a maximum period of half an hour. Candling is done on the 7th day. The eggs are turned hourly. Eggs are transferred to hatcher on the 25th day.

Rearing of adult stock:

High egg laying strains of ducks come into production at 16 to 18 weeks of age. About 95-98% of eggs are laid by 9.00AM. One nest box of size 30x 30 x 45 cms(12 x12 x18”) to every three ducks be provided. In case of laying breeds a mating ratio of 1 drake to 6-7 ducks. Light for 14 to 16 hours per day is essential for optimum production.

Factors to maximize egg production:

- Provide good quality feed
- The Proper quantity of feed: for maximum production a duck must have limited feed from 3 weeks of age until they are laying well, not more than .35 pounds of feed/duck/day, otherwise they become overweight.
- Good water
- Proper lighting: an increasing day length (Jan-June) brings sexually mature ducks into egg production and decreasing day length (July-Dec) slows their egg production. Provide artificial light along with natural light for upto 17 hours.
- Lack of stress

Ducks occupy an important position next to chicken farming in India.They form about 10% of the total poultry population and contribute about 6-7% of total eggs produced in the country.Raising ducks can be a profitable and enjoyable experience. Providing a protective breeding environment and attention to egg production and handling can increase one’s success with raising ducks.