MODERN DUCK FARMING PRACTICES IN INDIA

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Post no-760 Dt 25/07/2018
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Among various species of poultry, ducks are sturdy and prolific in nature. Indigenous ducks of our country constitute more than 90% of the total duck population and the second largest species contributing towards egg production in India. Duck rearing is still in the hands of poor rural farmers, who depend mainly on ducks for their livelihood and employment. The extensive coastal line with many inland water ways are the potential sources for their existence . Since duck farming has not undergone any process of industrialization, its husbandry practices are traditional, nomadic and sometimes primitive. Therefore, the traditional practices which have been evolved from time to time, from ancient days since adoption of duck rearing by the farmers, still exist and proved to be efficient and economical for sustainability. Duck is a water loving bird reared by the farmer since century under traditional system with local low productive non-descript breed. Ducks have ability to lay more egg, larger egg, require lesser attention and thrive well in scavenging conditions, eat fallen grains in paddy fields, insects, snails, earthworms, small fishes and other aquatic materials, stand hardy against common diseases without any elaborate housing. Under present climatic and geographical condition, duck have great potential of income generation at minimum investment. Therefore, there is an urgent need to aware the rural farmers of our country about duck farming, so that farmers can enhance their income generation and livelihood under existing condition.

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.

Improved Duck breed: ——

Under scientific system the performances of ducks have been characterized based on their type. Duck breed have been divided in two categories. Based on the market demand, farmers can select breed.

Egg type breed—

1. Khaki Campbell 2. Nageswari, 3. Indian Runner, 4. Chara Chemballi
Meat type breed———-
1. Pekin, 2. China duck, 3. Maskovi, 4. Ruel Kagua

• It attains about 2.2 to 2.5 Kg of body weight in 42 days of age, with a feed conversion ratio of 1:2.3 to 2.7 Kg • capacity 240 to 280 egg/bird/year. Khaki Campbell ducks weigh about 2 to 2.2 Kg, and drakes 2.2 to 2.4 Kg. Egg size varies from 65 to 75 gms (photo on front cover page). 'White Pekin' is the most popular duck in the world known for table purpose. 'Khaki Campbell', among the egg laying breeds, is the best producer. Laying

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 30-35C for the first week and it should be reduced 30C every 4-7 days till it reaches 24C 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 apace 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.

Scientific Management:—-

Incubation: —Incubation period in duck is 28 days higher than chicken. To start duck farm, disease free duckling should be purchased from reliable source or Govt. agency.

Brooding (0-4 Weeks)——-

The brooding period (O-4 weeks) is very critical for duckling and highest mortality may observed, if proper care not taken. 1 sq. meter area for 100 ducklings or 100 sq. cms. per ducklings is sufficient for brooding. A temperature of 29 to 32 C (85 to 90 F) is maintained during the first week. It is reduced by about 30 C per week till it reaches 24 C (75 F) at the end of fourth week. If temperature is higher than the recommended level, air circulation should be increased. In case of winter, a 60 watt bulb at 1-1.5 meter height form the ground level is enough to maintain the required temperature. Feed may be sprinkled or provided in the trays for encouraging the new born ducklings to pick up feed. From day two onwards ad libitum feed is provided in trough type of feeders. As the duckling grows bigger suitable feeders are used. Water in the drinkers should be offer frequently, 5 to 7.5 cm (2 to 3") deep just sufficient to drink and not dip themselves. Try to keep duckling dry.

Housing: ——————-

As stated above duck do not require any elaborate housing, depending on rearing system intensive, semiintensive or range system, a house can be made with locally available resources like bombu, toku patta etc. Under intensive system, allow a floor space of 3 sq.ft.per bird. Under semiintensive system, a floor space of 2- 2.5 sq.ft area per bird is allowed as night shelter. Under semi intensive system duckling should allowed to access the field at the age of 4 weeks.

Feeding: (5-16 Weeks): ————

Supplementary feeding is essential for better results. Bird allowed to field should also be supplemented with concentrate feed at least half dose of recommended feed. The concentrate feed may be purchased or formulate with local feed ingredients. The feed should contain 16% protein for layer bird and 20% protein for broiler finisher bird. starter ration (0-8weeks) & grower ration should contain 22-24& 20% protein respectively

Feed ingredients for 10 kg feeds (Adult bird): ————-

maize-4 kg, Rice Polish-3kg, Mustard Cake- 1kg, Min mix- 350g, Salt- 250g, Vita. mix-250, Antibiotics-75g, Coccidiostate-75g. All ingredients should be free from alfatoxin. Feed bird morning and late afternoon.

Disease management: ————-

Some of the common ailments among ducklings are coryza and the respiratory distress due to exposure to chill weather during heavy mist, besides duck plaque which causes high morbidity and mortality. During summer season, swelling of joints, gasping for breath, etc. Are noticed. To treat the above diseases, the farmers use a decoction made of Poduthalai leaves (Lippia nodiflora), roots of paragrass, Omum and Vasambu (Sweet flag; Acorus calamus L). These materials are ground well, mixed in water and boiled. Vasambu, the underground stem of the aromatic marsh herb is a medicine described earlier in Ayurveda as having beneficial effect on the body as a stimulant tonic and antispasmodic. This keeps

the living being always alert and active, makes resistance to diseases and gives more stamina.

Common duck diseases and their control:—

1. 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.

2. 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 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

3. 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.

4. 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.

5. 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.

6. 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.

7. Duck viral hepatitis : ———-
It mainly aff : 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.

8. 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 sulpha drugs. Vaccinate the birds first at the age of 4 week and again 18 weeks.

9. 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.

Name of the Vaccine—

Duck Cholera (Pasteurellosis)—- Dose— Duckling:1ml Adults: 2 ml—— Route—-
Subcutaneous—- Age— 3-4 weeks After 1 month of last vaccination
Duck plague——— Adults—— Subcutaneous—— Age —— 8-12 weeks
Purchasing disease free stock, sanitation, mineral & vitamin supplementation, periodic used of coccidiostate, deworming and following schedule vaccination are the important steps for prevention of diseases.

Common Medication for Duck: ————————

Electral: ———10g/lt water at the time of arrival of duckling
Antistress like Stresroak: ———20g/lt water at the time of arrival and one in every week.
Multivitamins like Vimeral: ————-5ml/lt water 5 day continuously every month.
Amprolium (Anticoccidiostate): ————1g/lt water in normal bird start at 3 weeks of age continued 5-7 days and repeat every 2 month. In case of disease 2-5g/lt water.
Dewormer:———— 15g/100birds, start at 3 weeks of age, continued 5-7 days and repeat every 2 month.
Tetracycline: ————5g/lt water for 5-7 days in case of diarrhea.

Ducks as biological control of pests————

When ducklings/ducks are used in between the paddy plants in the rice field, they fed upon the larvae and insects of all the pests of rice like brown hopper, case worm, etc. This kind of control maintains the ecosystem intact without any chemical or pesticide pollution. The duck could be used as a scavenging bird utilizing large amounts of insects, thus having a two-fold benefit of improving feed utilization efficiency and reducing insect problems in the field. It is quite interesting to note that in China, ducks were specially trained to ingest gross hopper which otherwise would destroy agricultural lands

Problems and Constraints in Duck Farming in India:—

Lack of scientific knowledge on Duck husbandry practices:

Not many people have technical knowledge on Duck Farming. This leads to improper management of the Duck Rearing in India.

Non-Availability of Quality Ducklings:

We lack healthy ducklings in the market. This will lead to low-quality ducks for meat and eggs. The Government should look into this matter so as to provide good quality Ducklings.

Non-Availability of Quality Feed:

Another major Duck Farming Problem in India is the feed. Though the feed is available in plenty, it is not that good in terms of nutritional value. Hence the growth of the ducklings is not that efficient.

Lack of Financial Resources:

Duck Farming Loans and Subsidies are very scarce. Hence there is a huge lack of financial backup for the Duck Rearing Farmers in India.

The Absence of Bio-Security Measures:

Since there are no proper Bio-Security measures, the outbreak of many diseases is now common. Hence Duck Rearing Farmers are facing a number of issues in this regards.

Lack of an Organized Marketing System:

Despite the fact that Duck Farming is an old Agri-Business, it has no marketing system. Hence the Duck Rearing Farmers are facing difficulties in selling the Duck Meat and Duck Eggs.

Other Duck Farming Problems in India:——-

• There is a rapid decline in the demand for duck products. This is mainly because of the competition from the commercial chicken sector.
• Inefficient Duck market is another problem in the Duck Farming in India.
• Threats from Imports of Duck Meat.

• Increasing commercialization of smallholder enterprises is creating problems for the Duck Rearing Farmers.

Major policy Recommendations to Solve Duck Farming Drawbacks:——-

• The Government to establish official product standards. This is to improve the market efficiency of duck products like meat and eggs.
• Developing a Market System where the Duck Farmers can sell their products at a comparatively good price.
• The Government coming up with training centres for the Duck Farmers.
• Providing Loans and Subsidies of Duck Farming which will act as a backup for the farmers.