

Health Management of Backyard Chicken

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Poultry sector is the major component and fastest growing sector of the Indian livestock and agriculture economy. It contributed about 4.99 MMT of chicken meat (5th largest in the world) and 138.38 billion eggs (2nd position in the world) to the food basket during 2022-23. The poultry sector added about Rs 2.3 lakh crores to the national economy 2022-23. Indian poultry sector can be broadly divided into two sub-sectors – a highly organized commercial sector and an unorganized traditional backyard sector. Backyard poultry has been the proven tool for food and nutritional security, women empowerment, income and employment generation etc.

Backyard poultry farming is characterized by an indigenous night shelter system, scavenging, natural hatching of chicks, low productivity of birds, scant supplementary feed, local marketing and minimal health care practices. About 37.22 % poultry reared under backyard method as per 2019 livestock census. As per 2019 census poultry population comprises chicken 94.8% (34.4% Desi and 60.5% Improved) and rest are other poultry species like duck, turkey etc. The growth of backyard poultry population was 45.79 % whereas in commercial poultry it was 4.5% in comparison to 2012 census. About 85.4 % (118.16 billion) eggs come from commercial poultry whereas 14.6% (20.20 billion) from backyard. The growth rate of egg production was 6.77% in 2022-23. Productivity of backyard birds hampered by many health-related issues. Most of them can be managed by proper health care practices. Unregulated biosecurity, limited veterinary care and interaction with native wild bird species contribute to spread of microbial communities between domestic chickens and native birds. In this article the important diseases that affect the backyard poultry are given below.

Prevention is always better than cure. Vaccination is one of the best methods to prevent the occurrence of diseases in animals, birds as well human beings. Proper and timely vaccination is essential to get proper result. Following is the vaccination schedule for backyard poultry.

Internal and external parasites are causing significant losses to the poultry. It also reduces the productivity of the birds and sometime leads to death. Following is the deworming and ectoparasitic management schedule of the poultry.

Deworming Schedule for Backyard Poultry

Chickens should be dewormed at least 4 times per year to help manage the continuous threat of infestation that they face. Any of the following drugs can be used for deworming on advice of the doctor.

- Piperazine (56.3%) : 50 mg/kg body weight
- Niclosamide (75%): 75 mg/Kg body weight
- Levomisol (30%): 32 mg/kg body weight
- Albendazole (5%): 20 mg/kg body weight
- Fenbendazole: 50 mg/kg body weight

Table 2. Vaccination Schedule for Backyard Poultry

Age	Vaccine	Route
1 day	Marek's disease	S/C injection
5-7 day	Newcastle disease (Lasota)	Intraocular or drinking water
14th day	Infectious Bursal disease (Intermediate Strain)	Oral drop or D rinking water
24th day	Infectious Bursal disease (Intermediate Strain)	Oral drop or D rinking water
30th day	Newcastle disease (Lasota)	Eye drop or dr inking water
6th week	Fowl Pox	IM or SC inject ion
9th week	Newcastle disease (R2B)	S/C injection
Repeat ND Lasota and Fowl pox every six months preferably before summer (Feb/March) and before winter (Sep/October)		

Ectoparasitic Management in Backyard Poultry

Any of the following drugs can be used on advice of the doctor for prevention and control of ectoparasitic infestations like ticks, mites, lice and flies.

- Deltametrin (1.25%): 4 ml/1 liter of water for spray and dipping
- Carbaryl (50%): 10ml/1 liter of water for spray/dipping
- Tetrachlorvinphos (50%): 100gram/10 liters of water for premises spray

By taking all preventive and other health care measures farmers can save the birds from disease occurrence as well as any productive losses. Birds should be provided proper nutrition and hygienic environment. Farmers should take advice of the doctors to take any medicine. A healthy flock always give better production that led to more income and profit.

Table 1. Important backyard poultry diseases and their management

Newcastle Disease: Highly contagious viral disease caused by Newcastle Disease virus	
Symptoms	Coughing, Sneezing, gasping for air, nasal discharge, greenish watery diarrhea. Depression, muscular tremors, drooping wings, twisting of head and neck, circling, and paralysis. Loss of appetite, sharp drop in egg production, Production of thin-shelled eggs, Conjunctivitis, Sudden and high death rate in infected flock
Management	Good Management Practices, Vaccination and Biosecurity
Fowl Pox: Caused by fowl pox virus, that is often spread by mosquitoes	
Symptoms	Cutaneous form (Dry Pox): Wart-like eruptions or Scabby lesions on the head, neck and unfeathered parts of the skin, weight loss, drop in egg production. Diphtheric form (Wet Pox): Ulcerous cheesy masses in the mouth, nose and sometimes throat areas, difficult breathing, nasal and ocular discharge
Management	Reducing exposure to mosquitoes, vaccination twice, once at 3-6 weeks and a second dose at 10-12 weeks followed by yearly booster
Chronic Respiratory Disease (CRD): Caused by Mycoplasma Gallisepticum	
Symptoms	Coughing, sneezing, Nasal discharge, foamy secretions in the eye, open mouthed breathing, tracheal rales, reduced feed consumption, loss of weight – more stunted chicks, drop in egg production Reduced hatchability, chick viability, mortality – up to 30% in young, negligible in adults
Management	Treatment with antimycoplasmal drugs-Tylosine, tiamulin, tylvalosine Prevention: Good Management Practices, Vaccination, Proper environmental control to reduce stress and Biosecurity
Fowl cholera: A highly contagious disease caused by the bacterium <i>Pasteurella multocida</i>	
Symptoms	Fever, cyanosis (bluish discolouration of the skin, wattle and comb), loss of appetite, ruffled feathers, mucous discharge from the mouth, green watery diarrhoea, respiratory difficulty and sudden deaths. In chronic infection Localized swelling in the joints, foot pads, eyes and throat.
Management	Medications reduce the mortality rate in an acute outbreak. Remove sick birds from the flock. Vaccination for fowl cholera may provide protection Good biosecurity practices may help to prevent the disease from spreading, including controls for the entry of people, vehicles and equipment.
Coccidiosis: A protozoal disease caused by <i>Eimeria</i> spp	
Symptoms	Droopiness and depression, pale comb, water, mucous and blood in the droppings, loss of appetite, loss of condition, ruffled feathers, whitish soiling around the vent, mortality up to 50%
Management	Medication with anti-coccidial drugs Prevention by adding coccidiostats in feed Vaccination can help to reduce the incidence of coccidiosis Practicing good farm hygiene and biosecurity
Internal parasites: Round worms and tapeworms are most common internal parasites in poultry	
Symptoms	Signs of worm infestations include general unthriftiness, lethargy, weight loss, anaemia (pale combs), diarrhea, worms in the intestines, large numbers may block the intestinal tract, Worms may be present in the feces.
Management	Treatment with Levamisole Hydrochloride, Albendazole, Fenbendazole, piperazine, Niclosamide etc Regular dewormin at three months interval Control of intermediate hosts and proper cleaning and sanitation
