

Popular Article

Disease Diagnosis in PoultrySonali Mishra^{*1}, Kunal Pandit² and Joshi Gaurav Santoshrao¹¹Department of Veterinary Pathology, DGCN COVAS CSKHPKV Palampur²Veterinary Officer, Department of Veterinary and Animal Husbandry Himachal Pradesh

**Corresponding author: Sonali Mishra, Email: sonalimishra2299@gmail.com*

The poultry industry in India is currently valued at USD 28.18 billion and is expected to grow at the rate of 8.1 % for the next forecast period of 2024-2032. It is one of the fastest-growing agricultural sectors in India today. With such a rate of growth and expansion comes many problems and some of the important issues that we face are disease outbreaks in farms, losses in egg production, hatchability, diseases, slow growth, poor feed conversions, shell quality defects etc. The diagnosis in the field today is not as simple as it used to be a few years back. The post-mortem-based diagnosis to simply rule out any disease, and prescribe specific treatment for that condition is straightforward but to diagnose the root cause for that disease occurrence in the flock, evaluating management system and multi-factorial conditions, requires in-depth investigations to be made.

The best approach to begin with a disease diagnosis is a complete detailed history, which should be asked in different ways by the owner or people concerned at the farm. Straight-way questions often lead to false history giving, as a human tendency they will always try to provide altered information to hide their faults, if any, one should be tricky to gather the information. One can start with the office, see production records etc and write it down, we often miss things while busy in conversation but that should not be done. While inspecting any farm detailed quiet observations are to be

made and written. It is always important “to see the forest as well as the trees” which means that while observing one should not just focus on the individual problem of a bird but also see the flock problems too.

Investigations of diseases involving mortality and morbidity should always begin with the case history, post-mortem examination, laboratory confirmations and a visit to a farm. One should seek the detailed history of the number of birds total birds, total birds sick, percentage of birds sick, number of birds submitted for post-mortem, age group affected, vaccination status, clinical signs if any seen by the owner, duration of symptoms and mortality pattern. Detailed post-mortem should be conducted of a few diseased birds which are about to die, this will give us a view of fresh lesions without predominant autolytic changes. Post-mortem is a message of wisdom from the dead to the living and sacrificing a few birds to rule out disease will save many in future, as this is only done if there is no fresh mortality. After the postmortem, recording of all gross lesions should be made in writing, photographs should be taken and records should be kept with safety for future investigations. A tentative diagnosis should be conveyed to the owner or farmer with immediate recommendations and treatment while waiting for the result of laboratory investigations and final diagnosis.

To rule out the solution to more difficult problems like decreased egg production, poor egg quality, poor body weight gain, low feed conversion ratio etc needs more in-depth and detailed inspection. One should know the flock of origin, strain of bird, flock size, total number of birds on site, weight of bird at every stage of growth and production, system of rearing, system of management, stocking density, litter type and conditions etc. Visit to the farm becomes very important in this case and one should see all the equipment, cage designs, stocking density, feeders, waters and space per bird, cleanliness and efficiency of the farm should also be analyzed. There should be proper ventilation, ambient temperature should be maintained for different age groups with proper lighting at all times. Nutrition plays a very important role in the overall health and production of birds so the type of rations, formulations, quality, feed and water systems, source of water used, and recent changes in feed/ system or method should also be noted. It is very important to note feed conversion ratios for broilers and hen day production, hen housed average, and egg size/ egg mass for layers. One should also record any history of disease outbreak, vaccination status, recent treatments given, presence of external parasites and stress factors of any kind.

Managerial aspects play a huge role when problems like a drop in egg production or quality, poor weight gains etc are noticed. The feed should always be checked for caking, staleness and mouldy growth. Feeders should be routinely checked to mark any loss in appetite, feeding should be on time, inadequate calcium and phosphorous in diet, inadequate proteins in the diet, and poor quality of raw materials/poor mixing/poor formulation should be avoided. Water should always be

served at an optimum temperature, should be from a clean source and free of heavy metals. Leaky water channels should be repaired in time to avoid dampness in litter and manure. The high temperature often leads to reduced feed intakes and decreased production. Levels of moisture and ammonia should be monitored in the farm, these factors bring undue stress to the poultry housed. Rats and mice should not be present in the farms, they can cause damage to houses, and equipment, consumption of feed, contamination of eggs and may also bite poultry birds, giving rise to 2-3% production losses. Birds are sensitive to sudden noises by vehicles, trucks, aircraft or barking dogs this can increase stress in birds. One aspect of the theft of eggs in farms can also be ruled out with the installation of CCTV cameras and proper supervision of staff from time to time.

These are a few points one should always keep in mind to deal with any such cases where diagnosis is straightforward like any disease but one should always be able to find the root cause or what caused that disease to enter that flock. History taking, post-mortem examination and laboratory confirmation are the basic approaches one must follow.