

Construct your electronic library on poultry health

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Investigating a disease outbreak

There are several components to investigating a disease outbreak:

Define the problem

Often an accurate definition of the problem takes us a long way towards identifying its cause. It is worth spending some time on this. Key features include mortality and morbidity, clinical signs, age and sex affected, impacts on production, pathology findings and laboratory findings.

Know what normal is!

It sounds an obvious thing to say but unless we know what normal is how can we define abnormal? Spend time looking at your birds and encourage your staff to do the same. Learn what normal birds and flocks look like, understand what is normal behaviour when feeding, drinking, in nest boxes and mating etc.

If we see something that is not normal it is abnormal! Then we need to know whether it is a reaction to something in the environment or whether it is because the birds are ill. For example, gasping can be caused by disease but it can also be because it is a hot day! Depressed feed intake can mean birds are sickening for something or can be due to a palatability problem or because it is a hot day.

Check out non-infectious causes

We want to be sure we are not just experiencing a management problem! There could be management problems on the farm such as under ventilation, chilling, beak trimming errors, injuries from handling or equipment, electrical failures, overcrowding or can be related to management problems off the farm, such as the use of poor quality feed ingredients, wrong formulation of feed or wrong pellet size.

Manage the farm

Until we know what is happening we should effectively quarantine the farm and ensure that nothing goes from the farm to another farm.

Obtain an accurate history

This is very helpful to the veterinarian. He will want to know what happened and a timeline of what happened over the previous week or so should be drawn up. Include everything and do not assume something is not relevant or significant! Note everything that the staff associated with the flock have seen, including clinical signs and when morbidity/mortality occurred.

External examination of birds

This should be done in a logical, systematic fashion. One good way is to start at the head and slowly work along the body to the tail looking for abnormalities. Abnormalities usually come as abnormal colours, shapes (for example, swellings), presence of heat and the presence of pain. Here again one must know what is normal before one can detect the abnormal. Remember to look for the presence of skin parasites, lesions, injuries and discharges.

The faeces can tell us a lot about what is going on inside the bird, so they warrant special attention. Look at faeces in terms of consistency, fluidity, colour, smell and the presence of abnormalities, for example, blood, bile and tapeworm segments.

If we find an abnormality, see if there is an obvious management reason for it. Remember one of the basic physiological laws relating to water intake – what goes in, must come out! So, if we have scour, check to see whether it is because of increased water intake, which can be caused by something as simple as an excess of salt in the birds' feed.

Blood samples

Blood samples are often used for diagnosis and often the diagnosis depends on finding a change in the antibody titre to a specific infectious agent. These samples need to be taken 10-14 days apart so the sooner we take the first bloods the sooner we can take the second. It costs very little to take 20-30 blood samples – we will not be testing them until we also have the second set of bloods.

This is especially important when investigating egg drops. It is amazing how many times several days are lost because there was a delay in taking the first batch of bloods.