International
Poultry Production's
Poultryhealth
BYTES
YOUR OWN REFERENCE SOURCE ON POULTRY HEALTH

158 – Causes of disease V

Diagnosis of bacterial diseases

The diagnosis of a bacterial disease requires the isolation of the causative bacterium from active lesions of the disease. This is especially the case in situations where the causative bacterium can co-exist in the intestines without causing disease, when the isolation of the bacterium from the intestinal contents could be misleading.

If post mortem examination is indicative, samples for testing are taken from the pneumonic lesions in the lungs. If the picture is one of septicaemia, samples for microbiological testing can be taken from the liver, heart, blood and any organs showing septicaemic involvement. Such samples should be collected aseptically and tested as soon as possible after collection. Initial results can be available in 24 hours, but full identification of the causative bacterium could take several days.

Antibiograms

An antibiogram is the end result of the laboratory testing of a bacterium to determine which antibiotics it is sensitive to and which it is resistant to. Nowadays, it is good practice to define the antibiogram for all bacterial isolates implicated in disease situations. This is done to detect changes in a particular antibiogram over time.

As it usually takes at least 48 hours to complete the antibiogram, most veterinarians will commence antibiotic therapy before the result of the antibiogram is present, based on their knowledge of the disease and the history of the farm. This is because if they wait for the antibiogram it would give the disease the opportunity to take a real hold within the flock. If you are going to treat a bacterial disease with antibiotics you must – 'hit it hard, hit it quick and hit it for long enough!'

Disinfectants and antibiotics

In many ways disinfectants and antibiotics are somewhat similar, except that the former work outside the body while the latter work inside the body. Correct distribution is essential because, for them to work effectively, they must come into contact with the bacteria at an adequate concentration and for a long enough time.

Both are selective poisons in that, at the concentration at which they kill the bacteria, they must be perfectly safe to the animal and cause no side effects.