1-1-1971

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INFECTIOUS SINUSITIS OF TURKEYS

INFECTIOUS sinusitis is a fairly common disease of turkeys which can result in deaths or permanent stunting and unthriftness. There is no certain cure for affected birds, but attention to general hygiene and husbandry can prevent or limit infection.

Outbreaks may involve a few birds or the whole flock. Birds can be affected from 6 weeks of age, but the disease is of greatest economic importance in older stock. Those most commonly affected are 3 to 4 months old.

Symptoms

Birds with the disease show symptoms of influenza or a cold in the head. They shake their heads frequently, cough and sneeze, and commonly have mucous discharges from the nostrils and eyes. The wing and back feathers can become soiled and matted as the birds wipe their heads.

The disease has two forms and birds are affected by one or the other, rarely both.

Sinus form

The sinus, or cavity, below the eye becomes distended with soft mucous, which is watery in the early stages and later resembles a thin paste (see photograph). Large swellings can cause the eyes to close, and laboured breathing is heard in birds where the infection extends into the lungs and air sacs.

Post mortem examination is needed to distinguish sinusitis from vitamin A deficiency, which has the following symptoms: Sinuses usually distended with hardened white pus. Similar material under the eyelids, which may become coated with a sticky exudate. White pustules may be present in the upper part of the gullet and there may be pus adhering to the floor of the mouth.

Air sac form

The frequency of this less common form is increasing and it occurs more often associated with the sinus form than alone. A persistent moist cough, often accompanied by rapid breathing, becomes more evident when an infected bird is handled or hurried.

Post mortem examination shows that the thoracic and abdominal air sacs are thickened.

Climatic conditions in W.A. are ideal for turkey production if advantage is taken of the wide open spaces. Over-crowded, poorly ventilated quarters are ideal for the spread of infectious sinusitis, and the disease, once established, is hard to eliminate without a complete change of birds.

This article provides advice for the prevention of this important disease at a time when turkey raising is increasing in W.A.

* Senior Poultry Pathologist
Swollen sinus being injected

with pus, cloudy, dull and opaque instead of clear, glistening and translucent. In chronic cases, solid pus, like hardened pale yellow yolk, is found loose within the abdominal cavity.

Mortality

The death rate varies in different outbreaks and may reach 80 to 100 per cent. of the birds affected. Death most commonly results from loss of interest in food and gradual wasting away. Deaths from sinusitis alone are rare but birds with both sinuses affected usually die of slow starvation due to impaired eyesight.

Death can result from heavy lung infections of the air sac form of the disease. Where losses with this form are heavy it is essential that several specimens are submitted to the Animal Health Laboratory, South Perth, to check that deaths are not due to another disease such as cholera.

Birds that survive 12 to 18 days usually recover over the next 4 to 5 weeks. Recovered birds are often stunted and unthrifty, and their retarded growth makes production to marketable weight uneconomical.

Cause

A pleuro-pneumonia-like organism (P.P. L.O.) Mycoplasma gallisepticum Strain 6 is responsible for the disease. The organism is mainly transmitted by inhalation, and its spread is greatest in over-crowded, poorly ventilated quarters. The incubation period is long and may be from 1 to 4 weeks.

Infected breeding stock can transmit the disease to chickens through the egg.

Treatment

Provide an adequate intake of fresh green feed or use fish liver oil or a multi-vitamin supplement where vitamin A deficiency is identified as the cause of swollen sinuses.

The sinuses can be surgically drained and injected with long-acting antibiotics.

Mycoplasma gallisepticum has become resistant to antibiotics and there is no certain treatment for either form of the disease. Antibiotics may appear effective and then subsequently fail. Treatment is less likely to be successful in advanced cases where hardened pus is present in the sinus.

Some of the many drugs that could be tried are:

Streptomycin, injected subcutaneously at the back of the head at the rate of 10 mg. per lb., or a mixture of streptomycin and penicillin up to 100,000 units per bird. Terramycin in oil can be given subcutaneously at 2 to 5 ml. per bird, or $\frac{1}{2}$ to $\frac{3}{4}$ ml. can be injected into affected sinuses, which need not be drained. "Rovamycin" can be injected subcutaneously or into
sinuses. "Neftin" suspension can be injected into the sinuses provided they have been drained.

Antibiotics should be injected subcutaneously to treat the air sac form.

"Tylan" and "Gallimycin" can be used in water supplies as a preventative for the whole flock. This can also limit the degree of infection via egg transmission when given to pouls up to 3 to 4 weeks of age.

Affected birds should be isolated, and retreated after a week if still showing symptoms.

Overcrowding and poorly ventilated housing should be rectified.

Prevention

Since there is no certain treatment for infectious sinusitis, all efforts should be directed towards prevention. The best way to achieve this is to allow adequate space and ventilation when turkeys have to be sheltered from summer or winter weather.

Recovered birds may become carriers and should be separated from healthy and younger stock. Adult carriers in breeding flocks can be detected by a serum agglutination test.

Recovered and affected birds should only be used for breeding where they are injected with an antibiotic such as Tylan immediately before eggs are collected for incubation. This greatly reduces the risk of egg transmission. It is the breeding organisations' aim to make their flocks "P.P.L.O.-free". Producers should be aware that the term "P.P.L.O.-free" at present only means "Mycoplasma gallisepticum Strain 6-free". This is the most pathogenic pleuropneumonia-like organism for turkeys, but other less harmful ones can cause similar symptoms.

If "M. gallisepticum-free" stock are purchased, and are to be maintained, all other birds should be removed and the quarters disinfected. No multiple age groups should be kept on the same premises.

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CHANGES IN THE JOURNAL

Starting with the July issue, the Journal of Agriculture will look slimmer. It has become necessary to reduce the Journal to less than 2 oz. to save postage.

The main change is the gradual reduction of advertisements as advertising contracts expire. There will also be a temporary reduction in the article content which will not be far below normal when all advertisements cease. Changes in weight of paper and layout to allow maximum information content are being considered.

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