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OEDEMA DISEASE—a cause of death of pigs in W.A.

Within the last two years Oedema Disease ("Gut oedema") has been diagnosed as a cause of pig mortality in this State. This article describes the nature, symptoms and methods of control of this disease.

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OEDEMA DISEASE was first reported from Northern Ireland in 1938. Since then it has assumed considerable economic importance in the United Kingdom, North America and other countries.

Mortalities from oedema disease have been reported from every mainland Australian State over the last four years. It is sporadic in occurrence, affecting individual pens of pigs, without necessarily involving other pens on the same farm. In an affected pen it is usual to find several pigs with various stages of the disease.

Occurrence in W.A.

The first suspected losses were encountered in February 1962 in the lower Great Southern and most subsequent cases have occurred in this area. However, the disease has also been recorded in the southern wheatbelt and the South-West districts.

Local cases have been sporadic, occurring in one age group in a single pen of pigs on the property and often in pigs in better than average condition. Most of the losses have taken place 10 to 14 days after weaning, that is, at eight to 12 weeks of age; however, deaths have also occurred in pigs as young as five weeks and as old as eight months.

The mortality rate varies from an occasional death up to 50 per cent. of the affected group.

Almost invariably the affected pigs had been subjected to a period of stress shortly before the disease occurred. Transport to and from the saleyards and/or a sudden change of feed were the most common stress factors involved. In most cases newly weaned or newly purchased pigs had been given access to ample skim milk and pollard.

Cause

The cause of oedema disease is not a simple one and has evaded precise definition despite many years of research.

Early work suggested that bacterial toxins (poisons) formed in the intestine by special strains of bacteria (E. coli) caused oedema, and in fact the disease was produced experimentally by extracts of these. However, later American work has suggested that a virus may be involved.

Symptoms

In a typical outbreak, one or two pigs are found dead and others sick within a small group of about six to 10 pigs.

The earliest sign of oedema disease is an aimless wandering and staggering around the pen with an inco-ordination of
the hind limbs. The pig loses its appetite and shows little interest in feed or water.

In some outbreaks the front limbs are the first affected, the pig going down with the chest and lower jaw resting on the ground while still standing on the hind limbs. As the disease progresses a flaccid paralysis occurs, affected animals usually lying quietly on their sides, but occasionally paddling their limbs. Some pigs develop a peculiar, high pitched, weak squeal. In most cases the eyelids are swollen, but this may not be easily noticed. There is usually no change in the cardinal signs of heart rate, respiratory rate and body temperature, although the temperature occasionally may be slightly above normal. Diarrhoea may occur in some outbreaks but in most it does not. Death usually occurs from three to 36 hours after the first signs of illness, but odd animals may live longer. Fresh cases in a pen may occur over several days.

Post Mortem
Post mortem signs are variable and not easily detected by the untrained observer. Excess fluid may be present in the chest and abdominal cavities as well as in the heart sac. Oedema (a jelly-like swelling) of the stomach wall is a feature of the disease. It is also sometimes seen in the membranes associated with the small and particularly the large intestines. The blood vessels supplying the intestines may be prominent and engorged with blood.

A similar jelly-like swelling (oedema) may occur in the eyelids, hence the name “oedema disease.”

Differential Diagnosis
All conditions causing sudden death in pigs must be considered before a diagnosis of oedema disease is made. The typical history, symptoms and post mortem findings usually indicate oedema disease. However, sudden deaths should always be reported to the nearest veterinary surgeon so that an immediate investigation can be made and treatment and control measures implemented.

Control and Treatment
In cases showing advanced signs of the disease treatment is usually unsuccessful. Further cases can usually be avoided by a drastic reduction in the quantity of food available to the pigs for three days, plus the addition of antibiotics to the feed. It is also important to reduce competition for food to a minimum.

This disease is somewhat unpredictable and no preventive measures can be recommended with any certainty. It is however, suggested that for the first week after the piglets are weaned, the feed should be increased gradually until the full ration is reached. Sudden access to large quantities of carbohydrate in particular may contribute to the occurrence of oedema disease.

There is no vaccine available to protect the pigs against the disease.
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