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Post-weaning E. coli diarrhoea

Post-weaning E. coli diarrhoea and oedema disease, which will be covered in a future Pighealth BYTES, often occur in the same batch of pigs and can be caused by the same strains of E. coli. Post-weaning E. coli diarrhoea is a transmissible diarrhoea caused by E. coli enterotoxins and is mainly seen following weaning.

E. coli is an important cause of post weaning mortality and most losses are seen between five and 10 weeks old.

Aetiology

Post-weaning E. coli diarrhoea is caused by strains of E. coli that have certain adhesion factors that enable them to colonise the pig's small intestine and generate one or more exotoxins that play a key role in the occurrence of the diarrhoea. Sometimes more than one strain of E. coli can be involved.

Epidemiology

Typically, the course of this disease is 4-14 days, with an average duration of a week and, recurrence on the afflicted premises commonly occurs. If not treated, mortality can reach 25%.

The most likely source of the E. coli is the environment of the weaner house, but pigs may acquire infection in the farrowing accommodation. The importance of routine cleaning and disinfection can not be over emphasised but this will not always break the cycle of infection.

The spread of the causative E. coli is via aerosols, feed, vehicles, pigs and, possibly, other animals.

Clinical signs

The first sign can often be the sudden death of one or two pigs, then feed consumption is depressed and a watery diarrhoea develops which can be associated with weight loss. Some pigs show a characteristic quivering of the tail. Rectal temperature is normal and affected pigs become dehydrated and depressed. Sometimes the end of the snout becomes congested (cyanotic) as do the ears and abdomen. Peak mortality occurs 6-10 days post infection. Surviving pigs make a satisfactory recovery.

Post mortem findings

Dead pigs are usually in good bodily condition but dehydrated. A variable congestion of the gastric lining is seen and the small intestine is dilated, slightly oedematous and congested. The intestinal contents range in consistency from mucoid to watery and have a characteristic smell. The mesentery is congested.

Diagnosis

The diagnosis of post-weaning E. coli diarrhoea is based on clinical findings, post mortem findings, including the characteristic smell of the intestinal contents, and isolation of the causative E. coli.

Treatment

Treatment is based on the use of antibiotics to control the intestinal proliferation of E. coli and the use of antibiograms in this is very important. Supportive therapy to counter dehydration and acidosis is important.

In affected herds preventive chemoprophylaxis is practised, although in some countries such an approach is now frowned upon. Dietary constraints such as restricting feed intake, high fibre diets or ad lib feeding of fibre can deter the development of this condition.

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