APP pleuropneumonia in pigs

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Introduction

Pleuropneumonia is an economically significant respiratory disease that can affect pigs of all ages, but primarily affects weaners, growers and finishers. The disease is caused by the bacterium Actinobacillus pleuropneumoniae (APP). There are at least fifteen different serovars; some serovars produce no clinical disease, while others cause severe disease. Serovars 1, 5, 7 and 15 are the most common types found in Australia.

The main route of spread is aerosol by direct contact from pig to pig or by airborne droplets travelling short distances (less than 1 km).

The disease can be divided into three forms – peracute, acute, and chronic.

Clinical Signs

In the peracute form, pigs die within 24-36 hours of showing clinical signs. Pigs will ‘dog-sit’ with obvious breathing difficulties. Pigs stop eating, develop a fever, and show a bloodstained frothy discharge from the nose and mouth. Infected pigs are reluctant to move and, if forced to do so, will collapse. Many peracute cases are found as sudden deaths.

In the acute form, the onset of clinical signs is less rapid. Symptoms include lethargy, loss of appetite, and difficulty in breathing with some coughing. Pigs may take a few days to die, some will appear to recover completely, and others will become illthrifty, chronic cases with permanent lung damage.

In the chronic form, pigs survive acute disease, but they maintain a permanent cough and grow slowly.

Predisposing Factors

Disease outbreaks can be due to infection entering a ‘naïve’ herd with spectacular results. Outbreaks can also occur in herds where subclinical infection is present. In the latter scenario, there are usually stress factors that act as the trigger for a disease outbreak.

Stressors include overstocking, concurrent disease, large temperature fluctuations, and poor ventilation.

As a general rule, large herds that mix pigs frequently are more at risk than small herds or herds with separate production sites.

Diagnosis

APP pleuropneumonia may be suspected if the clinical presentation is coughing with high mortality in growing pigs. In such cases, the presence of characteristic lung lesions with pleurisy at postmortem examination enhances suspicion, which can be confirmed by laboratory submission of lung samples.

Submission of samples to a diagnostic laboratory also enables serovar identification and antibiotic sensitivity testing on APP isolates.
Treatment

The most appropriate treatment protocol will vary from herd to herd so discuss with your veterinarian.

Antibiotic therapy is only effective in clinically affected pigs in the early stages of the disease, when it can reduce mortality.

Injection is the best option for sick pigs. Water medication is appropriate for treating a group of pigs that are still drinking. Feed medication is only suitable if pigs have a normal feed and water intake. Administration of an anti-inflammatory medication can be beneficial to reduce fever and get pigs eating and drinking again.

It must be remembered that APP can develop antibiotic resistance and antibiotic therapy does not eliminate infection in a herd. Chronic infections in lung abscesses or tonsils of carrier pigs persist to form an important source of infection for other pigs.

Control

Control programs for APP infection need to be tailored for individual herds. General principles to follow include:

- Purchase pigs from one source with a similar health status
- Good ventilation
- No mixing of pigs after weaning
- Don’t overstock pigs
- Prevent draughts
- Strategic pulse antibiotic medication

A major control strategy is management. Review management practices to reduce the impact of stress factors. Predisposing factors such as overcrowding and poor ventilation should be identified and corrected. Adoption of all-in-all-out weaner accommodation and multi-site production systems can effectively minimise disease outbreaks.

Vaccines

Killed and live APP vaccines are available in Australia.

PLEURAvac is an Intervet Schering-Plough Animal Health killed vaccine containing *Actinobacillus pleuropneumoniae* serovars 1 and 15.

Autogenous (farm specific) killed vaccines can be produced once the serovar/s present in a herd have been identified.

The Pork CRC has developed an APP-alive vaccine that is given as a single dose to piglets prior to weaning.