

Actinobacillus pleuropneumoniae: a case of suspected lateral transmission (Part 1: diagnostics)

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Key Points

- Actinobacillus pleuropneumoniae can significantly contribute to increase the costs of the growing period by increasing mortality and antimicrobial treatments.
- All in all out of the affected sites accompanied with standard cleaning and disinfection procedures may suffice to ensure elimination of the bacteria.

A series of outbreaks with a sudden increase in mortality in growing pig herds located in Northwest Iowa were reported beginning in late October and early November. Five farms belonging to three different production companies were affected.

In all cases, a sudden onset (within 12-36 hours) of lethargy, respiratory distress and septicemia across hundreds of pigs housed at the site was reported. Clinical signs quickly spread through the sites and mortality rapidly increased with pigs having foamy bloody nasal discharge. Post-mortem examination revealed acute pleuritis and severe necrotizing bronchopneumonia (Picture 1). A complete tissue set including multiple sections of fresh lung was collected from multiple pigs and submitted to the University of Minnesota Veterinary Diagnostic Laboratory (UMN VDL) or Iowa State University Veterinary Diagnostic Laboratory. In all cases, *Actinobacillus pleuropneumoniae* (APP) was cultured from multiple sections of fresh lung. The APP isolate from each case was submitted to the University of Montreal for serotyping and it was confirmed to be serotype 8.

The growing pig sites involved in this APP outbreak were populated during mid or late summer of 2017. Four of the sites housed pigs sourced from APP negative sow herds and the remaining site housed pigs sourced from an APP positive (serotype 5) herd (Table 1). Serotype 5 is known as one that can be present in a herd at a subclinical level, in fact, the veterinarian from the APP positive flow mentioned that historically this flow had not been a source of concern.

Company	Farm Type	Herd Size	Sow Herd APP Status	Sow Herd PRRS Status
A	Wean-to-Finish	3,700	Negative	Negative
A	Wean-to-Finish	2,400	Negative	Negative
B	Wean-to-Finish	4,800	Negative	Positive Stable
C	Wean-to-Finish	2,400	Negative	Negative
C	Wean-to-Finish	2,400	Serotype 5	Positive Stable

Table 1. Growing pig sites in Northwest Iowa involved in an outbreak of *Actinobacillus pleuropneumoniae* during the fall of 2017.

Each veterinarian intervened by rapidly mass injecting the growing herd with antibiotics suggested from the antibiotic susceptibility test together with either in-feed or water medication. In some cases, the mortality did not decrease or there was a second wave of mortality and a second round of treatment was performed. Cumulative mortality rates in these growing pig sites before the break remained low, approximately 1-2%; however, in this case all growing pig sites reached a two-digit mortality rate with one of them approaching a 20% cumulative mortality rate (Figure 1). The estimated cost of APP for each of these outbreaks was \$30-\$35/pig, considering treatment costs and a \$2/pig cost for each 1% mortality. Sites did seem to recover following antibiotic treatment and both were marketed normally. Per the practice of the producer, each site was completely emptied of pigs, washed and disinfected following a standard procedure. Sites were reloaded with new groups of pigs. Multiple turns to date of these sites have remained free of clinical signs associated with APP. APP was not tracked back to the sow source indicating that basic transportation biosecurity procedures can eliminate transmission.



Picture 1. Necrotizing bronchopneumonia in a finishing pig from Company A Farm 1 (left) and Company C Farm 1 (right).

Figure 1. Weekly mortality in 5 growing pig sites during a regional *Actinobacillus pleuropneumoniae* outbreak.

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