Actinobacillus pleuropneumoniae



Actinobacillus pleuropneumoniae (APP) is the etiologic agent of porcine pleuropneumonia, which is one of the most important and highly contagious respiratory diseases found worldwide.

APP has at least 18 different serotypes. It is also an important pathogen in Porcine Respiratory Disease Complex (PRDC)

Infected animals may not show any clinical signs (main mechanism for the introduction into herds)

The disease is often characterized by:







acute outbreaks

(as high as 10%)



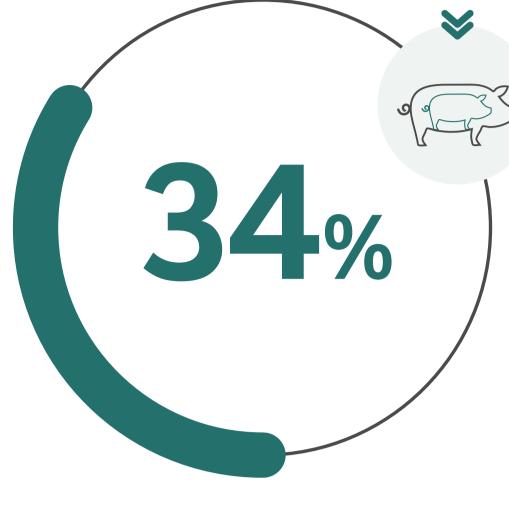
Economic impact

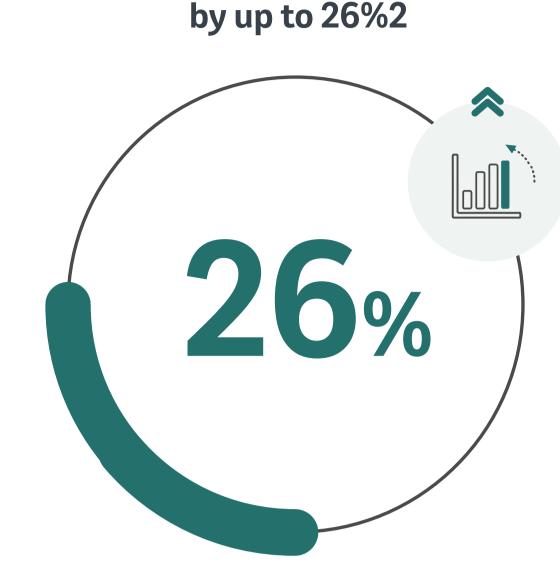
Annual costs of APP, depending on the severity of the disease, have been estimated to reach up to

\$27 (€24) per pig space for farms with low biosecurity.1

by up to 34%

ADG: can be reduced





FCR: can be increased

reduced productivity but also to increased condemnations at the slaughterhouse, leading to long-term economic loss.

The economic impact is **not limited to the mortality rate and**



Prevalence

In the **US**, it is claimed that **80%** of farms are

APP is widely distributed throughout major swine-raising countries.

infected but disease is only observed in 20%.3 In a **Spanish** report, almost 90% of studied

herds were serologically positive for APP.⁴

positive (by PCR in piglets).5 In naïve herds, APP occurs in all age groups but usually is seen in 6-20 week old pigs.

In a **Canadian** study, **78%** of herds were APP



Based on:

Diagnosis

The farm history Clinical signs (acute/peracute outbreak or chronic infection)

- Typical pulmonary lesions (lung monitoring at slaughterhouse can help diagnosing chronic cases).
- Confirmed by culture, identification, and often typing of APP. Serology (just to identify serotypes, difficult interpretation due to cross

Post mortem examination (including slaughterhouse exams).

Haemorrhagic foam discharged from the nose or mouth just prior to death.

A careful interpretation is needed, especially in the absence

ELISA: to perform routine surveillance of possibly infected herds.

Severe breathing difficulties. Coughing.

Clinical signs:

High fever. Anorexia, depression and refusal to move.

Acute or peracute outbreak:

reactivity between serotypes).

Sudden death. **Chronic infection:**

Cyanosis (blueing of the ears, nose, legs, and abdomen).

Spontaneous or intermittent coughing. Slightly increased mortality. More pleurisy discovered at slaughter.

- of clinical disease. There are some tests available:
- PCR. Microbiological culture.
- **Treatment and prevention**

Acute outbreaks should be treated with injectable antibiotics to reduce mortality (if the outbreak occurs in piglets up to 10 weeks of age, consider sow vaccination).

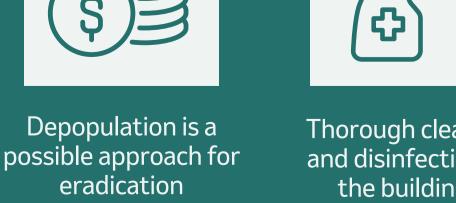
program. If APP is endemic in a sow farm:

Chronic APP needs an effective vaccination





² Straw B., 1989.









Farms free of APP should only introduce stock from APP-free herds and new stock should be quarantined.

Can J Vet Res. 2008;72:242-8. ⁶ Sassu EL, Bossé JT, Tobias TJ, Gottschalk M, Langford PR, Hennig-Pauka I. Update on Actinobacillus pleuropneumoniae-knowledge, gaps and challenges. Transbound Emerg. Dis. 2018.



Animal Health

 $^{^1}$ Stygar A.H. et al, Economic value of vaccination against Actinobacillus pleuropneumoniae in a fattening pig herd. Conference NJF seminar 476. Economics of Animal Health and Welfare. 2014.

³ Mark White. Actinobacillus pleuropneumonia. NADIS. 2007 (reviewed 2016) ⁴ Fraile L, Alegre A, Lopez-Jimenez R, Nofrarias M, Segales J. Risk factors associated with pleuritis and cranio-ventral pulmonary consolidation in slaughter-aged pigs. Vet J. 2010;184:326–33. ⁵ MacInnes JI, Gottschalk M, Lone AG, Metcalf DS, Ojha S, Rosendal T, et al. Prevalence of Actinobacillus pleuropneumoniae, Actinobacillus suis, Haemophilus parasuis, Pasteurella multocida, and Streptococcus suis in representative Ontario swine herds.