

Seneca Virus A sero-prevalence among a convenience sample of Sow herds in the US

Steve Tousignant DVM, PhD
Swine Vet Center, St. Peter, MN

Background:

- There was an increase of reported cases of vesicular lesion in swine associated with Seneca Virus A (SVA) from late August through October, 2015
- Inconsistent clinical presentation across many farms was documented, ranging from outbreaks of diarrhea in farrowing houses, to dramatic outbreaks of vesicular lesions

Minnesota Case Summary (Tousignant et al., 2016 (submitted)):

- 80% sows with vesicular lesions, and 20% sows sero-positive on first sampling
- SVA genetic material detected for ~6 weeks post-outbreak on tonsil and rectal swabs
- Sow farm weaned SVA positive pigs at least 1 week prior to detection of clinical signs

Objectives:

Given the variability of clinical presentations across several of the early cases in the US, two important questions are raised:

- 1) Is it possible that some SVA outbreaks with mild clinical presentations have gone unreported (and are a potential reservoir for SVA)
- 2) Could underlying immunity among some sow farms explain, in part, the differences in these clinical presentations.

Therefore, with the support of the AASV Foundation in 2016, we designed a study to investigate the sero- prevalence of SVA among a voluntary convenience sample of sow herds within the US.

Materials and Methods:

Because we believe sero-prevalence within an infected herd to be quite high from our previous work, we are collecting 10 serum samples on farms with no history of SVA from a cross section of parities in gestation. Samples are screened at the University of Minnesota Veterinary Diagnostic Laboratory using the VP2 ELISA (Dvorak et al., 2016). Suspect and Positive samples are confirmed with SVA IFA .

Preliminary Results:

- 91 sow farms tested in 20 states
- 30/732 (4.1%) samples have tested positive on ELISA, and overall 4 farms (4.4%) have tested positive on both ELISA and IFA

Discussion:

- SVA sero-prevalence among these herds is low, however, there is a relatively small sample size to date
- What is the source of recent outbreaks in September and October 2016?

Questions, or if you would like to enroll herds:

Contact Dr. Steve Tousignant – stous@swinevetcenter.com