

Frequency of Detection of Seneca Valley Virus

- We requested SHMP participants to report frequency of Seneca Valley virus cases at any time in the past.
- Thirteen (13) of our 26 participating systems reported this week. Of these 13, 1 participant in the Midwest reported the following:

Week	Frequency	Clinical signs
Aug 28 – Sept 3	1 sow farm	Prewean mortality and vesicles
Sept 4 – 10	0	
Sept 11 – 17	2 sow farms	Prewean mortality and vesicles in both herds
	1 GDU	Lameness and vesicles

Detection in Diagnostic Samples

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- PCR testing was conducted on oral fluid samples (441 Cases; 2,033 Samples from 25 states. Canada and Mexico) received at the ISU VDL and UMN VDL for routine diagnostic testing between 8/24/15 to 9/01/2015. None of the cases were known to be exhibiting clinical signs of acute lameness accompanied by the presence of vesicular lesions on the snout, coronary band, and/or hoof. PCR positive results were detected in 5 cases from 5 different states (AR, IA, IL, IN, MN). Subsequent practitioner feedback revealed that 1 of the 5 positive cases was later found to have clinical signs of vesicular disease (lesions) present. Testing was funded by SHIC.
- UMN Vet dx lab tested a selection of historical samples to determine frequency of positive cases.
 - 4,079 samples from 548 cases from 2014 and 2015 were tested by PCR
 - 4 positive cases with no information regarding the presence of vesicular disease or neonatal losses
 - 6 cases associated with vesicular disease or neonatal losses
 - Specimens with positive PCR: oral fluids, oral swabs, tonsils, tissue homogenate, serum, blood swabs and fecal swabs.

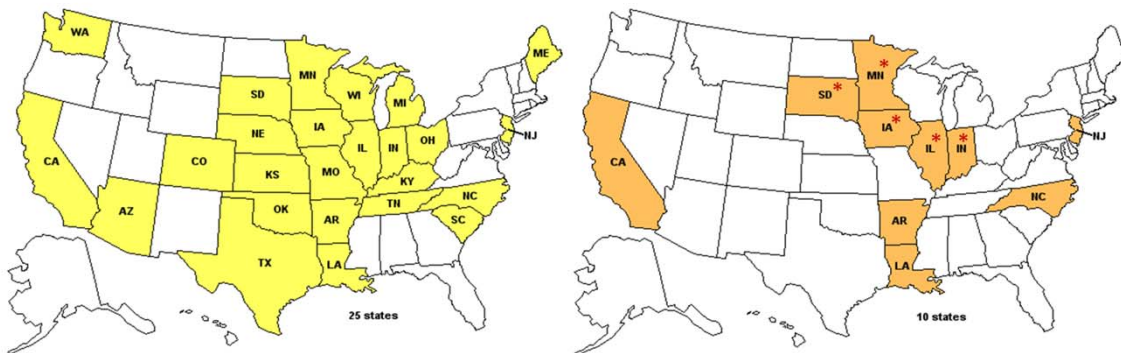


Figure 1 – Senecavirus A PCR surveillance. Left: states in yellow were included in the surveillance. Right: states in orange had at least one positive sample not necessarily associated with disease (* states that showed SVV positive PCR associated with vesicular disease or neonatal losses).

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Seneca Valley Virus – Key points

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- Seneca Valley Virus is a vesicular disease that has been found recently in both commercial and show pig operations in the Upper Midwest. Seneca Valley Virus (SVV) is a non-enveloped single-stranded RNA virus belonging to Genus Seneca virus within the Picornaviridae family. The virus has been diagnosed in swine cases in the United States since 1988.
- Common clinical signs associated with this vesicular disease include:
 - Pigs that are off-feed, lethargic, fevers up to 105 degrees, and lameness
 - Blisters/ vesicles located on the snout and/or coronary band in breeding animals
 - Short term increase in neonatal mortality of piglets less than 7 days of age, with or without associated diarrhea
- Attempts to fulfill Koch postulates have been unsuccessful and data is lacking on modes of transmission, incubation period, and duration of viral shedding.
- It is important to differentiate from vesicular diseases including foot and mouth disease, swine vesicular disease, vesicular exanthema of swine or vesicular stomatitis. If you see any signs of vesicular disease, immediately call the state veterinarian or federal animal health official.
- AASV Swine Health Committee studied the issue and offered recommendations. Here's the link:
<http://www.aasv.org/news/story.php?id=8348>
- Figure 1. Vesicular disease associated with the presence of Seneca Valley Virus. (a) Intact vesicle on the snout of an affected sow; (b) erosive lesion bordering the coronary band on the left rear hoof of an affected sow. (Full paper at: <http://onlinelibrary.wiley.com/doi/10.1111/tbed.12410/epdf>; Vanucci et al, 2015).

