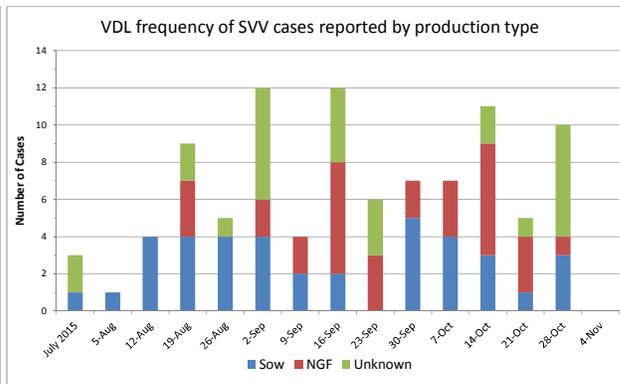
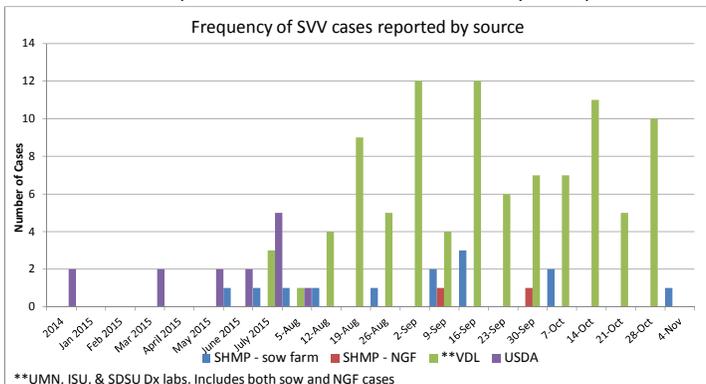


Seneca Valley Virus Update

We requested SHMP participants and UMN, ISU, and SDSU diagnostic labs to report frequency of Seneca Valley virus cases each week.

- This week one participant in the Midwest reported a new case identified in a sow farm. Hoof lesions and vesicles on snouts were reported.
- Diagnostic labs reported 9 additional cases from submissions last week for a total of 10 cases.
- Note that the reported cases between data sources may overlap.



History of 119 Filtered Breeding Farms in the US since 2015

Part two: Facility modifications over time

Steve Tousignant, Darwin Reicks, Peter Davies, Andres Perez, Bob Morrison

- There has been an increase in the number of facility modifications over time filtered farms since 2005, including
- Positive pressurized loadouts and offices
- General trend toward continuous operation, and
- Onsite biosecurity auditors employed by the production companies

In this week's science page, Steve Tousignant, our recent PhD graduate student discusses the history of 119 filtered breeding farms in the US since 2005.

Introduction and Methods

- Filtered breeding farms from two veterinary practices were surveyed from 2005 to 2015.
- What facility modifications have been made to the farm each year, including
 - Type of construction, sealed manure pump outs, shutter walls or backdraft devices
 - Type of operation and auditing frequency

Results and Discussion

- In 2005, a small percentage of farms had pressurized loadouts and offices. As time passed, experience showed it was easy to find back drafting (unfiltered) air entering through these areas. Additionally, these areas are frequently opened to the outside, when pigs are loaded or as employees enter or leave the barn. Positive pressure ventilation in these areas was a modification many farms have adopted over time to prevent this unfiltered air from entering the barns.
- The cost of filtering the first few farms was substantially higher in 2005, and the amount of money to purchase enough filters to operate a barn under maximum, summer time ventilation was frequently cost prohibitive. As the price of filters came down, and more farms desired to minimize aerosol PRRS all year, there has been a general trend toward continuous operation of filters. Some farms have been partially filtered during the first year(s), and later move to continuous filtration.
- Several production companies have realized the importance of frequent, consistent auditing of filters and other biosecurity compliance. Therefore, many companies have hired their own 'internal auditor'. These personnel are responsible for monitoring filters and farms for any potential issues with filtration, air leakage, and biosecurity compliance. They will either immediately correct any problems, or quickly mobilize a response to correct them.

In general, there have been many additional modifications over time on filtered farms. Frequently, these recommendations are made based on experience, and are driven by the importance of reducing the amount of unfiltered air entering into a barn. Additionally, many farms have sought to improve biosecurity compliance and have also implemented continuous filtration, minimizing the uncertainty of when to begin filtration in the fall before the PRRS season. While this study failed to find significant associations between these modifications (due to relatively infrequent PRRS breaks on these farms), one could speculate all of these modifications contribute, to some extent, the reduced PRRS incidence on these farms.

We would like to thank Dr. Steve Tousignant for taking the time over the past few months to summarize his PhD work on the SHMP science page. Seeing the effort of the entire SHMP participant group come together in such an informative thesis is a testament to the value of this project. Dr. Tousignant will be continuing with the Swine Vet Center in St. Peter, MN, helping with both research and veterinary work. Feel free to contact him regarding any of these studies at stous@swinevetcenter.com.