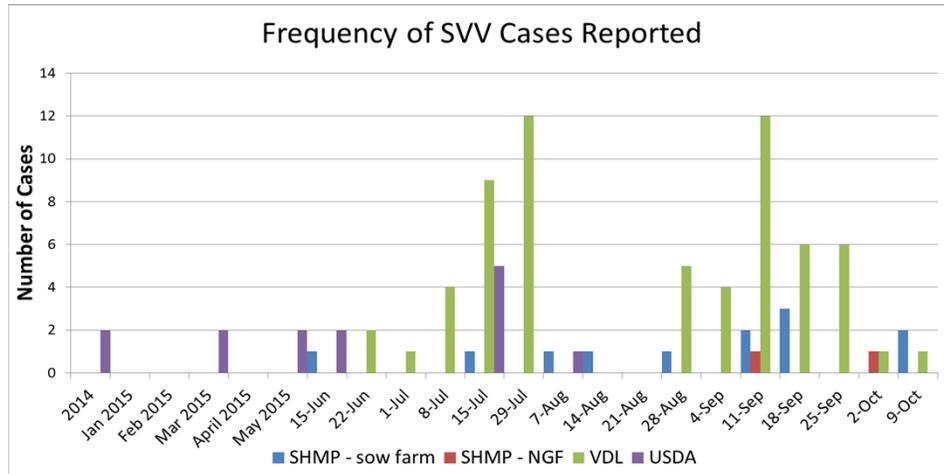


## Seneca Valley Virus Update



## Frequency of PRRSv detected outside eight sow farms in swine dense regions of Minnesota

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### Key Points

- Between October 2012 and March 2013, 0 of 248 aerosol samples tested positive for PRRSv
- Frequency of detection appears to vary by study and may depend on regional, or local factors including:
  - PRRSv status of neighboring pigs
  - Weather conditions
  - Differences in methods, and air collectors
  - Farm density and spatial structure

In this week's science page, Steve Tousignant, our recent PhD graduate student discusses work done on the frequency of aerosolized PRRSv detection around 8 sow farms in swine dense regions of MN.

### Methods

- 8 filtered sow farms were selected for this study in 2 regions
- 4 were in Southern Minnesota near the city of Fairmont, and 4 were in west central Minnesota near the city of Prinsburg
- A schedule of sample collection was designed so that each farm had samples collected between 4:00am – 2:00pm every 2 weeks
- Cyclonic air collectors were operated using previously described methods (Dee et al., 2010)
- Weather data was collected from NOAA weather stations at nearest regional airports (approximately 15-20 miles from the farms)

### Results

- Over the 6 month period, 248 samples were collected of which, 0 tested positive for PRRSv by PCR at the University of Minnesota Diagnostic

### Laboratory

- Additionally, 24,020 weather observations were recorded during this time period. There were 0 instances where the weather parameters coincided with values that favored transmission of viable PRRSv (Dee et al., 2010).
- The same collectors demonstrated the ability to recover virus from the air inside a PRRSv positive nursery barn, but not immediately outside this barn.

### Discussion

- In this study, detection of aerosolized PRRSv did not occur, which is contrary to other concurrent research (Brito et al., 2014).
- These results might suggest differences including: PRRSv status of neighboring pigs, local weather conditions, differences in collection methods and collectors used, and local farm density and spatial structure.

Next week, we will continue this discussion by examining a method, utilized to study High Path Influenza outbreaks in the Netherlands that allows us to identify differences in local density and recognize specific areas that might be at higher risk of aerosol transmission of diseases, such as PRRSv.