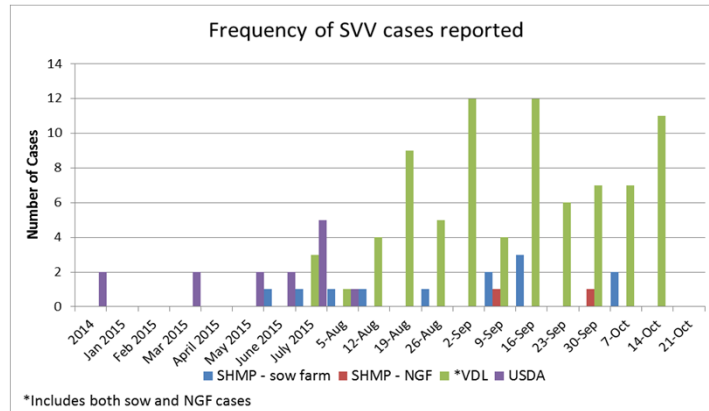


## Seneca Valley Virus Update



## History of 119 Filtered Breeding Farms in the US since 2015

### Part one: PRRSv incidence

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

#### Key Points:

- There has been a dramatic increase in the number of filtered farms since 2005
- First filtered farms were genetic herds (studs and multipliers) and later, commercial herds
- There is moderate correlation between number of filtered farms in any year, and the number of PRRSv infections reported

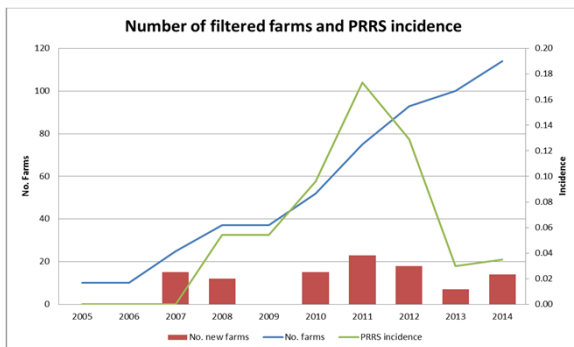
In this week's science page, Steve Tousignant, our recent PhD graduate student discusses the history of 199 filtered breeding farms in the US since 2005.

#### Introduction and Methods

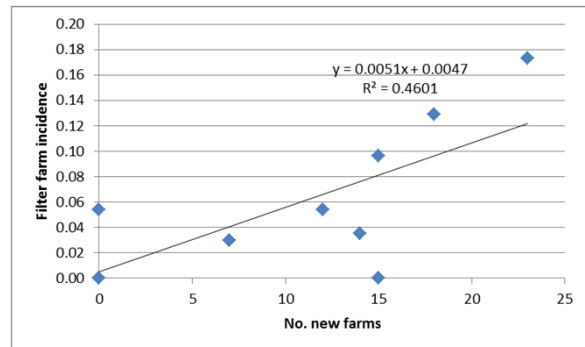
- Filtered breeding farms from two veterinary practices were surveyed from 2005 to 2015 including:
  - When filtration began and if a PRRSv infection was reported
  - What facility modifications have been made to the farm (additional discussion, next week)

#### Results

- In 2005, there were 10 filtered breeding farms – 8 boar studs and 2 sow farms.
- In 2014, there were 119 filtered breeding farms – 21 boar studs, 33 genetic multipliers/nucleus, and 65 commercial sow farms.
- 89 of these belonged to production companies, and 30 were independent producers.
- 6 farms were enrolled for the entire study period, and 14 farms had only been filtered for 1 year. The average duration of filtration was 4.7 years.
- An average of 11.5 newly filtered breeding farms were added each year.
- A total of 41 PRRS infections have been reported on these farms since 2005, with the highest PRRS incidence being reported in 2011 (figure 1).
- PRRSv incidence was moderately correlated ( $R^2 = .46$ ) with the number of newly filtered breeding farms (figure 2).



**Figure 1:** Number of newly filtered breeding farms (red bars), cumulative number of filtered breeding farms (blue line) and incidence of PRRS (green line) in a voluntary sample of 119 filtered breeding farms from the Midwest region of the US from 2005 – 2014



**Figure 2:** Correlation between filter breeding farm PRRSv incidence and the number of newly filtered farms

#### Discussion

- There has been rapid adoption of filtration among breeding herds in the US during the past 10 years.
- The correlation between number of newly filtered farms and PRRSv incidence might suggest that filtering is a dynamic process, and during the first year of operation there may be reasons why these farms report a PRRSv infection.

Next week, we will examine the changes in the frequency of additional facility modifications that have been implemented on filtered breeding farms through the years.