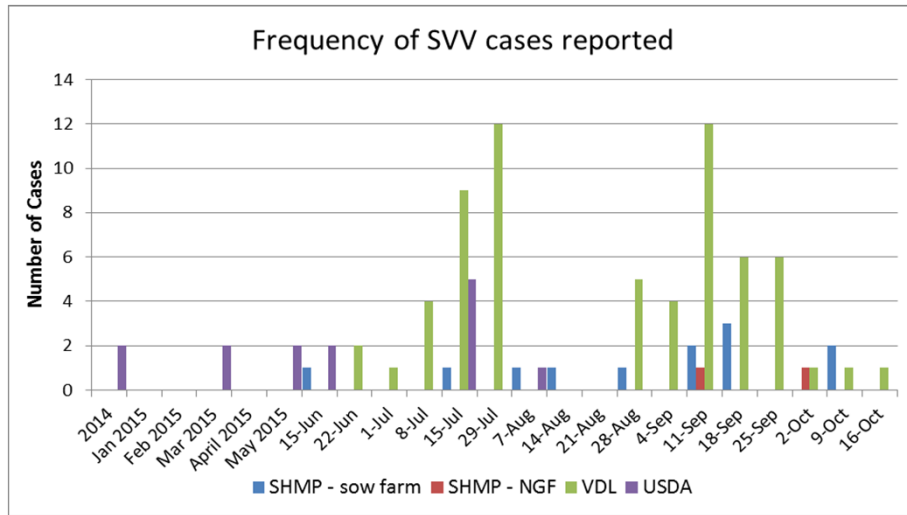


## Seneca Valley Virus Update



## Frequency of PRRSv detected outside eight sow farms in swine dense regions of Minnesota (Part 2: Identifying critical farm density)

Steve Tousignant, Peter Davies, Peter Raynor, Albert Rovira, Bob Morrison

### Key Points

- Utilized the eight farms in the previous study (discussed in the 10/9/15 SHMP report)
- Of the eight farms, this model predicted only two farms had local density that would support epidemic spread of disease
- Could be used to potentially refine locations for aerosol study

In this week's science page, Steve Tousignant, our recent PhD graduate student continues the discussion on the frequency of aerosolized PRRSv detection. Here, he outlines a method used to identify farms that might be at higher risk of disease spread based on the number of and proximity to neighboring farms.

### Introduction and Methods

- These methods were described by a group of European epidemiologists working on the 2003 High Path Avian Influenza (HPAI) epidemic in Denmark (Boender et al., 2007).
- The goal was to develop a model that would predict where epidemic spread of the disease would occur as a function of local density of neighboring farms (number of and proximity to within 3 miles), and the probability of transmission of the disease.
- Once the details were worked out, they applied this model to the outbreak data, and found that, it predicted the location of the HPAI infected farms quite well.
- Here, we estimated the value for each of the 8 filtered sow farms in the study.

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