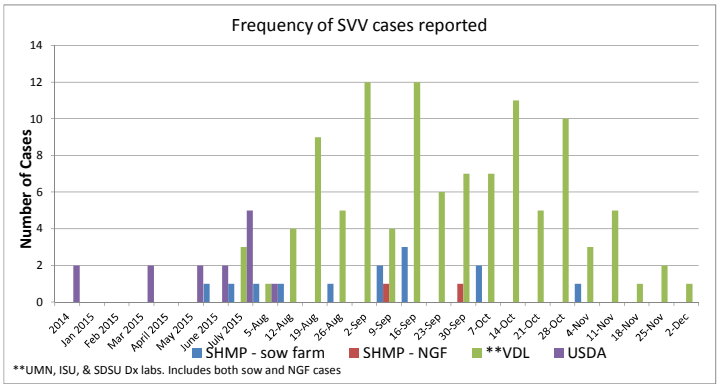
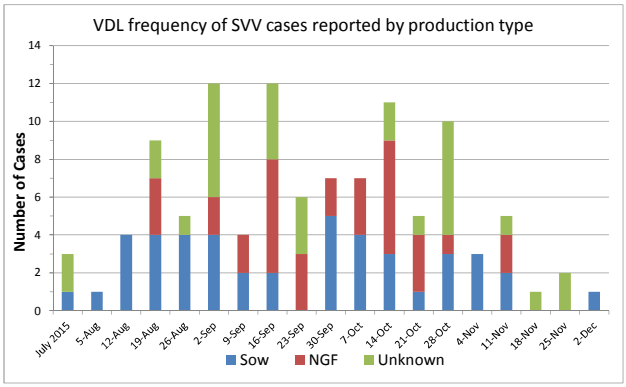
Seneca Valley Virus Update

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

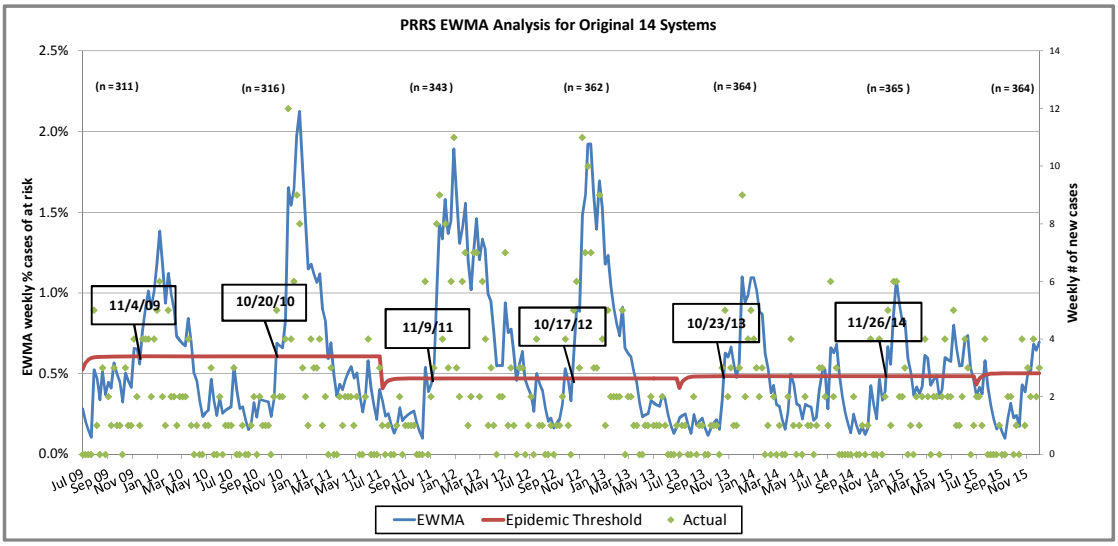
- 1 new case this week in a sow farm associated with neonatal mortality, and 2 updated VDL cases from last week.
- Note that the reported cases between data sources may overlap.





SHMP PRRSv Update

You may recall that for the first 4 years of SHMP, we followed a cohort composed by the first participants in the project with 14 systems and 372 sow herds. We likened following the incidence in these herds to following the Dow-Jones stock index. That is, since the sample of herds (or stocks) is the same over time, we can compare current to past performance and monitor change. The project has expanded and we have increased to 22 PRRS reporting systems composed of 735 sow herds. As we added participants, we compared historical incidence in the 372 herds to that in the entire set of herds and found the patterns to be similar. Therefore for simplicity, we decided to report just the incidence in the entire set of herds. This week, we revisit our original cohort, minus a few herds that have exited the business, and we see that the incidence mirrors our entire dataset. Both charts have recently broken through the threshold signifying the start of the epidemic. This suggests that the epidemiology of PRRS virus regarding spread among herds is similar in its seasonal pattern between our original and more recent participants. Given that our original participants tended to be from the Midwest, one possible implication is that incidence is similar across regions of the country. As our participation continues to expand, we increase our ability to confirm this.



Notice the changed appearance for the threshold in the EWMA chart (the red line). This threshold is our upper confidence limit for establishing our "expected" incidence of PRRS. We use the incidence data from July, August and September to establish this threshold. So, whenever the incidence is below this threshold, we say that there is no epidemic. Or, when the incidence breaks through and stays above the threshold, we say the epidemic has started. Up until this week, we have used the incidence data from our first 4 years of monitoring to establish the threshold. We decided to recalculate the threshold every two years for two reasons. First, the enrolled herds are changing and it's possible that the incidence from early herds is not representative of later herds (note that the above discussions suggests they are similar). Second, the incidence has decreased from our early years and is less variable in the summer months. Using early data will increase the threshold above what later data would use. The new chart clearly defines control limit tiers biennially and the standard deviation of incidence for the 4, 2 year segments portrayed on Chart 5 (page 3) was .004%, .003%, .0024% and .0019%.

Please contact us if you have questions, suggestions or comments. We appreciate your ongoing participation and support of the SHMP.