

Recent publications using SHMP data – Comparison of PRRSv Incidence

- PRRS incidence was predictably consistent between 2009 and 2013
- There was a significant decrease in the incidence in 2013/14
- Reasons may include improved biosecurity, reduced number of PRRS positive piglets, better awareness of the epidemics, increased vaccine and filter use.

Steve Tousignant recently completed his PhD and three of his thesis chapters were from SHMP. The first chapter described PRRS incidence between 2009 and 2013 and documented the striking repeatability of the annual PRRS epidemics. Statistically speaking, there were no differences among these years. In 2013, we observed lower PRRS incidence ($p = 0.004$) (figure 1) and a later onset of the epidemic. There could be several explanations::

- Increased awareness of the national PRRS epidemic starting every fall could have resulted in better preparedness and prevention of PRRS.
- More herds maintained a positive stable (2vx) status therefore altering the transmission dynamics of PRRS within the US sow population.
- Increased application of bio-aerosol filtration and associated biosecurity measures could have altered PRRS transmission dynamics.
- Farms may have improved bio-security in an effort to prevent PED which may have prevented PRRS infections (farms that reported a history of PRRS were more than twice as likely to become infected with PED).
- Mortality caused by PED may have eliminated a significant population of PRRS positive pigs that could have otherwise contributed to lateral spread.
- PRRS monitoring may have decreased during PED outbreaks, simply because there were no viable piglets to test, or given the more pressing situation of PED, the monitoring of PRRS was not important.
- These patterns could be a function of longer periods of time, known as secular cycles. If true, we might expect PRRS incidence to increase to historic levels in the coming years.
- This might have been a chance occurrence. However, a similar decrease in incidence was recorded last year also.

These studies have been published in:

Tousignant, S.J.P., Perez, A.M., Lowe, J.F., Yeske, P.E., Morrison, R.B., 2014. Temporal and spatial dynamics of porcine reproductive and respiratory syndrome virus infection in the United States. *American Journal of Veterinary Research* 76, 70-76.

Tousignant, S.J.P., Perez, A.M., Morrison, R.B., 2015. A comparison between the 2013-2014 and 2009-2012 annual PRRSV epidemics in a cohort of sow herds in the United States. *The Canadian Veterinary Journal* 56, 0000-0000 (in press).

Figure 1: Cumulative PRRSv incidence recorded in a SHMP herds from 2009 – 2014.

