

Measuring production losses from endemic PRRS in US sow farms

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Key Points

- We analyzed performance records from 16 sow farms that were vaccinated with PRRS virus and experienced a PRRS virus infection.
- Production dropped until the 6th week post-outbreak with a second decline between the 11th and 18th week post-outbreak.
- We calculated an average decrease of 1.92 weaned pigs per sow (min=0.51, max=3.72) per year attributable to changes in farrow rate and prewean mortality.

The objective of this study was to estimate the impact of PRRS on production using longitudinal data collected from sow farms. We analyzed weekly production records from 16 vaccinated sow farms in a system that experienced 16 PRRS outbreaks during 2014-2015. We used the number of weaned pigs and seven indicators of performance (number of live births and number of stillbirths per litter, mortality in pre-weaned pigs and sows, number of aborted sows, number of sows with repetition of service, and number of farrowing sows) to analyze PRRS impact. For each group, we compared values for each indicator before (baseline) and after the PRRS outbreak.

We observed a 5% decrease in production and an increase in the number of abortions as soon as one week before the outbreak was reported. Production dropped consistently until the 6th week post-outbreak, when it reached its maximum impact on production with 24% (min= 13%, max=28%) fewer weaned pigs-per-week compared to the baseline. After the 6th week post-outbreak, we observed a moderate recovery although a second wave of decline in performance was observed between the 11th and 18th week post-outbreak. All performance indicators were impacted by the disease at some point in time, either the week before, at, or immediately after the outbreak was reported.

On average, PRRS infection resulted in a decrease from 2.3 farrowings/sow/year (min=1.8, max= 2.8) to 2.2 farrowings/sow/year (min= 1.8, max=2.7). That decrease results in a 6% drop in the number of sows farrowing annually and a corresponding 6% increase in the number of sows requiring repeated service. Also, we found an increase in the number of pre-weaned deaths per sow/year, and an overall 0.01 increase in chances of abortion sow/year.

Finally, there was an annual decrease of 1.92 weaned pigs per sow (min=0.51, max=3.72). Considering only direct losses (i.e. the reduction of production evaluated in this study), PRRS caused, on average, an ~8% (min=4%, max=13%) yearly decrease in the value of production.