

PRRS 2017-2019 Exponentially Weighted Moving Average (EWMA) by State

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Key Points:

- Across states, different EWMA patterns continue to be observed.
- The expected high PRRS incidence during fall/winter was not as marked both in duration and magnitude in some states during the 2018-2019 season.

We continue to analyze the MSHMP 2017-2019 PRRS incidence seasons through the summary of outbreaks and EWMA pattern comparison for individual states. We specifically looked at the six most important states from an MSHMP sow herd size standpoint. These include: Minnesota, Iowa, North Carolina, Oklahoma, Nebraska, and Illinois.

Minnesota: As expected, this season EWMA crossed the epidemic threshold by the end of October/beginning of November 2018. However, the magnitude and duration of the epidemic was lower and shorter than in the 2017-2018 season. Incidence dropped during December 2018-January 2019 but lingered above the epidemic threshold until Mid-February, 2019.

Iowa: The 2018/2019 PRRS season started slightly earlier than in Minnesota and it was higher in magnitude than in any other of the assessed states. Although it reached a similar peak than in the 2017-2018 PRRS season in Iowa, its duration appeared to have been shorter since the EWMA went below the epidemic threshold during Mid-February 2019, which was about three months earlier than in the previous season.

North Carolina: As the 2017-2018 PRRS season, the epidemic begun on Nov of 2018. However, the 2018-2019 PRRS season was about three months shorter than the 2017-2018 PRRS season. The EWMA crossed the epidemic threshold momentarily in September/October 2018 but dropped below it until Mid-November when it crossed the epidemic threshold again to remain above it for about four months.

Oklahoma: Had a drastically different PRRS pattern than the 2017-2018 MSHMP season. The 2017-2018 PRRS season continued well into the summer, and only stayed below the epidemic threshold for about two months. PRRS incidence during the 2018-2019 season has been drastically lower than the one during the 2017-2018 season, staying at around 0.5%, and moving below the epidemic threshold several times.

Nebraska: The 2018-2019 fall/winter were characterized by a pattern of fewer, and more intermittent cases than the 2017-2018 fall/winter. No obvious PRRS season can be observed since PRRS outbreaks occurred sporadically throughout the year.

Illinois: Had a long PRRS season in 2017-2018 with the EWMA remaining mostly above the epidemic threshold for almost a year. In comparison, the 2018-2019 PRRS season started almost three months later in the year and its incidence has been lower than in 2017-2018, with the EWMA sporadically crossing above the epidemic threshold during the 2018-2019 fall and winter.

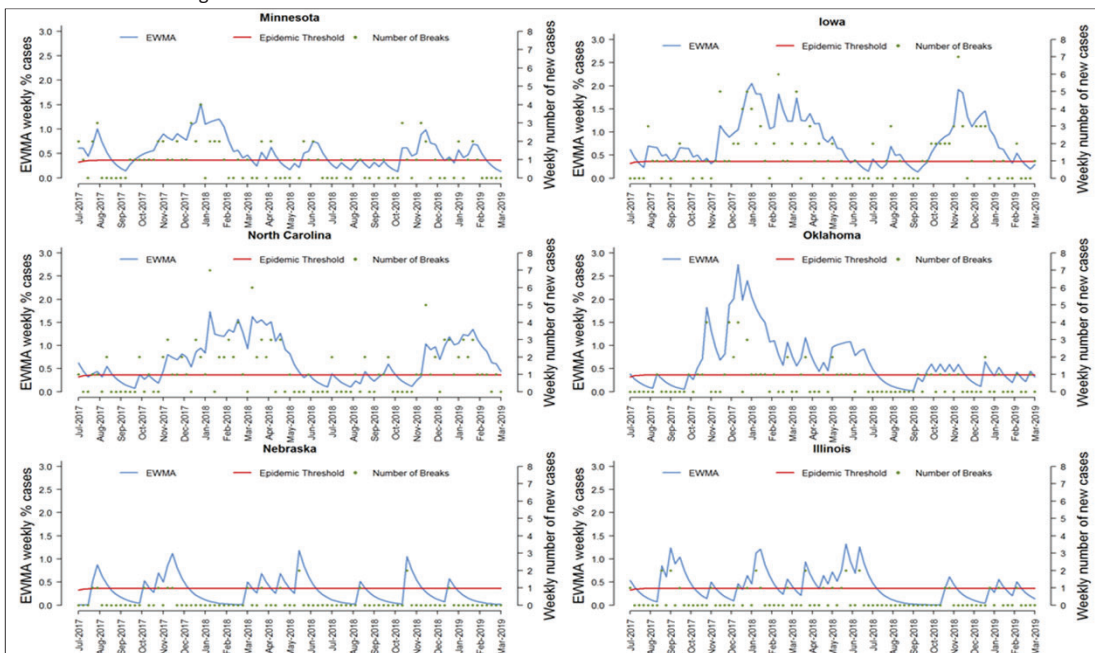


Figure 1: EWMA (blue line) in six states since July 2017. Green dots represent weekly number of PRRS cases and red line the overall epidemic threshold.

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