

PRRS 2018-2020 Exponentially Weighted Moving Average (EWMA) by State

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Keypoints:

- We continue to observe different EWMA patterns across states
- Even though colder months continues to be present overall higher incidence, sporadic cases in warmer months were observed throughout the states.

We continue to analyze the MSHMP 2018-2020 PRRS incidence seasons through the summary of outbreaks and EWMA pattern comparison for individual states. We specifically looked at the six states with the highest MSHMP sow herd size. These include: Minnesota, Iowa, North Carolina, Oklahoma, Nebraska, and Illinois. The scale of the EWMA and the number of outbreaks is the same in all the charts. The red line is the last calculated threshold of the epidemic curve for the national EWMA during 2019-2020 (0.34%) and is drawn here as a reference.

Iowa: The 2019-2020 PRRS season started in October 2019 lasting up to February 2020. The peak of the epidemic for the 2018-2019 PRRS season in Iowa was lower (~50%) the cases observed on the previous year.

North Carolina: The 2018-2019 PRRS season for North Carolina ended above the 2019-2020 epidemic threshold, where it continued up to September 2020. A smaller epidemic peak was observed between October 2019 and December 2019, followed by an increase in EWMA in February 2020 lasting up to June 2020.

Minnesota: This season, the EWMA crossed the epidemic threshold by the end of November 2019. Incidence dropped during December 2019 but quickly increased again in January 2020, remaining consistently above the epidemic threshold until March 2020. Overall, EWMA was higher in the 2019-2020 season compared to the 2018-2019 season.

Oklahoma: PRRS incidence during the 2019-2020 season was drastically different than the previous one, where few cases were observed. This season, the EWMA for Oklahoma was higher than in the other states shown here, starting in October/November 2019, peaking in January 2020, and lasting up to May 2020.

Nebraska: Similar to the previous season, the 2019-2020 PRRS season was characterized by a pattern of fewer and more intermittent cases than in other states. No obvious PRRS season can be observed since PRRS outbreaks occurred sporadically throughout the year.

Illinois: Fewer cases were presented than previous comparative season, although slight increases in EWMA occurred during summer (July-August) of 2019, winter (November-January) 2019/2020, and spring (April-June) 2020. The increase in EWMA during winter 2019/2020 was lower than the ones observed in summer 2019 and spring 2020.

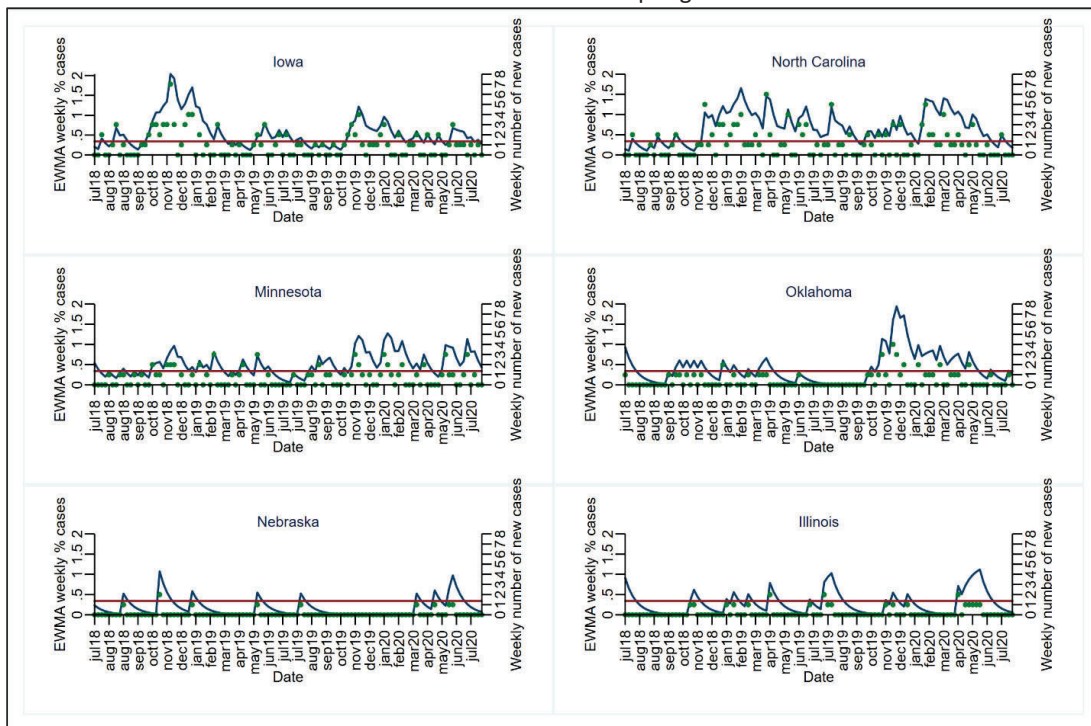


Figure 1: EWMA (blue line) in six states since July 2018. Green dots represent weekly number of PRRS cases and red line the overall epidemic threshold