EWMA by State

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Keypoints:

- Different states continue to have different EWMA patterns.
- Even though winter is the high risk season, biosecurity measures should be enhanced during the whole year.
- The state of Minnesota suffered two unusual peaks, one in spring and another one during the summer.

This week we want to offer you a summary of the outbreaks (green dots) and EWMA (blue line) of the % of the farms in the 6 states that we have more representation: Iowa, Minnesota, Nebraska, North Carolina, Oklahoma 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 (0.4%) and is drawn here as a reference.

Iowa started the year in the epidemic state and the EWMA decreased and reached the epidemic threshold around the end of February. However, the first time that the EWMA was below the line was in June. After that it went up and down until in October it went below the 0.4% and stayed there until mid-November when the epidemic season started again.

Minnesota had an atypical year when compared with what has been seen previous years. The EWMA reached the threshold for the first time at the end of January and after a small peak the incidence decreased and stayed below the threshold for two months. In April and June the EWMA experienced an unusual increase above the line. Some outbreak investigations were done without finding any apparent or common factor (link below). Later the EWMA was around the threshold until in mid-October the PRRS season triggered the number of outbreaks.

Nebraska had a moderated year in the number of outbreaks. The EWMA stayed above the 0.4% line for three months (January to March) after that the number of cases were low and the line dropped, with a couple of eventual outbreaks.

The **North Carolina** EWMA stayed above the 0.4% threshold for half a year (January to June). The months of July to November were more or less consistently below or around the epidemic threshold, rising above it again at the beginning of November.

Oklahoma had a similar pattern to North Carolina, being above the line for half a year, dropping below the reference value for three months and increasing the number of outbreaks in the fall. and reached an EWMA peak of 2% for the year at the beginning of November.

Illinois had a very regular EWMA, with the incidence wandering around the 0.4% mark during the whole year, with only two specific increases of incidence, one during spring and one at the end of the summer.

In summary, bursts of outbreaks observed during this year were equal or lower than peaks of cases observed in previous years. Each region showed a specific and distinctive pattern. Maximum peaks were below or at the maximum observed 2% of infected farms in all the regions except for Nebraska, where it reached a maximum value of 3.2% of weekly affected farms.

Summer Outbreak Science Page:
https://www.vetmed.umn.edu/sites/vetmed.umn.edu/files/shmp_2017l18.23_summer_prrs_break_analysis-science_page_2.pdf