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Novel Influenza A- H3N2 Cluster 2010.1 Update

On the 2024 Q1 quarterly veterinarian survey, there were 80% of veterinarians that indicated that Influenza A virus activity in swine herds was stable and 13% reported a decrease in activity. This contrasts to the impression reported in Q4 2023, where 62% of responding veterinarians reported an increased frequency of influenza cases. This perception was validated both by OMAFRA's immediately notifiable disease summary, Animal Health Lab (AHL) and Gallant Laboratories (CEVA) diagnostic reports.

It is speculated that the implementation of an updated regional influenza autogenous vaccine at the start of the quarter, which now includes the extremely dominant H3N2 cluster 2010.1 strain, may have reduced the overall prevalence of IAV cases during Q1 2024.

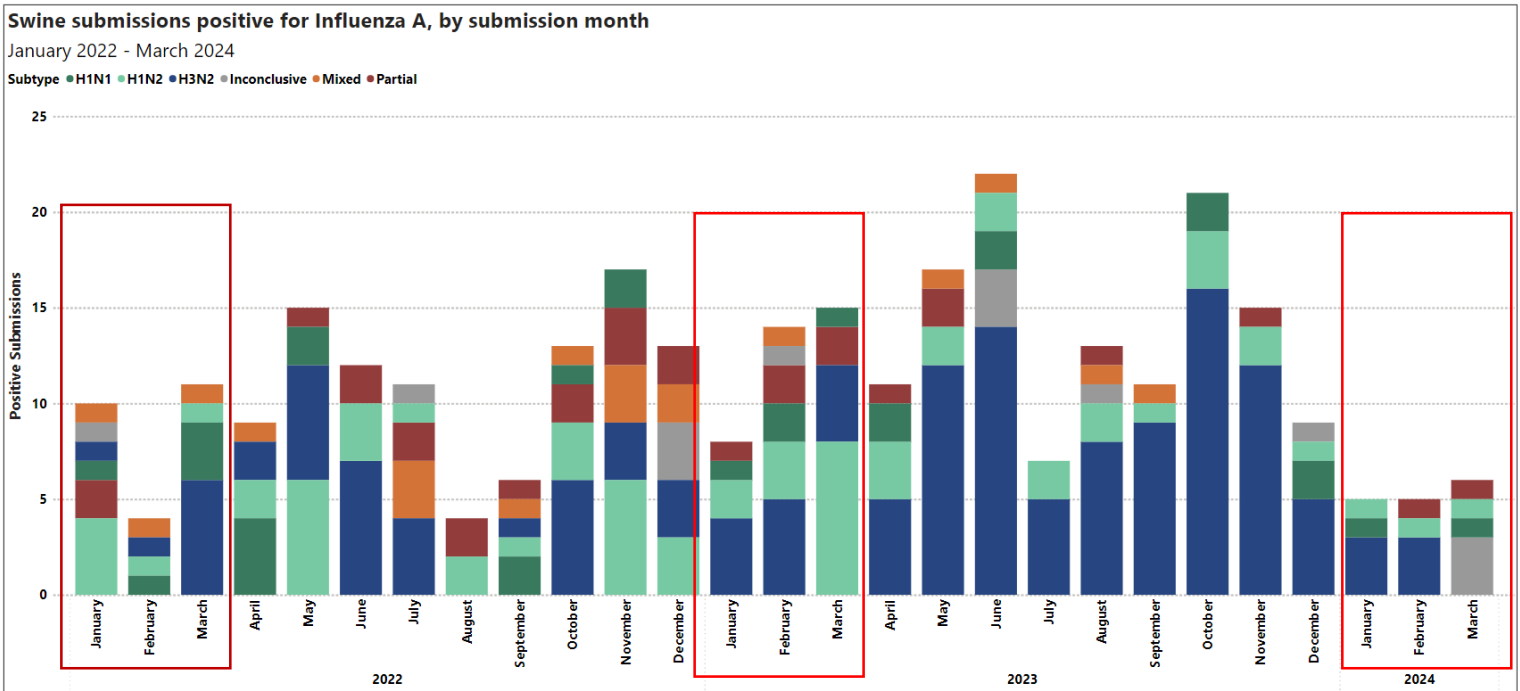


Figure 1. Submissions positive for influenza (not including ELISA tests) in swine by subtype and submission month, Ontario, January 2022 to March 2024. The number of IAV positive submissions seems to have stabilized in 2024 Q1. Most positive submissions in Q1 2024 (January-February) involve subtype H3N2. Figure 1 also shows counts of partial, mixed and inconclusive subtypes isolated from Ontario swine herds. (see legend above graph).

Acknowledgement: Graph courtesy of Dr. Hannah Golightly- OMAFRA



Porcine Epidemic Diarrhea (PEDV)/ Porcine Deltacoronavirus (PDCoV) Update

Jessica Fox from Swine Health Ontario (SHO) commented on the concerning increase in PED and PDCoV cases throughout the province this quarter. During Q1 of 2024, 19 new PDCoV cases were reported, as well as 7 new PED cases. The majority of these cases were found to be a result of contamination due to transport and/or people movements. 80% of veterinarians participating in the Q1 2024 clinical impressions survey reported that PDCoV cases had increased compared to the previous quarter, and 53% reported an increase in PED cases this quarter.

SHO encourages members of the industry to be vigilant in the face of this outbreak and continues to support elimination as the best strategy for disease control. Producers and veterinarians are encouraged to continue to be diligent in testing for these coronaviruses in all gastrointestinal cases, as PDCoV in particular can present with extremely mild clinical signs. Timely diagnosis of these cases can help limit widespread contamination and potential spread to other sites. Producers are also encouraged to use SHARC information to stay aware of current positive sites in their proximity and to make educated decisions based off of this knowledge. Any producer interested in enrollment should contact Jessica Fox through SHO. The PED and PDCoV Tracking map is available on the Swine Health Ontario website and shows current and annual cases by county.

<http://www.swinehealthontario.ca/Disease-Information/PED-PDCoV-Tracking-Map>

Influenza A Virus (IAV) and Highly Pathogenic Avian Influenza (HPAI) updates

HPAI H5N1 detected in dairy cattle in the U.S.A: On March 25, 2024, the USDA confirmed a detection of HPAI in samples collected from dairy cattle. Since this several states have now found similar detections. **There have been no detections in cattle or other livestock species in Ontario or Canada as of June 3, 2024.** The initial infection was thought to be through wild bird exposure to affected dairy cattle. Pasteurization is effective to kill the virus in milk and milk products and properly cooked beef remains safe to consume. Due to the fact that pigs are known hosts for different influenza viruses and are known to act as a host for influenza virus reassortments, all efforts need to be made to prevent HPAI infection in pigs. CSHIN, CAHSS, CPC and CASV hosted a webinar on May 30, 2024 from 12-1pm eastern time entitled “The potential for H5N1 influenza in swine: Lessons learned from the dairy industry so far” that targeted veterinarians especially veterinarians that work with swine. This webinar will be recorded and can be viewed via this [link](#). (Summary provided by Dr. Christa Arsenault, Lead Veterinarian OMAFRA, to the OAHN Swine Network, 2024-06-03)



HPAI H5N1 Italy: In the fall of 2021, there were outbreaks of HPAI in both wild and domestic birds in Italy. At one farm in Ostia, in the province of Rome, HPAI was detected in a flock of free ranging poultry. There were free ranging pigs on the same site. These pigs had contact with the poultry. There were no clinical signs of influenza in the pigs. Nasal swabs and blood samples were collected from the pigs. On PCR all the nasal swabs were negative for the IAV matrix. On serology, the majority of the pigs were positive on hemagglutination inhibition testing using an H5N1 strain homologous to the virus detected on the farm. The authors of the study concluded that the results show “the replicative fitness that HPAI H5N1 viruses of the 2.3.4.4b clade have in mammalian species.” (*Rosone F, et al, Microorganisms 2023 April*).

International Disease Topics of Interest- Dr. Al Scorgie

[Actinobacillus pleuropneumoniae \(APP\)](#): Swine veterinarians in Quebec have reported a regional outbreak of APP in multiple finishing herds, specifically serotype 8. These herds are reporting that cases present with sudden mortalities, with 10-15% mortality observed in affected barns at the onset of the outbreak. Due to the rapid regional spread of these cases, vets are suspicious that this serotype is spreading via aerosol.

Interesting Article

Wild pigs kill more people than sharks: A new study has found that wild pigs kill more people annually than sharks. The number of annual global fatalities from wild pigs is increasing. From 2014 to 2023 the average annual number of fatal shark attacks was 5.8 while for wild pigs it was 19.7. So far in 2024 there have been 7 fatal wild pig attacks. From 2000 to 2019 there have been a total of 1,532 attacks and 172 deaths from wild pigs in 29 countries.

The attacks are gruesome. Of the 172 deaths, 88% were non-hunting activities, 86% occurred in daylight, 32% were agricultural workers and almost all, (80%) were by solitary pigs. Of the fatalities, 77% died from blood loss and 55% died at the scene. The average pig in each incident weighed 110 kgs. Boars are responsible for more of the fatal attacks because boars can punch holes or slash and gouge with their tusks while sows tend to bite.

Of the fatalities, 51% were in India followed by 8% in China. The U.S. has recorded six fatalities from wild pig attacks in the last 100 years. There were probably more attacks but some were never documented. The expectation though is the attack rate will trend up as the wild pig population continues to increase. (Pork, Chris Bennet, April 18th 2024).



How can you Participate in OAHN?

Share the information contained within this report with others involved in the swine industry and with other swine producers. Help us spread the word! Ask your veterinarian for more information about topics included in this report.

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