Canadian Swine Health Intelligence Network

Réseau canadien de surveillance de la santé porcine

CSHIN QUARTERLY PRODUCER REPORT

REPORT Q2 APR-JUNE 2024

HIGHLIGHTS FOR SWINE PRODUCERS

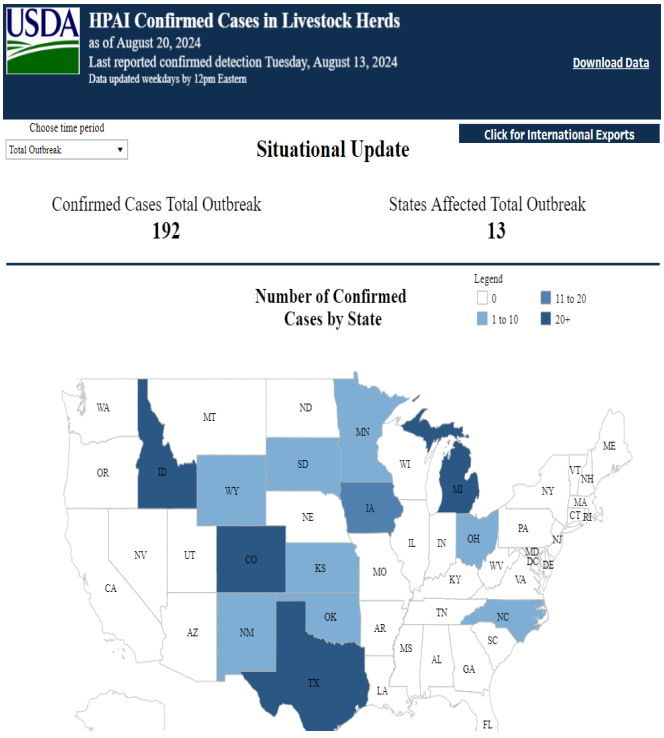
H5N1 Highly Pathogenic Avian Influenza Detection in Dairy Cattle in the U.S.A- Update

Dr. Murray Gillies from the Canadian Animal Health Surveillance System (CAHSS) provided the CSHIN network with an update on H5N1 Highly Pathogenic Avian Influenza (HPAI) Detection in dairy cattle in the U.S.A. On March 25, 2024, the USDA, FDA, and CDC announced that HPAI, specifically avian influenza virus type A (H5N1), had been identified in U.S. dairy cattle for the first time.

Tests so far indicate that the virus detected in U.S. dairy cattle is H5N1, Eurasian lineage goose/Guangdong clade 2.3.4.4b, strain B3.13. **This is the same clade that has been affecting wild birds and commercial poultry flocks** and that has caused sporadic infections in several species of wild and domestic mammals in the United States. **There have been no reported cases of H5N1 HPAI in dairy cattle, beef cattle or swine in Canada to date. Suspect Canadian herds are being tested and all results have yielded negative results.**

Common clinical signs in affected cows include low appetite, reduced milk production, and abnormal appearance of milk (thickened, discolored). Most affected animals reportedly recover with supportive treatment.

This is an evolving situation in the U.S.A. As of August 20, 2024, there were 192 case detections in dairy cattle the U.S.A involving 13 U.S. States. Some major swine production states have also declared detections in dairy e.g. Iowa. H5N1 has not been detected in swine in the U.S.A.



H5N1 Highly Pathogenic Avian Influenza Detection in Dairy Cattle in the U.S.A Continued…

Cases in the U.S.A. are trending down, but it is unknown if this trend is actual versus the lack of reporting of new cases. Prevalence studies are underway to help determine this.
States differ in testing, investigations and restrictions, so, comparison from one state to another should be done with caution.

- The term "quarantine" is being defined differently in different states.
- For example, Colorado also only places quarantines on lactating cattle within a herd so other animals can come and go as is required into and out of the herd. Therefore, in most dairy herds naïve animals are continuously moving into the herd e.g. heifers which could also explain the longer quarantine periods required to prevent further disease spread.
- On average it was taking 7-9.5 weeks to remove a quarantine. This was a very long time but is the time that was required to see bulk milk tanks yielding negative H5N1 testing results.
- The State of Colorado is the only state that has mandatory bulk milk tank testing. This has resulted in an uptake of testing and over the past few weeks has resulted in first the number of cases and then an increase in the total number of herds that were being released from quarantines within this state.
- The main route of disease spread is cow to cow, however disease spread between dairy herds and poultry flocks is suspected to have occurred in several instances. A poultry facility in close proximity to a dairy herd in Colorado is in their third round of attempting to depopulate to eliminate this virus. This facility has excellent biosecurity with a shower in and out. Therefore, the poultry facility is looking into other potential causes of disease spread. This has created some animosity between dairy and poultry producers.

What has been done in Canada thus far?

- Collaborative multi-stakeholder approach (Federal, Provincial, Territorial, Industry (FPTI))
- Education and surveillance (CAHSS)
- Scientific working group, FPTI group, weekly network email updates
- Biosecurity at fairs and exhibitions guidelines (Animal Health Canada (AHC) Emergency Management (EM) division)
- Retail milk sampling (CFIA)
    - 911 samples all negative, 4th round beginning soon

What is being planned in Canada?

- Processor level surveillance (CFIA and Dairy Processors Association of Canada (DPAC))
- Farm level surveillance (CFIA, Veterinary Surveillance Epi Network (VSEN) and Dairy Farmers of Canada (DFC))

So why hasn't this pathogen spread to swine in the U.S.A?

The answer to this question is not known, but there are a few different ideas that are circulating that will require further studies:

- Could the use of Influenza A vaccines in swine be providing some protection and immunity?
- Do swine herds in the U.S.A. have better biosecurity (than dairy and poultry) in place allowing them to keep the pathogen out?
- Has testing for Influenza virus in swine changed since HPAI was detected in dairy cattle in the U.S.A? Would clinical signs differ from signs of common swine strains of influenza and therefore go unnoticed?

The Canadian Animal Health Surveillance System (CAHSS), CSHIN, the Canadian Pork Council (CPC) and the Canadian Association of Swine Veterinarians (CASV) hosted a webinar on May 30, 2024, entitled "The Potential for H5N1 in swine: Lesson learned from the dairy industry so far" (see webinar bulletin below):

This webinar has more information on what Influenza A testing is currently completed in swine across Canada. If you would like to view/listen to the recording you can do so via the following link.

Take Home Messages: Canada continues to prepare for detection of this virus. The CSHIN network would like to remind all swine producers and veterinarians to continue with enhanced biosecurity measures making all attempts to keep this virus from spreading to swine.

Porcine Epidemic Diarrhea (PED) and Porcine Deltacoronavirus (PDCoV)

OAHN (Ontario)

Jessica Fox from Swine Health Ontario (SHO) provided an update to the OAHN swine network in Q2 on the status of Porcine Epidemic Diarrhea (PED) and Porcine Deltacoronavirus (PDCoV) cases from a recent outbreak in Ontario. In 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. During Q2 of 2024, 7 new cases of PDCoV and 13 new cases of PED were reported. Dr. Jordan Buchan reported that 50% of these new cases reported in Q2 were due to the movement of already known positive pigs to a new site location. Veterinarians in Ontario supported that there are less new outbreaks of PED and PDCoV in Ontario, but still positive pigs that are moving through the system.

Swine Health Ontario (SHO) sent out a notice to all Ontario swine producers and industry members that encouraged the industry to be vigilant in the face of this outbreak and to continue to support virus elimination strategy, as this remains the best approach for disease control. Veterinarians were encouraged to continue testing for 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. Veterinarians were also encouraged to promote the use of the Swine Health Area Regional Control (SHARC) program by producers to stay aware of current positive sites in their proximity. The PED and PDCoV tracking map are 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

CWSHIN (Western Provinces)

Dr. Jette Christensen reported that the province of Manitoba had two new cases of PDCoV detected in separate systems but located geographically close in Q2 2024. The second case had emptied (beginning of August) a two-barn site, however only 1 barn was infected with PDCoV. The premises is now in the process of cleaning and disinfecting.

One of these pig flows had PDCoV in 2019, but the other flow had never detected this pathogen before. Dr. Glen Duizer reported that genetic sequencing is being completed in both cases and will be compared. This information will be shared at the CSHIN Q3 meeting.

Dr. Glen Duizer also provided an update on ongoing peacetime PED and PDCoV surveillance that is occurring in Manitoba. This initiative is completely voluntary, and surveillance is being completed weekly on willing sites. Since the cost of the testing is covered by the participating producers more large systems are participating than independent producers at this time. The peacetime surveillance in MB now includes voluntary weekly herd testing in addition to the testing at high traffic sites. Approximately 1,500-2,000 environmental samples are being submitted for testing per week as part of this peacetime surveillance.

Senecavirus A (SVA)

RAIZO (Quebec)

Dr. Roxann Hart was detected again in a nursery site with a positive PCR on tongue fluid. That nursery is one that was found positive for SVA in January 2024 which had regained its negative status in April 2024. This positive PCR result was the first positive result since January and A LOT of testing was completed between January and May. This positive PCR suggested the sow site that was infected earlier this year still contained the virus even though no clinical signs or positive PCR tests were found on these sows. The veterinarian did some serology in that sow herd (which now contains some sentinel sows) and some results indicated the disease was present. The veterinarian and the producer decided to close this herd for 8-9 months (because the recommendation in the U.S.A. protocol to close for 4 months wasn't enough for this case) and to put a quarantine on the nurseries and finishing sites linked to the sow herd where the disease is present. The plan is also to wash and disinfect the sow herd as much as possible with the hope of eradicating the virus once and for all. Since the positive PCR test was found in May, there have been no other positive PCR tests since.

The CSHIN network discussed testing for SVA specifically since PCR diagnostic tests often come back with negative results, but sometimes ELISA tests are positive. In these cases, an IFA test can be run as a confirmatory test, but this needs to be completed in the U.S.A. due to this test is not known to be available in Canada to date.

Today the following is still in place to monitor for SVA in Quebec:

- Preventive environmental SVA PCR testing to monitor for disease must continue at the abattoir loading docks, in the truck wash bay and in the cull sow assembly yard.
- Good biosecurity measures are the key to preventing new disease detections and this has been messaged to Quebec swine producers, veterinarians, and swine transporters.

CWSHIN (Western Provinces)

Dr. Glen Duizer mentioned that in Manitoba and western Canada they also are presented with challenges mainly around assembly yards with SVA. Dr. Jette Christensen mentioned that Dr. Betty Althouse is working on developing a session on this and the invitation will expand to others across Canada.

MEET YOUR CSHIN Q2 NETWORK TEAM

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