



CEZD Disease Signals of Interest from Q4

Dr. Andrea Osborn provided a review of disease signals that presented to the Community of Emerging and Zoonotic Disease (CEZD) over the past quarter.

African Swine Fever (ASF) Signals

- ASF is still a global threat and outbreaks are ongoing. During Q4 of 2021 there were over 1200 reports to the OIE (World Animal Health Organization) [source Empress i FAO website](#).
- Most of these detections occurred in Eastern Europe, however outbreaks also continue in Asia and Africa.
- The situation of [ASF in Italy](#) reiterates that ASF is a human driven disease as the virus was detected so far away from any other known infections.
- ASF outbreaks continue to occur in the Dominican Republic and in Haiti. The map below demonstrates that ASF has been detected all over the island.
- In January of 2022, the Dominican Republic announced they were capable of doing their own testing for ASF. Since this announcement no new cases have been reported. This is concerning as it is unclear what has been happening since their last report in December of 2021.

ASF in the Dominican Republic and Haiti



This map above shows the locations of reported ASF cases in the Dominican Republic and in Haiti (Source: [Empress-i](#)) <https://empres-i.apps.fao.org/>

Promising ASF Research

- The [Swine Health Information Center \(SHIC\)](#) has sponsored research in Vietnam to look at the risk of ASF transmission via semen from boar studs.
- Pathways of ASF introduction into boar studs will also be investigated as part of this study.
- A risk assessment will be published from this research, date TBD.

Porcine Epidemic Diarrhea Virus (PEDv)

CWSHIN (Western Provinces)

New PEDv outbreaks continue to be detected in Manitoba. As of February 18, 2022, a total of 70 detections of PEDv have been confirmed in a swine dense area of Manitoba. For further details on this disease outbreak, please refer to either the communicated MBDI Situation Reports or the CWSHIN PEDv reports. **Take Home Message: All swine producers need to remember the importance of good biosecurity practices in helping keep PEDv and other viruses from entering their herds.**

Torsions

CWSHIN (Western Provinces)

Dr. Tony Nikkel from CWSHIN provided a practitioner overview of a case. The affected herd saw a significant rise in sudden deaths in sows over the past few years and it was determined that torsion was the cause of the majority of these deaths. There were a few suspect causes that were discussed on the CSHIN Q4 call that included: 1) The conversion of loose sow housing and increased sow fighting initially. 2) Water intake was increased (6-8 L/min) due to water nipples being at a high flow rate. 3) New leaner sow genetics seeming to be more susceptible to torsions.

Dr. Melissa Desroches reported on another case of torsions in a sow herd. In this case all post-mortems were completed by farm staff due to the distance from the vet clinic to this farm. Findings included both torsions of the stomach and spleen. In this case sows were housed in conventional housing (gestation stalls) and were offered water through a trough system.

Dr. Tony Nikkel reported that in his case he tried to increase the fiber intake in sows and adjusted the flow rates in individual water nipples. He saw positive results where sudden deaths instantly stopped in gestation with these interventions.

Porcine Circovirus (PCV-2 and PCV-3)

OAHN (Ontario)

Dr. George Charbonneau reported that practitioner comments on the clinical impression survey indicated that some practitioners are unsure on how to know if detecting PCV-3 is significant or not. Dr. Josepha DeLay from the Animal Health Lab at the University of Guelph provided a list of criteria when found along with PCV-3 infection are to be considered significant: *Reference: Saporiti V, G Franzo, M Sibila, J Segalés. Porcine circovirus 3 (PCV-3) as a causal agent of disease in swine and a proposal of PCV-3 associated disease case definition. Transboundary and Emerging Diseases. 2021. 68: 2936-2948.* The total number of cases of PCV-3 found in Ontario is still extremely low. Dr. Charbonneau asked the CSHIN Q4 network team if there is a known case definition for this disease?

Dr. Yanyun Huang shared his thoughts to the scientific paper referenced here in that the criteria listed are sufficient criteria in order to define a case, but they shouldn't be considered necessary criteria. There is still a need to have both virus detection and compatible lesions confirmed at a laboratory. It is also important to rule out other causative pathogens. **Take Home Message: There is a need for further research to identify a case definition for PCV-3 detection and to help provide guidance to practitioners.**

RAIZO (Quebec)

Dr. Claudia Gagné-Fortin reported that detections of PCV-2 in Quebec during Q4 of 2021 almost doubled. A total of 27 detections were reported at the lab in Q4 compared to 14 detections during the previous quarter Q3. The laboratory reported an increase in detections and the veterinary clinical impression survey also reflected an increase in frequency. Six

responding practitioners indicated an increase in PCV associated disease within their practice. Some farms that were stable without having to vaccinate sows now need to vaccinate sows in order to curb infections being seen in grower sized pigs.

Dr. Christine Pelland from OAHN mentioned that practitioners in Ontario are also having to change circovirus vaccination plans. Where one dose of vaccine may have been required in the past to control infection now two doses are often being used. She would agree that Ontario has seen a similar shift although this was not reported through the Q4 clinical impression survey.

Dr. Jette Christensen from CWSHIN (Western Provinces) and Dr. Dan Hurnik from the Maritimes did not discuss PCV associated diseases on their calls or have any further information to add to this discussion from Q4.

CanSpotASF Surveillance Q4 Update

Dr. Claudia Gagné-Fortin (RAIZO), Dr. Jette Christensen (CWSHIN), Dr. Dan Hurnik (Maritimes) and Dr. Tim Pasma (OAHN) provided an update on the CanSpotASF surveillance pilot project. A bilingual report has been created to share testing numbers broken down quarterly per region for this pilot project.

Maritimes	Number of eligible cases / Nombre de cas admissibles	Number of negative cases / Nombre de cas négatifs	Number of positive cases / Nombre de cas positifs
Period / Période			
2021 Quarter 4 Oct 1 to Dec 31 T4 (1 ^{er} octobre - 31 décembre)	5	4	0
Cumulative / Cumulatif	24	15	0
RAIZO (Quebec)	Number of eligible cases / Nombre de cas admissibles	Number of negative cases / Nombre de cas négatifs	Number of positive cases / Nombre de cas positifs
Period / Période			
2021 Quarter 4 (Oct 1 to Dec 31) T4 (1 ^{er} octobre - 31 décembre)	70	24	0
Cumulative / Cumulatif	390	139	0
OAHN (Ontario)	Number of eligible cases / Nombre de cas admissibles	Number of negative cases / Nombre de cas négatifs	Number of positive cases / Nombre de cas positifs
Period / Période			
2021 Quarter 4 (Oct 1 to Dec 31) T4 (1 ^{er} octobre - 31 décembre)	63	19	0
Cumulative / Cumulatif	258	39	0
CWSHIN (Western Provinces)	Number of eligible cases / Nombre de cas admissibles	Number of negative cases / Nombre de cas négatifs	Number of positive cases / Nombre de cas positifs
Period / Période			
2021 Quarter 4 (Oct 1 to Dec 31) T4 (1 ^{er} octobre - 31 décembre)	58	50	0
Cumulative / Cumulatif	299	242	0

All CanSpotASF testing has yielded NEGATIVE results to ASF

Porcine Respiratory and Reproductive Syndrome (PRRS)

RAIZO (Quebec)

Dr. Claudia Gagné-Fortin reported that the fall of 2021 was a hard season for PRRS in Quebec with 25 new detections of this virus in sow herds in Q4. Many of these cases were detected in a very high dense swine area in Quebec. There were 2 cases of importance that RAIZO wanted to report nationally. A new strain was detected that hasn't been seen in Quebec in a very long time, linked with the Prime Pac vaccine strain. A full investigation is still ongoing to try to determine any epidemiological links or if the vaccine has been used lately in this farm. There were also 3 different sites, with no known epidemiological links, that detected a strain that was not closely related to any other PRRS strains within the Quebec laboratory system. It has been determined that these strains were closely related to a strain that was isolated a very long time ago in Ontario. At this time, it is unknown if pigs from Ontario were moved to this site, but the investigation is still ongoing. **Take Home Message: It is unfortunate that there is no routine way to compare PRRS strains between one province and another.**

OAHN (Ontario)

Dr. Christine Pelland mentioned that PRRS was not discussed on the OAHN Q4 call, but that there are still a lot of cases of PRRS in Ontario that occurred during this quarter. Ontario saw an increased prevalence in PRRS from her experiences. There are lots of ongoing discussions with producers on if managing PRRS within their herd is the best option versus eradication of PRRS due to some herds have had multiple infections on a yearly basis.

This information is a professional communication for swine producers. The information was obtained from a survey of the clinical impressions of participating practising veterinarians with input from other swine health professionals. This information is not validated and may not reflect the entire clinical situation. Your judgment is required in the interpretation and use of it. It is the intent of CSHIN to improve the health of the national swine herd. CSHIN is funded by the Canadian Association of Swine Veterinarians (CASV), The Canadian Pork Council (CPC) and The Canadian Animal Health Surveillance System (CAHSS)..

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