



Canadian Swine Health
Intelligence Network

Réseau canadien de
surveillance de la santé porcine

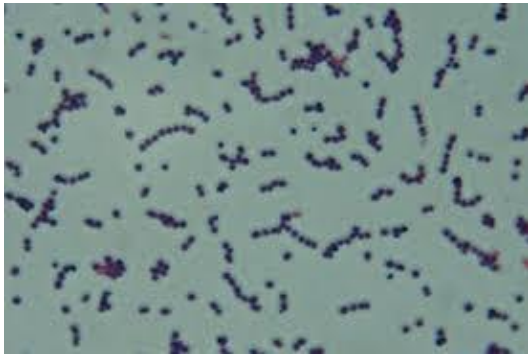
CSHIN QUARTERLY PRODUCER REPORT

REPORT Q4 OCT-DEC 2019

Veterinary Survey Participation: 54 veterinarians (16 Québec, 14 Ontario and 24 Western Canada). Provincial networks also contribute laboratory data.

HIGHLIGHTS FOR SWINE PRODUCERS

Strep equi zooepidemicus – A Potential Emerging Disease Threat in North America



Case Update for Q4 2019

In Q4 of 2019 there was another breeding herd that was confirmed positive for this pathogen. This new case is connected to the previous cases, but how the pathogen was spread to this farm is unknown. Pigs produced from this farm will enter into the same system that was previously found to be *Strep zoo* positive, therefore no new sites will be infected with pig flow.

Photo: *Streptococcus equi zooepidemicus*

Source: www.vetbact.org

Take Home Messages

- If swine herds are experiencing sudden deaths, investigate to see if *Strep zoo* is the cause and rule out foreign animal diseases
- Hold pigs whenever possible until a diagnosis can be made. Do not ship pigs to other barns, assembly yards or processing plants
- *Strep zoo* has zoonotic potential like other more commonly isolated *Strep* e.g. *Strep suis*. **It is important to note that no transfer to humans has occurred to date**
- Communications with colleagues through the Swine Health Information Centre (SHIC) in the U.S. is ongoing to increase pathogen knowledge and comparisons with other strains
- Laboratory technologies allowing for whole genome sequencing has provided insight that this is a new isolate/clone of this pathogen never before detected in North America
- It is difficult to detect this pathogen on environmental samples therefore more precedence needs to be put into test validation of different sample materials. For now, it is recommended that early detection be based off of detecting it in swine showing clinical signs
- Dr. Glen Duizer reported on a U.S. led research trial that was recently conducted in Iowa where sows were infected with either the swine (194) or equine strain of *Strep zoo*. This study revealed that the sows infected with the equine strain did not develop clinical signs of disease. The sows infected with the swine strain (194) all developed clinical signs of disease within 24 hours of infection. Within 48 hours 2 sows died and within 60 hours all sows had to be euthanized due to severe illness

Strep equi zooepidemicus: A Potential Emerging Threat in North America Continued...

Strep equi zooepidemicus (Strep zoo) has been identified as a potential emerging disease threat in North America. This bacteria is naturally present in the pig gut but one strain (clone) has recently been linked to cases of sudden death in pigs in Manitoba and the U.S. Midwest.

There appears to be differences in severity between isolates of *Strep zoo* and preliminary sequencing results suggest that there is one isolate in North America that is linked to an increased number of sudden deaths. Whole genome sequencing has revealed that the recent isolate is identical to one found in China in 1976.

The first case was reported in March of 2019 on a farm in Manitoba. Since then *Strep zoo* has been confirmed at a provincial packing plant that had two incidents (3-5 days) of increased antemortem death/condemnations (5-10%) in sows, the first occurring in July and the second in October.

On farm, the affected age groups have primarily been late finisher/gilts and sows. In sows, the clinical signs included:

- Increased sow mortality (with lung pathology)
- Increased abortion rates
- Decreased 35-day pregnancy rate
- Decreased farrowing rates
- Enhancements to other diseases

Downstream effects include:

- Effects on piglets in farrowing rooms
- Nursery mortality increased by approx. 2-4% due to sudden death, lameness and respiratory disease
- Some batches from some of the positive finishers had a high processing plant condemn rate due to severe lung pathology at slaughter.

Control and prevention measures applied on farm to date

- Autogenous *Strep equi zooepidemicus* vaccination of the herd including all incoming gilts
- Intermittent mass treatments with water soluble antibiotics in gestation have been helpful to stabilize the animals when the disease starts to flare up
- All culls from the positive farms will continue to be marketed directly to slaughter – avoiding all assembly yards

Porcine Epidemic Diarrhea Virus (PEDV) & Porcine Deltacoronavirus (PDCoV)

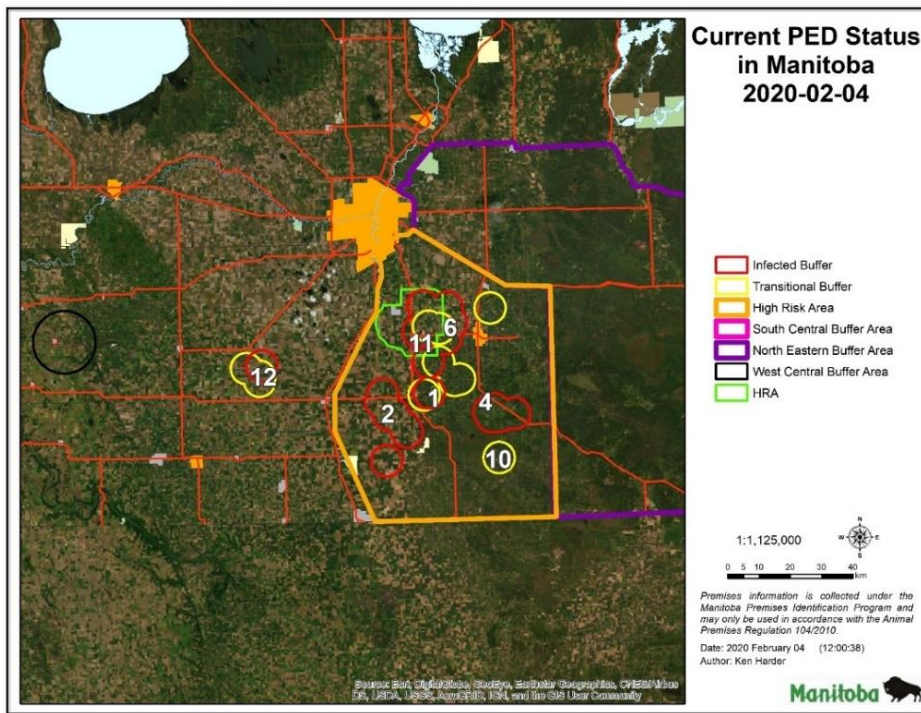
CWSHIN (Western Provinces)

Dr. Glen Duizer reported on a study that was completed in Manitoba studying PED virus survivability in manure lagoons. Three PED positive farms including a sow, nursery and finishing operation, participated in this study that started in 2017

and ran until 2019. All lagoons were agitated and emptied on these farms after PED negative status was confirmed. Minimum weak positive PCR tests were obtained for PED, however none of the negative piglets reintroduced to these barns became positive for PED. Manitoba used nutrient management protocols to sample lagoons for this study with the goal of obtaining a representative sample leading to improved accuracy of results. This study concluded that you need to wait a minimum of a year after PED negative status has been confirmed, with seasonal application of manure and associated agitation, for lagoons to not be considered a possible source of virus.

Dr. Jette Christensen reported that all 4 farms in Alberta have confirmed negative PED status. CSHIN would like to congratulate Alberta on their successes with eliminating PED!

A weak positive PED test result was obtained from a processing dock in western Canada. This surveillance sample through traceback led back to a finishing farm in Ontario. These pigs, unknowingly, had recently been infected with PED virus. The clinical signs of PED were extremely hard to detect. **It is important to note that PED in finishing pigs can be difficult to detect due to mild clinical signs.** This traceback also led to important information that CSHIN would like to communicate. **All points of assembly need to be considered PED positive until proven otherwise and should be considered high-risk sites.** Enhanced biosecurity measures need to be taken with transport exposure to any high risk site to prevent possible spread of disease. It was noted in this discussion that there would be value in working on how pigs flow through assembly sites with the goal to decrease the risk of disease transmission.



No new cases of PED have been detected in Manitoba since November of 2019. At the time of the MB government Situation Report 41 (with 5 Feb 2020 updates) there is 82 premises that have been confirmed positive for PED in Manitoba:

- 28 premises are still considered infected
- 8 have achieved transitional status
- 46 have achieved presumptive negative status

Adjacent Pic Source: MB Situation Report #41

RAIZO (Quebec)

RAIZO reported their first case of PDCoV in a farrowing operation in Quebec. This herd was batch-farrowing every four weeks. The first clinical sign was diarrhea in the sows at a time where there were no piglets at the farm (between two batches). There was a delay in the producer notifying the veterinarian in this case. The diarrhea appeared in the piglets born in the next batch and there was a 60% mortality rate on those animals associated with this outbreak. The piglets

that were able to recover did extremely well. Overall, the herd returned to normal rapidly. All piglets were sold outside of Quebec, so no further sites were contaminated with PDCoV. The next batch of pigs has been born and no clinical signs of disease has been seen. **Take home message is for producers to report diarrhea in sows or piglets to their herd veterinarian right away. Diagnostic testing must be completed to rule out PDCoV and PED.**

RAIZO also provided an update that they maintained their PED negative status during Q4 2019.

OAHN (Ontario)

OAHN reported one new PED positive site and no new PDCoV sites in Q4. It is important to note that Ontario Pork reported 7 new PED positive sites thus far in Q1. **The same number of PED positive sites were seen corresponding to this time period in Q1 of 2019. Several of these sites are connected through transport contact with an assembly site and with the use of a common truck wash station.** Tracebacks have been completed for each of these new sites.

Dr. Christa Arsenault recapped that as of March 31, 2020 the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) will no longer be involved in new Ontario PED site traceback investigations. Since the initial detection of PED in Ontario we now know a lot about this pathogen including: virus characteristics, vectors of disease transmission, how to prevent infection and how to eliminate this virus from swine herds. Swine veterinarians have been leading PED traceback investigations in Ontario and are providing the above information to their clients. The Ontario swine industry is well positioned to lead this file moving forward. OMAFRA is working with both Ontario Pork and Swine Health Ontario to complete a transition strategy. Once this strategy is completed communications will be sent out to Ontario swine veterinarians and producers.

Sapelovirus *First detection in Ontario*

OAHN (Ontario)

Dr. George Charbonneau reported that Ontario confirmed its first detection of Sapelovirus with 2 cases being reported in Q4 of 2019. Two veterinarians were involved in these 2 cases and this pathogen was listed as an emerging threat on the OAHN Q4 veterinary clinical impression survey. Both cases occurred in nursery pigs and were associated with a low morbidity and mortality rate of 10%. Both nurseries were also reported to be PRRS positive. The clinical signs seen could easily be confused with meningitis and *Strep suis*. In both cases pigs clinically appeared to be upright and walking on their elbows, which is a classic presentation of this virus. One of these cases was also positive for Teschovirus and triggered a CFIA investigation that yielded no foreign animal diseases being detected.

The Swine Health Information Center (SHIC) reported that there were 60 confirmed cases of Sapelovirus reported in the USA since the year 2016.

RAIZO (Quebec)

Dr. Claudia Gagné-Fortin reported that Quebec has confirmed cases of Sapelovirus before. At the last AVIA meeting a swine practitioner reported several related cases of this virus where pigs were seen to be walking on their elbows.

CWSHIN (Western Provinces)

Dr. Susan Detmer reported that she has detected a case of this virus in the western provinces as well. This specific case was Teschovirus negative, but Sapelovirus positive.

Coronavirus in Humans

The CSHIN network discussed Coronavirus in humans and would like to communicate the following:

- There is a lot of news on this topic that is circulating that is inaccurate information. Swine producers and veterinarians have an important role in directing people towards reputable information sources
- Referral should be made to the World Health Organization (WHO) and the Public Health Agency of Canada (PHAC) as a reputable sources of information: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>, <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection.html>
- **To date, there is no evidence that pigs are susceptible to this coronavirus**

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 jointly by the Canadian Association of Swine Veterinarians (CASV) and Canadian Pork Council (CPC).

MEET YOUR CSHIN Q4 NETWORK TEAM

Quebec RAIZO Representation

Dr. Claudia Gagné-Fortin
Dr. Martine Denicourt
Dr. Isabelle St-Pierre

Western Provinces CWSHIN Representation

Dr. Jette Christensen
Dr. Susan Detmer
Dr. Glen Duizer
Dr. Melissa Desrochers
Dr. Kane Christiuk
Dr. Kurt Preugschas

Ontario OAHN Representation

Dr. George Charbonneau
Dr. Christine Pelland
Dr. Jim Fairles

Maritimes Representation

Dr. Dan Hurnik
Dr. Ryan Tenbergen

Canadian Pork Council (CPC)

Gabriela Guigou
Dr. Egan Brockhoff

CSHIN Manager

Dr. Christa Arsenault

Christa.Arsenault@outlook.com

Canadian Association of Swine Veterinarians (CASV)

Dr. Christian Klopfenstein

Canadian Food Inspection Agency (CFIA)

Dr. Sonja Laurendeau