Canadian Swine Health Intelligence Network

Réseau canadien de surveillance de la santé porcine

CSHIN QUARTERLY PRODUCER REPORT

REPORT Q3 JULY-SEPT 2019

Veterinary Survey Participation: 39 veterinarians (16 Québec, 11 Ontario and 12 Western Canada). Provincial networks also contribute laboratory data.

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

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

There appears to be differences in how strains of *Strep zoo* affect pigs (virulence) and laboratory work suggests that it's the same strain that is linked to the increased number of sudden deaths in North America.

Whole genome sequencing of the recent North American isolate has shown to be identical to one found in China in 1976.

Strep zoo was not reported by the CWSHIN (Western Provinces) labs before 2019 and since then the number of positive samples/cases has doubled each quarter.

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. The trace back from the second incident is ongoing and so far, no links to known Strep zoo infected premises has been found.

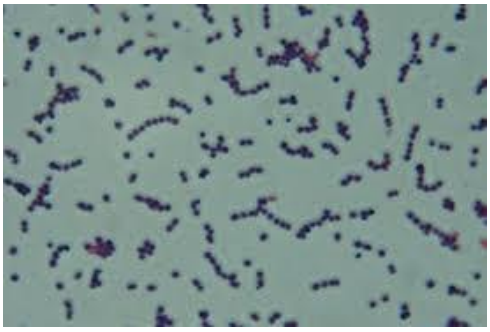

Photo: *Streptococcus equi zooepidemicus*
Source: www.vetbact.org

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

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

Assembly yards and abattoirs

- At assembly yards and abattoirs, Strep zoo has been linked to sudden deaths, increased condemnations in cull sows (5-10%)
- Long transit, mixing and long wait-times in holding pens are major contributors to the deaths and condemnations

Control prevention measures

- To control Strep zoo producers need to work closely with their veterinarian who will take into consideration the management of the herd and treatment options such as vaccination and antibiotics

Take Home Messages

- If swine herds are experiencing any of the above clinical signs especially 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 the potential to spread from pigs to humans similar to 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. led to both pathogen knowledge and comparisons of strains
- Laboratory technologies allowing for whole genome sequencing has provided insight that this is a new isolate/clone of this pathogen never before being detected in North America

Information form SHIC: https://www.swinehealth.org/strep-diagnosis-in-swine-assembly-yards-spurs-response/https://www.swinehealth.org/november-2019-shic-enewsletter/#two

Influenza A

OAHN (Ontario)

Influenza A has continued to be a common disease reported by vet practitioners in Ontario. OAHN reported that 54% of responding veterinarians reported an increase in Influenza A cases in Q3 over Q2. The dashboard completed by Dr. Tim Pasma quarterly also supported this trend in that 4 separate signals were generated from samples that were being submitted to the lab with similar syndromes to what Influenza A generates. The most common subtype of Influenza A reported in Ontario during this quarter was H3N2, confirmed by both the Animal Health Laboratory and by Gallant Custom Laboratory data. A definitive peak was seen in H3N2 cases at the end of August and into September 2019. Dr. Christine Pelland reported that a veterinary clinic in Ontario has developed a regional flu autogenous vaccine that includes 5 commonly isolated subtypes of Influenza A virus. Development and approvals granted by the CFIA for the use of this vaccine have broken new ground in Ontario. For now, this vaccine can only be used in swine herds within the province and at this time we are unsure of the vaccine effectiveness and what impact it will have in circulating Influenza

A virus. **The CFIA needs to be complimented for their progressive thinking on this initiative in response to how autogenous vaccines are being used in a preventative way.**

RAIZO (Quebec)

In Quebec 25% of practitioners that responded to the vet clinical impression survey reported seeing an increase in Influenza A activity. There was a decrease in Influenza A from Q2 to Q3, but this was reflective of the fact that Q2 was an exceptional quarter with the highest case submissions for Influenza A to the lab ever seen. Influenza A is one of the biggest issues seen with swine health in Quebec especially since Porcine Reproductive and Respiratory Syndrome (PRRS) virus infections seem to be more controlled in herds now. The use of vaccination against Influenza A including the use of new technologies like Sequivity are becoming more popular in Quebec.

CWSHIN (Western Provinces)

Influenza A was discussed only briefly on the CWSHIN Q3 call. From September 23, 2019, until the first week of October, laboratories did see a spike in Influenza A case submissions.

Dr. Susan Detmer reported on the CWSHIN call that subtype H1N2 made up the majority of isolates, followed by H3N2 and pandemic H1N1 subtypes. Problems with pandemic H1N1 subtypes continued throughout the summer months**. It was noted that traditional spring and fall peaks of Influenza A in the western provinces was masked by the large number of human-to-swine pdmH1N1 cases last winter and that it can be a year-round problem**.

It is important to note that a less pandemic H1N1 subtype is found in Quebec and that Influenza A subtype H3N1 has been detected twice in Quebec, but has not been isolated in Ontario to date.

Maritimes

The Maritimes reported that they are not seeing any clinical cases of Influenza A. In general, pig densities are low and breeding stock is negative for Influenza A in the Maritimes. Dr. Ryan Tenbergen reported that it is common to pull blood samples from breeding stock in swine herds and receive back negative ELISA results for Influenza.

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

CWSHIN (Western Provinces)

CWSHIN reported as of November 18, 2019, 81 new cases of PEDV have been detected in Manitoba and 4 in Alberta. Overall, the number of cases seems to be tapering off now. The most recent cases of PED were detected in finishing barns in mid-November**. The good news story is that 3 out of the 4 cases of PED in Alberta have since regained presumptive negative status. In Manitoba, herds are gradually regaining transitional health status or presumptive negative status.**

RAIZO (Quebec)

RAIZO reported a status update that Quebec has regained negative PED status. CSHIN would like to offer congratulations to Quebec on their success with control and elimination of PEDV!

RAIZO also provided an update that they are hopeful that Quebec will regain negative PDCoV health status in January 2020.

OAHN (Ontario)

OAHN reported no new PED or PDCoV positive sites in Q3.

Senecavirus A (SVA) Update

OAHN (Ontario)

Dr. Ryan Tenbergen provided an update on progress made with the on-farm cases in Ontario where SVA was detected in June of 2019. Both herds are approaching introduction of naïve gilts. Both herds remained closed for a minimum of 19 weeks in duration. Testing has continued on a weekly basis for all groups of pigs. Five total downstream finishing barns tested positive on PCR run from saliva samples initially, but now all finishers are testing negative and all are vet inspected prior to pigs being shipped to any processing plant.

It is important to note that during the outbreak less than 10 % of sows in each herd showed vesicular (blister) lesions. Both affected herds saw more severe piglet mortality and diarrhea then what has been commonly reported in the U.S. through information made available by the Swine Health Information Centre (SHIC). No vesicular lesions have ever been seen in any of the downstream nursery of finishing barns.

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).

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