



Canadian Swine Health
Intelligence Network

Réseau canadien de
surveillance de la santé porcine

CSHIN QUARTERLY PRODUCER REPORT

REPORT Q3 JULY-SEPT 2020

Veterinary Survey Participation: 50 veterinarians (14 Québec, 12 Ontario and 24 Western Canada). Provincial networks also contribute laboratory data.

HIGHLIGHTS FOR SWINE PRODUCERS

CanSpotASF Surveillance Q3 Update: What producers need to know...

Canada has passive surveillance in place for the detection of foreign animal diseases e.g. African Swine Fever (ASF) virus. CanSpotASF will enhance surveillance with several tools in a phased approach. **The goal of CanSpotASF is to protect the Canadian commercial swine sector from the adverse effects of ASF on production and trade. The primary objective of the surveillance is to enhance our ability to detect ASF rapidly should it enter Canada.** A secondary objective is to support the claim that the pig population is not infected with ASF.

The first tool launched is the risk-based early detection testing of ASF. The Canadian Animal Health Surveillance Network (CAHSN) laboratories (located all across Canada) are now able to conduct routine diagnostic rule-out tests where ASF is **NOT** suspected.

It is known that certain diseases/conditions may mask the clinical signs of ASF and delay detection. Herds with a history of these diseases/conditions are eligible for testing. **There is no change to cases where ASF is suspected and these must be immediately reported to CFIA.** Any case submitted to CAHSN laboratories may be tested for ASF if there are:

- Sufficient information to trace the animal (Premises ID or animal location)
- Appropriate tissues are submitted and include some or all of the following: whole blood, body fluids and sections of tonsil, spleen, kidney, lymph node and terminal ileum.

It was reported by CWSHIN that the western provinces had conducted testing on 20 samples (Aug-Nov). In Q3 (Aug- Sept) 2020, RAIZO reported that Quebec had tested 8 samples, OAHN reported that Ontario tested 4 samples and the Maritimes had conducted ASF testing on 3 samples. **All testing conducted to date has yielded negative ASF results.**

It is important to communicate the importance of Canada's ability to increase enhanced passive surveillance for ASF. Veterinarians have been reminded to ensure that their clients are aware if samples are to be included in CanSpotASF.

Influenza A H1N2: Recent human detection

CWSHIN (Western Provinces)

Dr. Susan Detmer provided an overview on Influenza A. Specifically, she focussed on the recent media article written about a person from Alberta that tested negative for COVID-19 but tested positive for Influenza A H1N2. This individual lived in a household with someone who worked in a swine barn, but no direct pig exposure was identified. When a virus jumps from one species host to another, continued transmission to the new species is rare. **This is a good example of the importance of all people with respiratory symptoms that work with swine be tested for Influenza if the COVID-19 (SARS-CoV-2) test is negative.**

Swine Acute Diarrhea Virus Syndrome Coronavirus (SADS-CoV)

Dr. Andrea Osborn on behalf of Community for Emerging and Zoonotic Diseases (CEZD) provided an overview of a novel virus called Swine Acute Diarrhea Virus Syndrome (SADS-CoV) in China. Interest in this virus has recently been increased due to publication of research studies which demonstrated the capability of SADS-CoV to replicate in human cells in the laboratory. (Edwards et al, 2020)

Given the context of the current pandemic, researchers and the public are particularly concerned about the zoonotic potential (ability of viruses to spread from animals to humans or vice versa) of coronaviruses. The finding that this coronavirus can replicate in human cells in the laboratory is not surprising, and **there is currently no evidence to suggest that it can be transmitted from pigs to humans under natural conditions**. Laboratory studies on Porcine Epidemic Diarrhea (PED) virus show it can also replicate in human cells in the laboratory (Liu et al., 2015), and despite worldwide exposure of humans to this agent, no evidence of pig to human transmission has been demonstrated.

The CEZD has produced a [risk profile](#) on this agent to share what we know about the virus in China, and help explain the risks and unknowns. Prevention of the introduction of SADS-COV from China to Canada is of utmost importance; enhanced preventive measures, as implemented for ASF will help prevent this agent from being introduced to Canada.

If producers have a case in swine that seems typical for PED, but testing is negative, your herd veterinarian can submit samples to be held for future testing. The National Centre of Foreign Animal Disease (NCFAD) lab in Winnipeg is working on a multi-assay for detection of this virus if needed.

Take Home Messages: Research studies of coronaviruses are ongoing and provide important insight into the virology of these agents. **No increased risk is seen from SADS-COV as a result of these studies. Due to the current pandemic, coronavirus research is extremely popular and picked up by media quickly.**



Source: My Animal, My Health

Brachyspira hamptonii *First detection of this pathogen in Ontario)

OAHN (Ontario)

Dr. George Charbonneau reported that in Q3 Ontario detected *Brachyspira hamptonii*. This is the first confirmed report of *Brachyspira hamptonii* in Ontario. This pathogen was detected in a sow unit. Clinical signs began in August of 2020 with a mild diarrhea that included mucous and blood being seen in the sows. Dr. Christine Pelland reported that to date the clinical impacts have been relatively mild in this herd. A positive response has been seen to antimicrobial treatments. There are currently no plans to eradicate this disease from this herd.

RAIZO (Quebec)

Dr. Claudia Gagné-Fortin reported that Quebec has one premise of finishing pigs still positive with this pathogen. This herd has attempted to eradicate, but they haven't been successful to date.

CWSHIN (Western Provinces)

Dr. Egan Brockhoff mentioned that he has worked with *Brachyspira hampsonii* for 12 years now. To date he has had more success in eradicating *Brachyspira hyodysenteriae* vs. *Brachyspira hampsonii*. He is unsure why this is. Farm-level eradication efforts have included flushing and draining manure pits, rodent control and cleaning and disinfecting all rooms within a barn several times. Affected pigs were placed on preventative medication for two weeks before being moved into the cleaned and disinfected rooms.

Dr. Brad Lage shared that he is soon to embark on attempting to eradicate this pathogen from a large multiplier herd. He agreed to share his experiences with the CSHIN group on future calls.

Rotavirus

CWSHIN (Western Provinces)

Dr. Jette Christensen provided an overview that Rotavirus diarrhea seems to be one of the biggest challenges. There is currently limited treatment solutions and no effective vaccine for all types of Rotavirus.

Dr. Kurt Preugschas added that Rotavirus types B and C seem to be increasing at the barn level. Veterinarians feel that they have had ongoing battles with this virus for years with very few solutions available to them. Rotavirus A has a commercially licensed vaccine that works on some farms but not on all due to genetic mutations and changes in the pathogen. The Canadian Association of Swine Veterinarians (CASV) is looking at formally presenting a case to CFIA to allow for the use of technologies such as *Sequivity* that will allow for vaccines to be made to match genetically the Rotavirus isolated from a herd. This will be recommended for cases where the licensed vaccine doesn't work. The request was made for OAHN and RAIZO, along with CWSHIN, to provide data on the occurrence of Rotavirus types to the CASV in order to help strengthen this request by including data from across Canada. All 3 organizations agreed to help out where possible.

RAIZO (Quebec)

Dr. Claudia Gagné-Fortin reported that in Q3 31% of responding veterinary practitioners in Quebec noticed an increase in Rotavirus cases. Over 160 necropsies performed this quarter, 34 submissions had a diagnosis of rotavirus diarrhea. Type C is predominant with implication in 91% of these cases.

OAHN (Ontario)

Dr. George Charbonneau reported that in Q1 2020 the Animal Health Lab reported 41 detections of Rotavirus. In Q3 2020 the AHL reported only 15 detections of Rotavirus. This demonstrates that there are quarters where this pathogen is quite active and there are quarters where this pathogen is less active. It is highly suspected that seasonal effect plays a role in prevalence of this pathogen.

Porcine Reproductive and Respiratory Syndrome (PRRS)

OAHN (Ontario)

Dr. George Charbonneau reported that **45% of veterinarians that responded to the clinical impression survey noted an increase in PRRS virus problems in Q3 in Ontario.** Towards the end of Q2 there was a large increase in the number of sow herds that became infected with PRRS and this trend continued into Q3. The Animal Health Lab (AHL) confirmed this by reporting that in Q3 of 2020, they conducted the same number of PRRS tests than what had been completed in all of 2019. It is an unusual trend to see an increased frequency of PRRS during the summer months. Dead stock, transportation and neighbourhood spread (lateral introductions) are all suspected of being behind the spread of disease. Predicted RFLP types allow veterinarians to talk about similar families of viruses. Ontario practitioners recognize that this is not a perfect method to compare the genetics of PRRS virus.

Dr. Christine Pelland confirmed that 2020 has been a very tough summer for PRRS virus in Ontario. **RFLP type 1-8-4 has been particularly challenging due to higher mortality rates and associated clinical effects.** Dr. Pelland noted that **there has been an increase in affected farms choosing to depopulate and then further repopulate their herds rather than to eliminate the virus.** This decision is influenced by both the clinical severity of the disease and current market conditions with reduced profitability.

RAIZO (Quebec)

The province of Quebec also reported that the beginning of this “PRRS year” starting in July has been a bit more difficult than usual for new PRRS infections in sow herds. New PRRS cases have historically been more associated with fall, winter and spring seasons, but this year that was not the case. **New PRRS cases are now being detected all year long.**

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 Q3 NETWORK TEAM

Quebec RAIZO Representation

Dr. Claudia Gagné-Fortin
Dr. Simon Vaillancourt
Dr. Edisleidy Rodriguez

Western Provinces CWSHIN Representation

Dr. Jette Christensen
Dr. Susan Detmer
Dr. Kurt Preugschas
Dr. Brad Lage
Dr. Ana Ulmer-Franco

Ontario OAHN Representation

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

Maritimes Representation

Dr. Dan Hurnik

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
Dr. Andrea Osborn

Canadian Animal Health Surveillance System (CAHSS)

Dr. Theresa Burns