



REPORT Q2 APR-JUNE 2020

Veterinary Survey Participation: 46 veterinarians (12 Québec, 12 Ontario and 22 Western Canada). Provincial networks also contribute laboratory data.

HIGHLIGHTS FOR SWINE PRODUCERS

CanSpot ASF: Surveillance Tool Launched as a pilot project...

Dr. Christa Arsenault provided an overview of the newly launched surveillance pilot project in CanSpot ASF:

- Canada has passive surveillance in place for the detection of foreign animal disease e.g. African Swine Fever (ASF) virus. The CanSpot ASF will enhance this surveillance with several tools in a phased approach.
- The goal of CanSpot ASF is to protect the Canadian commercial swine sector from the adverse effects of ASF on production and trade. The primary objective of surveillance in the domestic swine population is to enhance our ability to detect ASF rapidly should it enter Canada. A secondary objective is to support the claim that the domestic pig population is not infected with ASF.
- The first tool being launched as a pilot project is the “Risk-based early detection testing” with the goal to improve early pathogen detection. **This pilot is similar to surveillance recently launched in the U.S.A.**
- The pilot project is aimed to enhance the diagnostic testing for ASF in Canada. The Canadian Animal Health Surveillance Network (CAHSN) laboratories will run routine diagnostic rule-out tests where ASF is **NOT** suspected.
- Certain diseases/conditions may mask the clinical signs of ASF and delay detection. Herds with a history of these diseases/conditions, or cases with a compatible case presentation are eligible for testing.
- **There is no change to cases where ASF is suspected and these must be immediately reported to CFIA.**
- The CanSpot ASF will add other surveillance tools such as risk-based surveillance testing from abattoirs, increase veterinary presence and sampling on small scale swine farms and how to obtain and samples from wild pigs.
- **Any case submitted for pathology to approved 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.
 - Both herd practitioners and lab pathologists can initiate this new ASF rule-out testing.

What happens if the rule-out testing (real-time PCR) is **NEGATIVE**?

- If the sample/animal is ASF-negative, the laboratory will report this result as per usual protocols.
- No movement restrictions will be placed on the farm.

What happens if the rule-out testing (real-time PCR) is **POSITIVE OR SUSPECT**?

- The sample/animal yielded a positive or suspicious test result but without further confirmatory testing and investigation the true status of the case is UNKNOWN. This result could be a false positive result or a true case of ASF. **The ASF PCR test is an excellent test so these results will be taken seriously.**
- The approved laboratory will immediately inform the herd veterinarian and the local CFIA district office where the herd is located. If the approved laboratory is conducting the test for another laboratory, they will immediately notify that laboratory and the original laboratory will be responsible for notifications.

- The CFIA district office will;
 - Check the health of the animals on the premises together with the herd veterinarian. May collect additional samples from pigs on the premises and coordinate the shipment of samples to the National Center of Foreign Animal Disease (NCFAD) in Winnipeg.
 - Complete a risk assessment. If the risk assessment finds no evidence of ASF, the CFIA will place a quarantine to stop movement of swine off the premises until the NCFAD confirmatory testing is completed (estimated 48 to 96 hours). If the risk assessment finds a suspicion of ASF, the CFIA will place a quarantine to stop movement of swine, and also may make the decision to stop other traffic on and off the premises until the NCFAD confirmatory testing is completed (estimated 48 to 96 hours).

Pseudorabies (PRV/ Aujeszky Disease)

A case of Pseudorabies was detected in Oregon from a wild pig sample submitted on June 8, 2020. This was the first time Pseudorabies has been detected in wild swine in Oregon since the surveillance program began for Pseudorabies in 2007.

The Community for Emerging and Zoonotic Disease (CEZD) provided an update on Pseudorabies for the CSHIN network. PRV is a contagious, infectious and communicable viral disease of livestock causing neurologic, respiratory and reproductive clinical signs. This virus causes high morbidity and mortality, particularly in suckling pigs. Variant strains can cause mortality rates up to 50%, and unlike classical strains, they also affect grower-finisher swine. The usual signs in grow finisher are similar to Influenza A. About 20% of feral swine in the United States are considered to be seropositive (source SHIC fact sheet: <http://www.cfsph.iastate.edu/pdf/shic-factsheet-pseudorabies-virus>).

Pseudorabies is a reportable disease under the *Health of Animals Act*. This means that any suspected cases in Canada must be reported to the CFIA. Canada is currently considered free of Pseudorabies.

<https://www.inspection.gc.ca/animal-health/terrestrial-animals/diseases/reportable/pseudorabies/fact-sheet/eng/1329863644261/1329863975170>

The United States has claimed freedom from PRV in farmed swine in all states since 2004, despite positive tests in wild swine. Oregon domestic swine are still considered free from PRV. Oregon has a successful wild swine control/eradication program in place, Canada has rapidly expanding wild swine populations, and recently videos of wild swine interacting with cattle directly on the Canadian Prairies have been shared.

Swine are the primary host for Pseudorabies, other species can become infected but only when in direct contact with infected swine. Species affected by pseudorabies include:

- Domestic species- Cattle, sheep, dogs, cats and goats, but not horses.
- Wild species- Rats, mice, raccoons, opossums, rabbits, wolves and several fur-bearing mammals.
- Humans- (Limited case reports from China, only through direct contact with infected swine, not through pork consumption).

Clinical presentation in various species include:

- Humans- **Rare cases of classical cases of PRV in humans have only been reported in China**, clinical signs include fever, sweating, neurological symptoms, and seizures.
- Dogs and Cats- Neurological signs, may show pruritis and mortality rate 100%.

- Cattle- Mad itch, neurological signs including howling, ataxia, circular movement, gait instability, salivation, head banging and acute death within 24 hours.
- Raccoons- Clinical signs of PRV in raccoons closely resemble those of canine distemper and rabies infections. Transmission between raccoons does not occur, so the virus is not maintained in these populations.

Porcine Epidemic Diarrhea Virus (PED)

RAIZO (Quebec)

In the second quarter Quebec experienced several new outbreaks of PED that were isolated from previous outbreaks reported in Q1. The first farm affected was a finishing operation testing positive on April 29, 2020. Subsequently, 3 other sites including a nursery and 2 finishing sites were contaminated and tested positive for PED. Two additional sites were declared positive for PED simply due to pig movement from the nursery and to the finishers. **A total of 6 new PED cases were confirmed in Quebec in Q2.** From the 9 positive sites detected in Q1 and Q2, two of these sites have regained negative PED status and all remaining sites are able to work towards the ultimate goal of eradication.

OAHN (Ontario)

In the second quarter **Ontario reported 7 new PED positive sites.** The majority of these new sites occurred in the eastern part of the province. One case was confirmed in April in a finishing operation and the other 6 sites were detected in May in both nurseries and finishers.

CWSHIN (Western Provinces)

Dr. Brad Lage provided the PED update for Manitoba. In early June, Manitoba saw two new sites infected with PED virus in nursery operations. The decision was made to move these infected pigs to a new isolated finisher site with the goal to prevent further spread of disease. So far this strategy seems to have been successful as no other new sites have broken with this virus. Pigs are testing negative now for PED virus, but testing is ongoing.

Porcine Reproductive and Respiratory Syndrome Virus (PRRS)

OAHN (Ontario)

Dr. George Charbonneau reported that **40% of responding veterinarians reported seeing an increase in PRRS virus detections in Q2 in Ontario.** Towards the end of Q2 there was also a large increase in the number of sow herds that became infected with PRRS virus. It is an unusual trend to see an increased frequency of PRRS at this time of the year. Deadstock, transportation and neighbourhood spread (lateral introductions) are all suspect to be behind the spread of disease. Looking at the RFLP types of the PRRS virus sequenced documented that **the two most prevalent types were 1-8-4 and 1-30-1 and practitioners reported that both of these types were causing severe pre-weaning mortality rates on affected farms.** Due to the low monetary value for pigs right now, a lot of affected farms are choosing to depopulate and then further repopulate their herds to eliminate the virus.

RAIZO (Quebec)

The province of Quebec collaborates with laboratories that are conducting PRRS virus surveillance when introduced to new farrowing units (LEMP at the Faculty of Veterinary Medicine). **In Q2 Quebec reported 15 new PRRS introductions to farms. One third of reporting veterinarians indicated seeing an increase in PRRS infections during this quarter.**

One case was detected through routine surveillance sampling in a farrowing unit, but was associated with no clinical signs at the time of laboratory detection. This site did develop mild clinical signs a few weeks post detection. Unfortunately, this site infected several other sites before confirmation of disease was known. It is suspect that less attention may have been paid to routine cleaning and disinfection procedures (because fewer staff were available during COVID-19 confinement) that contributed to the spread of disease. **This case emphasizes the importance of testing through surveillance for early detection of PRRS virus.**

Actinobacillus Pleuropneumonia (APP)

CWSHIN (Western Provinces)

Dr. Brad Lage reported the detection of APP in a batch of 3000 pigs during Q2. The source farm is known to be APP serotype 12 positive, but this farm hasn't seen flare-ups of APP in several years. **This case was detected when pigs were shipped to slaughter with 172 hogs (11%) being condemned at slaughter. The pigs appeared normal on initial exam at the processing plant, but were condemned based on internal lesions found post mortem.** The herd veterinarian couldn't spot clinical disease in these animals in the barn and these pigs were performing well. After these condemnations, samples were sent to the laboratory and for typing. Samples came back positive for APP type 13 which had never been detected in this system before. On the next batch, 36 hogs were condemned at slaughter and APP type 13 was serotyped again from these pigs. This issue seemed to subside on its own and it didn't get to the point of needing an autogenous vaccine.

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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