

CanSpotASF

ENHANCED SURVEILLANCE ACTIVITIES THAT AIM TO PROTECT
THE COMMERCIAL SWINE SECTOR FROM THE IMPACTS OF AFRICAN SWINE FEVER

TECHNICAL DESCRIPTION

RISK-BASED EARLY DETECTION TESTING at approved laboratories is the first new surveillance tool to be implemented as part of CanSpotASF. A pilot ran from August 2020 to July 2021 and due to its success, testing has continued.

 **There is no change for any case where ASF is suspected: these cases must be immediately reported to the local Canadian Food Inspection Agency (CFIA) district office.**

Approved laboratories labs that are part of the Canadian Animal Health Surveillance Network (CAHSN) network can now do African Swine Fever (ASF) testing on cases where you may want to rule-out ASF –just to be on the safe side. Until now, these types of cases have not been tested for ASF. This rule-out testing is targeted at herds with endemic diseases that could mask ASF and therefore delay detection. Both herd veterinarians and pathologists can initiate ASF rule-out testing.

 **What cases are eligible for risk-based early detection?**

Certain diseases/conditions have been shown to mask the clinical signs associated with ASF and delay detection. Herds with a history of these diseases/conditions, or cases with a compatible clinicopathological presentation are eligible for testing (Table 1).

 **How does RISK-BASED EARLY DETECTION TESTING work?**

Any case submitted to a CAHSN laboratory that meets eligibility criteria (Table 1) and includes trace back information and appropriate tissues may be tested for ASF. The decision to test an eligible case can be made by the herd veterinarian or the pathologist managing the case. Consultation between the pathologist and the herd veterinarian on testing decisions is strongly recommended. The flowchart in Appendix 1 shows the testing decision tree.

For all commercial operations required trace back information includes province and premises ID. For smallholders, premises ID is preferred but address of physical location of pigs is an acceptable alternative.

Appropriate sample material for testing includes tissue sections of tonsil, spleen, kidney, lymph node and terminal ileum, body fluids, and whole blood.

 **Who will pay for testing?**

ASF testing by approved laboratories on eligible cases will be paid for by the provinces.

Table 1.**Clinicopathological presentations eligible for additional ASF testing at approved laboratories**

1. Septicemia and/or multiorgan hemorrhage such as caused by *E.rhusiopathiae*; *S.suis*; *S. zooepidemicus*; *A.suis*; *S.cholerasuis*; other bacteria
2. Porcine Reproductive and Respiratory Syndrome virus (PRRS), especially when it causes cyanotic skin.
3. Porcine Dermatitis and Nephropathy Syndrome (PDNS) and vasculitis that can be caused by PCV 2, PCV 3 or other pathogens.
4. Hemorrhagic diarrhea / necrotizing enterocolitis such as caused by *Salmonella* spp; *L. intracellularis*; *B. hyodysenteriae*; *B. hampsonii*
5. Fibrinous pleuritis / pericarditis / hydropericardium such as caused by *H. parasuis*; *S.suis*
6. Mulberry heart disease
7. Splenic torsion
8. Abortion above historical trend for herd
9. Mortality above historical trend for herd

**Information for laboratories**

CanSpotASF risk-based early detection testing at approved laboratories is open to all CAHSN laboratories. Currently, the approved laboratories for ASF testing are the MAPAQ laboratories in Quebec, the Ontario Animal Health Laboratory, Prairie Diagnostic Services, Alberta Agriculture and Forestry Agri-Food Laboratories, and the BC Animal Health Center. CAHSN laboratories that are not approved for ASF testing can submit ASF surveillance samples to an approved laboratory. Transfer of samples and testing results between laboratories will use routine processes that are already in place for other types of testing.

It is expected that each approved laboratory may have slightly different laboratory workflow processes, and as such testing may be run on a sample by sample basis, or in weekly batches. It is recommended that where practical, ASF tests are run on Monday through Wednesday to facilitate communications with practicing veterinarians and the National Center of Foreign Animal Disease (NCFAD).

Because the chance of any positive or suspicious ASF test is very low, and there are significant time and resource costs associated with collecting and storing tissues, laboratories will not implement any enhanced tissue storage processes over and above standard procedure for pathology cases.

It is recognized that there is value in comparing test performance data across participating laboratories. As such, CFIA, NCFAD and approved laboratories will work together to compile and use this information for this purpose.



What will happen if the approved laboratory ASF test yields a suspicious or a positive result?

Table 2.

Protocol for a suspicious or positive ASF test result from an approved laboratory

1. The approved laboratory will immediately inform the herd veterinarian and the local CFIA district office and follow procedure as outlined in Section 6.1.1 of the National African Swine Fever Operating Policy and Procedures for the Canadian Animal Health Surveillance Network Laboratories (or ASF OPP). If the approved laboratory is conducting the test for another laboratory, they will immediately notify that laboratory. The original laboratory will be responsible for immediately notifying the local CFIA district office and the National Centre for Foreign Animal Disease (NCFAD).
2. The CFIA district office affiliated with the approved laboratory will:
 - a. Collect information about the premises of origin.
 - b. Contact the CFIA district office affiliated with the premises of origin (if different)
 - c. Collect samples from the approved laboratory to submit to the NCFAD.
3. The CFIA district office affiliated with the premises of origin will:
 - a. Contact the owner or operator of the premises associated with the non-negative animals and schedule an on-site visit to perform a clinical examination of the suspect animals,
 - b. Seek permission from the person who has possession, care or control of the animals in question to contact the herd veterinarian,
 - c. Complete an epidemiological investigation and risk determination,
 - d. Collect samples from pigs on the premises
 - e. Send samples to the NCFAD.
4. If the CFIA risk determination does not find 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).
5. If the CFIA risk determination finds that there is a suspicion of ASF, the CFIA will place a quarantine on all susceptible animals on the premises to stop movement of swine, and a declaration of infected place to stop other traffic on and off the premises of origin until the NCFAD confirmatory testing is completed (estimated 48 to 96 hours).

Reporting and Evaluation

Positive and suspicious tests will be immediately reported to the CFIA as per the reporting procedures outlined in section 6.1.1 of the (ASF-OPP). Confidentiality must be maintained in accordance with section 7.0 of the ASF OPP.

The CanSpotASF epidemiologic surveillance group will lead the reporting of all active tools in CanSpotASF. It is expected that this reporting will evolve over time. Reports authored by the CanSpotASF epidemiologic surveillance group are intended for regional and national stakeholders within Canada and are considered unofficial. The CFIA remains the organization responsible for any official reporting of the available data (e.g. to OIE and international trading partners).

For risk-based early detection at laboratories, reporting to stakeholders includes the number of participating laboratories; the number of cases tested; summarized test results; and where possible, the number of eligible cases and the number of premises included in testing by province or region and time. It is recognized that the information collected may be further standardized over time and that additional fields may need to be captured, both to improve the utility and/or analyses of the information for the purposes such as; official reporting if required by the international community, regional zoning, system compartmentalization by stakeholders, and scientific documentation.

Datasets and data compilation processes that are currently used by regional swine networks (CWSHIN, OAHN, RAIZO, Atlantic region) will continue to be used to generate information for stakeholder reports. CFIA has access to these datasets. For samples sent to another laboratory, the responsibility for reporting will remain with the regional network from which the sample originated. The Canadian Animal Health Surveillance System (CAHSS) supports data compilation and reporting. Reports are communicated through the Canadian Swine Health Intelligence Network (CSHIN).

Timeline

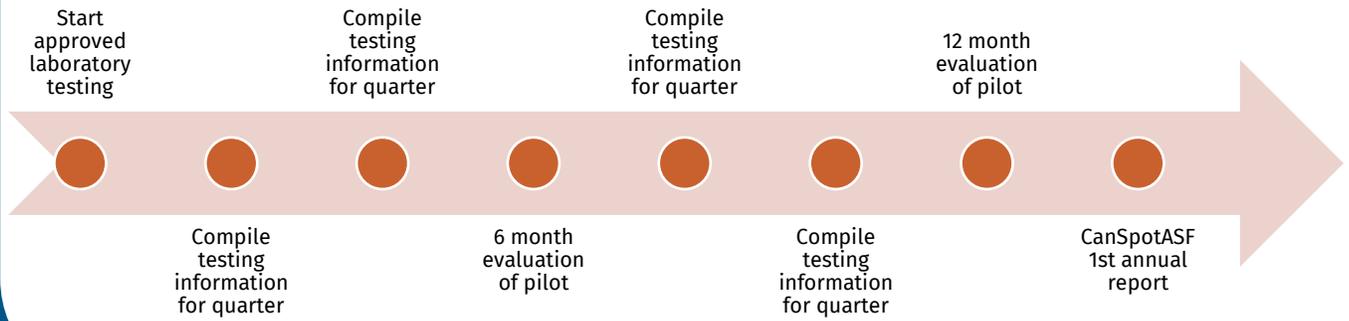
Since 1991, ASF has been included in the list of reportable diseases prescribed in the Reportable Disease Regulations. Owners (or anyone caring for or having control over animals), veterinarians and/or laboratories are obligated to immediately notify the CFIA when ASF is suspected. This regulatory passive surveillance will continue unchanged.

The pilot on risk-based early detection at approved laboratories ran from August 2020 to July 2021. Reporting and evaluation for the pilot was completed as part of the first annual report for CanSpotASF (<https://www.animalhealthcanada.ca/pillar-2-preparedness-planning>). Annual reports are expected every 12 months.

Figure 1 provides an overview of timelines and reporting for the pilot.

Figure 1

Overview of year 1 timeline and reporting for the CanSpotASF: Risk-based early detection testing at approved laboratories pilot



More about the CanSpotASF pilot project

Under the direction from the ASF Executive Management Board, the CanSpotASF enhanced surveillance for ASF is a collaboration between:

- the swine industry,
- the CFIA, diagnostic animal health laboratories,
- provincial governments,
- the Canadian Swine Health Intelligence Network (CSHIN) including the regional networks RAIZO, OAHN, CWSHIN, and
- the Canadian Animal Health Surveillance System (CAHSS).

A visual overview of CanSpotASF is provided in Appendix 2.

CanSpotASF risk-based early detection testing at approved laboratories is open to all CAHSN laboratories. CAHSN laboratories that are not approved for ASF testing can submit samples to a network laboratory that is approved. Currently, the approved laboratories for ASF testing are:

- the MAPAQ laboratory in Quebec,
- the Ontario Animal Health Laboratory,
- Prairie Diagnostic Services,
- Alberta Agriculture and Forestry Agri-Food Laboratories, and
- the BC Animal Health Center.

For more information

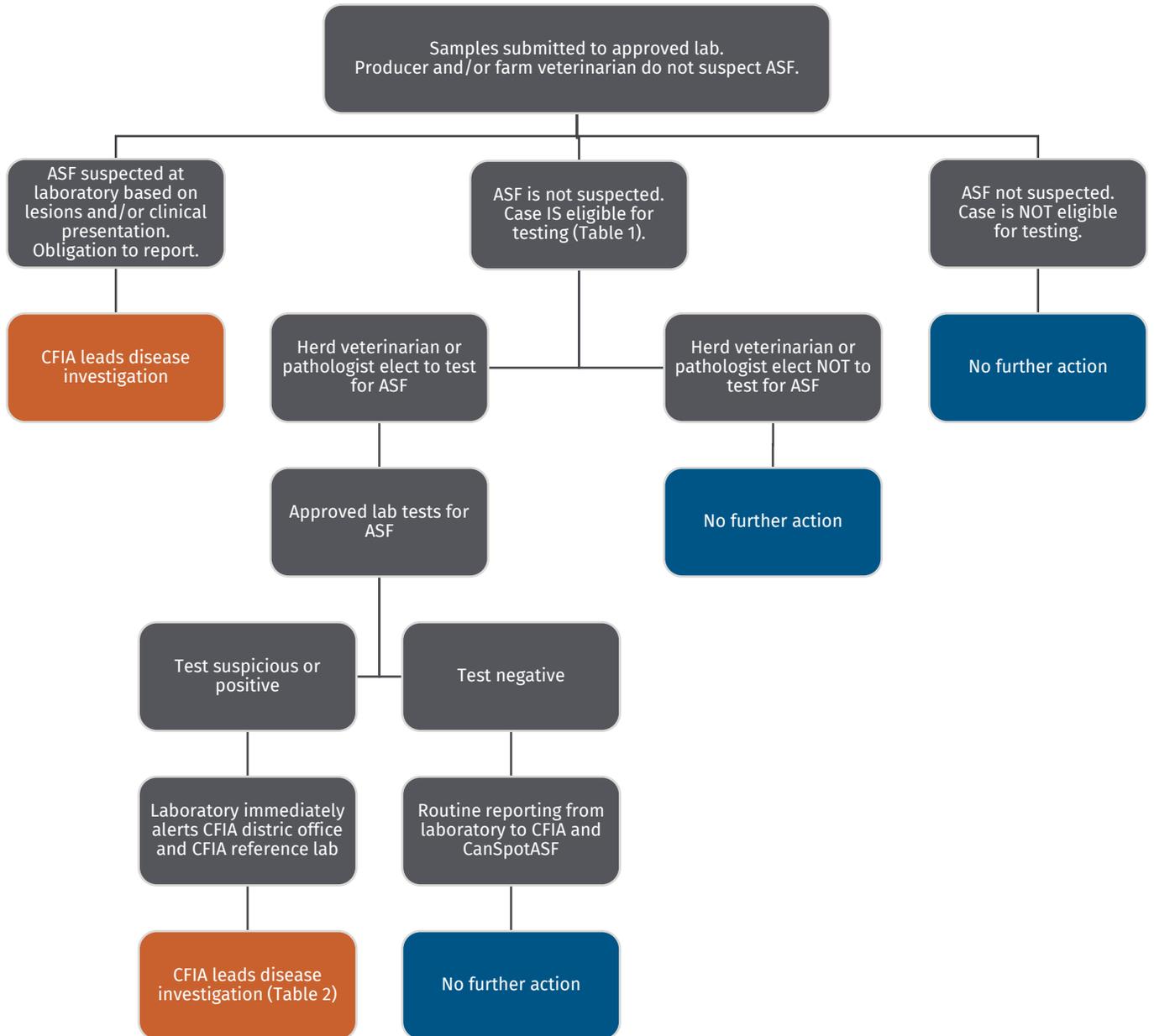
If you are a staff member at a diagnostic laboratory and would like more information about this project, please contact your laboratory director.

If you are a veterinary practitioner and would like more information about this project, please contact your regional swine network lead:

Region	Name	Email
Western Canada	Jette Christensen	manager@cwshin.ca
Ontario	Christa Arsenault	christa.arsenault@ontario.ca
Quebec	Claudia Gagne-Fortin	Claudia.Gagne-Fortin@mapaq.gouv.qc.ca
Atlantic Canada	Dan Hurnik	hurnik@upe.ca

Appendix 1.

Flowchart showing processes for the CanSpotASF: Risk-based early detection testing at approved laboratories



Appendix 2

Overview of CanSpotASF program for early detection of African Swine Fever in Canada

CanSpotASF

SURVEILLANCE OF AFRICAN SWINE FEVER IN CANADA

PASSIVE SURVEILLANCE

- Absence of disease
- Used to declare freedom and early detection
- Relies on mandatory reporting and suspect investigations

ENHANCED PASSIVE SURVEILLANCE

- Early detection
- Easier to transition to outbreak surveillance
- Aims to protect the commercial swine sector from impacts of ASF

OUTBREAK SURVEILLANCE

- Occurs during and after an outbreak
- Used to establish zones and prove freedom
- Details outlined in the Hazard Specific Plan for response

CanSpotASF TOOLBOX

CanSpotASF provides several tools that can be implemented by region and population. Implementation will be stepwise and prioritized based on risk and logistical feasibility. Enhanced surveillance will be an iterative process and will include pilot projects; more tools may be added as implementation progresses.

APPROVED LABS ††*

Rule-out testing at Canadian labs approved for ASF testing

ABATTOIRS †*

Risk-based testing in provincially- and federally-inspected slaughterhouses

ON-FARM †*

- Outreach
- Small-holder networks
- Education
- Sample submissions

OTHER TOOLS †**

- Wild pig stakeholder network
- Enhanced sampling capacity

DOCUMENTATION

Development of a process and system to pull together ASF surveillance information

ASF SURVEILLANCE POPULATIONS



† Commercial Indoor



* Small-holder, organic or captive wild boar



** Wild Pigs