



CanSpotASF

Enhanced Surveillance Activities
that aim to protect the
Commercial Swine Sector from
the impact of ASF

CanSpotASF

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

CANSPOTASF: RISK-BASED EARLY DETECTION TESTING AT ABATTOIRS

PILOT: TECHNICAL DESCRIPTION

PILOT PERIOD: MARCH 2022 - MARCH 2023

Risk-based sampling and ASF testing of non-suspect swine at abattoirs is the second surveillance activity implemented to address the early detection objective under the national CanSpotASF surveillance system. Risk-based early detection testing at approved laboratories was the first tool (August 2020); more details about that initiative can be found in the African Swine Fever work area on the Animal Health Canada [website](#).

There is no change for any case where ASF is suspected in the abattoir: these cases will be responded to by Canadian Food Inspection Agency (CFIA) inspection staff for federally inspected abattoirs and must be immediately reported to the [local district office](#) for provincially inspected abattoirs.

Under CanSpotASF: Risk-based early detection testing at abattoirs, abattoir inspection staff will now collect samples for ASF rule-out testing on full carcass condemnations under specific condemnation codes (Table 1). Until now, these animals have not been tested for ASF. Sampling will occur at federal and provincially inspected abattoirs (excluding BC provincially inspected abattoirs).

What condemnation categories are eligible for testing?

A list of federal condemnation codes that are eligible for ASF testing is provided in Table 1. Because condemnation codes used at abattoirs vary across provincial jurisdictions, the federal codes listed in Table 1 are mapped to eligible provincial condemnation codes for each province in Appendix 2.

CODE	DESCRIPTION
930c	Septicemia
435	Erysipelas
574,575	Hemorrhage*
051	Bruising
571	Pericarditis
577	Pleuritis

Eligible abattoir condemnation codes are mapped to eligible laboratory cases that are included in the 'Risk-based early detection testing at approved laboratories' tool in Appendix 3.

*(ecchymosis or petechial: condemnation codes: 574,575), where no underlying cause can be found (e.g. malfunctioning stunning device, this is common in poor electrical stunning)

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

How does the pilot work?

Any condemned swine with an eligible condemnation code (Table 1), where approved samples are available, and for which trace back information is available (in the event that follow up is required for a non-negative result) may be sampled for ASF rule-out testing as a non-suspect case.

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.

Who will pay for testing?

The sampling and ASF testing costs for eligible condemnations from federal abattoirs will be covered by the Canadian Food Inspection Agency. Sampling and ASF testing costs for eligible condemnations from provincial abattoir will be covered by provincial governments in participating provinces.

How many samples will be tested?

The number of samples tested will be based on the number of eligible condemnations, inspector workload, abattoir and laboratory workflows, shipping logistics and available budget. It is expected to vary by region and over time.

Information for inspection staff

Sample collection and submission procedures

The selection of condemnations is based on the condemnation codes in Table 1.

Approved sample types for testing are spleen, tonsils and lymph node. When a condemnation is determined to be eligible, a sample from the spleen should be collected for testing. In cases where spleen is not convenient to collect, tonsils or any lymph nodes can be collected instead. Sample size of 50 to 100 grams (approximately 5x5cm) is adequate. Under CanSpotASF: Risk-based early detection testing at abattoirs, there is no requirement to hold the condemned carcass pending test results- after sample collection, the carcass can be disposed of following routine processes (Note- in cases where ASF is suspected, there remains a requirement to hold carcasses pending CFIA investigation).

Samples collected from provincially inspected abattoirs under CanSpotASF: Risk-based early detection testing should be submitted to the Canadian Animal Health Surveillance Network (CAHSN) laboratory within or nearest to the province of sample origin. These laboratories are listed in table 2. Samples collected from federal abattoirs will be submitted to the NCFAD laboratory.

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

Inspectors are required to fill out laboratory submission forms to accompany samples. Samples submitted from federally inspected abattoirs will be submitted to the CFIA's National Centre for Foreign Animal Disease through the CFIA laboratory submission system. Samples submitted from provincially inspected abattoirs will require use of the submission form for the specific approved lab where the samples will be submitted.

The laboratory submission form should indicate:

- a sample identifier that would allow rapid verification of information (such as the premises of origin, the animal identification number, and the slaughter date) in the event of a non-negative test at an approved laboratory.
- Veterinarian or inspector identifier,
- abattoir identifier,
- sample type (e.g. spleen),
- condemnation code and,
- date collected.

Province of origin of the pig and premises identification number for the premises of origin (farm) should be included whenever possible as these provide valuable surveillance information.

Please indicate 'abattoir surveillance sample' on the form. Multiple animals from the same premises of origin can be included on one submission form. Samples from different premises should be submitted on separate forms.

Links to online submission forms to laboratories are provided in Table 2. A record should be maintained by the inspection service for each submitted sample. A paper or digital copy of the laboratory submission form would be a sufficient record.

Samples should be packed in whirl pack bag or sterile sample container. Multiple tissue types from a single animal can be included in one bag. The bag should be labelled with the unique sample identification number, veterinarian or inspector identifier, abattoir identifier, and date collected and placed inside a second sealed plastic bag. This can then be wrapped in absorbent material (e.g. paper towels or newspaper) and placed inside an appropriately sized regular courier box along with a copy of the laboratory submission form. Ice packs should be included. Samples can be shipped fresh if time to arrival at the laboratory is 72 hours or less, but should otherwise be frozen prior to shipping. Thawing in transit does not preclude testing, however putrefaction may make samples ineligible for testing.

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

Samples can be shipped by commercial courier or other practical methods, with samples from abattoirs shipped as per established protocols. Because this is an early detection surveillance program, timeliness (limited delay between the time of sampling and testing) is important. Therefore, samples should be shipped as soon as is practically feasible, with the goal that in most situations samples will be in transit to laboratories within 36 hours of collection.

Table 2. Laboratories receiving samples as part of the CanSpotASF: Risk-based early detection testing at abattoirs, with link to submission form for each laboratory

Federal Abattoir Samples

National Foreign Animal Disease Laboratory Please contact NCFAD

Povincial Abattoir Samples

Prov	Laboratory to submit to	Submission form available at:
AB	Alberta Agriculture and Forestry Agri-Food Laboratories	Mammalian Diagnostic Submission Form – please contact AB laboratory
BC	BC Animal Health Centre	Mammalian Submission Form (gov.bc.ca)
MB	Manitoba Veterinary Diagnostic Services Laboratory	Porcine Form
ON	Ontario Animal Health Laboratory	Siebel system (online platform)
QC	Laboratoire de santé animale – site de St-Hyacinthe	Animal health laboratory
NB		Please contact NB Animal Health Services Branch
NL		Please contact NL laboratory
NS	Animal Health Lab	Swine submission form
PE		Food and fur bearing animal virology submission form
SK	Prairie Diagnostic Services	Porcine submission form

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

Information for laboratories

Samples from CanSpotASF: Risk-based early detection testing at abattoirs can be tested for ASF at the National Center of Foreign Animal Disease (NCFAD) and at Approved Laboratories. Currently the approved laboratories for ASF testing are the MAPAQ Laboratoire de Santé Animale in Quebec, the Ontario Animal Health Laboratory, Prairie Diagnostic Services, Alberta Agriculture and Forestry Agri-Food Laboratories, and the BC Animal Health Center.

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 NCFAD.

Because the chance of any non-negative 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 laboratory procedure. 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 ASF PCR test yields a suspicious or a non-negative result?

Table 3 Risk-based abattoir surveillance pilot: Protocol for a suspicious or non-negative ASF test

Initial steps for samples collected at a provincial abattoir and tested at an approved laboratory

*If samples are collected at a federal abattoir, the protocol begins at step 3

1. If samples from a provincial abattoir are tested at an approved laboratory, the approved laboratory will immediately inform 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).
2. If samples from a provincial abattoir are tested at an approved laboratory, 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 National Centre for Foreign Animal Disease (NCFAD) in Winnipeg.

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

Common steps for provincial and federal abattoir samples

Anticipated protocol at premises of origin

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 National Centre for Foreign Animal Disease (NCFAD) in Winnipeg.,
4. If the CFIA risk determination finds no evidence of ASF, the CFIA will place a quarantine on all susceptible animals on the premises to stop movement of all 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).

Anticipated protocol at abattoir where sampling occurred

6. When the CFIA is informed by an approved laboratory of a non-negative result from an abattoir sample (either from a provincial or federal abattoir), the CFIA will immediately contact the abattoir where the sample was collected to verify trace back information on the premises of origin. There will be a need for the abattoir to verify this information very quickly (within 1 to 2 hours).
7. Depending on the epidemiological investigation at the premises of origin, or the extent and the frequency of the sanitation cycles applied at the abattoir since the collection of the suspicious or non-negative samples, CFIA may require actions to prevent potential disease transmission at the abattoir during the time period while the NCFAD confirmatory testing is completed (estimated 48 to 96 hours). Such actions may include cleaning and disinfection of unloading docks and live-animal reception areas. While the required cleaning and disinfection is being completed, and until it is approved by the CFIA, the abattoir can continue to process animals that are already on site, but cannot receive new animals. The length of this temporary halt in operations is dependent on the facilities' ability to mobilize the necessary resources to complete the required cleaning and disinfection. Once the CFIA approval is obtained the abattoir can again begin to receive and process animals.

Note: If ASF is confirmed at the NCFAD, the CFIA will maintain or enhance the movement restrictions and initiate response activities at the premises of origin and the implicated slaughter establishment.

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

Reporting and Evaluation

Non-negative 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.

Federal abattoir surveillance results will be compiled by CFIA and forwarded to the swine regional network coordinators. Provincially inspected abattoir surveillance results will be compiled by the regional coordinators. All results will then be distributed by the Canadian Swine Health Intelligence Network (CSHIN) regional coordinators to CSHIN members, the TC, the CFIA, and other stakeholders as directed by the TC, on a quarterly basis. It is expected that the abattoir reporting will include the number of tests completed by province (based on the province where abattoirs are located), and the test results. Management and surveillance reporting will be documented in the CanSpotASF annual report alongside reporting from other CanSpotASF activities such as CFIA passive reporting surveillance and approved laboratory surveillance.

Reports authored by the CanSpotASF Reporting 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).

The progress of the pilot will be discussed after 6 and 12 months to assess surveillance goals, and recommend adjustments to information and data management, laboratory processes, and communication.

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.

Risk -based early detection testing at approved laboratories started in August 2020 and is ongoing. The pilot on risk-based early detection at abattoirs is expected to run from March 2022 to March 2023.

More about the pilot

CanSpotASF enhanced surveillance for African Swine Fever (ASF) is a collaboration between the swine sector, 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) under direction from the ASF Executive Management Board. A visual overview of CanSpotASF is provided in Appendix 1.

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

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

Appendix 1: Overview of 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

DOCUMENTATION

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

ON-FARM **

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

OTHER TOOLS ***

- Wild pig stakeholder network
- Enhanced sampling capacity

ASF SURVEILLANCE POPULATIONS



† Commercial Indoor



* Small-holder, organic or captive wild boar



● Wild Pigs

Under the direction from the ASF Executive Management Board, the CanSpotASF enhanced surveillance for African Swine Fever (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).

Appendix 2. Eligible condemnation codes for testing by Province

Eligible provincial condemnation code	Maps to eligible federal condemnation code
Alberta	
Bruising	Bruising
Congestion	Septicemia
Cyanosis	Septicemia
Erysipelas	Erysipelas
Erythema	Septicemia
Hematoma	Bruising
Hemorrhage (Major)	Bruising
Hemorrhage (Petechial)	Septicemia
Hemorrhage / Splash (Ecchymotic)	Septicemia
Infarct	Septicemia
Pericarditis	Pericarditis
Pleuritis	Pleuritis
Septicemia	Septicemia
Toxemia	Septicemia
British Columbia	
Bruising	Bruising
Erysipelas	Erysipelas
Pericarditis	Pericarditis
Pleuritis	Pleuritis
Septicemia	Septicemia
Manitoba	
Bruising	Bruising
Erysipelas	Erysipelas
Pericarditis	Pericarditis
Pleuritis	Pleuritis
Septicemia/Toxemia/Congestion	Septicemia

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

Eligible provincial condemnation code	Maps to eligible federal condemnation code
Nova Scotia	
Bruising	Bruising
Congestion	Septicemia
Diamond Skin Disease	Erysipelas
Erysipelas	Erysipelas
Hemorrhagic Disease	Septicemia
Pericarditis	Pericarditis
Pleuritis	Pleuritis
Pyrexia (Fever)	Septicemia
Septicaemia	Septicemia
Septicaemia /Toxemia /Congestion	Septicemia
Splenic Torsion	Septicemia
Toxemia	Septicemia
Ontario	
Bruising	Bruising
Erysipelas	Erysipelas
Pericarditis	Pericarditis
Pleuritis	Pleuritis
Septicemia	Septicemia
Toxemia	Septicemia
Quebec	
Contusions 051	Bruising
Erysipèle 435	Erysipelas
Péricardite 571	Pericarditis
Pleurésie 577	Pleuritis
Purpura hémorragique 102	Septicemia
Pyrexie 113	Septicemia
Septicémie 930	Septicemia
Saskatchewan	
Cyanosis	Septicemia
Erysipelas	Erysipelas
Pleuritis	Pleuritis
Pericarditis	Pericarditis
Septicemia/Toxemia/Congestive Syndrome	Septicemia
Splenic Torsion	Septicemia

CanSpotASF

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

Appendix 3. Linkage between eligible abattoir condemnations and approved laboratory conditions

Relationship between and eligible laboratory conditions included in the 'Risk-based early detection testing at approved laboratories' tool* and eligible abattoir condemnation codes included in the 'Risk-based early detection testing at abattoirs' tool

Eligible approved laboratory conditions	Corresponding eligible federal abattoir condemnation codes	Corresponding federal abattoir condemnation code numbers
Septicemia and/or multiorgan hemorrhage such as caused by E.rhusiopathiae; S.suis; S.zooepidemicus; A.suis; S.cholerasuis; other bacteria	Septicemia	930c
	Erysipelas	435
	Hemorrhage (ecchymosis or petechial), where no underlying cause can be found	574,575
	Bruising	051
Fibrinous pleuritis / pericarditis / hydropericardium such as caused by H. parasuis; S.suis	Pericarditis	571
	Pleuritis	577

Eligible approved laboratory conditions that do not map to eligible abattoir full condemnation codes

Porcine Reproductive and Respiratory Syndrome virus (PRRS), especially when it causes cyanotic skin.

Porcine Dermatitis and Nephropathy Syndrome (PDNS) and vasculitis that can be caused by PCV 2, PCV 3 or other pathogens.

Hemorrhagic diarrhea / necrotizing enterocolitis such as caused by Salmonella spp; L. intracellularis; B. hyodysenteriae; B. hampsonii

Mulberry heart disease

Splenic torsion

Abortion above historical trend for herd

Mortality above historical trend for herd

* Additional details about Risk-based early detection testing at approved laboratories' tool can be found in the African Swine Fever work area on the National Farmed Animal Health and Welfare Council website (Link).