Summary of the Ausvet Evaluation of CanSpotASF And Steps Taken by the Technical Committee

CanSpotASF

Enhanced surveillance activities to protect the commercial swine sector from the impacts of African swine fever

CanSpotASF | Surveillance of African Swine Fever in Canada

Disclaimer: This summary report is generated from the CanSpotASF epidemiologic surveillance evaluation document presented by Ausvet to the CanSpotASF Technical Committee, Animal Health Canada leadership, and ASF Executive Management Board. The evaluation was supported through funding from the Canadian Food Inspection Agency's Federal Assistance Program and the Sustainable Canadian Agricultural Partnership.

Introduction

The CanSpotASF Program is Canada's risk-based national surveillance program for African swine fever (ASF) with the principal aim to improve early detection by enhancing passive surveillance. A secondary aim is to provide additional evidence of freedom from ASF to support international trade. Regulatory passive surveillance has been in place since 1991 with ASF listed as a disease reportable to the CFIA. Different components of the CanSpotASF program have been implemented since 2020. August 2020 marked the launch, with approved Canadian Animal Health Surveillance Network (CAHSN) laboratories being able to conduct CanSpotASF testing. Then in 2022, CanSpotASF was initiated in federally inspected and licensed abattoirs, and in 2022-23 at provincially inspected and licensed abattoirs. In 2024, CanSpotASF testing was launched for invasive wild pigs. In the spirit of continuous improvement, an evaluation of the national surveillance program was initiated in 2024.

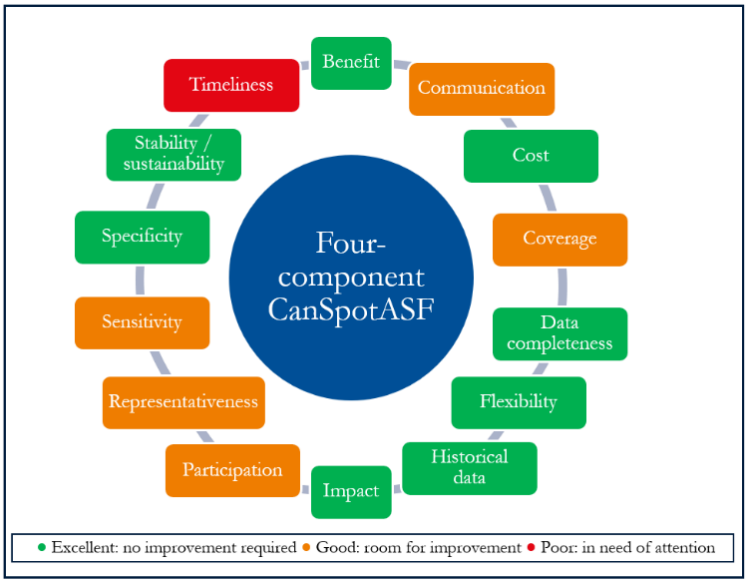
Overview

The CanSpotASF epidemiologic surveillance evaluation was independently carried out by Ausvet, a veterinary epidemiology and One Health consultancy based in Australia. The evaluation aimed to assess the program's effectiveness and efficiency, and to provide recommendations for its improvement. The project was awarded and contracted to Ausvet on May 15, 2024, and concluded on December 15, 2024. A final comprehensive report and presentation were submitted to the Technical Committee, Animal Health Canada leadership, and the ASF Executive Management Board. This summary report aims to provide an overview of the Ausvet evaluation process and findings, highlight key recommendations, and outline the steps taken by the Technical Committee following the evaluation.

At the time Ausvet began the epidemiologic surveillance evaluation of the CanSpotASF program, all components were assessed except the invasive wild pig testing, which had not yet been implemented.

Methodology

Ausvet used an international recognized approach, the SuRveillance EVALuation (SERVAL) framework, to assess 14 key attributes as shown in the figure below. A targeted review of both peer-reviewed and grey literature related to ASF surveillance in Canada was conducted. A written questionnaire was developed and distributed to members of the Technical Backing Group convened by Animal Health Canada. The Technical Backing Group provided technical guidance and support to Ausvet throughout the evaluation process. In addition, seven semi-structured interviews were carried out with key stakeholders to gather user insights and perceptions of the CanSpotASF surveillance system.



The figure provides an overview of the results of the SERVAL method. A qualitative analysis was used to rate each of the assessed attributes. Green indicates excellent performance with no improvements needed, orange represents good performance with some room for improvement, and red signals poor performance requiring attention.

Recommendations

The evaluation supports continued investment in the CanSpotASF program as an excellent example of national, multi-stakeholder collaboration in foreign animal disease surveillance. To enhance the program's effectiveness, key recommendations include:

- Strengthening early detection through improved case reporting and sampling, expanding surveillance to include wild pigs (which had already started at the time of the evaluation reporting).
- Improving the timeliness of feedback to submitters, clearly communicating testing turnaround expectations to stakeholders, and encouraging prompt reporting of subtle clinical signs.
- Enhancing stakeholder engagement through better communication strategies, setting formal testing targets, and exploring cost-effective laboratory methods.
- Expanding the program to include classical swine fever (CSF), increasing testing in smallholder and abattoir settings, and improving data management and quality assurance frameworks.
- A national risk assessment and economic evaluation are recommended to guide future resource allocation and ensure continued progress.

Conclusion

The findings and recommendations from this evaluation offer valuable insights into the strengths and areas for improvement within the CanSpotASF surveillance program.

Actions following the evaluation

The Technical Committee started a facilitated process to carefully consider each of key findings (listed below) and prioritize actions for implementation. These priorities will be presented to the ASF EMB before any further steps are taken. The Technical Committee is a working group of experts from the federal and provincial governments and the swine industry that provides strategic leadership and guidance on CanSpotASF initiatives.

As part of our commitment to continuous improvement, progress toward addressing the prioritized actions will be monitored and reported back to stakeholders. This process will further ensure accountability, support evidence-based decision-making, and strengthen Canada's preparedness and response capacity for African swine fever.

Key findings included in the facilitated process:

First, the accuracy of the findings was discussed and assessed. Then, options for change, if needed and feasible, were added before the final prioritization of actions.

1. **Attributes that were deemed to be excellent with no improvements required.**

- Benefit:
  - ✓ It demonstrates the successful implementation of a unique, national-scale collaborative partnership within the Canadian swine sector.
  - ✓ Increases laboratory capacity and overall ASF preparedness.
  - ✓ Enhances producer, veterinarian, pathologist and public awareness of ASF
  - ✓ Builds public and industry confidence in ASF disease outbreak response processes.
  - ✓ Provides justification to maintain strict border security measures to mitigate ASF incursion risk.
  - ✓ Expands surveillance access to smallholder producers through provincial abattoirs.
  - ✓ Strengthens Canada's international reputation in biosecurity and fosters stakeholder confidence.
- Stability/Sustainability:
  - ✓ Leveraging existing workflows, processes and established frameworks enhances the program's reliability, stability, and sustainability.
- Specificity:
  - ✓ Well-defined confirmatory testing protocols result in effectively 100% specificity.
- Impact:
  - ✓ Strengthened ASF preparedness by actively seeking opportunities for outreach around ASF preparedness e.g. inclusion of CanSpotASF in the smallholder swine course run by the Canadian Animal Health Surveillance System (CAHSS).
  - ✓ Significantly increased ASF awareness across key sectors e.g. producers, industry more broadly, veterinarians, laboratories, abattoir inspectors and government decision-makers.
  - ✓ Improved laboratory capacity and readiness, positioning Canada for a more effective response in the event of an ASF outbreak.
  - ✓ Established a scalable and collaborative national model for foreign animal disease surveillance.
- Historical data:
  - ✓ This attribute is of most relevance to the CanSpotASF policy objective of providing evidence of ASF freedom.

- ✓ Passive regulatory surveillance data were used to support Canada's self-declaration of freedom from ASF to WOAH in 2019.
- ✓ Beyond ASF-specific passive regulatory surveillance, some clinical impression surveys have been used in the past by certain provinces and have proven useful for detecting swine diseases.

- **Flexibility:**
  - ✓ New components, such as abattoir surveillance, have been integrated into CanSpotASF with ease.
  - ✓ Additional laboratories have been successfully approved to conduct ASF testing, increasing national diagnostic capacity.
  - ✓ Eligibility criteria have been relaxed where cases meet the intent of CanSpotASF (i.e. ASF not suspected but could be a differential diagnosis), especially for abattoir surveillance.
  - ✓ Alternative, easier way to collect sample types are currently being explored, for example, the use of superficial inguinal lymph nodes for abattoir surveillance.
- **Data Completeness:**
  - ✓ Use of electronic systems by some laboratories has improved the completion rate of submission forms.
  - ✓ Approved laboratories provide high-quality data on a regular schedule. This is facilitated by good communication and strong personal relationships between stakeholders.
  - ✓ The completion of more testing enhances risk-based ASF monitoring and supports zoning arrangement negotiations related to trade in advance of an outbreak. The foundations of CanSpotASF may also be adapted for use during an outbreak.
  - ✓ Enhanced passive surveillance components have led to considerably more testing compared to passive regulatory surveillance alone.
- **Cost:**
  - ✓ Piggybacks off existing processes, so minimal additional resource requirements.
  - ✓ Multiplexing of the qPCR diagnostic assay greatly enhanced cost-effectiveness.

2. **Attributes that were deemed to be good with room for Improvement:**

- **Sensitivity**
  - ➢ The overall system sensitivity is assumed to be quite high. However, concerns were raised about how quickly an outbreak would be detected.
- **Representativeness:**
  - ➢ In CanSpotASF, there is a good understanding of the number of commercial premises; however, the number of small-scale holdings including those shipping pigs to participating abattoirs is not readily available and therefore not well understood. As a result, they are underrepresented.
- **Participation:**
  - ➢ Several barriers to participation were identified including difficulty remembering eligibility criteria, limited availability of traceability information, and an overwhelming number of eligible cases. Additional challenges included a lack of willingness from producers, failure to submit the appropriate tissue types, and initial pathology findings that did not support ASF. In some instances, eligibility was only determined after histopathology, by which point the necessary fresh tissues had already been discarded.
- **Coverage:**
  - ➢ Variable understanding of population coverage: There is considerable uncertainty about the number of smallholder and pet pig premises, as these do not always register with PigTRACE

despite a legal requirement to do so in some provinces. It is challenging to evaluate population coverage when the target population is not fully described.

- Communications:
  - Unclear expectations regarding testing turnaround times for rule-out diagnostic cases contribute to reduced motivation and participation. There is a lack of communication around success stories as well as insufficient recognition and feedback for individual contributors.

3. **Attribute that was deemed to be poor: In need of attention:**

- Timeliness:
  - The objective of early detection may not be fully realized due to provisions for testing delays in some provinces, intended to better align with workflows and allow flexibility in testing compatible samples. Additionally, cases with subtle clinical signs may go undetected.
  - There has been a lack of timely feedback to sample submitters.