African Swine Fever Surveillance in Canada

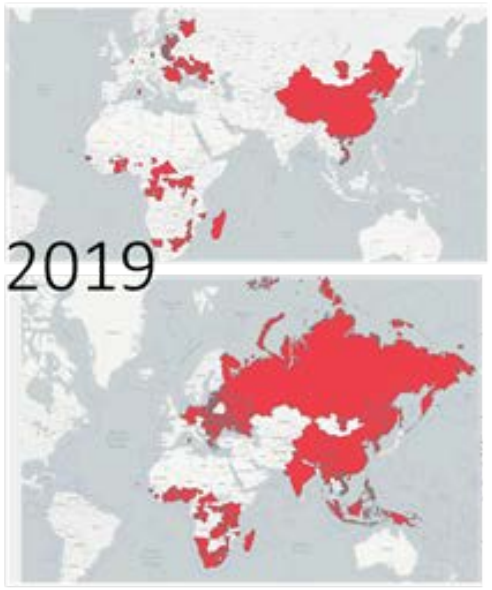
Sept 29, 2021

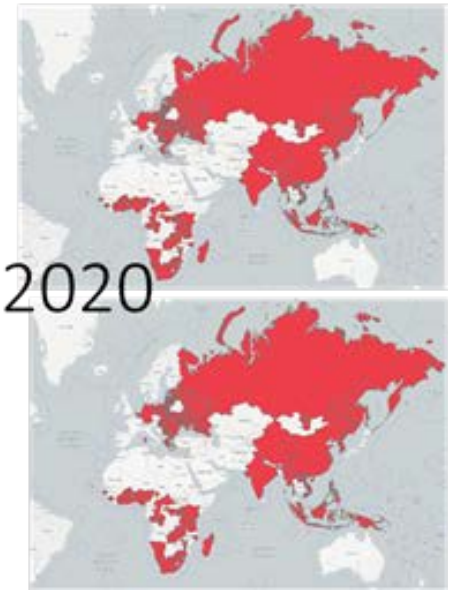
Canadian Pork Council Townhall

Dr. Theresa Burns, NFAHWC

Dr. Amy Snow, CFIA

ASF – An increased threat?





What is animal health surveillance?

Animal Health Surveillance

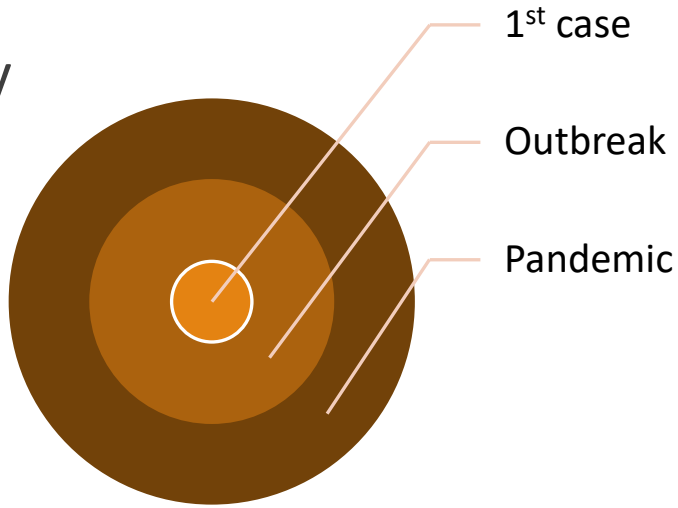
*"a tool to monitor disease trends, to facilitate the control of infection or infestation, to provide data for use in risk analysis, for animal or public health purposes, to substantiate the rationale for sanitary measures and for providing assurances to trading partners" (*OIE)

- Paying attention to new or unusual patterns
  - In an individual animal or on a farm
  - Across multiple premises
- Sharing information to see the patterns more clearly
- Using diagnostic testing laboratories to investigate what is causing the change
- Always making sure privacy rules are followed

Goal - Early Detection of ASF should it arrive

What do we want:

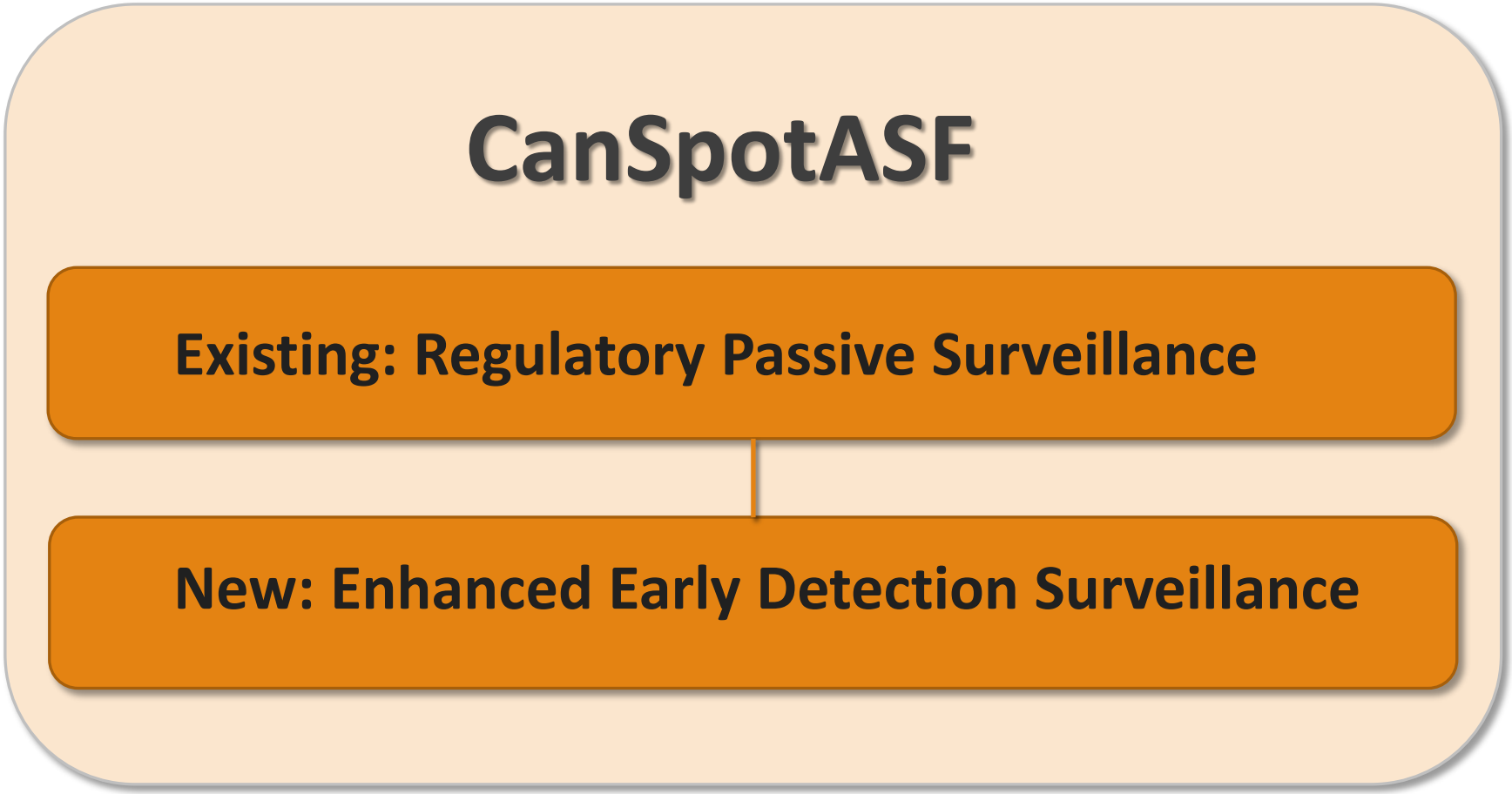
1. *Ideally* - No ASF ever
2. To detect the very first case right away



Early detection: Not as easy as it sounds!

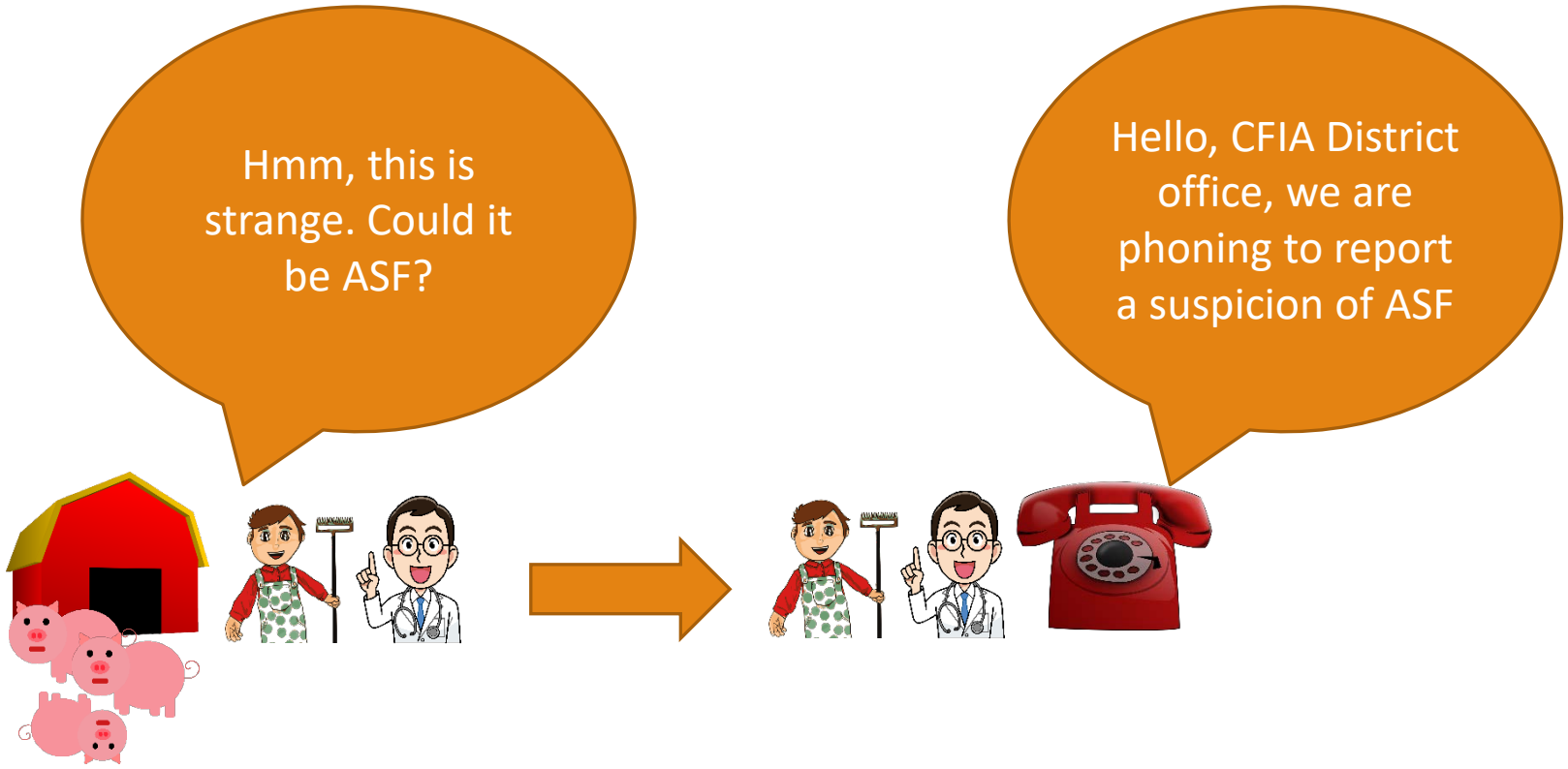
- *Not expecting it*
- *Fear of 'crying wolf', or looking foolish*
- *Fear of unpredictable or negative consequences*
- *Can look like other 'masking' diseases*

What ASF surveillance are we doing ?



Existing: Regulatory Passive Surveillance

Farmers and veterinarians are watching for ASF and reporting suspicion



Always: Regulatory Passive Surveillance
CFIA Investigations of suspect cases

Month (Year)	Province	Trigger	History / Clinical presentation	Population	Samples tested	Number of Animals Tested	Tests
April (2020)	ON	CAHSN lab referral due to ASF suspicion - on farm	Sudden death in nursery pigs, scouring, vasculitis noted at PM	Domestic - Commercial	2 sets of tissues (lung, intestine)	2	RT-PCR
April (2020)	ON	CAHSN lab referral due to ASF suspicion - at slaughter	splenomegaly, enlarged kidney, hemorrhagic lymph nodes	Domestic - Unknown	16 sets of tissues (lymph node, kidney, liver, spleen)	4	RT-PCR
May (2020)	ON	CAHSN lab referral due to ASF suspicion - at slaughter?	Vasculitis	Domestic - Commercial	2 sets of tissues	2	RT-PCR
June (2020)	AB	Herd veterinarian referral due to ASF suspicion - on farm	failure to thrive, fever, vomiting, hemorrhagic lymph nodes, kidney lesions, petechial hemorrhage	Domestic - Small holder (pet)	1 set of tissues (skin, liver, intestine, spleen, heart, lung, lymph node, kidney)	1	RT-PCR

New – Enhanced Early Detection Surveillance

Risk Based Detection at Approved Laboratories

Planning began in early 2020

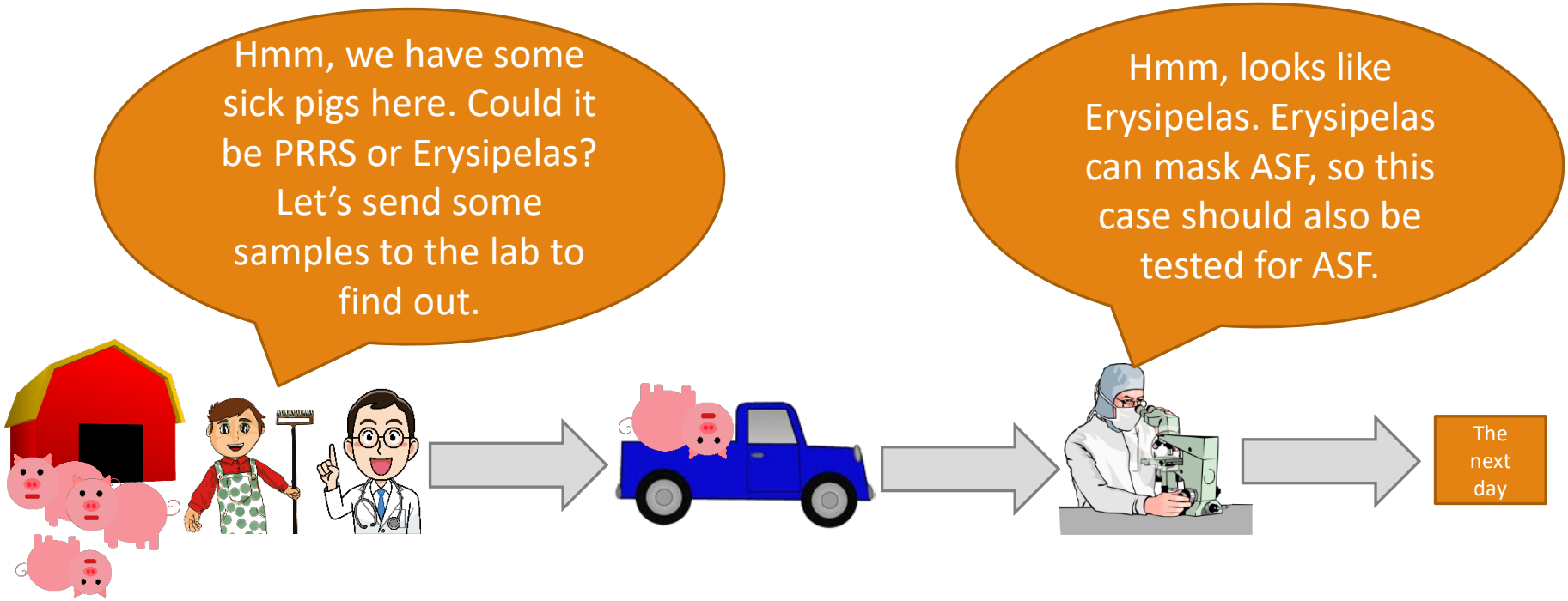
Testing began in August 2020

Funding supplied by provinces

Testing has occurred from all regions

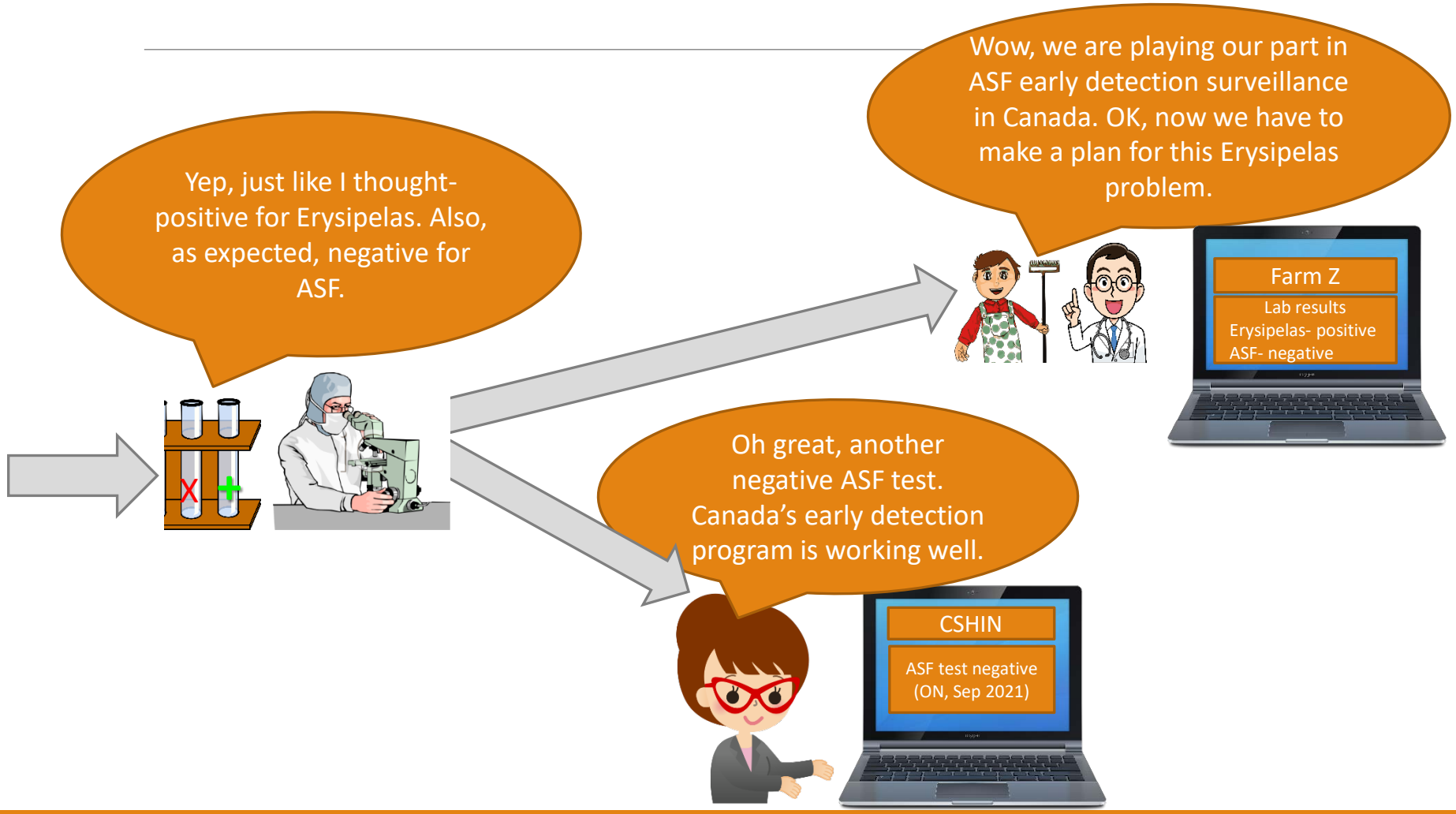
New – Enhanced Early Detection Surveillance

Risk Based Detection at Approved Laboratories



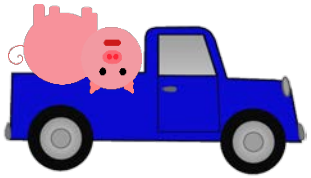
New – Enhanced Early Detection Surveillance

Risk Based Detection at Approved Laboratories



What happens if the surveillance testing is NON-NEGATIVE?

Do we have ASF on the farm or not???



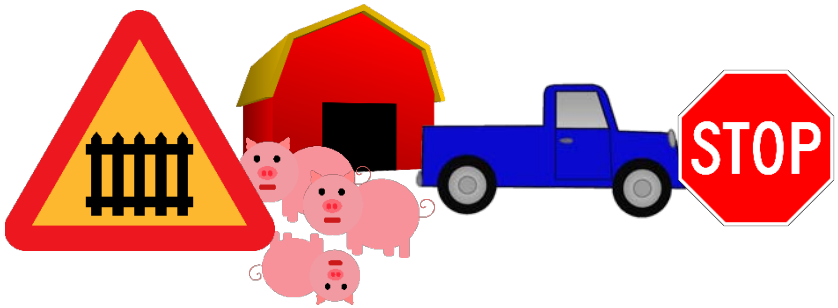
- CFIA will:
  - contact producers and arrange a visit
  - Assess risk of ASF being present
  - Take samples
  - Place movement controls

- It can take up to 96 hours to confirm ASF

If ASF is confirmed, movement controls are strengthened and response activities initiated

Yikes, a non-negative ASF test and up to 96 hours to know if it really is ASF. What should I do?

1. Call your veterinarian



2. Close the gate and stop movements on and off the farm

3. Give your permission for the CFIA and your veterinarian to talk directly

What are the chances of a false positive ASF Test?

Why?

- PCR test looks for the viral DNA, not just antibodies
- There are no other viruses with DNA similar to ASF, so no chance of mix-up – ASF has no ‘close relatives’
- There is no ASF virus in Canada, so no chance of accidental cross contamination from another premises

Risk-based testing at approved laboratories

Atlantic

Period / Période	Number of eligible cases / Nombre de cas admissibles	Number of negative cases / Nombre de cas négatifs	Number of positive cases / Nombre de cas positifs
2020 Quarter 3 (Aug 1 to Sep 31) 2020 T3 (1er août - 30 septembre)	N/A	3	0
2020 Quarter 4 (Oct 1 to Dec 31) 2020 T4 (1er octobre - 31 décembre)	6	1	0
2021 Quarter 1 (Jan 1 to Mar 31) 2021 T1 (1er janvier - 31 mars)	1	1	
Cumulative / Cumulatif	**7**	**5**	**0**

RAIZO (Québec)

Period / Période	Number of eligible cases / Nombre de cas admissibles	Number of negative cases / Nombre de cas négatifs	Number of positive cases / Nombre de cas positifs
2020 Quarter 3 (Aug 1 to Sep 31) 2020 T3 (1er août - 30 septembre)	42	8	0
2020 Quarter 4 (Oct 1 to Dec 31) 2020 T4 (1er octobre - 31 décembre)	143	15	0
2021 Quarter 1 (Jan 1 to Mar 31) 2021 T1 (1er janvier - 31 mars)	134	28	0
Cumulative / Cumulatif	**319**	**51**	**0**

Risk-based testing at approved laboratories

OAHN (Ontario)

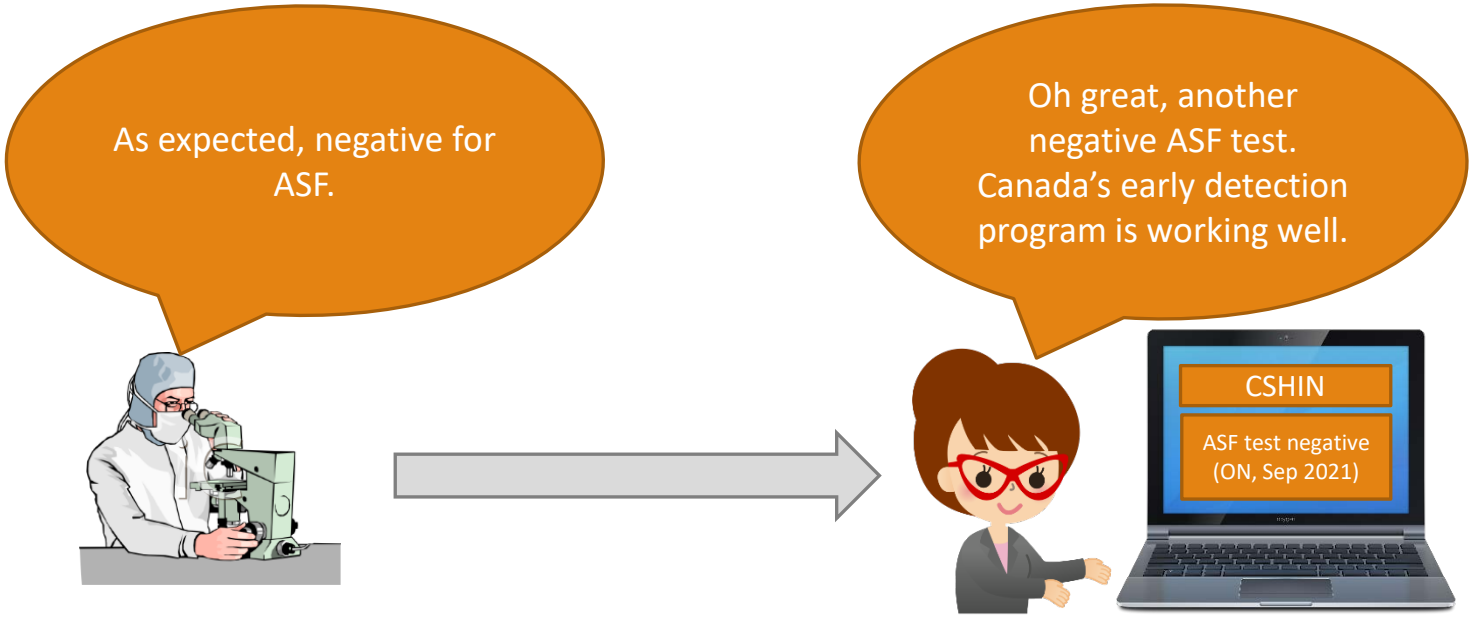
Period / Période	Number of eligible cases / Nombre de cas admissibles	Number of negative cases / Nombre de cas négatifs	Number of positive cases / Nombre de cas positifs
2020 Quarter 3 (Aug 1 to Sep 31) 2020 T3 (1er août - 30 septembre)	N/A	6	0
2020 Quarter 4 (Oct 1 to Dec 31) 2020 T4 (1er octobre - 31 décembre)	18	2	0
2021 Quarter 1 (Jan 1 to Mar 31) 2021 T1 (1er janvier - 31 mars)	64	15	0
Cumulative / Cumulatif	**82**	**23**	**0**

CWSHIN (Western provinces / Provinces de l'Ouest)

Period / Période	Number of eligible cases / Nombre de cas admissibles	Number of negative cases / Nombre de cas négatifs	Number of positive cases / Nombre de cas positifs
2020 Quarter 3 (Aug 1 to Sep 31) 2020 T3 (1er août - 30 septembre)	38	9	0
2020 Quarter 4 (Oct 1 to Dec 31) 2020 T4 (1er octobre - 31 décembre)	52	36	0
2021 Quarter 1 (Jan 1 to Mar 31) 2021 T1 (1er janvier - 31 mars)	41	45	0
Cumulative / Cumulatif	**131**	**90**	**0**

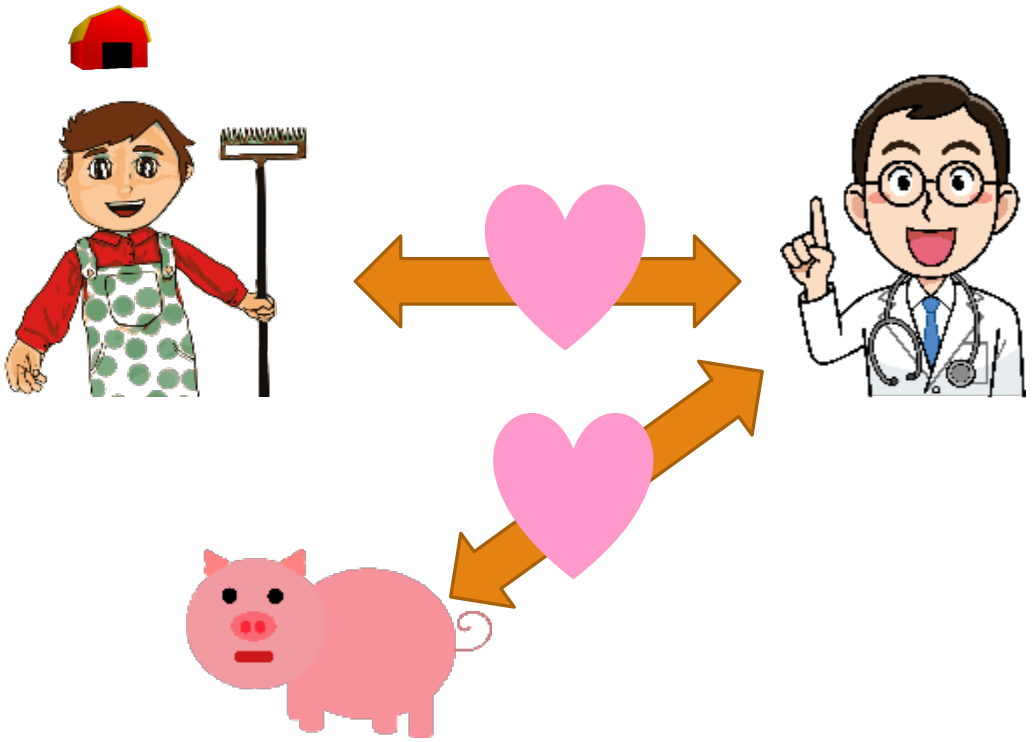
Future – Enhanced Surveillance
Abattoir condemnation testing (in Planning)

- Every day, some carcasses are separated out from the production line because of abnormalities/health problems (full carcass condemnations)
- Samples (spleen) from some full carcass condemnations will be sent to labs for ASF testing
  - *Same process once samples get to the labs*

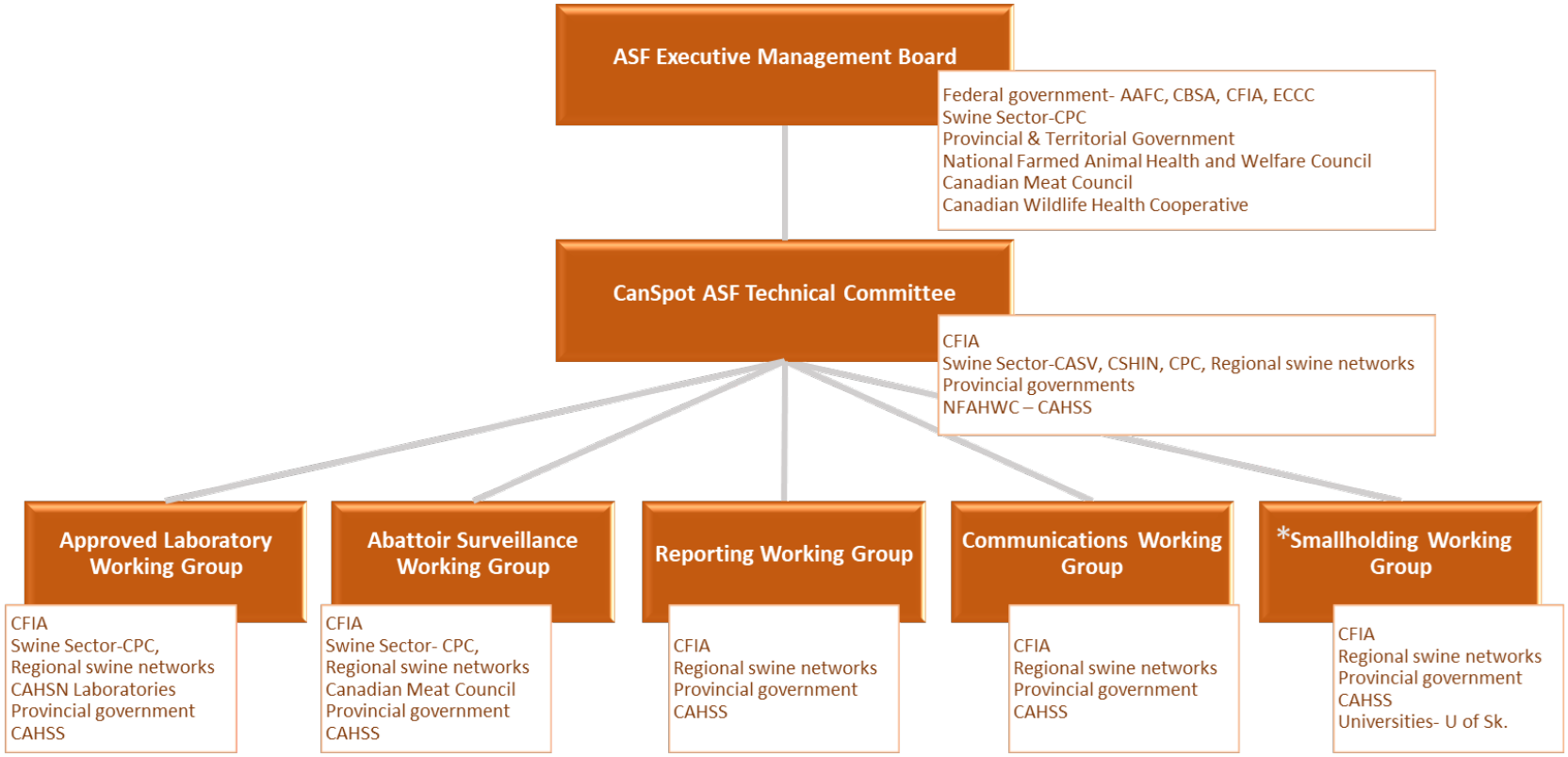


Future – Enhanced Surveillance
More ASF testing of small-holding swine

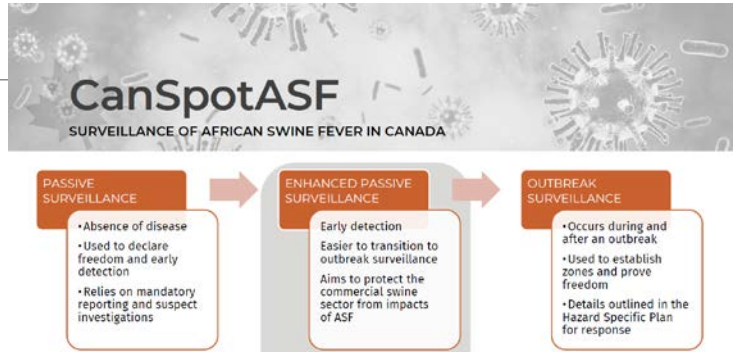
- Connect smallholders to animal health systems
  - veterinarians
  - laboratories
- Get sick pigs examined
- Get samples from sick/dead smallholder pigs submitted to labs
- Trigger ASF testing when indicated



Who is doing all this work?



CanSpotASF



Collaborative effort!

Flexible tools

- Region and population

Stepwise implementation

Learn from our successes and our challenges!

Your contributions matter!! Work with your veterinarians to determine how to contribute to ASF surveillance in Canada!

More information about CanSpotASF

https://www.ahwcouncil.ca/fr-african-swine-fever-surveillance-information

CanSpotASF

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

As a producer, you can help ensure a successful early detection of African swine fever and limit the extensive impacts that this disease would have on the Canadian swine sector.

What would be the impact of African swine fever on Canada's swine sector?

African swine fever (ASF) can cause severe disease and mortality (over 90%) in your herd. If ASF is introduced in any pig or barn in Canada, borders will close, and all trade of live pigs and pork products will stop.

You can help with African swine fever surveillance!

Before mortality is seen, ASF can look like other diseases commonly found in your barn. ASF surveillance aims to ensure early detection and rapid response, while avoiding spread of disease. Therefore, surveillance is one important tool to protect the commercial domestic swine sector.

How may my swine operation be a part of the ASF surveillance?

Part of the plan to enhance early detection of ASF is for approved laboratories to test. Therefore, samples from your farm sent to diagnostic laboratories for routine testing may also be selected to rule-out ASF. For example, if your veterinarian suspects an PRRS problem in your barn, and submits samples to confirm the diagnosis, the laboratory may do an extra test for ASF.

Remember: ASF is a reportable disease, meaning you are responsible for contacting the Canadian Food Inspection Agency (CFIA) local district office immediately if you suspect the disease in your pigs.

What happens if a laboratory rule-out test is positive?

The ASF test is very good; however, no laboratory test is perfect and in very rare cases a laboratory test can be positive without the disease present – this is known as a false positive. To ensure that the first confirmed case of ASF in Canada is a true case, a positive test is followed by further tests and thorough investigation:

- Additional ASF tests will be performed at the CFIA's National Centre for Foreign Animal Disease laboratory in Winnipeg. This may require collecting samples from additional pigs.
- A local CFIA veterinarian, along with your farm veterinarian, will immediately check the health of your animals. This may be through a phone call or a farm visit.
- CFIA will place movement restrictions on your farm while awaiting the additional test results (48 to 96 hours expected wait time).
- If ASF is confirmed by further testing and investigation, CFIA will maintain movement restrictions on your farm and initiate response activities.

This testing at approved laboratories is one of more tools in CanSpotASF.

CanSpotASF TOOLBOX

The CanSpotASF toolbox 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

Questions?