



What's up with flu?

Sow Farm Influenza Control

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Agenda

1. Why is Influenza important?
2. What is the Desired Outcome?
3. What Tools Do We Have?
4. A Few Practical Tips
 - a. Clinical Signs As Surveillance
 - b. Vaccine vs. Field Strain Comparison
 - c. Influenza Elimination

Why is influenza important?

US Finishing Production System, 2012¹

IAV-	\$ Loss/head
IAV	-\$4.55
IAV + MHP	-\$14.27
IAV + PRRS	-\$14.68

\$3–10 per pig

UK, Farrow-to-finish, production information used to create an economic model, 2020

IAV-	IAV+ Vax	IAV+
Base	-\$12.67	-\$4.86

Mexico, IAV Nursery cost savings after sow farm elimination, 2024

ADG	Mortality	Treatment Cost
+36.6g	-0.45%	-\$0.38

¹[Haden C, et al., 2012](#)
²[Calderón Díaz, J. A., et al., 2020](#)
³[J. Garrido-Mantilla, et al., 2025](#)

Why is influenza important?



County fairs (with infected pigs)

At the 42 fairs that had infections, 42.9% of the 1194 pigs tested carried flu viruses; another 56 fairs had no infections.



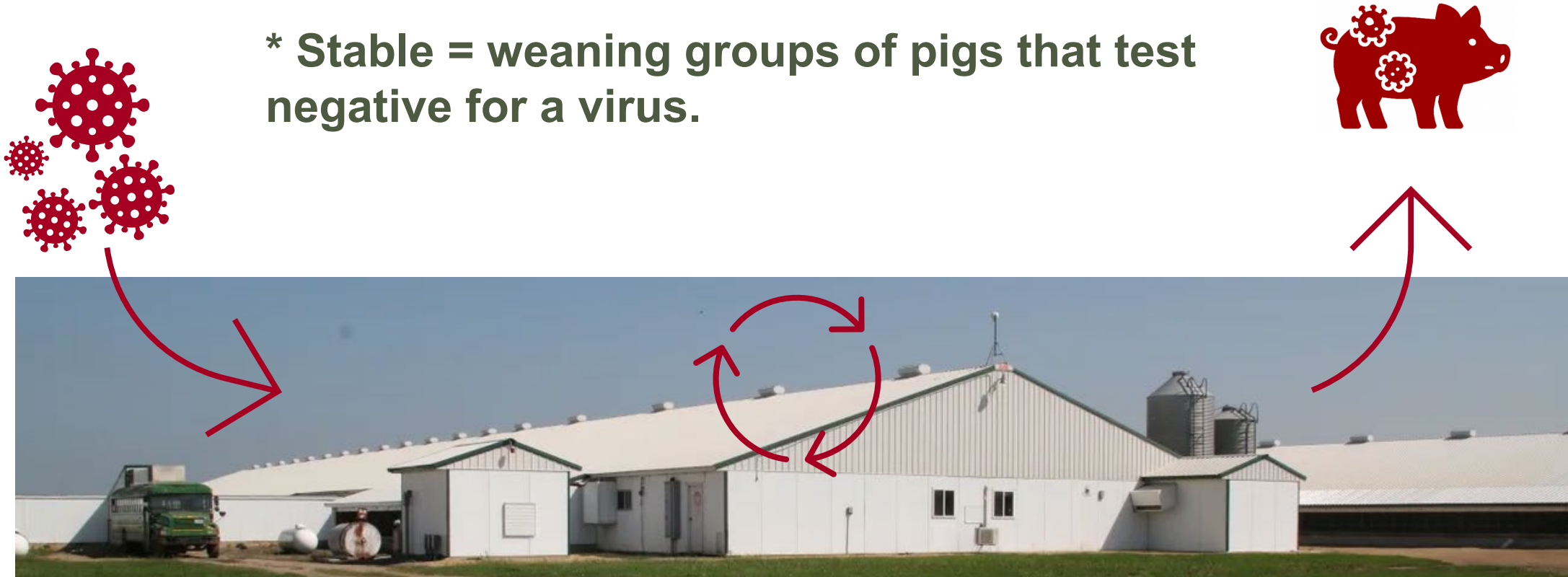
“National investigations of reported human cases of H3N2v during the 2012 outbreak revealed that 95% of cases reported direct or indirect contact with pigs, with 93% of cases having attended an agricultural fair within four days of the onset of clinical signs.”

What is the influenza outcome we want?

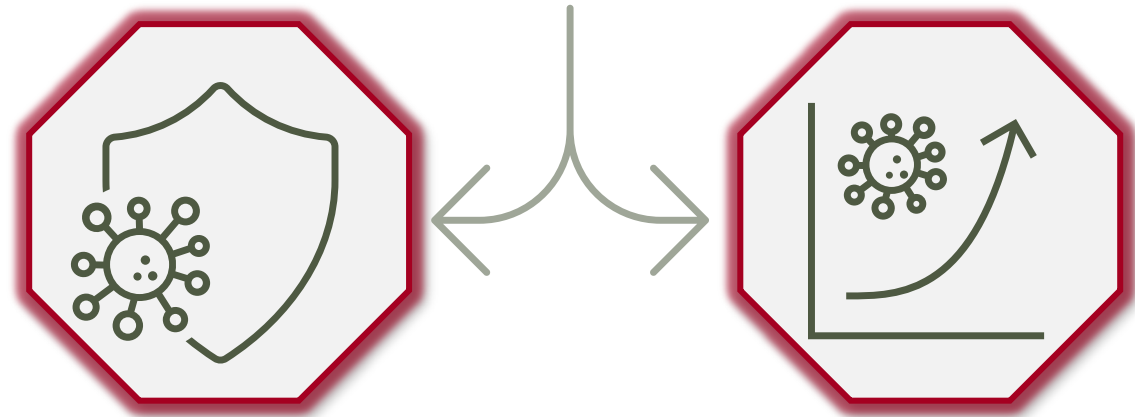
Some basics:

1. Influenza is introduced to farms from infected pigs, airborne (likely 2-3km), contaminated equipment/water, infected people
2. Farrowing rooms are very effective places for flu amplification
3. The objective is negative or a stable* sow herd

*** Stable = weaning groups of pigs that test negative for a virus.**



Tools for breaking the influenza cycles



**stop (continuous)
inflow of virus**

**stop amplification
of virus**

1. General biosecurity
2. Breeding stock



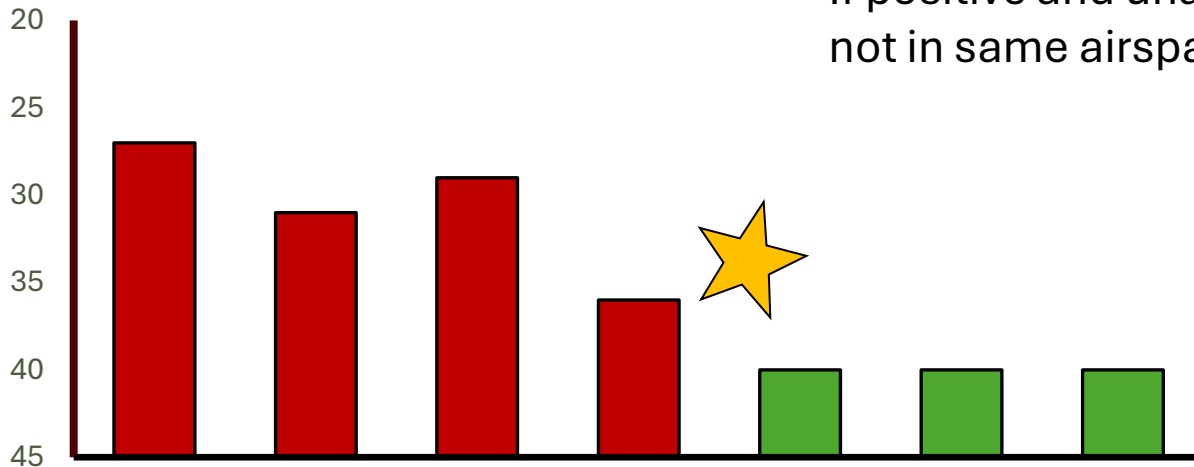
1. Batch farrowing
2. Virus Monitoring
3. Internal Biosecurity
4. Vaccination

Tools for breaking the influenza cycles

1. Breeding Stock

Are incoming gilts (and boars) shedding virus as they enter the same air space as the sow herd?

- If positive on entry and not vaccinated, then vaccinate
- If positive on entry and vaccinated, then check vaccine match, vaccinate earlier (2 weeks +)
- If positive and unable to get negative, can an isolation area be used not in same airspace?



Tools for breaking the influenza cycles

2. Virus Monitoring

	Individual Animal Samples			Population Samples		
Testing goal:	Lungs	Nasal swabs	Snout wipes	Oral fluids	Udder wipes	OP Swab
Determine if farm/ room/pen is positive	High success rate of testing goal	High success rate of testing goal	Moderate success rate	High success rate of testing goal	High success rate of testing goal	High success rate of testing goal
Determine prevalence in a farm/room/pen	Low success rate	High success rate of testing goal	Moderate success rate	Moderate success rate	High success rate of testing goal	High success rate of testing goal
Obtain sequence*	28	28	30	28	30	30
Isolate virus*	28	28	25	20	25	25

High success rate of testing goal

Moderate success rate

Low success rate

Tools for breaking the influenza cycles

2. Virus Monitoring

Udder Swabs



Preventive Veterinary Medicine
Volume 245, December 2025, 106671



Probability of Influenza A virus RNA detection at different pooling levels for commonly used sample types in swine breeding herds

Daniel Carnevale de Almeida Moraes ^a✉, Onyekachukwu Henry Osemeke ^a✉, Phillip C. Gauger ^a✉, Cesar Amorim Moura ^b✉, Giovani Trevisan ^a✉, Gustavo S. Silva ^a✉, Daniel C.L. Linhares ^a✉

- Can pool up to 10 udder swabs together, sampling > 100 piglets for approx. \$50

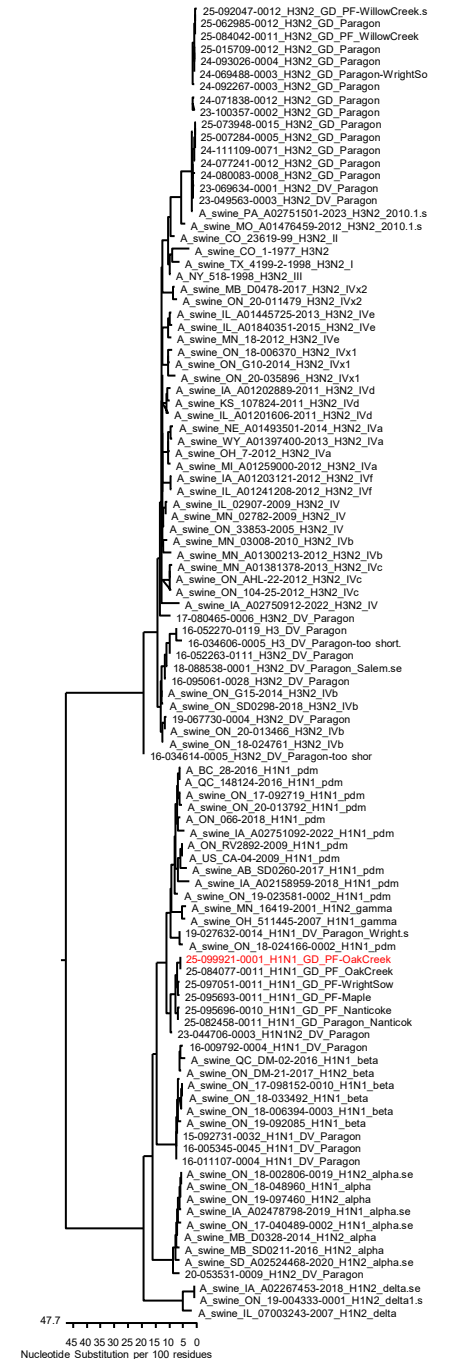
Tools for breaking the influenza cycles

2. Virus Monitoring

- Subsidized testing at the AHL, means that one of the positive tests in a submission will be typed and sequenced
- This can be used to compare to historical farm samples, connected farm strains, comparison to available vaccines



LABORATORY SERVICES DIVISION



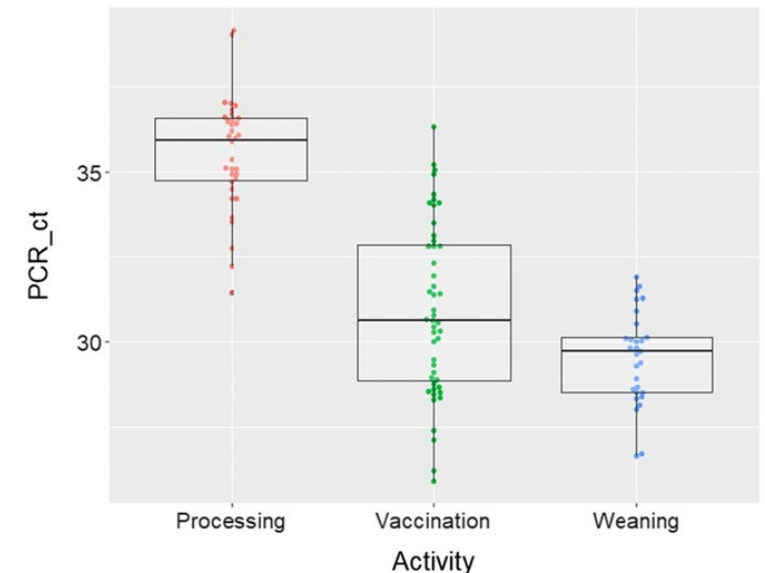
Tools for breaking the influenza cycles

3. Internal Biosecurity

Table 1 Number (percentage) of influenza A virus samples that tested rRT-PCR positive by farm and activity performed

Farm	Processing			Vaccination			Weaning		
	Hands (%)	Coverall (%)	Total (%)	Hands (%)	Coverall (%)	Total (%)	Hands (%)	Coverall (%)	Total (%)
Total	3/36 (8.3)	9/40 (22.5)	12/76 (15.8)	26/29 (89.7)	19/19 (100)	45/48 (93.8)	14/15 (93.3)	15/16 (93.8)	29/31 (93.5)

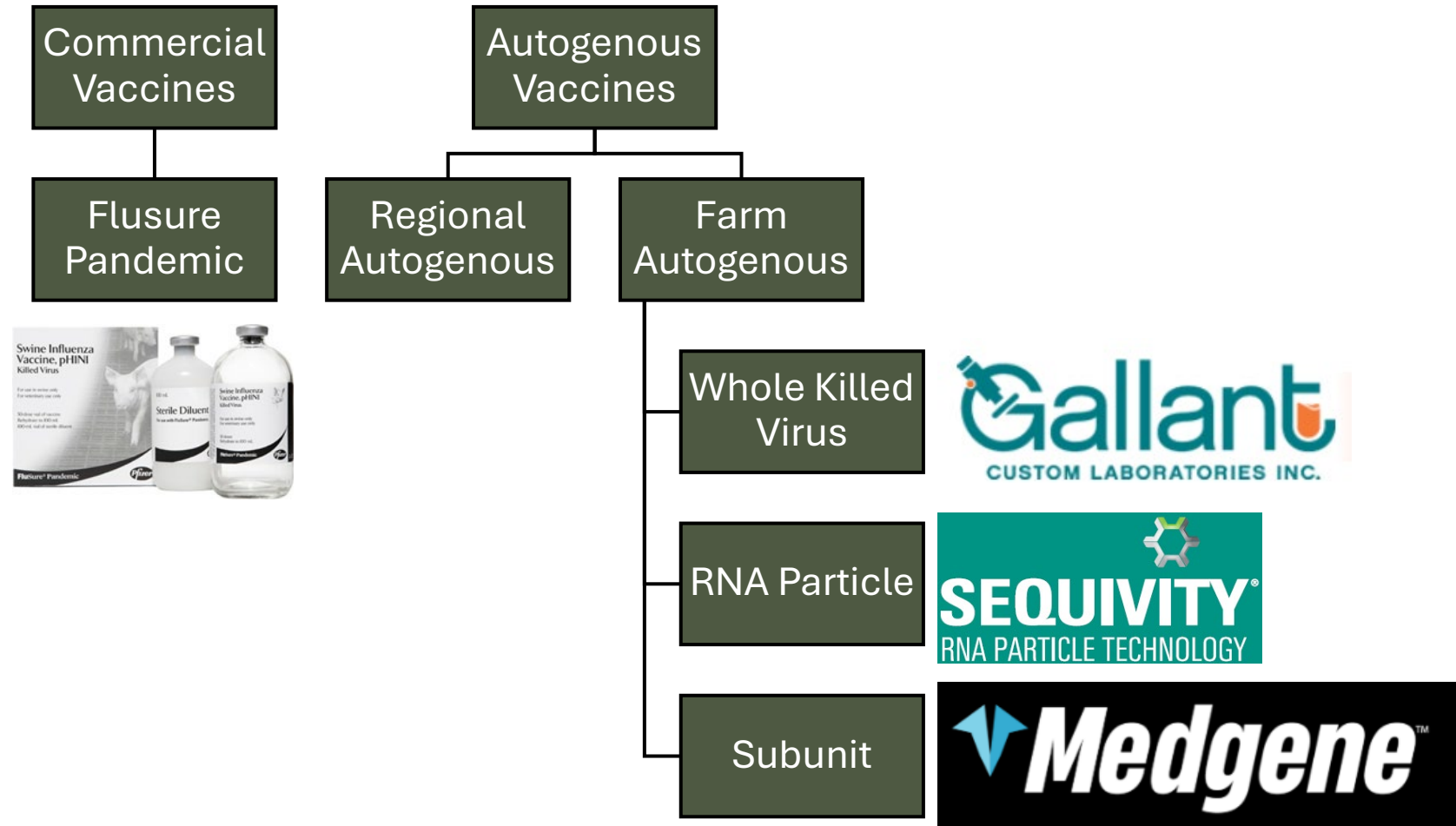
- Clothing and hands are highly contaminated after vaccinating and weaning piglets
- This is the bases for some “elevated internal biosecurity” protocols during influenza stabilization or eliminations. Zones based on piglet age.
- Also, considerations for nurse sow management



Tools for breaking the influenza cycles

4. Sow Vaccination

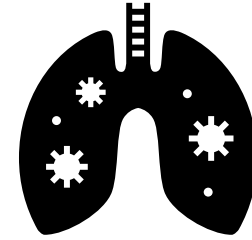
- Most important tool for managing influenza at the level of the sow farm



A few practical tips

1. Monitoring Clinical Signs

- Coughing does not always equal flu in nursing piglets
 - Following vaccination, coughing increased, udder swabs consistently negative for influenza, tissue samples negative
- Flu does not always equal coughing in nursing piglets
 - Report of influenza and coughing in nursery, no cough in sow barn, udder swabs find mid to high levels of influenza



Porcine parainfluenza 1

Astrovirus 4

haemagglutinating

encephalomyelitis virus

A few practical tips

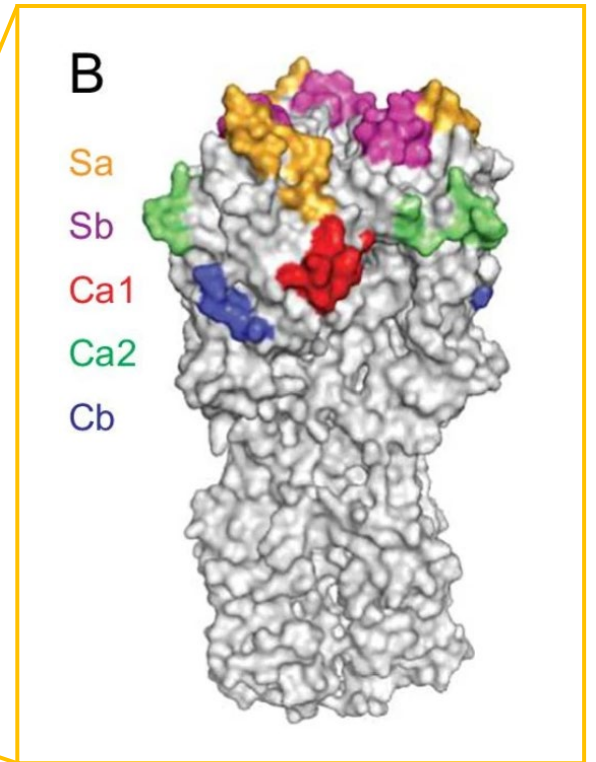
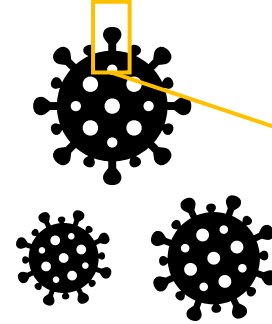
2. Vaccine to Field Strain Comparison

Canada could face 'worst kind' of flu season as experts warn evolving strain may be mismatch for vaccine

Alarm bells abroad, spread of a new form of H3N2 provide warnings as influenza cases start ticking up



Lauren Pelley · CBC News · Posted: Nov 09, 2025 4:00 AM EST | Last Updated: November 9



RP H91	P	N	K	K	G	R	S	P	K	I	N	Q	T
NAN 25-095696	P	N	K	K	G	N	S	P	K	I	N	Q	T
MAP 25-095693	P	N	K	K	G	K	S	P	K	I	N	Q	T
OAK 25-084077	P	N	K	K	G	K	S	P	K	I	N	Q	T
WS 25-097051	P	N	K	K	G	K	S	P	K	I	N	Q	T
OC 25-099921	P	N	K	K	G	Q	S	P	K	I	N	Q	T
NAN 25-082458	P	N	K	K	G	N	S	P	K	I	N	Q	T

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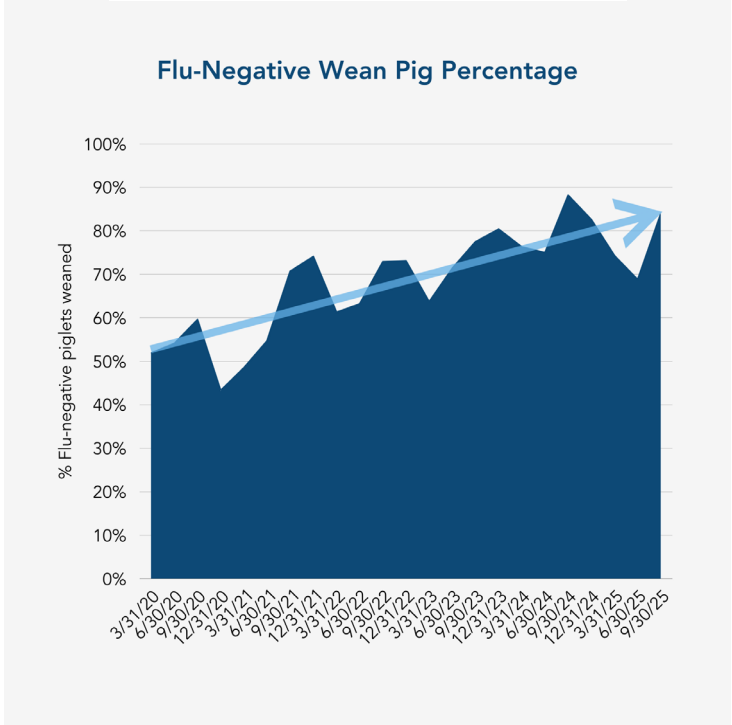
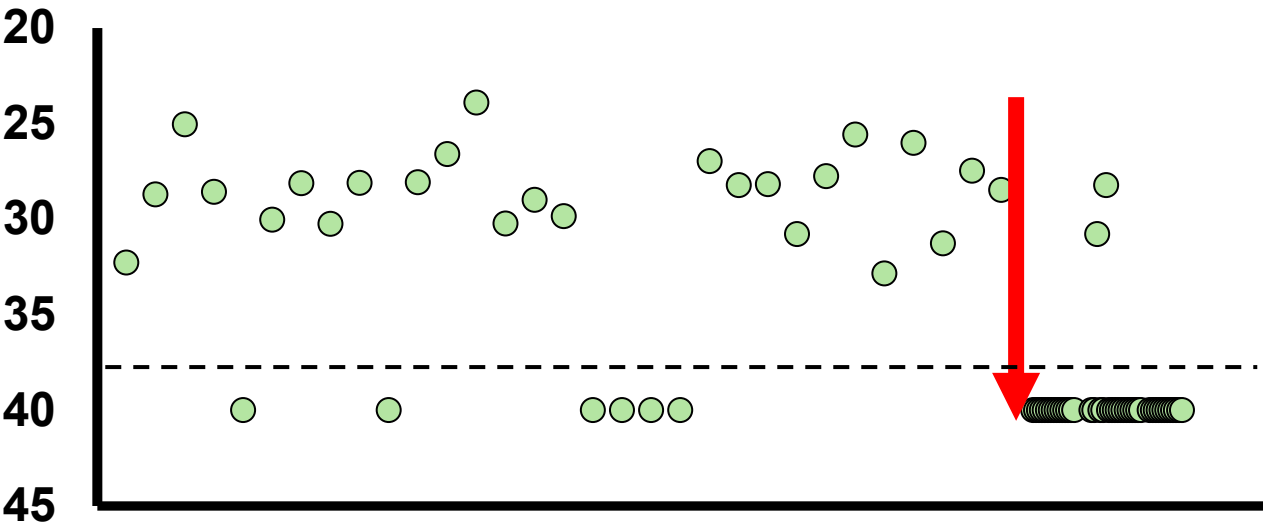
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A few practical tips

3. Influenza Elimination

- Influenza elimination from sow farms is gaining traction, with vaccination we have the tools

Udder Swab Influenza PCR *H3N2 2010.1*



	1 st Vaccine Administration					2 nd Vaccine Administration					3 rd Vaccine Administration					4 th Vaccine Administration					5 th Vaccine Administration										
	16 Jul	16 Aug	16 Sep	16 Oct	16 Nov	16 Dec	17 Jan	17 Feb	17 Mar	17 Apr	17 May	17 Jun	17 Jul	17 Aug	17 Sep	17 Oct	17 Nov	17 Dec	18 Jan	18 Feb	18 Mar	18 Apr	18 May	18 Jun	18 Jul	18 Aug	18 Sep	18 Oct	18 Nov	18 Dec	19 Jan
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Farm prevalence	40%	20.0%	26.7%	40.0%	33.3%	34.4%	24.1%	16.7%	31.4%	21.2%	11.4%	9.4%	5.9%	14.7%	11.8%	17.6%	11.8%	20.6%	8.8%	9.1%	18.2%	6.1%	3.1%	0.0%	3.0%	2.9%	2.9%	0.0%	0.0%	5.9%	2.9%

Summary

1. Influenza in a pig production system has a significant cost.
2. Stabilizing (eliminating?) influenza in the sow farm is the target:
 - a. Stop bringing in virus positive pigs
 - b. Test to determine virus strains present
 - c. Vaccinate (+/- other internal biosecurity measures)
 - d. Monitor with testing and investigate if unexpected results



Thank You!



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