

Immediate notification report

Report reference: CAN-A/H1N1-2009, Ref OIE: 8065, Report Date: 02/05/2009 , Country: Canada

Report Summary

Disease Name:	A/H1N1 influenza	Animal type	Terrestrial
	(New Unknown Disease)	Serotype(s)	Other
Causal Agent	Novel A/H1N1 2009 influenza virus	Date of first confirmation of the event	01/05/2009
Reason	Emerging disease	Date of report	02/05/2009
Date of Start of Event	21/04/2009	Number Of Reported Outbreaks	Submitted= 1, Draft= 0
Date Submitted To OIE	05/05/2009	Address	59 Camelot Drive, Room 146 W OTTAWA K1A 0Y9
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Entered by	Dr Brian Evans		

Disease Impact

Units for morbidity and mortality	Morbidity	Mortality	Zoonotic potential
Quantitative (%)	25%	0%	Possible transmission of the novel A/H1N1 influenza virus from humans to pigs.

Outbreak (this report - submitted) (ALB-001)

Province	Unit Type	Location	Latitude	Longitude	Start date	End Date
ALBERTA	Farm	Clearwater county	52,2756	-115,716	21/04/2009	
Species	Measuring units	Susceptible	Cases	Deaths	Destroyed	Slaughtered
Swine	Animals	2020	450	0	0	0

Affected Population

Farrow/Finishing Operation: 220 sows and their piglets in two barns and 1,800 growers in four barns. Clinical signs (respiratory) were observed in the grower population. Mortality slightly increased in the last few days in weanlings but at this point, it is not certain how much of this is attributable to A/H1N1 influenza virus infection.

Outbreak summary: Total outbreaks = 1 (Submitted)

Species	Susceptible	Cases	Deaths	Destroyed	Slaughtered
Swine	2020	450	0	0	0

Epidemiology

Epidemiological comments

A carpenter hired by the farm owner (ALB-001) travelled to Mexico recently and returned to Canada on 12 April 2009. The carpenter, the producer and the producer's family had been ill with flu like symptoms between 14 – 29 April. Investigation of human cases by the Public Health authorities is underway.

A Canadian Food Inspection Agency (CFIA) team attended the premises on 28 April and collected samples from swine for influenza virus testing.

Swabs and serum samples were received at the CFIA National Centre for Foreign Animal Diseases (NCFAD) in Winnipeg on 29 April 2009. The samples were run in conventional RT-PCR for the Matrix and the H1 gene (primers kindly provided by the PHAC National Microbiology Laboratory, Winnipeg). These results showed that 19/24 samples were positive for the M gene and 15/24 samples positive for the H1 gene.

This was immediately followed up by sequencing of these PCR products (6 samples for the Matrix and 5 for the H1 gene). The sequences of a segment of approximately 244 nucleotides of the Matrix gene from 6 samples showed that this sequence was 100% (for the 244 nucleotides sequenced) identical to sequences derived from the novel A/H1N1 influenza virus from the USA and Mexico and similar results (99-100% identity) were found for around 500 nucleotides of the H1 gene from 5 samples. The sequences derived from the pig samples were identical to each other and for the M gene most similar to the Eurasian lineage while the H1 gene is more reminiscent of the North American lineage as would be expected for this novel virus.

Additional sequencing of part of the N gene clearly shows that this is a N1 virus and the sequence of the approximately 1,400 nucleotide fragment is highly related to the novel A/H1N1 influenza virus. It is thus confirmed that this is the novel A/H1N1 influenza virus and being very closely related to the human strains based on the genes sequenced so far. Full characterisation is continuing and so is virus isolation in eggs.

Source of the outbreak(s) or origin of infection	• Possible transmission from humans to pigs.
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Control Measures

Applied	• Quarantine	To be applied	• No Planned Control Measures
Animals treated	No	Vaccination Prohibited	No

Diagnostic test results

Laboratory Type	Name of Laboratory	Species	Test Type	Date Results Provided	Result
National laboratory	CFIA National Centre for Foreign Animal Diseases - Winnipeg	Swine	gene sequencing	04/05/2009	Positive
National laboratory	CFIA National Centre for Foreign Animal Diseases - Winnipeg	Swine	polymerase chain reaction (PCR)	01/05/2009	Positive

Future Reporting

What further reports will be submitted in relation to this event?
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There are 1 outbreaks that are still recorded as unresolved. It is not possible to declare this event resolved until these individual outbreaks are resolved.

The event is continuing. Weekly follow-up reports will be submitted.
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Outbreak map

