



ESFLU
European Swine
Influenza Network

Detection of swine influenza A virus in subclinical infected pig farms in Slovenia

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Clinic for Reproduction and Large Animals

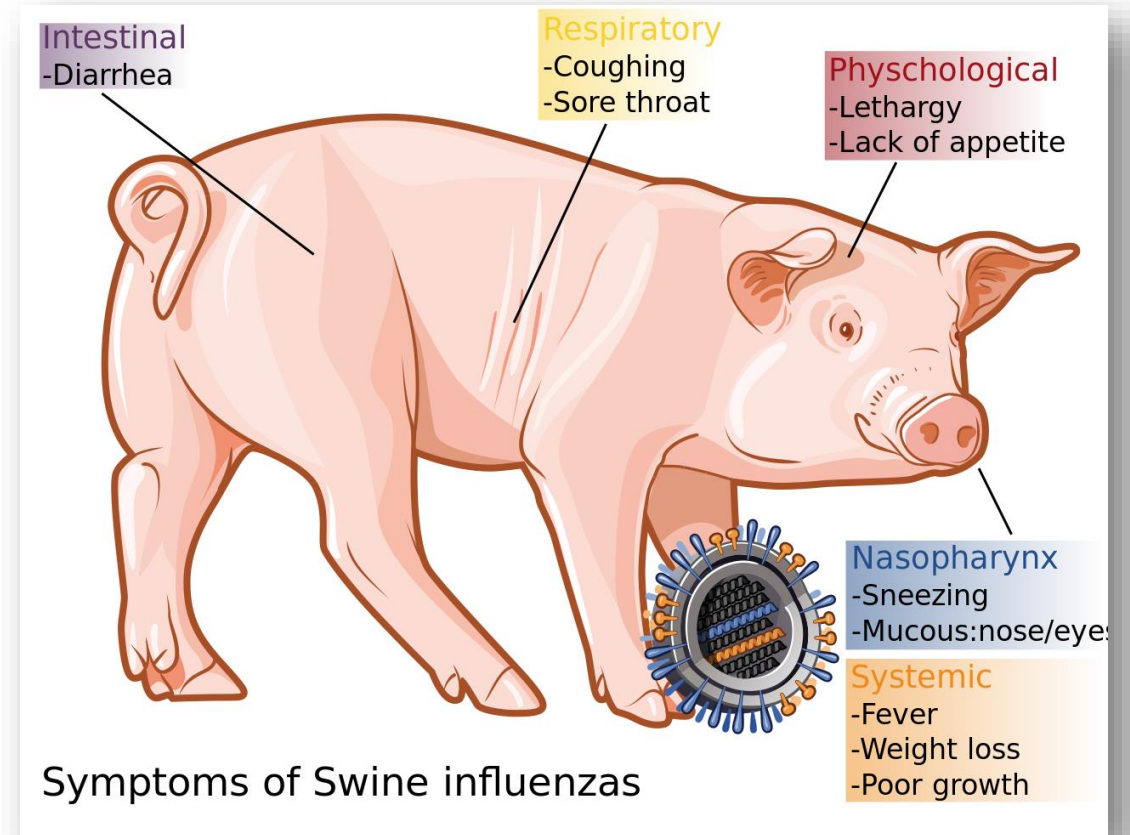
Clinic for Ruminants and Pigs

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Introduction

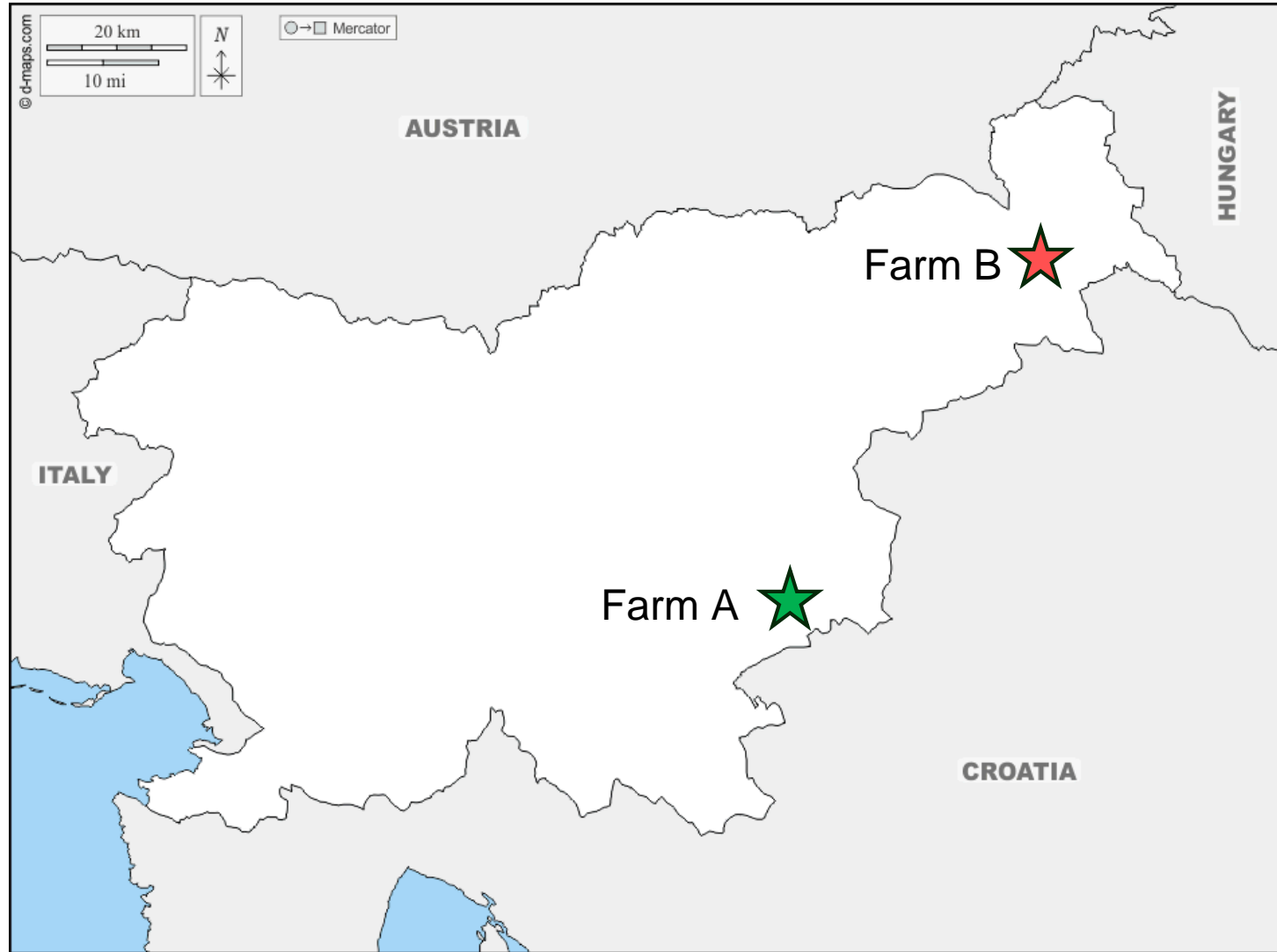
- Respiratory diseases present an important challenge in pig production
- Negative impacts of swine influenza A:
 - Animal welfare
 - Production losses
- Zoonotic potential
- Aim of this diagnostic investigation?



National Institute of Allergy and Infectious Diseases (NIAID)

Materials and methods

Sampled farms in Slovenia



Sampling protocol

- Sampling in late September 2023
- Nasal swabs were taken in following age groups:
 - a) Suckling piglets at **3 w.o.a.** (n= 25)
1 piglet per litter, 10 random litters
 - b) Weaners at **5 to 6 w.o.a.** (n=50)
 - c) Nursery at **7 to 8 w.o.a.** (n=50)
max. 2 pigs per pen
- Samples were pooled (5 swabs per pool)
 - **Farm A** (2 pools per age group)
 - **Farm B** (3 pools per age group)
- Pigs showed no respiratory signs



Nasal swab (photo courtesy of dr. Irena Golinar Oven, VF UL)

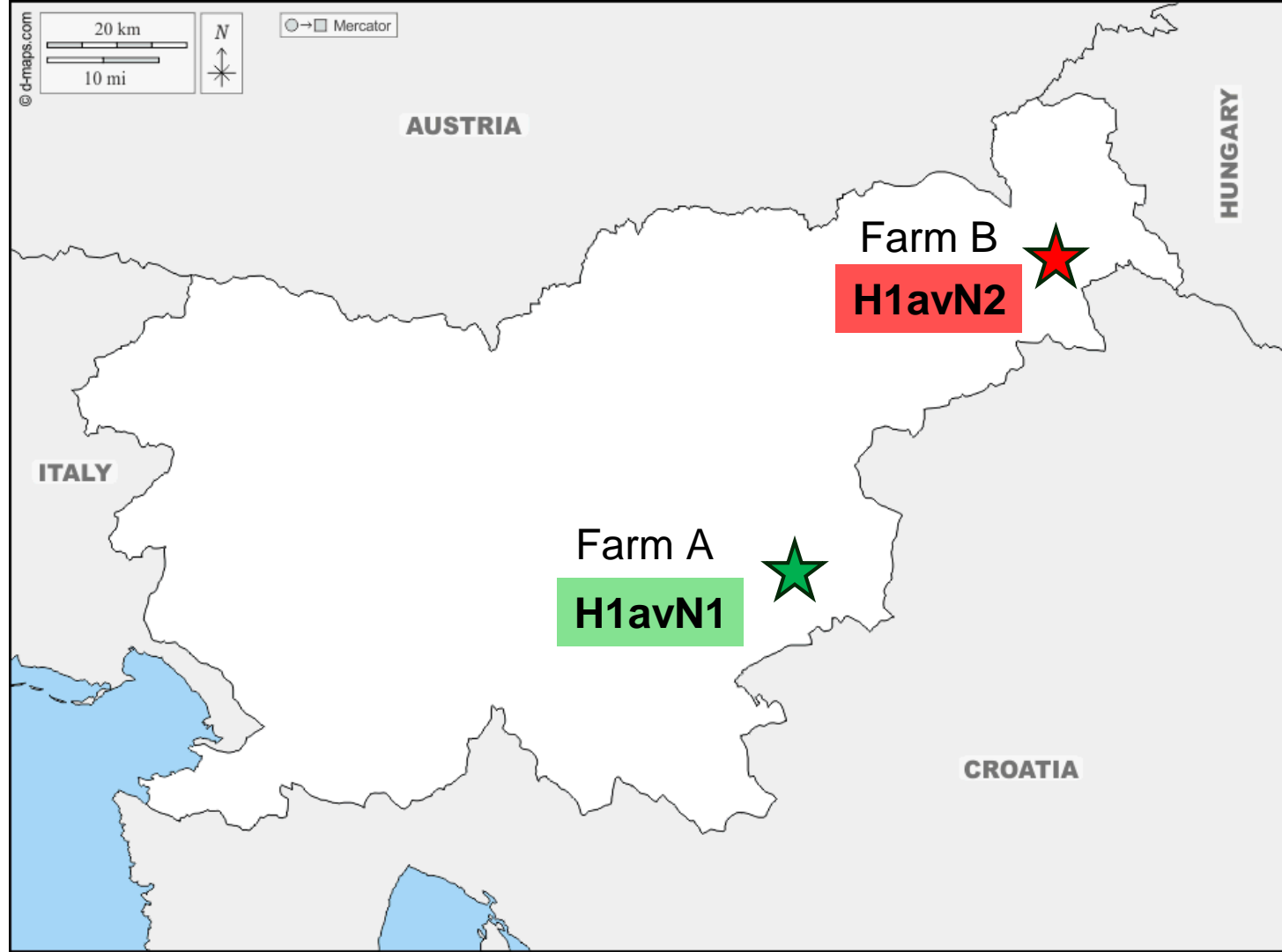
Transportation and analysis

1. Samples were transported *cooled in viral transport medium* (Viroult, MWE) to Ceva-Phylaxia laboratory in Hungary
2. Samples were analysed using *qRT-PCR assay* (VetMax-Gold Detection Kit, Thermo Fisher)
3. Examined with *Next generation sequencing (NGS)* for HA and NA specific viral genome sequences using MinION platform (Oxford Nanopore Technologies (ONT))

Results

FARM	AGE GROUP	CT value	HA (H1 clade)	NA	Subtype
Farm A	Piglets	27,65*	1C.2	N1	H1avN1
	Piglets	27,19*		N1	
	Weaners	34,5			
	Weaners	32,0			
	Nursery	33,0			
	Nursery	34,1			
Farm B	Piglets	35,0			
	Piglets	25,3*	1C.2.4.	N2	H1avN2
	Piglets	33,1			
	Weaners	34,7			
	Weaners	34,7			
	Weaners	34,2			
	Nursery	33,4			
	Nursery	33,8			
	Nursery	34,1			

*used for NGS



Discussion and conclusion

- All pools ***were positive*** for swIAV
 - Virus is present, animals show no clinical signs
- Two subtypes:
- **H1avN2** (*clade 1C.2.4.*)
 - Detected in Denmark, France, Italy...
- **H1avN1** (*clade 1C.2.*)
 - In most European countries
- Subclinical swIAV infections are likely underreported
- Further research planned

***Thank you for your
attention!***