Time to Pull the Plug on the Vaccines?

- ASFV-G-ΔI177L showed genetic changes and increased virulence after forced animal passages.
- Only live vaccines have been effective against ASF so far – the risks are generally known.
- There are successful examples of attenuated vaccines despite documented risks (also against CSF → GPE-).
- Reversion studies simulate artificial extreme conditions – they are informative but not solely decisive.
- Live vaccines against ASF pose significant risks in pregnant animals and breeding boars.
- Vaccination of breeding animals, especially pregnant sows, should be avoided or done prior to insemination; no vaccination of breeding boars.
- Planned transmission experiments aim to clarify whether altered viruses transmit more efficiently (in naïve and vaccinated populations).
- Recombination can occur; the impact depends on the scenario.
- There are also successful vaccines that undergo recombination (e.g., BHV-1).

My recommendation:

👉 **No rushed decisions** – a fact-based, context-specific benefit - risk assessment

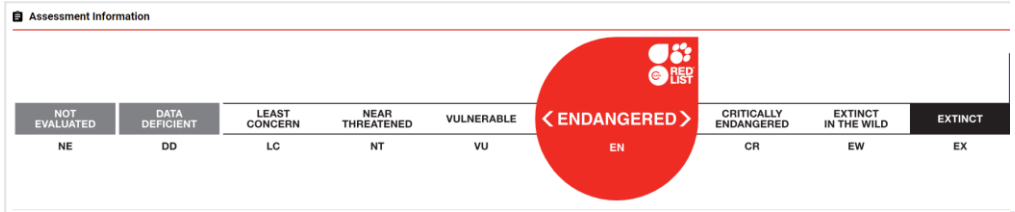
FLI

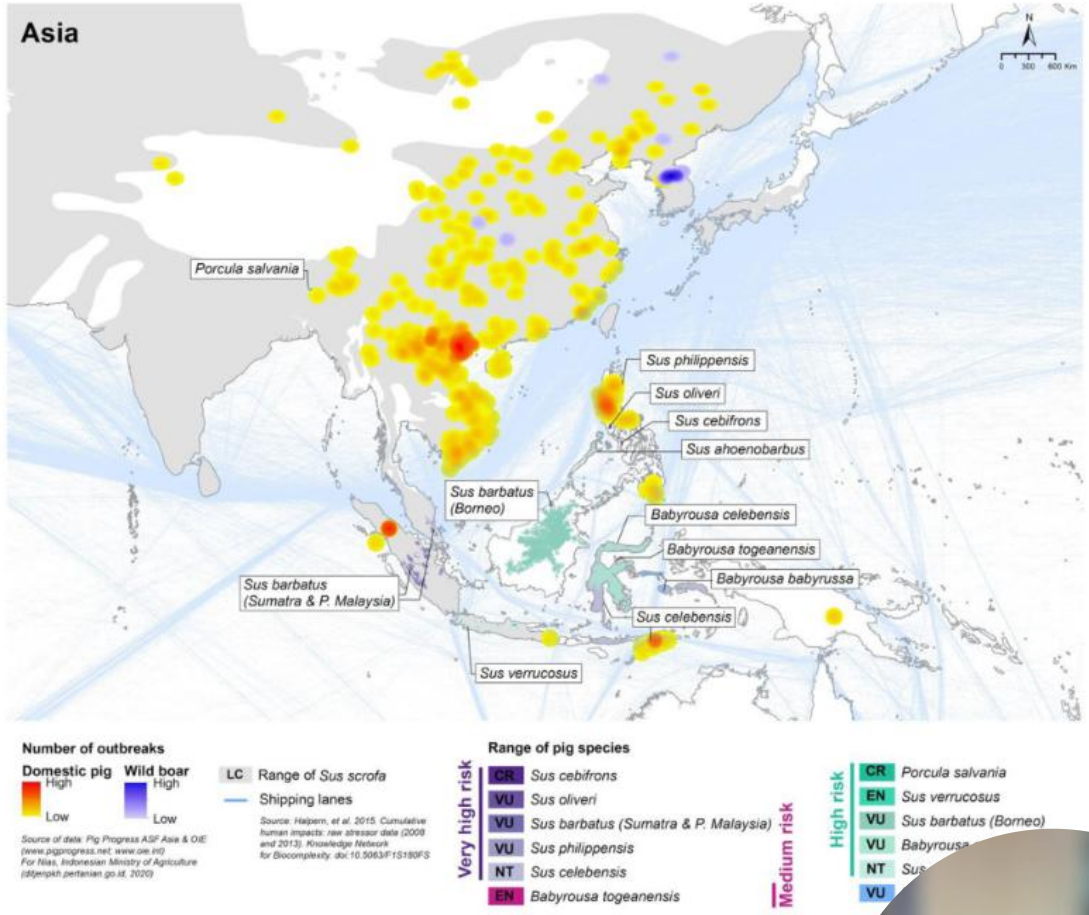
Not all suids are numerous…

FAO, IUCN SSC and OIE warn of African swine fever impact on wildlife conservation

Mon, 23 Aug 2021

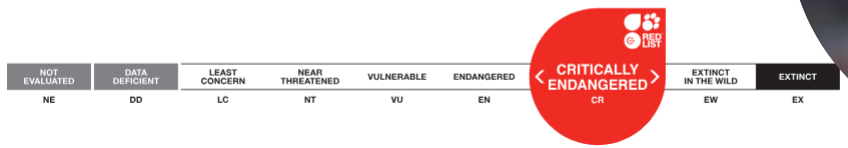
The increasing rate of infection of African swine fever (ASF) among domestic and wild pigs in the Asia-Pacific region has prompted the Food and Agriculture Organization of the United Nations (FAO), the International Union for Conservation of Nature's Species Survival Commission (IUCN SSC), and the World Organisation for Animal Health (OIE) to issue a joint call for countries in the region to develop stronger policies and implement strategies to mitigate the impacts of ASF on wildlife, livestock health, and rural livelihoods.

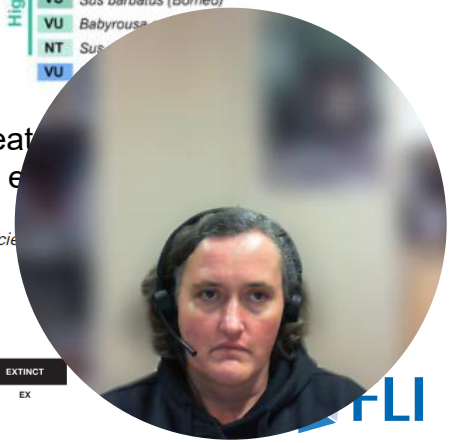




Quelle: Luskin, Matthew Scott, et al. "African swine fever threat
endemic wild pig species." Conservation Letters 14.3 (2021): e

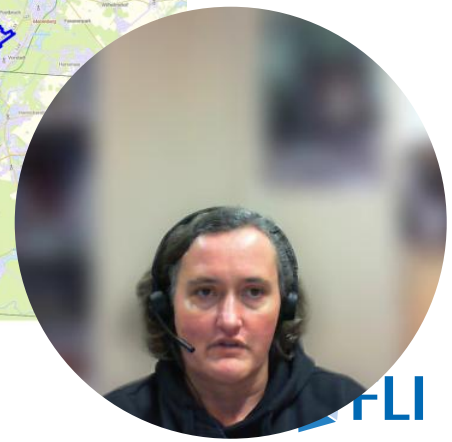
Meijaard, E., Oliver, W.R.T. & Leus, K. 2017. *Sus cebifrons. The IUCN Red List of Threatened Specie*



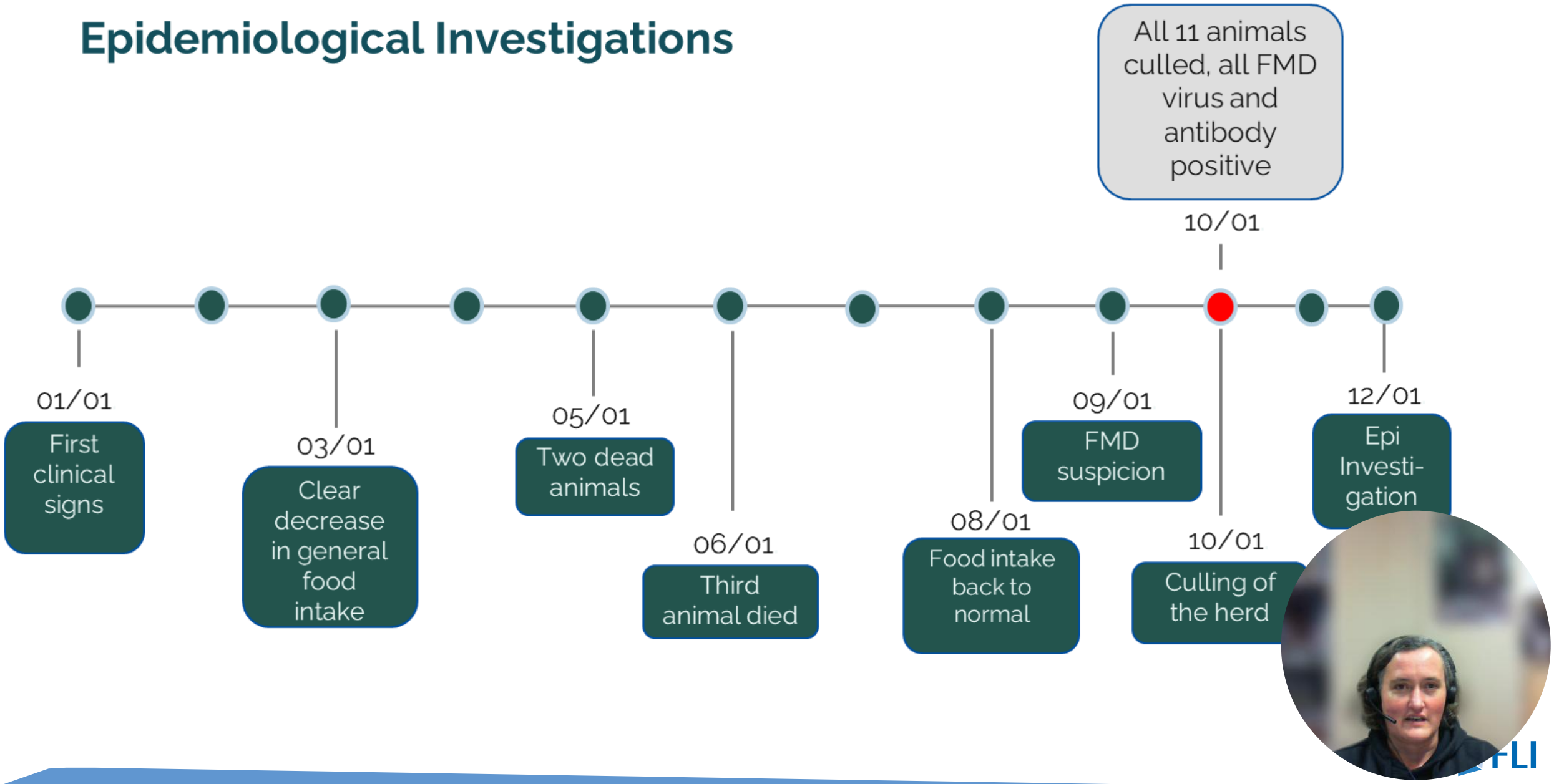


FMD in Germany - What happened?

- At the beginning of January 2025, a number of animals in a buffalo herd in the Märkisch-Oderland district showed unspecific clinical signs and three animals subsequently died; the last buffalo was necropsied.
- As the suspicion of bluetongue disease was not confirmed, further investigations were carried out, including a test for FMDV.
- This test yielded a positive result (PCR) on January 9, 2025.
- Official confirmation of FMD on January 10, 2025.
- **First detection in Germany since 1988**!



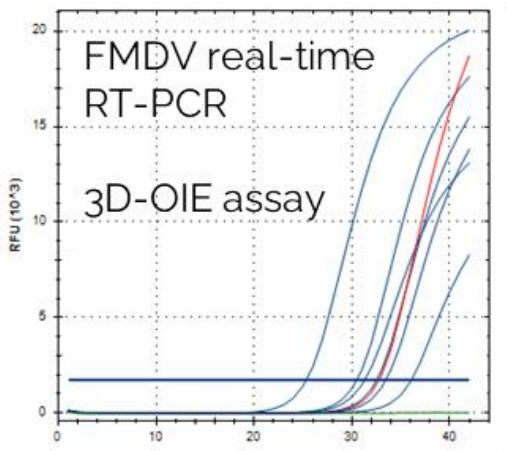
Epidemiological Investigations



Timeline of laboratory diagnosis at FLI

Thu 09/01 15:45	Fri 10/01 00:45	Fri 10/01 05:00	Fri 10/01 16:00	Sat 11/01 08:30	Sat 11/01 12:00	Sat 11/01 1[illegible]
regional lab informs NRL of positive RT-PCR result in post-mortem samples from a water buffalo	samples arrive at FLI, delayed by severe weather analysis begins immediately	FLI confirms results of regional lab by RT-PCR and antigen LFD, notifies authorities virus isolation and sequencing initiated	first indication of positive virus isolation original sample found unsuitable to determine serotype by antigen ELISA	strong CPE confirms successful virus isolation preliminary results from sequencing indicate sero-type O	serotype O confirmed in virus isolate by antigen ELISA	whole-genome sequencing and phylogenetic analysis completed, positive identification of lineage O/ME-SA/SA-2018 FLI notifies authorities
		+4h			+36h	

Overview of diagnostic tests performed on initial sample



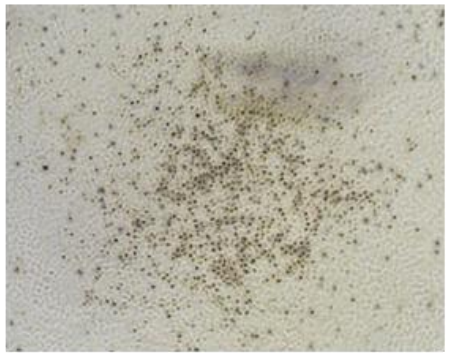
	FMDV Cq
lung	25.3
intestine	31.3
spleen	36.1
lymph node	30.5
tonsil	32.5
blood	33.4

→ sequencing (Sanger & NGS)

→ FMDV NSP antibody ELISA: *negative*

FMDV antigen lateral flow device

from lung homogenate



from lung homogenate

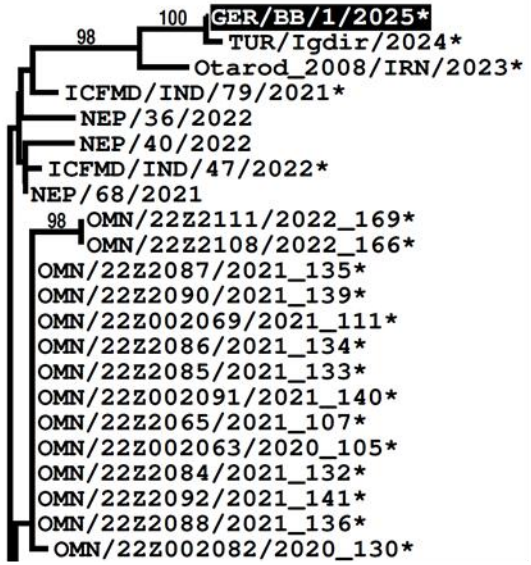
virus isolation in LFBK-αVβ6 cell culture → in-house FMDV antigen ELISA

	mOD
O	2.415
A	0.643
C	1.403
Asia-1	1.225
SAT1	0.244
SAT2	0.265
SAT3	0.295

Typing of the virus

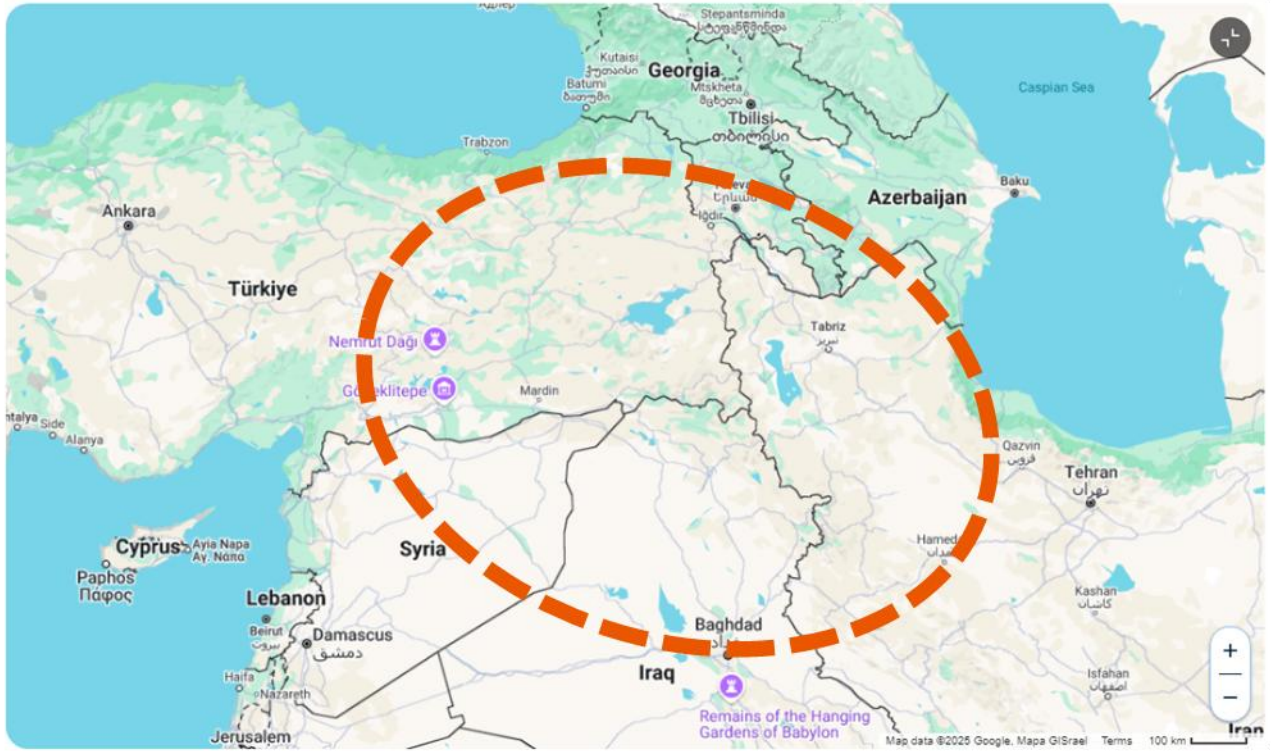
Virus phylogeny

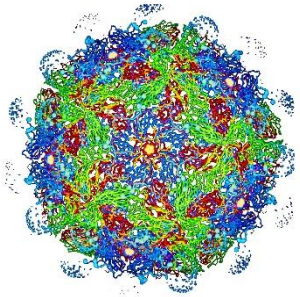
FMDV serotype:	O
Country:	Germany
Year:	2025
Batch:	WRLMEG/2025/000002
No. of sequences:	1
Report date:	11th January 2025
Report generated by:	Nick Knowles
Report checked by:	Don King



THE Pirbright INSTITUTE

- Sequence record is very sparse
- Closest matches in database are from Türkiye and Iran, but this virus likely also circulates in other countries in the region

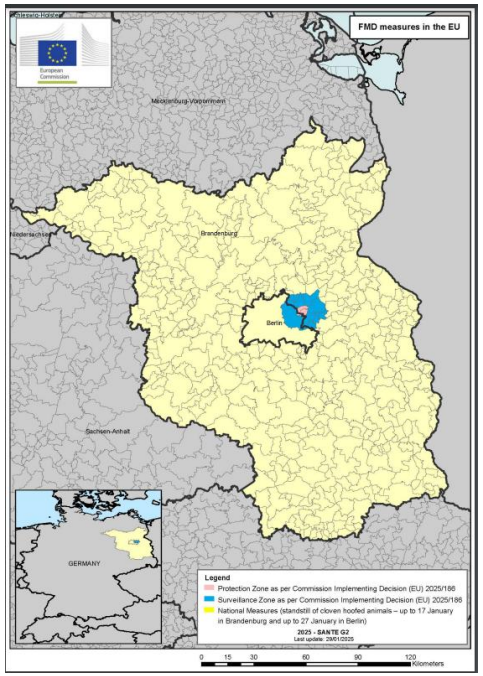




- Serotyp O (Isolat O/GER/BB/1/2025), Topotyp ME-SA, lineage SA-2018
- This type is found in Middle East and Asia

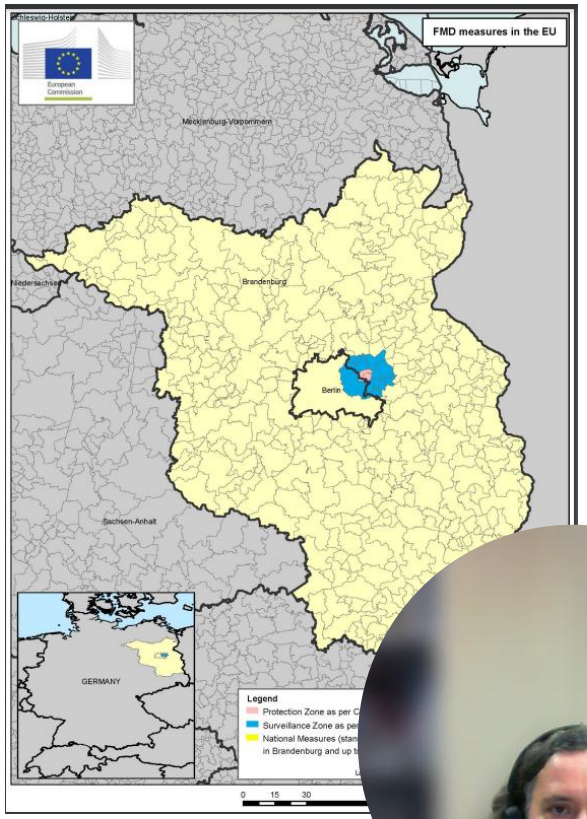
Measures after confirmation

- Standstill for 72 h
- (Brandenburg extended for 48 h, Berlin for 7 d)
- Establishment of protection zone and surveillance zone.
- Ban on movement of cloven-hoofed animals.
- Culling of livestock within a 1 km radius, including free-range pigs, goats, and sheep belonging to smallholders → Negative
- Culling of contact farms via feed → Negative
- SecAnim (renderer) route: → Negative



Measures after confirmation (cont‘d)

- Investigation of all herds in the surveillance zone → all (~120 holdings) were clinically inconspicuous and sampled
- None of the samples positive in virology or serology
- Inclusion of wildlife samples → no positive reactions
- Suspicions in the surroundings (goat) were not confirmed

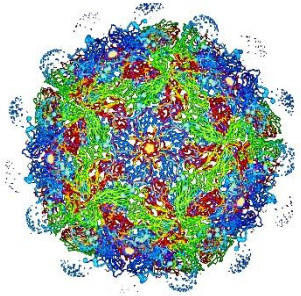


Time of introduction

- Water buffaloes culled on 10/01/2025 were PCR-positive and antibody-positive
- Animal that died on 06/01/2025 did not have antibodies on that day
- Assumption:
- Incubation period of 3-7 days
- Start of antibody production about 7-10 days after infection
- Virus was introduced into the herd about 7-14 days before first clinical signs
- The first unspecific clinical signs were observed on 01/01/2025
- Introduction possible between 15/12/2024 and 31/12/2024 → accidentally through contaminated animal products?

Lessons learned for early warning

- Exclusion of notifiable diseases even in the event of unspecific clinical signs (syndromic surveillance)
- Strong laboratory network with local front line diagnosis and confirmation by the national reference laboratory
- Accredited and licenced laboratory methods
- Integration into international networks (EUFMD; GFRA)
- Epidemiologists integrating all data sets
- Include wildlife (if applicable)














icrad
International coordination of research on infectious animal disease

Thanks for your attention!

GARA
Global African Swine Fever Research Alliance

FLI