

Out of Africa:

de opkomst van Afrikaanse varkenspest in Europa

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African swine fever (ASF)

- A severe haemorrhagic disease in pigs (*Sus scrofa*)
- Lethality up to 100%
- Clinical symptoms similar to classical swine fever
- Causative virus no relation to CSFV
- Limited host range (suids), includes soft ticks
 - Originally tick virus?



African swine fever (ASF)

- Recognized in 1921
- ASF is endemic in Africa
- Mainly sylvatic cycle
 - Warthog, bushpig
 - Soft ticks (*Ornitodoros* spp.)
 - Reservoir for domestic pigs
- Direct/indirect transmission between pigs (*Sus scrofa*) is possible

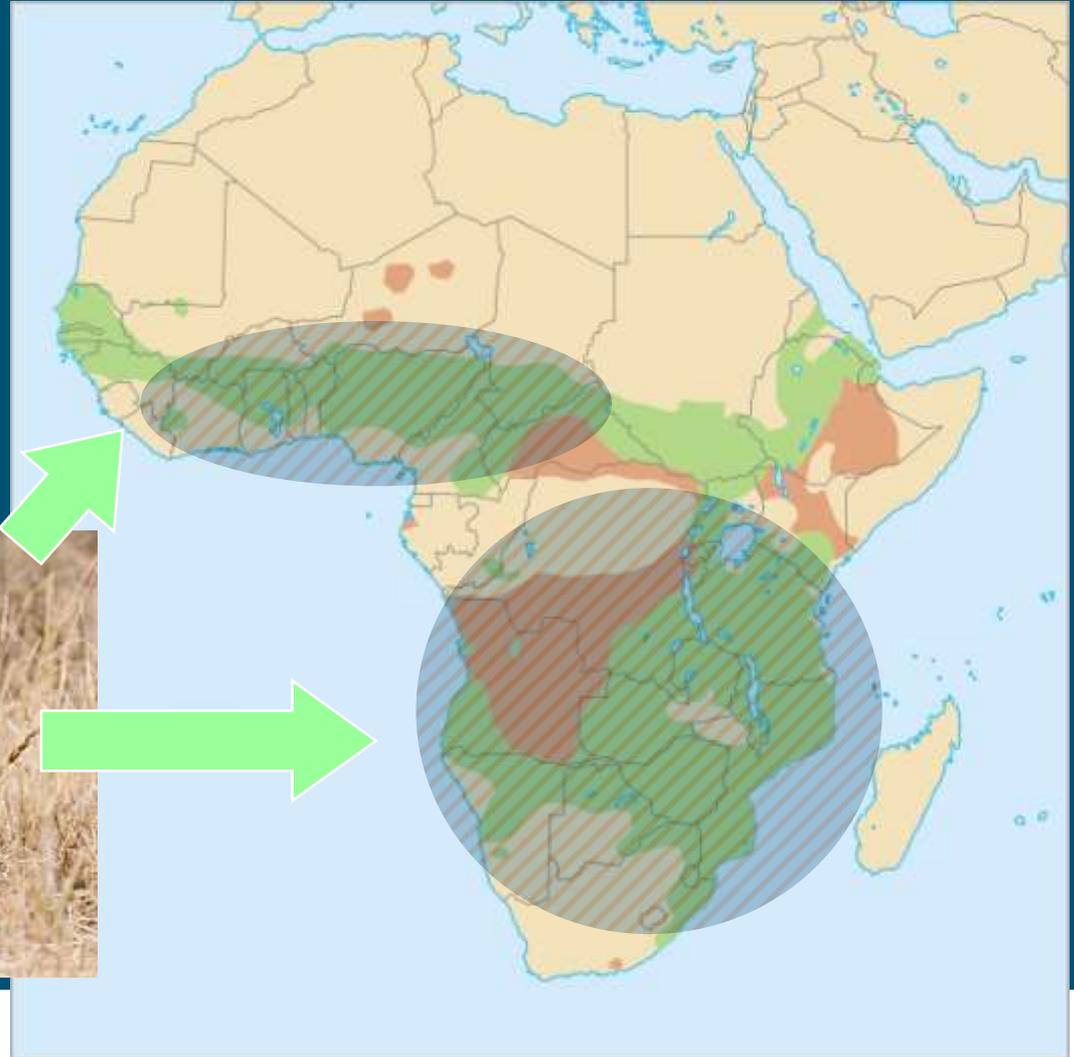


Warthog

Distribution of warthogs

Occasional records of warthogs

African swine fever

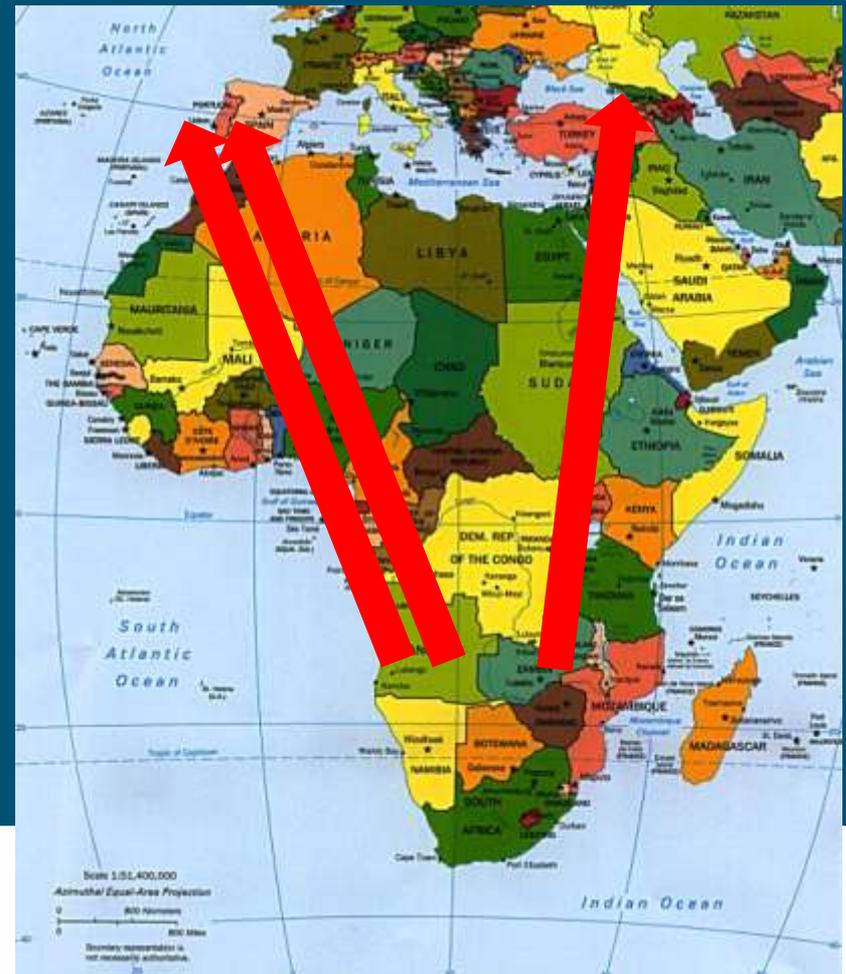


Cycle ASFV

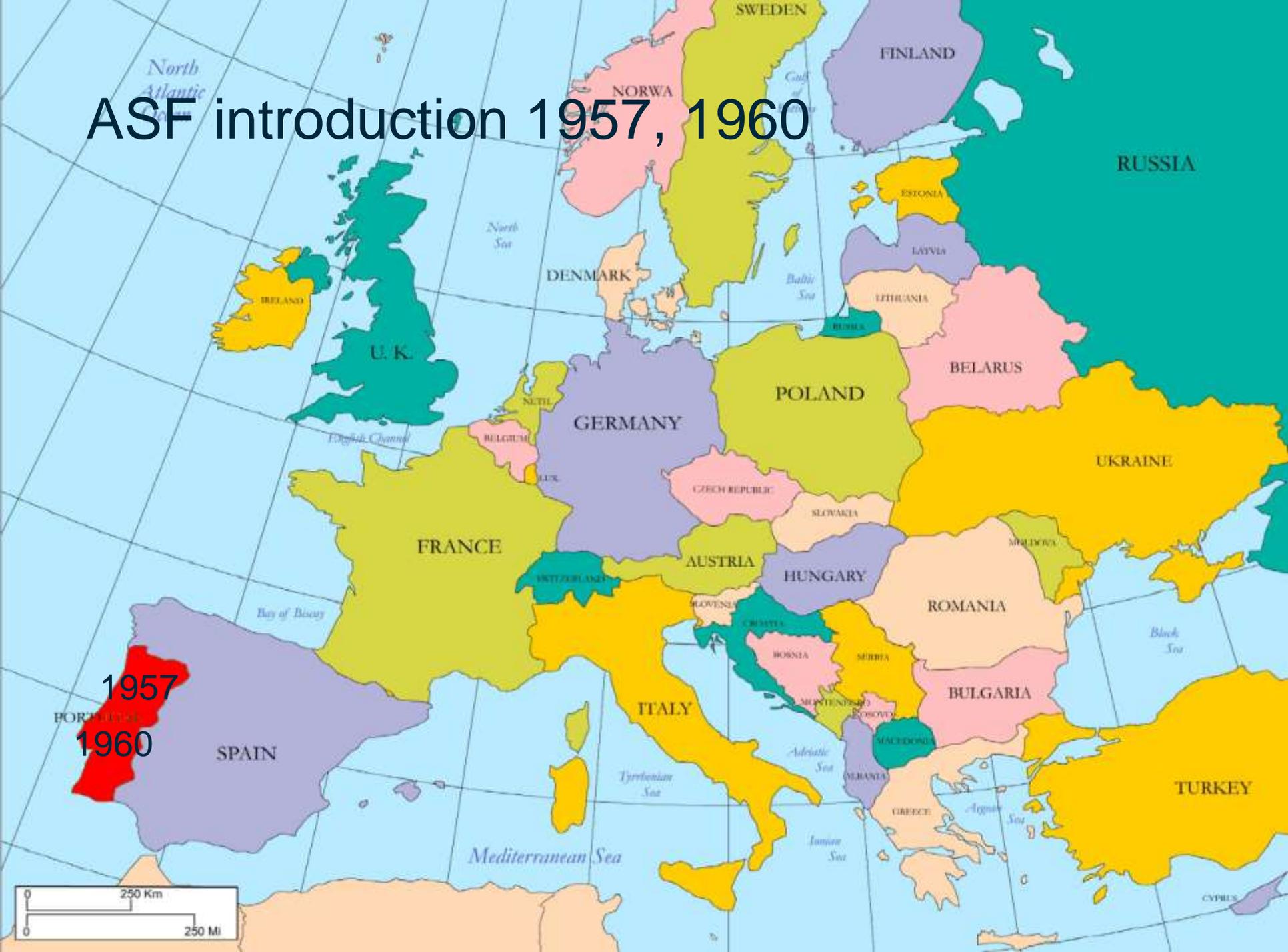


Out of Africa

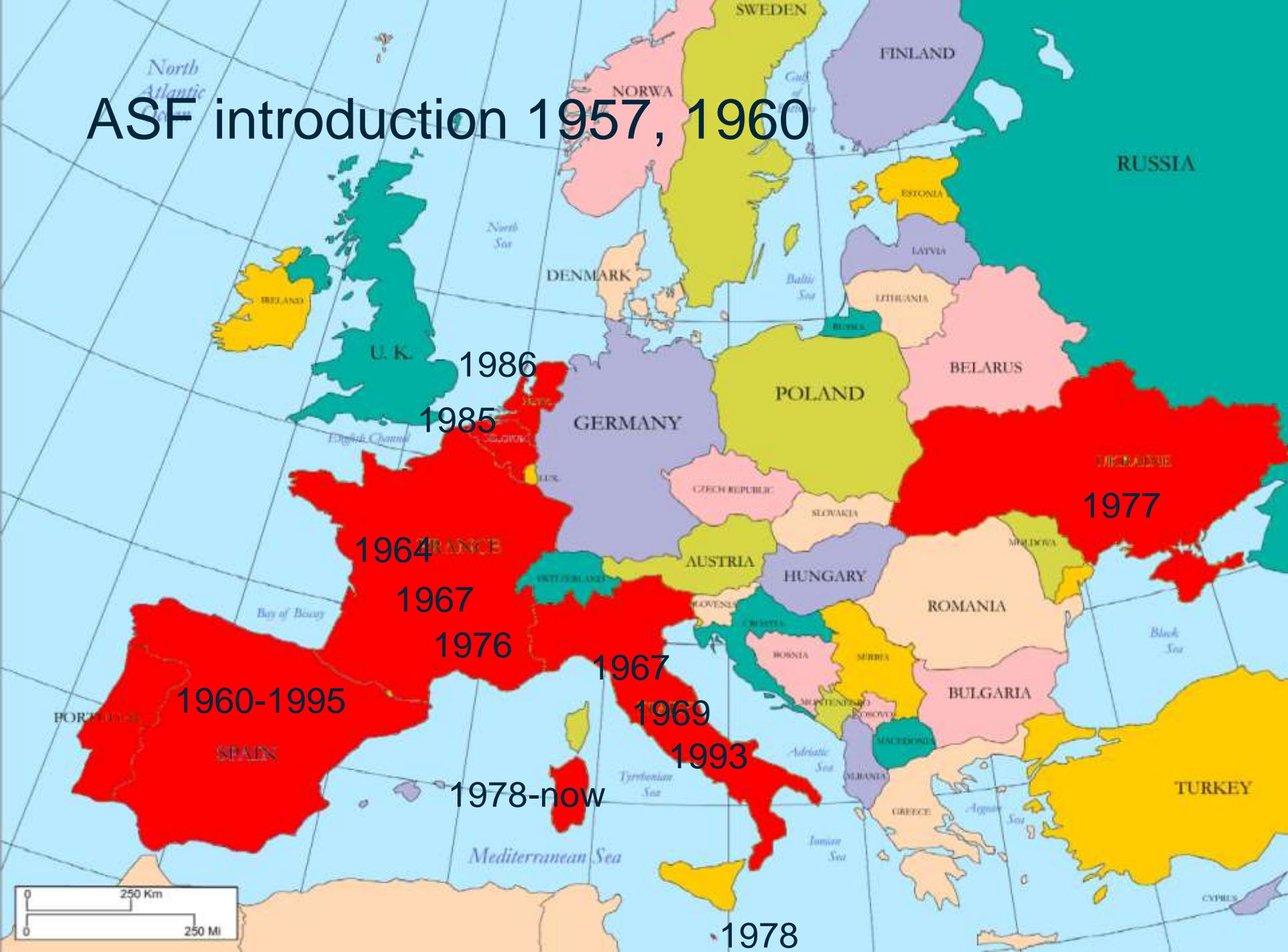
- ASFV escaped from Africa only 3 times :
 - 1957 Portugal
 - 1960 Portugal
 - 2007 Georgia



ASF introduction 1957, 1960



ASF introduction 1957, 1960



Belgium 1985

- 3 March 1985 suspicion ASF
 - Origin: meat products from Spain
- <2 weeks 8 additional infected farms detected
- End of May last infected farm culled (total 12)
- Origin of infection:
 - 1x swill feeding (index-case)
 - 5x transportation infected piglets
 - 5x use of contaminated needles
 - 1x unknown

Nederland 1986

- March 1986, Zoetermeer, 94 finishing pigs
- 18 dead, 43 clinical signs
- Origin: swill feeding; possible relationship with Belgian outbreak in 1985
- Second farm infected through human contact (800 m distance)
- 15 contact farms preventively culled (6600 pigs)
- Duration: 2 months

ASF in Caribbean/South America

■ Cuba

- 1971 (from Spain?)
- 1978 reintroduction
- Eradication in 1980

■ Dominican Republic & Haïti

- 1978 (swill from planes from Spain in DR?)
- Eradication in 1984

■ Brazil

- 1978 (from Spain/Portugal?)
- Eradication in 1981

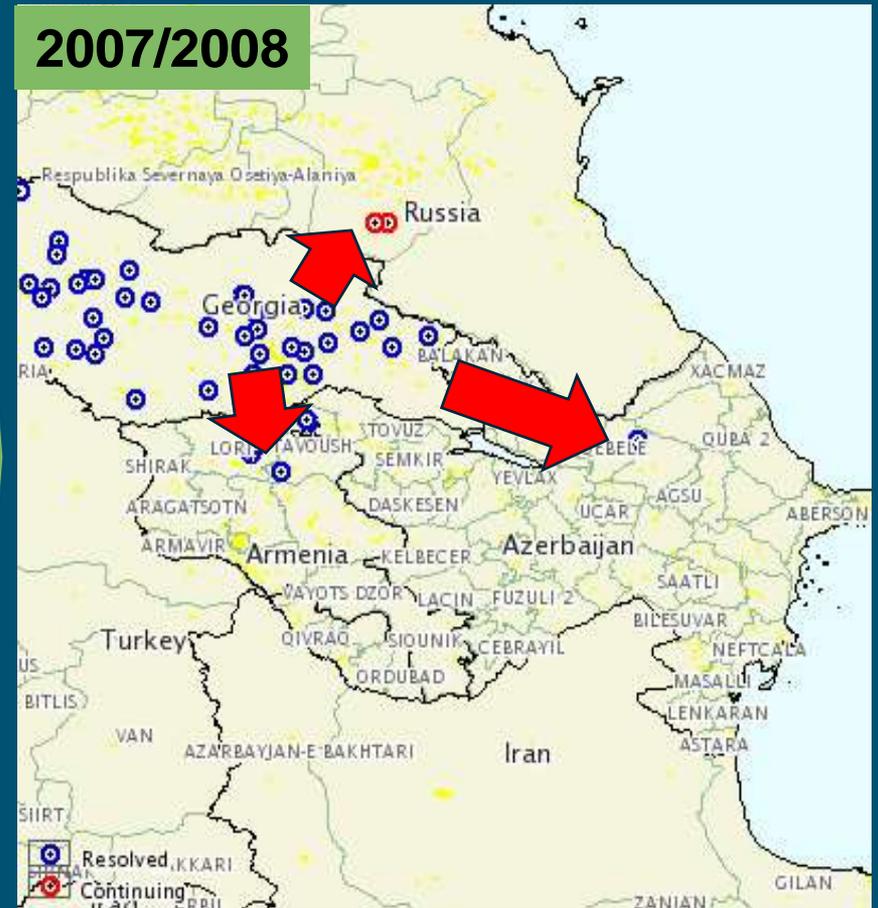


ASF from 1995 - 2007

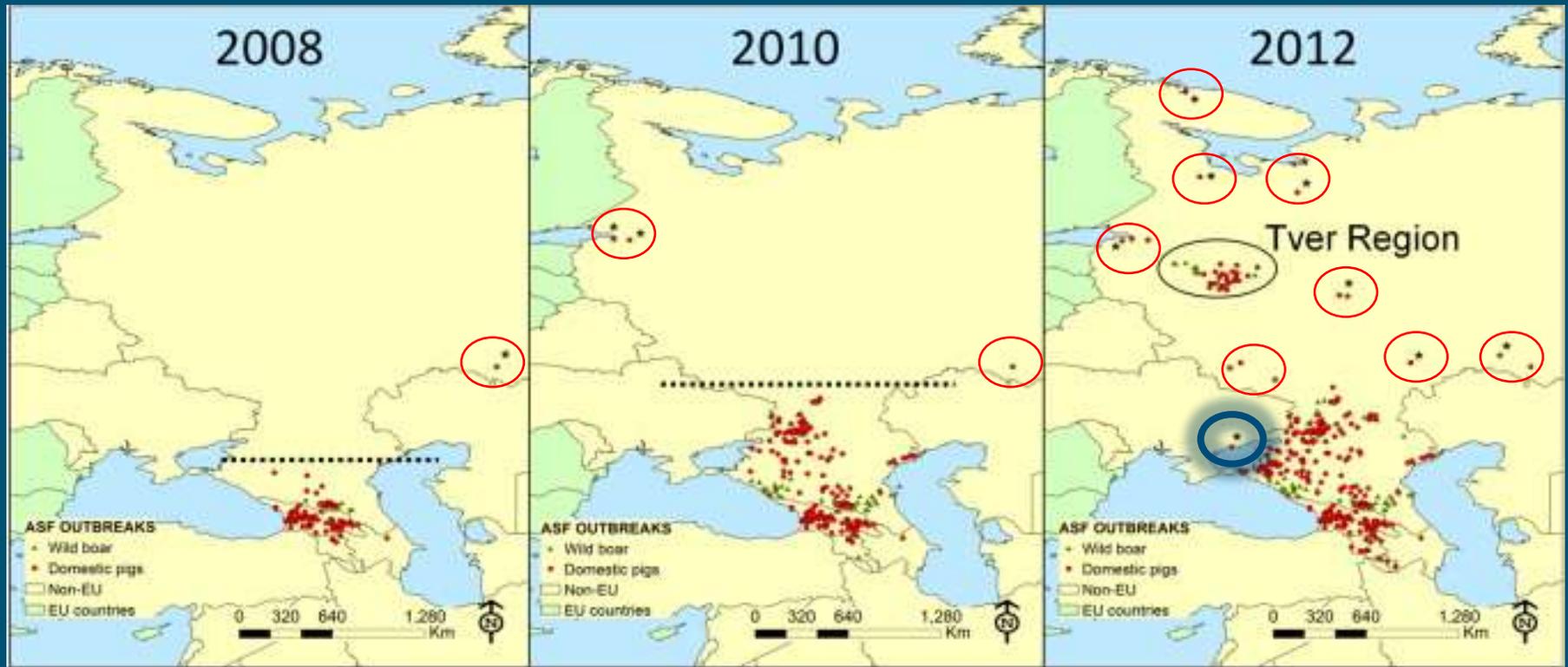
- Endemic in Africa
- Endemic on Sardinia



Introduction Georgia 2007

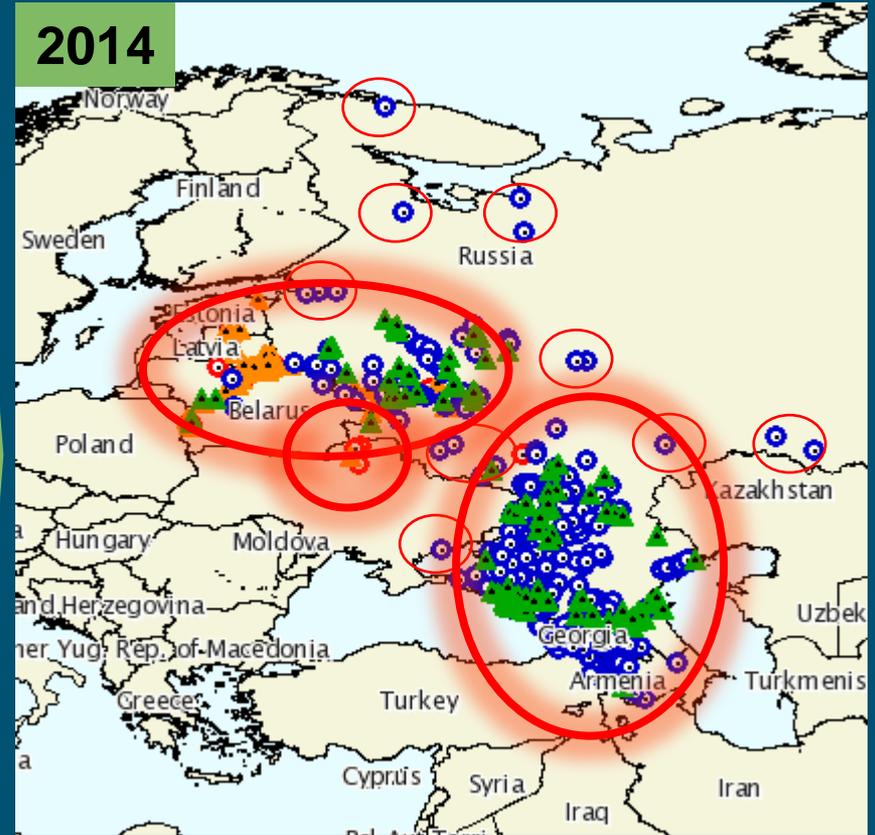
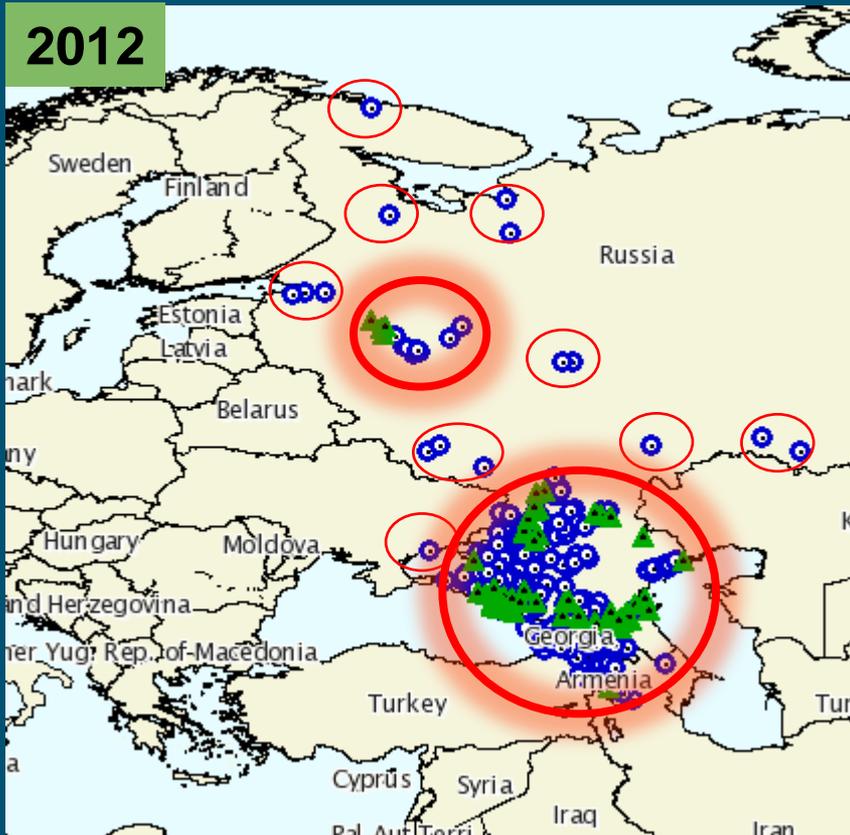


Russian Federation 2008-2012

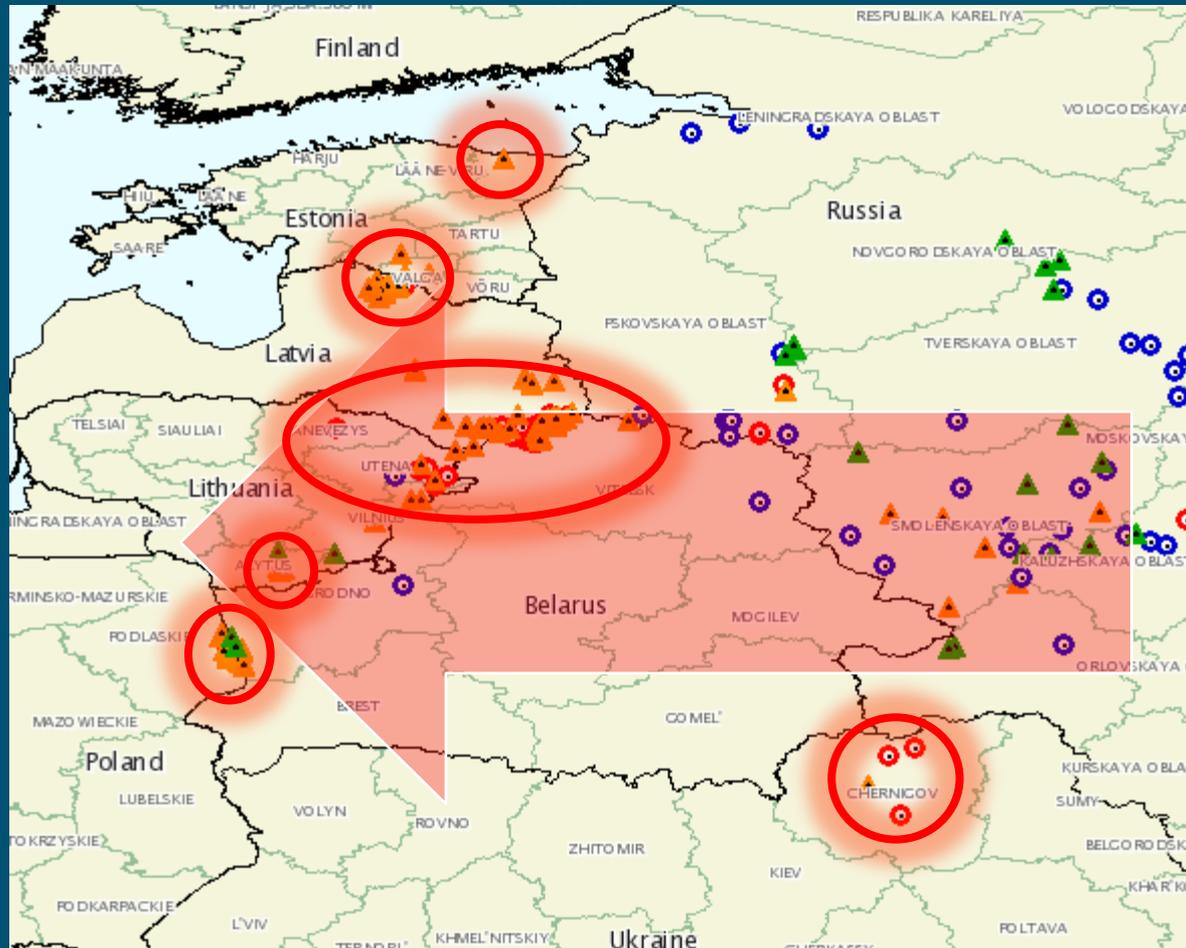


1st outbreak Ukraine

Russia & Eastern Europe 2012-2014



Eastern Europe 2014

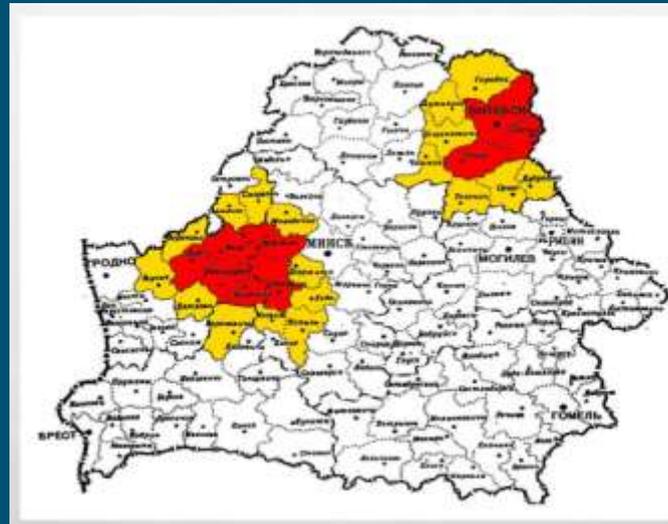


Belarus

■ 2013

- 21 June: Western region: backyard holding (16 pigs)
 - Source of outbreak: swill feeding
- 4 July: Eastern region: commercial farm (>20.000 pigs)
 - Source of outbreak: unknown

- No further cases reported



✓ **The 1st specific control zone - 50 km**

Grodno and Vitebsk regions
8 districts (2248 settlements)
pig livestock -20,5 thousand heads

✓ **The 2nd specific control zone - 100 km**

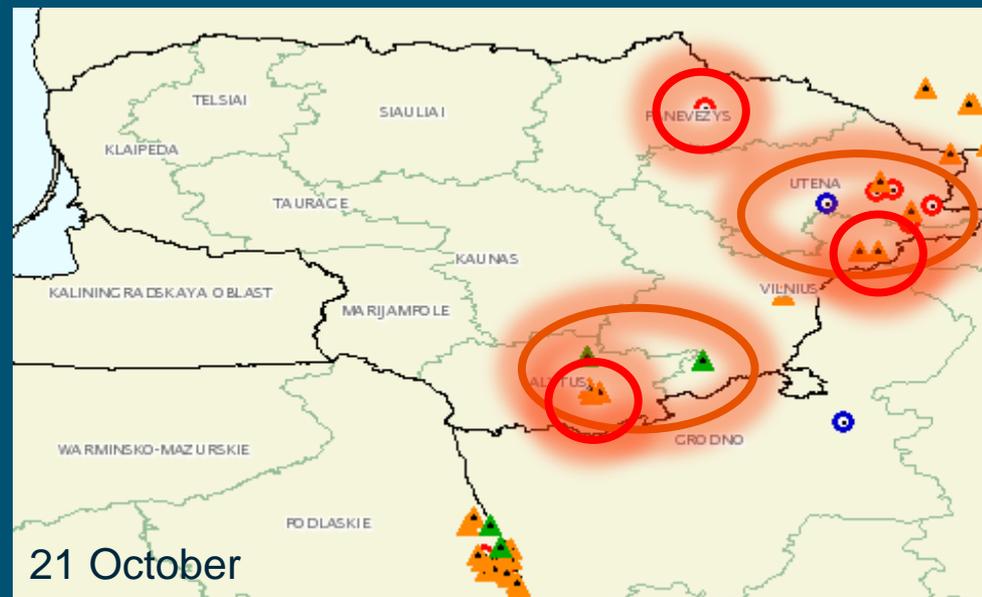
Grodno, Vitebsk and Minsk regions
18 districts (4578 settlements)
pig livestock -43.7 thousand heads

Lithuania (2014)

- 25 Jan: 2 cases in WB, 5 and 40 km from border with Belarus
 - Most likely cause: uptake of infected material (kitchen waste)
- 24 July: ASF on large farm (19.400 pigs)
- 29 July: ASF in backyard holding (2 pigs)

Lithuania

- Per 20 October:
 - 10 WB cases (23 WB involved)
 - 1 commercial farm (19.400 DP involved)
 - 5 backyard farms (10 DP involved)

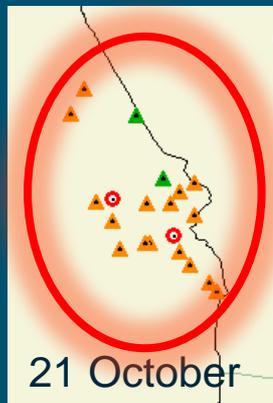


Poland (2014)

- 14 Feb: WB (dead), 900 m from border with Belarus
- 17 Feb: WB (dead), 3 km from border with Belarus (15 km from first case)
- 21 May: WB (dead) in river that borders Belarus
- 29 May: Wild boar (dead, sow + 2 piglets), 2 km from border with Belarus (2 km from first case)
 - Source of outbreaks: WB crossing the border

Poland

- 17 July: ASF on backyard farm (8 DP)
- Per 20 October:
 - 16 WB cases (53 WB involved)
 - 2 backyard farms (9 DP involved)



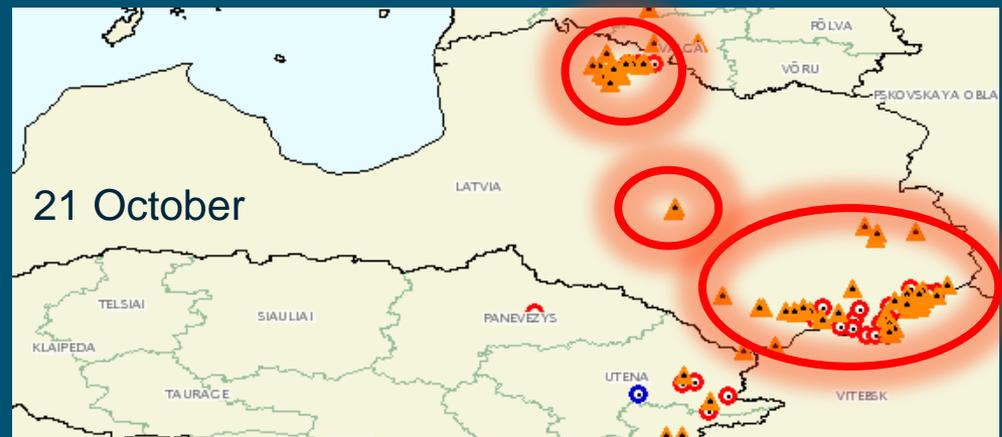
Latvia

- 25 June: 1 case in WB and 1 in backyard holding, close to Belarus border
- 17 July: 1st case in WB and backyard holding, close to Estonian border
- 8 August: 1st case in WB in the middle of the country

Latvia

■ Per 20 October:

- 83 WB cases (119 WB involved)
- 32 backyard farms/villages (585 DP involved)



Estonia

- 2 September: 1st case in WB, close to Latvian border (South border)
- 17 September: 1st case in WB on Northern shore

Estonia

- Per 20 October:
 - 4 WB cases/regions, 25 WB involved



Further expectations Baltic states and Poland

■ Predictions 2 months ago:

- Poland seems more or less under control. With ongoing threat of cross-border introductions from Belarus
- Lithuania, and especially Latvia, are in danger of ASFV becoming endemic in backyard holdings
- Estonia threatened by Latvian outbreaks

Other European countries at risk

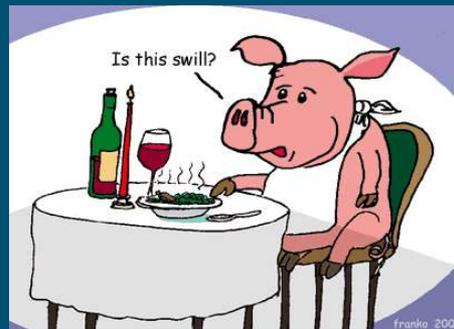
- Finland threatened from Russia; relatively quite in that region at the moment
- Instability in Ukraine may support spread of ASFV
 - In time: Moldavo and Romania at risk for introductions
 - Later on: Slovakia, Hungary, Serbia, Bulgaria
- Countries further west currently low to negligible chance of ASFV introduction
 - But even if the chance is once/50 years, it could be tomorrow!



Expected mode of spread

■ Swill feeding / backyard holdings

- Probably main driving force for spread and reservoir of ASFV → uncontrollable (common practice in BH)!
- Uncontrolled slaughter of affected pigs
- Underreporting of ASF in backyard holdings (?)
- Long distance transmission possible
- Not only swill-feeding on purpose, but also “accidental”



Expected mode of spread



■ Wild boar

- “Middle man” for domestic pig?!
- Endemic infection in WB questionable
- Interaction with DP needed?
- Many questions!

Current threat for the Netherlands

- Currently very low chance of introduction
 - Wild boar still far, far away
 - Double cleaning and disinfection of trucks returning to the Netherlands
 - No import of live pigs or pork
 - Pork for personal use!
 - Long distance truck drivers
 - Eastern European workers
 - Hunting in Eastern Europe?

Current threat for the Netherlands

- Limited opportunity for spread of ASFV?
 - No backyard holdings
 - No swill feeding / feeding kitchen waste
 - Few WB with very limited contact with DP
 - High infectious dose, so difficult indirect transmission
- However, one introduction and damage is done!
 - Focus on reducing chance of introduction!

Thank you for your attention

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