

# **African Swine Fever**

## **Spread, Control, Recovery**

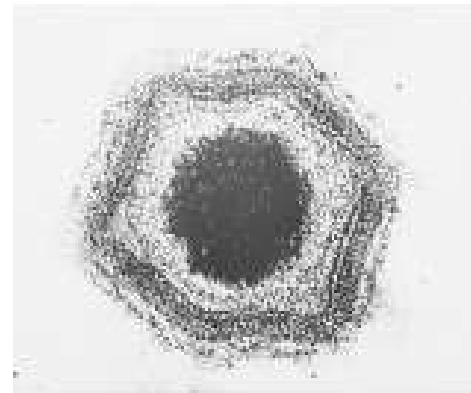
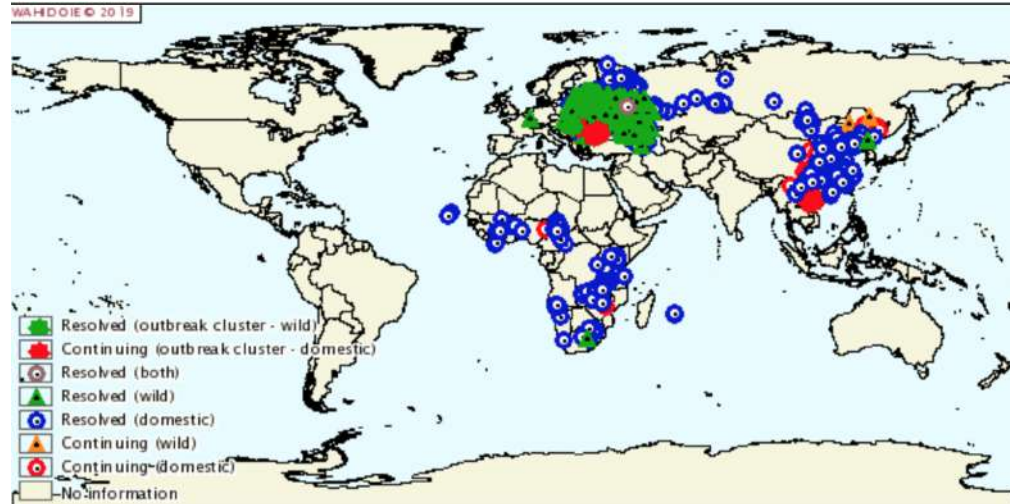


**Dr John Carr**

**Red Dragon Farms  
James Cook University**

# ASF

- Infectious, **low contagious** disease of domestic pigs and **wild boar**.
- Etiological agent – ASFV – unique member of the *Asfarviridae* family.
- Very complex virus , large genome (170kb).
- Genetic variability, 22 genotypes.
- Europe genotype II Russia genotype I in Sardinia





# ASFV

- Is very stable
- 399 days in Parma ham
- *180 days in bone marrow*
- 18 month in pig blood at 4 C
- 11 days in faeces at 20 C
  
- At least 20 days in decomposed carcasses of wild boar

NO VACCINE



# Natural hosts

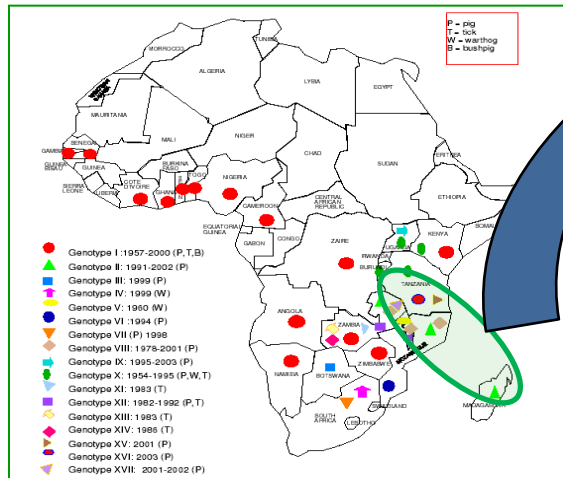


*Carios spp.*

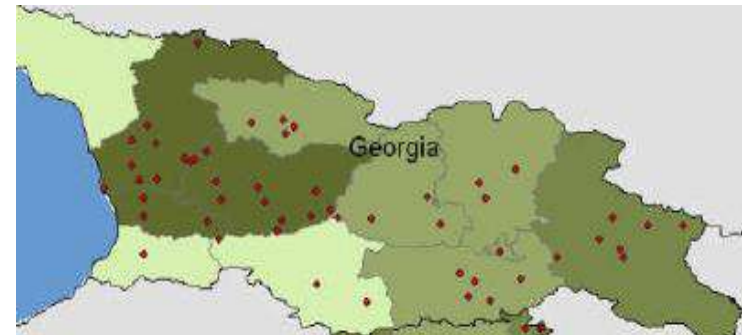
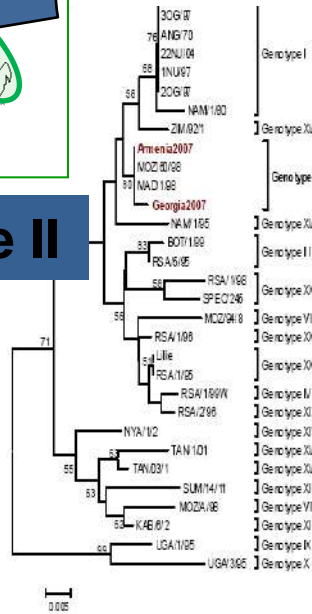


# „New era” of ASF - Georgia (2007)

The first symptoms - 22 April  
 Diagnosis of ASF - 3 June

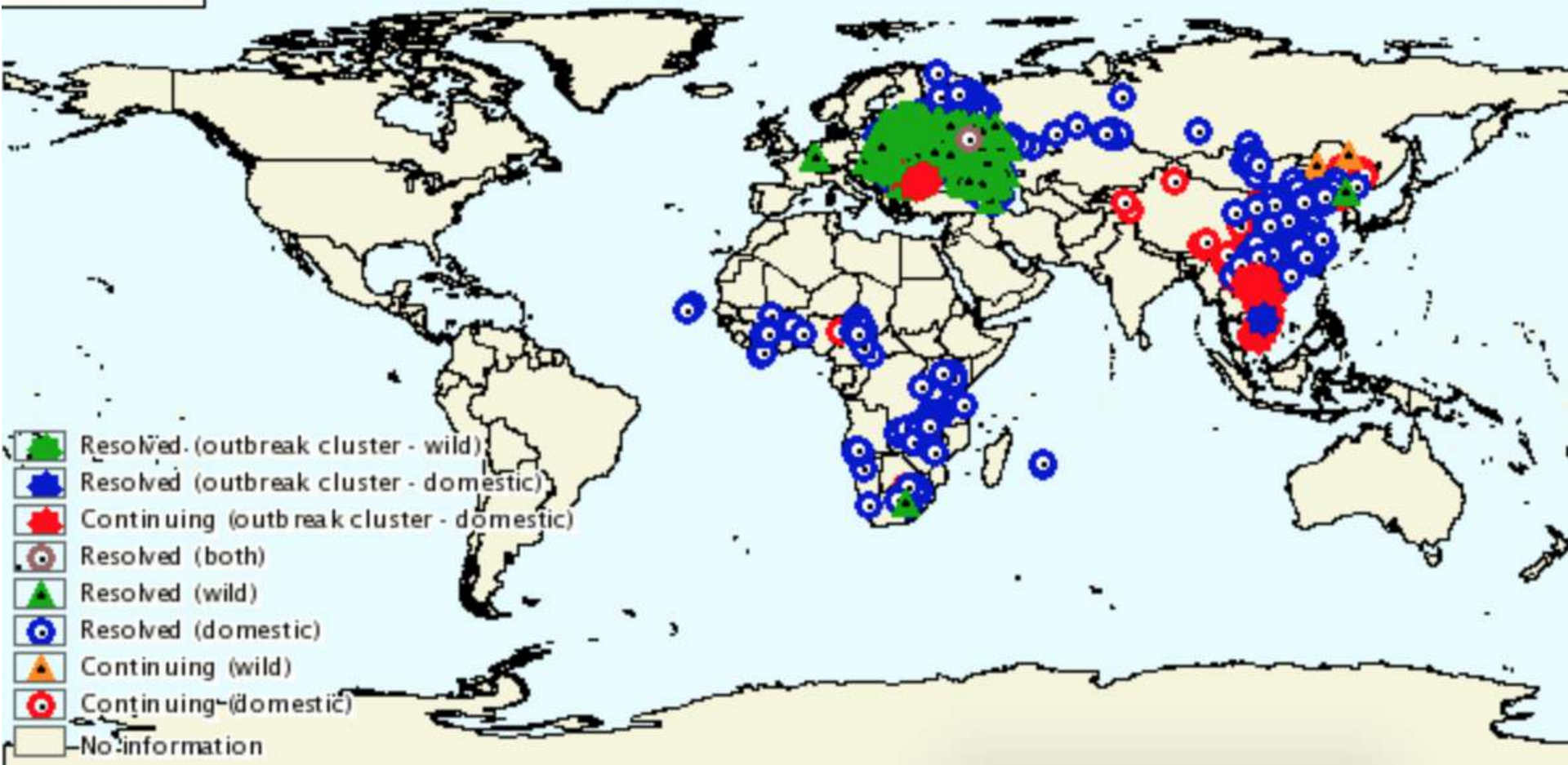


**ASFV p72 genotype II**



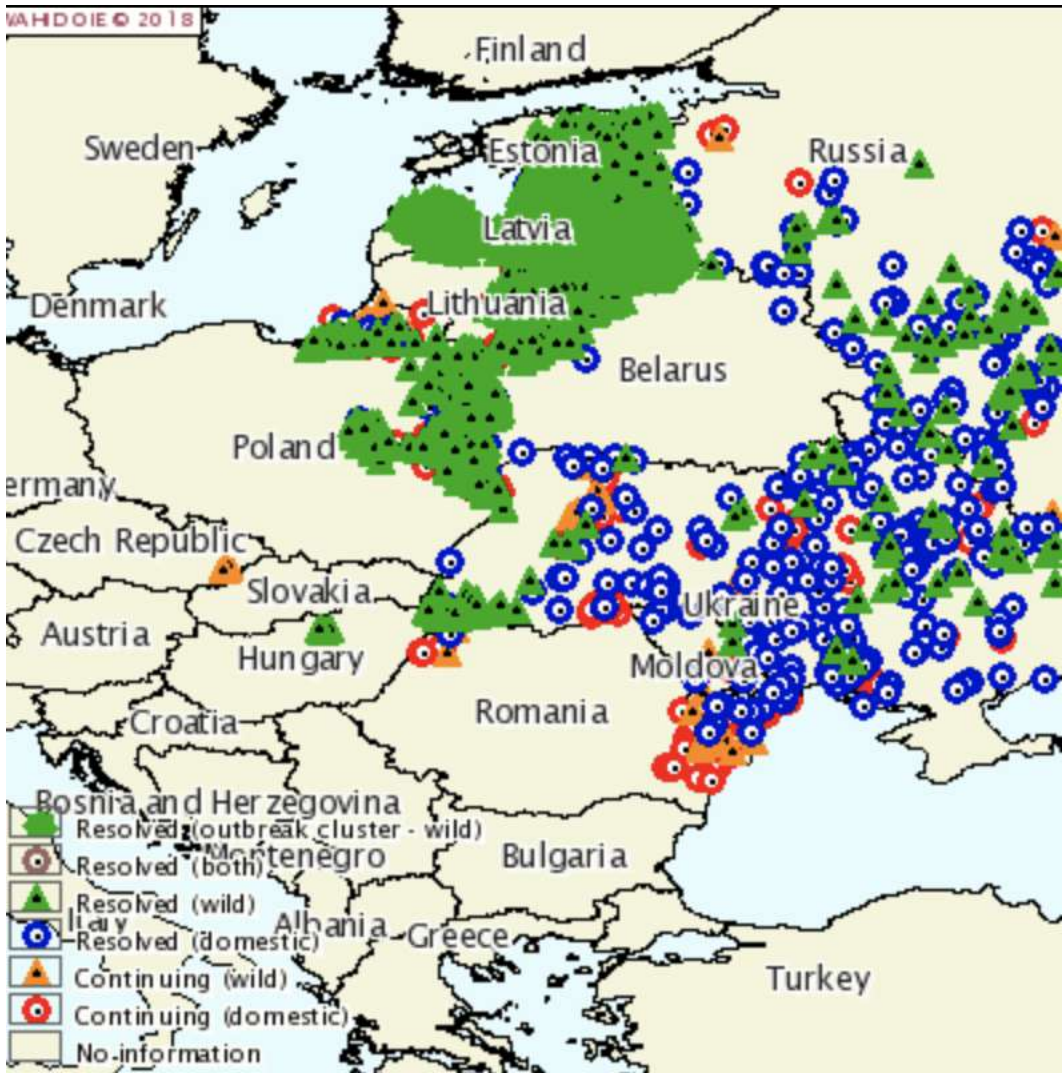
# Current situation on ASF in Europe and Asia

WAHDOIE © 2019





# Baltic States - and Poland



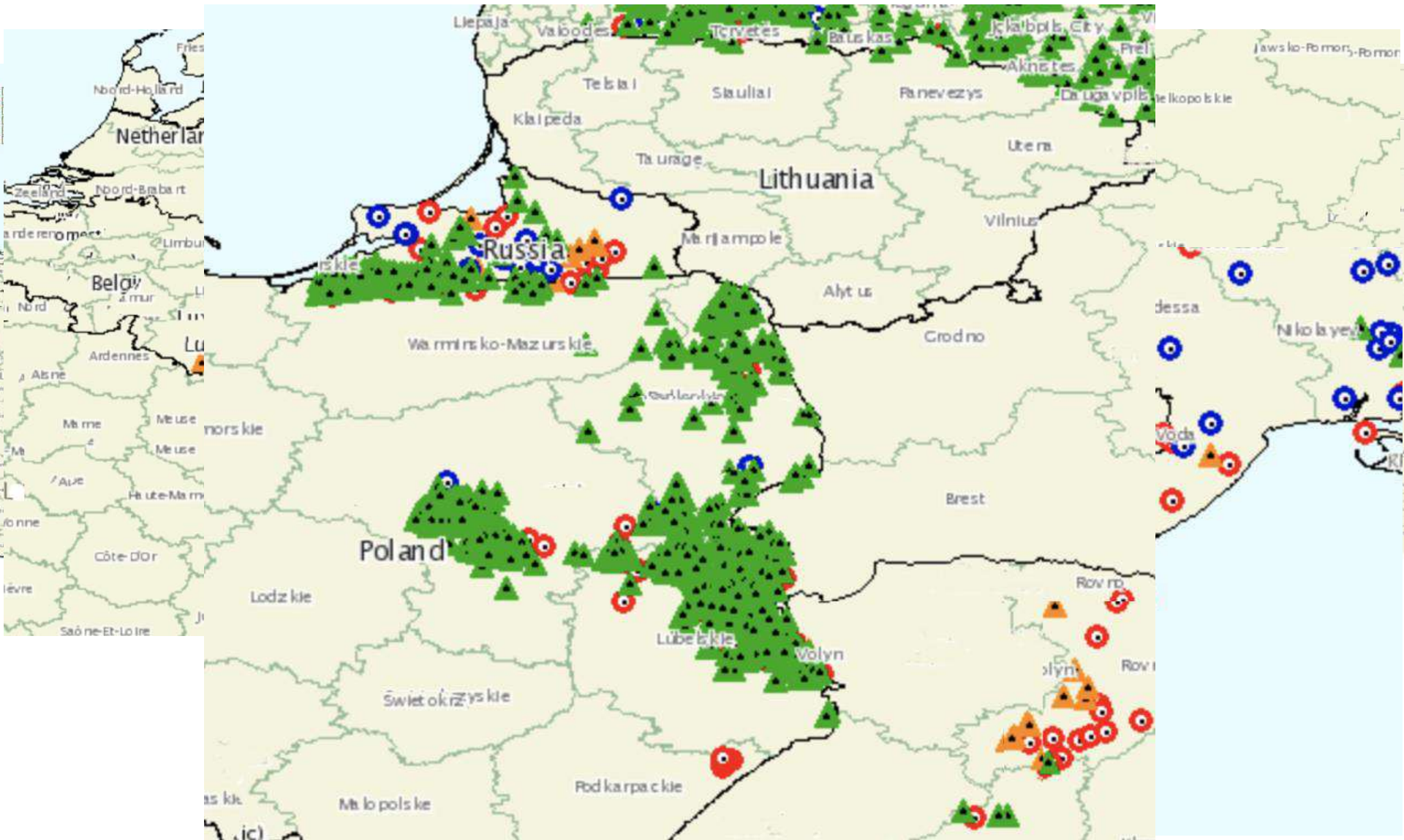
Note Belarus!!!

Czech and  
Now Belgium  
Serious threat  
To Germany and  
Denmark

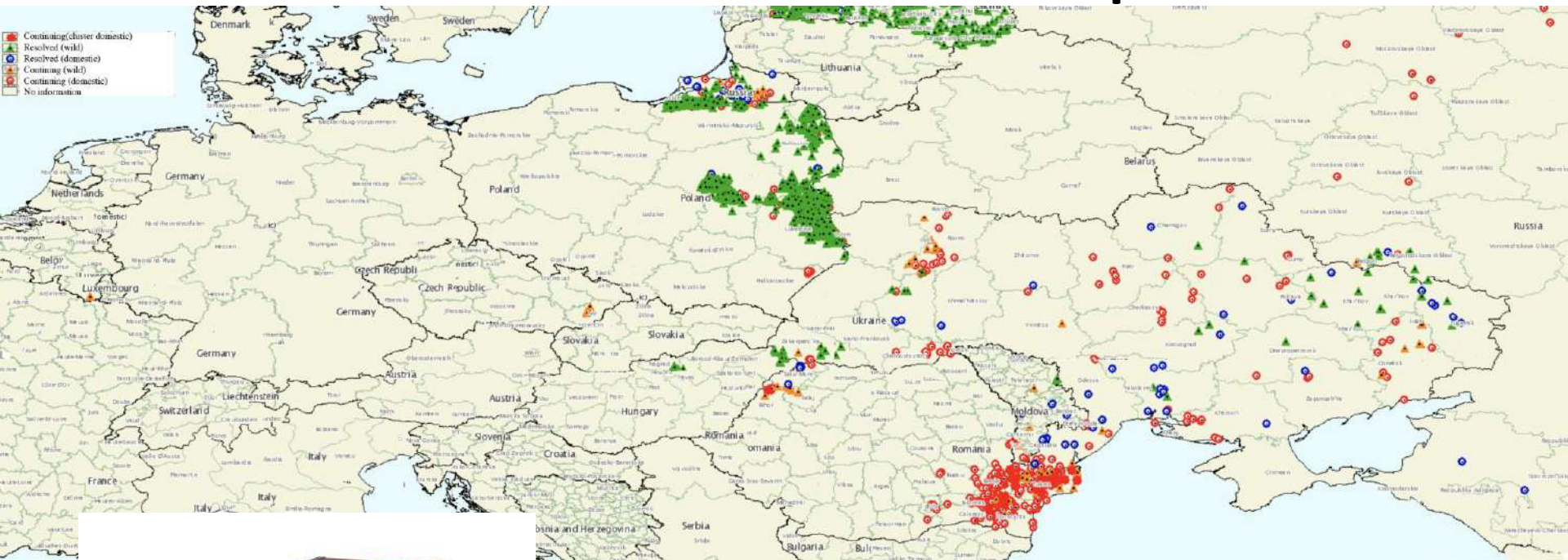
Ukraine-taken out!

# Western Europe

Three spread examples – wild boar and farm and trucking

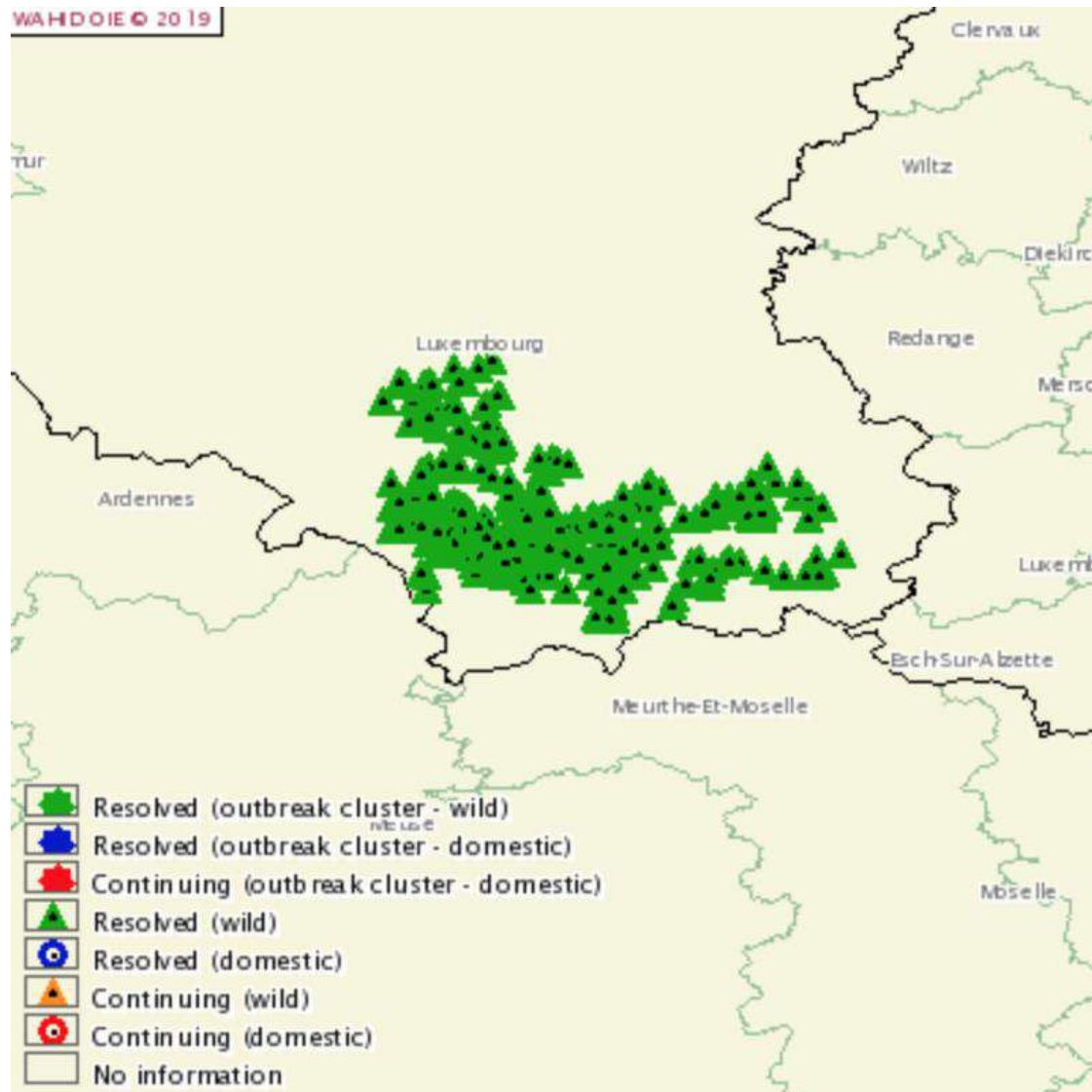


# Drivers across Europe



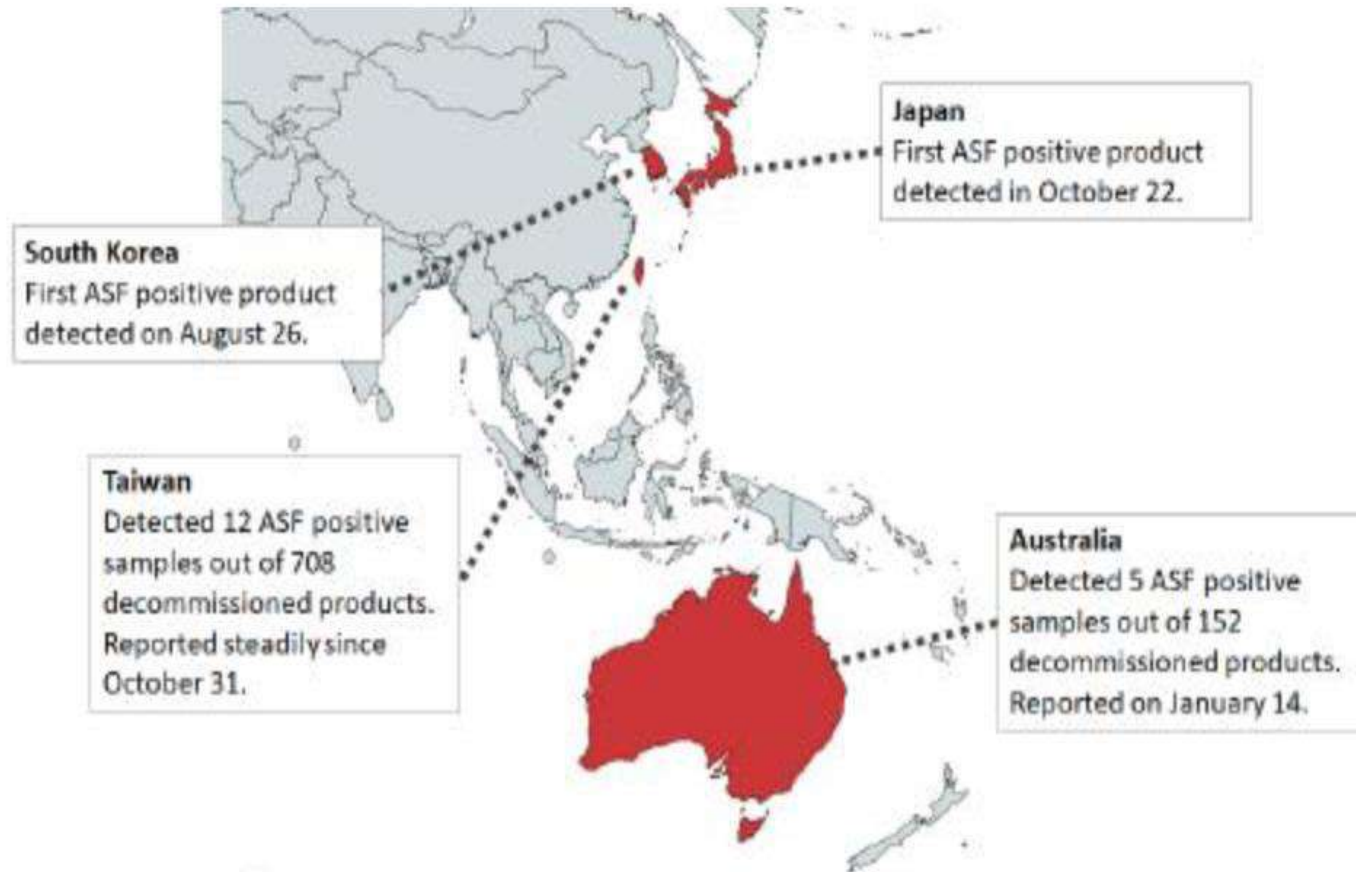
2018 4000 reported cases in Europe

# Belgium is just not getting on with the elimination

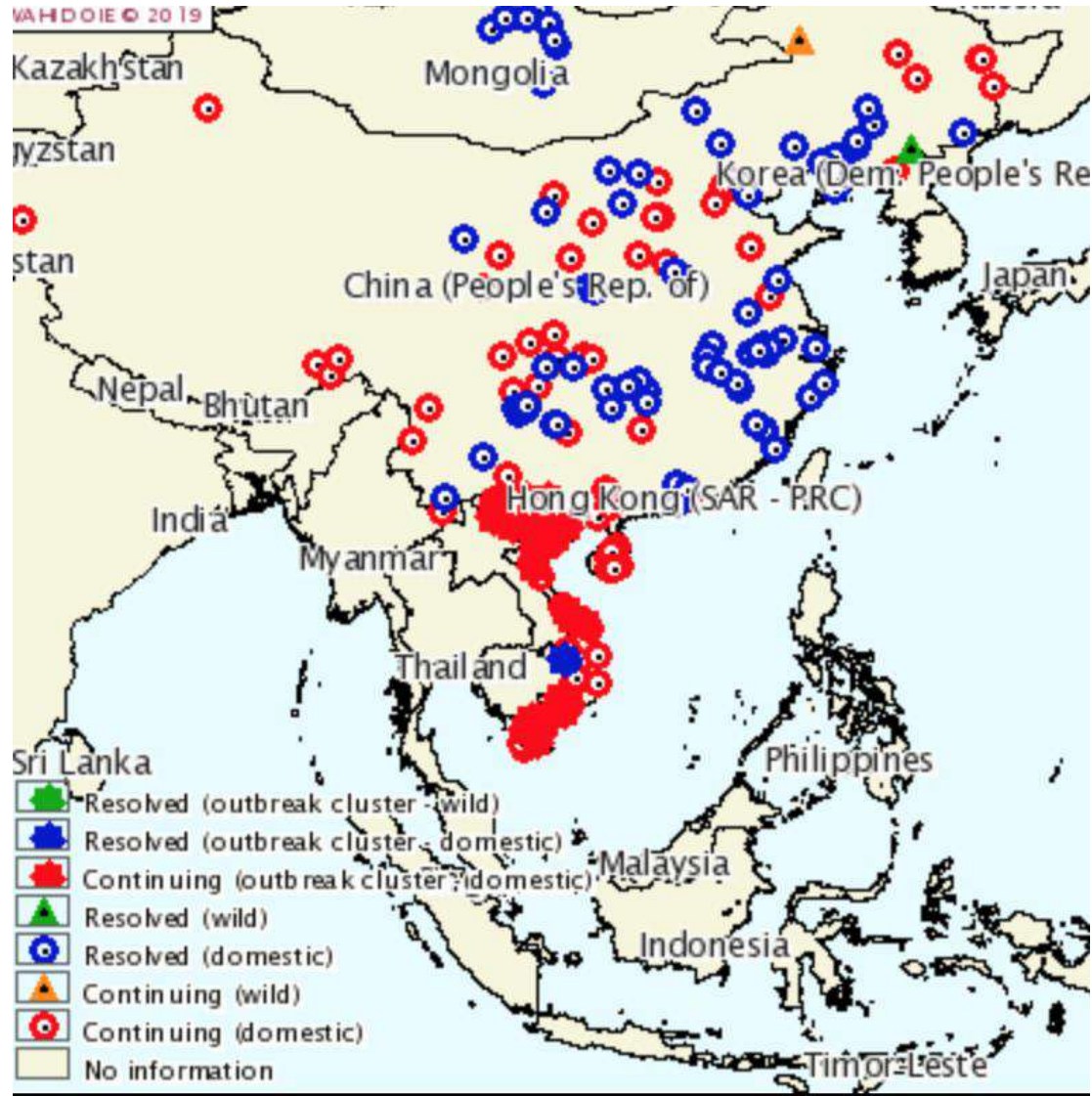


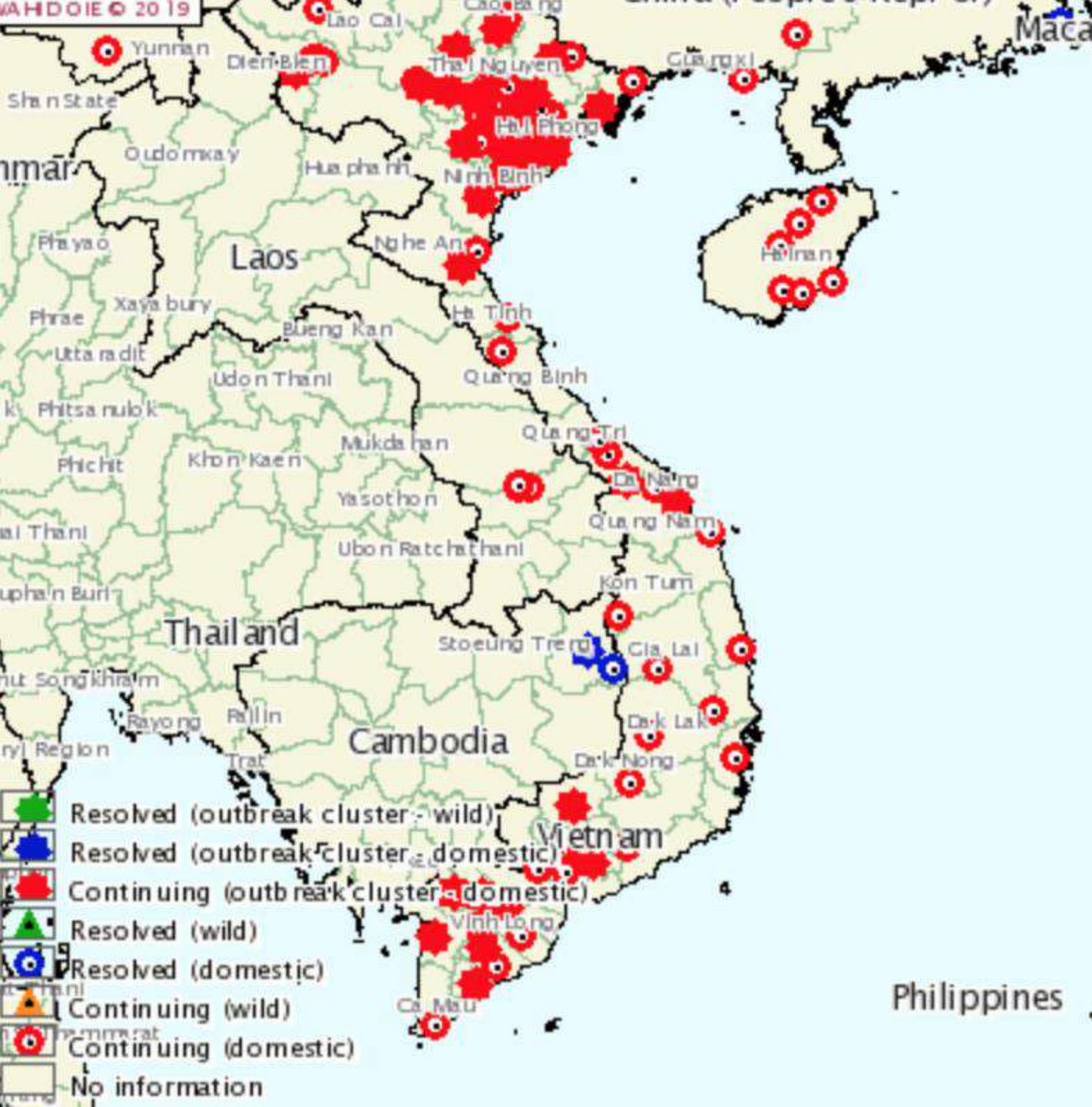
# Asia – major unreporting – saving face

## Imported meat detection



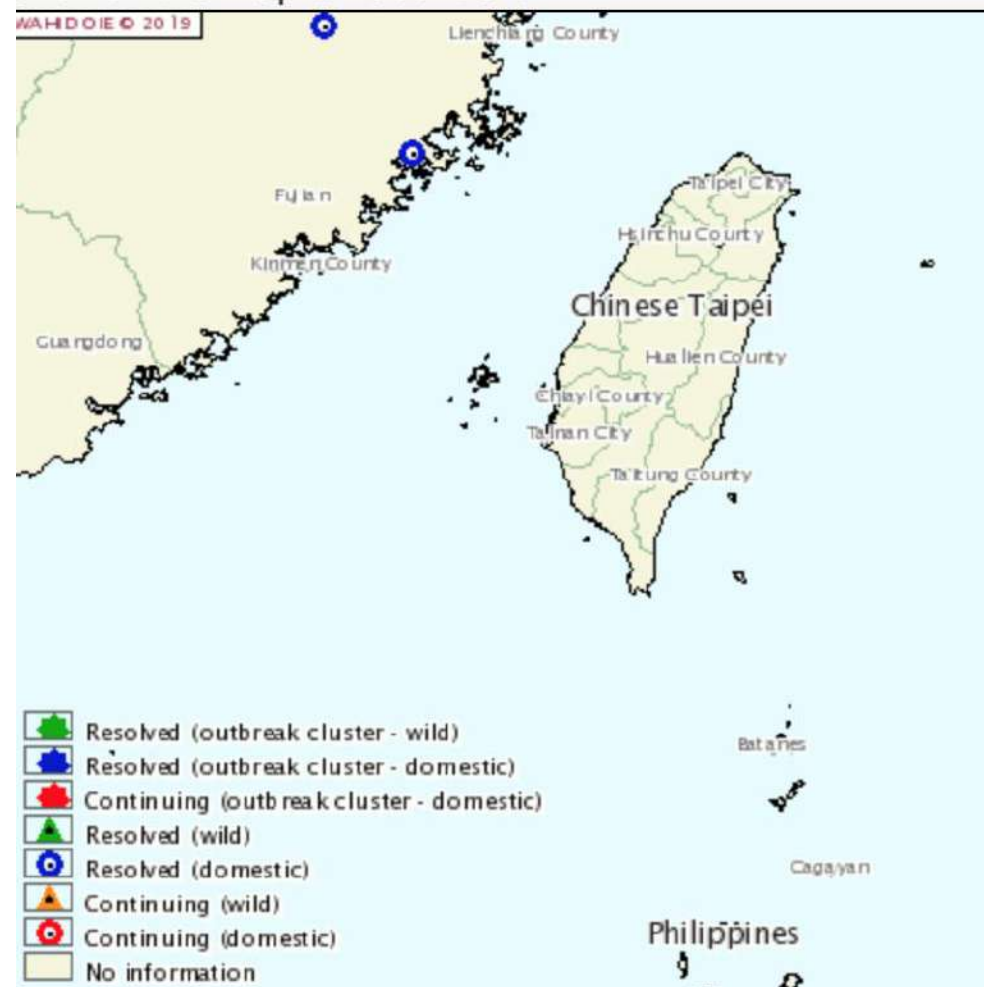
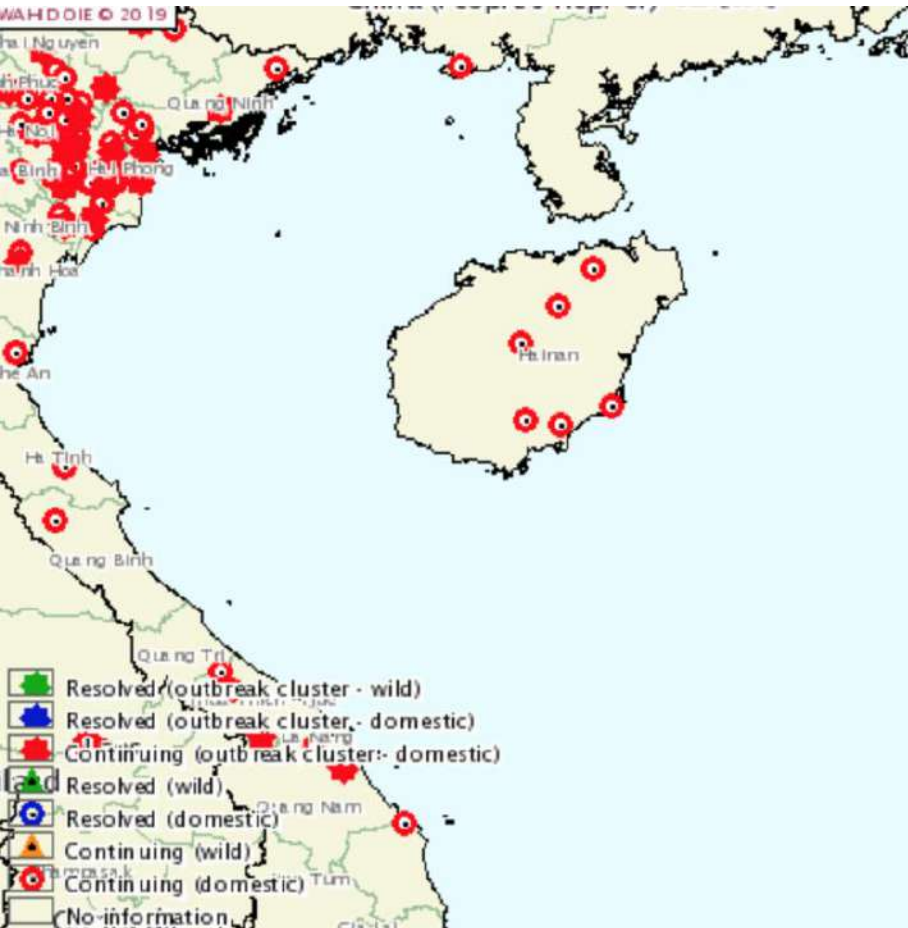
# The disaster – and some outbreaks are actually villages not farms





Now  
South  
East Asia

# Will it spread to the Philippines?





# Can we strengthen our borders?

**REPUBLIC OF THE PHILIPPINES**  
**Department of Finance**  
**BUREAU OF CUSTOMS**

**CUSTOMS DECLARATION**

All arriving passengers must provide the following information. If travelling with a family, only one (1) declaration is required to be made by the head of any responsible member thereof. Please fill-up completely and legibly.

SURNAME / FAMILY NAME    FIRST NAME    MIDDLE NAME

SEX  MALE    BIRTHDAY (MM / DD / YY)  
 FEMALE

CITIZENSHIP    OCCUPATION / PROFESSION

PASSPORT NO.    DATE AND PLACE OF ISSUE

ADDRESS (Philippines)    ADDRESS (Abroad)

FLIGHT NO.    AIRPORT OF ORIGIN    DATE OF ARRIVAL

PURPOSE / NATURE OF TRAVEL TO THE PHILIPPINES

1.  Balikbayan    4.  Business  
2.  Returning Resident    5.  Tourism  
3.  Overseas Filipino Worker    6.  Others (Specify)

NO. OF ACCOMPANYING MEMBERS OF THE FAMILY: \_\_\_\_\_

NO. OF BAGGAGE:    Checked-in \_\_\_\_\_ Pcs.    Handcarried: \_\_\_\_\_ Pcs.

**GENERAL DECLARATION: (Please read important information at the back)**

1. Are you bringing in live animals, plants, fishes and/or their products and by-products? (If yes, please see a Customs Officer before proceeding to the Quarantine Office).     Yes     No

2. Are you carrying legal tender Philippine notes and coins or checks, money order and other bills of exchange drawn in pesos against banks operating in the Philippines in excess of PHP10,000.00?     Yes     No

If yes, do you have the required Bangko Sentral ng Pilipinas authority to carry the same?     Yes     No

3. Are you carrying foreign currency or other foreign exchange-denominated bearer negotiable monetary instruments (including travelers checks in excess of US\$10,000.00 or its equivalent? (If yes ask for and accomplish Foreign Currency Declaration Form at the Customs Desk at Arrival and Departure areas).     Yes     No

4. Are you bringing in prohibited items (firearms,ammunitions and part thereof, drugs, controlled chemicals) or regulated items (VCDs, DVDs, communication devices, transceivers)?     Yes     No

5. Are you bringing in  jewelry,  electronic goods, and  commercial merchandise and/or samples purchased or acquired abroad?     Yes     No

ALL PERSONS AND BAGGAGE ARE SUBJECT TO SEARCH AT ANY TIME (Section 2210 and 2212 Tariff & Customs Code of the Philippines as amended)

I HEREBY CERTIFY UNDER PENALTY OF LAW THAT THIS DECLARATION IS TRUE AND CORRECT    DATE OF LAST DEPARTURE FROM THE PHILIPPINES

SIGNATURE OF PASSENGER

**FOR CUSTOMS USE ONLY**

PRINTED NAME & SIGNATURE OF CUSTOMS OFFICER    CODE NO.    LANE NO.    DATE

BC Form No. 117 (Rev. 20 Aug 06)

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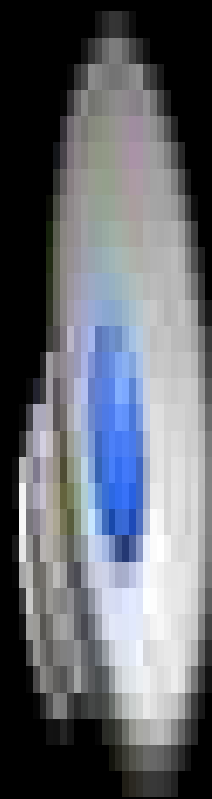
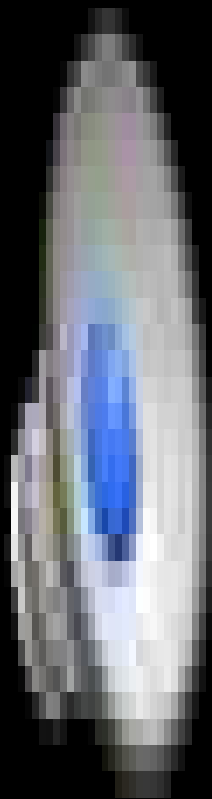
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# Clinical signs

- Per-acute
- Death
- All age groups
- 10,5,32,36,76





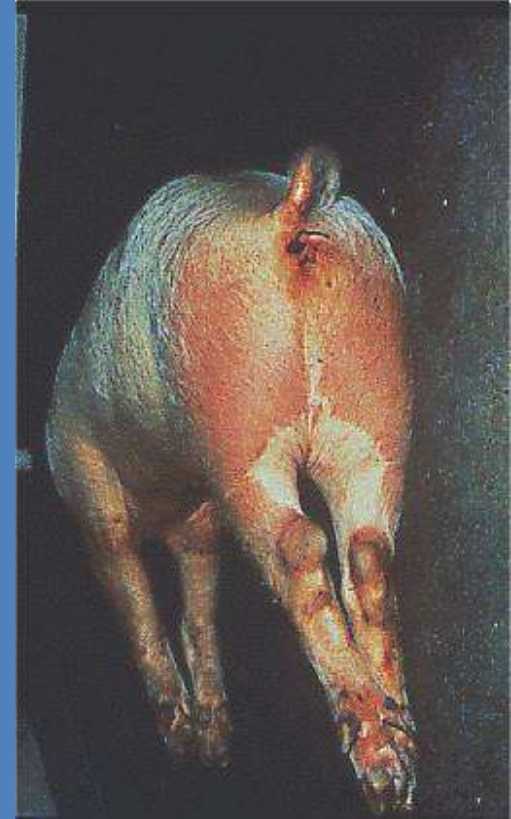
# Clinical signs

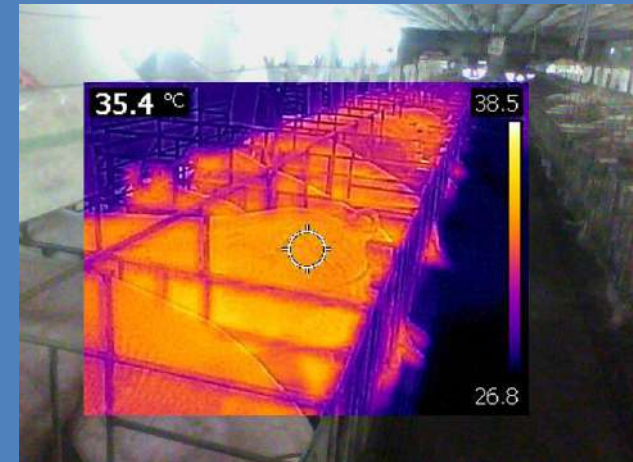
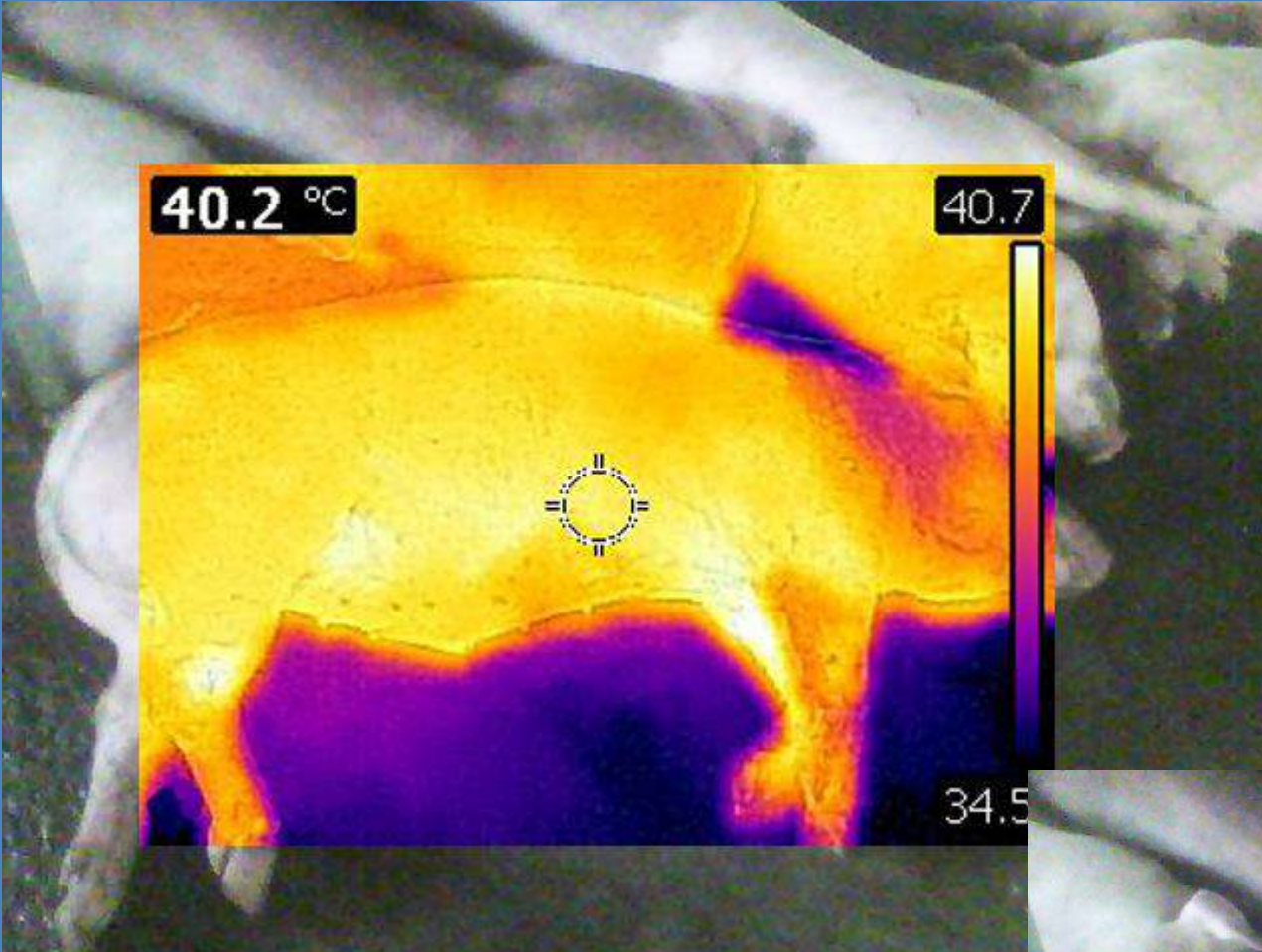
- Abortion

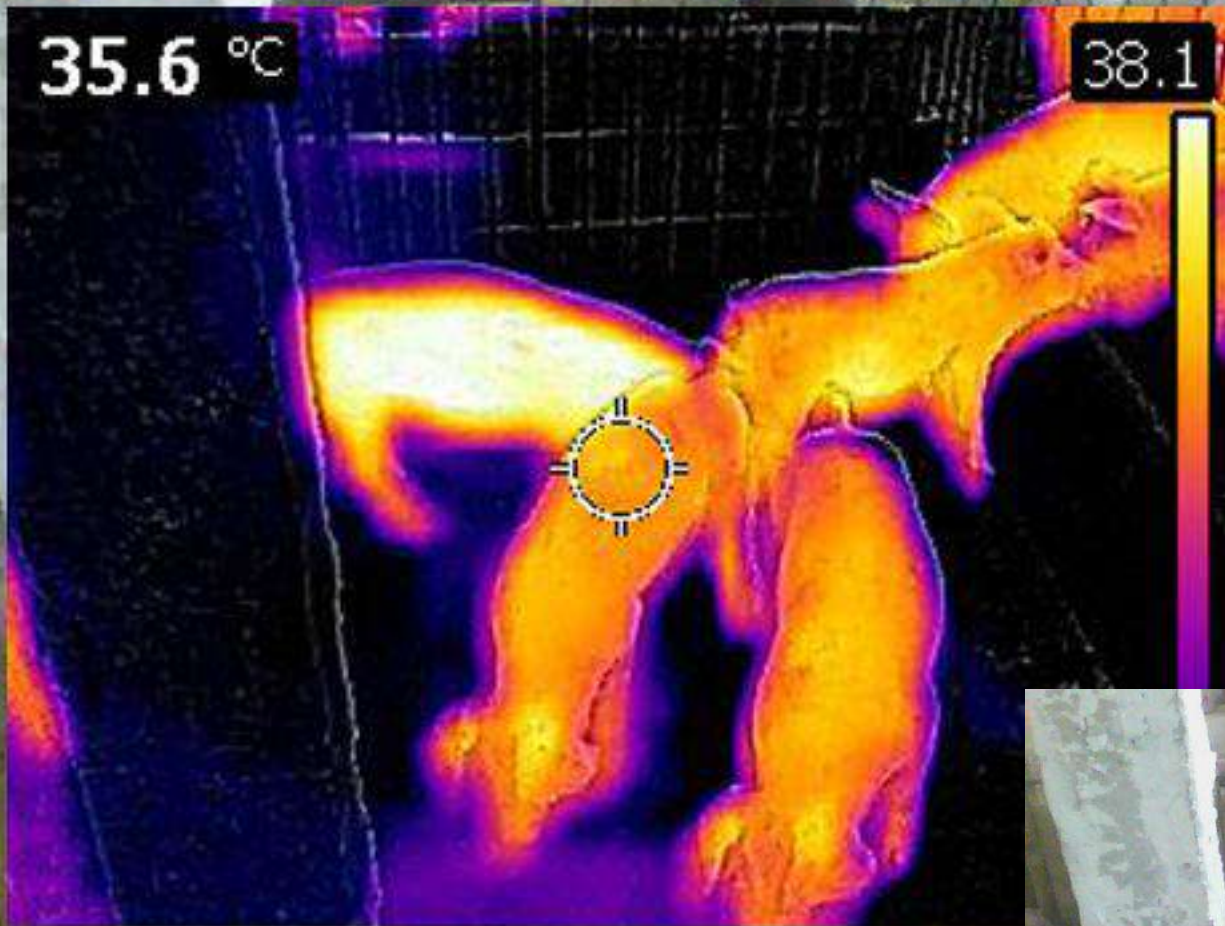


# Acute

- Fever – 41-42C
- Become lame and incoordinated – particularly hind legs
- Pigs huddle appear cold
- Sows abort
- Constipation
- Then diarrhoea with blood
- Discharge eyes and nose
- Collapse
- Death – 30-70%
- Not all pigs die







# Incubation period

- **3-15 days**
- **Death about 2 days**



# Post-mortem findings

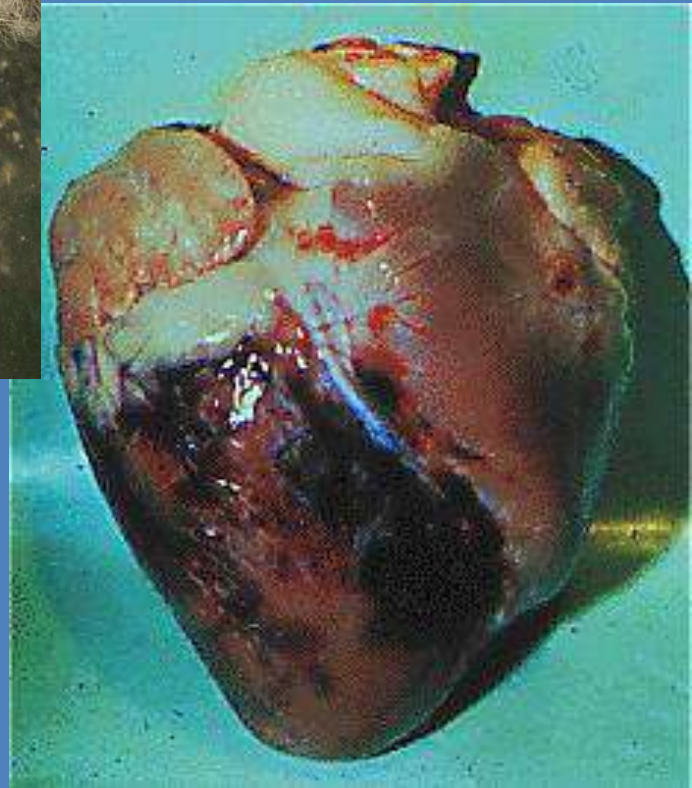
- Spreading lesion/haemorrhage on skin
- Haemorrhages in internal organs



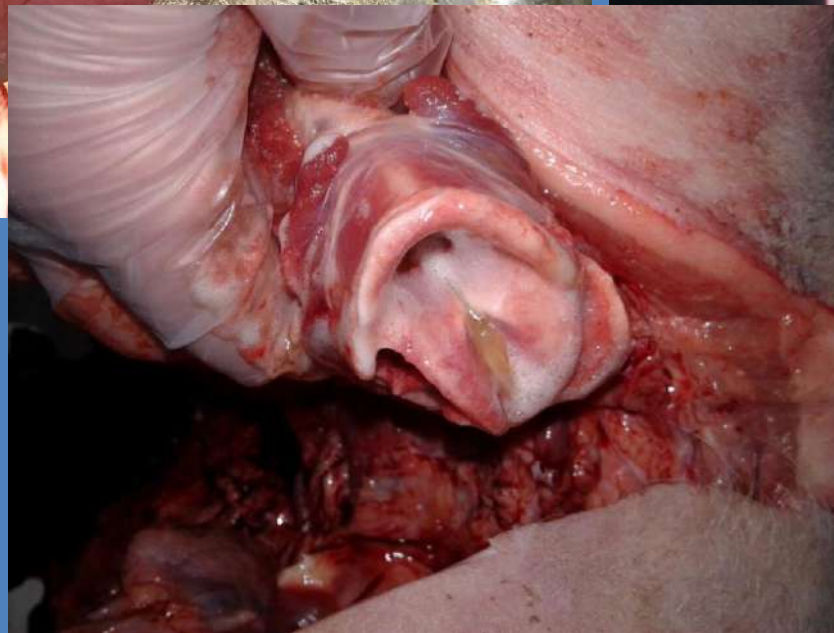
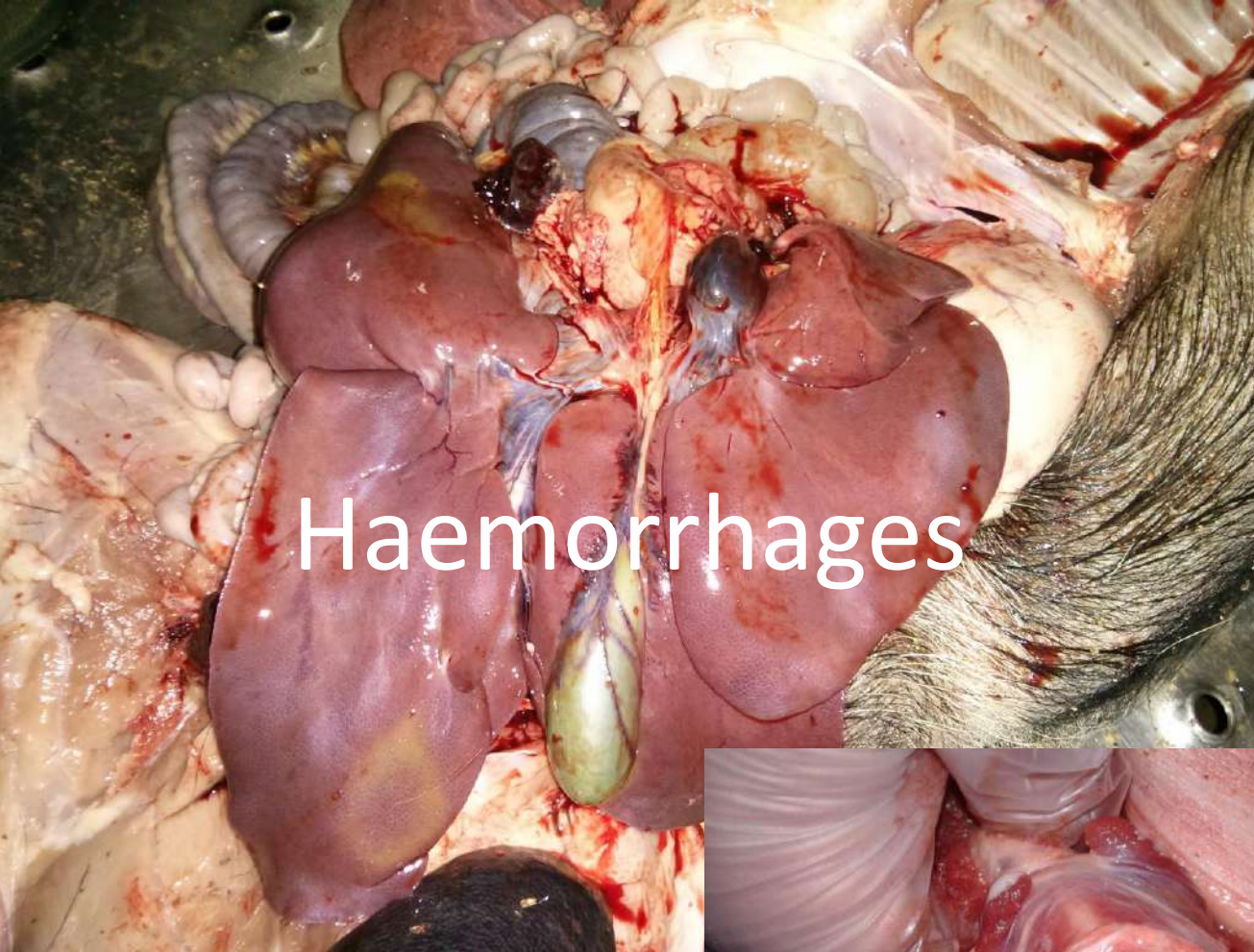


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2013/10/23



# Haemorrhages





# Handling dead pigs avoid postmortems



# Differentials

- CSF – still report
- PDNS
- Erysipelas
- Salmonellosis
- Acute pasteurellosis
- Acute streptococcal septicaemia
- Warfarin – haemolysin
- *Haemophilus parasuis*





**Large spleen**



# Wild Boar

Wild boar – **dead** and alive –  
are the **main vector**

Movement of pork products

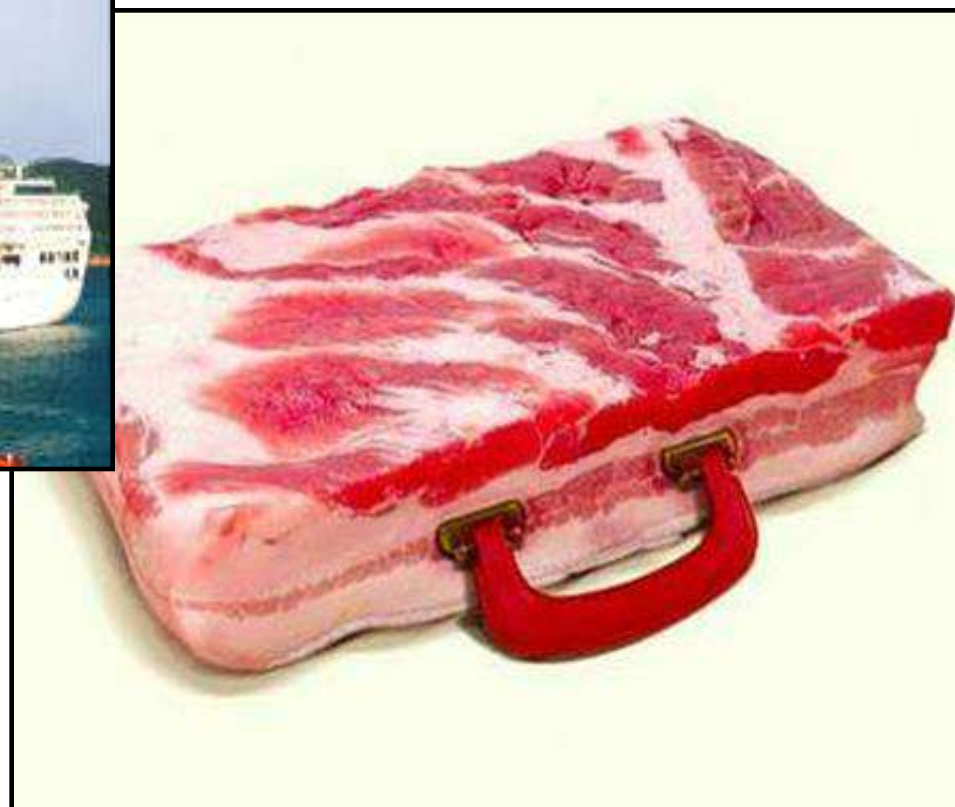




2

15 07 2014

Not wild boar but human activity, most of all transport of contaminated meat and meat products will be vector of ASFV spreading on long distances.



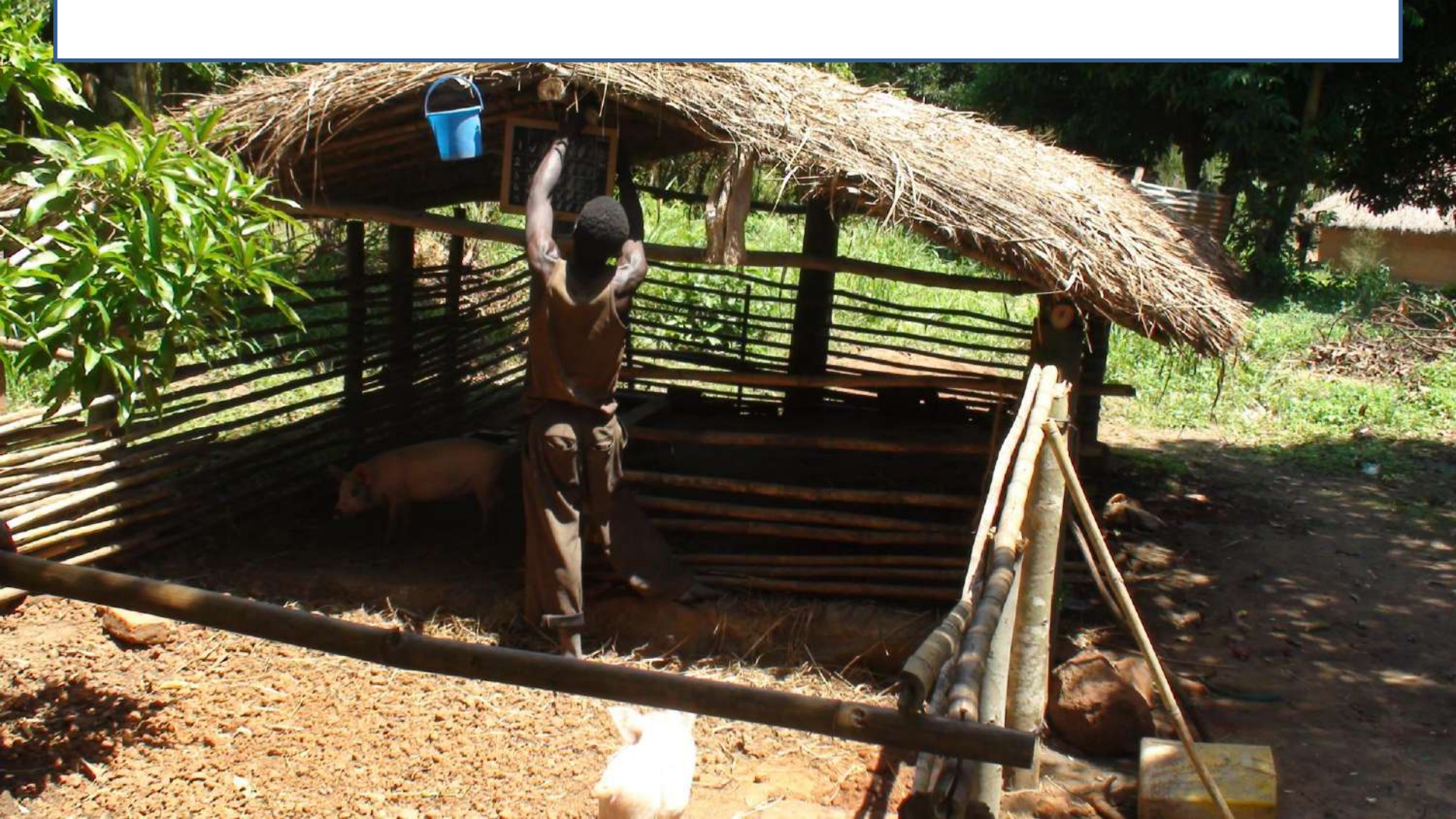
# Example area:



2000 – 400000 sows – family farms small

2017 – 35000- commercial farms only a few family farms

# African Swine Fever Control and future



# Control – elimination and eradication

## Relies of farmers being honest!





# Entry into Philippines



But no dog  
Hidden sign  
No questions  
Mentioned on plane



## Risk profiling exercise conducted during the FAO workshop:

- ✓ The risk (likelihood) of (at least 1) pig in the country becoming infected with ASF as a result of importation of live pigs from infected country is **LOW**.
- ✓ The risk (likelihood) of (at least 1) pig in the country becoming infected with ASF as a result of importation of pig products from infected country is **MODERATE**.
- ✓ The risk (likelihood) of (at least 1) pig in the country becoming infected with ASF from wild boars is **LOW**.
- ✓ The risk (likelihood) of (at least 1) pig in the country becoming infected with ASF from contaminated fomites (Personal items, vehicles, cloths) is **LOW**.
- ✓ The risk (likelihood) of (at least 1) pig in the country becoming infected with ASF from ticks (*Ornithodoros* sp.) is **LOW**.

# Landfill and waste tips



# Why would boars visit?

- Food and Sex











2

15 07 2014







# Weather events



















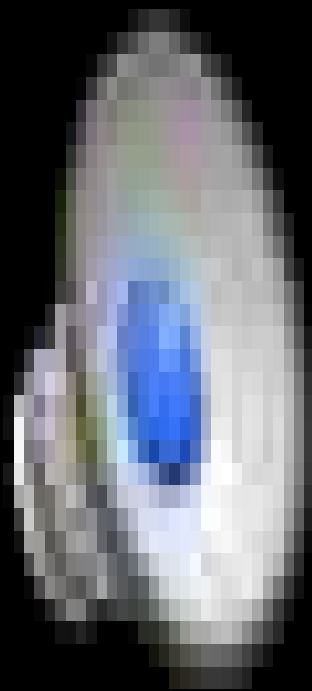






















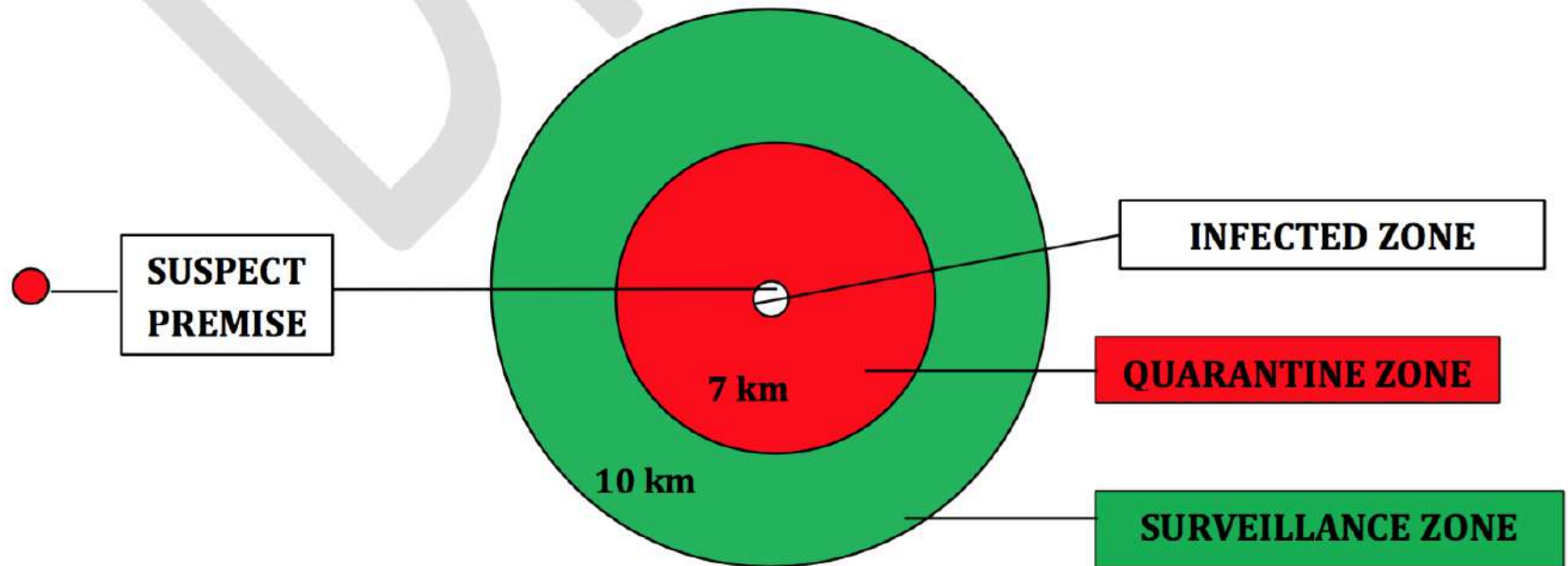
**Every farm should  
Have a pig proof  
perimeter fence  
Veterinarians should  
be trained in what  
makes a fence  
pig proof**







## Illustration of Zones for ASF



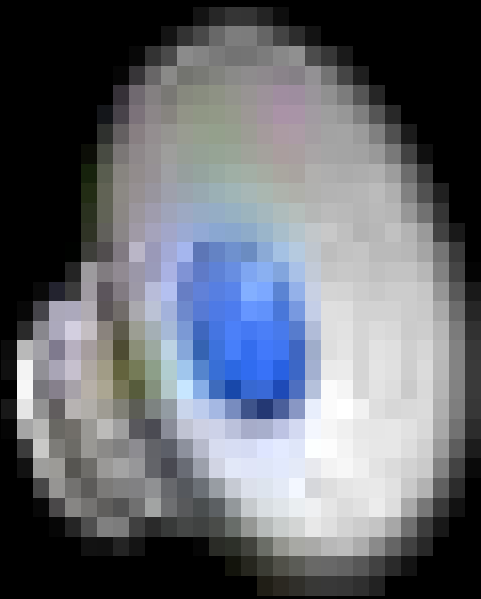
### 5. Decontamination and Disinfection

After disposal of infected materials, disinfection and control of vectors shall be done as soon as possible. This should be done daily for 30 days. If possible, the farm shall be closed and no pigs will be reared anymore.

????

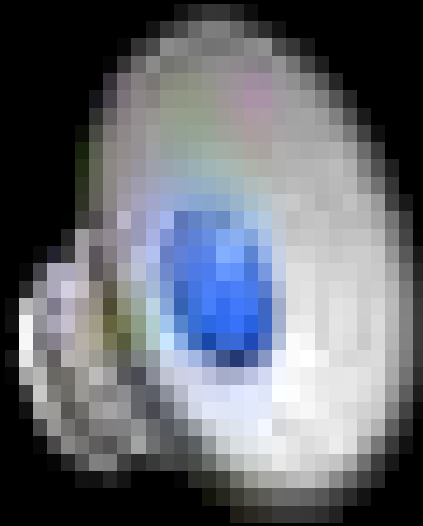






# Recovery and repopulation

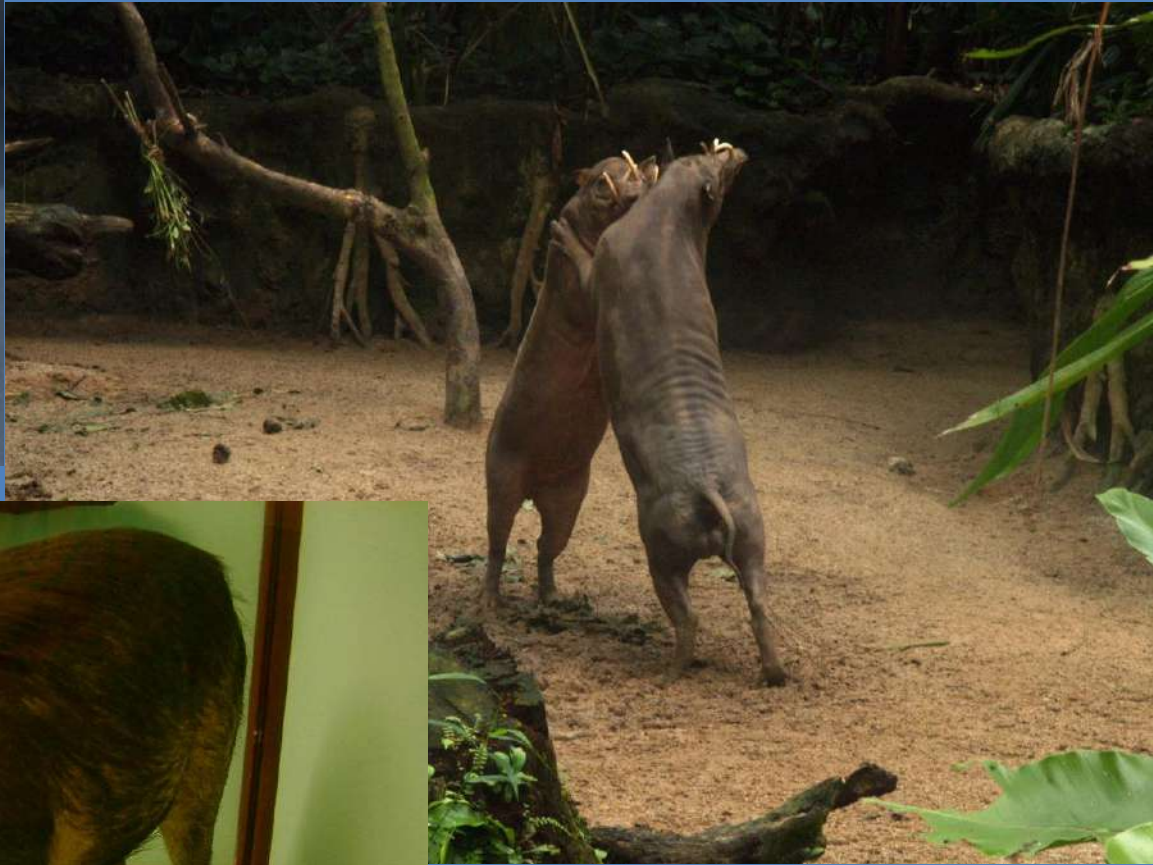




# Asian Native species

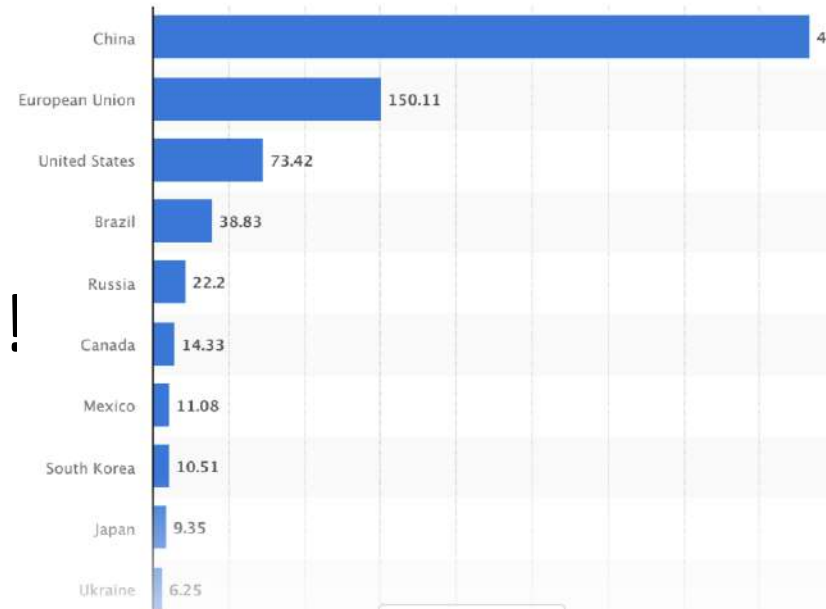
- *Sus ahoenobarbus* Palawan bearded Pig
  - *Sus barbatus* – Borean beared pig
  - *Sus cebifrons* – Visayan Warty pig
  - *Sus celebensis* – Sulawesi warty pig
  - *Sus oliveri* – Mindoro warty pig
  - *Sus philippensis* – Philippine warty pig
  - *Sus scrofa* –
  - *Sus verrucosus* – Javan warty pig
- 
- *Porcula*
  - *Porcula salvania* – Pigmy hog endangered
- 
- *Babyrousa*
  - *Babyrousa babyrussa*





# Why does all this matter?

- Basic Stats:
- China. # pigs 430 million
- 1.4 Billion people – 40kg
- 50,000,000,000 kg of pork!



- The world grows by 1 million a week
  - We need 100,000,000 kg more pork each year!







**Hot  
Red Pig  
With Large spleen**

# Thank you for your time and attention



With great thanks  
To RDF

Questions