

# African Swine Fever ...

## Are you ready ?



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# Outline

- Background
- Disease situation
- First appearance to a country
- DLD Prevention
- ASF Control measures
- Disease freedom & Recovery of free status
- Risks, Concerns & Consequences
- Preparedness
- Key success factors



# African Swine Fever: Background 1

- An infectious disease of domestic (permanently captive and farmed free-range pigs) and wild pigs (including feral pigs and wild boar) of all breeds and ages
- Wild African pig species (warthogs, bush pigs, giant forest hogs) infected with no clinical signs development = natural hosts ASFV, including soft-shelled, eyeless argasid ticks (tampans)
- An exotic disease to Thailand



# African Swine Fever: Background 2

- One of Thailand notifiable diseases:-
  - Notify to local DLD officials upon suspicion
  - Disease investigation
  - Sampling
  - Proclamation of infected area for disease control
    - Quarantine
    - Movement control
    - Disinfection
    - Disinsectisation
    - Surveillance
    - Disease control & eradication

# Disease Situation

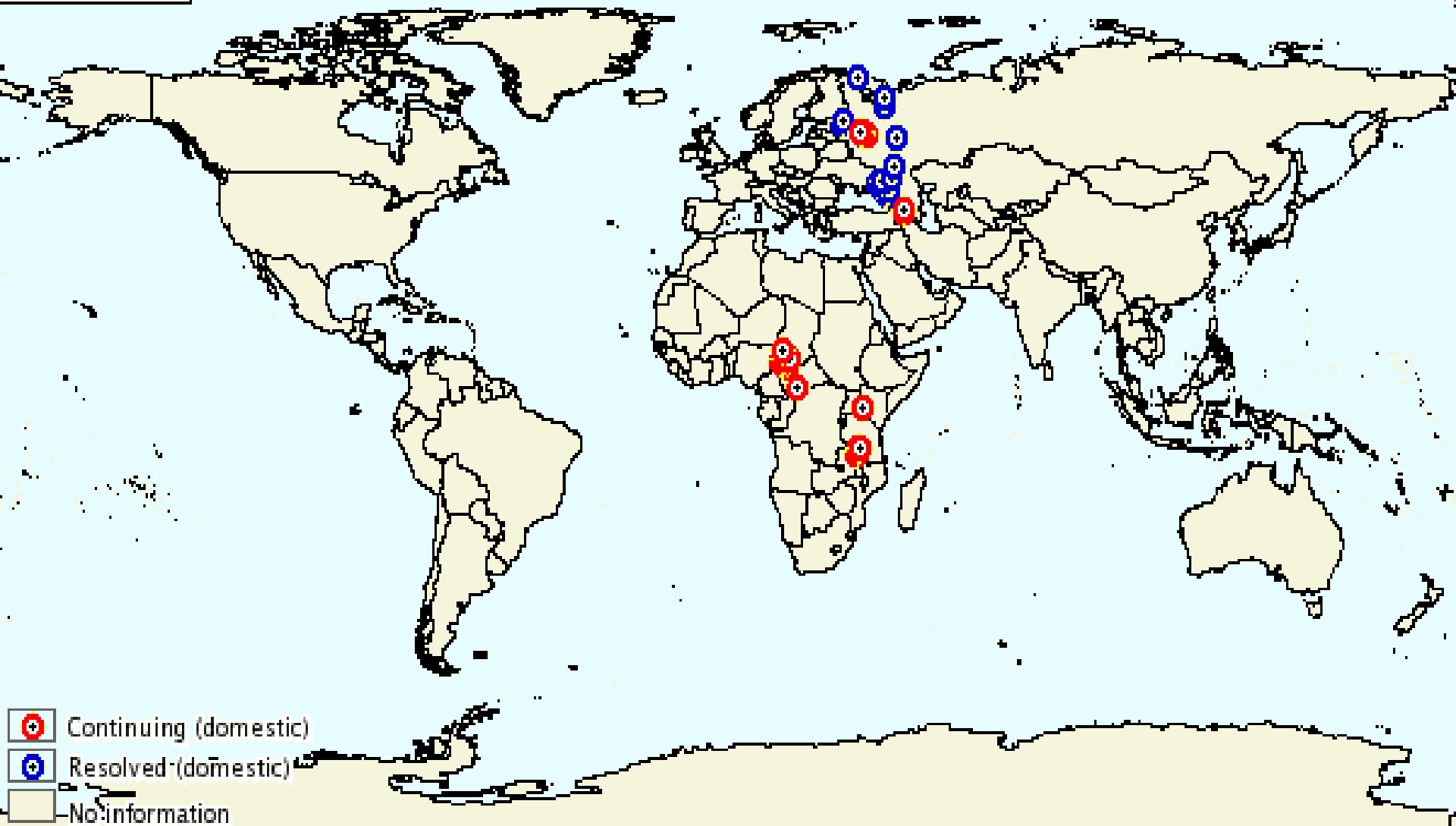
## Outbreaks

- Confined to African continent, Republic of Cape Verde, Madagascar and Sardinia
- 1950s - 1980s outside Africa in Europe, the Caribbean and Brazil.
- 1999 in Portugal
- 2007 in Caucasus (Georgia, Armenia, Azerbaijan & Russian Federation-Western)
- 2008 in Islamic Republic of Iran-Northwestern
- 2012 in Ukraine

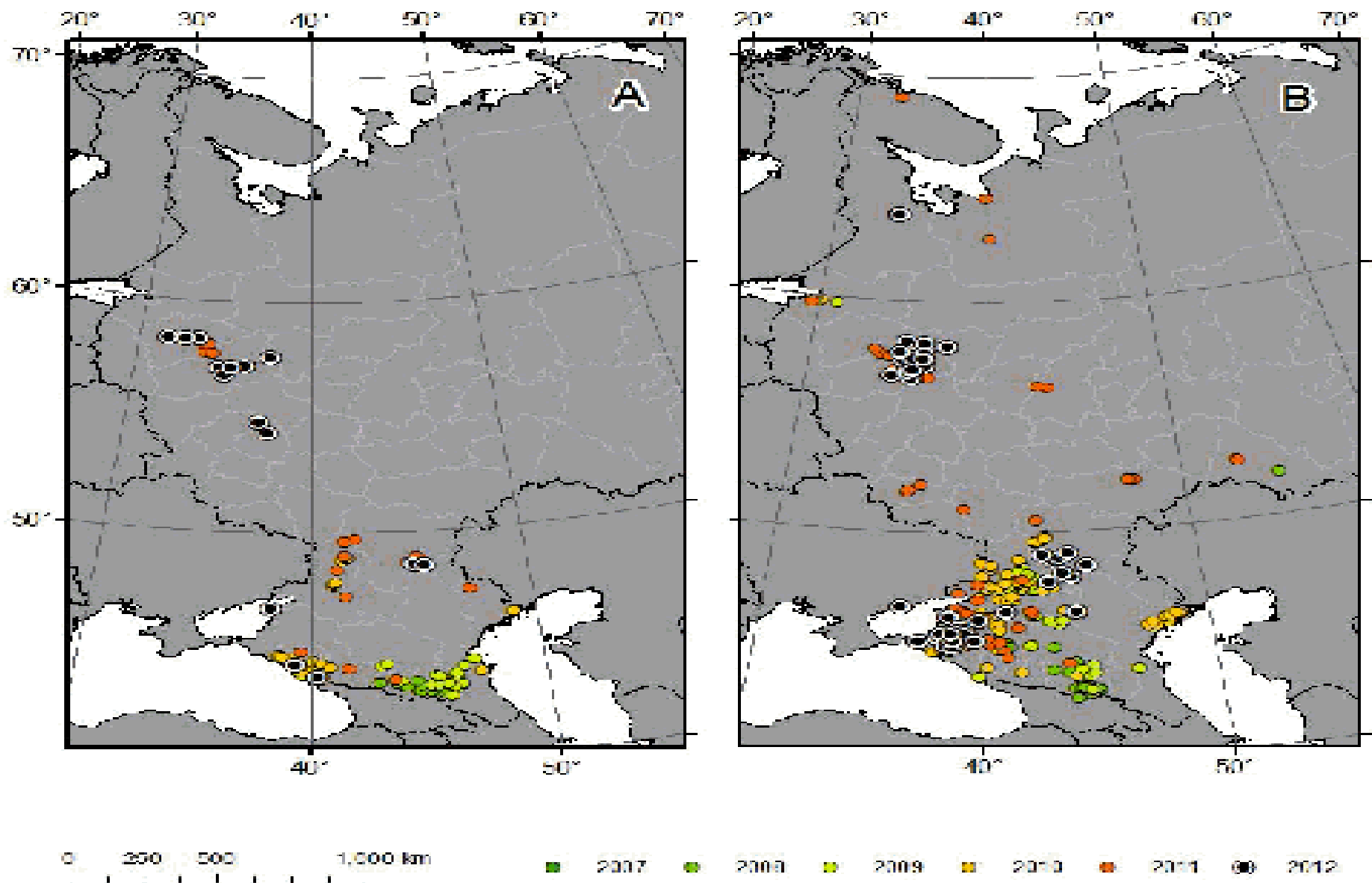


# African Swine Fever Situation -2011

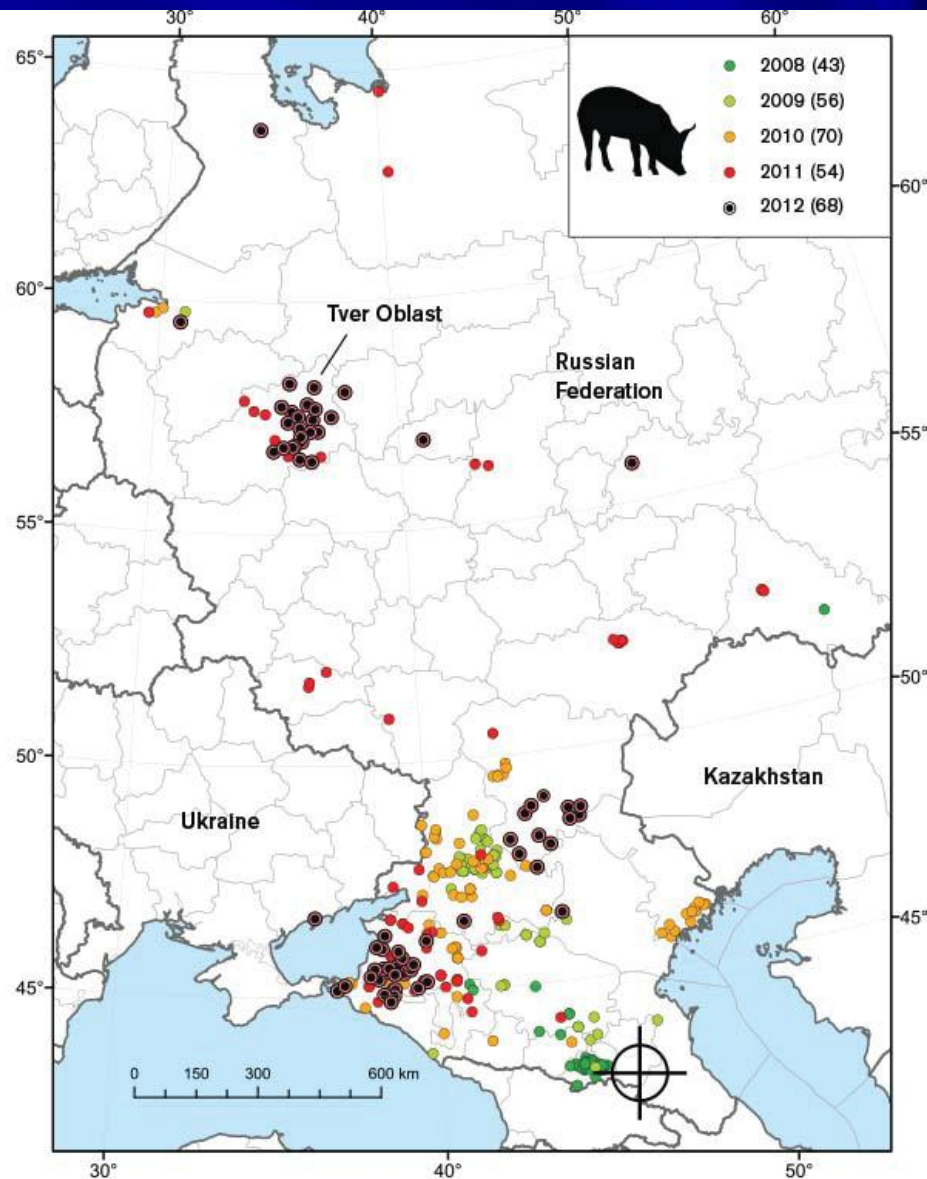
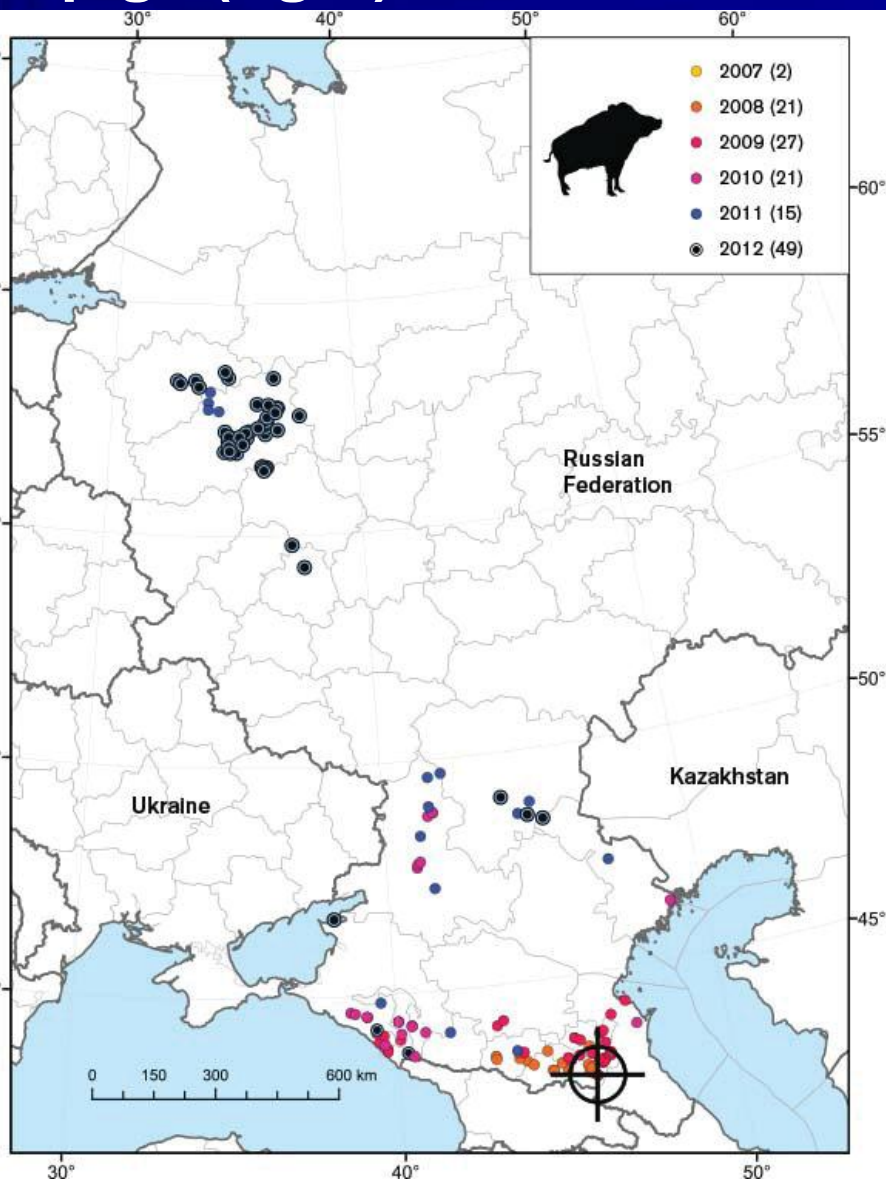
WAHID OIE © 2011



# Outbreaks of ASF in the Russian Federation and Ukraine in domestic pigs (A) and wild boar (B), as of mid-August 2012



# Annual detections of ASFV (Number of outbreaks) in the Russian Federation shown for wild boar (left) and domestic pigs (right) from 14 November 2007 to 29 December 2012.





# Disease Situation

## Possibility to spread to Southeast Asia...

# ROUTE ?!?

*Caucasus* → *Russia* → *PR China* → *Vietnam*

↓  
*Laos* ← *Thailand*



# First appearance of ASF in a country or area

- high fever (41-42C°) & death (~100%) in 2-10 days
- Depression, stop eating, huddle together
- Per-acute form, pigs may die before other clinical signs developed
- A swaying gait, recumbency, difficult breathing and flushing of the skin (ears, abdomen & legs) in pigs that survive for more than a day
- Vomiting, bleeding (nose or rectum), Diarrhoea
- Abortion may be the first event of an outbreak

# DLD Prevention

- Prohibition of imports from infected countries
  - Live pigs
  - Pig products
- Import Health Requirements (to OIE TAH Code)
- Border control
- No vaccine available yet....!
- *Reviewing National Contingency Plan for ASF*
- *Surveillance (laboratory & clinical)*
  - *Set up “ASF Case definition”, Active & Passive Sur*
- *Raising public awareness*



# OIE Terrestrial Animal Health Code

- Guidelines for the safe importation of domestic and wild pigs, pork and pork products, pig semen, embryos and ova and other products incorporating pig tissues, e.g. pharmaceuticals.
- Quarantine services to intercept foodstuffs and other risk materials
- Adequate regulatory

# ASF Control Measures: 1

- **Outbreak Investigation & Sampling**
- **Depopulation** at the affected premises
- ***Compensation 75 % of the local market price***
- **Disinfection** of premises & infected materials
- **Disposal** of carcasses, products & infected materials
- **Insecticide & Acaricide Treatment** (Disinsectisation)
- **Quarantine** the suspected premises & surroundings
- **Movement control**
- **Active/Passive surveillance** in risk areas
- **Coordination & Cooperation** among stakeholders:-  
authorities concerned – Prov. Governor, Environment & Natural Resources AND private sector
- **Public Awareness & Campaigns**



# ASF Control Measures: 2

- Sero-negative sentinel animals to monitor (clinically and serologically) for at least six weeks to detect any re-infection
- Restocking at least 40 days after cleaning and disinfection completed
- Tick control
- Wildlife control
- Proper disposal of waste food from aircraft, ship & vehicles coming from infected country

# ASF Eradication

The programme requires:-

- Rapid diagnosis
- Slaughter and Disposal of all animals on infected premises
- Cleaning and Disinfection
- Disinsectisation
- Movement control (Strict ban from infected area)
- Surveillance
- A cost of several billion dollars (& 30 years at the Iberian Peninsula)

# Factors determining ASF Status

- ASF is notifiable in the whole country
- All clinical signs suggestive of ASF should be subjected to appropriate field and laboratory investigations;
- An on-going awareness programme should be in place to encourage reporting of all cases suggestive of ASF;
- Veterinary Authority should have current knowledge of, and authority over, all domestic pigs in the country, zone or compartment (i.e. pig farm registers, backyard holding surveys)
- Veterinary Authority should have current knowledge about the species, population and habitat of wild pigs in the country or zone (i.e. mapping of wild boar population and feeding locations, wild pig density/ km<sup>2</sup> )

# Disease Freedom: Country or Zone

## 1) Historically free status

- No specific surveillance programme if comply with OIE TAH Code (Article 1.4.6.-“Procedures for self declaration and for official recognition by the OIE)

## 2) Free status as a result of an eradication programme i.e. Recover of free status



# Recovery of free status: 1

## 1) Stamping-out policy:-

### *SURVEILLANCE WITH NEGATIVE RESULTS*

- 3 month after the last case
- Acaricide treatment , if ticks involvement
- Use of sentinel pigs

## 2) Without Stamping-out policy



# Recovery of free status: 2

## 2) Without Stamping-out policy

### *SURVEILLANCE WITH NEGATIVE RESULTS:-*

- No outbreak of ASF during the past three years BUT 12 months, if no tick involvement in outbreak
- No evidence of ASFV found in the past 12 mth
- Surveillance in domestic pigs in the past 12 mth
- Imported domestic pigs comply with OIE TAH Code requirements (Article 15.1.5 or Article 15.1.6)

# Recovery of free status: 3

- No clinical evidence, virological evidence of ASF in wild pigs during the past 12 months;
- No seropositive wild pigs detected in age class 6–12 months during the past 12 months;
- Imported wild pigs comply with requirements of the OIE Code (Article 15.1.7.)
- ASF infection has been demonstrated not to be present in any wild pig population in the country or zone

# Risks & Concerns on ASF

- Illegal movement & Long survival in edible pork products (personal effects or hand carried items)
  - Dried Chinese sausage (GunShieng)
  - Chilled pork products (ham, sausage, salami)
  - Frozen pig products (Parma ham, bacon & pig offal)
- ASF clinically indistinguishable with CSF/PRRS
- Require laboratory differential diagnosis
- Short viraemia & high mortality may impossible to detect ASF through *active surveillance*
- ASF recognised by passive Lab .... spread..!?!

# Consequences

- Trade embargoes on:-
  - Live pigs (app 427,830 pigs, Million Baht 1,629.12 from January to September 2012)  
[http://www.matichon.co.th/news\\_detail.php?newsid=1352612794&grpId=03&catid=03](http://www.matichon.co.th/news_detail.php?newsid=1352612794&grpId=03&catid=03)
  - Pig products (app 16,239 MT, Million Baht 3,623 in 2012) <http://www.thaiswine.org/Portals/4/stat%20year/Apr>
- Pork products avoidance in the country
  - Thai consumes pork ~13.9 kg/person/year  
<http://www.oae.go.th/download/document/swine51.pdf>

ASF...

Are you ready?



# Preparedness...

We have to do for

*EMERGENCY*

*Situation...!!!*

# Preparedness

## Animal Health Personnel

- Guidelines/Manual on African Swine Fever
- Training /Updating knowledge for AH persons
- Table-top exercise
- Contingency Plan Development
- Conduct surveillance
  - Active / Passive
  - Lab / Clinical

*(NB: - Passive lab surveillance is more promising)*



# Laboratory Preparedness

- Designation of ASF diagnostic laboratory=NIAH
- Training laboratory technicians
- Capacity building:- (Detection of Antigen or Antibody)
  - Detection of the virus in cell culture (pig leukocyte, bone marrow)
  - Detection of virus antigens by immunofluorescence
  - Detection of virus antigens by polymerase chain reaction (PCR)
  - Detection of antigen by immunoperoxidase staining
  - ELISA

*[NIAH: ELISA and PCR (nested & rRT-PCR)]*

# Key success factors

## Private sector to cooperate on:-

- Following ASF situation (from trade partners' whisper, rumour & gossip)
- Monitoring through farm parameters (abortion)
- Informing DLD
- Triggering DLD's preparedness activities / contingency plans
- Assisting DLD activities in surveillance, prevention of spread, control & eradication

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<http://www.thepigsite.com/articles/4074/african-swine-fever-recent-developments-and-timely-updates>