ASF control in domestic pigs: Examples from Europe and beyond

Klaas Dietze

Cebu, October 2018
Epidemiological cycles

Chenais et al., 2018
Complex spread patterns

Figure 6. Transmission cycles of African swine fever in the Russian Federation involving low biosecurity pig production systems and wild boar.

Solid arrows indicate the main transmission routes as revealed by epidemiological investigations. Dotted arrows are suspected transmission pathways.
Basics to prevent ASF

- No contact with wild pigs
- No contact with pigs of other farms
- No access to animals for visitors
- No swill feeding
- No roughage feed or bedding harvested in areas with infected wild boar
This can be sufficient!
This can not be enough!
Effects of response: 3 examples
Cape Verde: focus on food security
Effects of response: 3 examples
“Creating” a Wave of ASF

Map of Cameroon showing the spread of ASF over time.
Control leading to spread
### Epidemiology

<table>
<thead>
<tr>
<th>Source of the outbreak(s) or origin of infection</th>
<th>Illegal movement of animals</th>
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<tbody>
<tr>
<td><strong>Epidemiological comments</strong></td>
<td>Samples were collected and submitted on 12 October 2010 to the laboratory for analysis. Following stamping-out conducted in northern Cameroon (Yagoua), some farmers would have fled with their animals crossing the Logone River towards Bongor on the southwest part of Chad.</td>
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**Epidemiology**

| Source of the outbreak(s) or origin of infection | Introduction of new live animals  
| Illegal movement of animals |

| Epidemiological comments | The animal health measures that are currently being applied in the field are: - Following a regional decision, establishment of three zones: outbreak zone, protection zone and surveillance zone; - Census of all pig farms in the outbreak zones; - Stamping out of animals in the outbreak zones; - Burning of carcasses; - Disinfection of premises and contaminated material; - Census of the animals slaughtered for farmers’ compensation. The strategy of the Ministry of Livestock and Animal Resources for the control of African swine fever is: - Ban on stray pigs; - Increase awareness and communication; - Sanitation process in the outbreak zones for a 3 to 6 months period between the implementation of the animal health measures and the restocking of the pig farms in the region; - Farmers’ compensation; - Strengthen surveillance along the border with Cameroon; - Consider a regional control strategy against this disease as part of the CEMAC (Economic and Monetary Community of Central Africa). |

**Control measures**

| Measures applied | Stamping out  
| Movement control inside the country  
| Zoning  
| Disinfection of infected premises/establishment(s)  
| Vaccination prohibited  
| No treatment of affected animals |

| Measures to be applied | Control of wildlife reservoirs |
Effects of response: 3 examples
First outbreaks
Remaining silent
... and let rumors take over?
Information on ASF control at EU-level

https://ec.europa.eu/food/animals/animal-diseases/control-measures/asf_en

African swine fever

What is African swine fever?
African swine fever (ASF) is a devastating infectious disease of pigs, usually deadly. No vaccine exists to combat this virus. It does not affect humans nor does it affect other animal species other than pigs and wild boars. It can be transmitted either via direct animal contact or via dissemination of contaminated food (e.g., sausages or uncooked meat). See the Description of the disease box below for more information.

Current Situation
For epidemiological information gathered through the EU Animal Disease Notification System (ADNS), please see the "Notification System" page. The agenda and the presentations of the points being discussed in the Standing Committee on Plants, Animals, Food and Feed (PAFF) can be found in the "Animal Health and Welfare regulatory committee" page.

Control measures
The European Union has laid down prevention and control measures to be applied where African swine fever is suspected or confirmed either in holdings or in wild boars. These include information measures and measures to prevent and eradicate the disease. The overarching piece of legislation providing the tool for the control of African swine fever in the EU is Council Directive 2002/60/EC of 27 June 2002.

In this framework, the latest specific regionalisation measures that have been taken with respect to evolution of the ASF situation in the EU are included in Commission Implementing Decision of 9 October 2014 (2014/709/EU) (as latest amended by Commission Implementing Decision (EU) 2018/1282 of 21 September 2018).

The map summarising the current regionalisation is provided. It is an indicative representation of the areas covered by Commission Implementing Decision 2014/709/EU by Commission Implementing Decision (EU) 2018/1216 and it includes the infected area established in Belgium.
Two of the original core objectives of the European Economic Community were the development of a common market, subsequently becoming a single market, and a customs union between its member states. The single market involves the free circulation of goods, capital, people, and services within the EU, and the customs union involves the application of a common external tariff on all goods entering the market.
Main criteria for demarcating Parts I, II, III and IV of the Annex to Implementing Decision 2014/709/EU

1) Part IV: occurrence of ASF in both domestic pigs and wild boar. The situation is endemic.
2) Part III: occurrence of ASF in both domestic pigs and wild boar. The situation is not yet endemic.
3) Part II: occurrence of ASF in wild boar.
4) Part I: higher risk area with no cases, nor outbreaks, of ASF and where higher surveillance is applied.
Regionalization

The definition of the size and shape of any area should take into account at least the following factors:

a) geographical aspects linked to the location of the outbreaks/wild boar cases;
b) ecological factors (e.g. water ways, forests) and the existence of natural and artificial barriers;
c) presence and distribution of wild boar;
d) epidemiology of the disease;
e) results of specific epidemiological studies;
f) historical experience gained on ASF spread;
g) administrative divisions, territorial continuity and enforceability of the control measures;
h) distribution of pig farms (non-commercial farms, commercial farms and outdoor farms) and the existence of protection and surveillance zones (if any);
i) hunting practices and other wildlife management considerations.
Principles according to EU legislation

- Total stamping out of infected premises
  - No pigs / products remain on infected premises
- Zoning
  - Clear separation of „free area“ from „affected area“
  - Protection zone (min 3 km)
  - Surveillance zone (min 10 km)
- Movement ban / movement control
Where is the bottleneck?

- Disease suspicion
- Laboratory confirmation
- Start of control measures
• Measures in domestic pigs
  – Farm classification (non-commercial; commercial; outdoor)
  – Minimum biosecurity requirements (per category)
  – Inspection and investigation regime
    • Inspection at least once per year
    • Investigation
– Awareness campaigns
– Sampling
  • In case of suspicion
  • Always first two dead animals (post weaning state) / week
– Laboratory tests for screening
• Measures in wild boar (for details refer to Vittorio)
  – Main strategic points
  – Measures in infected areas
  – Minimum biosecurity for hunters
  – Sampling of wild boar
  – Removing of wild boar carcasses
  – Awareness campaign
Diagnostics: who can help?

Reference Laboratories of the OIE

**African swine fever**

- **Dr Livio Heath**
  Onderstepoort Veterinary Institute
  Agricultural Research Council
  Private Bag X05
  Onderstepoort 0110
  SOUTH AFRICA
  Tel: +27-12 529 95.01  Fax: +27-12 529 95.95
  Email: HeathL@arc.agric.za

- **Dr José Manuel Sánchez-Vizcaíno**
  Centro de Vigilancia Sanitaria Veterinaria (VIVASD)
  Facultad de Veterinaria
  HCV Planta sótano
  Universidad Complutense de Madrid (UCM)
  Avda Puerta de Hierro s/n
  28040 Madrid
  ESPAÑA
  Tel: +34-91 394.40.82  Fax: +34-91 394.39.08
  Email: jmvizcaino@visasvet.ucm.es

- **Dr Linda Dixon**
  The Pirbright Institute
  Ash Road, Pirbright
  Woking, Surrey, GU24 0NF
  UNITED KINGDOM
  Tel: +44-1483 23 24 41  Fax: +44-1483 23 24 48
  Email: linda.dixon@pirbright.ac.uk

Reference Laboratory of the EU and FAO:
http://ASF-referencelab.info/asf/en/

Reference Laboratory in Germany

**PD Dr. Sandra Blome**
Deputy

Contact
Telephone: +49 3835 1 7-1144
Fax: +49 3835 1 7-1275

Address
Süderfer 10
17493 Greifswald - Insel Riems

Sandra.Blome@fli.de
Research on ASF

https://www.ars.usda.gov/GARA/

The next GARA Scientific Conference will be held in Kampala, Uganda in 2020
Thank You

ASF is always a Team-Task:

Prof. Mettenleiter
Prof. Conraths
Prof. Beer
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Dr. Sauter-Louis
Dr. Depner
Dr. Staubach
Dr. Probst
Dr. Schulz
Dr. Globig
Dr. Zani