

ASF threatening to spread
into Europe – Be aware!

What causes ASF?

The causative agent is a large complex virus, African swine fever virus (ASFV)

Is ASF a problem only in Africa?

No. In 2007, ASF was reported in Georgia. The introduction was believed to be related to swill feeding with the waste from a ship coming from south east Africa. ASF spread rapidly throughout the country and in the rest of the Caucasus region (Azerbaijan, Armenia) and the Russian Federation, with some outbreaks reported very near to the EU borders (including a single introduction in Ukraine and a recently declared outbreak in Belarus), making it a significant present threat to the swine industry across Europe and beyond. First described in Kenya, the disease exists in most of Sub-Saharan African countries, including Madagascar. The first spread of ASF outside Africa was to Portugal in 1957 as a result of waste from airline flights being fed to pigs near the Lisbon airport. ASF has been reported in different countries in Europe, and it was active in Spain and Portugal for more than 3 decades, until it was successfully eradicated early in the 90's. However, ASF still exists in Sardinia.

How long does it usually take since an animal is infected until it develops the disease?

3-15 days (usual incubation period). In the acute form, 3-4 days.

What does ASF look like?

It is a highly contagious disease that can affect pigs of all ages, without sex predilection. There is not a specific sign that can make you certain that the problem is ASF, although unusual high mortality among pigs of all age groups should lead to a strong suspicion of ASF although it can be similar to CSF (Classical Swine Fever). When apparent, the disease can take four forms: peracute, acute, subacute and chronic. The peracute and acute forms can have the following signs:

- sudden death of animals, with few signs
- high fever (40.5-42°C)
- reddening of the skin (visible only in pale-skinned pigs) – tips of ears, tail, distal extremities, ventral aspects of chest and abdomen
- decreased appetite, listlessness, cyanosis and mobility incoordination within 24-48 hours before death
- vomiting, diarrhea (sometimes bloody) and eye discharges
- death within 6-13 days, or up to 20 days
- abortion
- mortality rate often approaches 100% (in domestic swine)

What does ASF look like?



Sudden death of animals with few signs *credit: FLI*



Reddening of the tip of the ears *credit: FLI*



Decreased appetite, listlessness, cyanosis and mobility incoordination within 24-48 hours before death *credit: FAO*

How is the virus transmitted?

Directly (via contact between sick and healthy animals) or indirectly via:

- Feeding on garbage containing infected pig meat and/or pork products (ASFV can remain infectious for 3-6 months in uncooked pork products),
- biological vectors (soft ticks of the genus *Ornithodoros*) that previously fed on infected hosts and
- contaminated fomites (premises, vehicles, clothes, ...).

Sources of the virus include:

- Blood, tissues, secretions and excretions of sick and dead animals
- Animals which have survived and recovered from the infection
- Soft ticks of the genus *Ornithodoros* (a natural arthropod host), infected with the virus
- The environment: ASFV can persist in pig faeces over 6-10 days, in pork products for several months, and in frozen meat for years

Which animals can be infected (hosts)?

Domestic pigs (*Sus domesticus*) and European wild boar usually demonstrate disease. African wild swine are unapparently infected and act as reservoir hosts of ASFV in Africa.

Can I vaccinate my animals against ASF?

There is no vaccine available. Prevention (biosecurity and hygiene measures) and appropriate control of potential outbreaks (reporting, strict quarantine measures, stamping out) are still the best measures.

What is the best treatment for ASF?

There is no treatment available. Therefore biosecurity measures are essential, for example: avoid swill feeding, have dedicated clothing, make quarantine of new animals and fencing between different groups of animals.

Are there other diseases that might look like ASF?

Yes, including: Classical Swine Fever (CSF), Porcine Reproductive and Respiratory Syndrome (PRRS), Erysipelas, Salmonellosis, Pasteurellosis, Streptococcal infection, Leptospirosis, coumarin poisoning, Circovirus infection: Porcine Dermatitis and Nephropathy Syndrome (PDNS) and Postweaning Multisystemic Wasting Syndrome (PMWS). It is essential to send samples to the laboratory to diagnose ASF with certainty.

Can humans be infected?

No.



Feeding on garbage credit: René Karim Ndiaye



Ornithodoros spp. credit: F. Boinas, Sara Madeira, FMV-UTL

Which animals can be infected (hosts)?



European wild boars credit: FLI



Domestic pigs credit: JM Gourreau

If I see a suspected case, what should I do?

Contact your veterinarian and/or the official veterinarian in your region. Reporting of any suspicion is compulsory, so always call even if in doubt! The Veterinary Services will collect and submit a complete set of animal samples to the national reference laboratory for testing, especially:

- Blood in EDTA (0.5%) collected at the beginning of the infection
- Samples of spleen, lymph nodes, tonsil and kidney, at 4°C

What would happen if I do not report a suspicion?

The disease can easily spread to all your animals and to other farms in your region, having a devastating socio-economic impact.

What will the veterinary services do to control an outbreak?

In case of an outbreak, rapid humane slaughtering of all pigs and proper disposal of carcasses, meat products and litter is essential, together with thorough cleaning and disinfection. The virus is sensitive to dodecyl sulphate and heat (60°C, 30 minutes), and not so much to putrefaction, formaldehyde and alkali. Appropriate disinfectants for ASF include 2% sodium hydroxide, 2% caustic soda, detergents and phenol substitutes, sodium or calcium hypochlorite (2-3% available chlorine) and iodine compounds. Solid waste must be removed for burial or destruction before disinfection of contaminated material. Depopulated premises should not be restocked for at least 40 days.

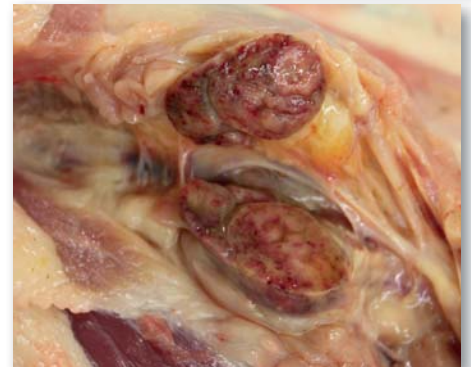
Please keep in mind:

- That it is better to report a suspicious case that ends up being negative, than not reporting
- Do not fear penalties from the government – your contribution is always essential!

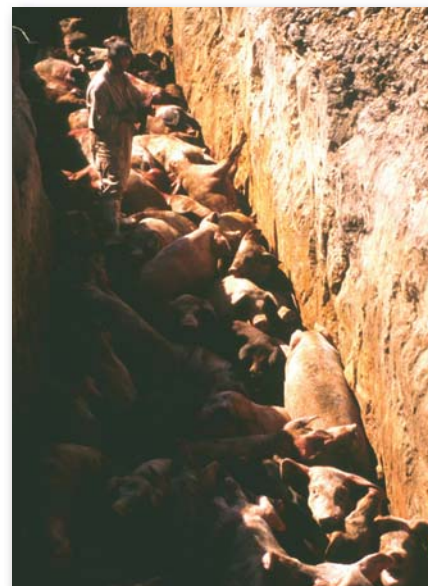
For additional questions, please contact your veterinarian or your professional association. Additional source of information: www.asforce.org

CONSORTIUM

- Universidade Técnica de Lisboa (FMV-U TL, Portugal)
- Fundação Calouste Gulbenkian (FCG-IGC, Portugal)
- Universidad Complutense de Madrid (UCM, Spain)
- Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria (CISA-INIA, Spain)
- Agencia Estatal Consejo Superior de Investigaciones Científicas (CSIC, Spain)
- Centre de Coopération International en Recherche Agronomique pour le Développement (CIRAD, France)
- Istituto Zooprofilattico Sperimentale dell' Umbria e delle Marche (IZS-UM, Italy)
- Friedrich-Loeffler-Institut – Bundesforschungsinstitut für Tiergesundheit (FLI, Germany)
- The Royal Veterinary College (RVC, United Kingdom)
- The Pirbright Institute (PIR, United Kingdom)
- Agence Nationale de Sécurité Sanitaire de l'Alimentation, de l'Environnement et du Travail (ANSES, France)
- State Research Institution National Research Institute for Veterinary Virology and Microbiology of Russia (VNIIViM, Russian Federation)
- Immunología y Genética Aplicada SA (INGENASA, Spain)
- ZOETIS (Spain)
- Bulgarian Food Safety Agency (BFSA, Bulgaria)
- Diomune SL (DIOMUNE, Spain)
- SAFOSO AG (Switzerland)
- Food and Agriculture Organisation of the United Nations (FAO, Italy)



Kidney and lymph nodes showing typical signs *credit: FLI*



Disposal of carcasses *credit: JM Gourreau*



Funded through the Project
"Targeted research effort on African swine fever",
ASFORCE, grant agreement 311931