

# AFRICAN SWINE FEVER

## Information Leaflet for Veterinary Practitioners



### Introduction

ASF is a highly contagious, often fatal disease of pigs of all ages. It is caused by a DNA-virus belonging to the family Asfarviridae. The virus is extremely resistant and can remain viable for months in pig carcasses, blood, faeces, tissues and fresh, frozen, salted, dried or smoked meats. It is transmitted through direct contact, swill-feeding and soft-shelled *Ornithodoros* ticks. Iatrogenic transmission may be possible. There is only one serotype, but different genotypes of varying virulence exist. No vaccine is available. The disease may occur in peracute, acute, sub-acute or chronic forms. There are no implications for human health or food safety.

### Geographical distribution

ASF is present in countries of sub-Saharan Africa. In Europe the disease was confirmed in Spain, Portugal and Sardinia in 1960. It was eradicated from Portugal in 1993 and Spain in 1995, but remains endemic in Sardinia. Limited outbreaks occurred in Belgium (1985) and the Netherlands (1986). Disease was confirmed in Georgia in 2007, and it subsequently spread to Armenia, Russia, Belarus and Ukraine. The disease spread to Eastern Europe in January 2014, and has been present in wild boar and sometimes pigs in Poland, Latvia, Lithuania and Estonia ever since. In June 2017 the disease was detected for the first time in wild boar in the Czech Republic, and in July in backyard pigs in Romania. ASF has never occurred in Ireland.

### Species affected

ASF affects domestic pigs (including Vietnamese Pot-bellied pigs), European wild boar, warthogs and American wild pigs. All age groups are equally susceptible. Humans are not susceptible to ASF.

### Transmission

The virus is found in all body fluids and tissues of infected pigs. Transmission occurs by:

- Direct contact with infected pigs, faeces or body fluids (including semen)
- Indirect contact via fomites such as equipment, vehicles or people
- Pigs eating infected pig meat or meat products
- Biological vectors - ticks of the species *Ornithodoros* (vector species not present in Ireland)

Iatrogenic transmission may be possible.

### Prevention

Good biosecurity is essential to the prevention of introduction of ASF into Ireland.

#### BIOSECURITY MEASURES THAT FARMERS CAN TAKE

- Only source **pigs and semen** of known health status
- Only allow essential **visitors** to enter your farm, and insist that they wear clean or disposable clothing and footwear, and wash their hands (or shower in if possible)
- Insist that **staff and visitors** have a pig-free period before entering your farm, if they have had contact with other pigs or wild boar (in addition to the measures for visitors above)
- Only allow **vehicles and equipment** on to the farm if they have been cleaned and disinfected beforehand
- Do not allow **food waste** (swill) to be fed to pigs – dispose of it safely

**The feeding of any food waste of animal origin or food waste which has been in contact with products of animal origin, whether raw or cooked, is illegal in Ireland**

## Clinical signs

- The incubation period varies from 5-15 days
- Large amounts of virus are shed for 24-48 hours before clinical signs develop and during the acute stage of infection
- The clinical signs of ASF range from mild to severe, depending mainly on the virulence of the virus

### *Peracute:*

- Animals may die before clinical signs develop

### *Acute:*

- Pigs become depressed, recumbent, have difficulty breathing, stop eating, and may huddle together
- Fever (40.5-42° C), increased pulse and respiratory rate
- Skin haemorrhages and cyanosis
- Vomiting, diarrhoea or constipation
- Abortion
- Froth may appear at nostrils
- Sometimes coma
- Death usually occurs within 1-7 days after clinical signs develop. Mortality is almost 100%.
- Survivors may carry the virus for several months and may progress to subacute or chronic stages

### *Subacute:*

- Less severe with death occurring within several weeks. Abortion. Outbreak mortality of 30-70%.

### *Chronic:*

- Signs may vary - weight loss, irregular fever, respiratory signs, arthritis, joint swelling
- Hair may become long and dull
- May take several months to develop

## Post Mortem Findings

### External lesions

- Carcasses of pigs that die in the acute stage of the disease are often in good condition
- Bluish-purple discolouration of the skin of the extremities, the chest and the abdomen, sometimes with multiple haemorrhages, may be seen in white-skinned pigs
- Bloody froth from the nose and mouth; discharge from the eyes; soiling of the tail and perineum with bloody faeces.

### Internal lesions may include:

- Sero-sanguinous fluid in the thoracic and abdominal cavities
- Petechial haemorrhages in kidneys and on visceral surface of organs
- Petechial haemorrhages in the mucous membranes of the larynx and bladder
- Enlarged friable spleen
- Enlarged haemorrhagic lymph nodes that may resemble blood clots
- Lungs which do not collapse when the chest is opened, appearing heavy and shiny, with prominent divisions between lobules and oozing moisture and froth when cut
- Sero-sanguinous froth in the trachea
- Haemorrhages and sometimes ulcers in the stomach lining
- Congested intestines with bloody contents

## Differential Diagnosis

Classical Swine Fever, Porcine Dermatitis Nephropathy Syndrome (PDNS) and Post-weaning Multisystemic Wasting Syndrome (PMWS) have similar clinical signs and gross pathology to ASF.

Bacterial diseases such as erysipelas, salmonellosis, and pasteurellosis usually respond to antimicrobials and have lower morbidity and mortality rates.

Laboratory assistance is essential to make the correct diagnosis.

## What to do if you suspect ASF

ASF is a **notifiable** disease. By law if you suspect ASF there is a statutory obligation to notify the Minister of Agriculture by reporting your suspicion immediately to your local District Veterinary Office or Agriculture House at 01 6072000 (1850 200 456 after-hours). An automatic standstill on animals, animal products on and off the holding applies until disease has been confirmed or ruled out.

## Samples for Laboratory Diagnosis

Confirmatory diagnosis at the CVRL, Backweston will be made on the basis of blood and tissue samples. Clotted blood and EDTA samples are required. Tissue samples required for ASF diagnosis are:

- Tonsils
- Spleen
- Kidney
- At least two lymph nodes
- Lung (plus distal ileum for Classical Swine Fever differential)
- Long bone or sternum in autolysed carcasses

## Control measures if ASF is confirmed

If ASF is confirmed, EU legislation requires that:

- infected and exposed animals on infected premises are killed
- the carcasses are safely disposed of
- infected premises are cleaned and disinfected
- surveillance and tracing of potentially infected or exposed animals are carried out and
- strict controls are placed on movements of pigs and pig products within a 3 km protection zone and 10 km surveillance zone.

There is no treatment or vaccine available for ASF.

Further information is provided on the Department of Agriculture's website at:

[www.agriculture.gov.ie](http://www.agriculture.gov.ie)