

Classical Swine Fever

Classical Swine Fever (CSF) is caused by a pestivirus, of which there are many different strains, and can result in a mortality of up to 90-100%. CSF is a notifiable disease, so any suspicion must be reported to a police constable officially, although in practice this is via your Vet or a Government Veterinary Officer. Strict movement restrictions will apply until results from samples are known.

CSF was eradicated from the UK in 1966 through a slaughter and compensation policy, but since then, there have been small outbreaks of the disease with the most recent in August and November of 2000. During this time there were 16 cases of disease, with movement restrictions affecting 1171 farms that were situated within 10km (6 miles) of an affected farm, and more than 180,000 pigs were slaughtered.

The virus is transmitted by carrier pigs (infected wild boar can act as a reservoir population) and direct contact with infectious faeces or contaminated vehicles, clothing and boots. The virus can withstand freezing, and persists in dried cured meat for up to 10 months. There is an EU ban on swill feeding as the virus can be transmitted through inadequately processed swill and unprocessed meat scraps. Infected boars can transmit the virus in their semen.

The virus is sensitive to heat, strong acid and some disinfectants. DEFRA produce a list of approved disinfectants and their required concentrations against this virus, but it should be noted in cold weather that the effectiveness of disinfectants is reduced.

Clinical Signs

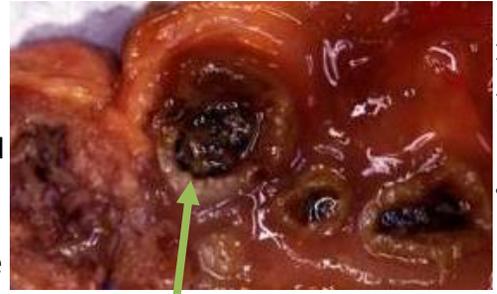
Once infected a pig will usually show clinical signs 5-10 days later, however as strains can vary in their virulence it is possible for it to take up to 30 days for clinical signs to develop. Clinical signs can affect any age of pig.

Pigs affected with sudden onset, acute disease are dull, with a very high temperature, and show diarrhoea, vomiting and dyspnoea (shortness of breath). The virus attacks cells lining the inside of blood vessels resulting in haemorrhaging (areas of bleeding), so the skin becomes blotchy with dark red-purple areas. Nervous signs such as convulsions, circling and uncoordinated movements are seen. Mortality can be high, particularly initially when the herd is naïve to the disease. As a result of the high temperature, there is often an increase in abortions, stillbirths and mummified piglets.

After a longer period of time, chronic disease with fewer clinical signs are seen due to the increase in herd immunity to the virus. Nervous signs and skin discolouration are still usually present and, since the virus also attacks white blood cells (which are a part of the body's immune system), the secondary infections seen will depend on what other pathogens are on farm.

Diagnosis

CSF is suspected where there is rapidly spreading disease with associated clinical signs, along with high mortality. Post mortems must be performed on freshly dead or euthanased cases. On post mortem, common findings are dark-reddened lymph nodes; multiple haemorrhages through the tissues including the kidneys, bladder and larynx (throat); and 'button ulcers' in the pig's large intestine. In the spleen there are infarcts, areas of cell death which result in blackened, hardened areas.



Picture showing 'button ulcers' in a pig's large intestine

Photo courtesy of www.pighealth.com

It is not possible to distinguish between CSF and ASF (African Swine Fever) based on clinical signs and post-mortem findings alone. There are also other diseases that can produce similar signs such as acute sudden onset Erysipelas and severe infection with Salmonella, meaning samples must be taken for full diagnosis and confirmation. Diagnosis is based on laboratory isolation of the virus itself, and also the presence of antibodies to the virus.

The CSF virus belongs to the same family as the viruses that cause BVD (Bovine Viral Diarrhoea) in cattle and BD (Border Disease) in sheep. Although these viruses do not cause clinical signs in pigs, if present in the pig at testing these viruses can cross-react with the CSF test resulting in a false-positive result and require further investigation.

Treatment, Control & Prevention

There is no treatment for CSF, although vaccines do exist in other parts of the World.

Suspicion of disease must be reported to your Vet so that it can be investigated immediately. Movement restrictions will be imposed on any farm where CSF is suspected until the results of the samples taken are known.

The UK is currently free from CSF, although to maintain this, the strictest international and farm biosecurity protocols must be adhered to.

Herd biosecurity is essential, especially where staff have travelled abroad, and all pork products should be banned from the farm as this is a major potential route of entry.

There is an EU ban on feeding pigs unprocessed meat products in swill to reduce the likelihood of a disease outbreak. This extends to all food products that have gone through any kitchen, whether catering or domestic.



*CSF positive countries shown in red
Map source – OIE, Feb 2015*

Please speak to your Vet to discuss any questions you may have