

Popular Article

A Review on African swine fever and its Prevention

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Abstract

African swine fever is a highly contagious and deadly viral disease affecting both domestic and feral swine of all ages. ASF is not a threat to human health and cannot be transmitted from pigs to humans. It is not a food safety issue. ASF is found in countries around the world. More recently, it has spread to the Dominican Republic and Haiti. ASF has also spread through China, Mongolia and Vietnam, as well as within parts of the European Union. It has never been found in the United States – and we want to keep it that way. Vietnam successfully produced the first vaccine against African swine fever on June 1, 2022. There is no treatment or vaccine available for this disease. The only way to stop this disease is to depopulate all affected or exposed swine herds. An experimental vaccine is in development against the 2007 Georgia isolate currently circulating, which is attenuated by deletion of the viral I177L gene.

Introduction

African swine fever (ASF) was first reported in Kenya in 1921 and is one of the most complex infectious swine diseases causing the greatest concern in the pig industry because of its high mortality. The disease is caused by a large double-stranded DNA virus, a sole member of the *Asfarviridae* family, which affects domestic pigs and wild boars. The risk of an ASF incursion continues to exist as the virus is still spreading across Europe with a recent wild boar occurrence detected in Italy. This is the first reported case of ASF in mainland Italy. The disease has also been detected for the first time in North Macedonia in a backyard holding close to the Bulgarian border. Four cases of ASF have now been detected in domestic Pigs in Germany since the first domestic case was reported in July 2021. Elsewhere frequent outbreaks in domestic pigs are still being reported in Moldova, Romania, Russia and Ukraine. ASF has also continued to be reported in wild boar across Europe.



Clinical signs

The clinical signs of ASF may occur in chronic, sub-acute or acute form. The incubation period for ASF is usually between five and fifteen days. In the acute form pigs develop a high temperature (40.5 degrees C or 105 degrees F), then become dull and go off their food. Other symptoms can vary but will include the following:

- Vomiting
- Diarrhoea (sometimes bloody)
- Reddening or darkening of the skin, particularly ears and snout
- Gummed up eyes
- Laboured breathing and coughing
- Abortion, still births and weak litters
- Weakness and unwillingness to stand

Diagnosis

The clinical symptoms of ASFV infection are very similar to classical swine fever. The diagnosis is usually performed by an ELISA, real time PCR or isolation of the virus from either the blood, lymph nodes, spleen, or serum of an infected pig.

Prevention and control

The spread of ASF can be prevented only by early detection and the strict application of classical disease control methods, including surveillance, epidemiological investigation, tracing of pigs, stamping out in infected holdings, biosecurity measures, quarantine, and animal movement control. PCR is accepted as the gold standard test for ASF detection because of its high sensitivity, specificity, and high-throughput application to detect the target viral genome in various samples from domestic pigs, wild boars, biological vectors, and even pork products transported illegally.

References

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