



Case Definition

African Swine Fever (ASF) (Notifiable)

March 2023

1. Disease Information¹

1.1 General Disease and Pathogen Information: African swine fever (ASF) is an infectious disease of both domestic and wild pigs² caused by the African swine fever virus (ASFV), a DNA virus and the only member of the *Asfarviridae* family. It can be transmitted through direct or indirect contact or by ticks of the genus *Ornithodoros*. The incubation period in nature is usually 4–19 days but can be up to 21 days, or in the acute form 3–4 days. For the purposes of the World Organisation for Animal Health (WOAH) Terrestrial Animal Health Code, the incubation period in *Sus scrofa* is 15 days. Infection can be subclinical, peracute, acute, subacute, or chronic. Pigs that recover from infection can become persistently infected carriers of the virus. ASF is present in wild or domestic pigs in regions of Asia, Europe, Africa, and the Americas.

1.2 Clinical Signs:

1.2.1 Peracute: Caused by highly virulent strains. Pigs are typically found dead, sometimes without clinical signs of disease or any post-mortem lesions.

1.2.2 Acute: Caused by highly virulent strains. Clinical signs include fever, increased pulse and respiratory rate, lethargy, anorexia, and recumbency. Jaundice, vomiting, bloody diarrhea, eye discharge, bloody nasal discharge, and abortions may be observed. Pigs commonly exhibit reddening, hemorrhage, and/ or petechiation of the skin. One to two days before death the pig may develop anorexia, depression or listlessness, cyanosis, and incoordination. Death occurs 2-13 days after infection. Mortality rates approach 100 percent. Commonly seen post-mortem lesions include enlarged, and often friable spleen, enlarged liver, renal petechiae/ hemorrhages, hemorrhagic and enlarged lymph nodes (most commonly gastrohepatic and renal), and hemorrhages/ petechiae in other organs including urinary bladder, lungs, heart, stomach, and intestines.

1.2.3 Subacute: Caused by moderately virulent strains. Clinical signs are similar to the acute form but are less severe. The duration of illness is 5-30 days and mortality rates are lower (30-70 percent). Death occurs 15-45 days after infection. Post-mortem lesions are similar to those seen with the acute form, but typically less severe.

1.2.4 Chronic: Caused by lowly virulent strains. Clinical signs develop over 2-15 months, are variable, and may include weight loss, fever, respiratory signs, skin

¹ In the 2018 ASF outbreaks in both China and Russia, the disease presented in the acute form.

² Suids include all varieties of *Sus scrofa* (pig), both domestic and wild, and African wild suid species including warthogs (*Phacochoerus spp.*), bushpigs (*Potamochoerus spp.*) and the giant forest hog (*Hylochoerus meinertzhageni*).



necrosis, pericarditis, lung adhesions, and joint swelling. Mortality rates are low. Post-mortem lesions can include emaciation and focal caseous necrosis and mineralization of the lungs.

2. Laboratory Criteria

2.1 Agent Isolation and Identification: Collect whole blood (EDTA and heparin), spleen, lymph nodes, and tonsils. Keep samples as cold as possible without freezing, unless using inactivating media. Tests include real-time polymerase chain reaction (PCR), immunohistochemistry (IHC), and virus isolation (VI).

2.2 Agent Characterization: Genome sequencing is critical to differentiate viral strains.

2.3 Serology: Antibody (Ab) detection in serum can be evaluated by enzyme-linked immunosorbent assay (Ab ELISA), indirect fluorescent antibody test (IFAT), and indirect immunoperoxidase test (IPT). Antibodies typically develop 7-10 days post-infection and can persist for life. Pigs infected with highly virulent ASFV strains can die before antibody production occurs.

3. Case Classification

3.1 Suspect Case: a suid with

3.1.1 clinical signs consistent with ASF; **OR**

3.1.2 an epidemiologic link to ASFV; **OR**

3.1.3 a non-negative result by a serological antibody screening assay conducted as part of a national surveillance activity.

3.2 Presumptive Positive Case: a suspect case with

3.2.1 a non-negative test result for ASFV PCR from a NAHLN or other APHIS-approved screening laboratory.

3.3 Confirmed Positive Case:

3.3.1 ASF virus has been isolated and sequenced at NVSL; **OR**

3.3.2 A suid with clinical signs consistent with ASF **or** an epidemiologic link to ASFV **or** cause for suspicion of previous association or contact with ASFV; **AND**

3.3.2.1 an ASF PCR³ positive result with genomic sequencing at NVSL; **OR**

3.3.2.2 antibodies specific to ASFV are identified by Ab ELISA and confirmed by IPT at NVSL.

4. Reporting Criteria ASF is a U.S. foreign animal disease (FAD) that is immediately reportable under the APHIS [National List of Reportable Animal Diseases \(NLRAD\)](#).

4.1 NLRAD reporting in accordance with the [NLRAD Standards](#) for notifiable diseases; and by APHIS to the [World Organisation for Animal Health \(WOAH\)](#); **AND**

³ Once first identification has occurred at NVSL, ASF PCR positive result at a NAHLN approved laboratory or NVSL



- 4.2** For FAD or Emerging Disease Incidents (EDI) also follow standard procedures according to the [Policy for the Investigation of Potential Foreign Animal Disease/Emerging Disease Incidents](#).