

Information Sheet

May 2021

African Horse Sickness



Photo by Canva.com

What is African horse sickness?

African horse sickness (AHS) is an insect-borne infectious disease of equids. The disease occurs in four clinical forms and, depending on the disease form and species of equid, it can have a very high mortality rate. The AHS virus (AHSV) is not contagious through contact between animals, it is carried by an insect or mechanical vector (e.g., needles). Although equids are the primary hosts, natural disease is rarely reported in other species. AHS is not a threat to human health.

Where has AHS been detected?

- The disease is normally found in tropical equatorial regions of sub-Saharan Africa. In subtropical regions of Africa, AHS exhibits a seasonal occurrence from late summer to autumn.
- Historical outbreaks previously occurred in the Near and Middle East, the Iberian Peninsula, Morocco, and as far east as Pakistan and India. In 2020, it spread for the first time to Thailand and Malaysia in Southeast Asia.

- AHS is a World Organisation of Animal Health (OIE) notifiable equid disease. Consequently, any illness in equids that may be AHS must be reported immediately to State animal health officials and USDA.

How is AHS transmitted?

AHS is a non-contagious, infectious vector-borne disease, which means that it is not transmitted by direct contact among horses. Instead, it is usually spread by infected insects.

- Midges serve as the primary vector.
- Mosquitoes, some biting flies, and other arthropods such as ticks, might also transmit the virus from one equid to another.
- Because climatic factors influence the breeding of midges, AHS occurs seasonally. A period of drought followed by heavy rains might lead to an outbreak in an endemic area or in an area with an introduction of an infected equid.
- Although AHS has not been detected domestically, the United States does have species of insects that could transmit AHSV among equids.

Clinical signs of AHS

The signs and severity of disease depend upon the clinical form of disease as well as the species of equid infected. The disease can present in the following forms:

- The pulmonary form of AHS begins with fever and progresses within a few days to respiratory failure and death in about 95 percent of affected horses, the most sensitive equid species. Clinical signs include depression, profuse sweating, labored breathing, pulmonary edema, severe coughing, and frothy nasal discharge.
- The cardiac form of the disease has clinical signs that include a mild fever; swelling of the face, head, neck, and chest; and depression. The equids may also exhibit signs of colic. With this form of AHS, death can occur in about half of cases or more within 4 to 8 days.

- The mixed form of AHS includes clinical signs of both the pulmonary and cardiac forms, beginning with mild respiratory signs, followed by edema, cardiac failure, and death within 3-6 days. The case fatality rate is around 70 percent.
- The fourth form of the disease is known as African horse sickness fever. Donkeys and zebras, and vaccinated horses with partial immunity to AHSV, may develop the milder form of disease, characterized by low-grade undulating fevers, lethargy, and shortness of breath. This form is rarely fatal.
- Horses are more susceptible to the pulmonary and mixed forms of disease with the highest mortality rates (50% to 95%). Mortality rates in mules average 50% with European and Asian donkeys' mortality rates averaging around 5% to 10%. African donkeys and zebras are the least susceptible equids and thought to be the reservoirs of the virus. Zebras are believed to have been responsible for movement of the virus to unaffected countries, including the recent 2020 outbreak in Thailand.
- Restrict equid movements within, into, and out of the infected area.
 - Consider euthanasia for infected horses with severe clinical signs that are unlikely to recover.
 - Implement quarantine measures to separate infected horses from noninfected horses to prevent spread of the virus.
 - Release quarantines, as appropriate, related to the disease situation.
 - Require all equids in affected areas to be housed from dusk to dawn.
 - Implement insect-control measures.
 - Monitor all equids daily for signs of the disease.
 - On approval from USDA APHIS, use an authorized, appropriate vaccine to protect susceptible horses within a quarantined area.

What are control measures if AHS is found in the United States?

If AHS is found here, it is critical for horse owners to follow biosecurity precautions such as:

- Implementing insect-control measures (as well as destroying possible midge breeding sites)
- Stabling equids from dusk to dawn, preferably in insect-proof housing
- Not re-using needles among multiple equids
- Properly inactivating AHSV in potentially contaminated areas using heat above 140°F, pH less than 6 or greater than 11, or acidic disinfectants.

Animal health officials may take some of the following actions to limit the spread of AHSV:

- Delineate an area of infection and establish a quarantine zone.

The USDA is an equal opportunity employer, lender, and provider.

How could AHSV enter the United States?

AHSV could enter the United States through importation of infected equids from endemic countries or countries with recent introduction and spread. The greatest risk for AHSV introduction is associated with imported zebras, donkeys, or equids with partial immunity, including vaccinated equids. Infected animals can serve as a source of virus, which midges can then pass to non-infected animals. Other possible routes of entry include:

- Importation of infective animal products such as equine serum, semen, and equine-origin biological products from AHSV-affected countries.
- Introduction of infected vectors, specifically midges, via airplanes or ships.
- Introduction of infected vectors carried on the wind from areas of infection.

Report suspicious cases

AHS is an internationally reportable disease. If you see an equid that you believe might have AHS, contact your veterinarian. Suspected cases should also be reported to your State animal health official.

For more information, contact:

The Center for Epidemiology and Animal Health
vs.ceah@usda.gov
 (970) 494-7200