



Hemorrhagic Disease

Background

Hemorrhagic disease (HD) is an infectious viral disease transmitted by tiny biting flies (often referred to as midges, gnats, or no-see-ums) in the genus *Culicoides*. HD is caused by two closely related viruses in the genus *Obrbivirus*, epizootic hemorrhagic disease (EHD) and bluetongue virus. There are 2 subtypes of EHD virus and 5 subtypes of bluetongue in North America. Because disease features produced by these viruses are indistinguishable, a general term, hemorrhagic disease, often is used when the specific virus is unknown. Although EHD and bluetongue virus are infectious to a wide range of wild ruminants, susceptibility varies among species. Clinical disease has been reported in white-tailed deer, mule deer, bighorn sheep, elk, and pronghorn. Antibodies or virus have been detected in bison and mountain goats; however, these infections were not associated with disease.

Humans are not at risk of infection from handling infected animals, eating venison from infected animals, or being bitten by infected biting midges. However, because bacterial infections or abscesses occur secondary to HD, the meat may not be suitable for consumption.

Management

Although large die-offs of HD have not been reported in Arizona, antibodies for the disease have been documented in mule deer, bighorn sheep, and pronghorn. HD typically occurs from mid-August through October, and this seasonality is related to the abundance of the biting midges. The onset of freezing weather, which stops the midges, brings a sudden end to HD outbreaks.

Clinical signs associated with infection by these viruses are highly variable. Infections in wild ruminants can range from mild or no disease to episodes of high mortality. When illness does occur, the signs can change as the disease progresses. Initially animals may be depressed, feverish, have a swollen head, neck, tongue, or eyelids, or have difficulty breathing. With highly virulent strains of the virus, animals may die within 1 to 3 days. More often, they survive longer and may become lame, lose their appetite, or reduce their activity. A small portion of infected animals may be disabled for weeks or months by lameness and emaciation. Because of the high fever associated with HD, during the first few days of the disease, dead or dying animals (especially deer) are often found near water (e.g., lying on or near the banks of ditches, creeks, lakes, rivers, etc.) lying on the cool moist soil. Animals reported to be showing signs of the disease can be targeted and tested on a case by case basis and can be diagnosed by laboratory testing.

Reporting

To report dead wildlife, please call the Wildlife Disease Hotline at 877-972-8426. Wildlife health personnel will respond Monday through Friday during normal business hours. You can leave a message if it is before or after business hours. Fresh samples are required for testing. If you have a wildlife related emergency, please call our 24 hour dispatch center at (623) 236-7201. If the animal you are calling about has been shot and you are reporting possible illegal activity, call Operation Game Thief 800-352-0700.

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5000 W. CAREFREE HIGHWAY, PHOENIX AZ 85086

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