



Vesicular Stomatitis

Vesicular stomatitis is a viral disease that primarily affects horses and cattle. It occasionally affects swine, sheep, goats, llamas, alpacas, and people who handle affected animals. Vesicular stomatitis is found only in the Western Hemisphere, where it is endemic in warmer climates and occurs sporadically in more temperate areas.

Vesicular stomatitis is not endemic within the United States and is federally reportable. In the past decade, the southwestern and western United States experienced several vesicular stomatitis outbreaks introduced from Mexico. Outbreaks usually occur during the warmer months, often along waterways. In some years, only a few premises in a single State were affected. In other years, multiple States and many premises were involved.

Veterinarians and livestock owners in these regions should be aware that vesicular stomatitis can potentially occur in their area. You should also be on the alert for animals displaying clinical signs of the disease.

Economic Impacts

Although vesicular stomatitis does not normally kill affected animals, it can cause economic losses for livestock producers by preventing animal movements and impacting international trade. Farms with affected animals are quarantined until 14 days after lesions appear on the last case at that location.

Quarantine periods can be lengthy if the disease continues to spread within the premises. Some countries may stop imports of certain animals and their products when cases are reported in the United States.

Vesicular stomatitis clinical signs can look like those of several other diseases. One of those diseases, foot and mouth disease (FMD), is a foreign animal disease that would cause devastating economic consequences if found in the United States. The only way to tell these diseases apart is through laboratory testing. It's important to quickly test any animal with clinical signs to identify which disease is causing illness.



Clinical Signs

The incubation period for vesicular stomatitis is 2 to 8 days. The first sign of illness is often excessive salivation. If you look inside the mouth, you will see blanched and raised vesicles or blister-like lesions on the inner surfaces of the lips, gums, tongue, and/or dental pad. These blister-like lesions can also form on the lips, nostrils, coronary band, prepuce, vulva, and teats. The blisters will swell and break open, which causes mouth pain, discomfort, and reluctance to eat or drink. This can cause severe weight loss. If the coronary bands of the hooves are affected, lameness can occur. You may also notice a rise in body temperature before or at the same time lesions first appear.

Dairy cattle often suffer from teat lesions, followed by mastitis. A severe drop in milk production is common. Some affected dairy cattle can appear normal with no clearly visible signs of illness but may only eat about half of their normal feed intake. If there are no complications such as secondary infection, affected animals typically recover in about 2 weeks.

In horses, vesicular lesions generally occur on the upper surface of the tongue, lips, corners of the mouth, and gums, as well as around the nostrils. The lesions in horses may also appear as crusting scabs on the muzzle, lips, ears, coronary bands, sheath, udder, or underside of the abdomen. Affected pigs usually first show signs of lameness caused by foot lesions.

Disease Spread

How vesicular stomatitis spreads is not fully understood. Insects, animal movements, and moving the virus on objects are all factors. The most common method of transmission is through biting insects. Black flies, sand flies, and biting midges have all been shown capable of transmitting the virus, but other insects may also be involved. Once the disease is introduced into a herd, it may move from animal to animal by contact or exposure to saliva or fluid from ruptured vesicles.

Vesicular Disease in Humans

People can get vesicular stomatitis after coming into contact with lesions, saliva, or nasal secretions from infected animals. The disease causes an acute influenza-like illness with symptoms such as fever, muscle aches, headache, and malaise. To avoid exposure to this disease, use personal protective measures when handling affected animals.

Recommended Actions

There is no specific treatment or cure for vesicular stomatitis. Good sanitation and quarantine practices on affected farms usually contain the infection.

Once a definitive diagnosis is made on a farm, the State Veterinarian will determine specific quarantine procedures. The following procedures are also recommended:

- Separate animals with lesions from healthy animals, preferably by stabling. Animals on pastures tend to be affected more frequently with this disease.
- Do not move animals from premises affected by vesicular stomatitis until at least 14 days after the onset of lesions in the last case.
- Implement on-farm insect control programs that include eliminating or reducing insect breeding areas, manure management practices, and using insecticides or other insect prevention strategies on animals and around facilities.
- Use personal protective measures when handling affected animals to avoid human exposure to this disease.

Report Suspicious Cases

If you suspect an animal may have vesicular stomatitis or any other vesicular disease, immediately contact State and Federal animal health authorities. You can't diagnose the disease based on clinical signs alone. Samples must be tested at a facility approved by the U.S. Department of Agriculture's (USDA) National Veterinary Services Laboratories.

A diagnosis can be based on antibody tests using serum samples from the animal and/or by detecting virus from swabs of lesions, blister fluid, and tissue (flaps, biopsies). It can generally be made within a few days.

Additional Information

For information on any current vesicular stomatitis outbreaks or summaries of the most recent past outbreaks, go to www.aphis.usda.gov/animalhealth/vesicular-stomatitis

To speak with someone from USDA's equine health team, call (970) 494-7391.

