

Vesicular Stomatitis

Vesicular stomatitis is a viral disease that primarily affects horses and cattle and occasionally swine, sheep, goats, llamas, and alpacas. Humans can also become infected with the disease when handling affected animals, but this is a rare event. Vesicular stomatitis has been confirmed only in the Western Hemisphere. It is known to be an endemic disease in the warmer regions of North, Central, and South America, but outbreaks of the disease in other temperate geographic parts of the hemisphere occur sporadically.

In the past decade, the Southwestern and Western United States have experienced a number of vesicular stomatitis outbreaks. Outbreaks usually occur during the warmer months, often along waterways. In some years, only a few premises in a single State have been affected. However, in other years, multiple States and many premises have been involved.

Since there could be a vesicular stomatitis outbreak in any given year, it is essential that veterinarians and livestock owners be on the alert for animals displaying clinical signs of the disease. For current information on vesicular stomatitis outbreaks or summaries of the most recent past outbreaks, please visit the APHIS Web site at www.aphis.usda.gov/vs/nahss/equine/vsv/.

Economic Impacts

While vesicular stomatitis does not generally cause animals to die, it can still cause economic losses to livestock producers. The disease is particularly significant because its outward signs are similar to (although generally less severe than) those of foot-and-mouth disease, a foreign animal disease of cloven-hoofed animals that was eradicated from the United States in 1929. The clinical signs of vesicular stomatitis are also similar to those of swine vesicular disease, another foreign animal disease. The only way to tell these diseases apart is through laboratory tests.

Vesicular stomatitis is recognized internationally as a reportable disease. This means that there are serious economic and regulatory repercussions associated with the diagnosis. When the disease is detected in the United States, some countries may take action to block international trade of U.S. animals and animal products. Interstate movement of animals is also impacted. Premises containing affected animals are

quarantined until 21 days after the lesions in the last affected animals have healed. As a result, quarantine periods can be lengthy.

Clinical Signs

In affected livestock, the incubation period for vesicular stomatitis ranges from 2 to 8 days. Often, excessive salivation is the first sign of the disease. Close examination of the mouth initially reveals blanched and raised vesicles or blister-like lesions on the inner surfaces of the lips, gums, tongue, and/or dental pad. In addition, these blister-like lesions can form on the lips, nostrils, coronary band, prepuce, vulva, and teats. The blisters swell and break, which causes oral pain and discomfort and reluctance to eat or drink. Lameness and severe weight loss may follow. Body temperature may rise immediately before or at the same time lesions first appear.

Dairy cattle often suffer from teat lesions and subsequent mastitis; a severe drop in milk production commonly occurs. Some affected dairy cattle can appear to be 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, the lips, around nostrils, corners of the mouth, and gums. Lesions in horses may also be expressed as crusting scabs on the muzzle, lips, or ventral abdomen.

Affected pigs usually first show signs of lameness caused by foot lesions.

Disease Spread

How vesicular stomatitis spreads is not fully known; insect vectors, mechanical transmission, and movement of animals are all factors. 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. Humans rarely contract vesicular stomatitis, but they can become infected.

In people, the disease causes an acute influenza-like illness with symptoms such as fever, muscle aches, headache, and malaise. To avoid exposure to this disease, individuals should 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.

When a definite diagnosis is made on a farm, the following procedures are recommended:

- Separate animals with lesions from healthy animals, preferably by stabling. Animals on pastures tend to be affected more frequently with this disease.
- As a precautionary measure, do not move animals from premises affected by vesicular stomatitis until at least 21 days after lesions in the last affected animal have healed.
- Implement on-farm insect control programs that include the elimination or reduction of insect breeding areas and the use of insecticide sprays or insecticide-treated eartags on animals.
- Use personal protective measures when handling affected animals to avoid human exposure to this disease.

Report Suspicious Cases

Veterinarians and livestock owners who suspect an animal may have vesicular stomatitis or any other vesicular disease should immediately contact State or Federal animal health authorities. Diagnosis of the disease cannot be made based on clinical signs but requires testing of samples at a facility approved by the U.S. Department of Agriculture's National Veterinary Services Laboratories in Ames, IA.

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). A diagnosis can generally be made in a week or less.

Additional Information

For more information, contact the:

U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Veterinary Services
National Center for Animal Health Emergency Management
4700 River Road, Unit 41
Riverdale, MD 20737-1231
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