

## Vesicular Stomatitis

Vesicular stomatitis is a viral disease that primarily affects cattle, horses, and swine and occasionally 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.

The Southwestern and Western United States have experienced a number of vesicular stomatitis outbreaks in recent years. Outbreaks in the Southwestern United States have usually occurred during the warmer months, often along waterways and in valleys. In some years during outbreaks, only a few premises in a single State were affected. Typically, however, in most years with outbreaks, multiple States and many premises were 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 for the disease. For current information on vesicular stomatitis outbreaks or summaries of the most recent past outbreaks, please visit our Web site

<http://www.aphis.usda.gov/vs/nahss/equine/vsv/>.

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. What this means is that there are serious economic and regulatory repercussions associated with the diagnosis. When the disease is detected in the United States, many countries take action to block international trade of U.S. animals. 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 in affected livestock. These blister-like lesions can form in the mouth and on the dental pad, tongue, lips, nostrils, hooves, and teats. The blisters swell and break, leaving raw tissue that is so painful that infected animals show signs of lameness and generally refuse to eat or drink. 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 symptoms 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.

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 lesions. 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 protective measures when handling affected animals.

### Recommended Actions

There is no specific treatment or cure for vesicular stomatitis. Owners can protect their animals from the disease by avoiding congregating animals in the vicinity where vesicular stomatitis has occurred. Mild antiseptic mouthwashes may bring comfort and more rapid recovery to an affected animal. Good sanitation

and quarantine practices on affected farms usually contain the infection until it subsides and soon ends.

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 apparently are affected more frequently with this disease.
- As a precautionary measure, do not move animals from premises affected by vesicular stomatitis, unless they are going directly to slaughter, for at least 21 days after the last lesion has 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 ear tags on animals.
- Use 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, Ames, IA.

A diagnosis can be based on antibody tests using fluid samples from the animal and/or by isolation of the virus from swabs of lesions, blister fluid, and tissue flaps. A diagnosis can be made within a few days for antibody detection or in slightly over a week for virus detection in swabs, fluids, and tissues.

### **Additional Information**

For more information, contact the:

U.S. Department of Agriculture  
Animal and Plant Health Inspections Service  
Veterinary Services  
Emergency Programs  
4700 River Road, Unit 41  
Riverdale, MD 20737-1231  
Phone: (301) 734-8073

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