

Vesicular Stomatitis in Livestock

A horse in Starr County, Texas, was recently reported as the nation's first case of vesicular stomatitis (VS) in 2009, according to a notice released by the Texas Animal Health Commission (TAHC). The disease is caused by a virus that is endemic to the United States and primarily affects horses, cattle, swine, and camelids. This was the first case since the last outbreak, which occurred in 2006 and was limited to Wyoming. Another infected horse was recently found infected in De Baca County, New Mexico.

What IF?

What if you checked your cattle, horses, swine, or alpaca and found them to be salivating excessively; one or two may have lesions in their mouth. Or, your best horse goes lame, is not eating, and when you get closer you notice that the animal has blisters in its mouth. What would you do next?

Our Recommendation

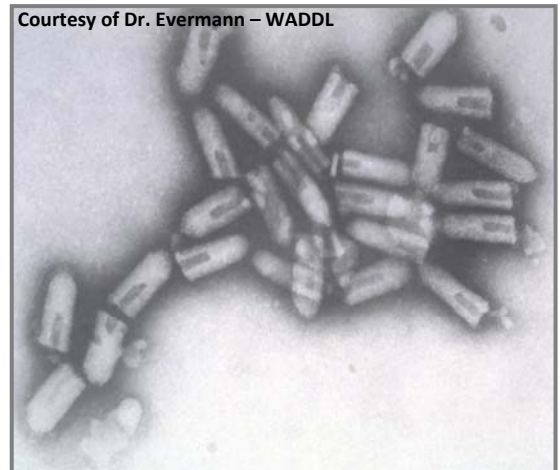
Call your private veterinarian or Washington State Department of Agriculture (WSDA) immediately, so that specific tests can be run to determine the cause of the illness. Isolate suspect animals away from the rest of the herd to protect against disease spread and **keep them on the premise**. VS is painful for affected animals, however, the lesions usually will heal within a couple of weeks to a month. For severe cases, owners may elect to euthanize the animal, to put an end to its suffering. Whatever you choose, it is still imperative that you contact the appropriate office in your area.

The Organism

- A virus in the Family Rhabdoviridae
- Types: VSV-NJ, VSV-I
- Limited to the western hemisphere
- Clinical signs similar to Foot and Mouth Disease (FMD)
- Affects:
 - 1) Cattle 4) Camelids 7) Deer
 - 2) Horses 5) Monkeys 8) Bobcats
 - 3) Swine 6) Raccoons 9) Humans
- **Sheep and Goats are resistant and rarely show clinical signs**

Also Known As:

- Vesiculovirus - VSV
- RNA Vesiculovirus - VS



Courtesy of Dr. Evermann – WADDL
An electron microscopic image of VS virus particles.

Although this virus is only found in the western hemisphere, there are many different types found around the world. The New Jersey (VSV-NJ) and Indiana (VSV-I) types predominate in the Americas. The disease can cause lesions in the mouth and feet of the various species listed above. If humans become infected, influenza-like symptoms may occur.



Teat lesions on a dairy cow.

Vesicular Stomatitis (VS) or Foot-and-Mouth Disease (FMD)?

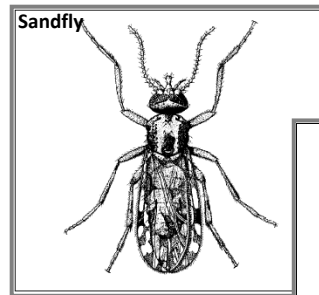
This is a very important question and one that herd owners should be asking. The symptoms of VS (blisters, excessive salivation, erosions in the mouth, or crusty sores around an animal's muzzle, teats or hooves) look just like the highly contagious foreign animal disease, Foot-and-Mouth Disease (FMD). One difference is that FMD affects pigs, cattle, sheep, goats, and deer, but not horses. **FMD has not been detected in the U.S. since 1929.**

Livestock owners are encouraged to remain vigilant and immediately report any disease signs like VS and FMD to the appropriate authorities. The disease can be introduced into the U.S. by accident through normal trade/traffic, or intentionally as an act of agro-terrorism.

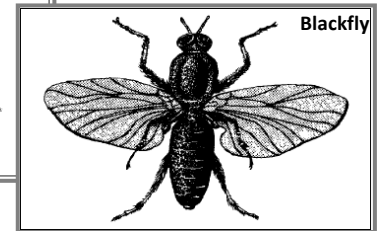
Transmission

Animal

- Vectors
 - Sandflies
 - Blackflies
 - Seasonal outbreaks
- Direct Contact
 - Infected animals
 - Contaminated objects



<http://edis.ifas.ufl.edu/>



Human

- Direct Contact
 - Infected tissues
 - Vesicular fluid
 - Saliva
- Vectors
 - Sandfly
 - Blackfly
- Aerosol
 - In a laboratory setting



Ulcerated skin between the claws of a dairy cow.

Reporting and Diagnosis

Samples are collected from affected animals by a WSDA certified field veterinarian who will work with the private practitioner and take a history on the animals, collect blood samples, swabs and tiny pieces of tissue from the blisters or sores on the affected animals. Once samples have been collected, they will be shipped to an accredited laboratory. It typically takes 2-3 days to find out the results. During this time, all animals on the affected premise are placed on a hold order (animals cannot move off the farm) to prevent the spread of any disease. It is extremely important that livestock owners report potential cases to ensure that the tests being performed can rule out FMD! The Washington Animal Disease and Diagnostic Laboratory (WADDL) is approved by USDA to handle these samples.

More About VS

Infected animals are quarantined for about 30-days after the lesions are healed. After that, they are re-inspected by a state or federal regulatory veterinarian. This short-term quarantine will help prevent the movement of animals and the spread of the disease to other locations, fairs, markets, or other states. VS rarely results in death loss, however, infected animals lose condition because they do not eat or drink adequately until the mouth lesions heal.



Mouth ulcer in a dairy cow.

Courtesy of Dr. Evermann – WADDL/CVTC

Contact Information

Washington Animal Disease and Diagnostic Laboratory

(509) 335-9696 http://www.vetmed.wsu.edu/depts_waddl/

Washington State Department of Agriculture

(360) 902-1878 or ahhealth@agr.wa.gov <http://agr.wa.gov/>

United States Department of Agriculture – Emergency Programs

(301) 734-8073 <http://www.usda.gov>

Prevention Strategies

- ✓ Control biting flies
- ✓ Keep equine animals under a roof at night to decrease fly exposure
- ✓ Clean stalls regularly
- ✓ Feed / Water stock from their own individual buckets
- ✓ Disinfect borrowed equipment/tools prior to using on your premise
- ✓ Don't visit quarantined ranches; wait until the quarantine is over
- ✓ VS vaccines may be available during outbreaks, but may not be effective in preventing infection

References

WSDA – **Memo from WA State Veterinarian to TX State Veterinarian**; June 18, 2009.

http://www.tahc.state.tx.us/news/2009Jun_WashingtonVSEntryRequirement.pdf

USDA—APHIS **Factsheet – Vesicular Stomatitis**; March 2007

http://www.aphis.usda.gov/publications/animal_health/content/printable_version/fs_vesicular_stomatitis_07.pdf

The Center for Food Security & Public Health – Iowa State University **Presentation - Vesicular Stomatitis**; 2005

www.cfsph.iastate.edu/DiseaseInfo/ppt/VesicularStomatitis.ppt

Texas Animal Health Commission **Factsheet – Vital Info About Vesicular Stomatitis**; May 2004

http://www.tahc.state.tx.us/animal_health/vs/Vs_brochure.pdf

News Release – Nation's First Case of Vesicular Stomatitis for 2009 Detected in Texas

http://www.tahc.state.tx.us/news/pr/2009/2009Jun_NationsFirstCaseOfVesicularStomatitisConfirmedInTexas.pdf

The Westerner – **Blog – New Mexico has 1st case of Vesicular Stomatitis**; June 22, 2009.

<http://thewesterner.blogspot.com/2009/06/new-mexico-has-1st-case-of-vesicular.html>

Washington State University Veterinary Medicine Extension

P.O. Box 646610, Pullman WA 99161-6610

www.vetextension.wsu.edu • VetExtension@vetmed.wsu.edu

WSU Extension programs and employment are available to all without discrimination. Evidence of noncompliance may be reported through your local WSU Extension office.