

# VS: An Unwelcome Visitor

Avoid answering the door when vesicular stomatitis comes knocking.

by Troy Smith

It's like the kinfolk you are reluctant to claim — the kind who will mooch off you for a while before moving to another relative's home. Sooner or later, they will return, but you never know when to expect them. And it's always a little startling when they do come knocking.

This spring, vesicular stomatitis (VS) became the unwelcome guest of horse and cattle owners located in the southwestern United States. During the summer, it moved northward, from New Mexico and Texas to Colorado. Owners of affected livestock are finding that VS can be more troublesome than a pickup-load of freeloading relatives.

VS is a contagious viral disease that most often affects cattle, swine, horses, donkeys and mules. More resistant to the virus, sheep and goats contract the disease only

occasionally. Wild animals, including deer, bobcats and raccoons, have been found to be susceptible hosts. It is also possible for humans who handle diseased animals to become infected.

The disease occurs in Mexico, Central America, South America and some parts of the United States. Historically, it spreads from southwestern states northward, sometimes as far as Canada. Outbreaks typically occur during warm summer months but may persist into winter. It is believed that VS transmission occurs through insect vectors, particularly sand flies and black flies. However, the virus can spread directly from animal to animal, through contact with saliva or fluid from lesions that are associated with VS.

According to information from the U.S.

Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) Veterinary Services, the incubation period for VS ranges from two to eight days. The clinical signs of VS include excessive salivation, fever, and the appearance of vesicles, or blister-like lesions, on the tongue, mouth and teats.

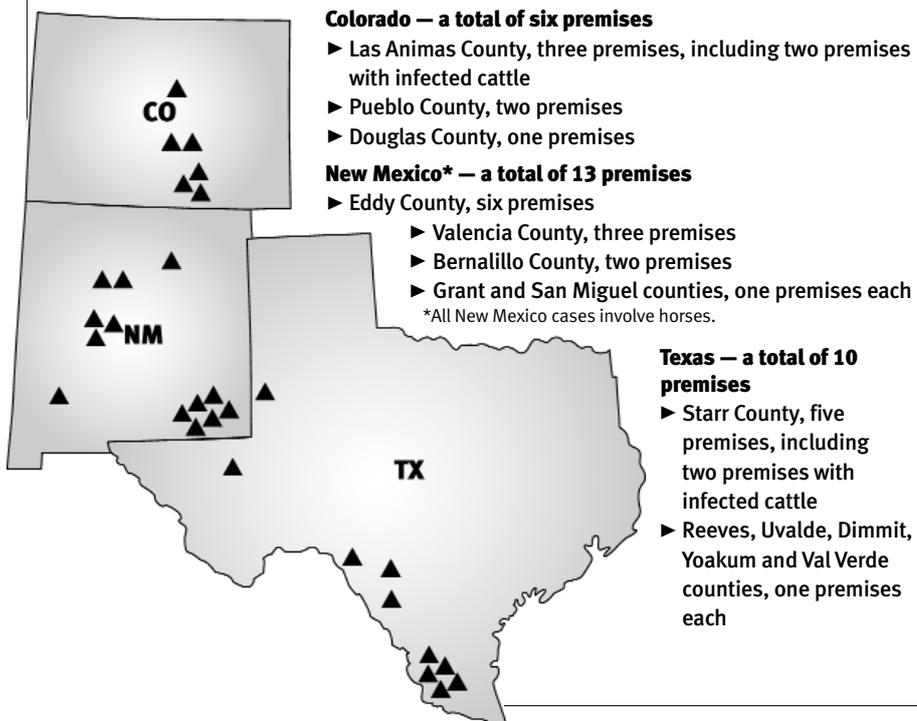
Vesicles also commonly appear on the coronary band of VS-infected animals' hooves. The vesicles swell and break, leaving painful, open sores. As a result, animals typically exhibit lameness. Refusal of feed and water often leads to weakness and emaciation. Lactating cows with affected teats may not allow calves to nurse. Mastitis may develop, affecting future milk production and resulting in early culling from the herd.

## VS finds an unwelcome home

After a six-year absence, vesicular stomatitis (VS) has returned to the United States. The last time VS reared its head, in 1998, only horses were affected. However, an outbreak in 1997 involved cattle in New Mexico, Colorado, Arizona and Utah.

This year's outbreak began in May, involving horses on a west Texas ranch. At press time, cases of VS had been confirmed in six Texas counties, five counties in New Mexico, and three Colorado counties. A total of 29 premises have been quarantined, mostly due to infected horses, but VS infections among cattle were confirmed on two Starr County, Texas, premises and two premises in Las Animas County, Colo.

The following list summarizes the number and locations, by state and county, of premises where cases of VS have been confirmed:



## Startling similarities

The good news is, barring complications from secondary infections, VS-infected animals usually recover within two weeks. Horses usually recover uneventfully. Rarely is the disease fatal, but animals suffering from poor nutrition or compromised immune function could be at risk for death.

The bad news comes in the form of economic loss due to reduced animal performance and loss of production, particularly in lactating dairy cows.

There is also a measure of concern for public health since humans can be infected. Such cases may go undetected or be misdiagnosed, since humans generally suffer flu-like symptoms such as fever, muscle aches and headaches. Recovery usually occurs in four to seven days.

The really bad news, says APHIS Public Affairs Specialist Larry Cooper, exists in the similarity between symptoms of VS and those of foot-and-mouth disease (FMD). According to Cooper, the clinical signs of the two diseases are indistinguishable. Only laboratory tests can determine whether an animal has VS or FMD. The only exceptions are horses, donkeys and mules, because equine animals are not susceptible to FMD.

Eradicated in the United States in 1929, FMD still occurs in Central and South American countries. Its reintroduction could devastate U.S. livestock industries and cause foreign markets to close their borders to animals or animal products produced in the United States. APHIS and state animal health

agencies investigate all cases involving similar symptoms, including VS, to be sure that FMD has not been reintroduced. Widespread VS could also hamper trade with other nations wanting to guard against FMD.

Consequently, VS is a reportable disease, meaning animals exhibiting symptoms of vesicular disease must be reported to a federal or state animal health official. A foreign animal disease diagnostician will examine the animal or animals in question and collect samples of tissue and serum for testing by the National Veterinary Services Laboratory (NVSL) in Ames, Iowa.

If a diagnosis of VS is confirmed, the premises where the infection was found will be quarantined. No animals will be allowed to move from such premises until the quarantine is lifted — 30 days after the last animal exhibiting VS lesions has recovered. The only exceptions would be for nonsymptomatic animals going to slaughter on a permit issued by animal health authorities. Livestock markets and activities, such as shows, are not restricted, but may be monitored by officials.

### **Disease guidelines**

According to Cooper, APHIS advises livestock producers or exhibitors located within a state where VS has been diagnosed

to contact the state veterinarian's office in the state of destination before transporting animals across state lines. Individual states may enact entry restrictions or require inspections or testing.

To guard against introduction of VS to your operations, Cooper recommends adequate sanitation and biosecurity measures.

If you suspect an animal has symptoms of VS, animal health officials suggest adhering to the following steps.

1. Separate and isolate the suspected animal from nonaffected animals.
2. Consult your veterinarian. Accredited veterinarians have the responsibility of reporting vesicular disease to federal or state authorities.
3. Remove common-use feed or salt and mineral supplements that may have been contaminated from VS-infected animals.
4. Sanitize feed and water tanks or troughs. Effective disinfectants include a combination solution of 0.645% chlorine bleach, Wescodyne® 4%, cresylic acid 1%, Roccal® 1:200, and Septisol® 1:50. Any disinfectant must be in contact with infected surfaces for at least 10 minutes to be effective.

5. Practice good biosecurity by:
    - a) avoiding use of the same equipment or tools when handling both infected and noninfected animals;
    - b) disinfecting tools, boots and contact surfaces (Wear latex or rubber gloves as protection for the handler as well as other animals.);
    - c) limiting access of visitors to animals and animal areas; and
    - d) keeping pets away from isolated animals.
  6. Use fly control for animals and premises. Give particular attention to wet areas that may serve as insect breeding grounds.
  7. Avoid feeds that may abrade the mouth lining of animals. Affected animals should receive a high-quality soft diet until lesions heal.
- Officials also recommend that newly acquired animals be kept isolated for 21 days and monitored for signs of VS before they are introduced to the herd. For more information about the disease, consult your veterinarian. For regulatory information, contact the office of your state veterinarian, or USDA-APHIS Veterinary Services at 4700 River Rd., Unit 41, Riverdale, MD 20737-1231, or (301) 734-8073. 