



Foot and Mouth Disease

Help protect your herd from foot and mouth disease. Learn more from veterinarian Aaron Tangeman.

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By Dr. Aaron Tangeman

Q: We recently had relatives from England visit our farm here in Nebraska. My brother-in-law said there had been a minor occurrence of foot and mouth disease there last year and asked if we vaccinated our cattle for it. What is foot and mouth disease and where can I purchase the vaccine to protect my herd?

A: Foot and mouth disease (FMD) is caused by a highly contagious virus affecting animals with cloven hooves such as cattle, sheep, goats, and pigs. Deer are also susceptible and pose a significant problem in controlling the spread of the disease in affected areas. In the United States you may hear FMD referenced as hoof and mouth disease (HMD).

Infected animals may demonstrate a fever. Excessive salivation may develop early. Erosive lesions in the mouth, on the tongue and lips can make it difficult for the animal to eat, leading to weight loss and decreased milk production. Blisters might break out around the teats, or between the hooves, making the animal lame and reluctant to move. FMD symptoms can be confused with vesicular stomatitis.

The United States has been free from foot and mouth disease since 1929 and claims FMD-free status, which is economically beneficial to our farmers and ranchers engaging in international trade. Routine vaccination for FMD would eliminate that designation, costing farmers and ranchers who market internationally millions, perhaps billions of dollars, in lost income.

The USDA's reluctance to implement a routine vaccination program stems from several sources. While vaccinating an animal may prevent it from developing the clinical signs of FMD, it may not prevent the virus from infecting the animal. A vaccinated animal can be exposed to and carry the virus for an extended period of time. Because there are seven different types of FMD virus currently identified and over 60 subtypes, each vaccine needs to be tailored to the specific type and subtype of the virus involved in an outbreak. It is possible to contaminate a farm that is uninfected by carrying the virus from an infected farm on clothing, shoes or vehicles.

In a suspected outbreak, the USDA's first response would be one of "stamping out," quarantining herds and limiting human traffic to farms with outbreaks to lessen the risk of transmission. During a suspected FMD outbreak, USDA officials will coordinate with state and local forces to inform livestock producers and the public of necessary quarantines and vaccination protocols, culling herds as needed. Because FMD is so virulent, deer and other wildlife that would be difficult to manage are at risk for contracting and transmitting the disease.

The Plum Island Animal Disease Center (PIADC), located off the coast of Long Island, is the only facility housing the FMD vaccine bank. In 2003, the PIADC was transferred to the control of the Department of Homeland Security to monitor safety of livestock production and food supply against the threat of "agroterrorism." The Agricultural Research Service (ARS) is currently conducting research with GenVec, Inc. to develop a vaccine without using infectious FMD material.

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Dr. Aaron Tangeman received his Doctorate of Veterinary Medicine from the Ohio State University in 1998 and practices in Northeast Ohio.