

Animal pain and suffering



Tongue vesicles that have ruptured and begun to slough.



A ruptured vesicle with blanching of tissue in the interdigital space.



Ruptured teat lesion with necrosis.

It is not easy to accept wholesale destruction of large populations of animals; however it is difficult to accept the pain and suffering Foot-and-Mouth Disease causes animals. Cattle are reluctant to eat or drink when the mucosa has sloughed from their tongues. Lameness is common in all species with foot lesions; affected animals are reluctant to move and they stand with the feet tucked up under them to relieve pain. Pigs may slough their entire hoof. Survivors may be chronically lame.

There are animal welfare issues that develop on farms due to conditions that develop secondary to movement restrictions when animals may not be moved to feed sources, feed may not be brought in, and animals suffer from starvation and lack of care. The most critical animal welfare problem would be an immediate inability to provide housing and feed for confined animals.

Human welfare issues



Economic consequences are only one element of the total cost of a Foot-and-Mouth Disease outbreak. Although difficult to quantify, farmers and farming families would be affected emotionally and suffer stress, strain and distress; these effects are likely to continue beyond the duration of the epidemic.

Feelings of isolation would be felt throughout communities as social opportunities are curtailed. However, as with other costs, these impacts will be greatly reduced by controlling the disease quickly and efficiently.

What you can do

Meet with neighboring farms to plan what you would do in the event of an outbreak:

- ◆ How will you get supplies in?
- ◆ How will you get product out?
- ◆ What resources can you share?
- ◆ Where will you stable your animals to keep them away from airborne risks?
- ◆ How will you deal with family social issues (school, church, recreation)?

You can back up Washington state's efforts against FMD by:

- ◆ Watching for excessive salivation, lameness, and other signs of FMD in your herd.
- ◆ Immediately reporting any unusual or suspicious signs of disease to your veterinarian, to your county WSU Extension office, or to our hotline:

(360) 902-1878

If FMD should appear in your animals, your report will set in motion an effective state and federal eradication program.

Your participation is vital. Both the early recognition of disease signs and the prompt notification of officials are essential if eradication is to be carried out successfully. Your warning may prevent FMD from becoming established in Washington state, or—if it does spread—reduce the time and money needed to wipe it out. You can find more animal disease information on the Internet:

www.agr.wa.gov/FoodAnimal/AnimalHealth

**Washington State Department of Agriculture
Animal Health Program
1111 Washington Street SE, 2nd Floor
PO Box 42560
Olympia WA 98504-2560
(360) 902-1878 ahealth@agr.wa.gov**

Dr. Eldridge, State Veterinarian (360) 902-1881

Dr. Kohrs, Assistant State Vet..... (360) 902-1835

AGR PUB 300-195 (N/8/07)

Do you need this publication in an alternate format? Contact the WSDA Receptionist at (360) 902-1976.

FMD Photos: USDA, Animal & Plant Health Inspection Services.

The Economic Impact of Foot-and-Mouth Disease —How Serious?



**Washington State Department of Agriculture
Animal Services Division
Animal Health Program
Emergency Disease Planning**

(360) 902-1878

Brochure sponsored in part by:
Washington State Beef Commission
Washington Dairy Products Commission



Washington State Beef Commission



Why livestock owners dread Foot-and-Mouth Disease

Foot-and-Mouth Disease (FMD) is a highly contagious and economically devastating viral disease of cloven-hooved animals (cattle, swine, sheep, goats, and deer). It causes blistering of the lips, mouth, tongue, nose, teats and hooves. Because it spreads widely and rapidly, and because it has grave economic as well as physical consequences, FMD is one of the animal diseases dreaded most by livestock owners and those involved in food production.

FMD does not affect food safety or human health.

Mortality rates in animals rarely exceed 2% in adults and 20% in young stock. Abortion does occur. However, there is a large degree of great animal suffering. Animals that contract FMD must be put down humanely. The disease causes significant pain and lasting effects on the well-being of the infected animal. It is not a disease from which animals simply



Excessive salivation and smacking of the lips are early signs of FMD.

recover. In animals not humanely destroyed, the prolonged convalescence causes severe losses in production through reduction in the production of meat, milk, wool, and offspring.

FMD viruses can be spread by animals, people, or materials that come into physical contact with susceptible animals. An outbreak can occur when:

- ◆ People wearing contaminated clothes or footwear or using contaminated equipment pass the virus to susceptible animals.
- ◆ Animals carrying the virus are introduced into susceptible herds
- ◆ Contaminated facilities are used to hold susceptible animals.
- ◆ Contaminated vehicles are used to move susceptible animals.
- ◆ Raw or improperly cooked garbage containing infected meat or animal products is fed to susceptible animals.
- ◆ Susceptible animals are exposed to materials such as hay, feedstuffs, hides, or biologics contaminated with the virus.
- ◆ Susceptible animals drink common source contaminated water.
- ◆ A susceptible cow is inseminated by semen from an infected bull.

Symptoms

Animals drool, run fevers, lose their appetites, stop producing milk and become very lame. As the blisters progress and rupture they may result in the complete sloughing of hooves or the covering of the tongue. The disease can kill young animals. The incubation period, the time between infection and clinical signs of disease, is two to 14 days. The animal can begin shedding virus before it shows clinical signs. In infected animals, the virus multiplies to such an extent that their expired air is virtually a cloud of virus.

Vesicles (blisters) followed by erosions in the mouth or on the feet and the resulting excessive salivating or lameness are the best known signs of the disease. Often blisters may not be observed because they easily rupture, leading to erosions.

Meat animals do not normally regain lost weight for many months. Recovered cows seldom produce milk

at their former rates. FMD can lead to inflammation of the muscular walls of the heart and death, especially in newborn animals.

Economic impact

The economic effects of Foot-and-Mouth Disease are extensive. Losses arise from the direct effects of the disease on production, costs of disease control and restriction of trade. Costs of disease control, whether by stamping-out or vaccination are high.

Even countries that are free of the disease, such as the U.S., incur prevention and emergency preparedness costs. The published studies indicate that where FMD eradication is feasible, this is the least expensive policy option, even allowing for the costs of prevention, emergency preparedness and the risk of outbreaks.

Foot-and-Mouth Disease in the United Kingdom cost that economy in excess of \$13 billion. The number of animals slaughtered is shown in Table 1 below.

Table 1. Estimated number of animals slaughtered during 2001 United Kingdom outbreak

Animal	Disease control	Welfare	Total
Sheep*	3,487,000	1,587,364	5,074,364
Cattle	582,000	169,033	751,033
Pigs	146,000	286,943	432,943
Goats / Deer / Other	5,000	5,429	10,429
Total	4,220,000	2,048,769	6,268,769

*The figure for sheep does not include up to 3 million lambs at foot.

In addition to crippling animal industries through lost production and mortality, FMD eliminates the exportation of meat products. This alone is worth \$5 billion annually in the United States.

Beyond the farm, the impact of FMD is felt by retailers and consumers, who must endure shortages of meat, milk, and pet food products, or must pay much higher prices to obtain them.

Even travel and tourism are affected by FMD. During the 2001 UK outbreak, tourists were not allowed into many of the villages and rural areas they had planned to visit. Such restrictions are necessary to prevent the transmission of the disease beyond affected areas.

Transmission

FMD is the most contagious disease of animals. Large amounts of the virus are found in all body secretions and excretions (saliva, urine, milk, manure) and every time an infected animal breathes out it releases large amounts of infectious virus. FMD virus can survive in dry manure for two weeks in the summer, in urine for 39 days and out on the ground between three days (summer) and 28 days (winter). It can be carried in contaminated feed, on the tires of vehicles and on the shoes and clothes of people. It has been documented to spread by being carried with the wind for over 100 miles. The most common route of introduction of FMD into a country has been through feeding contaminated meat product scraps to pigs. This is the suspected route of introduction in the 2001 outbreak of the disease in the United Kingdom.

Treatment

- ◆ There is no treatment. Animals should be humanely euthanized.

Vaccination

◆ Vaccination is problematic. This is because protection is short-lived, lasting only about six months. It is also partly because there are seven serotypes of FMD and several genetic variations of those, and protection against one leaves animals susceptible to the others.

◆ Moreover, vaccinated animals are not totally resistant and can still become infected with FMD and shed the virus.

◆ If deployed quickly, vaccination could offer benefits in reducing the severity of an outbreak by stemming disease spread.