

# Accept No Tenderfoots

*Control foot rot to prevent  
bull infertility and losses in milk production and gains.*

*by Heather Smith Thomas*

“**I**nfectious foot rot is a common foot lameness in cattle. It occurs year round, but the prevalence is higher in wet seasons,” says Dr. S.D. Lincoln, Caine Veterinary Teaching and Research Center, University of Idaho. Several bacteria cause foot rot, but the most common culprit is *Fusobacterium necrophorum*.

The bacteria persist in wet areas around springs, swamps or wet pastures, making these areas the most likely places to pick up foot rot.

Cattle are apt to pick up the infection if there is a break in the skin of a foot. Any scrape or injury can open the way for infection. A small scratch or puncture (which can be caused by walking through stubble or brush, or on stony ground or gravel) can lead to foot rot. The skin of the feet becomes softer and more tender when wet, so foot rot is common in wet weather or when cattle are walking through wet ground, says Lincoln.

## **Inflammation sets on quickly**

Once the bacteria gain entrance to the foot, the inflammation starts quickly.

Lameness can appear suddenly and the foot can become quite swollen. Generally the swelling is around the coronary band just above the hoof, between the toes (see photo) or at the heel, depending on the site of entry, says Dr. Heidi Smith, Terrebonne, Ore., veterinarian. The toes on the affected foot may spread apart by the swelling. The enlargement may include the whole foot above the hoof, extending upward past the fetlock joint in some cases, she says.

Upon first glance, an observer may think the animal has a badly sprained, injured or even broken foot or fetlock joint. The area may become so enlarged and the animal so lame that it will put very little or no weight on that foot, trying to travel on three legs.

## **Temporary infertility**

In severe cases, the animal will run a fever, causing cows to drop milk production and bulls to go temporarily infertile following foot rot infection. During the early stages of infection, says Lincoln, the animal will run a fever (103-106° F) often losing its appetite.

As the disease becomes more chronic,

the space between the toes cracks, oozes and gives off a foul odor. In long-standing cases, the infection often involves the pastern and fetlock joints “to produce a septic arthritis, with pus in the joints.” Some animals must be culled because of severe lameness, says Lincoln, “particularly in chronic cases that have involved the joints.”

If a bull gets foot rot, take his temperature while you are treating him to determine if he has a fever. A normal temperature is 101.5°F. Anything above 103°F should be considered a fever. A high fever will render a bull infertile during a period about 60-90 days afterward, says Smith, due to killed or defective sperm formed during the time of the fever.

The bull may still be fertile for a short while after suffering foot rot, says Smith, since the mature sperm already in his reproductive tract may be unaffected. If you know the bull had a fever during his bout with foot rot, ask your vet to check the bull’s semen 60 days after the infection.

## **Foot rot should be treated**

If an animal has foot rot for very long, there will be a noticeable weight loss. Lameness may hinder the animal’s ability to travel to food and water and will severely cut down on time spent grazing. The animal may prefer to spend most of its time lying down instead of eating, says Smith.

The swelling in the foot usually breaks open and discharges drainage and pus after a few days, often breaking out in the area between the toes or at the heel. This drainage contains the bacteria and can contaminate the pen or pasture, she warns.

Though many cases of foot rot eventually clear up without treatment, an untreated animal is lame longer and will spread the bacteria while the foot is swollen and discharging. It’s always better to treat a case of foot rot rather than waiting, gambling on whether it will heal on its own. If you can clear it up quickly, there will be less contamination of the pen or pasture and much less risk of permanent damage to the foot.

With treatment, most cases heal up very quickly, especially if caught early — preferably the first or second day of swelling/lameness, says Smith. If you start the animal on antibiotics soon after the swelling and lameness are observed, the animal will usually walk much better by the second or third day of treatment. Most foot rot cases don’t need more than three to five days of antibiotic treatment, she says.

If neglected, however, the problem may become much worse, and the infection may get into the joint, causing infectious arthritis and permanent crippling. Long-standing



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cases may be harder to clear up (it will take a longer course of antibiotics), and the joint or tendon sheaths may be permanently damaged.

Lincoln recommends using long-acting oxytetracycline or procaine penicillin for treating foot rot, adding sulfa drugs, such as sulfadimethoxine, are also effective in acute cases.

A mild case or a case caught very early will respond nicely to the oxytetracycline alone, says Smith, but a severe case will always clear up faster if the sulfa and oxytetracycline are used together. In those instances, she recommends giving the animal long-acting sulfamethazine boluses orally (at proper dosage for the weight) and a course of intramuscular injections of oxytetracycline for three to five days, depending on how long it takes to clear up the infection. Disappearance of lameness is a sign of recovery.

“In more chronic cases, it is often necessary to clean the wound, apply local antiseptics or antimicrobials, and bandage the foot in conjunction with systemic therapy to hasten recovery,” says Lincoln. “If joints or tendon sheaths are involved, the prognosis for recovery is poor, and surgery to remove an affected claw may be the only option.”

Zinc methionine has also been recommended for both treatment and prevention of foot rot. Walking cattle through a 3% formalin foot bath, a 5% copper sulfate foot bath, or mixed powdered copper sulfate and lime twice a day decreases the incidence of foot rot cases. Oral iodides and zinc compounds have also been beneficial preventives in some cases.

The key to treating foot rot is to catch it early and stay with it until the animal is no longer lame— meaning the pain-causing swelling and inflammation have been eliminated. If you can clear up foot rot quickly, there is usually no serious damage to the foot and less chance of spreading it around the pasture.

### Prevention

Any management procedure that will eliminate hoof damage and aid hoof health can help prevent foot rot, says Lincoln. Clean pens— free of sharp stones or frozen, muddy, rough ground— will prevent hoof injury and infection in feedlots. “Covering frozen ground with straw may also be helpful in preventing foot injury.”

Foot rot in feedlots can often be avoided “by thoroughly cleaning pens after cattle are removed and liberally spreading lime over

the pen surface. Leaving the pen vacant for at least a week after liming will contribute to the control of foot-rot organisms,” says Lincoln. “Maximum drainage is an absolute essential to any feedlot arrangement and will aid in preventing constant contact with manure-laden mud or water.”

One of the best prevention measures in many feedlots is use of mounds— of soil or bedding— where cattle can get up on dry ground. Concrete slabs can also give them a dry place to stand. “The use of concrete around water fountains and feed bunks, where animals frequently congregate, are most helpful in preventing contact with extremely wet, muddy conditions,” says Lincoln, who also recommends good nutrition to help prevent foot rot.

There is now a vaccine— a *F. necrophorum* bacterin— for control and prevention of foot rot, says Lincoln. Tests have shown a 64% reduction in incidence in vaccinated cattle compared to nonvaccinated animals. But, Lincoln feels “total reliance on vaccination for control is probably unwise. The bacterin should be used in conjunction with other time-tested preventative measures, such as maintaining good hoof health.”

