

# FOOT ROT IN CATTLE

JUL 19 1988

SERIALS DEPT.  
LIBRARY

Kurt Wohlgemuth  
Extension Veterinarian



Foot rot is also known as foul foot, interdigital necrobacillosis and infectious pododermatitis. Foot rot is considered the main cause of lameness in beef and dairy cattle of all ages.

## Causes of Foot Rot in Cattle

Foot rot results from a combination of factors. First, the skin of the foot is harmed and its integrity affected; second, certain bacteria gain access into the foot tissue, across the damaged skin; and, finally, these bacteria reproduce and release toxins injurious to the tissue.

The skin of the interdigital (between the toes) space of cattle is particularly susceptible to trauma; sharp objects, rocks, wires, or just plain mud are common triggers of foot rot outbreaks. Foot rot tends to be more common during wet and muddy seasons, but may also occur during dry weather. Perhaps the hard, dry ground bruises the interdigital skin and/or heels. Thawing and freezing of muddy, manure-laden yards often trigger severe foot rot outbreaks.

14.3

9

8

593

Once a break in the skin occurs, foot rot-causing bacteria gain entry into the tissues of the foot. For a long time only one bacteria, *Fusobacterium necrophorum*, was considered responsible for outbreaks of foot rot in cattle. Recent studies state that *F. necrophorum* still is an important cause of foot rot, but other microorganisms (*Bacteroides nodosus* and *Bacteroides melaminogenicus*) may also be involved in severe outbreaks. Multiple

infections occur and may cause more severe lameness than single ones. These bacteria survive on the surface of healthy hooves and moist environment; they are shed by ill animals.

These microorganisms establish themselves in the healthy, raw tissue, where they multiply and release toxins and enzymes. These chemicals, in turn, are harmful to the tissue and cause inflammation and necrosis associated with severe pain to the animal.

## Clinical Signs

Lameness is the predominant clinical sign in animals with foot rot; it is the first sign commonly observed and also the last to go once healing occurs.

Upon close examination, swelling of the foot, marked cracking and sloughing of interdigital skin, puffiness of the coronary band and purulent/ foul smelling discharge may be observed. One or several limbs may be affected. Chronic, untreated cases may be complicated by purulent arthritis. Affected animals may be febrile and often look gaunt; they do not move as required to eat or drink.

Footrot is **not** a contagious diseases; it does not go directly from one animal to another. The environment conditions which injure the hoof skin are, however, shared by groups of animals and large numbers of them could be affected by foot rot in the same pen or corral.



**NDSU EXTENSION SERVICE**

North Dakota State University, Fargo, ND 58105

## Diagnosis

Not all lame cattle are affected by foot rot. However, when there is lameness, interdigital inflammation with no evidence of "corns" or foreign objects, foot rot may normally be suspected; if several animals are affected in a few days, then there is little doubt that the problem is foot rot.

## Prevention of Foot Rot

Effective prevention of cattle foot rot involves foot care, management of the environment and, to a much lesser extent, use of chemotherapeutic agents.

Hoof trimming is routinely practiced within the dairy industry but perhaps neglected by some in the beef cattle business. Hoof trimming, if needed, assists in reducing foot rot cases.

More important is the provision of clean, well drained pens. Pen "mounds" of adequate location and size assist in controlling foot rot. Concrete slabs, particularly around water fountains and next to feed bunks, are considered helpful, if cleaned periodically.

For years, organic iodine such as EDDI (Ethylene Diamine Dihydroiodide) was suggested effective in preventing foot rot; in fact, EDDI helped very little and now it is only considered as a dietary iodine supplement.

Foot baths are helpful if cattle walk through them at least daily. Foot bath solutions used include: 3% formalin, 5% copper sulfate, 10-20% zinc sulfate.

Chemotherapeutic agents used in feed include: zinc methionine, oxytetracycline, chlortetracycline (Aureo-S-700). These and other drugs are disappointing when used as a replacement for hoof care and clean/dry lots.

Presently there are no vaccines effective in preventing cattle foot rot.

## Treatment

Early treatment shortens the course of the disease. Affected animals should be removed from the group and placed in a dry, comfortable "hospital" area. It is beneficial to clean the affected hoof and, if necessary, apply a protective/medicated dressing to the hoof. Sometimes it helps to wire the claws together following removal of necrotic tissue.

Antibiotics or sulfonamides should be administered systemically and treatments should be repeated daily, unless "long-lasting" formulations are used. Drugs commonly used are: sulfamethazine, sulfadimethoxine, sulfapyridine, penicillin, oxytetracycline, erythromycin, tylosin and others. Veterinary advice and adherence to label instructions are recommended.

## Helping You Put Knowledge To Work