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# Foot Rot and Foot Abscess In Sheep and Goats

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Foot rot and foot abscess are serious problems for sheep and goats. Sheep are somewhat more susceptible to the two diseases, but both species can be infected. Animals affected with either condition become lame and reluctant to walk because of the pain. Economic losses result from unthriftiness, loss of weight, decreased milk production and damage to wool quality. Deaths occur occasionally. Accurate diagnosis is important since methods of treating and controlling the two conditions differ. Other conditions that cause lameness must also be differentiated. These include foot scald, lip and leg disease and foot injuries.

## Contagious Foot Rot

### *Virulent Foot Rot, Foot Rot*

Lameness is usually the first symptom noticed. Closer examination will reveal reddening of the skin between the claws, a fetid odor and separation of the horn tissue of the hoof from the sensitive inner portion. When you remove the loose horn of the sole, you will expose an accumulation of black, foul-smelling dead tissue under the sole. Undermining of the sole often accompanies separation of the hoof and sensitive laminae.

Usually both claws of the foot are affected and more than one foot is often involved. Animals will usually move around on their knees if both front feet are severely infected or may refuse to move at all if hind feet are also infected. These signs progress through various stages; in an infected herd, some animals will be at all different stages. Animals that are not yet lame may be infected and incubating the disease and are capable of spreading the disease to others.



Fig. 1 Foot of a sheep affected with foot rot. The point of the scissors shows separation of the sole from the sensitive inner hoof.

A specific organism (*Bacteroides nodosus*) must be present in the herd or the environment for foot rot to become established. Although this organism can remain alive for up to 2½ years in the hooves of infected animals, it dies out rapidly in the soil and will not survive in the environment for more than 2 weeks. Transmission of the disease is aided by warmth and moisture. Serious problems often occur under overcrowded, wet conditions.



Since infection is often brought into the herd by new animals that happen to be carriers, you should trim, inspect and disinfect the feet of all purchased animals before placing them with the herd.

Foot rot must be treated on a herd basis because of its contagious nature. All animals must be treated because inapparent cases left untreated will serve as a source of reinfection and could establish a persistent, recurring condition. Start by trimming the feet of each animal. Remove all necrotic (dead) tissue. This often requires radical trimming down to living tissue. Some bleeding is often unavoidable.

After the animals are inspected and trimmed, either put them through a foot bath or brush medication on the feet.

Animals that have no sign of infection after trimming should be medicated and separated from infected animals into an area that has not had any infected animals in it for at least 2 weeks. Holding areas for both flocks should be dry and free of anything that could cause injury to the feet. Be sure to clean and disinfect hoof-trimming equipment between feet to prevent transfer of infection to noninfected feet.

Some animals are chronic carriers of foot rot and will have recurring infection in spite of treatment. They may not shed the organism continuously, but will do so sporadically when moisture conditions favor the disease. These animals, once identified, should be culled from the flock since they serve as a source of infection in the flock.

Choice of medication will be influenced by economic considerations, especially if a large number of animals must be treated. A solution of 10% formalin in water is the least expensive and has been used successfully for many years. A 20% solution of copper sulfate makes it less attractive. Copper sulfate has an advantage in that it tends to harden the hoof. It can be used to toughen the hooves before the animals are placed on stubble fields in the fall. Solutions of either chloromycetin or tetracycline in alcohol have also been suggested but the cost might be prohibitive for large herds. Recent reports indicate that 10% zinc sulfate solution in water has been used successfully but further tests may be necessary before it can be recommended. Injectable antibiotics are helpful in treating foot rot, but are not a substitute for trimming and topical treatment.

Formalin solution can be used best in a foot bath situated in a chute so the animals can be driven through it. The foot bath should be 12 to 16 feet long to insure that the feet are thoroughly soaked. After the initial trimming and foot bath or hand treatment, the animals should be retreated by foot bath once a week.

Antibiotics given intramuscularly have been of help in some herds. Consult your veterinarian for proper diagnosis and dosage recommendations. Careful inspection of new animals being added to the herd will help prevent reinfection. Foot rot is a quarantinable disease for sheep in Idaho. The Idaho Sheep Commission should be consulted before infected sheep are removed from the premises.

## Foot Abscess

### Bumble Foot

Foot abscess is an infection of the soft tissues of the heel and the foot above the hoof itself. The organism responsible for the condition (*Fusobacterium necrophorum*) is a common inhabitant of the intestine of livestock, so it is always present in manure and soil where animals are kept. The organism gains entry through wounds and abrasions of the skin or when wet conditions result in scald of the skin above the hoof and between the toes. Sharp, coarse ground cover such as alfalfa or grain stubble will often injure the skin and allow the organism to enter. Infection is especially likely to occur if animals are grazed on stubble and then held at night on bed grounds or in corrals that have an accumulation of manure and moisture.

Once the organism gains entry, it rapidly invades the underlying tissue, causing considerable swelling, inflammation and pain. Early treatment is necessary to prevent involvement of deeper tissues and joints. Intramuscular injection of 100,000 to 500,000 units of penicillin-streptomycin suspension is effective in early cases, but chronic cases are difficult to treat. Persistently lame animals should be culled from the herd.

Removing sources of foot injury and moving animals out of wet pastures to drier soil will help prevent foot abscess. Regular trimming of feet will help prevent trauma to the soft tissue of the heels. Sharp stones and gravel in wet places are common sources of injury. Filling and draining such wet places may eliminate the problem in herds.

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