



Foot Rot

What is foot rot?

Foot rot is a contagious disease of the hooves of goats and sheep that occur most often during persistent periods of rainy weather along with temperatures above 50°F.

What are the symptoms of foot rot?

The first symptoms of foot rot are limping, holding legs above the ground, reluctance to walk, and grazing on knees. The sole and the sidewall of the diseased foot appear ragged and rotten and have an extremely bad necrotic odor.

What are the causes and transmission of foot rot?

Foot rot is caused by the invasion of two anaerobic bacteria, *Fusobacterium necrophorum* (commonly found in the environment) and *Dichelobacter nodosus* (from the feet of infected animals). The disease is usually spread from infected carrier animals into the soil and then to the non-infected feet of healthy animals. Overgrown hooves will predispose an animal to foot rot. Wet soils, muddy pens and filth increase the possibility of disease outbreaks. Goats do not develop the condition as readily as sheep.

How can I prevent foot rot in my herd?

Hooves should be frequently monitored for excessive overgrowth of the sole and toes as regular trimming of will help prevent foot rot and other foot problems. Trimming hooves during or following a period of rainy weather is easier as the hoof walls are softer. Providing rock piles and other structures with abrasive surfaces for climbing or playing will help goats to partially wear off excessive hoof growth.

Animals should be purchased from herds free of foot rot. Nonetheless, feet of purchased animals should be trimmed, carefully inspected for lesions and if any doubt exists, the animals should be run through a foot bath (see below under ["How should I treat foot rot"](#) for details) and quarantined for at least 2 weeks. Following the quarantine, the hooves of the purchased animals should then be reexamined before allowing them to mingle with the existing herd. Animals taken to shows, fairs and breeding stations should go through the same procedures.

Foot baths can be constructed of a variety of materials such as concrete, fiberglass, or plastic-lined wood. Foot baths should be made such that the ledge containing the foot bath solution is located outside the enclosure, or have round, smooth edges otherwise goats will try to stand on the ledge. The foot bath solution should be disposed of so as to prevent environmental contamination.

The best method of foot rot prevention is to remove animals from muddy, dirty and wet areas for about 4 weeks so the organisms present in the soil will die out or decrease in number.

How can I control foot rot in my herd?

With foot rot already existing on the farm, proper hoof care, prophylactic use of footbaths, culling goats with poor foot conformation, and selecting goats with apparent resistance to foot rot are control measures considered to offer long range benefits. Infected animals should be separated from non-infected animals, treated, and then be grazed on separate pastures. Severely infected animals and animals not responding to treatment should be culled. Trimming equipment should be disinfected between each animal affected with foot rot.

How should I treat foot rot?

Remove the dead, rotten foot tissue with shears or a sharp knife. Trim down until the healthy tissue is found. Some bleeding will occur. This is necessary to remove the diseased tissue.

After trimming their feet, the animals should be forced to walk through a zinc sulfate foot bath solution. Repeating the footbath treatment 2 to 4 times at weekly intervals may be necessary. Let animals stand in the foot bath solution for approximately 30 minutes, followed by another period in a dry lot to allow the solution to dry on hooves. Do not place the foot bath where goats are likely to drink from it.

The use of injectable antibiotics is highly effective and penicillin, erythromycin or oxytetracycline can be given under the advice of a veterinarian. For mild cases of foot rot or if animals limp and show early signs of foot rot, Koppertox can be used directly on the affected areas. KOPPERTOX IS NOT LABELED FOR ANIMALS THAT WILL BE SOLD FOR MEAT.

Treated animals should not be grazed on pastures that have not been free of infected animals for at least 14 days, and should not be turned back into muddy yards or wet and dirty areas. Hoof trimmings from infected animals should be removed or burned.

As a preventive measure, goats with foot rot should be given a tetanus antitoxin or a tetanus booster shot as the anaerobic environment of the affected feet may predispose and facilitate the development of tetanus.

Foot Bath Mixtures - Solutions to Soak Infected Feet

ALWAYS READ LABELS FOR CORRECT CONCENTRATION.

Zinc sulfate solutions are mild and effective and are the solutions of choice: 1 part zinc sulfate to 9 parts water, or 10% weight (zinc sulfate) to 90% volume (water) ratio.

Copper sulfate solutions in the proportions described above for zinc sulfate solutions are also effective but will stain the hair or fleece blue-green and can be potentially toxic if ingested. COPPER SULFATE SOLUTIONS SHOULD NOT BE USED IN SHEEP.

Author:

JM Luginbuhl

Extension Specialist (Goats & Forage Systems)
Crop Science

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Foot Scald

What is foot scald?

Foot scald, or interdigital dermatitis, is an inflammation between the toes caused by the microorganism *Fusobacterium necrophorum* which is normally present in ruminant feces and is always present on grazed pastures. Foot scald affects both goats and sheep.



Figure 1. Foot scald in meat goat.

When does foot scald usually occur?

Foot scald occurs most often during persistent rainy weather or heavy dew such as spring with temperatures above 50°F. Persistent moisture on the skin softens the skin and damages the tissues

between the toes, thus allowing the invasion by *F. necrophorum*. The combination of wet pastures with temperatures above 50°F allows the bacteria to persist away from the goats or sheep for longer periods of time. Trimming the long hair that covers the hoof may help the area dry out faster, and thus may help in the prevention of foot scald.

At the NC State Meat Goat Research and Educational Unit, cases of foot scald are mostly observed in spring while nursing does and their suckling kids are control-grazed on pastures. Young kids are very susceptible, but does will also be affected. Under wet conditions, cases of foot scald have also been observed in summer and fall.

What are the symptoms of foot scald?

The first signs of foot scald are limping and (or) holding limbs off the ground. Foot scald is characterized by inflammation of the skin between the toes. The skin appears pink to white in color, moist, raw, and very sensitive to the touch. In advanced cases, the affected areas may also have a characteristic bad odor. Affected animals need to be treated, because foot scald often can be followed by foot rot.

How to treat animals which have foot scald?

Individual cases of foot scald can be treated topically using solutions of copper sulfate or zinc sulfate (see products below) by squirting the solution between the affected toes. If the animals are on pasture, treating them after the dew is gone on clear days will allow the solution to dry on the hooves and feet, thus improving its effectiveness. During periods of persistent rainy weather, affected animals should be treated once or twice a day, depending on the severity of the case. Hooves heal rapidly after 1 or 2 days of twice a day treatment, but can recur easily if wet conditions persist.

What products are available to treat foot scald?

[Dr. Naylor Hoof 'n Heel from Register's Sheep & Goat Supply](#)

- 1 gallon costs ~ \$23.00
 - 11.2% zinc sulfate solution already prepared
 - squirt solution on affected areas

[Liquid Zinc Sulfate \(Premier FootCare\) from Premier1](#)

- 1 quart costs \$23.00, 1 gal costs ~ \$41.00
 - mix 1 part Premier FootCare with 3 parts water
 - squirt solution on affected areas

15% copper sulfate crystals (CuSO_4) from [Tractor Supply](#)

- 15 lb container costs ~ \$69.99 (used to get rid of algae in ponds)
 - 6 ounces (170 g) CuSO_4 crystals + 1 quart of water
 - let sit overnight for crystals to dissolve

- squirt solution on affected areas

CAUTION: Copper sulfate is not recommended for sheep due to toxicity issues because the treated animals may lick the sprayed areas following treatment.

Author:

JM Luginbuhl

Extension Specialist (Goats & Forage Systems)
Crop Science

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