



Take Extra Care with Hooves in Wet Weather

By Jackie Nix

Horse folks are often fond of the saying – No hoof- no horse. Well, horses aren't the only animals in which we need to worry about hoof soundness. Hoof soundness in pastured animals is absolutely critical. Grazing goats that are lame won't venture out and forage well and thus may gain less weight or even lose weight. Breeding bucks that are lame will not travel to seek out females in heat and may lose libido all together. With the wet conditions we've been facing this summer and fall, I have had a lot of calls lately regarding hoof problems. The wet conditions that many have experienced this summer and fall make foot rot complaints common.

What Causes Foot Rot?

Foot rot is caused by an infection of anaerobic bacteria in the foot. The exact species of bacteria will differ slightly among species; however, there it has been suggested that bacteria from one species can infect another (i.e. cattle foot rot bacteria can infect sheep or goats and vice versa). Some of these bacteria are present naturally in the environment (present in manure and the soil) while others are brought in by infected animals or human-caused contamination. These bacteria can survive in the soil from 1 to 10 months and even longer within hoof tissues.

These organisms cannot penetrate, intact healthy skin and hoof tissue. Cuts, bruises, puncture wounds, or severe abrasions permit entry. Therefore, conditions that result in foot injury will predispose animals to contracting foot rot. These conditions include, but are not limited to: sharp rocks, rough frozen ground, sharp stubble, and abrasive surfaces. Injuries are more likely to occur when the tissues of the feet are swollen and soft due to continued wetness. Also, the bacteria survive better in the environment during wet conditions.

Signs of Foot Rot

Foot rot is characterized by first a swelling of the tissue between the toes and eventually necrotic, foul-smelling pockets in the hoof in which the hoof wall separates from the horny tissues. The initial reddening of the skin is sometimes known as foot scald. If left untreated, the infection may progress up the foot into deeper structures such as the joints, tendons and bone.

Other conditions causing lameness are often misdiagnosed as foot rot. These include: sole ulcers and abscesses, sole abrasions, interdigital dermatitis, cuts and punctures, infected corns and fractures. Also, livestock that develop fescue toxicity grazing endophyte-infected fescue pastures, causing loss of blood circulation to the feet and lameness, are sometimes misdiagnosed as having foot rot. For these reasons, it is important to examine the affected animal(s) closely to confirm that the problem is in fact foot rot.

Transmission

Primarily, contagious foot rot is spread from infected animals. The organism travels from the infected animal to the soil to non-infected animals. Problems are usually introduced into a “clean” herd by purchase of an infected animal (especially true for sheep and goats), mixing “clean” animals with infected animals or by using a facility (such as sale barn) after infected animals. Humans can also spread the disease on their boots.

Prevention

The best prevention is to never bring contagious foot rot onto your farm in the first place. Do not purchase animals from herds that show signs of lameness. Always quarantine new animals (from any source) before introducing them into your herd. You may want to run sheep or goats through a footbath or spot treat foot rot infections with aggressive hoof trimming and topical application of zinc sulfate solutions or other acceptable treatments. In severe cases antibiotics may be in order. Consult your local veterinarian for more information.

Also be mindful of farm-to-farm transmission by humans. This is especially important with sheep and goat operations. Insist that visitors wash their boots in a footbath of diluted Clorox or zinc sulfate solution. Many larger sheep and goat farms provide such washing stations in the parking area for visitors. Another option is to provide them with disposable boot covers or provide your own footwear. Another consideration is to not allow visitors to drive their vehicles into your pastures or driving lanes, thus transferring manure and bacteria via the tires.

Keep goat hooves properly trimmed. During routine trimming, trim animals with healthy feet first so as to not spread the bacteria within the herd. Then, as you work on infected animals, disinfect your hoof shears between animals with a Clorox solution.

Animals that display chronic foot rot symptoms should be culled, as they will act as a reservoir for the foot rot organisms for the entire herd.

Management practices that help reduce hoof damage can help to reduce the incidence of foot rot in your herd. Maintain good drainage in and around watering and feeding areas. You may also think about placing concrete pads in these areas to reduce the amount of mud. Do not utilize sharp gravel in travel lanes for livestock. During winter months, smooth out areas of rough frozen mud. Proper mineral nutrition, especially zinc, can also help to improve hoof integrity and strength and reduce the incidences of foot rot.

Role of Zinc and Copper in Hoof Integrity

Zinc is a critical nutrient involved in the maintenance of epithelial tissues. Zinc is estimated to be a component of over 200 enzymes. Zinc’s role in maintaining hoof tissues includes (but is not limited to) stimulating growth of epidermal cells, production of keratin (sulfur containing protein which is the primary component of the hoof), improved wound healing and improved cellular integrity. Zinc-deficient cattle exhibit increased claw and hoof disorders as well as skin disorders and poor wound healing. Improved zinc nutrition has been shown to improve hoof integrity in deficient animals.

Copper is required for production of healthy claw horn tissue as well as antioxidant activity. Copper deficiency reduces the crosslinking of keratin, decreasing structural strength of horn tissue. Copper deficiency also results in decreased immunity, infertility and decreased growth.

Marginal to deficient levels of zinc and copper are common in many soil types across the United States. Additionally, high levels of naturally occurring antagonists such as iron, molybdenum, and sulfur are common in several areas. Both of these factors make proper trace mineral supplementation a smart investment to help insure that goats receive the levels of copper and zinc needed to express their true genetic potential. Goat producers who have observed lameness and/or other hoof problems should consider use of one of the Sweetlix® line of goat-specific supplement products to receive NRC-recommended levels of both copper and zinc, in addition to other trace minerals and vitamins.

Sweetlix® offers a variety of complete mineral-vitamin supplements for goats including:

16:8 Meat Maker™ Mineral

16:8 Meat Maker™ w Rumensin®

Meat Maker™ Roughage Balancer Tub

20% All Natural Protein Goat Block

Goat Kid Milk Replacer with Deccox®

Caprine Magnum-Milk Mineral

All Sweetlix goat-specific supplement products help goats attain maximum performance by providing complete vitamin and trace mineral supplementation including **copper, selenium** and **zinc** in a very bioavailable form. These products are scientifically designed especially for the nutritional needs of goats. Ask for **Sweetlix** by name at your local feed store or visit www.sweetlix.com or call 1-87SWEETLIX (1-877-933-8549) to learn more about Sweetlix brand supplement products for goats.

In summary, incidences of foot rot increase during prolonged wet weather. There are many management practices that you can employ to reduce foot rot on your farm. Included among these is proper supplementation of zinc and copper. Many goats show deficiency symptoms including: discolored hair coats, slow to shed out of winter coats, depressed immunity, decreased conception rates, increased days open, and hoof problems. If your goats experience any of these symptoms, you should strongly consider use of one of the Sweetlix goat-specific supplement products listed above to deliver recommended levels of copper and zinc to help goats reach their maximum genetic potential.

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