Take Extra Care with Hooves in Wet Weather

By Jackie Nix

You know the saying in the horse industry – No hoof- no horse. Well, horses aren't the only animals for which we need to worry about hoof soundness. Hoof soundness in pasture cattle is also critical. Grazing cattle that are lame won't venture out and forage well and thus may have reduced weight gains or even lose weight. Breeding bulls that are lame will not travel to seek out females in heat and may loose their libido all together. 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, it has been suggested that bacteria from one species can infect another (i.e. goat foot rot bacteria can cause mild infection in cattle). 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 the hoof tissues.

These organisms cannot penetrate, intact healthy skin and hoof tissue. Cuts, bruises, puncture wounds, or severe abrasions can 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 exposure to 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. Eventually the skin splits open to reveal necrotic, foul-smelling tissue. The affected foot will be warm to the touch. Cattle often run a temperature and appear lethargic. 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. If this occurs, the animal will likely not recover.

Other conditions causing lameness are often misdiagnosed as foot rot. These include: sole ulcers and abscesses, sole abrasions, cuts and punctures, infected corns, laminitis and fractures. Also, cattle grazing endophyte-infected fescue pastures that have developed fescue toxicity experience a loss of blood circulation to the feet and lameness, and 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, 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 or vehicles.

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. If you observe signs of lameness clean and examine the foot to establish that you are dealing with foot rot. In mild cases topical application of zinc sulfate solutions or other acceptable treatments may be all that is necessary. In severe cases antibiotics may be in order. Consult your local veterinarian for more information about diagnosis and treatment. Cattle 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 and copper, 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 cross linking of keratin, decreasing structural strength of horn tissue. Copper deficiency also results in decreased immunity, infertility and decreased growth. Copper deficiency is most prevalent in Simmental and Charolais cattle as compared to other breed.

Marginal to deficient levels of zinc and copper in many soil types as well as high levels of naturally occurring antagonists make proper trace mineral supplementation a good idea for all cattle. Cattle producers in areas with the above soil characteristics who have observed lameness in their cattle and/or other hoof problems should consider use of one of the **Sweetlix® CopperHead™** line of mineral supplement products.

All CopperHead supplement products deliver ***enhanced levels of copper*** as well as balanced levels of zinc and other essential minerals and vitamins. Copper and zinc function in a synergistic fashion in the body and are best absorbed when provided in proper ratio with one another. The CopperHead line of mineral supplements contains organic forms of zinc, copper, manganese and cobalt for optimum bioavailability and thus optimum productivity. Organic minerals are particularly beneficial during times of stress such as calving, lactation and weaning. Sweetlix CopperHead supplements also now have the added advantage of **RainBloc™** for improved resistance to moisture.

CopperHead Max 16:8 w RainBloc
- Enhanced levels of trace minerals for maximum productivity
- Contains 4000 ppm zinc as well as 2500 ppm copper
- 2:1 Ca to P ratio (16% Ca : 8% P)
- Ideal for brood and growing cattle on summer pastures

CopperHead Max 12:4:14 w RainBloc
- Enhanced levels of trace minerals for maximum productivity
- Contains 4000 ppm zinc as well as 2500 ppm copper
- High magnesium to help protect against grass tetany
- Ideal for brood cattle on spring or fall pastures

CopperHead Max 12:12 w RainBloc
- Enhanced levels of trace minerals for maximum productivity
- Contains 4000 ppm zinc as well as 2500 ppm copper
- High phosphorus for enhanced growth and reproduction
- Ideal for growing and brood cattle on forages known to be low in phosphorus

6% CopperHead w RainBloc
- Contains 3000 ppm zinc and 1800 ppm copper for enhanced mineral nutrition
- Moderate phosphorus level – 6%
- Highly palatable, economical supplement
- Ideal for summer pastures and when hay is being fed

CopperHead Hi Mag w RainBloc
- Contains 3000 ppm zinc and 1800 ppm copper for enhanced mineral nutrition
- High magnesium for protection against grass tetany
- Highly palatable, economical supplement
- Ideal for brood cattle on spring and early fall pastures

6% CopperHead LS w RainBloc
- Low salt version of the original 6% CopperHead
- Ideal for coastal regions with high soil salt levels
- Logical choice for coastal cattle that have had mineral consumption problems in the past

In summary, incidences of foot rot increase during prolonged wet weather. There are many management practices that you can employ to reduce the incidences of foot rot on your farm. Included among these is proper supplementation of zinc and copper. Many cattle 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 cattle experience any of these symptoms, you should strongly consider use of one of the Sweetlix CopperHead line of mineral supplements to help enhance copper and zinc nutrition. Ask for **CopperHead** by name at your local Sweetlix dealer, call 1-87SWEETLIX or visit the Sweetlix website at www.sweetlix.com to learn more about these and other Sweetlix supplement products for cattle.

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