

Cattle Business in Mississippi – January 2010 **“Stocker Cents” article**

Foot Rot Detection, Prevention and Treatment

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Wet and muddy conditions across the state have changed production practices and early performance of winter grazing stockers. One issue that has played a larger role this year, as compared to normal years, is foot rot. It is relatively common to deal with a few cases of foot rot as winter mud accumulates but the excessive amount of rain has left few dry places for cattle to loaf.

Foot rot is the term usually used to explain any kind of lameness that is not associated with an apparent injury to the joints or bone. The actual cause of real foot rot is a bacterial infection of the skin and tissue between the toes of a hoof. It is usually associated with a foul odor emitted as the affected skin and tissue become necrotic (rotten).

If foot rot is not detected early, it is easily identified by severe swelling from the dewclaws and the top of the hoof that extends to between the toes, spreading them apart. Early detection, through close observation, is extremely important to improve the effectiveness of treatment. However, spotting a swollen hoof is even more difficult in deep mud. This scenario is further complicated by the mud because calves will be naturally slower moving, making it difficult to spot the early onset of a limp.

Calves that are affected by foot rot will display other signs of illness similar to respiratory diseases such as elevated rectal temperature and visual indications. When using visual appraisal, one of the most important signals of illness is appetite suppression. Some research has demonstrated that feed consumption of cattle exposed to disease begins to decrease 48 hours before increased body temperature is observed. The most effective time to observe the feeding behavior of cattle is when they are fed each day. Unfortunately, it is difficult to monitor daily feeding patterns of grazing cattle or calves on self feeders. In this case, it is important to observe signs of gut fill. Cattle that have not been eating and drinking properly will appear gaunt and their abdomen will often bounce when they walk.

An often overlooked fact about foot rot is that the causative bacteria can be found on healthy feet and hooves of calves and cows. In fact, these bacteria naturally occur in the rumen and are deposited in the manure. An infection does not occur until the skin between the toes is injured and the bacteria are allowed access to the underlying tissue. When calves are constantly standing in mud, that skin can crack and let the bacteria in.

Foot rot can represent a significant financial loss to stocker operators in an extremely wet season, especially if the calves have little or no dry ground to rest on. A three year study conducted by Kansas State University estimated that calves with foot rot gain

0.45 pounds per day less than calves without foot rot. Aside from the decrease in gain, treatment of calves with foot rot can become expensive and take time away from other management practices. Even if most of the calves do not contract this disease, excessive mud decreases performance of grazing and backgrounded calves by requiring them to use more energy for maintenance and normal movement.

Many treatment options are available but any treatment should be done on the consultation of a veterinarian. Most stocker operators or backgrounders have had experience treating foot rot and similar infections but regular consultation with a veterinarian will provide new information on improved protocols and insight into a wider range of experiences. Most treatment protocols will include systemic antibiotics and cleaning the affected area. If the infection has progressed to the point that much of the tissue between the toes is rotted, surgical removal might be necessary. Again, early detection is the most important aspect of combating foot rot when preventative measures become difficult due to harsh environmental factors such as excessive rain.

Preventing foot rot is relatively simple in years with normal rainfall. For grazing cattle on low-laying pastures, provide a hillside area where they can loaf while not grazing. For backgrounded calves in a dry-lot situation, a large mound of dirt at the center of the pen can provide a dry area to escape the mud. Moving feeders and water sources will also disperse the muddy areas but this option is not always feasible. When excessive mud cannot be avoided, care should be taken to remove sharp objects (such as rock and debris) so that the already softened skin is not injured to allow penetration of the bacteria.

Other preventative measures include any practice that improves or maintains the calf's innate immunity. Proper mineral supplementation is important with an emphasis on Zinc and Iodine. Ample amounts of Zinc help to maintain skin integrity and keep the bacteria from entering the tissue. Some vaccines are available against the bacteria most often cited as causing foot rot (*F. necroforum*). This vaccine is usually considered to be cost prohibitive for crazing cattle. However, in years with excessive rain when more cases of foot rot are expected, the vaccine might prove to be a rewarding risk management measure.

Watch closely for foot rot this winter and spring. If measures to prevent it are unsuccessful because of excessive rain and mud, try to catch it and begin treatment early. For more information about preventing and treating it, contact your veterinarian or an office of the Mississippi State University Extension Service.