



# Feedlot Technical Bulletin

## Understanding Lameness in Feedlot Cattle

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Lameness is a common problem across the cattle industry that can have significant effects on animal productivity, particularly if not managed appropriately. In feedlot cattle, the two most common causes are laminitis and foot rot. It is important to correctly distinguish between the two causes as the management plan used to combat each is distinctly different.

**Laminitis:** This disease is not typically foot specific and significant **swelling is not common**. Depending on the severity, laminitis can lead to ulcers and bleeding from the sole of hoof and be very painful, to the extent that the animal may crawl on its knees or cross its legs. Heavy breathing, sweating, and/or reluctance to stand or walk may also be observed. Animals may also stand with their feet extended forward.

The onset of laminitis is diet related by which an excessively acidic ruminal environment is created. The presence of laminitis suggests either the ration is not properly balanced, bunk management is poor, cattle are not properly transitioned to higher concentrate diets, poor ration mix, and/or an error in the ration being fed. In the case of laminitis, prevention is the cure.

**Foot Rot:** This disease is characterized by **rapid, symmetrical swelling** at the upper limit of the hoof, typically accompanied by elevated temperature and reduced feed intake. The skin between the toes become necrotic and produces a particularly foul smell. This condition produces considerable pain and lameness in affected animals.

Foot rot is most prevalent when lots and pens are wet and muddy. It is caused by a bacterial (*Fusobacterium necrophorum* and *Bacteroides melaninogenicus*) infection of tissue between the toes. The invading organism(s), which are common in feedlots, enter the skin through abrasions caused by rough surfaces, stones, stubble, frozen mud or manure, foreign items in the pen, and wet pens. If feasible, mild cases of foot rot can be treated by thoroughly cleaning and applying a 5% copper sulfate solution to the affected area. The infection also typically responds well to labeled use of antibiotics and sulfa drugs. In the event that swelling persists beyond a day or two post-treatment, a veterinarian should be consulted to ensure that 1) the diagnosis was correct and 2) that the infection has not progressed to a deeper infection of the foot.

Prevention measures that should be taken include reducing abrasive surfaces and minimizing persistently wet areas and, when feasible, the use of footbaths may be beneficial. Supplementing organic iodine (within FDA guidelines) and zinc can also be effective in preventing and, in some cases, treating cases of foot rot. Other minerals, such as copper, selenium, and manganese, may also aid in preventing foot rot by providing important co-factors involved in immune function and tissue maintenance and repair. Feeding chlortetracycline may also be effective in controlling foot rot as well as the use of vaccines, however, the efficacy and cost-effectiveness is questionable and should be considered on a case by case basis.

Regardless of the cause, cattle lameness is an important consideration this time of year. The effects can be substantial on cattle performance, but they do not have to be debilitating. In a review of data compiled over 7 years at the U.S. Meat Animal Research Center feedlot in Clay Center, NE, it was reported that a single incidence of foot rot reduced gains by 2.4% over the entire feeding period, however, cattle treated only one time during the starting or growing period exhibited compensatory gain and had performed similarly to non-treated cattle at slaughter (Tibbets et al., 2006). Therefore, a bout of cattle lameness early in the feeding period does not equal a wreck, it can be overcome with the right steps to limit future incidence. The right mix of inorganic and organic sources of trace minerals supplied through a QLF liquid supplement is a valuable tool in combating the incidence of foot rot. Contact your local QLF Sales Manager to determine if you are doing all you can through management and nutrition to combat cattle lameness in your yard.

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