

AABP FACT SHEET



OVERVIEW OF LAMENESS IN BEEF AND DAIRY HERDS

AABP Lameness Committee

In both beef and dairy operations, lameness is an important economic and animal welfare concern. This document from the American Association of Bovine Practitioners is meant to provide guidance for veterinarians and their clients when addressing lameness at both the herd and individual animal level.

PREVENTION

In light of the decreased welfare of lame animals and the expenses incurred by lameness, prevention of lameness is a top priority.

HOUSING AND ENVIRONMENT

Wet, dirty and/or muddy conditions contribute to the spread of infectious diseases that cause lameness, so maintaining a clean, dry hoof environment is important. Dirt lots should be stocked appropriately and designed to promote drainage and avoid mud puddles. Concrete flooring should be sloped and scraped frequently.

Excessive time spent standing, particularly on concrete, will adversely impact hoof health. Facilities with concrete flooring must be designed and maintained to allow adequate time for rest. This means providing adequate square footage per animal in bedded areas, with soft deep bedding, ensuring that free stall dimensions and design are adequate for the animals using them, ensuring that lying surfaces provide comfort and traction for lying down and rising, avoiding overstocking pens, and limiting time outside of the pen to no more than three to five hours per day (e.g. while milking cows or processing calves).

Heat stress increases rates of lameness because longer standing times are used to down-regulate excessive body temperatures. Heat abatement measures including shade and adequate water access, fans to provide air speeds of 200–400 ft/min (1–2 m/sec) at the cow level, and effective animal soaking and/or air cooling are essential to mitigate these effects, particularly when the Temperature Humidity Index (THI) exceeds 68°F or 20°C.

Flooring should be designed and maintained to avoid slipping, excessive abrasion, and trauma. Concrete flooring should be effectively grooved or textured and rubber flooring should be used strategically in unloading areas, processing barns, transfer lanes, or where cattle are forced to stand for long periods (e.g. holding areas). Outside lots should be well drained and free of rocks and debris. Special consideration should be made in areas where a sudden change in direction or speed may predispose to abrasive hoof action.

The movement of cows should be gentle because cows need to see where to place their feet. In the milking parlor holding pen, ensure enough space for free movement and avoid overcrowding cows when using automatic gates to move cows into the milking parlor.

Nutrition Feed should be appropriately formulated for the animal's production goals and nutrient requirements to reduce the risk of lameness. Loss of body condition in early lactation in dairy cows should be minimized because loss of condition may reduce the thickness of the digital fat pad and increase the risk of hoof horn growth disruption. Ration formulations should ensure adequate levels of trace minerals, including copper and zinc, with a proportion of the trace minerals provided in a bio-available form. Biotin has also been demonstrated to improve hoof health when fed for extended time periods. The risk of aggressive/competitive behaviors and excessive standing time should be minimized using appropriate bunk management including frequent pushing up of feed in dairy herds. Proper ration formulation, appropriate minimum particle size and avoidance of empty bunks at times when cattle are actively seeking feed are strategies that can help to reduce the risk of rumen acidosis, which may contribute to lameness.

PREVENTIVE HOOF CARE

Footbaths serve to help control infectious hoof diseases (e.g. digital dermatitis and foot rot). Footbaths should be 10–12 feet (3.0–3.7 m) long

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and filled to a depth of 4 inches (10 cm) to maximize hoof contact time. A width of 36 inches is sufficient to allow individual cow passage. In order to maximize efficacy they should be used regularly, with an effective antibacterial agent refreshed as needed to maintain potency. Hoof sprayer systems may be used where foot-baths are impractical.

Hoof trimming should be done to rebalance the inner and outer hooves and restore a more upright hoof angle. The frequency of hoof trimming should be determined by the veterinarian, hoof trimmer and other stakeholders depending on hoof wear, on-farm lameness detection capabilities, lameness incidence and cure rate.

IDENTIFICATION AND TREATMENT OF LAME COWS

Veterinarians must implement a lameness surveillance system that includes deliberate, frequent identification and treatment of lame cattle. A designated person or persons on the farm should be trained to identify lame cattle.

Whether this is done daily, weekly, or bimonthly depends on herd size, but it is the responsibility of all farm workers to identify moderately and severely lame cattle every day. Surveillance should be done when cattle are walking normally (i.e. when they are moved to or from the pen or milking parlor or are moving about their pen or lot). Regardless of the specific locomotion scoring method, the goal

is to identify animals with a noticeable limp and weight transfer off a painful limb that is in need of examination and treatment. Standardized subjective scoring systems have commonly been used for this purpose.

Once an animal has been identified as lame, a treatment protocol should be initiated within 24 hours. A proper treatment protocol includes segregation, restraint, diagnosis and therapy. There should be facilities and tools should on every livestock operation for caregivers to safely restrain and treat a lame animal. If such facilities and tools are not available, protocols should be in place to allow for a hoof trimmer or veterinarian to be called to provide the needed care. If it is decided that treatment is not feasible, a decision to cull or euthanize the animal should be made quickly (see AABP Euthanasia Guidelines at <https://aabp.org>).

Treatment of lameness should be carried out in a manner that minimizes pain to the animal. This means minimizing trauma to the hoof corium and using appropriate anesthesia/analgesia when needed. Individuals working on these cases should have appropriate tools and therapies available and be trained in their use and application, including the correct application of anesthesia, analgesia, bandages and hoof blocks. After treatment the follow-up plan should include consideration of the benefits of analgesic drugs and separate housing. Treatment and diagnosis of lame animals should be recorded in a permanent

record in order to ensure food safety and provide efficient monitoring of disease trends.

RECORDS REVIEW AND COMMUNICATION

Lameness is a complex, multifactorial disease of great economic impact that markedly decreases the well-being of affected cattle. The veterinarian should provide oversight and coordination of lameness control on beef and dairy operations. The prevalence of lameness on an operation should be determined at least twice a year. In addition, regular review and analysis of hoof lesion records to identify the dominant lesion types, the groups affected, and the timing of onset is used to institute and improve preventive measures targeted to the challenges on a particular farm or feedlot. Veterinarians must effectively communicate with the herd nutritionist, hoof-trimmers, farm caregivers and management to facilitate the prevention and control of lameness.

For more information about lameness, visit <http://aabp.org/members/Lameness.asp>. This site provides specific information about diseases that cause lameness and herd-level approaches to lameness prevention in beef and dairy animals, along with a reference library for information and tools used to manage lameness.

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