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 bioavailable 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.
OVERVIEW OF LAMENESS IN BEEF AND DAIRY HERDS

Continued

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 footbaths 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 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.