

ENHANCED MANAGEMENT

By Rob Lynch

Lameness recording for enhanced management

Lameness continues to be an important issue for the US dairy industry, as it negatively impacts animal welfare and the farm's bottom line. In 2009 Bicalho and collaborators estimated the prevalence of lameness in NYS dairy cattle within their first 70 days in milk (defined as the percent of cows with a locomotion score of >3 on a 5-point scale) are between 27% and 54%. Cha et al. (2010) estimated that the average cost of sole ulcers, digital dermatitis, and foot rot is \$216, \$133, and \$121 respectively (Figure 1). These costs come from treatment, lost milk production, decreased reproductive efficiency, and an increased risk of culling. Booth et al. (2004) analyzed the effect lameness had on cull rate and observed that cows that became lame during the first half of their lactation were up to twice as likely to leave the herd than nonlame cows. Lameness in dairy cattle is the industry's leading welfare issue because the condition is highly prevalent and affected animals show obvious signs of pain and suffering. Although we know good lameness control is crucial to a dairy's success, many producers underestimate how much lameness is in the herd. A problem is difficult to manage effectively if you do not know its extent. Lameness health events tend to be inconsistently entered into on-farm software, if recorded at all. Routine hoof trimming is a common management practice on dairies that makes significant improvements in cattle welfare. Unfortunately, many farms do not have a good system in place to consistently capture and review the trimmer's findings. Even if management reviews trimming reports and lameness records, they are only seeing the most severely affected cows. Routine screening through locomotion scoring by trained individuals provides a better understanding of current lameness incidence in the herd. Early detection through this screening can make lameness problems easier to correct, and can minimize animal suffering and economic impact.

Capturing Lameness Events:
Turning all the visits cows make to

Routine locomotion scoring, and meaningful hoof lesion findings, allow managers to monitor lameness issues.

the trimming chute into useful information is a challenge. Partial and inaccurate hoof lesion observations have little value to herd managers. Making sense of crinkled, manure-stained, hand-written receipts is a frustrating exercise as well. Without much more effort, the investment made in routine hoof trimming can be maximized if the results are recorded and communicated consistently. Many farms do this well, but if this does not describe what you do, consider adjusting your procedures.

The Zinpro Corporation and the International Lameness Committee have developed a naming convention and recording procedures to improve accuracy and utility of lameness findings. By using 14 single-letter abbreviations (Figure 2) and 14 distinct claw zones (Table 1), trimmers can communicate their findings efficiently and with greater accuracy.

Locomotion Scoring: Observer generated scoring systems assessing posture and gait abnormalities in dairy cattle have been around for more than 20 years and are proven effective to identify lameness issues in dairy herds. Even though we know locomotion scoring helps lameness management, few herds have incorporated regular herd scoring protocols into their management programs. Perhaps this is due to the expense associated with locomotion scoring. Since

Figure 1: Cost of Different Types of Lameness in Dairy Cows

Calculated by Dynamic Programming. Cha, et al, Prev. Vet. Med., 2010.

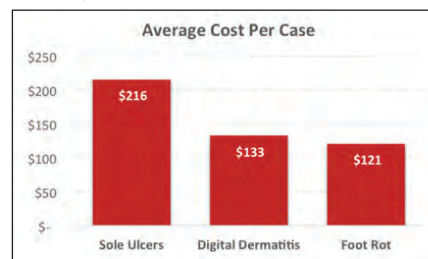


Figure 2: Dairy Claw Lesion Zones (Zinpro Corporation and the International Lameness Committee).

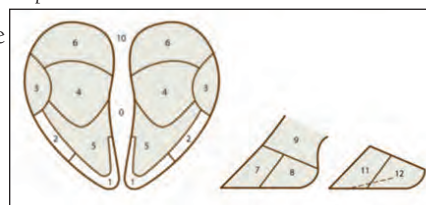


Table 1: Dairy Claw Lesion Abbreviations

(Zinpro Corporation and the International Lameness Committee).

Claw Lesion	Abbreviation
Digital Dermatitis	D
Heel Erosion	E
Interdigital Dermatitis	I
Foot Rot, Foul or Phlegmon	F
White Line Lesion	W
Sole Ulcer	U
Sole Hemorrhage	H
Toe Ulcer	T
Corkscrew Claw	C
Horizontal Fissure or Hardship Groove	G
Vertical Fissure	V
Axial Fissure	X
Interdigital Hyperplasia	K
Thin Sole	Z

this procedure cannot be multitasked with other chores, it will take some labor hours to accomplish good locomotion scoring. Consider this an investment since the money spent to score for lameness will be paid back when lame cows are identified and dealt with sooner, thereby reducing lost production and culling risk. Ideally, all cows should be scored monthly. It can be done all at once or broken up by pen and spread out over several days. The New York State Cattle Health Assurance Program (NYSCHAP) provides guidance based on the 5-point scoring system developed by Sprecher et al. (1997). Cows scoring a two should be noted, and if three or greater, directly examined for hoof lesions. Another obstacle to routine locomotion scoring is concern that doing it incorrectly will lead to useless results. Scoring cows when they are freely moving on a non-slippery flat surface is challenging. Cows should not be scored while being moved to the parlor for milking. Also, make sure you are seeing all the cows. Lame cows typically bring up the back of the pack, so the observer needs to watch the entire group, not just the first half of the pen leaving the parlor. If the observer is walking through pens, he/she should keep in mind that lame cows will be reluctant to walk around freely and therefore may be overlooked. There are many great training resources available to help observers with their scoring. The most useful are recorded videos of each locomotion score.

Tracking Lameness Incidence:

Several groups of cows need hoof attention. These include the nonlame cows that need routine trimming, usually twice each lactation. These cows should not be counted among the lame, but it is critical that management systems identify them so they don't miss out on important trims. Second are the new cases of lameness that need to be attended to right away. This is the group that lets us know when there is a true change in the herd's lameness incidence. Some of these cows will need re-evaluation or follow-up care due to the nature of their condition. The lameness management program should ensure they make it back to the trimmer in a timely manner. And then there are the chronically lame who require more attention and more frequent visits to the trimmer. The cows requiring repeated treatments are important to monitor to make sure treatment protocols are working, but should not be included when tracking herd lameness incidence. Cook and Rhoda at the University of Wisconsin School of Veterinary Medicine describe a lameness management plan that helps deal with these different groups of cows (Figure 3). Since

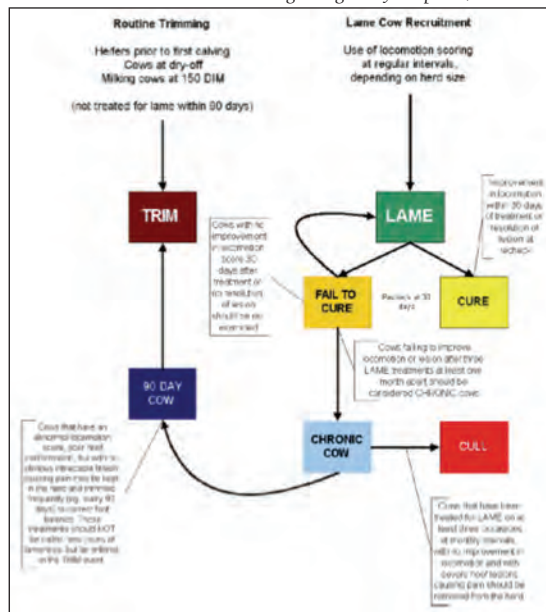
some lame cows receive antibiotics as part of a treatment protocol, it is critical to have a system in place to prevent milk and meat drug residues. Tying the trimmer's findings to the farm's established treatment protocols helps mitigate this risk. It is essential that everyone responsible for treating cows, including non-farm employees doing hoof trimming, is trained to follow the farm's established treatment protocols.

Trimming Triage: Time is limited on the dairy and this tends to limit how many cows can visit the trimmer on any particular day.

With that in mind, managers can set up their trim list in order of urgency. Newly lame cows should take priority over the routine trim cows and sort lists can be set up to put cows in order of priority. If increasing numbers of new lame cows are making it difficult for the trimmer to get to the routine trims in a timely manner, your management system should alert you to adjust the trimming schedule accordingly.

Lameness Manager: Dairycomp 305's Lameness Manager feature helps organize trimming and lameness events. After a simple installation and ITEM setup, trimming lists can be generated, lameness findings can be easily captured (it works with Pocket Trimmer and certain licenses of Pocket CowCard) and matched to farm protocols. Cows that need follow-up can be flagged for re-examination, wrap removal, etc. When lameness findings are entered into software consistently, lameness incidence can easily be analyzed. Some important questions managers can answer using

Figure 3: Lameness Management Flow Chart
(Nigel Cook and David Rhoda, University of Wisconsin-Madison. A Record Guide to Lameness Monitoring Using Dairycomp 305).



Lameness Manager include:

- Has there been a significant increase in certain types of hoof lesions suggesting a need to review the farm's lameness prevention plan?
- Is the farm keeping up with routine trimming or are cows going too long between trims?
- Are current lameness treatment protocols working?

Conclusion: Consistent communication of routine locomotion scoring results, combined with meaningful hoof lesion findings from the trim chute, will provide herd managers with the information needed to monitor for lameness issues. Significant changes in either of these two monitors will signal management to investigate breakdowns in lameness prevention programs. □

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