Healthier hooves

Rugged touch-screen computer tablets mounted on the side of trim chutes offer an opportunity to collect data that could lead to breeding for sounder feet

Putting new computer technology in the hands of trained hoof trimmers holds great potential to develop breeding and management strategies for reducing lameness in your dairy herd. That would reduce costs from lost milk production and treatment expense, while decreasing involuntary culling—lameness is the third most important reason after reproduction and mastitis.

Painful hoof problems distress cows, and adversely affect their welfare. Conditions such as digital dermatitis, heel horn erosion, sole hemorrhage and sole ulcer are underlying causes.

To address these afflictions, breeding strategies based on feet and leg conformation traits have been used to select for more structurally sound cattle. As well, lameness scoring or gait scoring has been introduced, but lameness is difficult to measure and scoring is open to interpretation. Overall lameness incidence has not improved.

However, help could be on the way. At the recent annual meeting of the Ontario Hoof Trimmers Guild, Vic Daniel, the guild's outgoing speaker, presented information about a computer tablet loaded with specialized software. It lets hoof trimmers record all trimming data in the herds they service.

A rugged touch-screen tablet, the computer can be mounted on the side of the trim chute. Graphic software loaded into the tablet shows standardized areas of the hoof and their condition. The software keeps cow and herd history, and provides benchmarking of conditions recorded.

The herd management potential of this sort of program is just starting to be realized as part of the trimmer's routine work. Uses include trimming and treatment scheduling for individual animals and groups of cows, tracking problems and treatments, and monitoring incidence of ailments such as digital dermatitis.

Hoof trimming software also generates a standardized, useful set of herd data once the trimmer is trained and becomes familiar with the program. Moreover, it potentially makes the job more efficient and profitable compared to keeping paper records at

Hoof trimmer Vic Daniel can easily input data on individual cows.

Ontario

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chute-side. The program even generates an invoice at the end of the session.

The approach of looking to hoof trimmers as a source of data about lameness causes and recording specific traits they treat daily goes back to a Swedish program begun in 2003. The Swedes realized hoof trimmers are an excellent source of data on hoof lesions and conditions they deal with as a part of their work. Researchers collected these data in an organized manner, developed a database and conducted genetic studies on the traits.

Sweden and two of its Scandinavian neighbours—Denmark and Finland—now have standardized chute-side recording of hoof and claw health conditions by hoof trimmers. This information goes into a database to develop sire proofs for hoof and claw health. Since 2006, the three Scandinavian countries have included an index value for hoof-claw health in their official bull proofs.

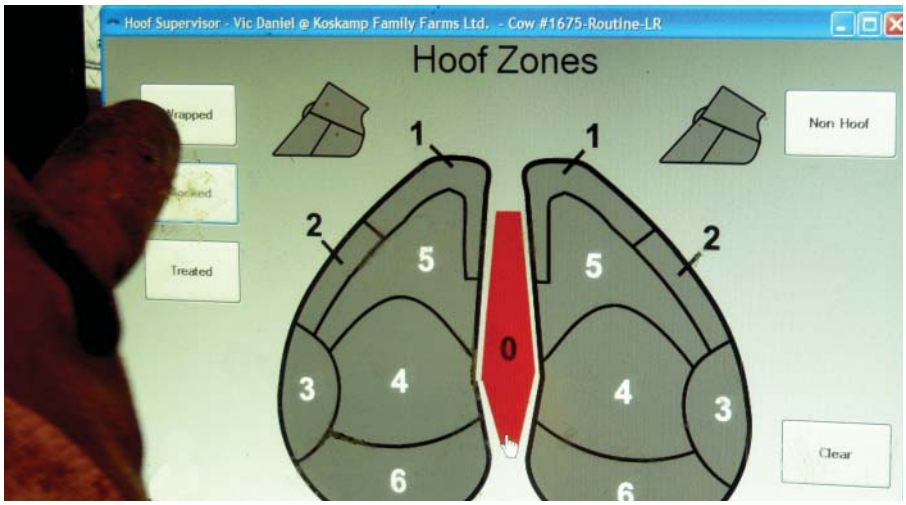
Swedish studies and a more recent paper published on Danish Holsteins have looked at the heritability of claw and leg health traits and their interrelationships. Claw health heritability traits are generally low, around 0.10 or lower. This is similar to the heritability of other health conditions and mastitis incidence. While genetic improvement would be difficult, it is possible.

Combining these measures into an index may be more useful. The Danish study found some interesting relationships with other commonly measured traits: genetic correlation with locomotion was a medium 0.46, and claw health with "rear legs rear view" was 0.21. There was essentially no correlation between claw health and other type traits. Although claw health has a relationship with lameness, the Scandinavian advice is to treat claw health and leg conformation as separate traits.

Hoof trimmers are recognized as a key source of valuable information.

Computerizing data collection during trimming will make it possible for hoof trimmers to record quality data at the chute. It has huge potential to expand the management possibilities for producers. As a further step in the development process it appears from Swedish and Danish data this information will be useful in addressing genetic issues around hoof and claw health.

The Canadian dairy industry could look at how to capture these data for genetic improvement and address issues around how to select directly for



The touch-screen tablet uses an easy-to-read graphic interface.

claw health, resistance to digital dermatitis and so on. A further side benefit of hoof trimming records would be to generate treatment records essential to quality assurance programs.

Hoof trimmers and dairy producers in Alberta have taken the lead in Canada and started a pilot project of co-operating hoof trimmers and producers. They are using computer hardware and software to record claw and hoof health data, and organize it in a database. More details about the project are available at www.hoofhealth.ca.

Recording hoof and claw information at trimming is truly an exciting area of new information. It warrants a closer look by progressive dairy producers for improved herd management, and by dairy genetic improvement groups to develop an industry strategy to use this source of data to combat hoof and claw health problems.

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