Online training tool for the M-score of bovine digital dermatitis lesions

Arne Vanhoudt[1] and Dörte Döpfer[2]
[1]Animal Health Service, Animal Health Service, Driebergen-Rijsenburg, Netherlands
[2]University of Wisconsin School of Veterinary Medicine, Madison, Wisconsin, USA
vanhoudt.arne@gmail.com

Objective
Enable independent training to classify lesions of digital dermatitis using the M-score.

Material and methods
A pre-selection of digital photographs from lifted hind feet were scored by a computer vision and artificial intelligence system and three experts (one academic, one private consultant, and one foot trimmer). Only photographs for which 3 scorers agreed were retained for the training tool.

The online training tool consists of:
- A decision tree detailing the steps needed to go through to end up with a final M-score for a lesion, including short video clips, explain each step and M-score.
- The decision tree has been presented during the post-congress workshop of the Lameness in Ruminants Congress 2019, Tokyo, Japan.
- A set of training photographs that can be scored with the provision of instant feedback on the score.

To track progress, users will be asked to score a pre-defined set of photographs when entering the learning environment. The same, shuffled, set of photographs will be presented to the users after completion of the training. Users who complete the training, expected to take 30 to 60 minutes depending on the level of experience and scoring speed, and both start and end evaluation receive feedback on their progress.

Users will be asked to provide information on their profession, years of experience using the M-score, employment, gender, and age. Anonymous use of the learning environment is possible. After obtaining consent from the users, data collected from before the training will be compared to after the training in order to quantify the effect of the training tool in recording M-scores of digital dermatitis.

Results
Not applicable.

Conclusion
This online tool will be freely available and helps to improve correct M-score classification of digital dermatitis lesions in cattle.