Article
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ASSOCIATION BETWEEN FOOT SKIN TEMPERATURE (FST) AND LOCOMOTION SCORING (LS) IN DAIRY CATTLE

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Abstract

The health status of the hoof in dairy cattle is crucial for their overall well-being and productivity. Hoof diseases and lesions can lead to lameness, decreased milk production, and economic losses for dairy farmers. Traditional methods of assessing hoof health involve manual inspection and trimming, which can be time-consuming and subjective. This research article explores the potential use of a phone-connected infrared camera as a non-invasive and objective tool for assessing the health status of the hoof in dairy cattle, by investigating the association between foot skin temperature (FST) and locomotion scoring (LS) in a group of Romanian Black Spotted dairy cows. LS was carried out using the mobile app developed by the Wisconsin University (Locomotion Scorer). The thermograms were collected during afternoon milking and processed using the FLIR software. Overall, 73.9% of the cows were scored as non-lame, while 13.04% presented signs of foot lesions. The highest temperature observed in the interdigital area, in the lame group, by thermography, was T°=36.5°C. In conclusion, monitoring hoof health status in dairy cattle is essential for ensuring their well-being and productivity. The use of an infrared thermal camera for the assessment of foot surface temperature has shown promise as a noninvasive tool for evaluating hoof health.

Key words: infrared termography; lameness; locomotion score; dairy cattle