

A descriptive study on hoof trimming methods in North America

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Introduction

Hoof trimming is a routine procedure done to dairy cows, but no data exists to determine appropriate trimming methods. In the literature, functional hoof trimming is commonly described as the method of choice. However, other methods are commonly reported in the field. This has resulted in a continuous debate within the hoof health industry with respect to what is the appropriate trimming method. To address this question, there is a need for more scientific data on the prevalence of different trimming methods, the effect of these methods on key hoof measurements, and ultimately on the welfare of the cow. The objective of this study was to describe the effect of different trimming methods on key hoof measurements taken on cadaver hind feet of dairy cattle.

Materials and Methods

Cadaver feet from 220 legs were obtained from a slaughter house and 18 measurements were made on the lateral and medial hooves. The measured feet were uniquely identified and 40 hoof trimmers that attended the Hoof Trimmer Association annual meeting were asked to randomly trim 5 feet. The trimmers filled out a descriptive survey pre-trimming to collect background information. The trimmers did not have any prior knowledge about the feet; they were asked to trim them like they routinely would trim feet. Post-trimming feet were re-measured and cut in a sagittal plane to determine sole thickness and length of P3. Data was described based on pre- and post-trimming measurements and across descriptive characteristics.

Results

Pre-trimming, the average angle of the medial and lateral hoof was 51.0° and 51.5°, respectively. The average pre-trimming length of the dorsal wall 15 mm from the interdigital space of the medial and lateral hoof was 82.8 mm and 83.3 mm, respectively. Post trimming, the average angle of the medial and lateral hoof was 51.7° and 49.9°. In addition, the average dorsal wall length was 80.3 mm for the medial hoof and 80.9 mm for the lateral hoof. At the same location as the dorsal wall measurement, the average length of P3 was 57.8 mm and 58.6 mm, respectively, for medial and lateral hooves. Average sole thickness post trimming was 8.3 mm for the lateral hoof and 8.6 mm for the medial hoof. With the 44 trimmers that volunteered, the average number of cows trimmed/week was 234 cows. Over 55% of the trimmers used the functional method of trimming, 17.5% used the white line, 12.5% used the Kansas method, and 15% used a combination of all 3. For the measures reported in this study no significant differences were found between descriptive characteristics of the hoof trimmers and hoof measurements.

Significance

This study provides an initial description of hoof trimming methods used by North American hoof trimmers. For measurements such as sole thickness and dorsal wall length, no significant differences were found between trimming styles or training.