

# Hoof measurements before and after hoof trimmer intervention on lame cows on California dairies

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## Introduction

Farm labor routinely perform hoof trimming tasks and treat lame cows on California dairies. Most workers performing hoof trimming tasks lack formal education and have minimal training. Despite the relevance of hoof trimmer work on cow health, the quality of their work is rarely monitored by managers or veterinarians. The objective of this study was to describe lame cow hoof measurements before and after hoof trimmer intervention on California dairies.

## Materials and Methods

A total of 17 dairies ranging in size from 1,000 to 10,000 were enrolled in the study. Hoof trimmers were dairy workers (n=11) or outside service providers (n=6). Researchers collected information from rear hooves from ten (n=15) or nine (n=2) lame cows/dairy (dorsal wall length, hoof angle, heel height, and abaxial groove length) before and after the hoof trimmer intervention. Descriptive statistics was conducted with PROC MEANS, PROC UNIVARIATE and PROC CORR of SAS 9.4.

## Results

Before the hoof trimmer intervention 10.1% of the hooves had a desirable dorsal wall length (>7 to <8.5 cm).

After the hoof trimmer intervention, at least 70% (n=7) or less than 30% (n=4) of the hooves were within the desirable range. Dorsal wall length of hooves of the same claw differed by >0.5 cm at least 5% of the time (n=8). Dorsal wall angle was within a desirable range ( $\geq 45^\circ$  to  $\leq 50^\circ$ ) on 52.2% and 50.9% of the hooves before and after hoof trimmer intervention, respectively. After the hoof trimmer intervention, at least 60% (n=4) or less than 30% (n=3) of the hooves were within the desirable range. Dorsal wall angle of hooves of the same claw differed by  $3^\circ$  at least 25% of the time (n=11). Heel height was within >3.4 to <4.4 cm on 20.0 and 36.8% of the hooves before and after hoof trimmer intervention, respectively. After hoof trimmer intervention, 5 herds had at least 50% (up to 65%) of hooves with heel height within >3.4 to <4.4 cm. Heel height of hooves of the same claw differed by >0.5 cm at least 30% of the time in all dairies. The abaxial groove length was >4.5 cm on 93.5 and 90.8% of the hooves before and after hoof trimmer intervention, respectively. The correlation between heel height and abaxial groove length was significant ( $P < 0.01$ ), but with a low correlation coefficient before ( $r = 0.47$ ) and after ( $r = 0.20$ ).

## Significance

Our data indicates that there is an opportunity to improve hoof angle of lame cows after hoof trimmer intervention on California dairies.