

# Effect of Tail Docking on Udder Hygiene and Milk Quality

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## Introduction

Pre-milking udder hygiene can affect the rate of intramammary infection and bacterial numbers in milk. A study which monitored 413 dairy cows for two months to determine effects of tail docking on cow cleanliness and udder health reported no significant effect, but the study's ability to detect differences was low. This study looked at the specific effect of tail docking on somatic cell count (SCC), intramammary infection (MI) and udder and leg cleanliness in commercial dairy herds.

## Materials and Methods

Lactating dairy cows ( $n=1250$ ) from eight Wisconsin farms were used. Farm herd size ranged from 65 to 326 animals (median of 150). Animals were housed in free stall housing and milked in either parallel or herringbone parlors. Herds were enrolled between December 2000 and January 2001 and sampled for eight to nine months. Animals enrolled in the study were blocked by farm and then randomly allocated to treatment and control groups using a table of random numbers. The treatment groups were DOCKED (D) and CONTROL (C).

Tails of D animals were cleaned, the hair removed, and a rubber castration band was applied. Tails of animals allocated to C group remained intact. University personnel collected sterile composite milk samples from all lactating cows on day one of the study prior to treatment application. Additional composite milk samples ( $n=4$ ) were collected from all study cows every other month for a nine-month period between December 2000 and August 2001.

Intramammary infection rate and infection prevalence were determined for each of the four occasions when the entire herd was cultured. Cows were considered to have an intramammary infection if their monthly

cell counts were  $> 250,000$  cells/ml or had a linear score of  $= 4$ . Udder and leg cleanliness were assessed during milk sample collection on all sample days based upon the following categories: 1) completely free of or very little dirt; 2) slightly dirty; 3) mostly covered in dirt; or 4) completely covered, caked-on dirt. Statistical analysis was performed using PROC GLM and PROC MIXED.

## Results

At the beginning of the study, 625 animals were assigned to each treatment group. At the end of the study period, 76 (12.16%) and 81 (12.96%) of cows were culled in the D and C groups, respectively. No significant difference was found in parity, daily milk yield, logSCC or days in milk (DIM) between animals in D or C. There were significant differences between farms for all variables analyzed over all periods. Other findings were:

- no significant difference ( $p=0.99$ ) in linear score between treatment groups
- a significant increase ( $p<0.0001$ ) in linear score over time for all animals

While prevalence of IMI increased in all cows between December and August ( $p<0.001$ ), prevalence of infection for contagious pathogens was not significantly different ( $p=0.11$ ) between treatment groups. There was no significant difference ( $p=0.83$ ) in udder cleanliness score between treatments.

We conclude that no significant benefit to cow cleanliness or quality of milk can be attributed to tail docking. Moreover, the high level of farm variation found indicated that other management decisions play a more significant role. Tail removal may still be considered due to other non-cow factors, such as operator comfort, as there are no apparent advantages or disadvantages to this practice.