DAIRY COW ACTIVITY FOLLOWING ABRUPT AND GRADUAL CESSATION OF MILKING AT DRY-OFF

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INTRODUCTION

- Importance of dry period on dairy cow health and production widely recognized and intensely studied
- Research on the actual drying-off procedures, however, sparse
- Abrupt cessation of milking commonly used, but due to increasing milk yield of modern cows this could cause discomfort to cows
- The objective of this study was to evaluate the impact of gradual and abrupt cessation of milking and milk yield at dry-off on activity of dairy cows.

MATERIALS AND METHODS

Two study groups enrolled in a large free-stall dairy herd:

- Abrupt cessation of milking: normal milking frequency (3X/d) until dry-off (D-O)
- Gradual cessation: 1X milking/d during the final week of lactation
- Activity monitors fitted on cows' hind leg 14 d prior to D-O to record daily standing and lying times, number of lying bouts and steps taken.
  - Average lying bout length calculated
- All cows managed the same way except for milking frequency
- Daily milk yields measured in the parlor

STATISTICAL ANALYSIS

- Inclusion criteria: cows clinically healthy, stayed in the herd until calving, activity data available +/- 14 d of D-O
- PROC MIXED in SAS v.9.4
- Daily activity parameters used as outcomes, parity, season, milk yield and days from D-O tested in the models, adjusted for correlated data
- Data from 31 abrupt and 29 gradual cows available for the analysis

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USDA United States Department of Agriculture National Institute of Food and Agriculture

RESULTS

- Activitiy of the cows in the study groups did not differ prior to D-O, neither did milk yield at enrollment
- Milk yield at D-O significantly higher among abruptly than gradually dried off cows (21.9 vs. 14.6 kg, *P*=0.038)
- After D-O, gradually dried off cows had consistently longer lying bouts than abruptly dried off cows (*P*=0.059) (Figure 1.)

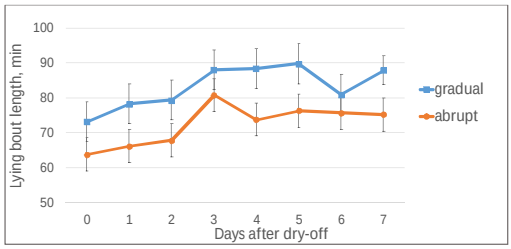

Figure 1. Average lying bout lengths (in minutes) among cows dried off gradually and abruptly. Gradual cows were milked 1X/d during the final week of lactation, abrupt cows as usual (3X/d) until D-O.

- During the week after D-O, total daily lying time longer among cows producing < 15 kg than those producing >15 kg before D-O (Figure 2.)

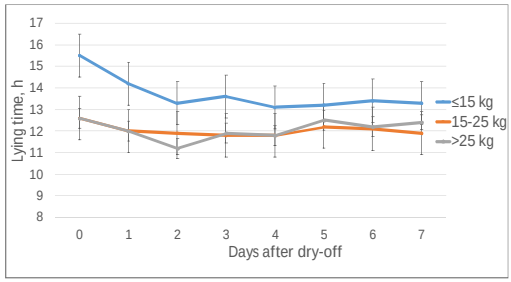

Figure 2. Total lying time (h) after dry-off among cows with different milk yield levels

CONCLUSIONS

- Cows dried off abruptly had higher milk yield at D-O and laid shorter periods after D-O than cows dried off gradually
- This may indicate discomfort due to the accumulating milk in the udder after cessation of milking
- Use of abrupt dry-off among high producing cows need revisiting