Behavioural responses of dairy cows to dry off procedures

THE UNIVERSITY OF BRITISH COLUMBIA

Reza Valizaheh[1], Douglas Veira[2], and Marina von Keyserlingk[1]

[1]Animal Welfare Program, The University of British Columbia, Canada, [2]Pacific Agri-Food Research Centre, Agriculture and Agri-Food Canada

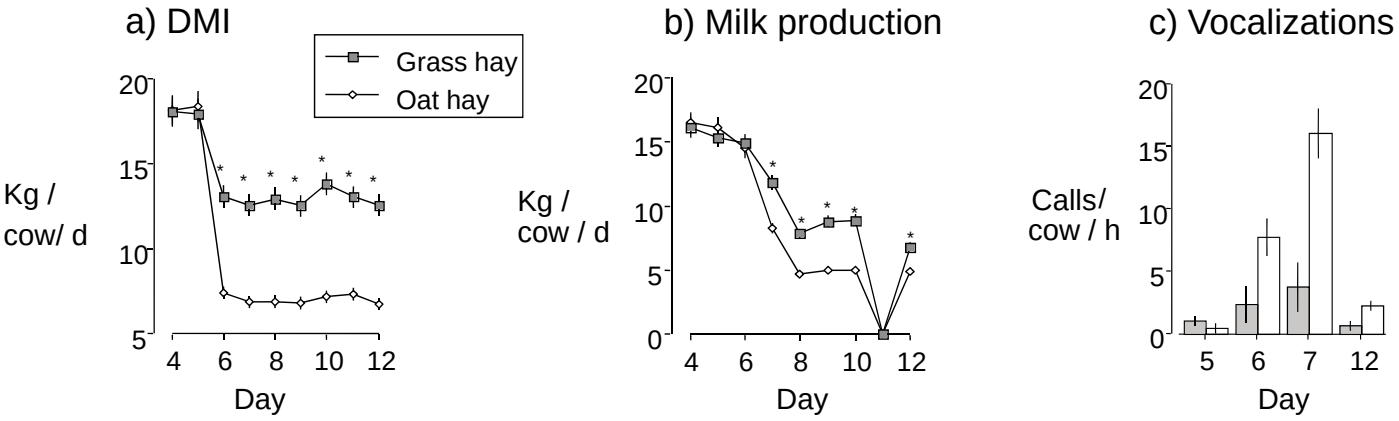
INTRODUCTION

Typically dairy cows are dried off 40 to 60 days before calving. Dry off procedures are variable but usually include changes in milking frequency, diet quality or the quantity of food or water provided. To date there has been little work addressing the behavioural responses to this management procedure. The objectives of this trial were to investigate the effect of changes in diet quality during dry-off on the decline in milk production and cow behaviour.

METHODS

Forty-two lactating Holstein cows were randomly assigned to one of two dietary treatments in groups of three and observed for 12d. Cows were initially fed a late lactation total mixed ration (TMR) and then switched on day 6 to either one of two diets differing in in vitro neutral detergent fibre digestibility (IVNDF): grass hay (IVNDF 60.2% ± 1.8) or oat hay (44.3% ± 0.6) as the sole feed provided ad libitum. Feeding, standing and vocal behaviour were monitored.

RESULTS



DMI declined dramatically when cows were given either diet, but the drop was greatest for those cows receiving the oat hay diet. There was a corresponding decrease in milk production on the day following introduction of the two hay diets but was greatest for cows receiving the oat hay (P<0.05).

The frequency of calls increased for both groups but was higher for the oat hay fed cows compared to the grass hay fed cows (P<0.02). Vocalizations remained higher for the cows receiving the oat hay (P<0.05). There was no difference in total standing times (not shown).

CONCLUSIONS

Compared to cows fed grass hay at dry off, cows fed oat hay showed a pronounced reduction in DMI and milk production and called more frequently. These results suggest that changes in diet quality at dry off can have pronounced effects on intake, and that dry off procedures can be improved to reduce the distress response.

Acknowledgements: *Thanks to NSERC, DFC, BC Dairy Foundation, and many others listed at http://www.landfood.ubc.ca/animalwelfare for their financial support.*