

OHIO STATE UNIVERSITY EXTENSION



# OHIO VETERINARY NEWSLETTER

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- [ODHMCP](#)
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## Location

[Department of Veterinary Preventive Medicine](#)

Chair: Dr. William Saville  
A184 Sisson Hall  
1920 Coffey Road  
Columbus, Ohio 43210

## Research

Glosson, K. M., Hopkins, B. A., Washburn, S. P., Davidson, S., Smith, G., Earleywine, T., & Ma, C. (2014). **Effect of supplementing pasteurized milk balancer products to heat-treated whole milk on the growth and health of dairy calves.** *Journal of Dairy Science*. Advance online publication. doi: 10.3168/jds.2014-8567

**BACKGROUND:** Nutritional management of preweaned calves affects their subsequent performance as milking cows. On-farm whole milk and milk replacers have different advantages and disadvantages with regards to cost, nutrient concentration, digestibility, consistency, and disease risk.

**PURPOSE:** The objective of experiment 1 was to determine the effects of supplementing two levels of heat-treated whole milk with or without an added balancer product on the growth and health of dairy calves. The objective of experiment 2 was to determine the effect of feeding 5.7 L of heat-treated whole milk, supplemented with or without an all-milk pasteurized milk balancer or a protein-blend pasteurized milk balancer on the growth and health of dairy calves.

**RESULTS:** Exp 1: 80 Holstein heifer calves were studied. Calves fed increased milk plus balancer had greater average body weight and average daily gain. Calves fed increased milk had greater feed efficiency regardless of balancer added. Exp 2: 72 Holstein heifer calves were studied. Calves fed increased milk plus balancer and increased milk plus protein-blend balancer were comparable for body weight and feed efficiency. Both groups had greater average body weight than those fed milk only.

**CONCLUSIONS:** In experiment 1, the findings demonstrate an option for producers to increase average daily gain, body weight, and feed efficiency in their preweaned calves through the use of whole milk and milk balancer products as an alternative to increasing the volume of whole milk provided. In experiment 2, the findings document that increased average daily gain, body weight, and feed efficiency in preweaned calves can be achieved through the use of whole milk and milk balancer products with alternative protein sources that could decrease initial investment costs. The effectiveness of heat treating both colostrums and whole milk at a lower temperature is consistent with other studies as an option to decrease bacterial contamination and risk of disease while maintaining effective transfer of passive immunity.

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de Vries, M., Bokkers, E. A., van Reenen, C. G., Engel, B., van Schaik, G., Dijkstra, T., de Boer, I. J. (2014). **Housing and management factors associated with indicators of dairy cattle welfare.** *Preventive Veterinary Medicine*. Advance online publication. doi: 10.1016/j.prevetmed.2014.11.016

**BACKGROUND:** This study considered four indicators included in the Welfare Quality protocol for dairy cattle (Netherlands) relating to three aspects of animal welfare: prevalence of lameness (relating to health), prevalence of lesions or swellings (health), prevalence of dirty hindquarters (cleanliness), and average frequency of displacements (behavior). Displacement is the act of an animal giving up its present position as consequence of an agonistic interaction.

**PURPOSE:** The aim was to identify and compare housing and management factors associated with prevalence of lameness, prevalence of lesions or swellings, prevalence of dirty hindquarters, and average frequency of displacements in dairy herds with free-stall housing.

**RESULTS:** This study investigated 179 Dutch dairy herds (herd size: 22–211 cows) in free-stall housing during the winter. Prevalences of lameness and of lesions or swellings were lower in herds with soft mats or mattresses or deep bedding in stalls, compared with concrete, and in herds with summer pasturing, compared with zero-grazing.

**CONCLUSIONS:** Fifteen housing and management factors were significantly associated with four indicators of dairy cattle welfare. Two of these factors, surface of the lying area and access to pasture, were associated with prevalence of lameness, lesions or swellings, and dirty hindquarters. No common housing and management factors were identified or frequency of displacements and prevalence of lameness, lesions or swellings, and dirty hindquarters. Lameness, lesions or swellings, and dirty hindquarters were primarily associated with factors relating to the quality of lying and walking surfaces, whereas frequency of displacements was mainly associated with factors relating to limited resources.

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Iltle, A. J., Huzzey, J. M., Weary, D. M., & von Keyserlingk, M. A. (2014). **Clinical ketosis and standing behavior in transition cows.** *Journal of Dairy Science*. Advance online publication. doi: 10.3168/jds.2014-7932

**BACKGROUND:** There are currently no approved practical and inexpensive cowside tests for identifying prepartum cows at risk for ketosis. Research has shown feeding and social behavior can be used, but no technologies are currently available that allow for practical monitoring of individual feeding and social behavior on commercial farms. There is growing interest in monitoring standing behavior, using electronic data loggers, for the early detection of illness; however, it is believed that no work to date has attempted to determine whether standing behavior could be used to predict ketosis in dairy cows.

**PURPOSE:** The objective was to describe standing behavior of dairy cows with and without ketosis during the period around calving to determine whether changes in standing behavior precede clinical signs of disease.

**RESULTS:** Total daily standing time was longer for clinically ketotic cows compared with nonketotic cows during week before calving and on the day of calving, but did not differ during the other periods. Clinically ketotic cows exhibited fewer standing bouts compared with nonketotic cows on day of calving. Average standing bout duration was also longer for clinically ketotic cows on day of calving compared with nonketotic cows, but was not different during the other periods.

**CONCLUSIONS:** The authors concluded that differences in standing behavior in the week before and on the day of calving may be useful for the early detection of clinical ketosis in dairy cows. The results suggest that differences in standing time associated

with ketosis are more prominent at certain times of the day. Cows with and without ketosis were similar in standing patterns in the week before calving and for the majority of the day postcalving, but clinically ketotic cows spent less time standing in the late afternoon and evening hours. Cows may be less willing to express sickness behaviors earlier in the day due to management disruptions that can occur on working farms.

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## Calendar



A full calendar of all upcoming events and continuing education opportunities offered by the College of Veterinary Medicine is available on the website at <http://vet.osu.edu/>

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### [Ohio Dairy Health and Management Certificate Program](#)

Module 4 – Advanced Dairy Cattle Nutrition  
March 19-21, 2015

### [Ohio Dairy Veterinarians Meeting](#)

Precision Technologies in Dairy Production  
January 8-10, 2015

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The *Ohio Veterinary Newsletter* began in October of 1974 as a way for Veterinary Extension to relay relevant information to practicing veterinarians in Ohio. The aim is to communicate pertinent news from the Veterinary Extension Unit; unbiased, research-based information with practical relevance for veterinary practitioners working in food animal, equine, and shelter medicine; and a calendar of upcoming opportunities. Please feel free to provide your feedback and let us know what information is most helpful to you and your practice.

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