



# OHIO VETERINARY NEWSLETTER

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## Research

DeVries, T. J., & Chevaux, E. (2014). **Modification of the feeding behavior of dairy cows through live yeast supplementation.** *Journal of Dairy Science*. Advance online publication. doi: 10.3168/jds.2014-8226

**BACKGROUND:** Live yeast supplementation has been associated with increased potential to enhance fiber digestion in the rumen and prevention of a decline in rumen pH. In addition, evidence exists that cows modify their feeding behavior patterns.

**PURPOSE:** The objective of the current research was to determine if the feeding and rumination behavior patterns of lactating dairy cows can be modified through the supplementation of a feed additive that alters rumen fermentation. The secondary objective was to determine if the selective consumption patterns of dairy cows also change in response to that altered fermentation.

**RESULTS:** Feeding live yeast had no effect on dry matter intake or the amount of time consuming feed, but cows did alter their meal patterning making meals 20% or 5 min shorter resulting in 1.2 more meals per day. Lying bouts were similar. No effects were seen on milk yield, but milk fat was slightly increased. The yeast supplemented cows also had lower mean ruminal temperatures with shortened spikes in temperature.

**CONCLUSIONS:** Supplementing lactating dairy cows with live yeast resulted in improvements in meal patterning, including more frequent meals that tended to be smaller and occur closer in time together. They also tended to ruminate longer and have less periods of elevated rumen temperature. Despite sorting more against the longest, most fibrous ration particles, yeast-supplemented cows tended to have higher milk fat content and yield.

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Miller-Cushon, E. K., Bergeron, R., Leslie, K. E., Mason, G. J., & DeVries, T. J. (2014). **Competition during the milk-feeding stage influences the development of feeding behavior of pair-housed dairy calves.** *Journal of Dairy Science*. Advance online publication. doi: 10.3168/jds.2014-8065

**BACKGROUND:** Given the increasing prevalence of systems where calves are group housed and provided greater quantities of milk (e.g., computerized feeders for groups of 10 to 15 calves), it is important to ascertain the ability of calves to adapt their feeding

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behavior and maintain intake when faced with competition at the feeder. Furthermore, little work to date has assessed whether behavior developed in response to levels of competition early in life may persist after weaning off milk.

**PURPOSE:** The overall objective of this study was to assess the effect of competition for feed during the milk-feeding stage, resulting from reduced access to feeding locations, on development of feeding behavior in pairhoused calves.

**RESULTS:** Twenty Holstein bull calves were pair housed and provided with milk replacer and grain concentrate ad libitum via either (1) 1 teat and feed bucket/pen, such that calves could not feed simultaneously (competitive feeding) or (2) 2 teats and feed buckets/pen (noncompetitive feeding).

**CONCLUSIONS:** The authors concluded that their results suggest that calves are able to adapt feeding patterns to compensate for competition before weaning. Further, these results suggest that competitive behavior and feeding patterns acquired early in life can persist after weaning and affect how calves respond to competitive challenges.

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Campos, J. R., Breheny, P., Araujo, R. R., Troedsson, M. H., Squires, E. L., Timoney, P. J., & Balasuriya, U. B. (2014). **Semen quality of stallions challenged with the Kentucky 84 strain of equine arteritis virus.**

*Theriogenology*. Advance online publication. doi: 10.1016/j.theriogenology.2014.07.004

**BACKGROUND:** Semen quality is affected with horses with equine viral arteritis (EVA); however, it has not been confirmed if the negative effect on semen parameters is because of the direct effect of the presence of virus in semen or indirect effects of fever and scrotal edema.

**PURPOSE:** The objectives of this study were to determine (1) the effect on various semen parameters of stallions experimentally infected with the KY84 strain of EAV using computer-assisted sperm analysis (CASA) and differential interference contrast (DIC) microscopy and (2) if possible changes observed in semen quality result from direct effects of the presence of virus in the semen or from the indirect effects of fever and scrotal edema during the acute phase of infection in the stallion.

**RESULTS:** All seven stallions experimentally infected developed moderate to severe clinical signs of EVA with edema and fever. Scrotal edema and fever were found to exert independent effects on all the semen quality parameters, whereas virus seems to exert little to no direct effect, as virus titers remained high long after semen quality returned to baseline.

**CONCLUSIONS:** The authors concluded that fever and scrotal edema are the most likely cause of deterioration of semen quality after experimental inoculation of stallions with the KY84 strain of EVA. This reduction in quality was great enough to cause temporary subfertility in the stallions. In addition to the risk of acutely EAV infected stallions becoming long-term carriers and shedding virus in semen for years, the deterioration in semen quality of acutely EAV-infected stallions can cause considerable economic loss associated with the temporary removal of these animals from breeding activity for as long as 3 to 4 months, until semen quality returns to normal.

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Vincze, S., Brandenburg, A. G., Espelage, W., Stamm, I., Wieler, L. H., Kopp, P. A., ... Walther, B. (2014). **Risk factors for MRSA infection in companion animals: Results from a case-control study within Germany.** *International Journal of Medical Microbiology*. Advance online publication. doi: 10.1016/j.ijmm.2014.07.007

**BACKGROUND:** Previous studies have reported that the number of antimicrobial

courses, number of days admitted to veterinary clinics, and using surgical implants as significant risk factors for MRSA infection.

**PURPOSE:** The aim of this research was to conduct a case–control study including data on MRSA-infected companion animal patients as cases and MSSA-infected animals as controls and investigate the putative influence of practice-related variables such as number of employees, hospitalization opportunity and the individual practice concept (specialized or mixed veterinary practice) as well as demographic data on animal patients, patient history, and administration of antibiotics.

**RESULTS:** Variables that were significantly different for cases and controls were number of employees, antibiotic treatment prior to sampling, and surgical site infection.

**CONCLUSIONS:** The authors concluded that the results presented highlight the need to introduce targeted interventions to limit the obvious nosocomial spread of MRSA in veterinary settings providing health services for all kinds of companion animals. Therefore, intervention studies need to be conducted to define reasonable prevention strategies, including both the animal patients as well as staff of veterinary clinics. The comparable situation in both, human and veterinary healthcare settings with respect to MRSA being an important nosocomial pathogen; however, gives point to the use of already existing recommendations for hospital hygiene as well as infection control.

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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/>

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

Module 3 – Basic Dairy Cattle Nutrition  
December 4-6, 2014

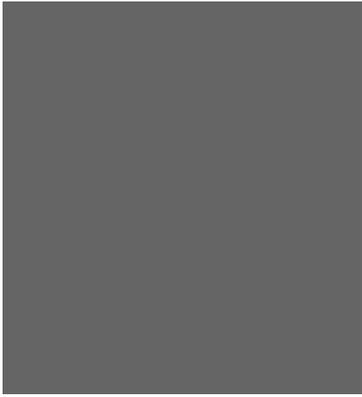
Module 4 – Advanced Dairy Cattle Nutrition  
March, 2015 (TBD)

Modules 3 and 4 of this cohort will be focused on nutrition. Space is still available under the specific-module option.

### [Organic Livestock and Poultry Health Series](#)

Webinar - Organic Livestock Inputs  
Wednesday, October 1, 2014 at 1:00 pm

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