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Proper location of solid feed can improve nutrient intake and growth of dairy calves prior to weaning

Research in the Journal of Dairy Science® studies gradual weaning of dairy calves

Philadelphia, June 22, 2020 – Dairy producers are feeding dairy calves more milk before weaning, as research has demonstrated that greater milk consumption provides short- and long-term benefits for calves. Encouraging solid feed consumption by calves on high-milk diets, however, can be challenging. Researchers have concluded that gradual weaning solves this problem more effectively than abrupt weaning, but more research is needed to optimize the process. In a recent [article](#) appearing in the *Journal of Dairy Science*, scientists from the University of Guelph studied gradual weaning of 60 calves divided into four groups using two weaning programs and two feed placement locations.

It is unknown whether a step-wise reduction in milk consumption during gradual weaning is better than a more continuous reduction. “It was predicted that small, frequent reductions in milk would be a more natural weaning process and cause less stress,” said lead investigator Trevor DeVries, PhD, Department of Animal Biosciences, University of Guelph, Guelph, ON, Canada. “Therefore, reducing milk by larger quantities in a step-wise weaning program may be more noticeable to the calf and result in more behavioral indicators of stress, such as increased activity and vocalizations.” Improving weaning transition, optimizing solid feed intake to prepare for a solid diet, increasing weight gain, and reducing stress are all important considerations.

The University of Guelph study compared continuous reduction of milk during weaning with step-wise reduction, as well as varying the location of the solid feed. Solid feed was placed next to the calves’ milk source or on the opposite side of the pen, next to their water source. Because cows associate locations

with the quality of food located there, the researchers hypothesized that placing the solid feed near the highly desirable milk would encourage solid feed intake.

Contrary to expectations, both weaning programs resulted in similar solid feed consumption, weight gain, and behavioral indicators of stress. As hypothesized, however, calves fed solid feed near their milk supply consumed more solid feed, milk, and water prior to weaning, resulting in 10 percent higher average daily weight gain during that time period. These calves also had greater feed efficiency in the second week of weaning and showed fewer stress-related behaviors once weaning concluded. This work highlighted that further research is needed on weaning strategies, water placement, and how these apply in group housing situations.

Notes for editors

The article is "Investigation of weaning strategy and solid feed location for dairy calves individually fed with an automated milk feeding system," by S.D. Parsons, M.A. Steele, K.E. Leslie, D.L. Renaud, and T.J. DeVries (<https://doi.org/10.3168/jds.2019-18023>). It appears in the *Journal of Dairy Science*, volume 103, issue 7 (July 2020), published by FASS Inc. and [Elsevier](#). It is openly available at [www.journalofdairyscience.org/article/S0022-0302\(20\)30353-2/fulltext](http://www.journalofdairyscience.org/article/S0022-0302(20)30353-2/fulltext).

Full text of the article is available to credentialed journalists upon request. Contact Eileen Leahy at +1 732 238 3628 or jdsmedia@elsevier.com to obtain copies. Journalists wishing to interview the authors should contact the corresponding author at tdevries@uoguelph.ca.

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