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Feed adjustments can save costs while fostering robust beef calves

A recent Applied Animal Science study shows that feeding early-weaned beef calves ryegrass while reducing concentrate supplementation from daily to three times weekly can provide key feed cost savings while maintaining overall health and growth performance

Champaign, IL, March 27, 2023—Beef producers are a crucial component of the global food system and are under increasing pressures to maintain profitability in a challenging economic environment. A [recent study](#) appearing in [Applied Animal Science](#) demonstrates that producers may be able to save by decreasing feeding frequency of early-weaned beef calves grazing annual ryegrass.

The weaning stage is a critical and costly period in the productive life of beef cattle, when calves are removed from their dams—or mothers—and experience the first changes to their feed sources as they mature and grow. “At this age, weaning calves have a relatively small rumen capacity as they transition from milk to forage, and need a helping hand getting essential nutrients and maintaining optimal health and growth,” said co-author João M. B. Vendramini, PhD (Range Cattle Research and Education Center, University of Florida, Ona, FL, USA). In response, beef producers supplement their feed with concentrate to ensure young calves grow and thrive.

“We know from previous studies that reducing feeding frequency of concentrate supplementation in beef calves can increase negative outcomes, and result in less growth and lower antibody production,” said co-author Philippe Moriel, PhD (Range Cattle Research and Education Center, University of Florida, Ona, FL, USA). “However, we set out to understand if the same effects would be seen in calves being fed on *cool-season grasses*, such as annual ryegrass.”

To test their hypothesis, the research team conducted two complementary experiments feeding 64 Brangus crossbred beef calves—32 steers and 32 heifers—on annual ryegrass and supplementing with the same amount of concentrate, but either daily or three times per week. The calves were first consuming either annual ryegrass pastures or annual ryegrass hay in a drylot, and the research team tested calf body weight, average daily weight gain, as well as plasma to understand the impacts to health and growth performance.



Caption: Recently weaned beef calves can reach their healthy growth targets when grazing annual ryegrass and receiving fewer grain concentrate supplements. (Credit: João M. B. Vendramini).

The team found that reducing frequency of concentrate supplementation from daily to three times weekly did not affect overall growth performance of early-weaned beef calves consuming annual ryegrass and can successfully be implemented to reduce feeding costs. David K. Beede, PhD, Editor in Chief of *Applied Animal Science*, underscored the importance of these findings. “In response to challenging feeding economics, this research evaluates whether supplementation of early-weaned beef calves grazing annual ryegrass can be changed from daily feeding to feeding supplement three times per week,” said Beede, “providing critical information that is immediately actionable for cattle producers globally.”

The article appears in the April issue of *Applied Animal Science*.

Notes for editors

“Effects of frequency of concentrate supplementation on performance of early-weaned beef calves consuming annual ryegrass,” by H. M. R. Oliveira, J. M. B. Vendramini, J. Garzon, H. M. Silva, I. M. Ferreira, E. Palmer, and P. Moriel (<https://doi.org/10.15232/aas.2022-02367>), *Applied Animal Science*, volume 39, issue 2 (April 2023), published by FASS Inc. and Elsevier.

This article is available at <https://doi.org/10.15232/aas.2022-02367>.

Full text of the article is also available to credentialed journalists upon request; contact Brittany Morstatter at +1-217-356-3182 ext. 143 or ARPAS@assoqh.org to obtain copies.

To schedule an interview with the author(s), please contact João Vendramini at jv@ufl.edu and Philippe Moriel at pmoriel@ufl.edu.

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