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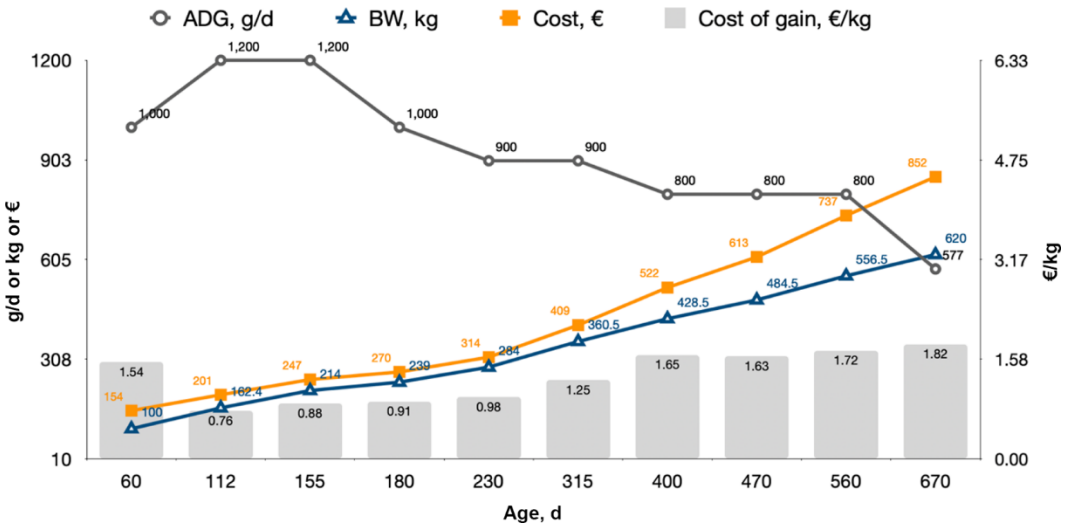
Feed efficiency and the economics of heifer rearing

Data support new recommendations for growing dairy replacements in a new review in *Applied Animal Science*

Champaign, IL, August 9, 2021—Dairy heifers are the future of a herd: they replenish the herd and later contribute to the herd's milk production. Rearing dairy heifers also has economic and environmental effects. Because of these factors, a recent invited review in *Applied Animal Science* took an in-depth look at this topic by assessing data from the largest contract heifer operation in Europe (Rancho Las Nieves, Mallén, Spain). These data and results from peer-reviewed literature were combined to reach conclusions about feed efficiency and economics of heifer rearing. These findings were presented at the 2020 Symposium of the American Registry of Professional Animal Scientists and are now available in *Applied Animal Science*.

After reviewing the published statistics on heifers, lead author Alex Bach, PhD, Marlex and the Institució de Recerca i Estudis Avancats, Barcelona, Spain, said, "approximately 30% of the heifers born alive that are reared as replacements never make a positive contribution to the bottom line of a herd." He added, "Increasing rearing effectiveness not only can greatly reduce the number of replacements that need to be raised and the associated rearing costs, but it also has important consequences on the environmental impact."

One way to increase rearing effectiveness is to focus on and improve feed efficiency. "This invited review examines the importance of feed efficiency in dairy heifer rearing as well as potential factors that can modulate feed efficiency and their possible implications on future performance and economics," said David K. Beede, PhD, editor in chief of *Applied Animal Science*. The article thoroughly discussed feed efficiency and growth at each stage of a heifer's life from before weaning through first pregnancy. The authors emphasized that monitoring feed intake and body weight on a regular basis is key to increasing effectiveness of heifer rearing.



Caption: Optimum (least cost) growth curve determined using nonlinear programing for heifers to reach 620 kilograms of body weight at 670 days of age assuming different costs of gains along the development of the animal (Credit: A. Bach).

After data analysis and a review of the literature, the scientists shared some recommended best practices in the article. “Considering feed costs and feed efficiency, the most economically advantageous stage to foster body accretion in heifers is right after weaning until about 200 days of life,” said Bach. He added, “growth after weaning is also positively correlated with future milking performance.” The authors also recommended avoiding giving excessive forage after weaning because a heifer’s rumen is not fully mature at this age and requires highly digestible nutrients. The review included other conclusions and a wealth of information from the Rancho Las Nieves data.

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

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Notes for Editors

“Invited Review: Advances in efficiency of growing dairy replacements” by À. Bach, J. Ahedo, and A. Kertz (DOI: https://doi.org/10.15232/aas.2021-02164), *Applied Animal Science*, Volume 37, Issue 4 (August 2021), published by Fass Inc. and Elsevier Inc.

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Full text of the article is available to credentialed journalists upon request; contact Brittany Morstatter at +1-217-356-3182 ext. 143 or arpas@assochq.org to obtain copies. To schedule an interview with the author, please contact Alex Bach at alex.bach@icrea.cat.

About *Applied Animal Science*

Applied Animal Science (AAS) is a peer-reviewed scientific journal and the official publication of the American Registry of Professional Animal Scientists (ARPAS). In continuous publication since 1985, AAS is a leading outlet for animal science research. The journal welcomes novel manuscripts on applied technology, reviews on the use or application of research-based information on animal agriculture, commentaries on contemporary issues, short communications, and technical notes. Topics that will be considered for publication include (but are not limited to) feed science, farm animal management and production, dairy science, meat science, animal nutrition, reproduction, animal physiology and behavior,

disease control and prevention, microbiology, agricultural economics, and environmental issues related to agriculture. Themed special issues also will be considered for publication. www.appliedanimalscience.org

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