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Improving health and growth of high-risk feedlot cattle

Cattle health outcomes from metaphylaxis with tulathromycin and vaccination with a pentavalent modified-live virus respiratory vaccine are compared in an article in *Applied Animal Science*

Champaign, IL, December 14, 2020—Antimicrobial metaphylaxis and modified-live virus vaccination are two common methods used to improve the health of newly arrived feedlot cattle in the United States. The efficacy of vaccination with a modified-live virus, however, is not well supported in the scientific literature. A team of scientists from West Texas A&M University investigated the health outcomes of both treatments. In a recent [article](#) in *Applied Animal Science*, researchers compared health and performance outcomes of cattle treated with these methods and reported a correlation between health outcomes and the presence of an ear tag upon feedlot arrival.

The study used 478 crossbred beef bulls and steers on the university's research feedlot. Treatments were negative control, metaphylaxis via subcutaneous administration of tulathromycin, administration of pentavalent modified-live virus respiratory vaccine, and a combination of metaphylaxis and vaccination. Trained morbidity investigators observed the animals daily for signs of bovine respiratory disease, which remains the costliest and most fatal disease affecting feedlot cattle in North America. Cattle in the study were treated for bovine respiratory disease as needed. Body weight, feed intake, and activity were also recorded.

"High-risk, newly received feedlot calves that were administered metaphylaxis with tulathromycin had improved health and performance," said lead author John T. Richeson, PhD, Department of Agricultural Sciences, West Texas A&M University, Canyon, TX, USA. In contrast, the research group found, "pentavalent modified-live virus respiratory vaccination did not improve health and performance outcomes." Richeson described a secondary finding of the study, "Calves that arrived with a pre-existing ear tag had less morbidity and better performance than their cohorts that did not."

"The finding that calves arriving from auction markets to the feedlot with pre-existing ear tags had less morbidity and greater performance than calves without ear tags likely indicates better health and nutritional management at the ranch or farm," said David K. Beede, PhD, editor in chief of *Applied Animal Science*. Richeson added, "The arrival ear-tag status of high-risk calves may improve decision making for targeted metaphylaxis."

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

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Notes for Editors

“Comparative efficacy of metaphylaxis with tulathromycin and pentavalent modified-live virus vaccination in high-risk, newly received feedlot cattle” by V. I. Munoz, K. L. Samuelson, D. J. Tomczak, H. A. Seiver, T. M. Smock, and J. T. Richeson (DOI: <https://doi.org/10.15232/aas.2020-02054>), *Applied Animal Science*, Volume 36, Issue 6 (December 2020), published by FASS Inc. and Elsevier Inc.

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 authors, please contact Dr. John T. Richeson at jricheson@wtamu.edu.

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