



ELSEVIER



**FOR IMMEDIATE RELEASE**

**Contact: Brittany Morstatter**

[ARPAS@assochq.org](mailto:ARPAS@assochq.org)

## **On-farm pain mitigation for food-producing animals**

**Challenges and approaches to on-farm pain management of livestock are discussed in a new invited review in *Applied Animal Science***

Champaign, IL, February 1, 2021—Livestock in farms may experience pain from medical conditions or from routine procedures. On-farm management of that pain is important from the perspectives of consumers and producers. Consumers and professional organizations have expressed concerns about how pain is managed, but managing pain in food-producing animals is easier said than done. A recent [review](#) in *Applied Animal Science* explores the limited approaches to pain mitigation that are currently available and the challenges that producers face in this area. The article also reviews current knowledge about the use of analgesic drugs for specific animal-management procedures and medical conditions for cattle and swine.

The review describes how, in the United States, one of the main challenges that producers face when developing strategies for pain management is the lack of drugs that have been approved by the US Food and Drug Administration (FDA) for use on farm. “Objective pain assessment in food-producing animals is needed to support regulatory approval of analgesic (pain relieving) drugs in the United States,” said lead author Michael D. Kleinhenz, DVM, PhD, Department of Clinical Sciences, College of Veterinary Medicine, Kansas State University, Manhattan, KS, USA. However, pain is difficult to observe in livestock. Kleinhenz added, “The combination of behavioral scoring with pressure mat gait analysis has proven to be the optimal pain assessment outcomes for FDA approval.”

Producers face numerous other challenges when it comes to administering analgesics. Because so few drugs have been approved for treating food animals, providing animals with analgesia often falls into the category of extra-label drug use prescribed by licensed veterinarians, which comes with a list of conditions that must be met. “Other challenges include regulatory concerns, delayed onset of action, short duration of action, the need to handle animals repeatedly, the cost of the analgesic, and the associated meat and milk withhold periods,” said Dr. Kleinhenz.

The article also provides in-depth information on current pain-mitigation practices for several livestock management procedures, including the efficacy of different drugs and optimal route and timing of administration. Procedures covered include dehorning, branding, and castration for cattle and processing procedures for swine. Pain management for lameness in cattle and swine is also discussed. David K. Beede, PhD, editor in chief of *Applied Animal Science*, said, “Current options for on-farm analgesic

treatment are limited, and further research is needed for simple, objective approaches to address pain and welfare of food-producing animals.”

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

# # #

### **Notes for Editors**

“Invited Review: On-farm pain management of food production animals” by M. D. Kleinhenz, A. V. Viscardi, and J. F. Coetzee (DOI: <https://doi.org/10.15232/aas.2020-02106>), *Applied Animal Science*, Volume 37, Issue 1 (February 2021), 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@assoqh.org](mailto:arpas@assoqh.org) to obtain copies. To schedule an interview with the authors, please contact Dr. Michael D. Kleinhenz at [mkleinhe@vet.k-state.edu](mailto:mkleinhe@vet.k-state.edu).

### **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](http://www.appliedanimalscience.org)

### **About the American Registry of Professional Animal Scientists (ARPAS)**

The American Registry of Professional Animal Scientists (ARPAS) is the organization that provides certification of animal scientists through examination, continuing education, and commitment to a code of ethics. Continual improvement of individual members is catalyzed through publications (including the AAS journal) and by providing information on educational opportunities. ARPAS is affiliated with five professional societies: American Dairy Science Association, American Meat Science Association, American Society of Animal Science, Equine Science Society, and Poultry Science Association. [www.arpas.org](http://www.arpas.org)

### **About Elsevier**

As a global leader in information and analytics, [Elsevier](http://elsevier.com) helps researchers and healthcare professionals advance science and improve health outcomes for the benefit of society. We do this by facilitating insights and critical decision-making for customers across the global research and health ecosystems.

In everything we publish, we uphold the highest standards of quality and integrity. We bring that same rigor to our information analytics solutions for researchers, health professionals, institutions and funders.

Elsevier employs 8,100 people worldwide. We have supported the work of our research and health partners for more than 140 years. Growing from our roots in publishing, we offer knowledge and valuable analytics that help our users make breakthroughs and drive societal progress. Digital solutions such as [ScienceDirect](http://sciedirect.com), [Scopus](http://scopus.com), [SciVal](http://scival.com), [ClinicalKey](http://clinicalkey.com) and [Sherpath](http://sherpath.com) support strategic [research management](#), [R&D performance](#), [clinical decision support](#), and [health education](#). Researchers and healthcare professionals

rely on our 2,500+ digitized journals, including [The Lancet](#) and [Cell](#); our 40,000 eBook titles; and our iconic reference works, such as *Gray's Anatomy*. With the [Elsevier Foundation](#) and our external [Inclusion & Diversity Advisory Board](#), we work in partnership with diverse stakeholders to advance [inclusion and diversity](#) in science, research and healthcare in developing countries and around the world.

Elsevier is part of [RELX](#), a global provider of information-based analytics and decision tools for professional and business customers. [www.elsevier.com](http://www.elsevier.com)

**About FASS Inc.**

Since 1998, FASS has provided shared management services to not-for-profit scientific organizations. With combined membership rosters of more than 10,000 professionals in animal agriculture and other sciences, FASS offers clients services in accounting, membership management, convention and meeting planning, information technology, and scientific publication support. The FASS publications department provides journal management, peer-review support, copyediting, and composition for this journal; the staff includes five BELS-certified ([www.bels.org](http://www.bels.org)) technical editors and experienced composition staff. [www.fass.org](http://www.fass.org)