



OHIO VETERINARY NEWSLETTER

November 18, 2016

Veterinary Extension

Vol 42, No 14

In This Issue

Research

- [Inactivation of porcine epidemic diarrhea virus using heated water](#)
- [Poultry welfare assessments: Current use and limitations](#)
- [The effects of periparturient administration of flunixin meglumine on the health and production of dairy cattle](#)
- [A survey of veterinary antimicrobial prescribing practices, Washington State 2015](#)

Calendar

- [Ohio Dairy Veterinarians](#)

Research

Zentkovich, M. M., Nelson, S. W., Stull, J. W., Nolting, J. M., & Bowman, A. S. (2016). **Inactivation of porcine epidemic diarrhea virus using heated water.** *Veterinary and Animal Science*. Advance online publication. doi: 10.1016/j.vas.2016.09.001

BACKGROUND: The vast majority of porcine epidemic diarrhea virus (PEDV) control studies have focused on various applications of chemical disinfectants, heat, alterations to pH, and drying. Some chemical disinfectants are corrosive to metal surfaces, hazardous to human and animal health, inactivated with organic material and water with high mineral content, and require prolonged contact time.

PURPOSE: To investigate hot water as a method for rapid thermal inactivation of PEDV.

RESULTS: Viable PEDV was not recovered after a 10 second or longer treatment with water heated to $\geq 76^{\circ}\text{C}$; however, PEDV nucleic acid was detected in all samples regardless of treatment time and temperature.

CONCLUSIONS: The authors concluded that hot water ($\geq 76^{\circ}\text{C}$ for 10 seconds or longer) decontamination could be considered in settings where chemical disinfection is impractical and/or rapid inactivation of PEDV is needed. While heated water may not be practical in some situations due to animal and human health risks from scalding hot water, heated water is another tool in the veterinarian's tool box to combat PEDV.

[ACCESS THE ARTICLE...](#)

Blatchford, R. A. (2016). **Poultry welfare assessments: Current use and limitations.** *Journal of Animal Science*. Advance online publication. doi: 10.2527/jas.2016-0957

BACKGROUND: The US egg industry has been impacted by consumer demand for increased animal welfare practices. For example, over 100 corporate customers pledging to buy only cage-free eggs over the next 5 to 10 years; however, cage-free systems appear to have many risk factors that can negatively affect hen welfare. To satisfy the

[Click here to view archives](#)

Location

[Department of Veterinary Preventive Medicine](#)

Chair:

Dr. Thomas E. Wittum
A100S Sisson Hall
1920 Coffey Road
Columbus, Ohio 43210
wittum.1@osu.edu
614-292-1206

Subscribe

Contact:

Jeffrey D. Workman, PhD
Extension Program Coord.
workman.45@osu.edu
614-292-9453

<http://vet.osu.edu/extension>

concerns of consumers, companies and producers seek quality assurance programs with standards developed by animal welfare and industry experts. Many of these standards proclaim to be science based, but when constructing these standards, scientific information may play a limited role.

PURPOSE: To investigate the current state of welfare assessments for poultry in North America and outline future work that will help ensure that scientific information is valuable to welfare assurance programs.

RESULTS: The European Union Welfare Quality® project set out to design assessment tools that were scientifically based and combined resource- and management-based measures with animal-based measures. Adding these measures was especially important for farm-level comparisons where farms may be utilizing different housing systems with inherent differences affecting the utility of resource- and management-based measures. The Welfare Quality® Assessment protocol for poultry (WQA) offers researchers a tool that has been validated, tested for repeatability, and standardized across farms. This tool has been used in the United States and Canada both at the experimental and farm levels.

CONCLUSIONS: The assessment of commercial poultry welfare is increasingly playing a larger role in assuring consumers the animals are treated in a humane manner. Little research has been performed on the commercial scale to evaluate the welfare of poultry in North America, but researchers are beginning to adopt the use of many measures made available in the WQA. While there are limitations to this assessment tool, they can be overcome with proper sampling design and training of the observers.

[ACCESS THE ARTICLE...](#)

Newby, N. C., Leslie, K. E., Putnam Dingwell, H. D., Kelton, D. F., Weary, D. M., Neuder, L., ...Duffield, T. F. (2016). **The effects of periparturient administration of flunixin meglumine on the health and production of dairy cattle.** *Journal of Dairy Science*. Advance online publication. doi: 10.3168/jds.2016-11747

BACKGROUND: Little research to date has addressed pain management after calving. No known study has assessed the effects of using flunixin meglumine following calving.

PURPOSE: To assess the effects of the nonsteroidal anti-inflammatory drug (NSAID) flunixin meglumine on the health and production of Holstein cows after calving.

RESULTS: Animals treated with flunixin meglumine before calving had a significantly increased risk of stillbirth. Animals treated immediately after calving had increased odds of having a retained placenta and, in turn, increased risk of a high temperature, decreased milk production, and an increased risk of developing metritis.

CONCLUSIONS: The authors concluded that flunixin meglumine increases the risk of stillbirth and retained placenta and that their results support the current caution on the use of Banamine for use in cattle around parturition. The administration of flunixin meglumine within 24 hours of parturition is not recommended in dairy cattle.

[ACCESS THE ARTICLE...](#)

Fowler, H., Davis, M. A., Perkins, A., Trufan, S., Joy, C., Buswell, M., ...Rabinowitz, P. M. (2016). **A survey of veterinary antimicrobial prescribing practices, Washington State 2015.** *Veterinary Record*. Advance online publication. doi: 10.1136/vr.103916

BACKGROUND: In the fall of 2013, a One Health initiative was implemented in the State of Washington with the goal to foster a community of collaboration among human, animal, and environmental health professionals, agencies, and institutions in order to address disease overlaps between human beings, animals, and the environment in the state. The Washington State Veterinary Medical Association convened a veterinary workgroup to gather data related to antimicrobial stewardship in the veterinary profession. The

veterinary workgroup conducted a survey of veterinarians in the state to gain a better understanding of current antimicrobial prescribing practices, and to serve as a baseline to monitor and evaluate progress in changing norms of antimicrobial usage by veterinary professionals that could be contributing to the burden of antimicrobial-resistant bacteria.

PURPOSE: To assess factors affecting antimicrobial prescribing practices among veterinarians in Washington State.

RESULTS: The majority of respondents (82%) were engaged in small animal or exotic animal practice. Twenty-four percent of respondents reported not ordering culture and sensitivity (C/S) testing in practice. Of the 76% of veterinarians who reported ordering C/S tests, 36% reported ordering such testing 'often' or 'always' when treating presumptive bacterial infections. Most respondents (65%) mentioned cost as the most common barrier to ordering a C/S test. Only 10% of respondents reported having access to or utilizing a clinic-specific antibiogram.

CONCLUSIONS: The authors concluded that this survey demonstrated that while antimicrobials are commonly used in veterinary practice, and veterinarians are concerned about antimicrobial resistance, cost is a barrier to obtaining C/S tests to guide antimicrobial therapy. Summaries of antimicrobial resistance patterns are rarely available to the practicing veterinarian. Efforts to promote antimicrobial stewardship in a 'One Health' manner should address barriers to the judicious use of antimicrobials in the veterinary practice setting.

[ACCESS THE ARTICLE...](#)

Calendar



A full calendar of all upcoming events and continuing education opportunities offered by the College of Veterinary Medicine is available on the website at <http://vet.osu.edu/>

Ohio Dairy Veterinarians Meeting

“Calf and Heifer Management and Economics”

- January 5-7, 2017
- Hilton Garden Inn Columbus-University Area (Thursday & Saturday)
- The Fawcett Center at OSU (Friday)

Registration information and agenda to be forthcoming.

Information presented above and where trade names are used, they are supplied with the understanding that no discrimination is intended and no endorsement by Ohio State University Extension is implied.

Ohio State University Extension embraces human diversity and is committed to ensuring that all research and related educational programs are available to clientele on a nondiscriminatory basis without regard to age, ancestry, color, disability, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, race, religion, sex, sexual orientation, or veteran status. This statement is in accordance with United States Civil Rights Laws and the USDA.

Roger Rennekamp, Associate Dean and Director, Ohio State University Extension

Access to full-text journal articles may require individual subscriptions.



THE OHIO STATE UNIVERSITY

**COLLEGE OF VETERINARY MEDICINE
COLLEGE OF FOOD, AGRICULTURAL
AND ENVIRONMENTAL SCIENCES**