

OHIO STATE UNIVERSITY EXTENSION



# OHIO VETERINARY NEWSLETTER

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## News

### Poultry Health Management Schools Coming to Ohio

The Poultry Health Management Schools (PHMS) are returning to Ohio for 2015. The schools will be held at the Ohio Department of Agriculture's Animal Disease Diagnostic Laboratory in Reynoldsburg (Turkey & Broiler May 4-5; Layer May 6-7). The focus for this year will be on disease diagnostics.

PHMS is an educational effort directed towards poultry professionals in the United States and North America. This effort was initiated several years ago by Dr. Teresa Morishita while she was serving as the Poultry Extension Veterinarian at Ohio State, and has now grown to become a nationally recognized annual event. Each year PHMS is held in a different part of the country with a different theme.

For more details or any questions, please contact any of the members of the organizing committee ([see flyer](#)), or contact Dr. Mo El-Gazzar, the current Poultry Extension Veterinarian at The Ohio State University.

### Update on High Path Avian Influenza in the U.S.

The highly pathogenic H5 avian influenza that was circulating in the northwestern portion of the U.S. has now been confirmed in commercial poultry operations in the Midwest (Minnesota & Missouri). Most recently, the USDA confirmed high path H5N2 in a commercial turkey operation in Arkansas on March 11<sup>th</sup>.

This confirms that the virus is now present within the Mississippi migratory bird flyway. Ohio is part of this flyway and the likelihood of seeing virus in wild waterfowl in Ohio has greatly increased. The commercial poultry industry across the U.S. has tightened biosecurity and reviewed contingencies in the event that an individual farm/barn becomes infected. At present, the major concern with further spread of the virus involves non-commercial or backyard poultry flocks. These flocks are often exposed to wild birds and typically have less biosecurity. Avian influenza strains must undergo antigenic changes in order to develop the capability to infect humans. No human infections have been associated with these strains.

If poultry producers suspect any infection in their flocks, please contact the Ohio Department of Agriculture's Animal Disease Diagnostic Laboratory for testing at 800-300-9755. For more information, please contact Dr. Mo El-Gazzar, Poultry Extension Veterinarian, at 614-688-1074.

[Click here to view archives](#)

## Location

[Department of Veterinary Preventive Medicine](#)

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## Research

Dubey, J. P., Howe, D. K., Furr, M., Saville, W. J., Marsh, A. E., Reed, S. M., & Grigg, M. E. (2015). **An update on *Sarcocystis neurona* infections in animals and equine protozoal myeloencephalitis (EPM).** *Veterinary Parasitology*. Advance online publication. doi: 10.1016/j.vetpar.2015.01.026

**BACKGROUND:** Equine protozoal myeloencephalitis (EPM) is a serious disease of horses, and its management continues to be a challenge for veterinarians. Recently the *S. neurona* genome was sequenced and annotated, the first for the genus *Sarcocystis*, potentially leading to discovery of better diagnostic methods and therapies.

**PURPOSE:** To update *S. neurona* and EPM information from the last 15 years on the advances regarding life cycle, molecular biology, epidemiology, clinical signs, diagnosis, treatment, and control.

**SUMMARY:** While the opossum is the definitive host, the raccoon appears to be an important intermediate host in North America.

**Epidemiology:** Potential risk factors of EPM in horses include: environmental/management factors that impact exposure to opossums; type of housing (inside or outside); pleasure horses are at less risk than race horses with higher odds in Thoroughbreds, Standardbreds, and Warmbloods; other factors associated include more resident horses, evidence of wildlife, and location near a marsh.

**Treatment:** In addition to ponazuril (Marquis®, Bayer), diclazuril (Protazil®, Merck) and a sulfadiazine/pyrimethamine combination drug (ReBalance®, PRN Pharnacal) are currently approved for treatment of EPM. Treatment of horses suspected to have EPM should begin as quickly as possible. The duration of treatment for EPM is difficult to determine, and when to terminate treatment in a particular horse remains problematic. Treatment is successful in 70-75% of cases. Horses can relapse with clinical EPM, even after prolonged therapy, remarkably with clinical signs similar to first episode.

**Prevention & Control:** Preventing contamination of feed and water with opossum feces is essential to prevent EPM in animals. Sporocysts are resistant to environmental influences, and most commonly used disinfectants do not kill *S. neurona* sporocysts. Bioassay is the only reliable method to test viability of the sporocysts. Currently, there is no vaccine for EPM.

### [ACCESS THE ARTICLE...](#)

Gonzalez-Medina, S., & Newton, J. R. (2015). **Equine herpesvirus-1: Dealing practically but effectively with an ever present threat.** *Equine Veterinary Journal*. Advance online publication. doi: 10.1111/evj.12416

**BACKGROUND:** The establishment of lifelong latency in a large proportion of infected animals ensures the survival of herpes viruses in horse populations and is of major importance for EHV-1 and its ability to cause several clinical syndromes.

**APPROACHES:** Because of differences in facilities/space, number of animals involved, and the availability of resources (labor, time, and money); three tiers of approach have been proposed and variously utilized in dealing with recent significant outbreaks of EHV-1 neurological disease in the UK. These are referred to as Gold, Silver, and Bronze tiers; and while they are all based on the same set of principles of Segregation of the population, Collection and Testing of samples, and Observation of clinical disease, there are clear differences between them in terms of the strength of evidence accrued, the time required, and the costs incurred. Segregation into smaller discrete groups is common to

all three approaches and is believed to be key to a successful strategy through minimizing the spread of disease through the population and allowing clearance and release of quarantine measures as soon as possible. Major differences involve the number of samples collected and the amount of testing.

**SUMMARY:** Effective EHV-1 outbreak control requires rapid confirmation of EHV-1 infection as the cause of disease, prompt restrictions placed and maintained on movement of horses on and off of affected premises, segregation of the affected population into small groups and use of laboratory tests to provide confidence in freedom from infection when dealing with neurological EHV-1 infection. In addition, other research indicates that additional benefit may arise on breeding farms from avoiding addition of late pregnant mare groups, instituting subdivisions of the population as soon as possible after abortion occurs, minimizing separation-associated stress by maintaining group mates in 'sight and sound' of aborting mares and use of responsive vaccination in all pregnant mares at risk of aborting.

[ACCESS THE ARTICLE...](#)

Tomazi, T., Gonçalves, J. L., Barreiro, J. R., Arcari, M. A., & Dos Santos, M. V. (2015). **Bovine subclinical intramammary infection caused by coagulase-negative staphylococci increases somatic cell count but has no effect on milk yield or composition.** *Journal of Dairy Science*. Advance online publication. doi: 10.3168/jds.2014-8466

**BACKGROUND:** The effect of subclinical intramammary infection (IMI) caused by coagulase-negative staphylococci (CNS) on milk yield and composition remains inconclusive. No study has reported the effect of IMI caused by CNS on milk yield and composition by comparison of healthy and infected contralateral mammary quarters. This comparative method could minimize confounding factors at both the cow and herd levels, such as cow's immune status at the time of infection, management systems, or environmental challenge.

**PURPOSE:** The objectives were (1) to determine the effect of CNS subclinical IMI at group and species levels on milk yield and SCC by evaluation of contralateral (healthy and infected) mammary quarters; and (2) to determine the effect of subclinical CNS IMI on concentrations of milk fat, protein, lactose, casein, TS, and SNF.

**RESULTS:** Mammary quarters infected with CNS had higher geometric mean SCC (306,106 cells/mL) than noninfected contralateral mammary quarters (62,807 cells/mL). Intramammary infection caused by CNS had no effect on milk yield or on contents of fat, crude protein, casein, lactose, total solids, and solids-not-fat. *Staphylococcus chromogenes* was the most prevalent CNS species in this study and the only species that allowed within-cow evaluation.

**CONCLUSIONS:** The authors concluded that subclinical IMI caused by CNS group increased SCC but did not change milk yield or milk solids contents of dairy cows evaluated at the contralateral quarter level. Within CNS group, *S. chromogenes* was the only species evaluated at contralateral quarter level; similarly to CNS as a group, *S. chromogenes* increased SCC but did not affect milk yield or composition of infected mammary quarters.

[ACCESS THE ARTICLE...](#)

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## 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 Health and Management Certificate Program

Module 4 – Advanced Dairy Cattle Nutrition  
March 19-21, 2015  
Hampton Inn & Suites, Columbus, Ohio

### Dairy Reproduction & Genomics Workshop

May 7, 2015 (9:30 a.m. – 3:00 p.m.)  
Der Dutchman Restaurant, Plain City, Ohio  
Registration is free and lunch will be provided!

### Poultry Health Management Schools

Animal Disease Diagnostic Laboratory, Reynoldsburg, Ohio

Turkey & Broiler Health Management School  
May 4-5, 2015

Layer Health Management School  
May 6-7, 2015

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The *Ohio Veterinary Newsletter* began in October of 1974 as a way for Veterinary Extension to relay relevant information to practicing veterinarians in Ohio. The aim is to communicate pertinent news from the Veterinary Extension Unit; unbiased, research-based information with practical relevance for veterinary practitioners working in food animal, equine, and shelter medicine; and a calendar of upcoming opportunities. Please feel free to provide your feedback and let us know what information is most helpful to you and your practice.

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*Keith L. Smith, Associate Vice President for Agricultural Administration; Associate Dean, College of Food, Agricultural, and Environmental Sciences; Director, Ohio State University Extension and Gist Chair in Extension Education and Leadership.*

*TDD No. 800-589-8292 (Ohio only) or 614-292-1868.*

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