

OHIO STATE UNIVERSITY EXTENSION



# OHIO VETERINARY NEWSLETTER

December 11, 2015

Veterinary Extension

Vol 41, No 20

## In This Issue

### News

- [Increased popularity of backyard poultry and demand for veterinary services](#)

### Research

- [Management practices associated with presence of Staphylococcus aureus in bulk tank milk from Ohio dairy herds](#)
- [Temperatures of storage areas in large animal veterinary practice vehicles in the summer and comparison with drug manufacturers' storage recommendations](#)
- [Prevalence and Characterization of Staphylococcus aureus in Growing Pigs in the USA](#)

### Calendar

- [ODHMCP](#)
- [Organic Livestock & Poultry Health Series](#)

## News

### Increased popularity of backyard poultry and demand for veterinary services

There is a new information available to veterinarians for treating backyard poultry. The popularity of backyard flocks and the demand for veterinary services is greatly increasing. This expanding clientele group is often urban or suburban with a companion animal background; thus, owners of backyard poultry flocks are likely to consider their birds as pets and are agreeable to or demand more complex treatment regimens than those traditionally used in commercial flocks. Owners and companion animal veterinarians may be less familiar with the legalities of treating food animals. Furthermore, approved drugs for laying hens are limited and typically developed for large commercial operations making administration to individual birds or small number of birds tedious. Consequently, veterinarians often end up administering drugs in an extralabel manner. Unfortunately, the extralabel use of most of those medications is hindered by the availability of only a limited number of pharmacokinetic studies on drug residues in eggs. The eggs produced by the hens of backyard flocks are not subjected to regulatory testing. However, veterinarians need to be cognizant that, according to AMDUCA, any detectable drug residue in the eggs of a hen that was treated with a drug for which a residue tolerance for eggs has not been established by the FDA is a violation.

This new digest was recently published to provide veterinarians with background information on appropriate drug use in modern backyard poultry flocks:

Marmulak, T., Tell, L. A., Gehring, R., Baynes, R. E., Vickroy, T. W., & Riviere, J. E. (2015). **Egg residue considerations during the treatment of backyard poultry.** *Journal of the American Veterinary Medical Association*, 247(12), 1388-1395. doi: 10.2460/javma.247.12.1388

**CONCLUSIONS:** The authors concluded that the treatment of backyard poultry can be a daunting task for veterinarians because only limited resources are available; however, it is likely to become an increasingly common task owing to the increasing popularity of backyard poultry throughout the United States, especially in urban and suburban areas. Although backyard poultry flock owners may consider their birds as pets, the FDA considers them food-producing animals, and veterinarians should follow all regulations that pertain to food-producing animals when administering or prescribing drugs to those

- [Ohio Dairy Veterinarians](#)

[Click here to view archives](#)

## Location

Department of Veterinary  
Preventive Medicine

Interim Chair:

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

## Subscribe

Contact:

Jeffrey D. Workman, PhD  
Extension Program Coord.  
[workman.45@osu.edu](mailto:workman.45@osu.edu)  
614-292-9453

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

birds. The lack of FDA-approved drugs for use in laying hens frequently necessitates the use of drugs in an extralabel manner in backyard poultry. Unfortunately, information regarding the depletion of drug residues in eggs from hens treated with various drugs in an extralabel manner is sparse or lacking, and veterinarians need to be cognizant of this issue, especially when the eggs from treated hens are intended for human consumption.

[ACCESS THE ARTICLE...](#)

---

## Research

da Costa, L. B., Rajala-Schultz, P. J., & Schuenemann, G. M. (2015). **Management practices associated with presence of *Staphylococcus aureus* in bulk tank milk from Ohio dairy herds.** *Journal of Dairy Science*. Advanced online publication. doi: 10.3168/jds.2015-9870

**BACKGROUND:** Considerable changes in the dairy industry due to selection of cows for milk yield and in housing and management have occurred. Milk production per cow and herd size have increased significantly. Published data available from Ohio herds regarding management practices or prevalence of contagious mastitis organisms may no longer be current.

**PURPOSE:** The objectives were (1) to estimate prevalence of *Staph. aureus* in Ohio dairy bulk tank milk samples, (2) to assess herd characteristics and management practices associated with presence of *Staph. aureus* in bulk tank milk (BTM), and (3) to describe topics of importance to dairy producers in Ohio.

**RESULTS:** The prevalence of *Staph. aureus* was found to be 69 to 72% in Ohio BTM. The odds of having *Staph. aureus* in BTM in herds with SCC  $\leq$ 150,000 cells/mL was significantly lower when compared with herds with higher BTM SCC. Adoption of the commonly recommended milking procedures individually (prestrip, pre and postmilking teat dip, and use of single towels) was relatively high in the herds responding to this survey, and farms where they all were implemented simultaneously had lower odds of having *Staph. aureus* detected in their BTM. Herds where owners were involved in milking were also associated with lower detection of *Staph. aureus* in contrast to herds where only hired employees were milking.

**CONCLUSIONS:** The authors concluded that findings indicate that frequent training of employees and review of the milking procedures and their implementation may be needed to maintain good udder health.

[ACCESS THE ARTICLE...](#)

Ondrak, J. D., Jones, M. L., & Fajt, V. R. (2015). **Temperatures of storage areas in large animal veterinary practice vehicles in the summer and comparison with drug manufacturers' storage recommendations.** *BMC Veterinary Research*, 11(248). doi: 10.1186/s12917-015-0561-z

**BACKGROUND:** While large animal veterinary practice vehicles often have after-market storage units with small refrigerators and heating capabilities, veterinarians typically carry drugs that don't require refrigeration in storage compartments that are not refrigerated. The most common upper limits of manufacturers' storage temperatures for U.S.-approved non-refrigerated drugs are 25 or 30°C. There is a lack of published research regarding storage of drugs in veterinary practice vehicles.

**PURPOSE:** The objective was to measure storage area temperatures from May to September, the hottest months of the year, in two distinct geographical areas (central

Texas and south central Nebraska), to evaluate the extent to which manufacturers' recommended storage temperatures were exceeded.

**RESULTS:** The highest temperatures recorded in a storage unit were 54.4 and 47.7°C in Texas and Nebraska, respectively. The mean temperature recorded across all 24 storage units was 29.1°C, with a mean of 26.9°C in Nebraska and 31.4°C in Texas. In Nebraska, at least one temperature over 25°C was recorded on a mean of 111/124 days and a mean of 63% of total logger readings. In Texas, temperatures over 25°C were recorded on a mean of 123/124 days and a mean of 95% of total logger readings.

**CONCLUSIONS:** Temperatures in storage units in participating veterinary practice vehicles exceeded labeled drug storage temperatures a significant portion of the summer of 2013. Additional research is needed to determine whether these excursions above the manufacturers' recommended storage temperatures alter efficacy of stored drugs.

[ACCESS THE ARTICLE...](#)

Sun, J., Yang, M., Sreevatsan, S., & Davies, P. R. (2015). **Prevalence and Characterization of *Staphylococcus aureus* in Growing Pigs in the USA.** *PLoS One*, 10(11). doi: 10.1371/journal.pone.0143670

**BACKGROUND:** Observed prevalence and diversity of MRSA in US pig herds have varied among studies, and methicillin susceptible *Staphylococcus aureus* (MSSA) isolates have not been well characterized.

**PURPOSE:** To estimate the prevalence and diversity of *S. aureus* in growing pigs in a geographically diverse sample of commercial herds in the US. Given that pork products, particularly ham, are often implicated in cases of staphylococcal enterotoxigenesis in people, they also tested for major enterotoxin genes A to E to assess the potential importance of the swine reservoir as a source of enterotoxigenic *S. aureus*.

**RESULTS:** *S. aureus* was detected in 37 of the 38 herds, and in 77% of pigs sampled. Other than the positive control herd, no MRSA were detected in the study sample, yielding a 95% upper confidence limit of 9.3% for MRSA herd prevalence. All but two (ST1-t127; ST2007-t8314) of 1,200 isolates belonged to three MLST lineages (ST9, ST398, and ST5) that have been prominent in studies of MRSA in pigs globally. A total of 35 spa types were detected, with the most prevalent being t337 (ST9), t034 (ST398), and t002 (ST5). A purposively diverse subset of 128 isolates was uniformly negative on PCR testing for major enterotoxin genes.

**CONCLUSIONS:** The authors concluded that findings support previous studies suggesting a relatively low herd prevalence of MRSA in the US swine industry, but confirm that methicillin susceptible variants of the most common MRSA genotypes found in swine globally are endemic in the US. The absence of enterotoxin genes suggests that the source of toxigenic *S. aureus* capable of causing foodborne enterotoxigenesis from pork products is most likely post-harvest contamination.

[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 Health and Management Certificate Program

Module 7 – Economics of Dairy Business  
March 10-11, 2016  
Shisler Conference Center, Wooster, Ohio  
*Spots are always available for specific module plan.*

## Ohio Dairy Veterinarians

2016 Annual Meeting  
Social Media Communications and Interaction of Reproduction, Nutrition, & Genetics  
January 7-9, 2016  
The Fawcett Center & Hilton Garden Inn, Columbus, Ohio

---

*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 race, color, religion, sex, age, national origin, sexual orientation, gender identity or expression, disability, or veteran status. This statement is in accordance with United States Civil Rights Laws and the USDA.*

*Greg Davis, Interim 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**