

# DIAGNOSTIC INSIGHTS

## New UPS Options!!

Kansas State Veterinary Diagnostic Laboratory has 3 new UPS shipping options

### 1. All UPS return labels can now be emailed to your practice.

- The labels will be attached as a PDF.
- Each label MUST only be used once, so you will need to call KSVDL client care and request multiple return labels be sent as needed.

### 2. Discounted pricing for Saturday delivery to KSVDL

- Available in all 48 contiguous states
- Cost: \$20.00 for any package under 15 lbs.
- This will require a different UPS label from the other presently available labels.

### 3. Discounted pricing for Saturday pickup from your practice

- Will be delivered to KSVDL the following Monday
- Available in select areas (contact KSVDL client care for qualifying areas)
- Cost: \$20.00 for any package under 15 lbs.

For more information, please contact KSVDL client care at [clientcare@vet.k-state.edu](mailto:clientcare@vet.k-state.edu) or 866-512-5650.

## Canine Influenza Outbreak

By Dr. Jen Lehr

In April, a large outbreak of Canine Influenza began in the Chicago area. There have also been sporadic cases reported in several other Midwest cities. In the past week positive dogs have been reported in Georgia and Texas. To date there have been no cases reported in Kansas. KSVDL has tested a number of canine samples but none have been positive.

This outbreak is very notable because the influenza subtyping performed at Cornell University and University of Wisconsin showed that some of these cases were caused by a unique strain of Canine Influenza, H3N2. Prior to this outbreak, Canine Influenza in the United States had been caused by H3N8. Canine Influenza caused by Influenza H3N2 has been present in Asia for some time.

Interestingly the H3N2 subtype has also been reported to cause respiratory disease in cats as well.

*Continued on page 4*

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*Accredited by the American Association of Veterinary Laboratory Diagnosticians*

**TO SET UP AN ACCOUNT GO TO:**  
[www.ksvdl.org/accounting-and-billing/](http://www.ksvdl.org/accounting-and-billing/)

# Lone Star Ticks

By Dr. Ram Raghavan

The Lone star ticks (*Amblyomma americanum*) are known to transmit several animal and human diseases. Some of the well-documented diseases transmitted by these ticks in Kansas are human monocytic ehrlichiosis, cytauxzoonosis, and tularemia. The incidence rate of these diseases have increased steadily over the last decade and lone star tick activity is suspected to be a possible cause.

Lone star ticks have traditionally only been found in Eastern Kansas (east of I-35) until recent years but increasingly, they are spotted by practitioners in areas west of I-35 as well. Recently, our modeling efforts to predict their geographic range indicated that they can successfully establish populations in Western Kansas as well.

To validate our models and to and confirm their presence in Western Kansas, we request and encourage you to submit whole tick specimens to KSVDL. Although Lone star ticks are easy to find on grasses along wooded edges during April through August they can be readily spotted on dogs and other animals. Figures 1 and 2.

Please use caution when handling ticks as they may carry infectious agents. CDC recommends the following procedure to remove ticks if found attached to your skin.

1. Use fine-tipped tweezers to grasp the tick as close to the skin's surface as possible.
2. Pull upward with steady, even pressure. Don't twist or jerk the tick; this can cause the mouth-parts to break off and remain in the skin. If this happens, remove the mouth-parts with tweezers. If you are unable to remove the mouth easily with clean tweezers, leave it alone and let the skin heal.
3. After removing the tick, thoroughly clean the bite area and your hands with rubbing alcohol, an iodine scrub, or soap and water.
4. Dispose of a live tick by submersing it in alcohol, placing it in a sealed bag/container, wrapping it tightly in tape, or flushing it down the toilet. Never crush a tick with your fingers



Figure 1. Female



Figure 2. Male

For more information please contact KSVDL Client Care at 866-512-5650 or [clientcare@vet.k-state.edu](mailto:clientcare@vet.k-state.edu).

# Pigeon Fever

By Dr. Ram Raghavan, Dr. Elizabeth Davis, Dr. Laurie Beard, Dr. Gregg Hanzlicek

Pigeon fever or dryland distemper is an infectious disease affecting horses primarily in the arid western regions of the US. However, a significant outbreak occurred in the Midwest in 2012, particularly among horses residing in Kansas. During this outbreak several horses were seen at the Kansas State Veterinary Health Center (VHC) and samples diagnosed from infected horses all through the state at the Kansas Veterinary Diagnostic Laboratory (KSVDL). Horses of all ages, sex and breed were equally affected during this outbreak.

A retrospective analysis of cases demonstrated that a mild winter followed by warm spring and drought conditions during summer of 2012 contributed to this outbreak. Unusually dry top-soil where the causative bacteria, *Corynebacterium pseudotuberculosis*, thrive could have become airborne leading to infections in horses. Likely other contributing factors included biting flies during this warm, dry season that transmit the bacteria from infected horses to other susceptible individuals.

There are three clinical presentations of *C. pseudotuberculosis*, which include the pigeon fever form (external abscess commonly in the pectoral region), ulcerative lymphangitis

and internal infections. Figures 1 and 2.

Treatment of the pigeon breast form includes drainage of the abscess and prognosis is good. Ulcerative lymphangitis and internal infections are much less common than the pigeon breast form, but much more difficult to treat and often with a poor prognosis.

**This summer and fall and in the coming years we are attempting to closely observe how this disease further establishes itself in the state and the region. In a partnership, KSVDL and VHC have instituted a surveillance program for this purpose. Our surveillance efforts in Kansas are aimed towards achieving rapid diagnostics, prevention, and improved treatment strategies.**

We request your cooperation in this effort by sharing with us when you identify a suspect case at your practice by logging in at <https://www.vet.k-state.edu/asp/forms/ksvdl/Pigeon-Fever>.

We also welcome your samples for testing at KSVDL. Costs and sample handling details are provided on our website at [ksvdl.org](http://ksvdl.org).

For further information please call Drs. Elizabeth Davis or Laurie

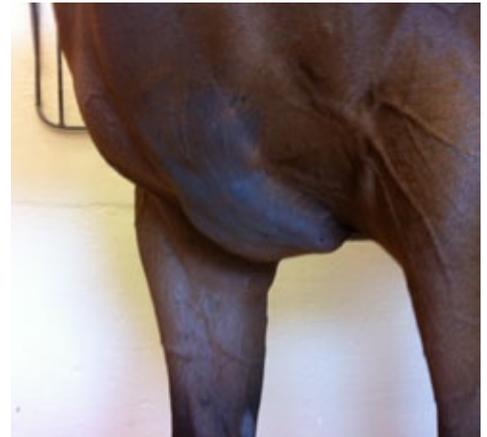


Figure 1.

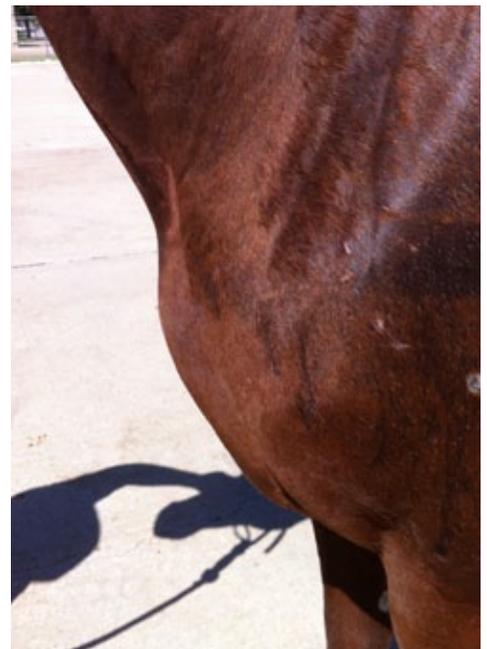


Figure 2.

Beard at the Veterinary Health Center at Kansas State University at 785-532-5700, or Dr. Gregg Hanzlicek at 785-532-4853 for diagnostics-related questions.

## Canine Influenza Outbreak | *Continued from page 1*

Unlike influenza in humans, Canine Influenza is a non-seasonal disease. It is rapidly and efficiently transmitted in places where dogs congregate, such as boarding facilities, grooming establishments, veterinary clinics, kennel, shelters, shows, and racetracks.

Dogs with influenza typically present with a cough. Some dogs also have a fever, nasal or ocular discharge, sneezing, lethargy, and anorexia. These signs are often indistinguishable from the more common "kennel cough." Diagnostic testing plays an important role in reaching a definitive diagnosis to develop an effective treatment plan. Even in the face of an outbreak, there may be more than one pathogen circulating in a population.

Most dogs with Canine Influenza will recover with supportive care. Supportive may include fluids to maintain hydration status and nonsteroidal anti-inflammatory medications to relieve fever.

Since secondary bacterial infection infections are not uncommon, antimicrobial therapy should be considered. Rarely, dogs will die from acute primary influenza or secondary bacterial infections even with appropriate treatment.

The current vaccine contains the previously common strain H3N8. The strain involved in this outbreak is H3N2, not the H3N8 strain. It is not known if the current vaccine will be beneficial.

As more information on Canine Influenza is known, we will update any new information on our website <http://www.ksvdl.org/resources/canine-influenza-outbreak.html>. Follow us on Twitter and like us on Facebook for instant notification of developments in this outbreak.

To read about Canine Influenza Testing Options at KSVDL, please go to the NEW test section of the newsletter.

## KSVDL Outreach Activities

### Presentations

- Dr. Gregg Hanzlicek. "Diagnosing and Managing Johne's Disease in Cow-Calf Operations." Beef Cattle & Forage Crops Field Day. K-State Research and Extension. May 7. Mound Valley, Kansas.
- Drs. William Fortney and Gregg Hanzlicek. Several small animal and bovine topics. North East District KVMA. May 12. Mayetta, Kansas.
- Drs. Ben Hause and Jamie Henningson. Showcased their expertise in genotyping and immunohistochemistry. Research Facilities and Resources Showcase. May 13. Manhattan, Kansas.
- Dr. Jianfa Bai, "Updates on detection methods development and validation." 2015 STEC CAP Conference. June 3-5. Manhattan, Kansas.
- Drs. Kelli Almes, Jamie Henningson, and Jerome Nietfeld. "Field Diagnostics." 77th Annual Conference for Veterinarians. June 7. Manhattan, Kansas.

- Drs. Jianfa Bai, Steven Henry, Elizabeth Poulsen, and Dick Hesse. "How sequencing can help in PRRS management?" Symposium of Computational Resources for Swine Viral Diseases (organized by USDA-National Centers for Animal Health). June 8-15. Ames, Iowa.
- Drs. Jianfa Bai, Xuming Liu and Mirjana Kozulic. QIAxcel® "System and Multiplex PCR for STEC Virulence Gene Detection and Serogroup Differentiation." WAVLD 17th International Symposium June 15-18. Saskatoon, Saskatchewan, Canada.

### Field Investigations

- Increased displaced abomasum incidence in a dairy herd
- Annual Johne's Risk Assessment in four western Kansas dairy herds

## What do the Micro Rabies Screen Test (MRS) results mean?

By Dr. Mike Moore, Rolan Davis and Dr. Susan Moore

The MRS test is a serum neutralization assay based on the RFFIT designed to give a rapid screening for evaluating the need for rabies boosters. Work done at Kansas State Veterinary Diagnostic Laboratory (KSVDL), indicates dogs and cats that have been vaccinated for rabies in the past but are not current on their rabies vaccination status respond similarly to a booster as animals that are current on their rabies vaccination. We (KSVDL) suggest that both groups (non-current and current) can now be referred to as “pre-exposure” vaccinated animals.

Although revaccinating dogs and cats that have been exposed to rabies is effective for disease management, the concern is how to protect our pets from unknown exposures. In human medicine, titers are recommended on a periodic basis to confirm adequate response to rabies vaccination. The level defined as an adequate response is 0.5 IU/ml. This titer level is also recognized by OIE as protective in dogs and cats based on challenge studies.

**A review of rabies challenge-studies indicates that there is a positive correlation between rabies virus neutralizing antibody (RVNA) titers and the level of protection after virus challenge.**

## New Bovine Listeria PCR Diagnostic Test Available At KSVDL

Listeriosis is an infectious bacterial disease observed more commonly in younger animals (one to three years of age). Typically, Listeriosis is associated with the consumption of contaminated silage, but several [pasture-associated cases](#) have been confirmed at KSVDL this year.

Most infected cattle are asymptomatic carriers, and the most common clinical signs are a result of encephalitis. Clinical signs include depression, anorexia, fever, ataxia (walking in circles), salivation, facial paralysis, mastitis, and abortions.

The reservoirs of infection are the soil and the intestinal tracts of asymptomatic carrier cows.

**Pre-exposure vaccination coupled with a RVNA titer at or above 0.5 IU/mL indicates greater assurance of protection than does current vaccination status. The MRS test measures RVNA.**

Using the MRS test results, if the RVNA value is <0.5IU/ml, KSVDL recommends administering a rabies booster. If the value is >0.5IU/ml we would not recommend a rabies booster, but instead rechecking the RVNA in year.

Currently whether an animal requires a rabies booster vaccination is not determined by the level of RVNA in the serum, but by local regulations. The Compendium of Rabies Prevention and Control recommendations, which are routinely used as guidance for local regulations, are routinely under review with consideration of new information. KSVDL is part of this process and is working to influence change that will provide the best guidelines for rabies booster requirements.

For more information or to order biopsy mailers please contact Client Care at 866-512-5650 or [clientcare@vet.ksu.edu](mailto:clientcare@vet.ksu.edu).

Susceptible cattle can become infected through exposure to contaminated forages, feces, milk, and uterine discharges.

### Listeria monocytogenes PCR

**Species:** Appropriate for all animal species

**Sample:** Fixed or fresh: brain, fetus, liver, placenta, spleen

**Expected turnaround time:** 1-2 days

**Days tested:** Monday through Friday

**Cost:** \$31.00

For more information please contact KSVDL Client Care at 866-512-5650 or [clientcare@vet.k-state.edu](mailto:clientcare@vet.k-state.edu).

## New KSVDL Tests

### Listeria monocytogenes PCR

**Species:** Appropriate for all animal species

**Target:** Listeria monocytogenes

**Sample:** Fixed or fresh: brain, fetus, liver, placenta, spleen

**Expected turnaround time:** 1-2 days

**Days tested:** Monday through Friday

**Cost:** \$31.00

### Canine Influenza A (Influenza Universal) Real-Time PCR

For a positive PCR Universal Influenza test, sequencing will differentiate between the previously common H3N8 and the new H3N2 subtypes if needed.

It will also subtype any new or emerging subtypes.

**Cost:** \$75.00

### Canine Influenza A Genetic Sequencing

For a Positive PCR Universal Influenza test, sequencing will differentiate between the previously common H3N8 and the new H3N2 subtypes if needed.

It will also subtype any new or emerging subtypes.

**Estimated turnaround time:** 2 days

**Cost:** \$75.00

For more information on these test options, please contact KSVDL Client Care at [clientcare@vet.k-state.edu](mailto:clientcare@vet.k-state.edu) or 866-884-3867.

## New videos from the KSVDL

We have posted new videos on the KSVDL YouTube® channel covering the following topics:

- Nitrate Testing Sample Collection  
<https://www.youtube.com/watch?v=ysn-n-oZOYo>
- Sample Submission Biopsy Mailers  
[https://www.youtube.com/watch?v=-Bh\\_KaRSrAnw](https://www.youtube.com/watch?v=-Bh_KaRSrAnw)
- Serum Collection and Handling  
<https://www.youtube.com/watch?v=SN7PiXDYZno>
- Bovine Brain Sample Collection  
<https://www.youtube.com/watch?v=QiaBMz9XSZo>

### Subscribe to the KSVDL YouTube® channel:

<https://www.youtube.com/channel/UCtx-IIIXqj5PAMQYryXaRhA>



We have also posted new Continuing Education videos on the KSVDL Website!

*These videos, and more, can be found at: <http://www.ksvdl.org/resources/>*

## Developing, Delivering Accurate, Innovative Diagnostic Services

*The mission of the Kansas State Veterinary Diagnostic Laboratory (KSVDL) is to develop and deliver accurate, innovative, and timely diagnostic and consultative services to the veterinary and animal health community while providing support for teaching, training and research programs.*

**1800 Denison Avenue  
Manhattan, KS 66506**

**Phone: 785.532.5650  
Toll Free: 866.512.5650**

### Continuing Education

[www.vet.k-state.edu/education/continuing/](http://www.vet.k-state.edu/education/continuing/)

**June 6-9, 2015**

**77th Annual Conference for  
Veterinarians**

Hilton Garden Inn and Conference  
Manhattan, Kansas

For more information call the Continuing Education  
Office at 785-532-4528.

[http://www.vet.k-state.edu/education/  
continuing/conferences/annual-conf15/](http://www.vet.k-state.edu/education/continuing/conferences/annual-conf15/)

### Test Results and Schedules

**Laboratory results available On-Line All  
The Time!**

#### **KSVDL hours:**

**Memorial Day:** Closed Monday, May 25

**Independence Day:** Closed, Saturday, July 4

**Labor Day:** Closed; Monday, September 7

To receive this newsletter by e-mail, contact: [ksvdloutreach@vet.k-state.edu](mailto:ksvdloutreach@vet.k-state.edu).

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