

# Diagnostic Insights

[www.ksvdl.org](http://www.ksvdl.org)



KANSAS STATE VETERINARY DIAGNOSTIC LABORATORY

Accredited by the American Association of Veterinary Laboratory Diagnosticians

January 2011

## Message from the director—Dr. Gary Anderson



We hope 2010 was good to you, your clients and your business. The year was busy and productive for the Kansas State Veterinary Diagnostic Laboratory (KSVDL). Our Rabies Laboratory experienced excellent growth in serologic testing and additional tests and testing options were added throughout KSVDL in 2010 to better serve our clients. The economic downturn has impacted our business the past couple years, but it could have been far worse than it was in 2010. We are really looking forward to 2011.

It's a pleasure to revive the KSVDL newsletter, *Diagnostic Insights*, and especially to disseminate it electronically. This effort will be led by editor Dr. Gregg Hanzlicek with assistance from Dr. Bill Fortney and Ms Barbara Barkdoll with contributions from many colleagues and co-workers. *Diagnostic Insights* is part of our objective to purposefully

re-double communication and connectivity with you, our clients in 2011. Our goal is to become more user friendly in a variety of ways and to use *Diagnostic Insights* as a helpful means of informing and communicating. *Diagnostic Insights* will be delivered electronically bimonthly and used to share updates on new tests and testing methodologies, updates on Kansas disease outbreaks, information regarding State and Federal disease surveillance programs, and changes related to KSVDL personnel and operations.

A foundational component of moving forward with increased client communication and interaction is the commitment and investment made in outreach coordination positions beginning this year. Dr. Gregg Hanzlicek is the director of Production Animal Field Investigations and Dr. Bill Fortney is coordinator of Companion Animal Outreach. In addition, Dr. Brian Lubbers, Clinical Microbiologist/Pharmacologist is now head of the KSVDL Bacteriology Laboratory.

All of these individuals are pointed toward increased field communications by interacting with colleagues within KSVDL and throughout the College of Veterinary Medicine, Animal Science & Industry, and Kansas State University. Additionally,

these individuals will be actively engaging in veterinary meetings throughout the State and region, and participating as needed in selected diagnostic cases and field investigations. We believe the practice experience, vision, energy and passion for client partnering by these individuals will significantly enhance our value as an animal health diagnostic laboratory.

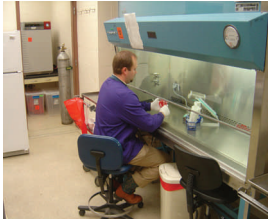
In our quest of becoming a more user-friendly laboratory, a number of areas will be evaluated and potentially changed. Re-designing the KSVDL webpage is in progress, making it easier to locate appropriate tests, the proper sample(s) required, and contacts for additional questions. Information about new state-of-the-art tests will also be available on the web. Test results are already available online 24/7 and we strongly encourage all clients to establish an online account. Dr. Kelli Almes has accepted faculty leadership of our Receiving area and efforts will be made to re-evaluate protocols and opportunities to streamline sample submissions as well as results reporting processes from individual laboratories and the Office. Our goal is to be as user friendly as possible, beginning in Receiving and extending to every aspect of the KSVDL operation.

We appreciate your business very much, and wish you all the best in the New Year. Please do not hesitate to contact me for any reason - it is important that we hear from our clients. I may be reached at 785-532-4454 (direct), 785-532-5650 or [ganders@vet.k-state.edu](mailto:ganders@vet.k-state.edu).

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## Personnel profile—Dr. Brian Lubbers



In December, a “new” face was found in the Bacteriology section of the KSVDL. Dr. Brian Lubbers started in the newly created position of Director of Clinical Microbiology. His primary responsibility is to serve as an interface between the Bacteriology Lab and veterinary clinicians. To that end, in the

coming weeks, Dr. Lubbers will be assuming the supervisory position in the Bacteriology Lab. “I’m most excited by the opportunity to take our state-of-the-art technology and use it in ways that benefit our veterinary clients and their clients, and the producers and pet owners of the Midwest” said Dr. Lubbers.

Dr. Lubbers is a 2002 alumnus of the KSU-CVM. After spending two years in a private mixed animal practice in California and one year in mixed practice in northeast Iowa, Dr. Lubbers returned to

Kansas State University as a Clinical Instructor in the Agricultural Practices section of the Veterinary Medical Teaching Hospital. During his time as a Clinical Instructor, he completed a PhD in Veterinary Microbiology/ Pharmacology. Following the completion of his graduate studies, he was the lead instructor in a veterinary technician program in Kansas.

**If you have microbiology questions give Dr. Lubbers a call at 785-532-4012.**

## Abortion work-ups—Dr. Kelli Almes

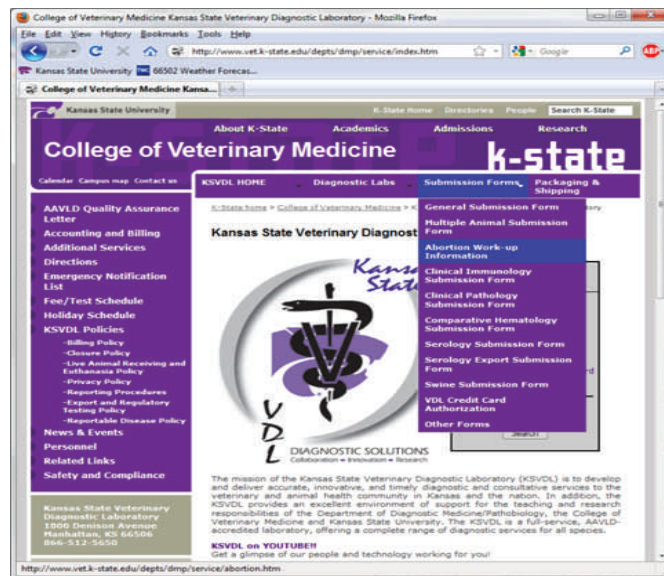
We are pleased to announce you may now access our abortion work-up guideline suggestions via our website at [www.ksvdl.org](http://www.ksvdl.org).

The guidelines are located in the drop down menu under “SUBMISSION FORMS” (see photo). Each species is listed separately with general instructions, a list of supplies needed to collect samples, and what tests we recommend.

To access complete information on each of the listed tests, simply click on the test name to see estimated turnaround times and current prices along with various other details. Be sure to submit samples

in proper packaging with ice packs along with a completed general submission form.

**If you have any questions contact Dr. Kelli Almes at 785-532-3995 or toll free at 1-866-512-5650.**



### Help us help you:

- E-mail and Fax: Make sure we have your correct email and fax information
- Make sure you are using the current KSVDL forms: go to [www.ksvdl.org](http://www.ksvdl.org) for the latest version

### KSVDL Specializations

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## How could something so tiny cause such big problems?—Dr. Pat Payne



*Tritrichomonas foetus* is a tiny protozoan parasite that is sexually transmitted in naturally bred cattle and can be devastating to cattle producers. Bulls are chronically infected; cows usually clear the organism with time. There is no treatment for *T. foetus* infected cattle.

Since September 2010, *Tritrichomonas foetus* in cattle is a reportable disease in the state of Kansas. There are also new regulations for testing bulls before importation into the state (Vol. 29, No. 36, September 9, 2010 of the Kansas Register 1337). Details may be found at:

[http://www.kansas.gov/kahd/laws/import\\_requirements.shtml#cattle](http://www.kansas.gov/kahd/laws/import_requirements.shtml#cattle)

We have seen an increased incidence of Trich in mature bulls in Kansas cattle herds as well as in herds in neighboring states. Nebraska, Colorado and

Texas have put testing requirements in place for interstate movement of bulls. There are discussions being held to make these requirements uniform. However you should check with each state to be sure what the current requirements are before testing and shipping. For example, the age of the animal that must be tested does vary from state to state.

### Which animals need to be tested:

Bulls in herds where conception rates are low and bulls to be sold and transported into states that require testing.

### Available Tests:

Culture and PCR (There is **not** a blood test for this parasite)

The culture test allows for direct observation of live *T. foetus* organisms microscopically. The PCR test identifies the DNA of the *T. foetus* organism

### Which test to select depends on the situation:

Most states, but not all, require one PCR or three negative cultures for entry.

If there is concern the animal is positive, 3 tests are highly recommended. It will be more economical to request culture on these bulls and test them 3 times one week apart after sexual rest. These organisms are tiny and not always present in the sample

collected and it is critical to the producer to have at least 3 tests. The gold standard is 6 negative culture tests however, a combination of culture and PCR weekly 3 consecutive weeks has yielded similar results. Ref: Cobo ER, Favetto PH, Lane VM, Friend A, VanHooser K, Mitchell J, BonDurant RH. Sensitivity and specificity of culture and PCR of smegma samples of bulls experimentally infected with *Tritrichomonas foetus*. Theriogenology. 2007 Oct 1;68(6):853-60.

### Sample to collect:

Collect a preputial scraping and place into the In-Pouch™TF system for both culture and PCR. Please fill out the entire submittal form including the age of the bull and herd reproductive history.

### Transportation of samples:

Proper sample collection, handling and transportation are all critical for valid testing!

The media in the In-Pouch™TF system is optimal for survival and multiplication of the *T. foetus* organism.

Do NOT refrigerate samples or put them directly on ice packs or expose them to high temperatures.

The more organisms present in the pouch the more likely we will be able to find and identify them on culture and the more likely there will be enough DNA for the

PCR reaction to be successful. All pouches will be incubated overnight before culture or PCR testing.

**Do not hesitate to contact our Parasitologist, Patricia A. Payne DVM, PhD at 785-532-4604, [payne@vet.k-state.edu](mailto:payne@vet.k-state.edu) or Debra Ritchie in the Parasitology Laboratory at 785-532-4619 if you have any questions.**

### Pricing:

*T. foetus* culture - \$ 8.00

*T. foetus* PCR – \$28.50

Single or a few InPouch™TF from KSVDL \$10.50

InPouch™TF from Biomed

<http://biomeddiagnostics.com/veterinaryprod>

For more information on Trichomoniasis infections in beef herds:

[http://www.vet.k-state.edu/depts/VMTH/agpract/articles/Trich\\_recommendations.pdf](http://www.vet.k-state.edu/depts/VMTH/agpract/articles/Trich_recommendations.pdf)

Trichomonas risk analysis tool – scroll to the right!

<http://129.130.129.184/TrichModelWeb/Default.aspx>

## New Canine Brucellosis Test

**A Real-Time PCR Test for Canine Brucellosis Caused by *Brucella canis* is in development at the Kansas State Veterinary Diagnostic Laboratory.**

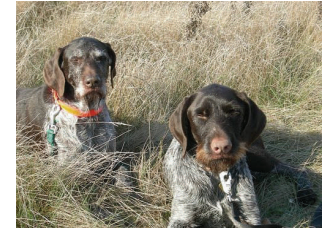
A real-time PCR test to identify and possibly quantify the bacterial load of *Brucella canis*, which causes canine brucellosis, is in the final stage of development. This

test is a duplex real-time PCR procedure targeting the 16S rRNA gene that is common to all *Brucella* species, and a DNA fragment that is specific to *Brucella canis*.

Blood in a **sodium citrate tube**, and a vaginal swab in bacterial transport medium are preferred sample types. Vaginal swabs can be directly used for DNA extraction and PCR reactions, which

is more sensitive than culture and the bacterial load can be quantified. Blood samples need to be cultured prior to PCR, thus is not quantitative.

*For a limited time, we are accepting potential positive samples for free testing to further validate the test.*



Contact Dr. Jianfa Bai at 785-532-4332, or [jbai@vet.ksu.edu](mailto:jbai@vet.ksu.edu) for more information.

## Canine Brucellosis Testing Options Part 1— Dr. William Fortney



Canine brucellosis is a contagious disease in dogs caused by *Brucella canis*, an intracellular gram negative organism. The disease is characterized by late fetal abortions, and infertility in females and in males, infertility, epididymitis, orchitis, testicular atrophy, and rarely diskospondylitis. Some infected dogs exhibit no overt symptoms.

Brucellosis testing in patients with overt clinical disease is relatively straight forward. However, interpretation of the various serological test results or bacterial cultures can be challenging and confusing when screening a newly acquired potentially infected dog prior to entry

into a breeding colony, or attempting to identify all infected breeding animals in a kennel disease eradication program.

While a definitive diagnosis of canine brucellosis can be made by culturing the organism from infected tissues or whole blood, serologic testing continues to be the most commonly submitted diagnostic screening tool despite the discordant results.

Isolating *B. canis* from infected tissues, discharges or whole blood culture constitutes a definitive diagnosis. Unfortunately not all blood cultures of infected dogs will be positive.

Two to four weeks following infection, most dogs develop a persistent bacteremia lasting at least 30 weeks and sometimes for years. The majority of dogs (80%) have positive blood cultures for a minimum of one year.

During the bacteremia, the blood culture will be positive for *B. canis*. However, a single negative blood culture does not rule out the disease since the bacteremia in some dogs is intermittent resulting in a “false negative” blood culture. Pervious antibacterial therapy may also temporarily inhibit the bacteremia and negatively impact the culture results.

In addition, *B. canis* is fastidious; slow growing; and difficult to culture. The sampling and shipping techniques are critical when culturing whole blood for *B. canis*. Any bacterial contamination at the time of collection will quickly overgrow the blood sample during incubation making *B. canis* impossible to indentify.

### **KSVDL Recommended submission of blood samples for *Brucella canis* culture**

1. Animals should be shaved in blood draw area and cleaned with

an alcohol wipe.

2. Blood should be drawn using a vacutainer holder and a BD Hemogard™ sodium citrate tube. Tubes should never be opened by removing the cap. A separate sterile needle should be used for each animal. These tubes allow the KSVDL Bacteriology personnel easier culturing because the cap is outside of the blood tube. It allows for easier removal and less blood splatter.

3. Tubes should be labeled with sample number (1-?) and animal identifier. This information should match the submission paperwork

4. Tubes should be placed on ice packs and submitted to the KSVDL immediately, using overnight shipping.

**For more information of culturing *B. canis*, contact Dr. Brian Lubbers, Director of Clinical Microbiology at 785-532-4012**



## 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.*

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Manhattan KS 66506

Phone: 785-532-5650  
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We're on the web!  
[www.ksvdl.org](http://www.ksvdl.org)

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### Continuing Education

**February 5, 2011**  
**Canine Care Workshop**

**March 5, 2011**  
**Veterinary Technicians Conference**

**March 27, 2011**  
**28th Annual Frank W. Jordan Seminar**

### Test Results & Schedules

*Laboratory results can be accessed on line 24 hours a day, 7 days a week!!*

To set up an account go to:

[www.ksvdl.org](http://www.ksvdl.org)

KSVDL will be closed on the following days:

Memorial Day: May 30, 2011

Independence Day: July 4, 2011

Labor Day: September 5, 2011

Thanksgiving: November 24 and 25, 2011

TO RECEIVE THIS NEWSLETTER BY E-MAIL, CONTACT: [DlabOffice@vet.k-state.edu](mailto:DlabOffice@vet.k-state.edu)