



The primary 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 in Kansas and the nation. The KSVDL is a full-service, AAVLD-accredited laboratory, offering a complete range of diagnostic services for all species.

Diagnostic INSIGHTS

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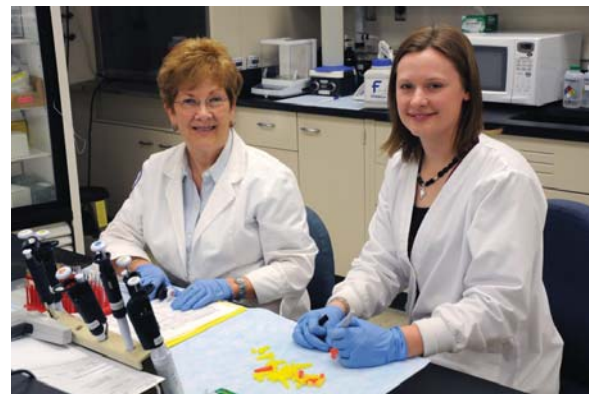
For information on connecting to WebAccess for real-time test results, contact the KSVDL IT department at 785-532-4682.

Visit our website at:

Web: <http://www.ksvdl.org>

Diagnostic Insights welcomes your suggestions for future articles or comments about current articles.

Send your ideas to Barbara Barkdoll at bbarkdol@vet.k-state.edu.



Sue Chavey, MT (ASCP), Medical Technologist-1, and Audree Gottlob, Resarch Assistant, Comparative Hematology Laboratory



Director's Corner

We are a bit delayed in getting this issue of the newsletter to you, so by the time you receive it Spring will likely feel more like Summer. We hope you have a good one.

A variety of factors influence personnel changes in any organization, and the KSVDL is not unique. Students, spouses and significant others of students, the Ft. Riley population, and our mobile society in general all contribute to ongoing staffing changes in the KSVDL. We are pleased when co-workers are able to advance their careers and/or move forward in their lives; however, we miss them and it leaves gaps that others must step in to fill. We are fortunate that our staff is capable, willing, flexible, and work together to meet client needs and expectations when the gaps occur.

Personnel who have moved on in recent months include Cindy Chard-Bergstrom (histo/IHC/FA), Christy Dearden (admin office), Jessica Jewell (virology), Carly Shumaker (rabies), Mike Dinwiddie (histo/IHC/FA), Kristen Schweitzer (rabies), Sarah Mailen (parasitology), Sean Smith (molecular diagnostics), Connie Reding (admin office), Chasity McDonough (bus office), and Alyssa Hambarger (rabies). We wish each of them happiness and success in their new positions!

Gary Anderson, DVM, MS, PhD Staff members who have recently joined the KSVDL are Leah Hanzlicek (admin office), Dale Classen (rabies), Megan Kaltinger (rabies), Brandy Gowdy (rabies), Greg Scott (virology), Angela Sloan (receiving), Amanda Sheets (necropsy), Deb Ritchie (parasitology), Jennifer Hill (histo/IFA/FA), Stephanie Heersink (histo/IHC/FA), Brenda Mayberry (admin office) and Amy Burklund (bacteriology). We look forward to serving together with this new group of co-workers as we partner with you, our clientele.

Again, I hope you have a good summer and as always, please do not hesitate to contact me for any reason. I may be reached directly at 785-532-4454 or ganders@vet.k-state.edu



ANNOUNCING

EPA-Approved List of Pesticides

by Deon van der Merwe, BVSc, PhD, Assistant Professor, Toxicology Department



Finding information on the most appropriate pesticides to use in the control of the causative organisms of highly pathogenic organisms can be challenging, partly because of changes in EPA-approved product registrations. To help solve this problem, Purdue University came up with a National State Pesticide Information Retrieval System (NSPIRS), where an up-to-date database is maintained on EPA-approved pesticide registrations. The database may be accessed online at: <http://ppis.ceris.purdue.edu/htm/data>

A quick reference to the compiled list of EPA-approved pesticides, extracted from the NSPIRS database, is available on the KSVDL website and may be accessed at: www.ksvdl.org

BVDV Reminder!

We offer the IDEXX HerdCheck ELSIA test for BVDv PI evaluation (ear biopsies) only according to manufacturer directions and the test price per sample is \$7. Test tubes containing diluent for sample collection are available for \$0.30 per tube by calling 785-532-4427.



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K-State College of Veterinary Medicine - Continuing Education Opportunities

On-Line Continuing Education - K-State VetBytes Seminars - 24/7

- August 14 & 15, 2008 - 2nd Annual Veterinary Conference for Care of Llamas and Alpacas
- September 13, 2008 - 16th Emergency Medicine Conference
- October 31 - November 1, 2008 - Veterinary Career Oportunities Workshop
- November 1-2, 2008 - 15th Mid-Western Exotic Animal Medicine Conference
- January 9, 2009 - Cow/Heifer Evaluation and Management Conference and Calving Clinic
- March 7, 2009 - Veterinary Technicians Conference

For more information on these conferences, contact:

Linda M. Johnson, PhD or Marci Ritter - Phone: 785-532-5696 - E-Mail: VMCE@vet.k-state.edu

Visit our website: www.vet.k-state.edu/CE/index.htm



Giardia Diagnostics

by Patricia Payne, DVM, PhD, Assistant Professor

Fecal floatation with centrifugation in zinc sulfate is the best option for diagnosis of *Giardia spp.* in dogs and cats. Please do not request a direct smear from the parasitology lab for the diagnosis of this parasite. By the time the sample arrives at the lab, there will be almost no chance that mobile trophozoites will be present. However, cysts will be present if the animal is infected and we will be able to see them on floatation.

Giardia has two life stages, the trophozoite (troph) and the cyst. The trophs are the feeding stage found in the intestinal tract and the cysts are the more resistant environmental stage. Trophozoites are rarely passed in the feces because they encyst at the end of the intestinal tract in anticipation of expulsion into the environment. We use a double centrifuge technique that will concentrate the cysts. The floatation media we use for the giardia float is zinc sulfate SpGr 1.18; the stain is Lugol's iodine. The cysts will be intact, stained and easy to identify.

If you are concerned your patient may have other intestinal parasites, request a qualitative float with a note stating you suspect giardia. We will use a double centrifuge technique with Sheather's sugar solution, SpGr 1.27 that will float all parasitic ova and oocytes including Physaloptera and Taenia. The giardia cysts will collapse in this solution, but our technicians are extremely skilled and will see them if they are there.

Never hesitate to call the Parasitology Laboratory at 785-532-4619 if you have questions about parasite diagnostics or results.



Dr. Cathleen Hanlon: New Head of Rabies at the KSVDL

Dr. Cathleen Hanlon recently joined the KSVDL and College of Veterinary Medicine as the Director of the Rabies Laboratory. Dr. Hanlon received VMD and PhD degrees from the

University of Pennsylvania in 1987 and 1994, respectively, and is a diplomate of the American College of Veterinary Preventative Medicine. Her PhD research involved evaluation of vaccinia virus to produce recombinant rabies vaccines for use in vaccination of wildlife. Since then Dr. Hanlon has extensive research experience concerning rabies pathogenesis and prevention. Dr. Hanlon came to K-State from the Center for Disease Control (CDC) in Atlanta, Georgia where she was the acting head of the Rabies Section. In addition to supervision of the Rabies Section, Dr.

Hanlon was responsible for designing, conducting, analyzing and communicating experimental and applied findings concerning rabies virus. Dr. Hanlon has participated in epidemiologic field investigations for and as a consultant to the CDC, the World Health Organization, the Pan American Health Organization, the United States Department of Agriculture and Brazil. Dr. Hanlon has extensive experience training and working with graduate and post-doctoral students and veterinary students studying at the CDC, including experience in classroom teaching of virology and epidemiology to veterinary and medical students. We are extremely pleased that Dr. Hanlon has joined our team and we look forward to her strong leadership in the KSVDL Rabies Laboratory.



Dr. Jianfa Bai joins the KSVDL

Dr. Jianfa Bai is a new member of our Molecular Diagnostics team in the K-State Veterinary Diagnostic Laboratory. He received a Bachelor of Science from the Northwest Agricultural University in P. R. China, a Master of Science (genetics)

from the University of the Philippines at Los Banos and a Doctor of Philosophy (Plant Pathology/molecular genetics) from Kansas State University. Dr. Bai has authored or co-authored nearly 50 publications, presentations, and/or book chapters. In addition, he has submitted 475 new- cNDA and genomic DNA sequences to GenBank and also has made 36 microarray data submissions. Dr. Bai belongs to numerous professional organizations and has partnered with collaborators to bring nearly two million dollars of funding for important molecular research during his young career.

Dr. Bai began his career doing extension work but soon began working in the Institute of Crop Breeding and Cultivation, Beijing,

China where he held many positions (including Deputy Director of a division). He then came to K-State for his PhD graduate work and post-doctoral training in functional and comparative genomics. Dr. Bai was Director of the K-State Gene Expression Facility prior to joining our department and the KSVDL. The bulk of his career to this point has involved research on plants/plant pathogens and utilization of cutting-edge technology for discovery and new test development. Dr. Bai's experience fits very well with the needs and goals for molecular diagnostics in the KSVDL. His experience with genomics and microarray technology will be pivotal as we develop new tests and strive to lead molecular diagnostics for animal health and food safety.

We are pleased to welcome Dr. Bai to Diagnostic Medicine/ Pathobiology and the KSVDL. His wealth of expertise will benefit KSVDL clients and university colleagues, and we anticipate a creative, productive and enjoyable future with Dr. Bai on our team.

ATTENTION

Veterinarians with Llama and Alpaca clients!

Because *Eimeria macusaniensis* (AKA E.mac) can be a deadly parasitic infection in llamas and alpacas, the parasitology lab has responded to your client's concern by combining a quantitative analysis with the qualitative for a very reasonable price. An animal infected with *Eimeria macusaniensis* will shed these very large oocysts in relatively low numbers. **When you submit at least 10 grams of fresh feces to the diagnostic laboratory write one of the following tests on the submission form:**

- PAR-1101: Qualitative and Quantitative Wisconsin Float
- PAR-1102: Qualitative and Quantitative Wisconsin Float (6+ samples)
- PAR-1103: Qualitative and Quantitative McMasters Float
- PAR-1104: Qualitative and Quantitative McMasters Float (6+ samples)

The quantitative technique (Wisconsin or McMasters) will give you an indication of the numbers of Strongyle-type parasites that produce many eggs including Haemonchius, Ostertagia, and Trichostrongylus present in the animal and the level of pasture contamination. The qualitative exam, using a double spin centrifugation technique with Sheather's sugar as the floatation solution, will concentrate the ova and oocysts. The results will indicate the presence of parasites that produce few ova such as Nematodirus and Trichuris, as well as the dreaded protozoan *Eimeria macusaniensis*.

Never hesitate to directly call the Parasitology Laboratory at 785-532-4619 if you have questions about parasite diagnostics or results.

New Test Highlights

Tritrichomonas foetus

KSVDL has added the real-time PCR assay to compliment the InPouchTMTF culture system in the diagnosis of *Tritrichomonas foetus*. Samples for both tests should be submitted in the same InPouch (one pouch/bull) using the sampling directions included with the pouches. Preputial samples should be immediately inoculated into the InPouchTMTF culture system and must be received by the lab within 48 hours after inoculation. Overnight or one-day delivery is the best, or they can be delivered personally to KSVDL Receiving. Special arrangements for after-hours or Saturday delivery may be made, but only if you call ahead (785-532-4619). The combined assay consisting of the InPouchTMTF culture and real-time PCR is being offered at a cost of \$32 dollars per sample (\$7.00 for each culture test plus \$25.00 for each real-time PCR test). The culture InPouchTMTF will still be available as a separate assay for \$ 7.00 per sample. Pouches may be ordered in bulk from BioMed Diagnostics (1-800-964-6466) or by the pouch from KSVDL (1-866-512-5650). Please do not hesitate to contact the KSVDL Office at 785-532-5650 or DLabOffice@vet.k-state.edu, or Dr. Payne at 785-532-4604/4619.



Collection of Samples for Rabies and BSE

by Jerome Nietfeld, DVM, PhD, DACVP

Several years ago the Center for Disease Control (CDC) made some changes in the samples required for the Rabies fluorescent antibody (FA) test. If the correct portions of the brain are not available for FA staining, the portions available are tested; and if positive, they are reported as such. However, if the correct portions of the brain are not available and the test is not positive, the sample is reported as an unsuitable sample. In cases of human exposure, this causes problems; so it is important the proper samples are submitted. The USDA is actively surveying cattle for bovine spongiform encephalopathy (BSE).

Therefore, cattle testing negative for rabies should also be tested for BSE. It is important to collect the proper samples if we are to properly test for both agents. To help clarify what to collect and submit for rabies and BSE, we have placed a short article on the KSVDL website describing what to collect and submit for both rabies and BSE. Accompanying the article are photographs which should help clarify the descriptions. The article is available on our website in the section Significant New Items at: www.ksvdl.org; or, you may go directly to the article at: http://www.ksvdl.org/pdf/Sample_Collection_Rabies.pdf

Protocol for Shipping/Submitting Rabies Samples for Testing

by Cathleen A Hanlon, VMD, PhD, Dipl ACVPM, Director Rabies Laboratory
Rolan Davis MS, CPM, Diagnostic Supervisor

As warm weather approaches, it is a good time to review shipping protocols to assure samples arrive in suitable condition for testing. The ideal decapitation process is to separate the head from the body at the atlanto-occipital joint which provides direct access to the foramen magnum and avoids the creation of bone shards. Decapitated heads or whole brains removed from the calvarium of large animals should be shipped according to regulations for Diagnostic Specimens (please refer to http://www.ksvdl.org/pdf/VDL_Shipping.pdf). An overnight method of shipping is ideal to facilitate prompt delivery to the laboratory. Please note that shipping first-class or priority via US Postal Service does not guarantee over night delivery. A plentiful supply of frozen gel packs should be included with the sample to keep the contents cool during shipping.

The updated Recommendations of the Advisory Committee on Immunization Practices - Human Rabies Prevention - United States,

2008 is now available at <http://www.cdc.gov/mmWR/preview/mmwrhtml/rr57e507a1.htm>

Please note that the Compendium of Animal Rabies Prevention and Control, 2008 (<http://www.nasphv.org/Documents/RabiesCompendium.pdf>) recommends healthy dogs, cats, and ferrets (regardless of vaccine status) may be observed for 10 days rather than immediately euthanized and tested. If you have questions about this recommendation, please contact the laboratory at 785-532-4483.

Current rabies cases report by the laboratory as of May 22, 2008

Kansas	Nebraska
31 skunks	9 skunks
3 felines	3 bovines
1 equine	2 equines
	1 red fox