

Diagnostic Center News

Fall 2007

University of Nebraska
Veterinary Diagnostic
Center

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Steffen & Mavis Seelmeayer

Notes From The Director

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The laboratory staff had a busy summer providing service, completing small projects and validating new assays to increase the breadth of our test offerings. New assays for equine arteritis were implemented to address growing concern in the region. Canine distemper PCR was added to our group of companion animal assays. *Mycoplasma* PCR for detection of feline *Mycoplasma* from blood of anemic cats is available. The serology lab added ELISA screening for *Actinobacillus pleuropneumoniae* (APP). The staff is responsive in trying to address needs, so please let us know if there are assays you'd like us to consider.

Faculty have several abstracts accepted for presentation at the AAVLD meeting covering diverse topics (swine abortions, BVDV testing, BVDV in alpacas and emerging herpes viral diseases in a zoological collection). Lab faculty have received several grants related to disease surveillance and emergency response that help all aspects of the laboratory. Equipment from these grants will be used in emergency and routine diagnostic testing. Please join me in thanking Drs. Hughes, Wilmont, Schomer and Akin for their support and the faculty and staff that have worked on the proposals. This additional grant support keeps costs down, thus affording broader disease surveillance. The goal of surveillance is to gain a better understanding of the targeted pathogens. We are fortunate to have many excellent faculty and staff leading these research and service efforts.

The lab will continue to host district meetings this fall and winter. Three are on the calendar for October (Ainsworth, Gering and Norfolk). The Professional Program of Veterinary Medicine is off to a great start and this first class is populated by an excellent group of young professionals. Dr. Doster is assembling resources for teaching pathology and is making use of diagnostic materials and archives in this effort. If you see some good gross lesions and want to share them with the students, E-mail the image to VDC2@unl.edu with a brief history of the case. Images of gross lesions may be included when you submit tissues to the lab for further evaluations and the materials will be evaluated. Thanks you for your continued support.

Dave Steffen, Director

Did You Know??

The first zoo in the USA was in Philadelphia.

The pet ferret was domesticated more than 500 years before the house cat.

-taken from:
<http://www.hightechscience.org/funfacts.htm>

Leptospirosis Cases in Dogs Are Low in Nebraska, Vaccine Available

While a few cases of leptospirosis in dogs have shown up in Nebraska, it's nothing dog owners need to panic about, a University of Nebraska-Lincoln veterinarian said.

Leptospirosis has increased in some U.S. regions, such as the Northeast, but in Nebraska, UNL's Veterinary Diagnostic Center has only see a slight increase in submissions and inquiries.

"We really have not observed a real increase in the number of local or regional cases with confirmed leptospirosis," said. D Scott McVey, veterinarian in UNL's Veterinary Diagnostic Center. The UNL Veterinary Diagnostic Center diagnosed some of the leptospirosis cases that showed up recently in Omaha.

Leptospirosis is a bacterial disease that can infect domestic animals and wildlife. It is caused by pathogenic strains of the genus *Leptospira*.

Dogs most at risk are ones with considerable exposure to the outdoors, McVey said. Exposure to leptospirosis can come from direct contact with infected urine or other bodily fluids from animals, or contaminated or stagnant water. (cont'd. on page 2)

Leptospirosis (cont'd.) . . .

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"The bacterium may infect almost any mammal, but some species may be at risk of exposure more than others," he said. "For instance, dogs may be exposed to urine from infected wild animals if they have access to outdoor environments, such as parks, ponds, marshes, creeks, etc."

The Diagnostic Center has seen some infections in dogs with the *Grippityphosa* strain of the disease. Infection with this strain of microorganisms causes a very serious kidney infection, but it can be successfully treated with antibiotics, he said.

Symptoms in infected dogs include weakness, shivering, vomiting and reluctance to move. Dogs may become severely dehydrated very quickly. Pregnant animals may abort.

"Consult a veterinarian if a dog has these symptoms, because an infected dog likely will require intensive medical care and the dog may be a source of infection to persons in direct contact," McVey said.

The natural carrier for *L. grippityphosa* is thought to be voles, but it can infect and be spread by other rodents, raccoons, opossums, foxes, squirrels, skunks, moles and other mammals, McVey said.

According to Dr. McVey, the UNL Diagnostic Center also diagnosed a few cases caused by other *Leptospira* strains, but the incidence of canine leptospirosis in this region seems to perhaps be lower than in other regions of the country.

Fortunately, vaccines are available for dogs that cover most of the common serovars that cause leptospirosis.

"Serovar coverage for immunization to prevent leptospirosis in dogs has improved in recent years," McVey said. Vaccination options should be discussed with a licensed veterinarian.

(Taken from the University of Nebraska's Institute of Agriculture and Natural Resources news release.)

Contributed by: D Scott McVey, Ph.D.,
Assistant Professor, Veterinary and Biomedical Sciences

Bacteriology Testing Added

There has been considerable interest in testing feline blood specimens to diagnose *Mycoplasma haemofelis* infection. The nomenclature is *Mycoplasma haemofelis* (old *Haemobartonella felis*, large variant). There is also a *Mycoplasma haemominutum* which is the old *Haemobartonella felis*, small variant - which is generally less virulent. (*Mycoplasma felis* subsp. *felis* is the causative agent of respiratory infections and conjunctivitis.) While we are investigating and evaluating newer and presumably very sensitive and specific probes for *M. haemofelis*, we can currently test blood for the presence of *Mycoplasma* species. If EDTA blood is submitted from an anemic cat, there is greater than 90% probability that any detected *Mycoplasma* would be *M. haemofelis*.

(Cost would be \$25 and would require about 0.25 to 0.50 mls of EDTA blood.)

"Coming together is a beginning;
keeping together is progress;
working together is success."

-- Henry Ford

VIROLOGY UPDATES

NEW TESTS OFFERED:

APP SCREENING ELISA (IDEXX)

This ELISA is based on the ApxIV antigen of *Actinobacillus pleuropneumoniae* which is produced in abundance by all serotypes of APP. This ELISA can be used as a screening test, with follow-up to determine serotype, if necessary. Turn-around time is 24-48 hours and cost of the test is \$4/sample.

EQUINE VIRAL ARTERITIS (EVA) REALTIME PCR

Appropriate antemortem samples include nasopharyngeal and conjunctival swabs and semen. Please submit swabs in viral transport medium, which is provided by the lab at no charge. Turn-around time is 24 hours and cost of the test is \$25/sample.

CANINE DISTEMPER VIRUS (CDV) REALTIME PCR

Appropriate antemortem samples include conjunctival scrapings, pharyngeal washings, urine, whole unclotted blood, serum and cerebrospinal fluid. Turn-around time is 24 hours and cost of the test is \$25/sample.

FAILURE OF PASSIVE TRANSFER (FPT)

Failure of passive transfer testing is available for horses, cattle, llamas and alpacas. Turn-around time is 24 hrs and cost of test is \$10 for horses, llamas and alpacas and \$5 for cattle.

TESTS UNDER DEVELOPMENT:

PCV IgM/IgG ELISA

This ELISA is produced by Ingenesa in Spain and detects both IgM and IgG produced during infection with porcine circovirus 2. Preliminary research at Iowa State University indicated that the IgM assay performed well during acute infection and that combined results may be used to estimate the timing of PCV 2 infection. This ELISA should be validated and available by Jan. of 2008.

PRRS (U.S.AND EURO) REALTIME PCR

This duplexed PCR is produced by Applied Biosystems and contains primer/probe combinations to detect both the North American and European strains of PRRS, as well as an internal control to ensure amplification efficiency. It will replace our nested PCR for PRRS which means that results will be available earlier on the day of testing and approximately 90 samples can be tested at the same time. This test should be validated and available by Dec. 2007.

EVA SN

We are developing this serum neutralization assay because of greatly increased demand. Currently, samples are being tested in Colorado. This test should be validated and available by the Dec. of this year.

MEET OUR EMPLOYEES



Roxane Ellis

Roxane Ellis is the Information Systems Specialist for the Department of Veterinary and Biomedical Sciences. Roxane has been with our Department for 19 years.

If you have a Web-based account, you have talked with Roxane over the telephone, as she is the "go to" person for all of our computer needs.

Roxane received her BS in Computer Science from Peru State College, Peru, Nebraska.

Roxane enjoys spending time with her family, working crossword puzzles and photography.

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The Nebraska Veterinary Diagnostic Center is accredited by the American Association of Veterinary Laboratory Diagnosticians

All regulatory testing for export is done in compliance with the code of federal regulations and technicians performing the test have been tested annually by the USDA through the National Veterinary Services Laboratories check-testing program. Additional assays within the lab regarding toxicology, microbiology and parasitology are assessed annually by check testing through the Veterinary Laboratory Association. Positive and negative control samples are included in all serologic and toxicologic testing protocols that require them.

Ancillary testing is reviewed by a single case coordinator who assures that test results are in agreement and any unusual test results are investigated to ensure that standard operating procedures are followed and that results can be replicated. Standard operating procedures are on file in each of the laboratories and available for inspection. A copy of our Quality Manual is available upon request.

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