

Message from Dean Herbert Whiteley

University of Illinois College of Veterinary Medicine

Do you know what is located in Urbana that every day helps veterinary practices across the state (and beyond) maintain animal and public health and welfare? Hint: It is located in our College, but has been providing service to veterinarians since about 25 years before the College was founded.

The answer: the Veterinary Diagnostic Laboratory.

Even long-time users of these services probably don't realize the scope of VDL's activities and all the ways it can improve the clinical practice of veterinarians.

Between 1995 and 2002, the number of accessions submitted to the laboratory more than doubled and the number of actual laboratory tests performed tripled. VDL now handles more than 42,000 cases a year. Only about one-fourth of these are connected with the College's Veterinary Teaching Hospital. More than 40 percent of the case load pertains to production species, including cattle, swine, sheep, goats and poultry (mainly turkeys), and nearly another 40 percent relates to dogs and cats; the rest relate to horses, other companion animals, wildlife, zoo species, and laboratory animals.

The work of the VDL is carried out by more than 50 individuals, including residents, technicians, support staff, and faculty members from all three academic departments in the College.

I'd like to update you on some of the newer services currently offered.

The molecular diagnostics section began soon after the appointment of Dr. Carol Maddox four years ago. With leadership from both Dr. Maddox and Dr. Gail Scherba in virology, it recently introduced tests for bovine viral diarrhea virus (BVDV) and porcine respiratory and reproductive syndrome virus (PRRSV) using highly sensitive real-time reverse transcription polymerase chain reaction (qRT-PCR) methodology.

Same-day results are available for pre-breeding semen testing for PRRSV, and there is a 24-hour turnaround time on tissue and serum samples. The BVDV test detects types I and II genomes in both acutely infected and persistently infected animals, with a response time of 36 hours. This relatively fast, accurate, and affordable testing will be key for achieving the goal of eradication of these economically crippling diseases.

Dr. Maddox is also excited about real-time PCR tests for leptospira. It allows the detection of leptospira in urine during the acute disease phase, a huge leap forward over serology tests that weren't sensitive until weeks after the initial infection. The new test has identified cases of chronic leptosporosis that had gone undetected by conventional serology. Because this organism impacts species ranging from dogs to people to livestock and wildlife, rapid and highly sensitive identification means greatly improved treatment outcomes and reduced risks of disease spread.

For both leptospira and PRRSV, positive PCR test results can be followed with gene sequencing to differentiate vaccine-related and wild type serovars and help practitioners effectively treat and manage the cases.

Several other molecular assays are currently offered by VDL: campylobacter detection and speciation, *Clostridium perfringens* toxin typing, *E. coli* virulence testing, *Listeria monocytogenes* detection, mycoplasma detection and speciation, salmonella detection, and *Streptococcus equi* detection and typing.

In VDL's clinical pathology area, Dr. Anne Barger reports that a new D-dimer point-of-care test kit has replaced the previous standard FDP test for diagnosis of thrombotic conditions. Through the cytology service, immunocytochemical staining for lymphomas is now available.

In all areas of VDL, the goal is not simply to provide diagnostic results, but to provide rapid, accurate results in a context of clinical relevance, with support for interpretation and application of the information to the situation at hand. VDL also plays an important role in research activities and in the training of veterinary and graduate students.

Now after all this news about what the VDL can do for you, here is one reminder of a service it *cannot* provide: carcass disposal of pets, wild animals, or any animal that has not been submitted for clinical or diagnostic evaluation through either the diagnostic laboratory or the teaching hospital.

If you would like to visit the VDL or have any questions about its services, please call 217-333-1620 or go to the Web site at www.cvm.uiuc.edu/vdl/. To contact me, send email to dean@cvm.uiuc.edu. --Herb