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What's happening at the AHL?

- official ribbon-cutting and lab tours took place on Oct 8, 1997
- "one-window" diagnostic service is available through Guelph, Kemptville, and Ridgeway
- VLSB and OVC diagnostic labs have been combined since April 1, 1997 - most AHL-Guelph labs and offices are now located within OVC
- **Dr. Gaylan Josephson** is our new Swine Health Advisor, heading up our Swine Health Team we have replaced the VLIS mainframe computer with a client-server based system called VADDS (Vetstar Animal Disease Diagnostic System) that supports improved reporting to clients

Molecular biology testing

Dr. Hazel Alexander, veterinary molecular biologist, and **Dr. Hugh Cai**, research associate, are completing validation of our new PRRS PCR test, to be released soon. Work is progressing well on a number of additional molecular tests.

New Accreditations

In October, 1997, the AHL was officially accredited by the Canadian Food Inspection Agency (CFIA) for export testing for **equine infectious anemia (EIA), enzootic bovine leukosis (EBL), and bovine brucellosis (*Brucella spp.*)**. "We're delighted to be able to expand our test spectrum to include these commonly requested tests for both individual animal testing and for export testing", notes **Dr. Doug Key**, immunologist and avian virologist in AHL-Guelph.

In November, 1997, the AHL became accredited by the Thyroid Registry of the Orthopedic Foundation for Animals Inc. to test dogs for free **T4 by dialysis (FT4D), canine thyroid stimulating hormone (cTSH), and thyroglobulin autoantibody (TgAA)**. "The purposes of the registry are: to identify those dogs that are phenotypically normal for breeding programs and to gather data on the genetic disease - autoimmune thyroiditis."

Feedback for the AHL?

Please feel free to call, fax, or Email any of our labs.

New Antigen Detection Tests

a. Bovine respiratory syncytial virus (BRSV) antigen detection ELISA

The Abbott Test Pack RSV antigen detection ELISA is a rapid test for the identification of bovine respiratory syncytial virus in **nasal swabs** from acutely infected animals. This test is able to identify as few as 500 CCID50 infectious virus particles. Swabs should be submitted in 0.5 ml of phosphate-buffered saline and transported to the laboratory on ice packs. The cost for this ELISA is **\$20.00 per case**. For more information please call **Dr. Susy Carman** at 519-824-4120 ext 4551.

b. Influenza A virus antigen detection ELISA

The Directigen Flu A antigen detection ELISA is a rapid test for the detection of Influenza A. Capture monoclonal antibodies, directed to the highly conserved nucleoprotein specific for type A influenza, recognize influenza A isolates from both **horses** (H7N7, H3N8) and **swine** (H1N1, H3N2). **Nasal swabs** need to be placed in 0.5 ml of phosphate-buffered saline and transported to the lab on ice packs. In comparison to isolation, this ELISA is reported to have 91% sensitivity and 95% specificity. Swabs for virus

isolation must be submitted in virus transport medium - available from the AHL on request. The cost of this ELISA is **\$20.00 per case**. The cost of virus isolation in eggs is \$20.00 per case. For more information please contact **Dr. Susy Carman** at 519-824-4120 ext 4551.

c. Chlamydia antigen detection ELISA for ruminants

The Clearview chlamydia antigen detection ELISA is a rapid test for the identification of *Chlamydia psittaci*. It uses a genus-specific monoclonal antibody directed to the lipopolysaccharide epitope of chlamydia as the capture antibody. This test has been determined to have 87% sensitivity and 98.8% specificity in comparison to isolation. However the ELISA has the advantage that it does not require living organisms for a positive test. It is also more rapid - isolation in eggs requires 3 passages of one week each. **Swabs** for ELISA should be submitted dry in a sterile container. (For isolation, swabs must be transported in chlamydia transport media, which is available on request from the AHL.) All should be transported on ice packs to the laboratory and **not frozen**. The cost of the ELISA is **\$20.00 per case**. The cost of isolation in eggs is **\$20.00 per case**. For more information please contact **Dr. Susy Carman** at 519-824-4120 ext 4551

d. BVDV antigen detection ELISA for detection of persistently infected (PI) cattle

The Serelisa BVD/MD antigen ELISA is a rapid test for the detection of BVDV antigen in the blood of **persistently infected animals**. It uses capture monoclonal antibodies directed to the p80/120 nonstructural protein of BVDV, present in all BVDV-infected animals. This ELISA is reported to have 85-100% sensitivity and 98-100% specificity, when compared to virus isolation. This test is not appropriate to identify acutely infected animals, where virus titers in blood may be lower than the detection limit of the assay (104 virus particles per ml). As well, the presence of colostral antibodies may result in false-negative results, such that neonates should be tested after 3 months of age. As with virus isolation, this ELISA requires a second test on specimens taken 3 weeks after the first bleeding, to confirm persistent infection. Please send **10 ml heparinized blood**. The charge for this ELISA test is **\$10.00 per animal**. If you also wish virus isolation to be performed, please forward another 20 ml of EDTA blood (cattle/sheep only, not birds). Please call for an appointment if you wish to send large numbers of

specimens. For more information please call **Dr. Susy Carman** at 519-824-4120 ext 4551.

New Serology Tests

a. Transmissible gastroenteritis (TGE)/porcine respiratory coronavirus (PRC) differentiating ELISA

The Svanovir TGEV/PRCV differentiating ELISA is designed to discriminate between TGEV and PRCV antibodies in swine sera. This blocking ELISA uses peroxidase-labelled monoclonal antibodies, which compete with the test sera for antigen-binding sites on antigen-coated plates. Depending on the binding patterns of the two competing monoclonal antibodies, sera are reported to be: positive for TGEV; positive for PRCV; or negative for antibodies to both TGEV and PRCV.

It is important that all sera first be tested using the virus neutralization (VN) test. If all sera are negative in the VN test, no further testing is required. The VN test also helps in the subsequent evaluation of sera with very high antibody titers, where the ELISA can result in a false-negative test unless the serum is diluted before testing.

This ELISA is intended as a herd test. As with other similar TGEV/PRCV differentiating tests, animals with low VN antibody titers can be falsely determined to have antibody to PRCV. If any animals in the herd are positive for antibody to TGEV, the herd should be declared positive for TGEV. The VN test costs **\$2.50 per animal**. The differentiating ELISA costs **\$6.00 per test**. For more information please contact **Dr. Susy Carman** at 519-824-4120 ext 4551.

b. Infectious bovine rhinotracheitis (IBR) serology ELISA

The Bio-X IBR/IPV ELISA is an indirect 96-well plate assay for the detection of antibodies in sera to bovine herpesvirus-1. This test is more sensitive than the virus neutralization assay, intended to be used for IBR eradication and monitoring programs. IBR eradication is well underway in Europe, with many countries now free of IBR. The test provides a positive/negative result and costs **\$4.50 per test**. For more information please contact **Dr. Susy Carman** at 519-824-4120 ext 4551.

c. Serology for bovine viral diarrhea virus (BVDV) type 1 and type 2

Traditionally, the AHL has used Oregon strain (type 1) BVDV in virus neutralization assays to detect antibody to BVDV in serum, since it lies about midway in the spectrum of antigenic diversity that exists for BVDV strains. We now also offer BVD serology assays which use NADL strain (type 1), Singer strain (type 1) or NVSL 125 strain (type 2). The NADL and Singer strains, which are used in many vaccines, are at one end of the antigenic spectrum, while NVSL 125 is at the other.

If your purpose for testing is to evaluate vaccination responses for a specific vaccine, please note this on the submission sheet and record the vaccine product name and manufacturer that was used for the herd. We will select the strain most appropriate for your needs. If you wish sera to be tested for antibody to both type 1 and type 2 BVDV, then please note this on the submission sheet.

Since paired sera must be tested on the same day for comparisons to be made between acute and convalescent antibody titres, we normally hold single sera from diagnostic cases until the convalescent sera arrive. For monitoring cases where you will be sending only single sera, it is therefore very important that you tell us that no convalescent sera will be coming, so the sera can be processed without delay. For more information please call **Dr. Susy Carman** at 519-824-4120 Ext 4551

Milk somatic cell counts

We now offer somatic cell counting on milk samples submitted for culture, at an additional charge of **\$1.00 per sample** (milk culture + SCC = \$5.00 per sample). If you do not request SCC, we will continue to perform the California mastitis test plus mastitis culture for **\$4.00 per sample**.

Guidelines for submitting samples for SCC:

1. Specifically request SCC on the submission form.
2. **Samples for culture must be taken directly from the cow.** Those taken from the milk meter are not suitable.
3. If you only want SCCs done with no culture, please submit to 95 Stone Rd.
4. Vials must be at least 3/4 full.

If you have any further questions regarding this enhanced service, please call **Dr. Nonie Smart** at 519- 824-4120, ext. 4536.

If you wish a supply of the **Regulatory Unit Milk Sample Submission Form**, please fax your request to the Regulatory Services Unit, 519-767-6240.

New AHL submission forms

Samples of our new user-friendly species-specific submission forms are included with this newsletter. Each has characteristic animal graphics and easy-to-use check-off boxes. Most available tests are listed on each form - for further information on other tests, please call the AHL lab. If you would like a supply of any of these forms, please fax in the order form.

What is a food animal "case"?

Up to 3 mammals/litters/ratites or 10 other birds, and up to 10 microbiology or serum/blood samples, from the same owner, same age group, same disease problem, same day. Submissions containing more than the above may be split into 2 or more cases.

We no longer require that you prepay fees for external labs - we bill you directly.

We accept incoming collect courier shipments from within Ontario at **no charge to you** if you quote the U of G account number from page 2 of the 1997 AHL Fee Schedule (e.g. Purolator - 6772212).

For a complete listing of AHL services and fees, please refer to our fee schedule at the AHL website at

<http://ahl.uoguelph.ca/>

If you are not using our **free service for faxing of test results**, and would like to convert to fax from the mail service, please call 519-824-4120, ext 4502.

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