

A Quarterly Newsletter from the Indiana Animal Disease Diagnostic Laboratory at Purdue University



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From the Director.....

On May 1st, after 19 years of dedicated service to the Citizens of Indiana, Duane Murphy, DVM, PhD, retired from his position as Veterinary Pathologist and Assistant Director of the ADDL-Heeke Laboratory located at the Southern Indiana Purdue Agriculture Center in Dubois, IN. During his tenure at our southern lab, Dr. Murphy worked closely with veterinarians, the poultry industry, and animal owners to help solve their disease problems. In his role of veterinary diagnostician for Southern Indiana, he saw a breadth of diseases in a wide variety of species, and was always on the lookout for foreign animal diseases that would have severe consequences. As a result of his diligence, he saw and aided in the diagnosis of a number of disease outbreaks. While working to diagnose the cause of illness in a group of rabbits, Dr. Murphy recognized a possible outbreak of Rabbit Hemorrhagic Disease, a foreign animal disease which could have devastated wild rabbit populations. In concert with the Indiana Board of Animal Health and the USDA AVIC, the outbreak was definitively diagnosed and the threat was eradicated before it gained a foothold in the U.S. Please help us thank Dr. Murphy for all that he has done for Indiana and the U.S.!

Q: What is a Quality Management System?

By Lou Samudio, Quality Manager

The ADDL Quality Management System (QMS) is written to be in compliance with the AAVLD Accreditation Requirements. These are a set of guidelines set forth by the American Association of Veterinary Laboratory Diagnosticians stating the format which all veterinary labs seeking accreditation through their organization should follow when implementing a QMS. The ISO definition for QMS is, “the organizational structure, procedures, processes and resources needed to implement a quality control and quality assurance program.” Sounds simple enough, but just what is quality control, quality assurance, what is the difference between the two, why are they important to accreditation and why are they important to you?

The ISO definition for Quality Control (QC) is, “the part of quality management focused on providing evidence that the quality requirements of products or services have been fulfilled.” The ADDL fulfills this quality requirement during testing of your samples by running, when appropriate, positive/negative controls, preparing and running lab spiked samples, lab method blanks, calibration curves, etc. So, quality control is a review of the product or service either during or after the fact. The result is that if the QC’s are not what we anticipated, there will be some rework or re-inspection that takes place to accept the results of your analyses, to insure you of accurate results.

The ISO definition for Quality Assurance (QA) is “the planned and system wide activities implemented within the QMS, that demonstrates as needed, and which provides adequate confidence, that each step or task will fulfill requirements for making quality product or services.” For us at the ADDL, this is our SOP’s and controlled document system, our training, the internal audits, corrective action process, etc. The result is confidence that your test results will be accurate.

The ultimate result of a QC process will be suitable results for our clients. If work has to be performed again, there is a loss of time, resources and wasted effort that must be accounted. On the other hand, QA defines successful processes and systems upfront, provides a means for training staff to these systems, provides means for correcting when these systems need updating, and requires that these processes are periodically reviewed to determine sustained conformance. When implemented successfully, QA Programs result in successful QC inspection results, and successful testing.

The ADDL QMS is a modern day approach to putting quality into a process to assure or maximize the potential for obtaining accurate QC results the first time through. It is a system that continually evolves through internal audits, corrective action, review and updates to SOP’s, and training to new and/or updated procedures to drive continuous improvement efforts.

A: Your Assurance of Accurate Test Results!

Should America Prepare?

A Review of Schmallenberg Virus

By Renae Davis

Edited by Dr. Peg Miller

Schmallenberg virus is a newly discovered *Orthobunyavirus* affecting sheep, cattle, goats, and bison in Europe. It is primarily transmitted through mosquitoes and biting midges. Besides vector transmission, the disease can also be spread transplacentally from dam to offspring. Clinical signs in adult ruminants often resolve within one week and include reduced milk production, hyperthermia, anorexia, watery diarrhea, and lethargy. Affected offspring present as stillborn, premature, or mummified feti. Congenital abnormalities in these animals include arthrogryposis hydranencephaly syndrome. Observed signs include death, ataxia, paralysis, muscle atrophy, joint malformations, behavioral abnormalities, abnormal vocalization, hyperexcitability, flaccid paralysis, inability to suckle, excessive lacrimation, and blindness. Upon necropsy, musculoskeletal abnormalities include jaw, vertebral, and limb deformities presenting as brachygnathia inferior, ill-formed lower mandible, torticollis, scoliosis, kyphosis, or arthrogryposis. Viral isolation can be performed on cerebrum, cerebellum, brain stem, medulla oblongata, and spinal cord tissues. Histologic evaluation shows encephalitis with lymphohistiocytic, perivascular cuffing. No vaccine is currently effective in preventing Schmallenberg virus infection. Current actions in Europe to prevent disease spread are targeted at effective vector control. Importation of live animal and ruminant germplasms from European Union nations into the United States is restricted. Even though Schmallenberg virus has not been identified in the United States, surveillance actions are currently enforced across the nation. Further development and research continues with collaboration between the USDA Animal Plant Health Inspection Services and the U.S. state veterinary diagnostic laboratories.

View the entire articles at our
website: www.addl.purdue.edu.

Copper Toxicosis in Sheep By Whitney Camp

Edited by Dr. Abigail Durkes

Copper is one of the oldest metals known to man. Brass, bronze, gun metal, and money metal are important alloys that contain copper. These alloys are often used in construction, electrical products, transportation equipment, industrial machinery/equipment, coins, and consumer products. Copper compounds are also commonly used for fungicides, fertilizers, and nutritional supplements for humans and animals. Acute copper toxicosis may occur in any species (ruminants or non-ruminants) associated with the use of these various compounds, but sheep are especially

susceptible to copper toxicosis. The most common cause of copper toxicosis in sheep is usually chronic exposure to diets containing either excessive amounts of this common metal or improper copper:molybdenum ratios. Since copper is an essential trace element, its role in electron transfer reactions make this metal vital for connective tissue cross-linking, antioxidant defense, cellular respiration, and catecholamine biosynthesis. However, copper is also responsible for toxicity at excess accumulations through free radical production and direct oxidation of cellular components.

NEW TEST:

Field Necropsy \$115.00 plus accessioning.

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Test does NOT include Toxicology or Molecular diagnostic tests. Any tests requested above and beyond what is offered in the field necropsy will result in additional charges.

CONGRATULATIONS TO DR. MURPHY
FROM THE HEEKE LAB ON HIS
RETIREMENT APRIL 30TH, 2013.
WE WISH HIM ALL THE BEST!

SAME DAY PRRS SAMPLES

Now offering same day results on PRRS samples that are submitted according to the established guidelines. For information on these guidelines, please visit www.addl.purdue.edu.

ADDL Lab Results are available by:

- ◆ Email (call ADDL with your email address)
- ◆ Fax
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