



Accredited Veterinarian Newsletter



NY STATE DEPT OF AG & MARKETS—DIVISION OF ANIMAL INDUSTRY



SPECIAL REPORTABLE DISEASE EDITION

Fall 2009



Push For More Animal Disease Reporting

By DAI



The fall edition of the accredited veterinarian newsletter has a strong emphasis on reportable animal diseases. The renewed focus on reportable and foreign animal diseases comes from the increasing incidences of these diseases in the United States as well as the ever present threat of bioterrorism and natural disasters, continual flow of animal commerce and public opinion of animal welfare.

Reportable and foreign animal diseases do occur in the United States and occasionally in New York. Private practitioners are on the front lines in the battle of detecting these diseases. While New York certainly has not had the same disease woes as some of the other states, we have had both reportable and foreign animal diseases threaten New York State's livestock.

We encourage private vets to call our field staff or our main office if they feel that they have found, suspected or

wondered if they have come across a reportable or foreign animal disease. Some of these diseases mimic other non reportable diseases or other non disease maladies. For instance, vesicles on an animal do not always mean a viral or bacterial origin, but may be due to chemical or mechanical trauma. Either way, the presence of vesicles needs to be reported to the Division of Animal Industry (DAI).

Our goal at DAI is to assist a vet in sorting out a situation like the presence of vesicles. Our field staff will discuss the situation with the field vet, visit the farm, speak to the producer, take diagnostic samples, assist the vet and producer in other ways until the diagnosis is reached.

The DAI is one of many resources available to private practitioners should they find themselves in an unusual or uncomfortable situation. However, we cannot be of assistance if the vet doesn't reach out to our staff. Our staff has

experience in most of the animal species commonly encountered in New York.

An important take home message about animal disease reporting is to call our office, our field staff 24 hours a day, 7 days a week. Be sure to communicate with one of our staff before you leave the farm.

During that initial contact, our staff will likely to ask you to practice the 4 C's:

- 1) **Control the scene**—Take steps to prevent additional dissemination of the infectious agent, if suspected. Address human and animal traffic.
- 2) **Communicate**—
 - A. Report: Call our office or field staff
 - B. Establish Expectations: Discuss investigation and control measure with farm owner.
- 3) **Contain**— Institute appropriate isolation or quarantine. You may not be able to visit other

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farms. Be sure to check with regulatory officials before leaving a farm.

- 4) **Clean Up**—Don't be a fomite. Utilize appropriate cleaning and disinfection for personnel and equipment including vehicles.



New Web Pages Now Available on Our Division Homepage

By Dr. Courtney McCracken

The Division of Animal Industry has been hard at work to revamp their division web pages. The newest web pages to be created were the 'poultry', 'swine' and 'laws and regulations' web pages. The 'laws and regulations' page lists most of the common laws and regulations regarding animal agriculture in

New York State. There is also a general search function for any law or regulation in New York State. The poultry and swine pages have various information for vets and producers. The new web pages can be accessed off the Division of Animal Industry Homepage at:

<http://www.agmkt.state.ny.us/AI/AIHome.html>

Other web pages soon to be available include: Cattle, Cervids and Import/Export.





Babesia in Reindeer

By Dr. Paul Virkler, AHDC @ Cornell

A four-year old reindeer from a small herd presented to the referring veterinarian with an acute onset of jaundice and a temperature of 103°F. Anti-inflammatory and antibiotics were administered but the animal died 12 hours later. On necropsy severe icterus, enlarged submaxillary lymph nodes, and an enlarged liver were noted.

The Animal Health Diagnostic Center received post-mortem samples from this reindeer that included kidney, liver, lymph node, and EDTA whole blood. A red blood cell parasite evaluation was performed by the Clinical Pathologist which revealed organisms compatible with *Babesia* and possibly a dual infection with *Anaplasma*. The parasitologist also reviewed the slide and agreed with the *Babesia* diagnosis. Histopathology revealed an increased number of macrophages, which occasionally exhibited erythrophagocytosis, within the lymph node and liver. It was thought that this erythrophagocytosis was likely secondary to the presence of the erythrocytic parasite (*Babesia*). A moderate intratubular hemoglobinuria was noted on histopathology in

the kidney sample which was thought to be secondary to the intravascular hemolysis likely due to the *Babesia*.

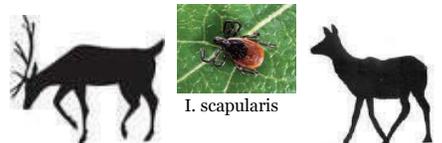
At this point a sample of the EDTA whole blood was referred to the Tick Borne Diagnostic Laboratory at North Carolina State University for confirmatory PCR testing. The results came back positive for *Babesia odocoilei* and negative for *Anaplasma*. Additional blood smears and serologic testing on herd mates revealed no evidence of *Anaplasma*. No other testing for *Babesia* was performed on herd mates.

Babesia odocoilei is a tick-borne, intraerythrocytic parasite, causing acute, most often fatal babesiosis in reindeer¹. *Babesia odocoilei* infects other cervids, having caused fatal cases in white-tail deer, caribou, and elk. This parasite is known to be transmitted by the tick, *Ixodes scapularis* although there is a question as to variation by region of the country and whether other ticks may also be involved. At this time there is very little data on the prevalence of this organism in the wild and captive cervid populations in the Northeast. Veteri-

narians should educate their reindeer clients about the clinical signs such as anemia, fever, hemoglobinuria, and lethargy that may indicate clinical babesiosis. This disease has high morbidity and mortality even if treated early although there is a published case of successful treatment on an individual reindeer using imidocarb dipropionate². It should be noted that this is an extra label use of imidocarb dipropionate. Owners may also want to consider some sort of tick prevention.

1)Holman PJ, Bendele KG, Schoelkopf L, Jones-Witthuhn RL, and Jones SO. Ribosomal RNA analysis of *Babesia odocoilei* isolates from farmed reindeer (*Rangifer tarandus tarandus*) and elk (*Cervus elaphus canadensis*) in Wisconsin. Parasitol. Res. 2003;91:378-383.

2)Bartlett SL, Abou-Madi N, Messick JB, Birkenheuer A, Kollias GV. Diagnosis and treatment of *Babesia odocoilei* in captive reindeer (*Rangifer tarandus tarandus*) and recognition of three novel host species. Journal of Zoo and Wildlife Medicine. 2009;40(1):152-159



Babesia has been isolated from reindeer and elk in New York State.

Vets Practicing on the New York — Pennsylvania Border

By Dr. Courtney McCracken

For veterinarians who are practicing veterinary medicine along the New York and Pennsylvania border, here is a friendly reminder.

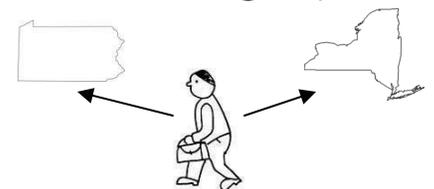
New York accredited vets who seek to practice along the border in Pennsylvania must be both licensed and accredited in Pennsylvania. You may not practice in Pennsylvania without satisfying these requirements. The State Board of Veterinary Medicine in Harrisburg, PA, is the regulat-

ing agency.

We have been receiving reports that New York accredited veterinarians are working across the border in Pennsylvania without having been licensed and accredited in Pennsylvania.

To be sure that you have met all of Pennsylvania's requirements, please visit: <http://www.dos.state.pa.us/bpoa/cwp/view.asp?a=1104&q=433261>

To Contact the Licensing Agency in PA:
State Board of Veterinary Medicine
PO BOX 2649 Harrisburg, PA 17105
Phone 717-783-7134
ST-VETERINARY@state.pa.us



Electronic Equine Infectious Anemia (EIA) Testing, Submissions and Reporting

The AHDC at Cornell University will be partnering with Global Vet Link to offer electronic submission and reporting of EIA testing via the GVL website (www.globalvetlink.com) beginning August 1st. This service will provide more accurate descriptions of the horse through the use of digital pictures and more legible test charts. If you are interested in participating, please visit the GVL website for more information on how to sign up or call Dr. Linda Mittel or Dr. Belinda Thompson at the AHDC (607-253-3900).



EEE Claims 3 Horses in NY, More Mosquito Pools Positive for EEE

By DAI

The Division of Animal Industry is confirming reports that Eastern Equine Encephalitis (EEE) has claimed 3 horses in New York State in 2009.

This first case of EEE in a horse occurred on August 5th, in Oswego County, NY. The horse, a 3 year old Belgian stallion, was euthanized after acute neurologic signs. The stallion had no vaccination history or history of recent travel. The second and third cases of EEE happened in early September. An 18 month old mare was euthanized after having signs consistent with EEE. She was reported to have been vaccinated by the owner with an EEE vaccine in May 2009. The third case is a 2 year old mare in St. Laurence County who was also euthanized due to neurologic signs. This mare had no vaccine or recent travel history. Since none of these horses had history of recent travel, it is believed that these infections

were acquired locally. There are also reports of several other horses in St. Laurence County who had died or were euthanized after having signs consistent with EEE. Unfortunately there was no confirmatory testing done on this group of horses.

All of the diagnostic testing for the 3 EEE horses was done at the Wadsworth Laboratory in Albany. None of the 3 EEE positive cases were positive for West Nile Virus or Rabies. There are no confirmed West Nile Virus or Rabies cases in horses in New York in 2009.

Take Home Message: Encourage horse owners to vaccinate now! We are expecting another 4-6 weeks of mosquito activity. Be sure to minimize stagnant water around horses. Mosquitoes love to breed here. Try to keep horses inside during dawn and dusk hours. Don't forget to take precautions for yourself. Use mosquito repellents.



The New York State Department of Health (NYSDOH) continues to report more mosquito pools that are positive for EEE and West Nile Virus. Many of these positive pools are found in Oswego, Onondaga, and Madison counties. However, with the recent horse fatality in St. Laurence County, one has to wonder if there are positive mosquito pools in that county. Counties may issue public health threat alerts as well as conduct aerial spraying of adulticides. For more information, visit the NYSDOH website: http://www.health.state.ny.us/diseases/communicable/eastern_equine_encephalitis/fact_sheet.htm

Vaccinate, Vaccinate, Vaccinate!



Contagious Equine Metritis (CEM) Update

By Drs. Mittel, Thompson (AHDC @Cornell), McCracken

To date New York has had 15 horses exposed to CEM— 13 mares and 2 stallions. All but one of the animals has been tested negative and treated and released from quarantine. The final mare will be tested this month. For more information on the national CEM situation, please visit the USDA-APHIS website and look under "Hot Topics".

CEM Testing For Breeding Programs

The AHDC can provide protocols for accomplishing the currently recommended import and outbreak testing that includes culturing of multiple sites on more than one occasion. It is recognized that this testing is expensive and time consuming. **The usefulness of attempting some form of limited sampling/culturing is not believed to be very good, as all research points to the necessity of thorough sampling and culturing to find carrier mares and stallions.**

There is also limited utility for blood testing such as antibody detection. The CEM complement fixation (CF) test is only appropriate for use in mares, as stallions do not seroconvert due to colonization vs. infection of their external genitalia with the *Taylorella equigenitalis* organism. In addition, the period of positivity for the CF test following actual infection in the mare is very brief and may be confined to 15-60 days post-infection. Also, once a mare has been infected and seroconverts, she is never likely to develop a positive CEM CF titer following re-exposure. This is

true even if she is clinically infected a second time. While the CF test is routinely used for test mares bred to import stallions, it is not useful for detecting the majority of chronic carrier mares.

The CEM CF test could be added to a breeding program as a surveillance test by collecting blood samples from mares 21 days post-breeding. When used this way, it could be an effective tool in detecting carrier stallions routinely bred to mares in a population thought to be free of CEM. Given that some carrier stallions are not detected at all by culture techniques, it may be prudent to use CEM CF testing post-breeding in mares. Mares, as mentioned above, that had seroconverted after a previous exposure would not be detected by this CF test. Tests which would completely prevent transmission would be preferred, such as using the import culture protocols.

The *Taylorella* bacteria will not be detected on routine endometrial pre-breeding cultures or on endometrial cultures performed on mares with clinical metritis unless the following steps are followed: send swab in Amies transport media with charcoal labeled with date and time of sample collection; send to a lab capable of testing for CEM (such as the AHDC;) ship with freezer packs; ship to arrive within 48 hours from taking sample; request CEM culture. Specific protocols for sampling are available from the AHDC veterinary services support team. CEM should be included in the differential diagnosis for

mares developing metritis post-breeding, particularly ones with a heavy discharge, even if the metritis clears with no treatment. Some infected mares do not show any external clinical signs. A negative CEM culture on a single endometrial swab does not rule out CEM. **A CEM CF test performed at 21 days post-breeding, and multiple, multi-site cultures are recommended to rule out the possibility of CEM.**

Stallion owners and veterinarians frequently ask what the minimum testing they can perform to determine that their stallion is free of *Taylorella equigenitalis*. The USDA import stallion protocol would be the minimum accepted for an import stallion. It requires a set of cultures from 3 sites on the external genitalia of the stallion, plus 3 sets of multi-site post-breeding cultures and a CEM CF test from two CEM certified-free test mares.

The European Union (EU) requirements for semen imports, as well as the UK Code of Practice recommendations regarding CEM control, requires 2 sets of 4 cultures collected no less than 7 days apart, including cultures of pre-ejaculatory fluid or semen. The addition of repeated culturing during the breeding season, or surveillance CF testing in mares 21 days post-breeding, should increase the security that CEM is not being transmitted in the breeding program.

**AHDC Veterinary Services Support
1-607-253-3900**



Changes to Nat'l Veterinary Accreditation Program

By Barbara Miller and Dr. Rochelle Woods, USDA

National Veterinary Accreditation Program Changes Tentatively Scheduled for January 2010

Changes to the National Veterinary Accreditation regulations are anticipated to be approved by the end of 2009 and will become effective in January 2010. Watch the winter issue of the accredited veterinarian newsletter for more details.

When the new regulations are announced, the changes will apply to all accredited veterinarians regardless of the length of time an individual has been accredited. Initially, the only requirement will be to complete and submit a new application within a specified time frame. When completing the new application, veterinarians will choose

an "Accreditation Category" currently proposed as:

Category I = Companion Animal

OR

Category II = Equine, Food Animal, Companion Animal

It is important to note that if a veterinarian does not submit the new application within the time frame established, his or her accreditation will expire. In that event, the veterinarian will have to re-take the core orientation to become re-accredited.

Going forward, there will be renewal requirements including completing Continuing Education (available online).

It is essential that you keep your contact information current at all times. If you have not submitted an update form recently, or if there are any changes, please complete and return the form inserted in this newsletter.

There will be detailed information regarding the changes to the regulation posted on the APHIS–USDA website later in the year: www.aphis.usda.gov

If you have additional questions, please contact the regional USDA-APHIS office in Albany at 518-218-7540.



Johne's Milk ELISA Now Offered the AHDC at Cornell

By Dr. Paul Virkler, AHDC @ Cornell



The Animal Health Diagnostic Center (AHDC) at the College of Veterinary Medicine, Cornell University in partnership with the NYS Department of Agriculture and Markets (NYS DAM) is now offering a Johne's ELISA diagnostic test on milk. This test is available to veterinarians directly through the AHDC and through Dairy One for herds providing a veterinarian of record indicated on the submission form.

The Johne's milk ELISA is a commercial kit licensed to test milk for antibodies against *Mycobacterium avium* subsp. *paratuberculosis* (MAP). This test is performed on individual cow milk samples, with or without preservative added. As per the kit manufacturer's recommendations, results from the AHDC will be reported out as test POSITIVE or test NEGATIVE with no quantitative qualifier attached.

As has always been the case, Johne's disease needs to be approached by first addressing the areas of management that allow susceptible animals to be exposed to an infective dose of MAP. An overall Johne's disease control strategy and herd health plan should be in place for a given

herd. Diagnostic testing is only one piece of the control strategy aimed at identifying animals that are shedding or have the potential to shed MAP at a time when they would expose susceptible animals such as at parturition.

One published study¹ comparing the serum and milk ELISA to fecal cultures concludes that the Johne's milk ELISA may be useful as a herd-level test to estimate herd prevalence on an individual herd among the lactating dairy cattle. The current recommendation of the AHDC and NYSDAM is to consider using this test as a herd-level test rather than an individual cow level test. Published data^{1,2} estimates the relative sensitivity of this milk ELISA between 21-61% at a cow-level on a population of cows positive on fecal culture. Another published study³ reported the specificity of this ELISA at greater than 99% based on a population of cows from paratuberculosis-free herds.

NYSDAM and the AHDC conducted a study on paired milk and serum samples on 967 cows to compare the AHDC Johne's KELA on serum to the Johne's ELISA on milk. The analysis of this data set does not support drawing any conclusion about corresponding KELA interpretation categories in ELISA positive milk

samples. There were a high number of agreements in the ELISA negative milk samples. Additional data from follow-up fecal cultures on 42 animals for a single herd from the study showed that the milk ELISA wrongly classified 50% (3/6) of the cows that were heavy shedders (at the many level) based on the liquid culture.

For more information on Johne's disease diagnostic testing strategies please talk with your NYSDAM field veterinarian or contact the AHDC and speak with Dr. Belinda Thompson (607-253-3908) or Dr. Paul Virkler (607-253-3892).

Also see: <http://diagcenter.vet.cornell.edu/test/feeman/AppendG.pdf>. For Johne's disease control strategies see: <http://nyschap.vet.cornell.edu/module/johnes/johnes.asp>.

1)Hendrick SH, Duffield TF, Kelton DF, et al. Evaluation of enzyme-linked immunosorbent assays performed on milk and serum samples for detection of paratuberculosis in lactating dairy cows. *J Am Vet Med Assoc* 2005;226:424-428.

2)Lombard JE, Byrem TM, Wagner BA, McCluskey BJ. Comparison of milk and serum enzyme-linked immunosorbent assays for diagnosis of *Mycobacterium avium* subspecies *paratuberculosis* infection in dairy cattle. *J Vet Diagn Invest* 2006;18:448-458.

3)Collins MT, Wells SJ, Petrini KR, et al. Evaluation of five antibody detection tests for diagnosis of bovine paratuberculosis. *Clin Diagn Lab Immunol* 2005;12:685-692.



Cornell University
Animal Health Diagnostic Center

Visit the Dept of Ag & Markets—Division of Animal Industry's booth at the New York State Veterinary Conference on October 1-4, 2009, in Ithaca, NY. We will have division representatives there to discuss reporting animal diseases, handing out materials relating to foreign animal diseases and other emergency programs in the New York State. Stop by!



Sudden Death in Goats, Sheep

By DAI Field Staff

On an afternoon in late June the NYS Dept. of Agriculture & Markets was notified by the Columbia County Health Department of a report they had received from a county resident. The resident maintains a small mixed flock of sheep and goats, and 2 or 3 of the animals at a time had been found dead in the pasture over the course of the past week. The alarmed owners consulted their veterinarian and contacted the county health department and others due to their concern that a demolition/reconstruction project just above the pasture may have contaminated the stream that runs through it.

The Animal Industry field veterinarian immediately contacted the flock owner and gathered the following information: The total number of animals pastured was 42 (37 sheep, 5 goats). The goats were 2 mixed breed nannies & 3 kids. A total of nine animals had died (7 adult sheep of various ages, and 2 goat kids). The sheep were moved to the pasture around June 10th once they were shorn, and the goats joined them about 5 days later. One sheep was found dead on Monday. On Tuesday through Thursday 5 more sheep died and drew the attention of vultures. After another sheep, which seemed normal at 8am, was found dead at noon the rest of the flock was removed from the pasture.

Several of the dead animals were found 15-20 feet from the brook passing through

the center of the pasture. Most were found on their sides; one was found sternal with hind legs straight out behind. The fenced pasture was formerly the site of a dairy and has been used as sheep/goat pasture for many years without incident. There is a dairy 3 miles away, but no other livestock next to this pasture. Deer with fawns have been observed in the pasture at times. A neighbor upstream had been cleaning up an old farm property and buried the remains of an old barn near the stream. The owner noted that the stream was swift but clear in appearance.

The owners had not observed diarrhea or other premonitory signs in any of the animals. The sheep and goats were not routinely vaccinated. Three sheep were recently lame but were treated for footrot and had reportedly recovered. The remaining sheep and goats were relocated to the home farm barnyard where they had been maintained over the winter. Some cattle were also located at the home farm but no commingling was allowed. They were fed mainly pasture, but received some grain. No new additions had been brought in to the herd for several years. The herd veterinarian had checked the pasture and found no evidence of poisonous plants.

No more animals died over the weekend. The owner and private vet had discovered there were actually two dead sheep from

the previous Friday. The attending vet performed thorough necropsies on the two animals, obtaining multiple tissue samples, and documenting the work with photographs and recorded notes. Hemorrhages in the thorax were noted but no significant evidence of parasites. Tissue samples were sent to the Animal Health Diagnostic Laboratory at Cornell University. A follow up visit from DAI field staff revealed no new cases or deaths from this farm. The following week the laboratory reported that their findings were consistent with *Clostridium perfringens* type D.

This case illustrates:

~the importance of reporting unusual signs or multiple mortalities in any species of livestock (Do they represent the first warning of a new infectious disease, or environmental problem with a wider impact?)

~the vital role of the practicing veterinarian 'first on the scene' and ready to collect critical information

~the usefulness of good communication between animal health, wildlife, and public health agencies at all levels, recognizing the inter-relatedness of human and animal health

~other considerations, such as what role might vultures and other scavengers play if this had been an introduction of a new or foreign disease

From the Desk of the Import / Export Clerk

By DAI

Here are a few reminders regarding Certificates of Veterinary Inspection (CVI) (aka "health certificates"):

1. There may be 2 versions of the Certificate of Veterinary Inspection— Interstate Shipment (AI-4) still being used by accredited vets. Either version is still acceptable. One version has a revision date of 11/95 and the other one has a date of 08/08. Regardless of the version that you are using, please distribute the copies of the CVI in the same manner: 1st & 2nd copies must be mailed to the Division of Animal Industry Office in Albany within 5 days of issuance, 3rd copy goes to the owner/agent of the listed animals, and the 4th copy is retained by the issuing vet. You no longer need to send all 4

copies to our Albany office.

2. Be sure to enter all requested information on the form, **especially a complete 911 address.**
3. The social security number of the owner is no longer needed. Please do not put it on the form even if they give you their number.
4. If a premises has a registered Federal PIN (premise identification number—7 digit alphanumeric) please include it on the top of the form.
5. Please provide a reliable phone number for the issuing veterinarian in the event that we need to reach you.
6. Certificates for Veterinary Inspection are to be filled out with only ONE spe-

cialties per form. You may put up to 10 of the same species on the form. However, do not put multiple species on the same form. This often occurs when vets create CVIs for petting zoos.

7. The CVIs now have a serial number on each form. When a vet or clinic orders the forms from our office, the serial numbers from those ordered forms are recorded under the clinic or veterinarian's name and kept in our office. That way, we know which range of serial numbers belongs to which vet or clinic. Further the serial number aids in tracing animals should there be a problem when the animal crosses state lines.

If you have any questions, please contact our Import/Export clerk at 518-457-3971.

FALL 2009 NEWSLETTER

HALF A BRAIN IS NOT SUFFICIENT!

By Dr. Belinda Thompson, AHDC @ Cornell



Rabies Test Sample Collection & Submission

Studies done on materials from rabies positive animals have indicated that in some cases, the rabies virus may only be detected *unilaterally*. That is, if submissions include only half the brain, on a longitudinal/sagittal section, the diagnosis of rabies could be missed. Because the NYS Department of Health never wants a situation to arise in which a sample is called **NEGATIVE** that might, in fact, be positive, any submission that does not clearly include a complete cross section of the brain stem, plus adequate cerebellum, will be called "unsatisfactory for examination", unless rabies virus is actually detected. In cases involving human exposure by an animal suspected to have rabies, an "unsatisfactory for examination" result will lead to a recommendation to proceed with post-exposure prophylaxis.

Whole Brain Removal

When the entire brain is removed, the minimum sample required by the NYS DOH rabies lab is a **TRANSVERSE SECTION** (cross section) of the cerebellum and brainstem/spinal cord, if other samples are to be used for other diagnostic tests. The cerebellum can be lifted off the brainstem and sectioned separately, however the cross section of the brainstem or spinal cord must be an intact section. It is desirable to leave most of the brainstem intact for ruminants so that both rabies and prion disease testing can be accomplished (see below for ruminant sampling for prion disease testing routinely performed on rabies-negative brains). The cerebellum and brainstem samples must be placed in a small, leakproof, crush-resistant plastic canister or tub, then sent to the NYS Rabies lab in the standard New York rabies specimen shipping container. The remainder of the brain can be reserved for fixed tissue and fresh tissue diagnostics at the Animal Health Diagnostic Center. The NYS Rabies laboratory will not forward samples to the laboratory at Cornell.

FOR ALL CASES OF POSSIBLE RABIES, YOU SHOULD NOTIFY YOUR COUNTY PUBLIC HEALTH DEPARTMENT AND SUBMIT THE RABIES EXPOSURE HISTORY FORM WITH THE SPECIMEN. ONLY THE COUNTY HEALTH DEPARTMENT CAN ARRANGE FOR EMERGENCY RABIES TESTING. See the enclosed flow-chart to understand how the determination for emergency testing and post-exposure treatment is determined.

Small Animals and Wildlife

The rabies laboratory will accept entire heads from companion animal species and small wildlife. Do not submit entire heads from livestock species.

Rabies testing for NYS animals is only performed by the NYS Rabies Laboratory, and samples should routinely be submitted directly to them. The Pathology service at Cornell will assist by removing a brain and preparing the sample for submission, in cases only requiring rabies and BSE/Scrapie testing, for a fee of \$50. Complete necropsy exams are available for neurologic cases in which a definitive diagnosis will be pursued, with the understanding that a negative rabies diagnosis will be obtained prior to the completion of many laboratory procedures. If you submit an entire brain to our laboratory for diagnostic testing, where appropriate, we will send brain tissue to the rabies laboratory. A rabies shipping fee is charged in addition to any other fees.

Livestock

If the only testing required for livestock species is to rule out rabies and BSE/Scrapie, the brain stem and cerebellum can be removed through the foramen magnum, using the following guidelines:

1. Sever the head between the occipital bone and the atlas (first vertebra).
 2. Insert a sharp knife with a long, thin blade into the foramen magnum, being certain it is within the dura mater.
 3. Using a circular cutting motion (similar to coring an apple) carve out a plug of tissue by making deep circumferential cuts around the inside of the bony cavity and dorsally until the knife tip hits the dorsal aspect of the cranium.
 4. Remove the knife, and using a long pair of forceps, reach into the foramen and pull out the excised chunks of CNS. A long-handled spoon, such as an ice tea spoon, will facilitate this step.
 5. The first tissue to exit will be the brainstem sample, which should be relatively intact. Submit the brain stem. (See figure 6 in picture handout.) The rabies laboratory must be able to recognize a **complete cross-section of the brain stem**. In the event that an intact section can not be obtained, such as in a gun shot death, a complete segment of the **cervical spinal cord** can also be submitted.
 6. With continued effort, pieces of the easily recognizable, highly convoluted cerebellum will be removed. **Remove as much cerebellum as possible. When cerebellum is submitted in many pieces, rabies testing personnel will make a judgement that they have at least 1/3 or more of the entire cerebellum in order to call the testing conclusive.**
- Do not chemically fix the tissue. Preserve by refrigeration, only. The cerebellum and brainstem samples must be placed in a small, crush-resistant plastic canister or tub, then sent to



Dr. Courtney McCracken
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Phone: 518-457-3502
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E-mail:
vetaccred@agmkt.state.ny.us

the NYS Rabies lab in the standard New York rabies specimen shipping container, available from your county health department.

Ruminants- BSE, Scrapie, and CWD testing

The NYS Rabies Laboratory will submit tissues to test for Bovine Spongiform Encephalopathy (BSE), Scrapie, or Chronic Wasting Disease (CWD), depending on the species, on every rabies-negative bovine brain submission for which appropriate specimens have been included. The appropriate sample for these tests is the obex, which is the brainstem directly under the cerebellum, with a distinct V-shaped anatomical feature on its dorsum. For herds/flocks participating in the voluntary Scrapie eradication program, it may be desirable to take additional diagnostic samples. Please call the NYS Scrapie coordinator with any questions (518-858-1424).

Horses, Camelids – Arbovirus Testing

If the only testing desired on a NYS source equine brain sample is for Rabies and the arboviruses West Nile virus and Eastern Equine Encephalitis virus, then brain submission to the NYS rabies laboratory only will be sufficient. All equine brains found to be negative for rabies during northern arbovirus transmission seasons are automatically forwarded to the NYS Department of Health Arbovirus Laboratory. Both PCR and virus isolation for arboviruses is performed. Indicate on your rabies submission paperwork that WNV and EEE results need to be reported back to you in a timely fashion. Negative results are not routinely reported for the arboviruses through this surveillance program.

If you have any questions about a specific case, please call the NYS Rabies Laboratory, and discuss the details with director Robert Rudd, @ 518-869-4257 (518-527-7369 after hours).

See also: The NYS rabies lab website (www.wadsworth.org/rabies/prof/livestock).

See http://www.cdc.gov/ncidod/dvrd/rabies/professional/publications/DFA_diagnosis/DFA_protocol-b.htm for more specific information about rabies diagnostic testing in animals.