Wisconsin Veterinary Diagnostic Laboratory
UNIVERSITY OF WISCONSIN–MADISON

2022 Winter Newsletter

Message from the Director

We are excited that Spring is right around the corner! We hope that 2022 has started well for you personally and professionally and that we keep everything moving on a positive trajectory. I am excited to share the WVDL Annual Report (CLICK HERE), which highlights some of the accomplishments of our team from 2021. I am proud of our team and the important work we do every day!

In this newsletter, I would like to draw specific attention to the changes in UPS shipping rates. UPS shipping increased significantly due to factors outside of our control even though WVDL was part of a very large volume nationwide contract. Many global factors are in play for shipping rates and we are relieved that WVDL was able to get a new contract for significantly discounted shipping.

Please see the announcement for shipping rate changes that are effective April 1st, 2022.

2022 is shaping up to be another busy year. We are close to launch of our new laboratory information system (LIMS) and will be reaching out for training and questions as needed – please keep an eye out for news to come!

Keith Poulsen, DVM, PhD
Director

Client Services

Shipping Program Update at the WVDL
Due to a global increase in shipping costs, the WVDL will be increasing the price of shipping labels and the price for returning boxes and liquid nitrogen vapor shippers, effective 4/1/2022. The UPS shipping program still remains the most cost effective and efficient way to ship samples to the lab. For more information on the shipping program, follow this link https://www.wvdl.wisc.edu/index.php/shipping-information/

- ***UPS Shipping Program Price Changes:***

	Current Price	New Price
UPS Ground	$7.50	$10.00

UPS Next Day Air	$15.00	$20.00
Box Returns	$6.00	$8.00
Tank Returns	$10.00	$12.00

Test Tube Shortages
With the global shortages in plastics, the WVDL is experiencing low supply on test tubes for blood and serum collection. Be aware that these items may be on back order for an unknown period of time. The WVDL is looking into other options. For clients that are submitting whole blood samples in EDTA, please be mindful of appropriate blood collection technique and clot formation. Clot formation in EDTA tubes reduces the diagnostic sample and interferes with testing. With the test tube shortage these clotted samples in EDTA may prolong test turnaround and prompt the need for resubmission of samples. Thank you.

Molecular Diagnostics

- **Help us help you with BVD testing!**

BVDV testing on ear notch
WVDL receives thousands of ear notch samples each year. We would like to provide a reminder for the do's and don'ts for collection of ear notches.
Collection Procedure:

1. Use an ear notching tool that yields a 1cm a side notch.
   - **Do:** take a proper size ear notch from a clean portion of the ear (see below). For comparison, a triangle notch size is superimposed on a nickel.
   - **Don't:** collect a notch on an ear that is contaminated with dirt, feces or tattoo ink (see below). These contaminants are inhibitory to the testing and will yield false negative results.
   - **Don't:** vaccinate at the same time samples are taken. Even a slight contamination of the sample with BVD vaccine could yield false positive results.
2. Place notch into a labeled, dry, red top collection tube.
   - **Do:** use the preferred tube, which is a VACUETTE® No Additive Tube: 9ml.
   - **Don't:** add formalin, other liquid or use separator gel. Ear notches will not be able to be processed with these additives.
   - **Don't:** use snap-cap milk tubes or whirl-pak bags. These will not fit into our testing workflow.
3. Dip notching tool in disinfectant then ALWAYS rinse away disinfectant with copious quantities of clean water.
   - **Do:** use 10% bleach as a disinfectant for rinsing the notching tool, (eg.100ml (3oz) bleach in 900ml, (27oz) water).
   - **Do:** thorough rinsing of the tool with clean water. Residual disinfectant on the notching tool will yield false negative results if not rinsed properly. Best practice of using rinse water in 3-5 gallon bucket, and change bucket water every 20-30 notches.
4. Label Red Top collection tubes with the animal ID's and sequence number's (#1 through number in submission).
   - **Do**: use shipping container racks that hold individual tubes in slots with the same order as listed on the submission form.
   - **Don't:** bag them in bulk, it will be very time consuming to reorganize the tubes for accessioning.
5. Properly fill out our submission form: http://www.wvdl.wisc.edu/index.php/forms/ Click on the "Instructions for Excel Spreadsheet Template"
   and "Excel Spreadsheet for Electronic Submission".
   - **Do**: use the same order as the order of sample in the rack.
6. Sample storage prior shipping
   - **Do:** store collected ear notches in refrigerated temperatures for no more than a maximum of 72 hours. This allows for a Friday collection and Monday shipping.
   - **Don't:** store ear notches in clinics or on farms over the course of weeks or months. Storage will cause sample degradation, making our testing invalid.
7. Ship over night to the WVDL on cold packs.

BVDV testing on whole blood
Beside ear notch samples, whole blood is preferred over serum for BVD testing, as BVD is mostly found in white blood cells.

- **Do:** use the lavender top vacutainer tube that contains EDTA as an anticoagulant.
- **Do:** invert the tube 8-10 times immediately after collection to prevent clotting. **(very important step; we have recently received a higher than normal number of EDTA samples that are clotted and difficult to test).**
- **Don't:** use the green top vacutainer tube that contains the heparin as an anticoagulant. Heparin can be inhibitory to PCR assays, making our testing invalid.

Similar to ear notch samples, label collection tubes with the animal ID's and sequence number's (#1 through number in submission). Use shipping container racks that holds individual tubes in slots, same order as listed in the submission form, and ship over night to the WVDL on cold packs within 3 days of collection.

Image 1

Image 2

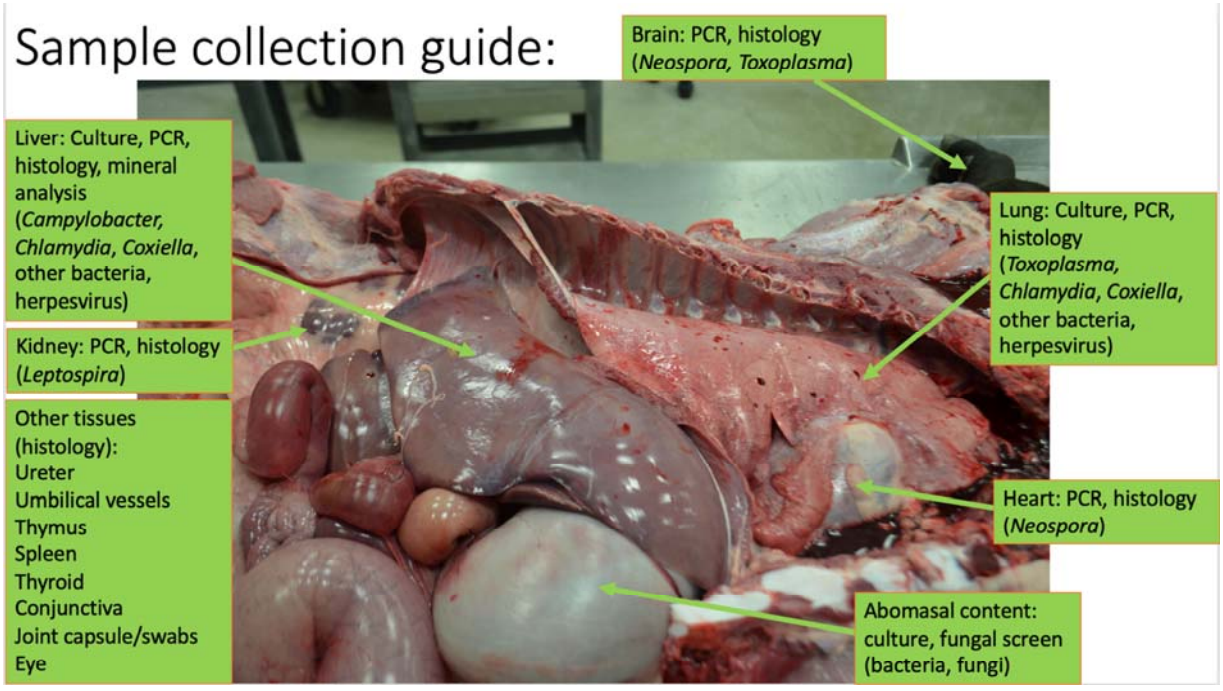
Image 3

Image 1: Best locations for taking/sampling an ear notch.
Image 2: Required size of ear notch, ~1cm per side.
Image 3: Ear notches with tattoo ink will be **REJECTED** as they interfere with testing.

Pathology

Spring is a season for growth and rebirth and, as many know, kidding and lambing season. According to archived WVDL case records, abortions and stillbirths were the most frequent type of necropsy cases submitted at WVDL for sheep and goats as species (30% of all small ruminant cases received). Abortions also were the most likely type of case for which a diagnosis was not found (41% of sheep, 45% of goat necropsies), which, unfortunately, is typical for abortion cases in all species.
According to existing studies, there are several factors that can increase the chances of achieving a diagnosis in sheep and goat abortions:

- Submit whole placenta with aborted feti. If only fragments of the placenta are available, this can still be useful for infectious disease testing, but submission of the whole placenta allows for pathologist review of lesion distribution and pattern.
- Submit whole fetal bodies for necropsy. This allows for assessing fetal size and development. If field necropsies are performed, minimum submissions should include paired fresh and fixed samples of lung, liver, kidney, heart, and brain.
- Submit abomasal content gathered aseptically. Abomasal fluid should be sterile and is routinely cultured for bacterial and fungal pathogens at WVDL.
- Collect samples as sterilely as possible and as soon after abortion as possible to reduce contamination.
- Consider submitting liver samples to a referral laboratory for trace mineral analysis. Abortions can often be multifactorial, and nutritional imbalances can frequently play a role in fetal viability.
- Provide information on the submission form including approximate gestational age, how many abortions have occurred, dam nutrition, farm history, etc.
- If there are any questions or concerns when sampling, please call a WVDL pathologist for consultation.



Serology

ID Vet BTV cELISA Kit Validated for Blue Tongue virus cELISA
The WVDL has validated the Innovative Diagnostics (ID Vet) Blue Tongue virus (BTV) competitive ELISA kits for bovine sera which is specific for the BTV V7 protein antibody. The ID Vet cELISA kit performs well with the high sensitivity and specificity. In a comparison between the current kit manufacturer and another kit manufacturer, the ID Vet BTV cELISA performed the same or better and has higher quality control. Therefore, the WVDL has decided to transition the BTV cELISA kit manufacturer to ID Vet. We will be phasing out the use of the previous manufacturer's BTV cELISA kit starting in late March to early April. Note, that the ID Vet BTV cELISA kit will have a different interpretation than the previous VMRD cELISA BTV kit, which will be clearly indicated with the results. This kit is not USDA-certified, but has been validated against a USDA-certified cELISA kit and has achieved the same sensitivity and specificity using known samples. This kit is approved for caprine, ovine and cervid sera, but the WVDL has not validated those samples types. The test can be performed and will be reported with a disclaimer. For more information about BTV cELISA testing at the WVDL please refer to wvdl.wisc.edu or feel free to contact the laboratory to address your questions or concerns.

BLV AGID
For some time, the WVDL has been sending weak positive BLV ELISA samples for testing on the BLV AGID free-of-charge to gather data about the performance of this kit. However, we will be starting to charge on March 1 for the BLV AGID when requested individually or after BLV ELISA. This will allow the WVDL to track the data more closely that is being generated by the BLV ELISA and AGID.

EIA/Coggins Testing Information
As Spring nears, the WVDL is preparing for yet another busy season of Equine Infectious Anemia (EIA; Coggins) testing. To ensure we are able to continue providing exceptional diagnostic services, we have provided updates and important information about testing in this correspondence.

Updates to EIA Testing Services

1. Official certificates can be expected within 72 hours of receipt at the Barron laboratory.
2. Testing services may be expedited with results available within 24 hours of receipt for an added fee. Please see the website for more information.
3. Submissions that do not meet USDA requirements and require clerical attention for processing will be charged an additional processing fee. Testing services may also be delayed.

Helpful Hints for Frustration-Free EIA Testing
https://www.wvdl.wisc.edu/wp-content/uploads/2022/02/Equine-Infectious-Anemia-EIA-Submissions-Frustration-Free-Equine-Infectious-Anemia-Testing.pdf

1. The only EIA/Coggins testing available is ELISA.
2. Please submit 1mL of serum, refrigerated and shipped on cold packs. NOTE: Hemolyzed serum with be **rejected**.
3. Samples must be submitted with their completed submission form. Please note, the animal ID listed on the paperwork MUST match and be clearly identified on the serum sample.
4. Submitting Veterinarians MUST have a valid National Accreditation Number.
5. The WVDL-Barron accepts 3 types of submission forms: the Official Federal VS10-11 form, as well as electronic forms via Global Vet Link and APHIS Veterinary Services Process Streaming (VSPS).

Please feel free to call (715-637-3151) or email (info@wvdl.wisc.edu) us at any time for answers to your questions. More information can be found at: https://www.wvdl.wisc.edu/index.php/equine-infectious-anemia-virus-eia-diagnostic-testing/

Virology

- **Sample Submission Guidelines**

Acute and convalescent samples:

- When submitting samples for paired testing, it is best to send samples that are drawn approximately 2 weeks apart. This time spacing will help monitor any significant changes in antibody titers.
- Store the acute sample in a refrigerator and submit with the convalescent when taken. This ensures that the samples are set up on the same assay run.

Virus isolation samples:

- In order to ensure that we have enough cells for isolation, please let us know about a week in advance if you plan to send in 10 or more samples for semen, serum or buffy coat virus isolation assays.
- The information needed is the day you plan to ship and how many samples you'll be sending. This will ensure that we can get the procedure started on schedule and get results to you as quickly as possible.
- Emails: submissions@wvdl.wisc.edu, Audrey.Dikkeboom@WVDL.wisc.edu, rodney.clark@WVDL.wisc.edu, and christian.bartholomay@wvdl.wisc.edu for further questions, concerns and/or inquiries.

www.wvdl.wisc.edu

Our mailing address is:

445 Easterday Lane Madison, WI 53706

info@wvdl.wisc.edu