

WVDL SUMMER NEWSLETTER

August 2024



Wisconsin Veterinary Diagnostic Laboratory

UNIVERSITY OF WISCONSIN-MADISON

Message from the Director



Hello from WVDL! We hope everyone is enjoying their summer and has had a successful fair season so far. WVDL has been busy with H5N1 testing requirements for movement and exhibition, and we are ready for the State Fair and World Dairy Expo. The H5N1 epidemic in dairy cattle continues to be a significant problem for

dairies across the country with new farms being identified and changes in how the virus moves between farms. Initially, animal health experts recognized this as primarily a problem with the movement of infected lactating cows, but that is no longer the case.

Each state has a different strategy for testing and managing herd outbreaks. Colorado became the first state to require weekly bulk tank milk testing in the past few weeks. WVDL has been very active in the outbreak, working with state and federal animal health officials and collaborators throughout the US to understand the disease ecology better and stop its spread. Unfortunately, H5N1 in dairy cattle is falling into a deep intersection between animal science, political science, and economics, significantly limiting how fast scientists can fully understand the virus. Significant gaps in our understanding continue to exist, and new information is reported daily. The short story here is that this virus continues to spread unchecked and will be around for the foreseeable future unless something significant changes.

The good news is that our new laboratory information system (LIMS) was launched on July 1st and is working well. This system has the potential to revolutionize our diagnostic testing and customer service. There are a few changes compared to how the old UVIS LIMS worked, and we continue optimizing functionality. Stay tuned for announcements on new or previous UVIS functions that will continually improve your experience with WVDL diagnostic testing and customer service.

Thank you for reading this newsletter. Mark your calendars for Thursday, December 5th, for the WVDL Bovine Genetics Export Meeting. This is a free event with 5 hours of CE credit and lunch!

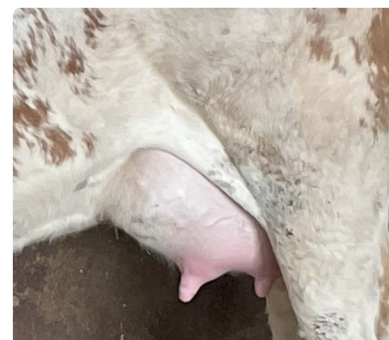
Enjoy the rest of your summer.

Keith

Client Services

HPAI/BIAV Testing in Cattle

WVDL provides Influenza PCR testing in cattle on milk from lactating cows for H5N1 surveillance, interstate movement, exhibition, commercial product monitoring, and sick animal testing. Please refer to the [WVDL's website](#) for additional details on sampling and submission instructions.



Currently, WVDL runs the H5N1 PCR assay minimally every Monday, Wednesday, and Friday. Samples should be received the day before the testing day or no later than 10 a.m. on the morning of the testing day in order to make that day's testing run. **Please contact the lab and/or make a note on the submission when there are urgent circumstances regarding a submission, and we will do our best to accommodate your request.** If expedited testing is requested, an additional fee may be applied. If there are further questions regarding testing for H5N1 in cattle, please see more information on the WVDL website - <https://www.wvdl.wisc.edu/hpai-biav-in-cattle-faq/> .

As a reminder, any abnormal clinical signs should be reported to DATCP at (800) 572-8981.

National Veterinary Services Laboratory (NVSL) will soon be providing proficiency tests to National Animal Health Laboratory Network (NAHLN) laboratories for serology testing on the Bovine Influenza Antibody ELISA. WVDL is preparing to offer this assay and will be taking this proficiency test when available. There is not an exact date when this testing will be available, however we anticipate that testing availability to our clients by early Fall.

CoreOne For Labs (COFL) - New Laboratory Information Management System

As most of our clients are aware, WVDL has switched to a new Laboratory Information Management System (LIMS). WVDL is excited to have and to be working with this new system. As with all change there are learning curves and obstacles to overcome. WVDL values our customers highly and is dedicated to providing exceptional customer service. Please let us know of any difficulties and/or struggles you are having with the COFL system. As a reminder, automatic preliminary reports are no longer going to be sent out by email but they are available in real time through the [COFL Client Portal](#). For troubleshooting issues with the COFL Client Portal please visit the [COFL Portal Recourses page](#) for more information. After "going live" we have realized there are some areas that will need to be addressed and are working on them to provide a better client interaction. If you too are experiencing issues, please let us know so that they are identified and can be addressed appropriately. We appreciate your efforts in learning this new LIMS, your patience with it, and any feedback on the COFL system. Please feel free to reach out to WVDL anytime with questions, comments, and/or concerns by phone (608)262.5432 or email - info@wvdl.wisc.edu.

Bacteriology Update

Preliminary Report Changes

In COFL, clients can access all results in real time through the client portal. As a service to our necropsy clients, to decrease the turn-around time until the final necropsy report to be generated, the bacteriology section will send a preliminary report to the email listed on the account when the bacteriology section is completed.



Several Bacterial Culture Panels Will Be Species Specific

In order to offer the most comprehensive bacteriological testing, WVDL has changed the bacterial panel cultures based on disease to be specific to the species. Please use the following guide when selecting tests. However, WVDL has the ability to change the test selected if the species do not match.

Disease	Test by Species Culture Panel	Includes these Cultures
Respiratory	Avian Respiratory Culture Panel	Respiratory/Aerobic Culture Fungal Culture
	Bovine Group Respiratory Culture Panel 1 (bovine and small ruminants)	Respiratory/Aerobic Culture <i>Salmonella</i> Culture
	Bovine Group Respiratory Culture Panel 2 (bovine and small ruminants)	Respiratory/Aerobic Culture <i>Mycoplasma</i> Culture
	Bovine Group Respiratory Culture Panel 3 (bovine and small ruminants)	Respiratory/Aerobic Culture <i>Salmonella</i> Culture <i>Mycoplasma</i> Culture
	Bovine Group Respiratory Culture Panel 4 (bovine and small ruminants)	Respiratory/Aerobic Culture
	Canine/Feline Respiratory Culture Panel	Respiratory/Aerobic Culture <i>Salmonella</i> Culture
	Equine Respiratory Culture Panel	Respiratory/Aerobic Culture <i>Salmonella</i> Culture
	Equine Upper Respiratory Culture Panel	Respiratory/Aerobic Culture
	Mustelid Respiratory Culture Panel	Respiratory/Aerobic Culture <i>Salmonella</i> Culture
	Mustelid Upper Respiratory Culture Panel	Respiratory/Aerobic Culture
	Porcine Respiratory Culture Panel	Respiratory/Aerobic Culture <i>Salmonella</i> Culture
	Porcine Upper Respiratory Culture Panel	Respiratory/Aerobic Culture
	General Respiratory Culture (for other species)	Respiratory/Aerobic Culture <i>Salmonella</i> Culture
	Rodent Respiratory Culture	Respiratory/Aerobic Culture

Disease	Test by Species Culture Panel	Includes these Cultures
Abortion	Bovine Group Abortion Culture (cattle, goat, sheep, deer, alpaca, llama, camel)	Aerobic and Microaerophilic Culture <i>Salmonella</i> Culture
	Bovine Group Abortion Culture and Fungal Screen (cattle, goat, sheep, deer, alpaca, llama, camel)	Aerobic and Microaerophilic Culture <i>Salmonella</i> Culture Fungal Culture
	Equine Group Abortion Culture	Aerobic Culture <i>Salmonella</i> Culture Fungal Culture
	Porcine Group Abortion Culture	Aerobic and Microaerophilic Culture <i>Salmonella</i> Culture
	Canine/Feline Group Abortion Culture	Aerobic Culture
	General Abortion Culture	Aerobic and Microaerophilic Culture <i>Salmonella</i> Culture

Disease	Test by Species Culture Panel	Includes these Cultures
Enteric	Bovine/Porcine/Avian Enteric Culture Panel	Aerobic Culture <i>Salmonella</i> Culture
	Canine/Cervid Enteric Culture Panel	Aerobic and Microaerophilic Culture <i>Salmonella</i> Culture <i>Yersinia</i> Culture
	General Enteric Culture Panel- Non-bovine, porcine, avian, cervid or canine	Aerobic Culture <i>Salmonella</i> Culture

Respiratory Panels: Bacteriology and Molecular Diagnostic Tests Only Offered Separately

WVDL has separated the combined bacterial culture and molecular diagnostic test panels into Bacterial Culture Tests and Molecular Diagnostic Tests. Rather than requesting a combined bacteriology and molecular panel, bacterial culture and molecular diagnostic tests must be ordered separately. The targets and quality of the tests will remain the same, but the tests have been separated by test method for better clarity in COFL. The table below shows previous panel test names listed in the first column, and the next two columns provide the bacterial and molecular diagnostic tests that make up the previous panel tests.

Previous Panel Test	Bacterial Culture Test	Molecular Diagnostic Test
Bovine Respiratory Complete Panel	Bovine Respiratory Bacterial Culture	Bovine Respiratory PCR Panel
Bovine Bacterial Culture plus <i>Mycoplasma</i> PCR Panel	Bovine Respiratory Bacterial Culture	<i>Mycoplasma bovis</i> PCR

When submitting swabs, a swab in viral transport media such as BHI or saline is needed for Molecular Diagnostic tests, and a swab in bacterial transport media such as Amie's is needed for culture. Additionally, a culture is needed for sensitivity testing.

Changes To Bacterial Names

Recently, several bacterial name changes have occurred. *Mycoplasma* and *Clostridium* species are the most significant name changes. Several *Mycoplasma* species were renamed to the genus *Mycoplasmopsis* including *M. bovis*, *M. bovis genitalium*, *M. meleagridis*, and *M. synoviae*. However, *Mycoplasma gallisepticum* was renamed to the genus *Mycoplasmoides gallisepticum*. Several of these new names have already been implemented and will be seen in culture result reports. WVDL has also updated tests names to include the genus and species, such as the *Mycoplasmopsis bovis* bacterial culture, molecular diagnostic tests, and various avian *Mycoplasma* serology tests. Please see the attached PDF for a listing of these changes.



Bacteria Nomenclature Changes 7.10.2024.pdf

[Download](#)
36.4 KB

All *Salmonella enterica* subspecies *enterica* Serotypes/Serogroups Identified in 2022

Please see the attached PDF for the 2022 *Salmonella enterica* subspecies *enterica* serotypes/serogroups identified at the WVDL.



2022 Salmonella serotype numbers - WIP2.pdf

[Download](#)
177.1 KB

Molecular Diagnostic Update

PCR Testing Interpretation Changes

Molecular results are now reported differently than from our previous laboratory information management system (LIMS). Previously, WVDL reported results as either positive, weak positive, negative, inconclusive, or undetermined. WVDL has changed the previous reporting nomenclature to detected, not detected, inconclusive, or indeterminate. This reporting nomenclature is in line with those used by the National Veterinary Services Laboratories (NVSL - reference labs) and other veterinary diagnostic labs. Guidelines for PCR interpretations are available on our website, and can be found [here](#).

Update To Bovine Viral Diarrhea Virus PCR Test Codes

For **individual** BVDV PCR testing, please use the **test code: 30484** - Bovine viral diarrhea virus Real Time PCR. An alternative cost-effective way for BVDV-persistent infection screening is the pooling option. Please use the **test code: 30523** - Bovine viral diarrhea virus Real Time PCR (Pool), for pools of up to 24 samples. If the pool is test "detected", the individual PCR for deconvolution will be tested at the in-state or out-of-state rate, as appropriate. Please see the [Test and Fees](#) page on the WVDL website for prices. The individual deconvolution PCR test cost is at a discounted price since these cases are also charged with a pooled test price.



If you are using portal submissions, please remember to choose 'Whole blood: EDTA' for whole blood samples, otherwise a disclaimer will appear on the report.

Pathology Update

Effective September 1, 2024: WVDL Policy Change for Midwest Cremation Service Cremations

This policy adjustment will encompass the following changes for our clients:

1. While WVDL (Madison and Barron Laboratories) will continue to offer cremation services through Midwest Cremation Service (MCS), it will be the responsibility of the submitter (clinic, rDVM, or owner) to directly work with MCS to **order and pay** for cremation services that are desired. WVDL will no longer place the MCS cremation order or charge our DVM/clinic clients for cremation services.
2. The submitter will be required to provide a copy of the Midwest Cremation Service order to the WVDL along with the Necropsy Submission Form.
3. MCS will continue to pick up the remains for cremation at WVDL in both Madison and Barron, however, **ashes will be returned directly to the submitting clinic or owner** (this will be controlled by the submitting veterinarian).

Benefits of policy change: While WVDL realizes this will be an adjustment for our veterinary clients, we also understand the emotional value and importance of proper handling. This policy update will help ensure the clinic, rDVM, and/or owner are receiving the desired services from MCS. Since MCS will be shipping ashes directly to the submitting clinic or owner, this eliminates extra shipping events to-and-from the WVDL, thereby decreasing risk of package misplacement that can occur with shipping.

This change will not impact WVDL-Madison Laboratory's handling of cremations that are sent to Memorial Pet Service.

For legal/forensic necropsy cases, WVDL will work with the submitting law enforcement agency on a case by case basis to determine whether policy exception need to be made. The goal of this type of exception will be to ease some of the extra burden that these cases carry for owners and governmental agencies. As usual, WVDL continues to encourages communication for forensic investigation necropsy cases prior to such cases being brought to the WVDL.

Effective August 26, 2024, Memorial Pet Services will have a name change to "Trusted Journey". Please visit their website here for more information: <https://www.trustedjourney.com/>

Pathology Sciences Involvement in the Community

Tori Smith (microbiologist within Pathology Sciences) and Dr. Maggie Highland (Pathologist and Section Head of Pathology Sciences and Professional Veterinary Services) represented WVDL at the Environmental Fun Fair held at the Lussier Family Heritage Center in Madison, WI, on July 14, 2024. This is the 3rd year in a row WVDL participated in this event, and as with the previous two years, it was again a big hit with kids and adults alike. The WVDL table offered attendees the opportunity to view skulls and horns/antlers from various species, view histology slides through a microscope, and provided a pipetting station for kids to learn how to use a real laboratory pipette to transfer “blood” samples. The pipetting station was a new addition this year and proved to be a main attraction at the WVDL table. A section for younger children was also set up that include stuffed animals, toy microscopes, and veterinarian instrument kits, provided by Dr. Nicole Aulick (Bacteriology Section Head); this station was a highly visited area at the fair as well.

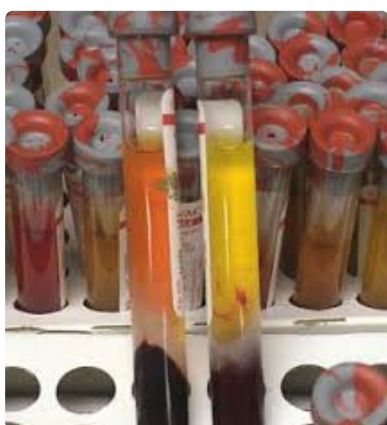


On July 12th, WVDL hosted 19 high school students with the UW PEOPLE program (<https://peopleprogram.wisc.edu/>). Dr. Ruppert, Dr. Weyna (SVM) and Dr. Elsmo provided wildlife necropsy demonstrations to this group of engaged students, and they also attended a talk on the role of a veterinary pathologist. The students kept us busy with many excellent questions, and we look forward to hosting UW PEOPLE program students again!



Serology Update

Reminder to Avoid Hemolysis in Serum Samples



As we are experiencing warmer summer weather, WVDL would like to provide client with some simple steps to take to avoid hemolysis of serum samples. To ensure optimal quality we highly recommend that collected whole blood be kept in tubes sitting upright at room temperature for a minimum of 30 minutes to a maximum of 60 minutes. For bovine samples, please leave upright. For avian samples, leave test tubes in a slanted position while clotting. This allows for the clotting factors to bind red blood cells through the serum. The timeframe specified allows the blood clot to form and minimizes the likelihood of any clotting factors remaining in the serum. If

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possible, samples may then be centrifuged and serum removed for submission. If centrifugation is not possible, samples shall be chilled and submitted directly to the laboratory for testing.

Best Practice for Serum Submissions

- Collect blood for serum submissions in an appropriate tube with no additives (glass, glass serum separator, plastic – polystyrene or polypropylene) and allow to clot at room temperature for 30-60 minutes. This timeframe is essential for blood clot formation and minimizes the likelihood of any clotting factors remaining in the serum.
- Centrifuge blood, if able, and remove the serum from the clot for submission. If centrifuging is not possible, collecting a greater volume of sample is recommended to ensure the laboratory is able to obtain an adequate volume of serum that is free of red blood cells.
- Protect blood samples from direct sunlight, extreme heat/freezing and vigorous mixing to prevent hemolysis and degradation of serum.
- Be mindful of extreme temperature shifts. On warm weather days, blood should be kept in a chilled cooler. Or on cold weather days, blood samples should be kept in a cooler with warm packs. Do not allow for cold or warm packs to have direct contact with the samples.
- Avoid jostling, vibrating, or excessive movement of the blood tubes such as leaving the blood tubes on the vehicle's dash board (which may also be hot) or on the floor.

Excessive serum lipids (clotting factors) and hemolysis (lysed red blood cells) both have an interference effect on serology assays and will be rejected. Lipemic serum will appear thick/milky after centrifugation. Hemolyzed serum will appear dark red with little differentiation between the clot and serum. It will also leave a pink residue along the inside wall of the specimen tube when twirled. These samples should be discarded and a new sample shall be collected for testing.

Virology Update

Update to Bovine Herpesvirus Type 1 Competitive ELISA

Bovine herpesvirus Type 1 competitive ELISA (testing code 40004), previously IBR cELISA, will report "INCONCLUSIVE" for any grey zone or high grey zone results as well as have the optical density (OD) printed on the LIMS report. If samples need to be confirmed, a **Bovine herpesvirus Type 1 Confirmatory Serum Neutralization (OIE Method)** test code will be entered separately and billed to the client at in-state and out-of-state pricing. Please contact WVDL if there further questions or concerns.

Update to Bovine Viral Diarrhea Virus P80 ELISA

The percent inhibition (%) will be printed on the LIMS report.

Updates to Serum Neutralization Assays

Serum neutralization assays will be routinely screened and reported at the screening dilution listed in the chart below. If an endpoint dilution is desired, that test code must specifically be requested on the submission form. Note that any acute and convalescent paired samples should use the "Endpoint" test code for BVD SN (code 40121), BHV-1 (IBR) SN (code 40056), or EHDV 1 & 2 SN (code 40147). See the chart below for further information regarding these available serum neutralization assays.

Assay	Screening test code	Screening dilution	Endpoint test code	Endpoint dilution
BVDV 1 & 2 SN	40108	1:8	40121	1:8192
EHDV 1 & 2 SN	40134	1:8	40147	1:8192
VSV SN *Any result POS @>=1:32 is referred to NVSL for confirmation.	40160	1:32	N/A	N/A
OIE method for BHV-1 (IBR) SN	40069	1:8	40082	1:2048
BHV-1 (IBR) SN* *Should only be used for diagnostic or abortion cases.	N/A	N/A	40056	1:8192

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Reliable Results and Exceptional Customer Service*

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