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A newsletter about diagnostic trends at the laboratory, animal health topics, interesting cases and new test offerings.

www.vdl.ndsu.edu

Feedback is always welcome. Please feel free to send your comments or suggestions to ndsu.vetlab@ndsu.edu and specify “newsletter” in the subject line.

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Director’s Corner

“Perhaps that is where our choice lies—in determining how we will meet the inevitable end of things, and how we will greet each new beginning.”
~ Elana K. Arnold (Children and Teen Author)

Spring is a time of new beginnings, not just for nature with ice thawing, plants sprouting and an abundance of baby animals, but also for us humans as the days last longer, students prepare to graduate, summertime plans begin to blossom and baseball season is right around the corner.

Thus, it is with a heavy but grateful heart that I share with you several new beginnings for four VDL staff and faculty.

There are two upcoming retirements. Sandy Erickson retires on April 29, while Mary Finseth’s last day is May 6. Sandy came to the VDL 36 years ago and has had dual appointments in Microbiology and the VDL. As our accountant and HR specialist, Sandy has been integral to keeping the lights on and the VDL staffed. Many of you have worked with Mary over the decades. Not only has she been the face and voice of the front office since 1978, but Mary also worked with the North Dakota Veterinary Medical Association (NDVMA) for many years as its executive secretary. Sandy and Mary will be sorely missed.

In addition to staff retirements, two faculty members will also be leaving this spring. Dr. Broughton is returning to Washington State University College of Veterinary Medicine as a Clinical Professor, and Dr. Webb has accepted a tenured professorship with the University of Wyoming. As pathologists, Drs. Broughton and Webb have served regional producers, veterinarians and pet owners with their expert diagnostic skills.

We at the VDL are sad to see our colleagues and friends move on, but we wish them all the very best and are thankful for all they brought to the VDL during their time with us.

As for the VDL, the next few months will be challenging with the change of faculty and reorganization of some of our services. Searches have begun to hire two new veterinary anatomic pathologists. Plans are underway to continue biopsy and necropsy services until the new pathologists arrive. Be sure to check out the website for the most up-to-date information.

Enjoy the coming spring!

Sincerely,

Heidi Pecoraro, DVM, Ph.D., Diplomate, ACVP
NDSU VDL Director
Highly pathogenic avian influenza (HPAI) is a foreign animal disease (FAD) that has been detected in commercial poultry, backyard flocks and wild birds in multiple states, including North Dakota. Because of economic and trading consequences of HPAI, the US is on high alert for this disease.


- Sudden death without clinical signs
- Lack of energy and appetite
- Decreased egg production or soft-shelled or misshapen eggs
- Swelling of head, comb, eyelid, wattles and hocks
- Purple discoloration of wattles, comb and legs
- Nasal discharge, coughing and sneezing
- Incoordination
- Diarrhea

If any of these signs are noted in a flock, it is extremely important to contact the state veterinarian’s office to make sure the proper FAD investigation procedures are followed and samples are properly collected and submitted for testing to both a National Animal Health Laboratory Network (NAHLN) laboratory and the National Veterinary Services Laboratory (NVSL).

The NDSU-VDL is a level-2 NAHLN laboratory and is prepared to test for HPAI.

The CDC has said the recent detections do not present an immediate public health concern.
Salmonella was the cause of diskospondylitis (infection of a spinal cord disc) in a 7-year-old, neutered male Boxer mixed breed dog. The animal was initially treated empirically for urinary tract infection but presented to the clinic two weeks later for hyperreactivity to touch. Due to suspicion of diskospondylitis, the clinic requested Brucella canis RSAT testing to rule out brucellosis. Blood and urine cultures were also requested.

After 24-hours of growth, urine culture plates revealed a grey, non-lactose fermenting organism that was identified as Salmonella species by Matrix-Assisted Laser Desorption Time-of-Flight (MALDI-TOF) Mass Spectrometry. A direct analysis of blood culture sediment via MALDI-TOF and later blood culture plates also yielded Salmonella spp.

Although treatment of Salmonella infections from enteric sources is not recommended due to risk of increased antimicrobial resistance, prolonged shedding of the organism and lack of in vivo efficacy, when systemic infection is involved, antibiotic treatment is appropriate.

Antimicrobial susceptibility testing was performed and the animal recovered. It is thought that the exposure to Salmonella occurred through ingestion of raw eggs served over dry kibble.

Diskospondylitis is most often reported in young to middle-aged dogs, particularly large breeds. The infection starts from bacterial invasion into circulating blood due to penetrating wounds, injections or spinal surgery. Clinically, the animal typically presents with depression, anorexia, fever, weight loss, hyperaesthesia (excessive physical sensitivity) and paresis/paralysis (Plessas, I.N. et al, 2013). B. canis serology testing is recommended along with blood and urine cultures. The most common causes of diskospondylitis are Staphylococcus pseudintermedius, B. canis, Streptococcus spp., Escherichia coli or fungal isolates (Markey, B. et al 2013). Because B. canis is a biosafety level-3 organism with zoonotic potential, it was critically important for laboratory personnel safety that this submission included a complete case history to ensure higher-level handling of samples. A complete case history also aids the laboratory in choosing appropriate culture growth medium and in interpretation of test results.

For blood culture and other microbiology resources, please visit our website (vd1.ndsu.edu/microbiology).

References
Staff Spotlight

This issue we shine the light on one of our chemists. Kelly Benson has been with the VDL since 2005. Besides running mass spectrometry and analyzing toxicological data, Kelly is a gifted photographer and snapped the headshots of most of the staff spotlight photos used in the newsletters.

What is your favorite magical or mythological animal? Pegasus – because who wouldn’t want a horse that can fly?

If you had a time machine, would you go back in time or into the future? I think I would probably go to the past.

Do you have a favorite plant? I have lots of them, but my favorite is beautiful field of wheat right before harvest time.

What is your most used emoji? Just a good old smiley emoji.

Spring, Summer, Winter or Fall? Fall – nice temperatures and beautiful colors.