

## Notes From the Director

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### Did You Know??

-- There are only three animals with blue tongues: the black bear, the Chow Chow dog and the blue-tongued lizard.

-- The length of an elephant is the same as the tongue of the blue whale.



The Veterinary Diagnostic Center has hired Pam Hanson as the new business and personnel manager. Pam brings many years of experience in both fields. She will assist in the Director in budgetary preparation, analysis, and projection; regulatory matters and compliance; development and management of grants and contracts; and customer service.

The Virology Laboratory in the VDC is expanding its molecular diagnostic testing and has adopted a new method for the pooled BVDV PCR testing of unfixated ear notches for the detection of BVDV persistently infected cattle. The new testing procedures allow for more sensitivity and specificity of detection of BVDV in pooled skin samples. See the **News from Virology** for more information regarding this new offering.

Due to budgetary constraints, the VDC was forced to close its toxicology laboratory. The VDC has contracted with the UNL Water Center and the Toxicology Laboratory at the Veterinary Diagnostic Laboratory, Iowa State University for toxicologic analytical services. Dr. Michael Carlson is available in the VDC for consultation regarding any toxicologic inquiries or interpretation of results. A minimal delay in sample processing and analysis is expected to be caused by closure of the laboratory.

Effective July 1, 2011, the VDC will implement a new fee schedule that includes a modest increase in prices. The last significant increase in fees occurred in 2001. Fee increases are necessitated by increased costs of reagents and operating supplies.

*A. R. Doster*

Alan R. Doster, DVM, PhD, ACVP

Director, Veterinary Diagnostic Lab

## Let Us Hear From You

We value your input and would ask you to leave us some feedback in regard to our services. To do this, just go to our Website at <http://vbms.unl.edu/nvdl>. On the left hand side of our home page, there is a category of Forms and Contacts. Under that there is a subheading for Feedback. Just click on the Feedback category and leave any feedback that would be beneficial for us in providing the services that you want or need. Thank you.

## ***Notes from the Bacteriology Lab***

### **Proper Collection for Blood Cultures**

Blood cultures are used if a bacteremia is suspected. Since bacteremia can be intermittent it is advisable to collect more than one sample in a 24 hour period. The volume of blood obtained for culture is one of the most important variables in the detection of bloodstream infections. It has been well-documented that bacteremia often yield less than a single organism per 10 ml of blood, so it is important to collect a sufficient volume of blood to increase to sensitivity of the test. It is also vital that the blood be collected in the proper media and sent to the laboratory without delay. Blood collection tubes containing EDTA and other anticoagulants may inhibit the growth of certain bacteria. Strict aseptic precautions should be taken to eliminate the possibility of contamination. If a bacteremia or septicemia is suspected, call the bacteriology lab to obtain the blood culture bottles and collection instructions.

### **Anaerobic Culture**

We often receive submissions requesting anaerobic culture from samples that most likely would not harbor any anaerobic bacteria such as a urine, lung or skin scrapings, so it would not be necessary to order an anaerobic culture from these sites. Anaerobic bacteria can only survive in environments without oxygen such as puncture wounds, deep wound infections, or bone infections. However, when anaerobic bacteria should be considered as a possible pathogen, it is essential that samples be collected and transported properly for the survival of the anaerobic bacteria. Examples of acceptable samples for anaerobic culture are blocks of tissue placed in a sterile, sealed container (such as a red top serum tube), samples collected using a commercial anaerobic specimen collector, or liquid exudates placed in a sterile, air-tight container.

### **Calf Diarrhea Protocol**

The bacteriology lab has been researching several different protocols for determining enterotoxigenic *E. coli* in calf diarrhea cases. You may have noticed comments on your report stating that the sample was screened for enterotoxigenic producing *E. coli* by PCR. After much discussion and consultation with experts in the field, we have determined that the best course of action is to screen all calf diarrhea cases on calves of  $\leq 7$  days old. This screen will include a PCR on the mixture of bacterial growth on the culture and if it is positive, an antibiotic susceptibility will be performed on the same mixture. The approximate cost for the aerobic culture, PCR, and susceptibility will be \$35 (other cultures/tests and submission fees would be an additional charge). For clients that would like to further determine which particular isolate is the enterotoxigenic *E. coli*, they may request that from the lab. In this case, every colony type from the culture would be sub-cultured for pure growth and then tested by PCR. It is quite possible that there could be 5-10 different colony types on a culture resulting in a \$10 charge for each PCR. After determining the appropriate isolate, an antibiotic susceptibility would be performed.

Please contact the bacteriology lab if you have any questions at 402-472-8470.

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## News from Virology

The Virology Laboratory is now offering **pooled BVDV PCR testing on fresh, unfixed ear notches** for the detection of BVDV persistently-infected cattle. From experiments performed by this Laboratory, we have **adopted a more sensitive detection method** than the commonly employed technique of simply soaking skin samples (ear notches) with PBS. This test is valid for any bovine animal, ranging from newborn to aged cows or bulls. Samples are pooled in groups of up to 30 animals for testing purposes.

One word of caution, **pooled sample BVDV testing is for herd surveillance only** and is not intended to warrant that individual animals (bulls and cows for breeding purposes) are free of BVDV unless they are tested individually by this or other methods. **When a positive pool is detected, all samples in the pool must be tested separately to identify the positive or persistently infected animal(s) in the group.**

Clean ear notches should be submitted in individually-labeled serum (red-top) or snap-top tubes. Tubes should be refrigerated or frozen as soon as possible and submitted to the Laboratory packed with sufficient coolant to maintain proper refrigeration.

<b>Cost:</b>	<b>\$55.00/pool of up to 30 animals</b>
<b>Turn-around time:</b>	<b>24-48 hours after receipt by the Laboratory</b>

### Other BVD Tests Performed at the VDC

The Laboratory also offers **BVDV pooled serum PCR testing** for pools of up to 50 animals/group for \$30.00.

**Individual animal testing** using formalin-fixed ear notches is conducted by **immunohistochemistry** for or by **ELISA testing** on serum samples.

<b>Cost: Immunohistochemistry</b>	<b>\$20.00/6 samples (\$3.30/animal)</b>
<b>Turn-around time:</b>	<b>24-48 hours after receipt by the Laboratory</b>

<b>Cost: ELISA</b>	<b>\$6.00/sample</b>
<b>Turn-around time</b>	<b>24-48 hours after receipt by the Laboratory</b>

## Meet Our Employees



Sharon Clowser

Sharon Clowser is our Quality Assurance Specialist. Sharon is originally from south central Pennsylvania. Sharon received her BS degree from Penn State. Sharon and her husband Blaine currently live on a farm near Seward, Nebraska. They have two daughters. They raise and show purebred Angus cattle. They are also active with the Seward County 4-H Program and the Nebraska Junior Angus Association.

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The Nebraska Veterinary Diagnostic Center is accredited by the American Association of Veterinary Laboratory Diagnosticians

All regulatory testing for export is done in compliance with the code of federal regulations and technicians performing the test have been tested annually by the USDA through the National Veterinary Services Laboratories check-testing program. Additional assays within the lab regarding toxicology, microbiology and parasitology are assessed annually by check testing through the Veterinary Laboratory Association. Positive and negative control samples are included in all serologic and toxicologic testing protocols that require them.

Ancillary testing is reviewed by a single case coordinator who assures that test results are in agreement and any unusual test results are investigated to ensure that standard operating procedures are followed and that results can be replicated. Standard operating procedures are on file in each of the laboratories and available for inspection. A copy of our Quality Manual is available upon request.

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