



Wyoming State Veterinary Laboratory Newsletter Vol 3 (#1): March 2002

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University of Wyoming

WSVL News

Message from the Director:

Here it is March and the busy season is upon us. We have some important items in the newsletter this time as well as an introduction to our newest faculty member. As you can see from the signature we have not hired a new laboratory director. We had the misfortune to have two candidates who were set to interview withdraw because of family medical emergencies. The selection committee decided to wait for a couple months and then try again, so the department faculty members are contacting our colleagues to stimulate interest in the position.

We have had an ongoing discussion here about laboratory assignments and the accession form submitted with samples. We do our best to determine the cause of diseases and sometimes that requires assignment to laboratories that were not originally identified by the practitioner. When deliveries are received our laboratory staff will do laboratory assignments as defined by the accession sheet unless they call and get approval by the submitter. Faculty members will have the option to redirect samples to provide the best case work-up and may do this without calling. If you do not want samples assignments changed please indicate on the accession form or let me know. I will keep a list of individuals or clinics that want their requests followed exactly.

We are still trying to get a contract with the USDA-APHIS so that the Brucellosis laboratory can remain in Wyoming. As proposed, the WSVL would continue to do Brucellosis and Pseudorabies serology with our personnel (along with EIA's, etc) and APHIS would pay a set amount/year to have that done. As long as we get things worked out we see this as an improvement since we would have direct control of a state employee rather than having a hybrid system with a federal employee who is supervised by someone in Cheyenne but working here. Our hope is to do a lot more cross training in the serology area so we can adjust to increases or decreases in certain test requests thereby providing coverage for vacations and sick leave.

Ken Mills
Interim Director

Scour-Bos 4 and Pilishield + C (Grand Laboratories) injection site reactions in cattle

I am interested in knowing whether veterinarians or producers in the state are experiencing a problem with current serials of ScourBos and/or Pilishield +C (Grand Laboratories).

In January a rancher in Nebraska injected 469 cows with each product in muscles of the right and left hips. The following day, 5 injected cattle in the herd were recumbent and unable to rise.

Approximately 50% of the herd developed large firm swellings at injection sites bilaterally. One cow with injection site reactions went down shortly before calving, and subsequently died. Biopsies and postmortem samples revealed extensive lesions consistent with a florid reaction to an oil-based vaccine. The endotoxin concentration in one of the two products was high (2,000,000 endotoxin units/ml in Pilishield). We suspect the problem is related to Extend III, the adjuvant, rather than endotoxin in the vaccine. A letter has been written to JAVMA to alert people about a potential problem with these products. A company representative suggested the problem was a one-of and related to high dietary selenium and low copper.

If you or your clients see reactions to veterinary biologicals, please take the time to report them to the USDA's Center for Veterinary Biologics. Currently the CVB gets more complaints about reactions to ferret vaccines than on vaccines given to cattle! Personnel at the laboratory are more than happy to work with you to sort out whether post-vaccination problems are due to the product used, or are unrelated. On the WSVL website there is now a What-To-Do guideline in the event of encountering suspect vaccine reactions (<http://wyovet.uwyo.edu/WSVL/updates.htm>). **Donal O'Toole**

Bordetellosis-feline herpesvirus in Wyoming cat shelter

For some years, one of the major shelters in the state has had a major upper respiratory tract problem in cats it is homing. Approximately 70 - 80% of cats leaving the shelter have signs of sneezing and coughing. More severely affected cats are febrile. Oral ulcers, ocular discharge and corneal ulceration are minimal. A severely affected young adult cat that died was submitted for work up. We isolated *Bordetella bronchiseptica* in pure culture from frontal sinuses, trachea, and lung. Gram-negative bacterial rods were adherent to ciliated cells in the trachea. Feline herpesvirus was also isolated. The cat had severe purulent rhinitis and sinusitis with extensive destruction of turbinate tissue.

The laboratory has recognized *B. bronchiseptica* with increased frequency from cats with upper respiratory tract disease in the past 3 years. There is considerable evidence that it can be a major component in respiratory disease in cats, particular in multiple cat premises. A recent report from England noted a prevalence of 19% of *B. bronchiseptica* infection in rescue catteries, whereas among household cats the incidence was 0% (Vet Rec 144: 575-580, 1999). Reported studies in the US of asymptomatic cats in catteries in the US found a lower prevalence of infection (3.1%; Vet Immunol Immunopathol. 65:173-6, 1998). Sneezing is statistically associated with a confirmed diagnosis of bordetellosis. Infection, particularly in young (<8 week old) cats, can be fatal due to the development of pneumonia, but for most cats it is a nuisance infection. Diagnosis can be established by submitting oropharyngeal swabs or transtracheal flush fluid for culture.

It is unclear whether strains of *B. bronchiseptica* that infect cats can be transmitted to dogs and induce kennel cough, and vice versa. The affected shelter in Wyoming does not recognize a major problem with kennel cough in its dog population. Vaccination and better biosecurity may help control the problem in affected premises. **D O'Toole/K Mills**

E.Coli scours in calves

The bacteriology has offered an agglutination test for the K99 pili on calf scours samples in the past. We felt that this was insufficient information and that with improved diagnostic methods we could better identify pathogenic *E. coli*. To that end we incorporated a multiplex PCR for *E. coli* toxins and adhesion factors into our work-ups on calf scours cases. The cost is \$20 but the amount of information you receive is substantial including analysis of 3 toxins and 3 adhesion factors. An explanation of the results will be included on each report. If you do not want this service please let us know on the accession when you submit samples. **Ken Mills**

West Nile Virus Surveillance and Diagnostic Testing

The WSVL, in coordination with the Wyoming Department of Public Health and the Wyoming Game and Fish Department, will begin surveillance and diagnostic testing for West Nile virus (WNV) this summer. According to some experts, WNV may reach Wyoming in the summer of 2002, and we will be ready to provide diagnostic services and support to our clients for this new disease. The WNV diagnostic section will be headed by Dr. Todd Cornish, and managed by Terry Creekmore, and we encourage clients to call with any questions about WNV diagnostics, sampling, and epidemiology. At present, we will be accepting the following samples for testing:

1. Whole bird carcasses (especially crows, ravens, jays, magpies, raptors, and passerine species) - PCR testing and immunohistochemistry;
2. Equine carcasses/tissues from cases with any combination of fever, neurologic illness (attitude, mentation, coordination, or gait abnormalities), unexplained colic, or sudden death - PCR, histopathology, immunohistochemistry;
3. Equine serum samples (paired samples preferred) - ELISA serology;
4. Other miscellaneous species (wildlife, domestic animals) only with approval from the laboratory.

Please call the laboratory for details on proper sampling and preservation of samples PRIOR to shipping. If samples are submitted ONLY for WNV testing, there will be no charge (bulk samples need pre-approval). If cases are submitted for full diagnostic testing (i.e., necropsy, histopathology, virology, bacteriology, cause of death, etc.) then tests for WNV will be run at cost (PCR approximately \$28, immunohistochemistry approximately \$15, serology approximately \$5). Please remember to indicate on submission forms if WNV testing is desired - otherwise the decision will be made by laboratory personnel.

Also, please remember that all samples being submitted for WNV testing need to be packed and shipped appropriately - contact your package carrier for further details. For more information about WNV, please see the following web page: http://wdhfs.state.wy.us/vector_borne/west_nile.htm **Todd Cornish**

NEED FOR MCF CASE MATERIAL

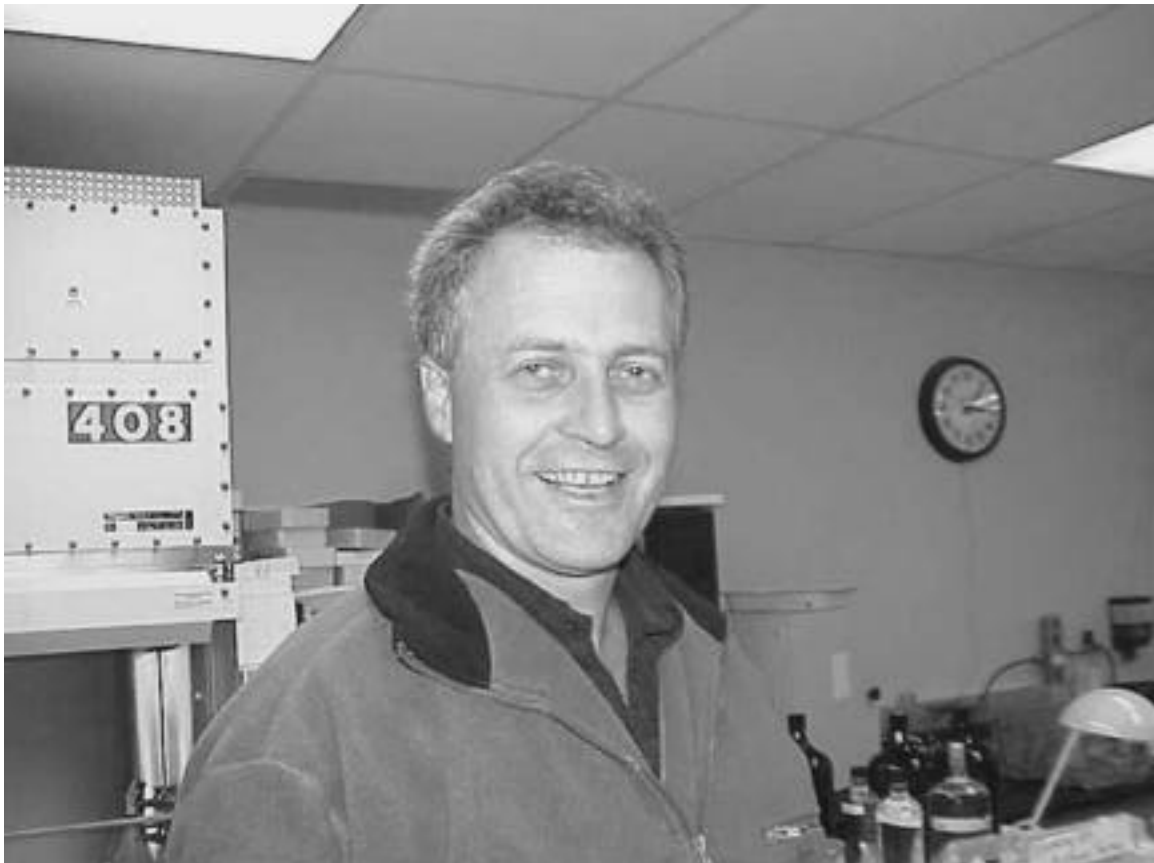
Dr. O'Toole and collaborators at Washington State University are keen to get samples (nasal swabs; EDTA blood) from clinical cases of acute MCF. If you see clinical cases of this disease (high fever; oculonasal discharge; crusted muzzle; bilateral corneal opacity) in cattle or bison, please contact Dr. O'Toole.

The WSVL investigated a case of hydrocarbon poisoning in a herd of approximately 300 cows. The case was unusual in that the predominate clinical signs were neurological and the cause of poisoning was highly volatile fractions from natural gas condensate.

Salt poisoning resulted in the deaths of 6 of 110 bulls and prolonged illness in 5 or 6 more. Environmental investigation indicated that, despite the fact that principle water supply was treated municipal sewage, the direct cause of the episode was failure to provide enough watering holes in the ice.

New Faculty Member

Dr. Alberto van Olphen joined the faculty in January of this year. His education includes a DVM from Buenos Aires, Argentina, an MS from the University of Nebraska and a PhD from Purdue University. He was an equine practitioner in Argentina and did an equine residency at the University of California. His MS work was on molecular aspects of BVD and his PhD involved work on Adenovirus Vector Vaccines and Gene Therapy. Alberto brings a strong background in production and equine medicine and takes over supervision of the virology and electron microscopy laboratories. You can meet him at the summer meeting but until then just give him a call with any off the wall questions. Alberto is married to Marcela who is completing her PhD at Purdue and they have two children who luckily look more like their mother.



Phones

The WSVL installed a new phone system the weekend of Mar 23. There are now two options for calling the lab. The old number will still get a receptionist who can answer questions or direct your call if you're not sure who you need to speak to. However, after hours and whenever you know exactly who you want to reach, you may dial 307 742 6681. This number connects to an autoattendant and a staff directory. If you already know the extension of the lab you want, you can bypass the greetings and menus by dialing it as soon as the phone is answered.

The biggest difference is that all of the staff now have personal voice mail boxes instead of relying on "yellow stickies" on doors, chairs and computer terminals. If, for example, Dr. O'Toole doesn't answer, leave a message and a bright, annoying light will flash on his desk until he returns you call. We can still transfer calls around the lab so there is no problem with calling one lab even if you know that you also want to talk to another and you can abort the voice mail process and go to the receptionist by pressing 0 at any time.

Ext.	Name	Ext.	Name
101	Bus. Office (Louise Smithson)	161	Dr. van Olphen
102	Bus. Office (Barb Garrett)	162	Virology Lab (Jackie Cavender)
103	Bus. Office (Beth Howell)	163	Serology (Joan Edwards)
104	Director's Office	171	Dr. Cook (Game & Fish)
105	West Nile Virus (Terry Creekmore)	172	Game & Fish lab (Hank Edwards)
121	Necropsy Office (Michele Turner)	181	Dr. Jolley
124	Histopathology Lab (Paula Jaeger)	182	Parasitology Lab
125	Histopathology Lab (Leslie Vieyra)	191	Dr. Cornish
131	Dr. Mills	202	Computing (Todd Bleifuss)
132	Microbiology Lab (Amy Boerger-Fields)	204	Dr. O'Toole
141	Dr. Woodard	211	Dr. Williams
142	Regulatory Serology Lab (Becky Wills)	231	Dr. Raisbeck
151	EM (Carol Hearne)	233	Inorganic Toxicology (Roger Siemion)

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To: