



Wyoming State Veterinary Laboratory Newsletter Vol 3(#2): July, 2002

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WSVL News

Message from the Director:

Here it is July and things are still pretty busy here at the WSVL. Interview dates have been selected for two candidates for the Director and Department Head position. Hopefully the next newsletter will come out under the name of the newly selected person.

With the budget increases allotted to the University mostly directed to salary improvement we have been able to move WSVL staff members closer to market level. The ability to pay a competitive salary should allow us to keep good people and provide quality diagnostics. If you get a chance you might express your appreciation to your state legislators for their support of Dr. Dubois's budget.

Dr. Bret Combs tells me we have a signed agreement between APHIS and WSVL on brucellosis and pseudorabies testing. The intent is to have APHIS provide funds to the WSVL and we would take over responsibility for performance of the assays but still in close association with APHIS since these are program diseases. There will be some changes made in sample submission and shipping container return but those will be addressed in the next newsletter.

You have probably heard of the plans for West Nile Virus Surveillance and you should have received a separate mailing detailing what we will be doing and the agencies involved.

I wasn't able to attend the WVMA meeting in Laramie but I heard there was a good turnout. Hopefully next time the meeting takes place here we will be able to arrange some activities at the laboratory.

Ken Mills PhD
Interim Director
WSVL

Scrapie in Wyoming

Scrapie infected flocks are being detected at the rate of about one per month in Wyoming. Live animal testing reveals that classical signs of scrapie (pruritis; severe weight loss) are not always present. In fact, we have detected several cases of scrapie in completely asymptomatic sheep. Practitioners should include scrapie as a rule-out whenever a progressive, debilitating illness is noted in 3 -5 year old sheep, particularly black-face breeds. Please recall that goats can be infected with scrapie, too.

Wyoming requires that live scrapie suspects be reported. The USDA, in collaboration with the Wyoming State Veterinary Laboratory and other state diagnostic laboratories, is doing research on scrapie infected sheep and goats. This research requires numerous tissues be collected from live suspects (e.g. eyelid biopsy, blood for genetic testing) or that freshly

harvested tissues (e.g. placentomes, gut lymph nodes) be collected at necropsy. Indemnity is paid for live scrapie suspects. The USDA will provide reasonable transportation costs for clinically suspect sheep. Live suspects should be transported to Wyoming State Veterinary Laboratory for necropsy and collection of samples for the USDA.

Please report live clinical scrapie suspects to USDA @ 772-2186 or WLSB @ 777-7515.
John Duncan

Lead poisoning in calves.

We had an unusual case of plumbism in baby calves this week. The history was fairly typical - first spell of nice sunny weather and the babies were out exploring things - but the clinical signs were not. Basically, calves were just found dead without any evidence of neurologic abnormalities. There was, however, the classic pallor of the skeletal musculature and the rumens were full of dark colored, fine granular material. Liver and kidney Pb concentrations were diagnostic, however the normal ratio (liver > kidney) was reversed. Although very unusual, if the dose is high enough, lead poisoning can present w/o any of the characteristic clinical signs. **Merl Raisbeck**

New tests- Your views count

We are interested in hearing from you if you would like us to offer specific diagnostic tests. For example, bulk test-kits are available for trypsin-like immunoreactivity for dogs, which is extremely helpful in confirming a clinical suspicion of exocrine pancreatic insufficiency. The same goes for canine pregnancy testing. Such kits come with limited shelf life and contain multiple (5 - 50) tests per kit. Buying them represents a significant investment at our end, but we will do it once we know there is interest in using them at your end. So, if there are new tests you would like us to offer, please contact the Director or the appropriate laboratory and we will pursue it.

Wasting syndrome-reproductive failure in WY and CO adult rabbits

Rabbit breeders in Wyoming and Colorado have recognized a reproductive loss-emaciation syndrome for the past year. We have heard of cases from Wyoming breeders in Casper, Douglas, Wheatland and Pine Bluffs, and from Loveland in Colorado. The state veterinary laboratory in Laramie investigated losses in one property in central Wyoming where 25 rabbits died of emaciation over 5 months. Many breeders are concerned losses are associated with feeding a specific commercial brand rabbit chow, and that disease is due to hypovitaminosis A. Preliminary results do not support this theory.

Clinical signs are slowly progressive weight loss over 2 - 8 weeks, terminating in death. Rabbits maintain a good appetite yet continue to lose weight. Some owners report increased polydipsia. Some animals develop urine scald (loss of fur and sore skin; progressing to small ulcers) around the hindquarters and between the back legs. The same properties see low fertility and small litter sizes. Rabbits remain bright and alert. Diarrhea may occur shortly before the rabbits die.

Although results are preliminary and not all tests are complete, the primary problem in rabbits points to chronic kidney disease of unknown origin. Of 5 rabbits tested, three had chronic renal failure due to glomerulonephritis-glomerulosclerosis, resulting in marked

proteinuria and renal infarction. Other changes are present, including pasteurellosis, abscesses, bacterial abortion, encephalitozoonosis (a common parasite of the central nervous system), middle ear infections, and septicemia. We assume these lesions are background noise and not the immediate source of the problem. We analyzed tissues for vitamin A concentrations and they are in the normal range for rabbits (50 - 250 parts per million; vitamin A deficiency occurs when vitamin A is <5 ppm). Rabbits do NOT have changes in tissues that are consistent with vitamin A deficiency. Other tests for toxicants in tissues have drawn a blank. Feed is being tested.

If you have rabbit owners whose animals experience this problem, we are interested in establishing the cause of the problem. **Donal O'Toole/Merl Raisbeck**

***Arcanobacterium pyogenes* stomatitis-pharyngitis in adult cattle grazed on greasewood**

Twenty-three of 150 adult cattle belonging to a producer in the Big Horn basin developed large asymmetrical chronic pus-filled facial swellings. Some cattle developed suppurative lymphadenitis affecting mandibular and prescapular nodes. Treatment was unavailing. Many of the affected cattle lost weight and died or were euthanized. Two live cattle were brought to the WSVL to establish the cause of the problem. Both cattle were thin and had severe multifocal pyogranulomatous stomatitis, pharyngitis and lymphadenitis of the head and neck.

Arcanobacterium pyogenes (formerly *Corynebacterium pyogenes*) was grown in pure culture from lesions. The distribution of lesions suggested that stomatitis was secondary to penetrating wounds of the mouth. No foxtail or other plant fragments were found in lesions, the owner was adamant that he avoided foxtail stands when haying, and analysis of the hay by Rocky Mountain Herbarium staff confirmed that minimal foxtail (<1%) was in the hay. The owner mentioned that he ran his cattle on an arid creek for three months in Fall 2001, and that there were heavy stands of greasewood (*Sarcobatus vermiculatus*) present. We assume that the cattle, due to the drought and lack of forage, grazed on the greasewood and that some developed extensive wounds of the oral mucosa due to the stiff spines of the plant. *A. pyogenes*, which is usually an opportunist, infected the wounds and created the clinical problem. **Donal O'Toole/Ken Mills**

Clients With Itchy Skin? WSVL Contagious Derm Cases

Sarcoptic mange was diagnosed in several dogs from a household in Sweetwater County in December. The diagnosis was suggested by the clinical presentation (scaling, crusting, alopecia, and pruritis - on the trunk, head, and ear margins), and confirmed by histopathology on one dog and skin scrapings on another dog in household. When questioned, the human inhabitants of the house also reported suffering a pruritic rash, most severe on the one of the children that slept with an affected dog. The family members were being treated for the rash by a physician, without significant improvement, and once therapy was altered to treat for mange the lesions cleared up. In an unrelated case, severe dermatophytosis (ringworm) was diagnosed in a kitten from Fremont County. Again, one of the children in the household developed a macular/papular and scaling rash that was effectively treated with antifungal agents. While these cases are interesting to us from a diagnostic standpoint, they should be more interesting to practitioners from a zoonotic standpoint. We usually try to remind clients about the potential risks associated with known zoonotic diseases, but we'd like to remind you to educate clients about the potential for transmission of sarcoptic mange, ringworm, and other

diseases from their animals. As veterinarians, we play a critical role in protecting the health of both animals and humans, and, as demonstrated in these cases, effective communication with clients and their physicians can occasionally play an important role in the correct diagnosis and treatment of zoonotic diseases. **Todd Cornish**

Nitrate poisoning

We've had two cases of lethal nitrate poisoning in the last month. Clinical signs were typical nitrate: Healthy when they started feeding, all four legs in the air a couple of hours later. In both cases, producers were trying to save a buck on feed. One got a bargain on some oat hay that wound up costing him several cows and 50% of his calf crop. The second fed sudex from the corners of pivot irrigated fields and wound up bottle feeding 18 orphaned (out of 40 total) calves.

I'm frequently told that forage nitrate testing is too expensive. The added cost of testing makes oats and sudex almost as expensive as quality hay. Finally, the nutritionists insist that lots of people feed these things and get away with it. I have no reason to doubt the truth of any of these statements. However, if you pencil it out: Laboratory nitrate testing runs \$10-20 per sample in Wyoming and I suspect that there are out of state labs that charge even less. Let's be extravagant and say that it costs \$200 to test the year's hay supply for nitrate. Then, the losses on either of these farms would have paid for the next 100 years' nitrate analysis.

If you've got clients feeding oat hay or sudex, insist that they get their hay properly sampled and tested, every year. **Merl Raisbeck**

West Nile Virus Update

West Nile virus (WNV) testing and surveillance are underway in the state of Wyoming. We are performing surveillance by testing dead birds (immunohistochemistry and RT-PCR) and are prepared for suspect equine WNV cases (serology and/or RT-PCR). A WNV fact sheet and a protocol form for collecting equine samples were distributed earlier this month - please call Dr. Cornish if you did not receive these forms or if you require more copies. Please remember to call the laboratory (Dr. Cornish or Terry Creekmore) prior to submitting any avian or equine samples so that we obtain the correct history and may assist you in choosing optimal tissues for testing.

To date, 29 birds and 2 suspect equine cases have been examined - all have been negative for WNV by immunohistochemistry, RT-PCR, and/or serology. **Todd Cornish**

Rabies exams

New recommended procedures for rabies exams have been put out by the CDC and as an approved laboratory we are obliged to follow those recommendations. We hope that these new requirements will not delay results but there are significant changes in how samples are handled here at the WSVL. The only real change for the submitter will be the need to include brain stem. According to the new regulations we are not allowed to provide a definitive diagnosis if brain stem is not tested. If you are sending in a head please make sure that it is removed low enough to include brain stem and of course if you remove the brain you will need to make sure brain stem is collected. **Ken Mills**



In an effort to put a face onto the voice you hear on the phone we are trying to spotlight a person here at the lab in each issue. Carol Hearne is our electron microscopy person and has been a UW employee for 22 years. Carol started her UW career with the department of Plant Science but was transferred to this department when we occupied this building in 1985. Her years of experience and organizational skills provide WSVL clients with the highest quality EM diagnostics.

The Far Side at WSVL

Over the years, we have seen some very interesting case histories at the Wyoming State Veterinary Laboratory. Here are a few to brighten your day.

"Mole bit my son on the finger. I dug up the mole with my backhoe." Can you imagine the look of the field when the father got done digging for that critter! Further investigation revealed that he dug up the mole and the kid chased it down and caught it.

"Cat bit woman with no previous history of abnormal behavior." I guess anyone can have a bad day.

"Dog bit owner after he injured his back." Talk about adding insult to injury!

"Dog bit a family member two weeks ago. Owner shot dog and buried it. Please do all tests necessary to determine cause of death." After a necropsy on a bag of slimy contents, rabies testing and a full toxicology screen, the pathologist on duty thought the dog probably died of a gunshot wound.

"Found these worms in the toilet. Can you get them from drinking from the toilet?" We know the drought is bad, and a case can be made for buying bottled water!

Interesting Abbreviations:

ADR = ain't doing right

GOK = God only knows

Suffering from the 4 D's = down, depressed, dehydrated and dead

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