



UC DAVIS

VETERINARY MEDICINE

California Animal Health and
Food Safety Laboratory System

CAHFS CONNECTION

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Holiday Schedule

CAHFS will be closed on **Monday, September 7, 2015** in observance of Labor Day.

Please contact your laboratory to plan your testing needs accordingly.

Bovine

Dermatophilus congolenses (rain scald) was isolated from scabs picked off two, 2-year-old Holstein heifers. Twenty-five percent of a group of 250 heifers developed flaky, crusty skin over the lateral neck, shoulders and trunk, within one to two weeks after calving. Heifers and cows had been exposed to soakers for 30 minutes followed by free choice access throughout the day. Shades were added this year which may have extended the time heifers remained wet during the day. Cows were rarely affected which is a common observation for this infection. Typical histologic lesions were seen.

***Bacillus cereus* mastitis with hemoglobinuria** caused the death of three dairy cows shortly after calving. Histopathology demonstrated gangrenous mastitis and hemoglobinuric nephrosis. *Bacillus cereus* was isolated from the mammary gland tissue. Leptospirosis and heavy metal toxicosis were ruled out with testing. Hemolytic crisis associated with *Bacillus cereus* mastitis has been reported in dairy herds. Infection of dairy cattle with *Bacillus cereus* can be associated with free-stall bedding or contamination during intramammary infusion.

Lead poisoning was diagnosed in a small beef herd in which several animals died suddenly over the weekend. No clinical signs other than terminal **convulsions** were seen. The owners reported finding old batteries in the pasture and some appeared to have been chewed on. A yearling heifer submitted for necropsy had very mild cerebral cortical necrosis. Liver and kidney lead levels were 2.8 and 19 ppm respectively; the higher kidney level is consistent with chronic lead toxicity.

Equine:

Leptospirosis was diagnosed in a late-term equine abortion from which only placenta and umbilical cord samples were submitted. Grossly the umbilicus had surface exudate, which histologically consisted of diffuse superficial inflammation (funisitis) which is associated with *Leptospira* abortion. Silver stains revealed large numbers of spirochetes consistent with *Leptospira* in the inflamed tissues. Serology on the mare found a markedly elevated *Leptospira pomona* titer.

Parasitic encephalitis was diagnosed in a 15-year-old Quarter horse gelding with a one week history of difficulty standing and leaning against fences. In the last three days the horse was stumbling and ultimately was down and unable to rise. On histologic examination of the brain, there was severe multifocal encephalitis and necrosis and frequent nematode larvae consistent with *Halicephalobus gingivalis* in the lesions.

Bovine coronavirus PCR Testing

CAHFS is offering bovine coronavirus PCR testing on ruminant fecal samples now. Samples (fecal swab in red top tube or a small amount of feces (quarter size)) should be submitted fresh and shipped on wet ice overnight if needed. Starting August 1st a fee of 25.00 will be charged on non-necropsy cases.

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Your feedback is always welcome. To provide comments or to get additional information on any of the covered topics or services, please contact Sharon Hein at shlein@ucdavis.edu.

We're on the Web
www.cahfs.ucdavis.edu

Small Ruminant and Camelids

Severe mastitis caused the death of milk goats on separate premises. An adult doe died after a brief illness of less than 24 hours. One side of the udder was swollen with fibrinosuppurative and hemorrhagic mastitis. Large numbers of *Pseudomonas aeruginosa* were isolated. Tissue samples from another milking doe with a similar history of fatal mastitis revealed acute neutrophilic mastitis and *Mannheimia haemolytica* and *E. coli* were isolated

Small ruminant lentivirus arthritis was the cause of carpal joint swelling and lameness in a group of mixed breed sheep. Five adult ewes presented with similar clinical signs and the most severely affected ewe was euthanized for necropsy. The synovial fluid of the swollen carpal joints had been replaced by moderate amount of white, chalky, finely granular material. Microscopically, there was severe chronic arthritis of the carpal joints and myocarditis, interstitial mastitis, enteritis and encephalitis. Small ruminant lentivirus serology (ELISA) and IHC on sections of synovial membranes from the carpal joints were positive. No bacteria including *Mycoplasma* sp. were isolated from the carpal joints.

Pleuritis due to *Streptococcus equi* ssp *zooepidemicus* was found in a 1-week-old alpaca cria that died. The fixed tissues submitted for histopathology had severe fibrinosuppurative pleuritis with chains of Gram positive cocci, enteritis and peritonitis. The submitting veterinarian isolated *Streptococcus equi* ssp *zooepidemicus* from the pleural fluid. This bacterial infection associated with pleuritis, peritonitis and polyserositis in alpacas is a syndrome referred to as "alpaca fever".

Poultry

Inclusion body hepatitis due to **adenovirus** caused increased morbidity (40%) and mortality (20%) in 10-day-old chickens in a commercial flock starting at 8 days of age. Live birds submitted were depressed and reluctant to walk. Livers were pale and enlarged with red foci. Spleens were enlarged with white foci. On histopathology extensive liver and mild pancreatic necrosis with intranuclear adenovirus-type inclusion bodies was seen.

Hypocalcemia was diagnosed in 15-week-old turkeys that were unable to stand and had increased mortality of 10%. Serum calcium was deficient in 4 live affected birds with levels of 53-58ppm (normal 90-160ppm) and phosphorous was normal. Microscopic exam of the proximal tibiotarsal bone revealed rickets-like lesions. No other gross or histologic changes in the musculoskeletal system were seen. Feed had a 1.4:1 calcium: phosphorous ratio (optimal 2:1).

Fowl cholera due to *Pasteurella multocida* caused listlessness and death in Rhode Island Red laying hens from a small commercial free range flock. All 8 birds submitted had similar lesions consisting of fibrinous coelomitis, peri-oophoritis, multifocal hepatitis and splenitis. *Pasteurella multocida* was isolated from all cultured birds.

Infectious bursal disease (IBD) was diagnosed in 3.5- to 7-week-old birds from multiple chicken operations experiencing increased mortality. Some of the affected birds had smaller than normal Bursa of Fabricius. Histopathology identified lesions consistent with IBD in the bursa and birds were positive by PCR. IBD can lead to immunocompromised birds that have increased incidence of infections and grow slower during their production cycle.

Toxicology

Xylitol was detected in stomach contents of a wolf. Xylitol, a sugar alcohol, is used as a sugar substitute in chewing gum, candy, nicotine gum, toothpaste, and baked good. Packages of xylitol are sold in grocery stores for use in baking. Xylitol is uniquely toxic to dogs and causes insulin release and severe hypoglycemia at doses of greater than 0.1 grams/kg and hepatic failure at doses > 0.5 grams/kg. In some areas of the country, xylitol is incorporated into baits that target coyotes and wolves. Since toxicity is only expected in canids, other species are unaffected. The best samples for analysis are suspect bait and stomach contents. Because xylitol is rapidly metabolized once ingested, CAHFS has not had good success detecting the compound in tissues such as liver, although it might be possible in the absence of other samples. However, a negative test does not rule out exposure to the chemical. Dog owners should be aware of the possible use of xylitol in malicious poisoning.