



UC DAVIS

VETERINARY MEDICINE

California Animal Health and
Food Safety Laboratory System

CAHFS CONNECTION

March 2016

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Holiday Schedule

CAHFS will be open, but will have limited services available on **Friday, March 25, 2016** in observance of Cesar Chavez Day,

Please contact your lab to plan your testing needs accordingly as some test setups will be changed or reduced.

Bovine

Copper toxicity was diagnosed in an adult dairy Holstein cow with a 2-day history of being down, anorexia, bloody feces and pale mucous membranes. Tissue samples from a field necropsy revealed hepatic microscopic lesions suggestive of copper toxicity. A heavy metal screen performed in liver revealed mildly elevated copper levels (140 ppm; normal range 25 – 100 ppm). Toxic exposure was confirmed based on kidney copper levels of 40 ppm (normal range 4 – 6 ppm). No other animals in the herd had died.

Coronavirus and attaching and effacing *E. coli* caused severe necrosuppurative **colitis** in a 2-week-old Jersey calf that died following a 3-day course of profuse diarrhea. Cryptosporidia and rotavirus were also detected. Multiple deaths had recently occurred in the herd.

Actinobacillus suis caused vegetative **endocarditis, omphalitis, peritonitis** and thromboembolic lesions in multiple organs of two, one-week-old dairy calves exhibiting progressive weakness. Both calves had failure of passive transfer of colostrum antibody.

Mycoplasma bovis caused **otitis media** with droopy ears in 10 calves from a group of 16,000 hutch calves. The age of the affected animals ranged from 18- to 30-days. Three calves submitted had received no prior treatment and had no signs of pneumonia. *Mycoplasma bovis* was isolated in pure culture from the middle ear of two calves with bilateral exudate on gross exam, as well as from one calf with microscopic, but no gross lesions. The lungs of all three calves were unaffected.

Equine

Temporohyoid osteoarthropathy resulting in skull fractures was the cause of acute neurologic signs in an adult Thoroughbred mare. Gross examination revealed chronic bilateral temporohyoid osteoarthropathy with multiple chronic and acute fractures of the stylohyoid bone and petrous portion of the temporal bone with extensive bony proliferation.

Small ruminants

***Clostridium perfringens* type D enterotoxemia** was diagnosed in a 1-month-old nursing lamb with sudden onset of head pressing, blindness, hyperesthesia and unresponsiveness to noise or hand movements. *C. perfringens* epsilon toxin was detected in the otherwise normal intestinal contents. No gross or histologic lesions were detected.

Corynebacterium pseudotuberculosis caused severe caseous **pleuropneumonia** in a 1-week-old meat-type goat kid from a herd experiencing high mortality in young kids. The kid had also copper and selenium deficiency.

Encephalitic listeriosis was the cause of a two-day course of neurologic disease in a one-year-old doe. Histologic examination of the brain revealed severe lymphocytic encephalitis with microabscesses in the brainstem, with gram positive bacteria that stained positive for *Listeria spp.* by immunohistochemistry.

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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 slhein@ucdavis.edu.

We're on the Web
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Small ruminants (cont'd)

Yersinia enterocolitica caused diarrhea, lethargy and death in ten out of 40 Boer goats on pasture. No lesions were evident on gross examination, but multifocal ulcerative enteritis with typical bacterial rod colonies was evident on microscopic examination. *Yersinia pseudotuberculosis* was isolated from the intestine and mesenteric lymph node. The animals also had hemoglobin casts in the kidney indicating intravascular hemolysis. Heavy metals (including copper) were within normal limits. There was no apparent exposure to known causes of hemolytic crises. One goat also had degenerative myopathy associated with selenium deficiency.

Pneumonia caused by **Caprine Arthritis and Encephalitis virus (CAEV)** was diagnosed in an adult, female La Mancha goat which was one of two animals that died after progressive unresponsive respiratory disease in a dairy herd of 800. The lung of the animal submitted was diffusely firm and rubbery on gross exam, and had interstitial pneumonia and abundant intra-alveolar eosinophilic proteinaceous material (alveolar proteinosis) histologically. Lung samples were positive for CAEV by IHC. Serology for CAE was also positive.

Pig

Streptococcus suis septicemia caused the death of two of three piglets submitted from a litter in which 7 of 8 live born piglets died within 3 days of farrowing. Neutrophilic meningitis and epicarditis with intralesional cocci were present. *Streptococcus suis* was isolated from lung and liver.

Poultry and Other Avian

Marek's disease was diagnosed in an 8-month-old, Barred Plymouth Rock hen submitted with severe flaccid paralysis of the neck, resembling botulism. At necropsy examination, the bird did not have any apparent gross lesions. However, histopathology revealed brain, peripheral nerve, blood vessel and kidney lesions consistent with Marek's disease, which is the most common disease diagnosed in backyard poultry submissions at CAHFS.



Hen with Marek's disease showing flaccid paralysis

Corneal erosions due to increased ammonia levels in the house was diagnosed in 13 to 15-week-old breeder replacement chickens. The birds were reluctant to open their eyes, had swollen and reddened eyelids and the corneas had roughened surface. Increased ammonia in the house was attributed to increased moisture in the litter and decreased ventilation due to a cold spell experienced over a one to two week period.

Mycoplasma gallisepticum infection was diagnosed in a backyard flock chicken experiencing severe gasping and nasal exudate. This animal was thin and had severe airsacculitis, tracheitis and pneumonia. *Mycoplasma gallisepticum* with concurrent mixed bacterial infection was identified.

Poult enteritis mortality complex was diagnosed in 4-week-old turkey poults in two flocks of 5,400 birds each. Clinical signs included lethargy, depression and increased morbidity and mortality. Necropsy revealed severe enteritis associated with severe coccidiosis, Rotavirus, *Clostridium perfringens* and attaching and effacing *E. coli*.

Pigeon paramyxovirus infection. Three doves with history of diarrhea, depression and neurologic signs were submitted for necropsy. Small amounts of yellow fluid and opaque air sacs were noted at gross examination. Histologically, two consistent lesions were identified: 1. multifocal to coalescing myocardial necrosis, with small mononuclear infiltrates, and 2. Mononuclear pancreatitis, with focal areas of necrosis. With these findings, a viral infection (likely Paramyxovirus) was suspected. Avian paramyxovirus PCR was positive. Samples were submitted to NVSL and the three doves tested positive for **Pigeon Paramyxovirus** by virus isolation as well. This is a reportable condition, so authorities were notified.