



UC DAVIS

VETERINARY MEDICINE

California Animal Health and Food Safety Laboratory System

CAHFS CONNECTION

LEADING DIAGNOSTICS NATIONALLY, PROTECTING CALIFORNIA LOCALLY • FEBRUARY, 2018



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Holiday Schedule

In observance of President's Day, CAHFS will be closed on Monday, February 19, 2018

Bovine

Exsanguination into the abdominal cavity was the cause of death in two Holstein cows from a dairy where six cows in various stages of lactation had died in a 2-week period. One cow had systemic lymphosarcoma and fragile abdominal serosal vessels may have been the source of the bleeding. The second cow had a ruptured cranial mesenteric artery aneurysm.

Leptospirosis was diagnosed in a 3-year-old bison with a history of weight loss and death. The kidney had severe tubulointerstitial nephritis and *Leptospira* spp. were identified by PCR. Very high titers of antibodies against *Leptospira Pomona* were found in serum.

Equine

Zinc/aluminum phosphide intoxication was the cause of death of one horse and two miniature donkeys on two unrelated premises. All three animals had phosphine gas detected in stomach contents. The horse exhibited sudden onset of ataxia, sweating, muscle fasciculation, tremors and unwillingness to move prior to death. The donkeys were vocalizing, recumbent, had spasms and constricted pupils. The three animals submitted had hemorrhages in lung and either heart (donkeys) or muscles (horse) of head, neck and between ribs. Zinc/aluminum phosphide is used as a gopher bait.

***Clostridium difficile* colitis** was the cause of death in a 4-year-old Quarter horse that had been treated with antibiotics for a septic joint infection for four days prior to onset of fever, elevated heart rate, injected mucous membranes and reduced intestinal sounds. The horse died despite treatment two days later. The colon had diffuse marked edema, mucosal necrosis and fluid content. *C. difficile* toxins A/B were detected by ELISA in colon contents.

Fellowship Program

Musculoskeletal Pathology of Racehorses

CAHFS is currently offering a 2-or 3-year fellowship program focused on the musculoskeletal pathology of racehorses at its San Bernardino laboratory in collaboration with the California Horse Racing Board and the J.D. Wheat Veterinary Orthopedic Research Laboratory. The program is designed to provide in-depth training in pathology of the musculoskeletal system of racehorses. Additional program and application details, are available on CAHFS' [web site](#).

Pig

***Staphylococcus hyicus* infection (greasy pig disease)** caused epidermitis in an 8-day-old piglet from a farm where five other piglets had developed skin lesions and died at 4 to 10 days of age. The affected skin was roughened, crusty and was gray-brown.

Continued





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Food Safety Laboratory System

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Small Ruminant/Camelid

Enzootic ataxia from in utero **copper deficiency** resulted in weak goat kids that were in lateral recumbency and unable to stand since birth. Two of 20 does in a herd had affected kids. Histopathology revealed spinal cord and brain stem lesions compatible with copper deficiency. Copper was not detected in the liver of one kid and was 0.42ppm (normal range: 25-150ppm) in the other kid.

Neospora sp. and **Chlamydia** sp. were the diagnosed causes of **abortion** in yearling ewes in one flock with a history of some weak born lambs. A 14-week gestation fetus diagnosed with **Chlamydia** sp. infection by immunohistochemistry (IHC) on liver and spleen had splenitis, adrenalitis and hepatitis. Another 12-week gestation fetus had severe encephalitis and mild interstitial pneumonia and epicarditis. Protozoal cysts seen in the brain were positive for **Neospora** by IHC. No placenta was received from either lamb. Both detected agents can lead to weak born lambs.

Phrenic nerve neuropathy was the cause of labored and abdominal breathing in a 38-day-old alpaca cria. Signs began 15 days prior to death. Both the right and left phrenic nerves were affected, the lesions being most severe in the middle and caudal portions. No lesions were seen in the diaphragm. The cause of this condition is unknown.

Wildlife

Severe histiocytic **meningoencephalitis due to Sarcocystis** sp. resulted in neurologic signs in an emaciated river otter. The otter had been hospitalized by a wildlife rescue, and it had an excellent appetite but was lethargic and had mild neurologic signs, being found dead three days after being rescued. Large coalescing areas of inflammation were identified in the cerebrum associated with abundant protozoal organisms that were strongly immunoreactive with **Sarcocystis** sp. immunohistochemistry.

Poultry and Other Avian

Avian cholera (*Pasteurella multocida*) was diagnosed as the cause of high flock mortality in which 40 turkeys in a flock of 60 died over a 10-day period. All turkeys developed black/dark red lesions on the head skin, diarrhea and lethargy prior to death. Two turkeys were submitted. Caseous cellulitis was associated with the head skin lesions which were characterized as infarcts. *Pasteurella multocida* was isolated from liver, lungs and subcutaneous tissues.

Septicemia due to **Streptococcus gallolyticus** was diagnosed in a flock of 15,600, 14-day-old Pekin ducks. The ducks experienced ataxia, paralysis, torticollis and increased mortality of 60 to 90 birds per day, which eventually peaked at 2,500 birds in a week. Necropsy and histopathology revealed severe conjunctivitis, optic neuritis, meningoencephalomyelitis, splenitis and pericarditis. *S. gallolyticus* was isolated from most of the affected organs.

Systemic trichomoniasis was diagnosed in a 7-day-old pigeon squab submitted from a commercial squab operation, which was undergoing high mortality in birds 2- to 10-days-old. Gross lesions indicative of omphalitis, yolk sac infection and peritonitis were seen at necropsy. Microscopically, organisms that were positive for *Trichomonas* sp. by immunohistochemistry were identified in affected tissues. *Trichomonas columbae* is the etiological agent of trichomoniasis in pigeons, also known as pigeon canker. Young squabs become infected early in life, following the ingestion of protozoa with the crop milk provided by the parents. Ascending infections from the umbilical region, due to the contact with contaminated feces, have also been described.

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