UCDAVIS VETERINARY MEDICINE
California Animal Health and Food Safety Laboratory System

CAHFS CONNECTION

LEADING DIAGNOSTICS NATIONALLY, PROTECTING CALIFORNIA LOCALLY • JANUARY, 2018

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Holiday Schedule

In observance of Martin Luther King Day, CAHFS will be closed on Monday, January 15, 2018.

Happy New Year!

Happy New Year from all of us at CAHFS. We look forward to serving you in 2018.

Bovine

Bacilliary hemoglobinuria (*Clostridium haemolyticum*) was diagnosed in two, 9- and 10-year-old beef cows, respectively, that were found dead one day after processing and two days after being shipped. Both cows showed icterus, hemoglobinuria and multiple large foci of necrosis in the liver. One of the cows also had chronic biliary lesions compatible with fluke infestation. Microscopically, large gram positive bacilli compatible with ***Clostridium*** sp. and identified as *Clostridium novyi* (antigenically related to *C. haemolyticum*) by fluorescent antibody test were present within the regions of necrosis.

Tree tobacco (*Nicotiana glauca*) **toxicosis** was the presumptive cause of death of 12 crossbred yearling beef cattle in a group of 68 grazing on native pasture where several plants had been dumped. Five additional animals were sick. Anabasine, a toxic principle of tree tobacco was detected in the rumen content of one dead heifer. Tree tobacco was identified amongst the plants that had been dumped on the pasture before the deaths occurred.

Equine

Fibrocartilaginous embolism in the cervical spinal cord was the cause of **neurologic signs** in a 12-year-old Quarter horse. The horse developed acute onset of right side ataxia and paresis and right front and rear limb deficits progressing to recumbency. The emboli resulted in infarcts and hemorrhage of the right dorsal and lateral areas of the spinal cord from C2 through T6.

West Nile virus myelitis was diagnosed in a 6-year-old Standardbred mare with a history of incoordination and ataxia followed by collapse and death. Microscopically, multifocal lymphohistiocytic meningomyelitis was observed in all sections of the spinal cord. PCR for West Nile virus was positive.

***Leptospira* abortion** was diagnosed in a 6-month gestation equine fetus with icterus, swollen orange liver, bile stasis and mild interstitial nephritis. The Leptospira PCR was positive on fetal kidney and the dam's sera had titers of >1:3200 to three (Bratislava, Icterohemorrhagiae and Pomona) of six *Leptospira* serovars tested.

Small ruminants

Streptococcus equi* subsp. *zooepidemicus was isolated from the meninges of two out of three goats with neurologic signs and **meningitis**. These goats were pastured with a healthy horse and it was thought that the horse was the source of the infection. Although rare, severe and potentially fatal disease can also occur in humans that have contact with horses shedding *S. equi* subsp. *zooepidemicus*. Clinical presentation in humans include pneumonia, meningitis (as seen in these goats), endocarditis, endophthalmitis, and myositis with and without sepsis.

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Bibersteinia trehalosi was the cause of placentitis and **abortion** in 4-month gestation twin fetuses from a 4-year-old ewe. The organism was isolated from the placenta and fetal lung, liver and abomasum.

Bluetongue virus infection was diagnosed by PCR in 10 flocks between August 15 and November 15. Affected sheep ranged from 10-month to 5-years-old. Clinical signs included one or more of the following: sudden death, high fever, inappetence, lethargy, reluctant to move or stand, abortion, swollen tongue, sores around mouth, salivation, respiratory signs, foam from mouth, and mild nasal discharge. The most common gross and histologic lesions were moderate to severe pulmonary edema and congestion, hemorrhages in multiple organs often involving the heart, lung and pleura, hydrothorax, hydropericardium and ascites. Virus typing was performed on four cases and types 11, 13 and 17 were identified.

Pig

Valvular endocarditis of the left atrioventricular valve associated with myocardial vascular fragility which led to cardiac tamponade caused labor breathing for two days prior to death of a 3.5-month-old pig. ***Streptococcus suis*** and ***Streptococcus dysgalactiae*** ssp ***equisimilis*** were isolated from the affected valve. The pig had necrosis and bacterial infection of the tip of the ear which had begun one to two weeks prior to death and was thought to be the port of entry for the infection.

Wildlife

Systemic aberrant *Baylisascaris* sp. migration was the cause of disease in a juvenile male North American beaver. The beaver was found lethargic and easily approachable in a parking lot and submitted to a rehabilitation center. The animal was obtunded and blind, and was euthanized after ~10 days. There were no gross lesions on necropsy. Histopathology revealed extensive necrosis and inflammation in the brain with cross sections of nematode larvae (*Baylisascaris* sp.). Similar nematodes were within a vessel lumen in the large intestinal submucosa, and random inflammatory foci consistent with systemic larval migration were seen in the kidneys, lacrimal glands, lymph nodes and myocardium.

Poultry and Other Avian

Severe **vitamin A deficiency** was a major contributing factor to disease in a group of layer chickens ranging from 17- to 97-weeks of age. The birds had decreased production, puffy closed eyes and unilateral or bilateral swelling of the infraorbital sinuses. At necropsy, there was accumulation of bright yellow, wet to crumbly material under the eyelids and within the infraorbital and nasal sinuses. Some of the birds also had multifocal, raised, firm, yellow nodules protruding from the esophageal mucosa. Histologically, the esophageal nodules and epithelium of the trachea, sinuses and conjunctiva were undergoing squamous metaplasia and keratin accumulation. Vitamin A levels within the liver were severely deficient (13 ppm, normal is 60–300 ppm). Squamous metaplasia is the classic lesion of vitamin A deficiency. The cause of vitamin A deficiency on this farm was the use of a new premix that was vitamin A deficient.

Erysipelothrix rhusiopathiae was isolated from the liver of two, 14-day-old Peregrine falcons and from the brain of one of them. The fledglings were found dead in the nest box. Both birds had lesions of **septicemia** with numerous gram positive bacilli. In addition, both birds had lesions in the neck suggesting a rodent bite that might have been the source of the bacteria.