



UC DAVIS

VETERINARY MEDICINE

California Animal Health and Food Safety Laboratory System

CAHFS CONNECTION

LEADING DIAGNOSTICS NATIONALLY, PROTECTING CALIFORNIA LOCALLY • SEPTEMBER, 2016



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Holiday Schedule

In observance of Laboratory Day, CAHFS will be closed on Monday, September 5, 2016

Please plan your testing needs accordingly

News

The United States Department of Agriculture confirmed on August 26, 2016 the presence of highly pathogenic H5N2 avian influenza in Alaska wildlife.

Read more...

Bovine

Gossypol toxicosis was diagnosed in 3- to 4-month-old ranch calves with history of respiratory distress and fever. Gross examination identified severe ascites, hydrothorax, pulmonary edema, perirenal and mesocolonic edema and nutmeg livers, suggestive of heart failure. Levels of free gossypol in rations were significantly high (>100 ppm). Gossypol toxicity occurs in both adult cattle and calves, although the latter are more susceptible to gossypol than older cattle. The diet of animals less than 4 months of age should contain less than 100-ppm free gossypol. Pima cotton seed has higher levels of gossypol than upland cotton seed.

Ureaplasma diversum caused the **abortion** of a full-term bovine fetus. Grossly, the lungs of the fetus were diffusely dark red to purple, and multiple joints had erosion and ulceration of the cartilage, and thickening of the synovial membrane. Microscopically, there was severe polyarthritis and polysynovitis, and mild conjunctivitis. Ureaplasma diversum PCR and culture were positive on samples of lung.

Polioencephalomalacia produced clinical signs of head pressing, blindness, stargazing and paddling in a group of 5- to 7-month-old calves (10 % of the group). Two calves presented for necropsy showed fluorescence of the brain cortex when observed under UV light, and lesions in cerebral grey matter on histopathology indicative of polioencephalomalacia. This condition is treated with thiamine. Management issues that may cause this lesion are rumen acidosis, feeding the thiamine analog amprolium (a coccidiostat), and ingestion of excessive sulfur (in water, sulfur containing plants, or commodities such as molasses

and dried distillers grain) by non-habituated animals.

Equine

West Nile virus was diagnosed in 11 horses by IgM capture ELISA over the past two months. Neurologic signs can include muzzle twitching, impaired vision, aimless wandering, head pressing, circling, inability to swallow, irregular gait, trembling, lack of coordination, weakness, muscle contractions, paralysis, convulsions, and death.

Small ruminants

Bronchopneumonia due to Mannheimia haemolytica was diagnosed in a slow growing 8-month-old goat. At necropsy, the doe had severe fibrinous pleuritis and fibrinosuppurative bronchopneumonia and irregular zones of necrosis. *Mannheimia haemolytica* was isolated from the lung.

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Histophilus somni was the cause of multiple abscesses in a 5-month-old lamb that was euthanized due to ongoing neurological signs. Abscesses were found in subcutaneous tissue of the chest, brain and heart. *Histophilus somni* was isolated from the chest abscess and detected by immunohistochemistry in the heart and brain.

Camelid

Alpaca fever was diagnosed in a 4-year-old alpaca that was euthanized after a five-day history of depression and anorexia. On gross examination, the carcass was in poor body condition and had small amounts of fibrin and fluid in thoracic and abdominal cavities. Histological examination revealed fibrinous polyserositis, embolic pneumonia, myocarditis and disseminated thrombosis, with the presence of myriad intralesional Gram positive cocci. **S. equi spp zooepidemicus** was isolated from the liver and lung. This animal was also copper deficient, which might have contributed to decreased resistance to infection.

Other Mammalian

West Nile virus infection was diagnosed in one of two Western gray squirrels found dead near a residence. Although diagnostic gross lesions were not seen, encephalitis and myocarditis were detected microscopically. West Nile virus was detected in the brain by PCR.

Poultry and Other Avian

Fowl pox was diagnosed in two, 6-week-old Bantam chickens. The birds came from a flock of 25 birds, of which nine had swollen faces, were observed shaking heads, lethargic, and anorexic. Two submitted chicks had proliferative lesions on the eyelids. Histopathology revealed severe lesions diagnostic for fowl pox. This is mostly a self-limiting disease, although it can cause mortality in complicated cases, mainly

when the respiratory tract and the oral cavity are involved. It can also cause mortality when the birds cannot see feed and water due to the eye lesions.

In a flock of 6,800, 13.5-week-old tom turkeys **heat stroke** attributed to the death of more than 30% over a 2-day period during a heat spell in the Central Valley of California. The internal body temperature of five turkeys submitted ranged from 100F to 114F (normal is 107F). Severe congestion of the internal organs was the most significant lesion.

Bluetongue Virus

It is Bluetongue virus (BTV) season! Bluetongue is a non-contagious, insect-borne viral disease of ruminants, which most severely affects sheep. The National Veterinary Services Laboratory currently offers BTV typing to identify the strain of BTV involved in an infection. Identifying the BTV strain is important if planning to vaccinate, because 1) BTV vaccines are strain specific and do not cross protect, and 2) vaccinating with more than one modified live strain is not recommended because hybrid viruses can be created. Typing is based on the gene for the outer virus particle that triggers the animal's immune response. While last year the predominant types in California were BTV-10 and BTV-17, CAHFS recently detected a BTV-13. All of those serotypes plus BTV-11 and BTV-2 are known BTV strains for California. For more information about this service, contact the CAHFS-Davis laboratory.

