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Holiday Schedule

In observance of Martin Luther King Day, CAHFS will be closed on Monday, January 18, 2021.



Happy New Year!

Happy New Year from all of us at CAHFS. We look forward to serving you in 2021.

RABBIT HEMORRHAGIC DISEASE DETECTED IN SAN JOAQUIN VALLEY

Rabbit hemorrhagic disease (RHD) is moving northwards in California. The initial detection of this devastating virus in the state was in May 2020 in Southern California, and in December 2020 the virus was detected in multiple wildlife and domestic premises north in Kern County. The cause of the disease, rabbit hemorrhagic disease type 2 (RHD2) virus, is a calicivirus which affects rabbits and hares, and is very stable in the environment. Domestic and wild animals are susceptible to RHD, and produce high concentrations of the virus, leading to high mortality. Vaccines are not available, and increased biosecurity is, therefore, the best prevention against RHD.

Bovine

Histophilus somni myocarditis and meningitis

was the cause of sudden death in a 7-month-old beef steer from a group of 150 animals in which four had died. On necropsy, the pericardial sac contained fibrin, there was extensive epicardial hemorrhage and multifocal myocardial necrosis, affecting especially the papillary muscles. The meninges were covered by fibrin. Histology and *H. somni* isolation from heart and brain confirmed the diagnosis.

Dicoumarol toxicosis was the cause of abortion

in a bovine beef breed fetus. Eight of 50 cows aborted in the last two months; some calves were born dead and others died within a day. The fetus had approximately 500 ml of blood in the abdomen and in the wall adjacent to the umbilical cord. The cows were on a pasture of clover. Sweet clover contains coumarin, which is converted to dicoumarol by mold. Dicoumarol was detected in the liver of the fetus and all tests for infectious abortifacients were negative.

Equine

Tracheal collapse caused sudden death during transport of an 8-year-old miniature horse. The horse had markedly flattened tracheal rings, with the dorsal ligament stretched laterally resulting in an almost non-existent, horizontal tracheal lumen. There was marked malacia

of the cartilage of the tracheal rings. In this condition of miniature horses, it is thought the ligament functions like a diaphragm occluding the trachea during inspiration resulting in asphyxia

Pig

Ascariasis and trichuriasis were diagnosed in a 3-month-old Berkshire pig from a group of six, of which three had persistent diarrhea and failed to thrive post-weaning. One of the three died and at necropsy large numbers of *Ascaris suum* (roundworms) were found throughout the liver vessels and within the small intestine lumen. The cecum and colon had large numbers





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of adults and larvae of *Trichuris suis* (whipworm) in the mucosa. Numerous eggs of both worms were seen in the feces of this pig and a surviving herd mate.

Small ruminants

Urinary bladder rupture and urethral obstruction was diagnosed in a 3.5-month-old, male Chinese goral (a small Asian ungulate similar to a goat) from a zoological collection, after a 2-day history of rectal prolapse and severe azotemia. Necropsy revealed uroabdomen and a focal tear in the urinary bladder. The urethral lumen was filled by a granular to sandy sludge and there was mild urethritis histologically. It was concluded that urethral obstruction likely predisposed to urinary bladder rupture and uroabdomen. Urolithiasis is a common problem in juvenile, male, domestic goats and sheep, which usually present with similar signs and lesions to the one described in this unusual species. Diets high in grain and low in roughage seem to be predisposing to this condition.

Pulmonary adenocarcinoma due to Jaagsiekte sheep retrovirus (JSRV) and bacterial bronchopneumonia were diagnosed in a 4-year-old, pregnant Targhee ewe from a pasture flock in which six out of 600 sheep had signs of anorexia and fever of 104-105.3°F over a 10-day period. Five animals, including the ewe submitted, had died despite antibiotic treatment. On necropsy, the lungs had rib impressions and both cranial lobes were consolidated and had multifocal small abscesses. In addition, the dorso-caudal area of the right lung was firm and mottled. Microscopically, adenocarcinoma and areas of bronchopneumonia were present in both lungs. JSRV was detected by PCR and sequencing. This virus is a highly contagious betaretrovirus responsible for ovine pulmonary adenocarcinoma.

Johne's disease was diagnosed in an emaciated 3-year-old crossbred doe goat with granulomatous enteritis characterized by diffuse sheets of epithelioid macrophages in the mucosa, with large numbers of acid-fast bacilli in macrophages. This goat also had superficial diffuse necrotizing esophagitis

(distal esophagus) with intralesional yeast (presumptive *Candida* spp.). Paucibacillary Johne's disease was also diagnosed in an 8-year-old crossbred ewe with a 10-week history of weight loss and thickened small intestine. Acid-fast bacilli were rare in the intestinal mucosa of this animal and the mucosa had non-suppurative inflammation with few epithelioid macrophages. Johne's antibody ELISA was positive in both animals, while Johne's PCR was positive on the ewe (the goat was not tested by PCR). Sheep and cattle are preferentially infected with their own strains of *Mycobacterium avium* subsp. *paratuberculosis* while goats appear to be equally susceptible to either type.

Poultry and Other Avian

Metastatic mineralization was diagnosed in a female backyard duck. This condition is usually a consequence of hypercalcemia. There are multiple causes of hypercalcemia, including Vitamin D3 toxicity, high dietary calcium, and cadmium poisoning. The duck had multiple dietary sources of calcium including laying duck crumble with oyster shells, algae and egg shells. Large numbers of egg shells were found in the crop and proventriculus; egg eating is usually considered a sign that the animal is not getting enough calcium in its diet.

Several outbreaks of **fowl cholera** were diagnosed in 57 to 75-week-old commercial layers with a history of increased mortality ranging from 200 to 950 birds per day in flocks of about 285,000 birds. Severe diffuse peritonitis was the most consistent lesion with occasional hepatomegaly. *P. multocida* was isolated from these organs and was typed as serotype 1.

