UCDAVIS VETERINARY MEDICINE
California Animal Health and Food Safety Laboratory System

CAHFS CONNECTION

LEADING DIAGNOSTICS NATIONALLY, PROTECTING CALIFORNIA LOCALLY • JULY, 2021

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Holiday Schedule

In observance of Independence Day, CAHFS will be closed on Monday, July 5, 2021.

Please contact your laboratory to plan your testing needs accordingly.

RHD detected in Bay Area county

Rabbit hemorrhagic disease virus 2 (RHDV2) has been detected in a wild jackrabbit in Alameda County. Previously the virus had been detected in Southern California and as far north as Kern County. This latest detection in Alameda County indicates that RHDV2 is spreading north within California. Please report dead domestic and feral domestic rabbits to the California Department of Food and Agriculture (CDFA) at 909–947–4462 and wild rabbits to the **California Department of Fish & Wildlife** at 916–358 2790.

Keep up your biosecurity measures to prevent infection of domestic rabbits and to avoid spreading the disease to naïve wildlife populations. Additional information on this disease and its control can be found on **CDFA's web site**.

Bovine

Nitrate toxicosis caused sudden onset of staggers and bloat in five, 8-month-old Holstein heifers, in a group of 20. Two heifers died within two hours while three animals recovered. Blood drawn from several animals was noted to have a brownish appearance (methemoglobinemia). Field necropsies of two animals revealed cardiac hemorrhages but were otherwise inconclusive. The animals had been given regrowth oat hay chopped two weeks earlier and had also been fed a medicated heifer grower mix. The ocular fluid nitrate and nitrite concentrations were 72 ppm (toxic >25ppm) and 2.4 ppm, respectively, which was indicative of nitrate intoxication. The submitted oat hay sample contained 3.8% nitrate (toxic at >1%). Nitrate is often unevenly distributed in hay, thus areas of a high concentration of nitrate are likely to exist. This might have been the situation in this case since the affected oat hay was fed for a period of time before onset of clinical signs. The presence or absence of brown color of blood due to methemoglobinemia is not a reliable indicator as the half-life of methemoglobin is only two hours. Forage nitrate problems are more likely this year due to widespread drought conditions. Appropriate samples to submit for testing include serum (antemortem or postmortem), ocular fluid, and forage.

Vetch-associated toxicosis secondary to ingestion of *Vicia benghalensis* (purple vetch) resulted in massive hemorrhage and hypersensitivity in a 10-year-old beef cow nursing a 5-month-old calf. The cow, from a group of 20, died without clinical signs noted. Two other cows over 10 years of age had died in the past six months. Necropsy revealed massive right side subcutaneous hemorrhage extending from the face to the right rear leg and into the underlying abdominal and thoracic muscles. Petechiae were present in the liver, kidney, heart and adrenal gland. Microscopically, granulomatous inflammation typical of vetch toxicosis was seen in the brain, skeletal muscle, kidney and spleen. The pasture had evidence of grazing the invasive vetch, confirming the exposure. A hemorrhagic syndrome, as in this case, has been associated with vetch ingestion; however, the pathogenesis is unknown. An unknown toxin in vetch appears to cause an immune-mediated disease as prior exposure or sensitization is necessary for the typical lesions to develop.

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Equine

Disseminated abdominal coccidioidomycosis was diagnosed from a segment of small intestine and ovary submitted from a 17-year-old Thoroughbred mare with a history of a uterine mass, non-septic peritonitis and weight loss. On gross examination, the intestinal serosa and the mesentery had many, multifocal to coalescing firm nodules varying in size from 2 to 5 mm. The ovary was enlarged and expanded by firm, grey, scirrhous tissue. Histopathology confirmed the serosal and ovary lesions were due to granulomatous inflammation with intralesional fungal spherules compatible with *Coccidioides* spp**.**

Small Ruminants

Cache Valley virus (CVV) caused **deformities** in a goat fetus from a yearling doe. The doe was late at 162 days gestation with minimal udder development. A C-section was performed after failure to induce parturition, and a malformed kid was removed from the uterus. The kid had severe arthrogryposis with scoliosis and kyphosis. The cranium was domed and there was severe hydranencephaly. The brain from the fetus and the serum of the dam were positive for CVV by PCR and serology, respectively. CVV causes abortion, hydrocephalus and arthrogryposis in small ruminants. This virus is included in the list of differential diagnoses for other foreign animal disease bunyaviruses such as Schmallenberg virus.

Pig

Porcine reproductive and respiratory syndrome virus (PRRSV) and Porcine circovirus-2 (PCV-2) were the cause of severe **pneumonia** in a 3-month-old pig that had been unresponsive to multiple antibiotics over 3 weeks and had a fever of up to 105ºF. On necropsy, the lungs were diffusely rubbery and failed to collapse. Histopathology revealed severe interstitial pneumonia, interstitial nephritis, pancarditis and lymphadenitis. PRRSV was detected by PCR in the lung and PCV-2 immunohistochemistry on lung was strongly positive. No bacteria were isolated and influenza testing was negative.

Other Mammalian

Canine distemper and lung worm pneumonia were diagnosed in a fox from a rescue facility that died after a few days of displaying neurological signs and respiratory difficulty. Encephalitis and interstitial pneumonia were diagnosed histologically. Canine distemper virus was detected in the brain by immunohistochemistry, and many nematodes morphologically compatible with *Angiostrongylus* spp. were seen histologically within blood vessels of the lung.

Poultry and Other Avian

Mycoplasma gallisepticum, the causative agent of infectious sinusitis of turkeys was detected in 19-week-old commercial meat turkey hens. A mortality of 1% per day was reported in the affected house that held 7,000 turkeys. Coughing, dyspnea, swollen sinuses and abundant mucus discharge from the nose and mouth were noted in the affected flock. Microscopically, rhinitis, sinusitis, conjunctivitis, tracheitis and pneumonia was observed. Mortality in this case was thought to have been exacerbated by a spike in environmental temperature and concomitant *E. coli* infection of the respiratory tract.

Bumble foot was diagnosed in several 31-week-old broiler breeder hens from a flock of 10,377 birds. The chickens were recumbent, unable to walk, and unable to reach feed and water. The feet were severely swollen and contained caseous exudate from which *Staphylococcus aureus* was isolated.