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Good News on the vND Eradication Effort

No additional cases of vND have been detected since February 21, 2020. The California Department of Food and Agriculture (CDFA) and the United States Department of Agriculture, with the laboratory support of CAHFS, keep making significant progress towards eradicating vND. Freedom of disease testing continues, and the Regional Quarantine is still in effect. If no more cases are found, CDFA hopes to release the Regional Quarantine by late spring. Please continue practicing good biosecurity, stop illegal movement of birds, and report any sick birds immediately to the Sick Bird Hotline, 866-922-2473.

Bovine

Coccidiosis caused diarrhea in a 9-month-old Holstein heifer found down and obtunded. Several others in the group, which had returned from the calf ranch 3 weeks prior, had similar diarrhea and 17 had died in less than a month. On necropsy, there was watery dark-green intestinal content with a reddened mucosa from the distal jejunum to the spiral colon. Microscopically the intestine and colon had numerous coccidia and 5,500 oocysts per gram of feces were detected on McMaster's.

Ureaplasma diversum was the cause of **abortion** in an 8-month-old, female, Charbray beef fetus. The cotyledons were granular, friable and yellow, and there were tan to yellow plaques in the intercotyledonary and allantoic placenta. Histologically, interstitial pneumonia, conjunctivitis, placentitis, and subacute meningoencephalitis were present. The brain lesion is not typical of *Ureaplasma* but the organism was detected by PCR in the brain, lung and placenta.

Equine

Theiler's disease was the presumptive cause of liver necrosis leading to hepatic encephalopathy in a 3-year-old Quarter horse gelding with signs of circling, head pressing, running into obstacles and behavior changes. Necropsy revealed icterus and mild ventral subcutaneous edema. Histopathology revealed massive hepatic necrosis and hemorrhage compatible with Theiler's disease. The horse had received tetanus antitoxin and toxoid 7 weeks earlier. The cause of this disease remains undetermined and there are no definitive tests to confirm a diagnosis of this disease.

Small Ruminants

Clostridium perfringens type D enterotoxemia was diagnosed in two, 3- to 4-week-old Katahdin lambs from a group of 75, in which five had died suddenly over 4 days. Both submitted lambs had pulmonary edema and glucosuria (500mg/dl), and one of them had excess pericardial fluid that clotted on exposure to air, and brain edema. Both lambs had typical histologic brain lesions, and epsilon toxin was detected in the small intestine and colon contents by ELISA.

Selenium toxicosis caused the death of 30 out of 630, 2- to 3-year-old goats, after receiving an injection of selenium and vitamin E. Two does submitted for necropsy had severe selenium-induced interstitial pneumonia and myocardial necrosis. The liver selenium levels were markedly elevated (5.8 and 7.5ppm, normal 0.25-0.5). Selenium has a low therapeutic index and over supplementation is a common cause of acute overdose.





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HOLIDAY CALENDAR

In observance of Memorial
Day, CAHFS will be closed on
Monday, May 25, 2020.

Pig

Pasteurella multocida and **PRRS virus pneumonia** was the cause of death in a 72 lb. pig with concurrent porcine circovirus infection. Interstitial pneumonia and bronchopneumonia were attributed to PRRS virus and *Pasteurella*, respectively. Immunohistochemistry was positive for circovirus on lymph nodes with lymphoid depletion and multinucleated giant cells. The pig also had a mild, multifocal, lymphocytic meningoencephalitis.

Camelid

Pulmonary adenocarcinoma was the cause of recumbency and respiratory signs in a 12-year-old alpaca. At necropsy, there was marked hydrothorax, multifocal pulmonary fibrosis, bottle jaw edema and serous atrophy of fat. Microscopically, there was pulmonary adenocarcinoma, and elsewhere, there was concurrent pneumoconiosis with refractile crystal-laden macrophages in the interalveolar septa and in peribronchiolar/peribronchial areas. The association of the pneumoconiosis and the neoplasia is unknown.

Poultry and Other Avian

Thymoma was diagnosed in a 7-year-old backyard Leghorn hen. The hen was acting normal in the days prior to being found dead in the coop. At necropsy, a large soft tissue mass surrounded by blood clots was present in the neck region. Microscopically, the mass was composed of epithelial cells and lymphocytes. Thymomas are typically considered benign tumors, and are rare in avian species.

Coccidiosis and **necrotic enteritis** in 2-week-old turkey poults caused stunted growth and weakness. At necropsy, the mucosa of duodenum and proximal jejunum had hemorrhagic lesions. Large numbers of coccidia oocysts were observed on direct wet mounts prepared from intestinal mucosal scrapings. *Clostridium perfringens* was isolated from the intestine. Coccidiosis is a common predisposing factor for necrotic enteritis due to intestinal epithelial damage and an altered intestinal environment, which can lead to overgrowth of *Clostridium perfringens*.

Hemorrhagic enteritis virus (HEV), *Mycoplasma gallisepticum* (MG) and *Escherichia coli* infection were diagnosed in 10-week-old turkey hens submitted for coughing and increased mortality (100 dead/day). At necropsy, clear mucus severely distended the infraorbital sinuses, caseous exudate was present on the serosal surfaces of the coelomic organs, and the lungs were consolidated. *E. coli* was isolated from multiple coelomic organs, and MG was detected in tracheal swabs by PCR. Microscopically, large basophilic intranuclear inclusion bodies, suggestive of HEV were present in kidney. Turkey adenovirus A is the etiologic agent of hemorrhagic enteritis, and commonly causes immunosuppression and secondary bacterial infections during the later stages of production.

Attention: Backyard Poultry Owners

CAHFS laboratories are open and continue to operate during business hours. If you have sick and/or dead birds, consider sending them to a CAHFS laboratory near you for post-mortem examination and diagnostic work up! Our specialists are here to help and provide information on your bird(s) condition: evaluate if your bird's condition is infectious or not, if it will affect other birds in your flock, if it may be transmitted to humans, and much more. This information will be helpful for you to manage your birds with the goal of keeping them healthy. Visit [CAHFS' website](#) for instructions on how to submit birds to our labs.

