



UC DAVIS

VETERINARY MEDICINE

California Animal Health and
Food Safety Laboratory System

CAHFS CONNECTION

LEADING DIAGNOSTICS NATIONALLY, PROTECTING CALIFORNIA LOCALLY • MAY, 2019



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HOLIDAY CALENDAR

In observance of Memorial Day, CAHFS will be closed on Monday, May 27, 2019.

Disease Update

Virulent Newcastle disease (vND)

Four hundred and twenty-five cases of virulent Newcastle disease (vND) have been confirmed by the United States Department of Food and Agriculture (USDA) between May 15, 2018 and April 26, 2019. Most cases occurred in backyard exhibition birds of San Bernardino, Riverside, Los Angeles and Ventura Counties, and in commercial poultry flocks of San Bernardino county, all within California. USDA also confirmed one case each in backyard chickens of Alameda County (California), Utah County (Utah) and Coconino County (Arizona).

Biosecurity is paramount to prevent spread of vND. Poultry owners are advised that to minimize the risk to their birds, they should follow [CDFA's biosecurity guidelines](#) for backyard and pet birds. If you suspect that your own birds may have vND, do NOT submit the birds directly to CAHFS. Call the Sick Bird Hotline at (866) 922-2473, where staff can assess vND risk and ensure that the correct samples are collected for diagnosis.

Low pathogenic avian influenza

As part of routine surveillance for H5/H7 avian influenza, CAHFS made a presumptive diagnosis of H5 low pathogenic avian influenza in a commercial duck breeder flock in Monterey County, California, on April 15. The United States Department of Agriculture (USDA) confirmed this diagnosis on April 20. No clinical signs of illness or increased mortality were observed on the premises. The USDA and the California Department of Food and Agriculture are conducting a comprehensive epidemiological investigation and have implemented enhanced surveillance and testing related to this finding.

Equine

Equine herpesvirus myeloencephalopathy was diagnosed in a 3-year-old Thoroughbred mare that was found down in her stall and unable to move. She was euthanized and submitted for necropsy. Grossly, there were multifocal small areas of red and grey discoloration within the white matter of the cervical spinal cord, which histologically corresponded to regions of vasculitis with infarction. A mild meningoencephalitis was also observed. Nasal swabs, brain tissue, and spinal cord were all PCR positive for the neurotrophic form of Equine herpesvirus-1.

Coccidioidomycosis caused fever and respiratory distress unresponsive to antibiotics for a week in a 30-day-old Quarter horse foal. Due to continuous deterioration, the foal was euthanized. Grossly, both lungs were diffusely firm and presented many multifocal to coalescing, 0.2 to 0.5 cm diameter white and firm nodules, surrounded by a red halo. Histologically, these lung nodules were discrete granulomas containing many spherules compatible with *Coccidioides spp.* Similar

nodules were present in the tracheobronchial lymph nodes and liver. In horses, coccidioidomycosis is usually chronic and associated with chronic weight loss and persistent cough.

Continued





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Lab Locations:

CAHFS – Davis

University of California
620 West Health Sciences Dr.
Davis, CA 95616
Phone: 530-752-8700
Fax: 530-752-6253
daviscahfs@ucdavis.edu

CAHFS – San Bernardino

105 W. Central Ave.
San Bernardino, CA 92408
Phone: 909-383-4287
Fax: 909-884-5980
sanbernardinocahfs@ucdavis.edu

CAHFS – Tulare

18760 Road 112
Tulare, CA 93274
Phone: 559-688-7543
Fax: 559-688-2985
tularecahfs@ucdavis.edu

CAHFS – Turlock

1550 Soderquist Road
Turlock, CA 95381
Phone: 209-634-5837
Fax: 209-667-4261
turlockcahfs@ucdavis.edu

Bovine

Yersinia pseudotuberculosis was the probable cause of **diarrhea** in 10-12 underweight 10-month-old Jersey heifers in a group of 100. The organism was isolated from sections of small intestine submitted from a field necropsy. *Y. pseudotuberculosis* causes a classic histologic lesion in sometimes subtle areas of reddening and roughening of the small intestine, and is most common in cool, wet weather.

Otitis media, usually bilateral, was diagnosed in 15 Holstein calves from three premises. All affected calves had concurrent moderate to severe pneumonia. *Mycoplasma bovis* was detected in both ears and lungs of all the calves. *Trueperella pyogenes* was found in 60% of ears and *Mannheimia* sp., *Pasteurella multocida* and *Bibersteinia trehalosi* were each in 20% of ears.

Pig

Porcine circovirus type 2 (PCV-2) caused **systemic disease** in two, 6-week-old pigs submitted from a small group of weaned pigs exhibiting nonspecific respiratory symptoms unresponsive to antibiotics over one month. Necropsy revealed diffuse, interstitial pneumonia and dilated heart. Histologically, both pigs had disseminated inflammation with vasculitis affecting the lungs, heart, kidneys and smooth muscle and vessels of the stomach and intestine. The lymphoid tissues were depleted. PCV-2 immunohistochemistry was positive in the affected organs.

Small Ruminants

Abomasal parasitism, and severe copper and selenium deficiency caused morbidity and mortality in a herd of 20 Boer goats on a rotational deworming program. Several yearling goats exhibited marked weakness and one of them died. On gross examination, there was generalized pallor of all tissues, watery blood, and linear white streaks in the heart. Microscopically, there was centrilobular hepatic necrosis (secondary to severe anemia), and myocardial degeneration and mineralization (due to selenium deficiency).

Large numbers of *Haemonchus* spp., *Trichostrongylus* spp., and *Teladorsagia* spp. were detected in the abomasum, and large numbers of trichostrongyle eggs were seen in the feces. The presence of numerous parasites in a herd with a rotating deworming program is highly suggestive of anthelmintic resistance. The goat also had very low copper (4.1ppm, normal 25-150ppm) and selenium (0.056ppm, normal 0.25-1.5ppm) concentration in the liver.

Poultry and Other Avian

Encephalomalacia due to **vitamin E deficiency** was diagnosed in 28-day-old broiler chickens from a flock of 22,000. Less than 1% of chicks in the flock exhibited neurological signs including recumbency, ataxia, paralysis and torticollis. Necropsy of chicks revealed hemorrhages in the cerebellum and cerebrum. Histopathology revealed severe malacia with intralesional thrombi. Analysis of brain and feed for vitamin E revealed deficient levels.

Severe coccidiosis was the cause of death of 25, 6-week-old layer replacement chicks and poor growth of an additional 25 chicks of similar age. On necropsy, the intestines of three birds submitted were thickened and had minimal reddening with some luminal debris. Direct smears revealed large numbers of coccidia organisms. Coccidiosis causes severe disease in young chickens and while it is typically characterized by bloody discharge, it can present without blood in the droppings.

