

# CAHFS CONNECTION

## LEADING DIAGNOSTICS NATIONALLY, PROTECTING CALIFORNIA LOCALLY AUGUST, 2020



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## **RABBIT HEMORRHAGIC DISEASE (RHD)**

**Rabbit hemorrhagic disease (RHD)** was diagnosed for the first time in domestic rabbits in California. Three out of twelve animals died within a week in a breeding herd of Giant cross and Californian white rabbits (*Oryctolagus cuniculus*) in Southern California. Two rabbits had bloody nasal discharge. Field necropsy of one rabbit by the California Department of Food and Agriculture revealed a moderate lobular pattern in the liver, and multifocal pulmonary hemorrhages. Microscopically, the liver of this rabbit submitted to CAHFS San Bernardino revealed severe, periportal to massive hepatic



necrosis, which was considered highly suggestive of RHD. RT-PCR performed at NVSL-FADDL was positive for RHD virus type 2. The disease has spread quickly across southern California, with cases already confirmed in wild leporid populations in Riverside, San Bernardino, Orange, and San Diego Counties. CAHFS has started testing rabbit liver samples for rabbit hemorrhagic disease-2 using RT-PCR.

#### Bovine

Leukemia was diagnosed in a 4-day-old Holstein calf found dead with a mass on the roof of the mouth. On necropsy, the upper palate, retropharyngeal and several other lymph nodes, and thoracic vertebral bodies were severely enlarged and diffusely pale-tan. The affected lymph nodes bulged on cut section. Microscopic features of these organs and of the bone marrow were consistent with primary acute, immature cell leukemia.

#### PARASITOLOGY EXAMS

CAHFS is implementing new fecal procedures designed to enhance sensitivity of parasite egg detection and provide more targeted results. **Fecal flotation** exam will better concentrate eggs via double centrifugation and eggs will be identified as present or absent. A minimum of 1g of feces is required for fecal floatation. **McMasters** exam to quantitate parasite eggs is also available; this test requires at least 3g of feces. Please contact the lab if you have additional questions about these procedures. **Anaplasmosis** was diagnosed in a 4-year-old Angus bull found dead 48 hours after showing signs of illness. A field necropsy revealed an orange liver. Histopathology revealed liver lesions compatible with *Anaplasma* sp. infection. Impression smears of the lung and spleen demonstrated large number of organisms within red blood cells, compatible with *Anaplasma marginale*. Serology for this microorganism was also positive.





# 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 N. Soderquist Road Turlock, CA 95380 Phone: 209-634-5837 Fax: 209-667-4261 turlockcahfs@ucdavis.edu

#### UC DAVIS VETERINARY MEDICINE CAHFS CONNECTION AUGUST, 2020

## Equine

A **brain abscess** in a 10-year-old Mustang mare was responsible for 2-week progressive head tilt and low grade fever. The fever improved temporarily, but relapsed two days before death. This was accompanied by development of additional neurologic deficits leading to inability to stand, necessitating euthanasia. On examination of the formalin-fixed brain, an abscess found deep in the tissue contained bacteria compatible with *Nocardia* spp. Rabies virus, bovine herpesvirus type 1 and West Nile virus testing were negative.

Meningeal lymphoma was diagnosed in a yearling miniature donkey that developed circling, blindness and obtundation ten days after getting into bags of chicken feed and goat mineral mix. Lymphoma was also detected in the spleen and was likely the primary site of the cancer. Copper toxicosis was initially suspected based on the history of access to the mineral mix, but it was ruled out based on testing for copper and the absence of liver lesions. Ionophore toxicosis was also suspected but it was ruled out based on the absence of heart lesions.

## **Small ruminants**

Severe Johne's disease was the cause of death in a 30-month-old Boer goat with a clinic history of increased respiratory effort but no fever, during hot days. Field necropsy reported enlarged pre-scapular lymph nodes, severe hydrothorax with scant fibrin, firm cranioventral lung lobes, enlarged spleen and liver. On microscopic examination, severe and diffuse enterocolitis, extensive interstitial pneumonia, hepatitis, lymphadenitis and splenitis with abundant intracellular acid-fast positive bacilli were observed. PCR for Mycobacterium avium subspecies paratuberculosis was positive on small intestine content. This case is unusual, as lung, liver and spleen were severely affected, and the animal had a history of respiratory distress but no diarrhea.

## Wildlife

**Bromethalin toxicosis** was the cause of neurologic signs and death in two juvenile raccoons with ascending progressive paralysis from the hind legs to the throat and mouth prior to euthanasia at a wildlife rescue center. Both animals had diffuse prominent spongiosis of cerebral white matter tracts. The metabolite of bromethalin, desmethylbromethalin, was detected in the adipose tissue of the raccoons. Bromethalin-induced spongiosis of the white matter tracts in the brain often cannot be distinguished from postmortem autolysis so testing by the toxicology laboratory is necessary for a diagnosis.

**Duck viral enteritis** (DVE) was diagnosed in a Muscovy duck from a pond in Sacramento County with increased mortality. The duck had classic postmortem lesions of diffuse esophagitis and enteritis, with necrosis of lymphoid tissue and mucosa in the form of annular bands. Muscovy ducks infected with DVE virus are particularly susceptible to clinical disease and death. Mallard ducks are typically resistant. H6N1 avian influenza virus was also isolated from this duck, but it was considered an incidental finding.

## **Poultry and Other Avian**

**Aspergillosis** was diagnosed in several flocks of turkey poults ranging in age from one to seven-days. 1-day-old birds had a few pale nodules in the lungs suggesting hatchery contamination. Some of the older birds exhibited respiratory signs and increased mortality and had pale nodules in the lungs and occasionally in the air sacs and brain. *Aspergillus fumigatus* was isolated from the lungs and air sacs.