



UC DAVIS
VETERINARY MEDICINE
 California Animal Health and
 Food Safety Laboratory System

CAHFS CONNECTION

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Holiday Schedule

CAHFS will be open, but will have limited service on **Monday, November 12, 2012** in observance of Veteran's Day.

Equine

Mycotic infections occurred in two horses. A 14-year-old pony developed a right sided head tilt, weakness with proprioception deficits in the right front and hind limbs, falling to the right and blindness in the right eye. The horse was euthanized and on necropsy a mass in the left thalamus compressing the left ventricle of the brain was diagnosed as **fungal encephalitis** on histopathology. A 14-year-old Fjord horse was submitted for necropsy with a history of colic. **Fungal hyphae** were seen invading the crypts of the **colon** that was obstructed with firm dry contents. **Fungal interstitial pneumonia** was also present with invasion of pulmonary blood vessels. Morphology of the fungi was compatible with *Aspergillus*. CAHFS has had ten cases of fungal pneumonia and two cases of fungal encephalitis in horses over the past five years.

Bovine

Bovine Viral Diarrhea virus (BVDv) infection was diagnosed in two 6-month-old Angus calves submitted three weeks apart from a group of 45 recently weaned. **Slobbering, fever and diarrhea** with occasional blood in the feces was observed in several calves and five died. Vaccinations including killed BVDv were given once five days before the first death and deaths continued for three weeks. Necropsies revealed ulcers in the mouth and esophagus and necrosis over intestinal lymphoid patches. BVDv fluorescent antibody test was positive on esophagus and intestine of both. **Copper and selenium deficiencies** were diagnosed based on liver levels and may have contributed to decreased disease resistance. EDTA blood samples tested from four additional calves were also severely deficient in selenium.

Polioencephalomalacia (aka polio) was the cause of **neurologic signs** in 15, 4-month-old Holstein steers over a three day period. Affected calves were unable to rise, had their head arched back (stargazing) and slightly twisted necks. Affected areas of the gray matter of the cerebrum fluoresced green under UV light and lesions were confirmed by histopathology in the one calf submitted. Normal sodium and sulfur levels were found in the feed and calf serum and no lead was detected. The cause was not determined.

Tuberculosis testing in cattle prior to movement. Ideally, begin TB testing three weeks before a planned movement date to accommodate all required testing. One to three percent of cattle typically will respond to the caudal fold test (CFT) and must have confirmatory testing. If gamma interferon testing is used, >7ml heparin blood collected by CDFA, USDA or veterinarians approved by them and kept at 63-81°F must be received at CAHFS within 24 hours of collection, and must arrive at our Davis laboratory by mid-afternoon Thursday. The first test step stimulates live lymphocytes to produce gamma interferon and requires 18-24 hour incubation. The harvested plasma is stored. The second step is a 4-hour ELISA to measure the amount of gamma interferon to *M. bovis*. Poor lymphocyte function produces invalid results. The final ELISA step is done weekly on Friday with results available late Friday afternoon. Animals with invalid results may need comparative cervical testing (CCT) as invalid results often recur on retesting. CCT tests must be performed by CDFA/USDA within 10 days of initial CFT injection. Gamma positive animals require further diagnostics and the shipment cannot move until all animals are cleared.

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Other Avian

Ostrich chick morbidity. Anasarca, yolk sac retention and necrosis of the pipping muscle were found in two ostrich chicks that were euthanized a week after hatch due to failure to improve despite supportive care. The chicks had to be extricated manually from the shell and the umbilicus ligated. Following hatch, chicks exhibited difficulty rising, floppy head or splayed legs. The lesions found are associated with **high relative humidity during incubation**.

Poultry

Avian encephalomyelitis (AE) caused the death of approximately 20 of 300 12-day-old chicks that developed **neurologic signs** (ataxia, down on hocks and unable to walk) and died. Three chicks were submitted for necropsy and AE was diagnosed as the cause of death based on histopathology. None of the chicks had antibodies to AE virus indicating the chicks did not have maternal antibodies that would have protected them. Since the virus incubation period is 11-12 days minimum, and chicks began to die prior to 11 days, they were most likely infected via vertical transmission from the breeders. All chicks should come from breeder flocks that are vaccinated for AE. Chicks exposed to AE virus that are older than three weeks of age are typically resistant to developing clinical disease.

Rabbit

Rabbit cerebellar abiotrophy was the cause of clinical signs in an adult rabbit submitted with a history of ataxia, loss of equilibrium and inability to walk or hop. The owner reported multiple rabbits of all ages with similar signs progressing to recumbency and death. Cerebellar abiotrophy was diagnosed based on histopathology. This condition has been reported as a hereditary disease in rabbits. Cerebellar abiotrophy is a premature degeneration of fully formed cerebellar neurons caused by a metabolic defect and has been described in dogs, cats, sheep, cattle, pigs, horses, alpaca and rabbits. Animals with cerebellar abiotrophy are normal at birth and develop progressive neurological deficits postnatally.

Small Ruminant

Rumen acidosis due to grain overload was the cause of death in three, 2-month-old Boer kids and illness in several other kids. Clinical signs included **diarrhea**, excess thirst, lethargy and some animals progressed to **ataxia**, moaning and **bloat**. Preceding the onset of signs, kids housed with their dams had escaped from their pen and consumed 3-way grain fed to the pigs. Rumen pH of 4.5 (very acidic) and rumenitis were found in all three kids at necropsy.

Avocado toxicosis caused **heart necrosis** and death in a 3-month-old Pygmy goat that was found down with labored breathing. Pieces of avocado leaves were identified in the rumen confirming exposure. Avocado trees were present on the property where the goat was housed. Leaves, fruits, and seeds of Guatemalan avocado cultivar and its hybrids have been shown to be toxic, with the leaves especially so. The toxin in the plant is known as persin. High doses of persin cause acute cardiac damage whereas lower doses result in a non-infectious mastitis in lactating animals; goats seem to be particularly sensitive to the mammary effects of the toxin. There is no specific treatment for affected animals; activated charcoal is recommended if it can be given relatively soon after exposure.

Bighorn sheep mortality. CAHFS has been collaborating with the California Department of Fish and Game to document the causes of **mortality in** endangered populations of **bighorn sheep** in the desert communities adjacent to the Peninsular Mountain ranges and the Coachella Valley in southern California. Bighorn sheep are attracted to the grasses and lush vegetation around the golf courses and communities bordering the peninsular habitat. Two bighorn rams submitted were in excellent nutritional condition. One ram died from **oleander poisoning**; the other **drowned** in an irrigation canal. Although the urban environment provides abundant food and water; it potentially exposes wild sheep to these and other hazards such as automobile collisions, parasitism and increased predation at the urban fringe.