



UC DAVIS

VETERINARY MEDICINE

California Animal Health and
Food Safety Laboratory System

CAHFS CONNECTION

LEADING DIAGNOSTICS NATIONALLY, PROTECTING CALIFORNIA LOCALLY • DECEMBER, 2022



CAHFS December/January Holidays Schedule

CAHFS team wish all our clients very happy Holidays and New Year, and reminds you that we will have reduced hours on the following days:

- Friday 12/23: CAHFS will close at 12 pm in observance of Christmas Eve Holiday
- Monday 12/26: CAHFS will be closed all day in observance of Christmas Holiday
- Friday 12/30: CAHFS will close at 12 pm in observance of New Year's Eve Holiday
- Monday 01/02: CAHFS will be closed all day in observance of New Year's Holiday



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Contributors

Mark Anderson
 Javier Asin
 Patricia Blanchard
 Peter Chu
 Omar Gonzales-Viera
 Carmen Jerry
 Melissa Macías-Rioseco
 Asli Mete
 Francisco Uzal
 Leslie Woods

Bovine

Bovine herpesvirus type 1 (BoHV-1) systemic infection was diagnosed in three, 7-9-day-old calves. Two of these animals had adrenalitis and hepatitis with intranuclear inclusion bodies characteristic of infection by BoHV-1. Other lesions including gingival erosions and pneumonia were also seen in one of the calves. The diagnosis was confirmed by immunohistochemistry and PCR. Systemic infection by BoHV-1 has been reported in colostrum deprived calves.

Ureaplasma diversum was the cause of **abortion** in a 6-month-old Holstein fetus from a first calving heifer. Over two days, five heifers aborted approximately 6-month-old fetuses. The one fetus submitted had no gross lesions but histology revealed lymphocytic interstitial pneumonia and conjunctivitis. PCR testing for *Ureaplasma diversum* was positive on the lung.

Equine

***Clostridioides difficile*-associated disease (CDAD)** was the cause of unexpected death in a 6-year-old Thoroughbred gelding that was found dead in the stable in the morning. The horse had been observed clinically normal the night before. *C. difficile* was isolated from the colon content. ELISA for toxins A and B of *C. difficile* on small intestine and colon content was negative. Although confirmation of CDAD requires detection of the toxins in intestinal content, in this case isolation of *C. difficile*, coupled with severe necro-hemorrhagic typhlocolitis and negative results for other common causes of enterocolitis in horses (i.e., *Salmonella* spp., *C. perfringens*, strongyles and NSAIDs), was

considered highly suggestive of CDAD. Unexpected death is a very unusual outcome for CDAD in horses.

Small ruminants

Selenium deficiency and abomasal parasitism were diagnosed in a 3-year-old ram with a history of dying within one day of going down but with no change in appetite. Postmortem exam revealed pale mucous membranes, pulmonary edema, tricavitary clear fluid effusions, *Haemonchus* spp. in the abomasum and atrophy of fat stores. Parasitism can cause both anemia and hypoproteinemia. Microscopic exam also identified skeletal muscle lesions compatible with selenium deficiency. Liver selenium level was 0.14ppm post recent treatment (normal 0.25-1.0ppm).





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

Nasal adenocarcinoma was diagnosed in a 3-year-old ewe with a history of respiratory signs. Postmortem exam revealed semi-cloudy, mucoid nasal discharge and bilateral, multiple, semi-firm, multinodular masses covering and compressing the ethmoid turbinates and effacing the caudal dorsal nasal conchae. Microscopic exam confirmed adenocarcinoma. Based on appearance and locations, these tumors were probably due to the enzootic nasal tumor virus-1, a retrovirus of sheep.

Papillomatosis and squamous cell carcinoma (SCC)

was diagnosed in two East Friesian ewes from a flock of about 30 sheep, which developed raised hyperkeratotic eyelid lesions that spread to the ears. Over several months, the lesions grew to produce cone-shaped cutaneous horns. Spread to other sheep was also observed. SCC and papillomatosis were diagnosed in ear biopsies of the two animals, respectively. While viral papillomas are considered less common in sheep compared to other livestock, they have been reported. There are also rare reports from Europe, South America and Australia that describe an association between ovine papillomaviruses and SCC in sheep. Most recent research from Italy found evidence of oncogenes in several ovine papillomaviruses, which are capable of transforming squamous epithelial cells leading to SCC.

Caprine arthritis and encephalitis virus (CAEV)

was the cause of severe interstitial pneumonia in two unrelated goats. A 6-month-old, La Mancha doe doing poorly for 2 months developed respiratory distress prior to death. On post-mortem examination, approximately 90% of the parenchyma of both lungs was firm and pale. A 3-year-old Nigerian dwarf buck had a 3-week history of illness, heavy panting and cloudy lungs on radiographs. On post-mortem examination, the lungs were diffusely mottled gray. Microscopically, both goats had extensive interstitial pneumonia typical of CAEV infection. Immunohistochemistry for this virus was positive on lung tissue and both animals were also seropositive for CAEV.

Poultry and Other Avian

Inclusion body hepatitis (IBH) and coccidiosis were diagnosed in a flock of 44,700, 20-day-old, broiler chickens. The history included respiratory issues;~

depression and recumbency, but no significant increase in mortality. Post mortem examination revealed markedly swollen, pale and mottled livers, and moderately swollen and pale kidneys. Numerous white linear striations were visible on the serosal surface of the duodenum. Microscopically, numerous protozoa suggestive of *Eimeria* spp. were seen in the duodenum associated with inflammation. Hepatitis with basophilic intranuclear inclusion bodies was observed in the liver. IBH was confirmed by PCR for fowl adenovirus, the causative agent of IBH. This is a common disease of young chickens that is transmitted vertically and horizontally, and for which there is no treatment. Prevention is achieved through vaccination and good management practices. Coccidiosis is a common intestinal disease of poultry caused by *Eimeria* spp. Manifestations include increased morbidity, mortality, diarrhea, drops in feed and water consumption and decreased egg production. Control may include a combination of vaccination, use of anticoccidial drugs and good management practices.

Fowl cholera, was the cause of death of up to 20,000 pheasants out of a group of 43,000, within a 2-month period. Both adult and young pheasants were affected; clinical signs included depression and weakness. Eleven birds submitted for postmortem examination had variable lesions of systemic infection. *Pasteurella multocida*, the cause of fowl cholera, was isolated from the liver, air sacs and spleen, and detected by PCR on oropharyngeal/tracheal swabs.

Gizzard worms (*Hadjelia truncata*) infestation was diagnosed in two emaciated pigeons submitted for necropsy. Fine, thread-like gizzard worms were seen beneath the koilin of edematous gizzards in both birds. One pigeon also had hepatitis from which *Salmonella* spp. group B was isolated.

