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

# CAHFS CONNECTION

LEADING DIAGNOSTICS NATIONALLY, PROTECTING CALIFORNIA LOCALLY • MARCH, 2024

## Inside this issue:



**HOLIDAY SCHEDULE**

CAHFS will be open from 8am-5pm, Friday, March 29 for Cesar Chavez Day. We will have limited staff

## New assays offered at CAHFS

**PCR for infectious bovine keratoconjunctivitis (IBK)**
The new multiplex Real Time PCR Assay detects the following bacterial pathogens associated with IBK: *Moraxella bovoculi, Moraxella bovis,* and *Mycoplasma bovoculi*. Eye/conjunctival swab should be submitted in transport media (e.g., Copan ESwab or Amies [without charcoal]) and ship cold with ice packs. If *Moraxella* culture is desired, please provide two swabs. The test code is 11206.

**Real-Time PCR test for *Salmonella* Enteritidis (SE)**
CAHFS is now performing Real-Time PCR for detection of SE (SE-RT PCR). Like our conventional SE PCR screen, this test is NPIP-approved, has comparable test performance, and has the same fee. For now the SE RT-PCR will be offered at the Davis lab and the conventional SE PCR will be offered at the Turlock lab. Samples can be submitted to any of our labs and will be sent to other branches as needed.

The two tests have unique test codes and names:
SE PCR Screen – Test code 10751
SE RT-PCR – Test code 11205

## Bovine

**Abomasal ostertagiasis** was diagnosed in a ~2-3 year-old Angus cow that had recently calved and had watery diarrhea and weight loss, despite feed supplementation. Another cow had died a few months prior after significant weight loss, while a bull on the same property was also losing weight. The herd had been dewormed twice a year with ivermectin, although the Angus cow had missed the last deworming. On necropsy, this animal was emaciated, with prominent ribs and minimal internal fat stores. The abomasum had a moderately roughened and thickened mucosa with a "Moroccan leather" appearance. The small intestine and colon had yellow, clear watery content. Microscopic examination of an abomasal scraping revealed numerous 6 mm long worms and eggs with morphology compatible with *Ostertagia ostertagi*. Histopathology confirmed significant parasite damage to the abomasum and encysted worm larvae. *Ostertagia* sp. has been reported to develop resistance to ivermectin.

**Jejunal hematoma** with secondary exsanguination was the cause of death of two dairy cows from unrelated dairies. A 6-month pregnant, 4-year-old Holstein cow that was 254 days in milk had bloody diarrhea followed by death. A Jersey cow in early pregnancy was found dead with no clinical signs observed. At necropsy, the Holstein cow had a 13 cm long hematoma in the wall of the small intestine, while the Jersey cow had a similar lesion that was 30 cm long. In addition, both animals had blood clots throughout the small intestine and bloody fluid mixed with feces in the colon. Jejunal hematoma, also known as hemorrhagic bowel syndrome, is a sporadic fatal disease of adult dairy cows of uncertain etiology that is most common in the western United States.

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## Small Ruminants

***Clostridium perfringens* type D enterotoxemia** was responsible for multiple deaths in three unrelated sheep and goat premises. A dairy goat herd of 100 had 4 deaths and 15 sick lactating does experiencing diarrhea followed by death within two days in more severely affected animals. A 5-year-old doe from this dairy had enterocolitis, rumenitis and myocardial necrosis. A second goat dairy experienced respiratory signs and diarrhea in 2-3-week-old kids. A submitted doeling had diarrhea, and cryptosporidia were detected in the intestines. In a third flock of 900 sheep, 10 adult sheep died over a few days. Two submitted sheep had diarrhea, pulmonary edema and hydropericardium. One of them, which exhibited neurologic signs, also had glucose in the urine and cerebellar herniation. This constellation of lesions, ages and signs in sheep and goats are all compatible with type D enterotoxemia; the disease was confirmed by detecting epsilon toxin in the intestinal contents of all animals submitted.

**Multiple congenital abnormalities** associated with **Cache Valley virus (CVV)** infection were diagnosed in a full-term ovine fetus with history of dystocia. On postmortem examination, the fetus had agnathia, microglossia, cervical scoliosis, and anencephaly. CVV was positive on serology of fetal fluid and dam serum. Bluetongue virus serology was negative. CVV is a mosquito-borne, zoonotic and endemic Orthobunyavirus that can cross the placenta and cause embryonic death, abortion, stillbirths, and congenital musculoskeletal and central nervous system deformities. Infertility has also been associated with CVV infection. Confirmatory diagnosis includes serology (on fetal fluid and dam serum), molecular testing, and viral isolation. The virus might not be present in the fetus or the dam at the time of abortion and the diagnosis of those cases relies entirely on serology.

## Equine

**Guttural pouch mycosis** and fatal hemorrhage from the nose was the cause of death of a 16-year-old Quarter horse gelding. The horse bled profusely from the nose following an athletic competition, collapsed, and died before treatment could be attempted. The disease usually is caused by *Aspergillus* spp. infection of one or both guttural pouches, with fungal plaques invading mucosal and submucosal tissues resulting in rupture of the internal carotid, external carotid, or maxillary arteries. There also may be damage to cranial nerves running behind the pouches. Acute cases result in fatal hemorrhage, with more chronic cases causing nasal discharge, intermittent smaller hemorrhages, and/or dysfunctions of cranial nerves with dysphagia being the most common clinical sign. The predisposing factors for the disease remain unknown.

## Wildlife

***Baylisascaris* larva migrans** resulted in the death of a mature, female North American beaver that presented with neurological signs and died in care. On gross examination, numerous fibrous tags connected the parietal and visceral pleura. Microscopic examination revealed severe granulomatous encephalitis with intralesional nematode larvae compatible with *Baylisascaris* sp., and multifocal glial scars throughout the brain. In the lungs, severe proliferative and pleocellular interstitial pleuropneumonia with fibrosis was seen, which might have been caused by the visceral larval migration of *Baylisascaris* sp.

### CAHFS is Hiring!

Davis Lab Research Supervisor Toxicology (56256)

Manage diagnostic testing and related activities in the Organics Analysis Group in the CAHFS Toxicology Section.

Careers (universityofcalifornia.edu)