UCDAVIS VETERINARY MEDICINE
California Animal Health and Food Safety Laboratory System

CAHFS CONNECTION

LEADING DIAGNOSTICS NATIONALLY, PROTECTING CALIFORNIA LOCALLY • SEPTEMBER, 2023

Inside this issue:

HOLIDAY SCHEDULE

CAHFS will be closed on Monday September 4 in observance of Labor Day

Vesicular stomatitis virus testing now offered at CAHFS

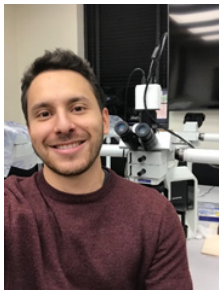
CAHFS was recently approved by the reference laboratory to start in-house testing for vesicular stomatitis virus (VSV). Clinically sick horses should be sampled by an accredited veterinarian and swabs taken from the lesion and a matching serum sample can be sent to the lab. The cost of PCR is $50 and the cost of serology is $33 for submissions out of VSV confirmed counties. We are also accepting equine serum from clinically healthy horses and ruminants for movement testing. Submissions need a 'VSV number' which can be issued by your local California Department of Food and Agriculture district office. For testing of healthy horses and ruminants for movement or health certificates, please submit serum for virus neutralization testing ($31), which is set up twice a week and has a turn-around time of 3 days. We are aiming to complete the PCR testing within 24 hours; the serology is a 48 hour test. With the switch to testing at CAHFS the cost of testing is not picked up by the federal government anymore and CAHFS will bill the submitter for the testing. All samples from suspect VSV animals other than horses are forwarded to the Foreign Animal Disease Diagnostic Laboratory for testing and require a Foreign Animal Disease Number.

In Memorium of Dr. Art Bickford

Dr Bickford (front, center) at the location where the new Turlock laboratory will be built. Behind, from left to right: Drs Simone Stoute, Ashley Hill, Shayne Ramsubeik, Ms Colleen Charlton and Dr Greg Cutler. July 2023.

Dr. Art Bickford passed away on July 28th. With his passing, CAHFS has lost a titan of poultry diagnostics and a pillar of the Turlock lab. Dr. Bickford joined the Turlock Diagnostic Laboratory in 1984 before it became part of UC Davis. He served as Branch Chief in Turlock from 1984-1997, as Interim Branch Chief in Fresno (1987-89), and as CAHFS Associate Director (1992-2001). During his tenure at CAHFS, Dr. Bickford was instrumental in establishing the Avian Residency Program at CAHFS-Turlock. He retired from CAHFS in 2001, but remained active in and connected to CAHFS-Turlock lab for the rest of his life. He remained on a part-time recall appointment from 2001-2011, and returned on recall in 2014-15. Whether on recall or not, Dr. Bickford remained an integral part of the lab: visiting regularly, mentoring residents, and providing guidance, support, and knowledge whenever needed. Throughout his career, Dr. Bickford's research focused on characterization of new and unusual avian diseases. He served on the editorial boards of multiple scientific journals, and was active in multiple professional organizations. He received the C.A. Bottorff Award from the American Association of Avian Pathologists in 1995, and the E.P. Pope Award from AAVLD in 2001. In 2018, Dr. Gregg Cutler established the Arthur A. Bickford Endowed Avian Residency Program fund to provide support in perpetuity for avian residency students.

Welcome **Veronica Nguyen**, Avian Medicine resident at the Turlock laboratory, and **Hernando Acevedo**, Anatomic Pathology resident at the San Bernardino laboratory



CAHFS is Hiring!
Current Open Positions

Turlock
Blank Asst 2 Administrative Assistant (58220)
Provide administrative support to the CAHFS Turlock branch laboratory including typing, data entry, telephone/reception, receiving and back-up office management support.
Careers (universityofcalifornia.edu)

Davis/San Bernardino
SRA 3/Quality Analyst (58251)
Evaluate, analyze and enforce compliance with established CAHFS Quality System policies and procedures.
Careers (universityofcalifornia.edu)

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Lab Locations:

CAHFS – Davis

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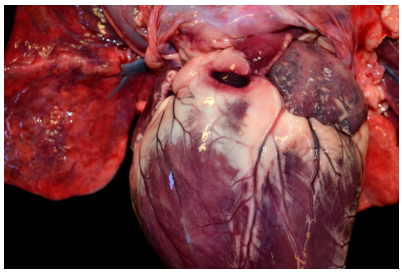
Bovine

Lead toxicosis was the cause of neurologic signs and death in three, 10-week-old Angus cross beef calves from a 20 head cow-calf herd. Over a three-day period, two calves were found dead and a third one was in lateral recumbency, paddling, foaming at the mouth, exhibiting opisthotonos and prolapsing the 3rd eyelid shortly before death. Necropsy of the latter calf revealed poor postmortem condition without other significant lesions. However, lead levels in the liver were consistent with led poisoning, at 45 ppm (toxicity >6ppm). The calf was also copper (6.7ppm, normal 25-100ppm) and selenium (0.12ppm, normal 0.25-0.5ppm) deficient. The source of lead was not determined.

Small Ruminants

Bluetongue was diagnosed in a female adult **bighorn sheep** from a zoological collection in mid-July. The animal was euthanized after a 3-day episode of diarrhea, lethargy, anorexia, separating from the herd, and seizures with inability to stand during the last day. At necropsy, there was subcutaneous edema on the head, neck and limbs, and pulmonary edema and congestion. There was a focal ~1cm hemorrhage on the base of the pulmonary artery. Mild myocardial degeneration and necrosis with mononuclear myocarditis was observed histologically. Bluetongue virus RT-qPCR was positive on the spleen and the virus was typed as serotype 17, which is known to circulate in California. In addition to domestic ruminants and camelids, bluetongue can also affect wild species, including bighorn sheep, pronghorn antelope, bison, mouflon, mule and white-tailed deer, and yak; different degrees of susceptibility to clinical disease have been reported. Bighorn sheep is known to be highly susceptible and die offs are occasionally reported in North America during the season of activity of the *Culicoides* vector.



Hemorrhage at the base of pulmonary artery in a bighorn sheep with bluetongue

Equine

Humeral fractures were diagnosed in two, 3-year old Thoroughbred racing fillies. Injuries in both animals occurred during training on dirt track surfaces. Both horses had a history of shoulder injury, and on necropsy they had a complete, displaced, comminuted, closed, non-articular, oblique/spiral fracture on the diaphysis of the left and right humerus, respectively. Pre-existing periosteal callus, indicative of stress fractures, intersecting the line of acute fracture was observed in both horses at the caudoproximal aspect of the neck of the humerus. Humeral fractures have a low prevalence among all fractures (1.8 to 3.0 % of horses that suffer catastrophic fractures) in Thoroughbred and Quarter Horses. They can occur due to truamatic event (e.g., falls, kicks, or collisions) or secondary to pre-existing stress fractures, frequently arising during training or racing, like in both of these cases. A preexistent bone callus at the caudoproximal aspect of the neck increases the risk of a complete diaphyseal fracture.

Humeral fracture in a Thoroughbred filly associated with pre-existing periosteal callus (right). The contralateral humerus (left) shows mild periosteal callus.

Avian

Sarcocystis calchasi was the cause of sudden death in 25 parakeets and cockatiels housed in an outdoor aviary of 200 birds. Several birds submitted for necropsy had severe hepatic and splenic necrosis with abundant extracellular and intracellular parasites. *S. calchasi* was confirmed by PCR on the liver. Outdoor facilities and the presence of the definitive hosts (some species of raptors) in the surrounding areas are important risk factors for *S. calchasi* infection in captive birds.