



UC DAVIS

VETERINARY MEDICINE

California Animal Health and Food Safety Laboratory System

CAHFS CONNECTION

LEADING DIAGNOSTICS NATIONALLY, PROTECTING CALIFORNIA LOCALLY • AUGUST, 2021



Inside this issue:

- **Happy Retirement!**
- **Snow leopard tested positive for COVID-19 virus**
- **Equine**
– *Rhodococcus hoagii* infection
- **Bovine**
– *Pseudomonas aeruginosa* mastitis
- **Poultry & Other Avian**
– Severe coccidiosis
- **Small Ruminant**
– Compound 1080 (sodium fluoroacetate) toxicosis
- **Other Mammalian**
– *Chlamydia* spp.

COURIER CHANGE NOTIFICATION

Effective August 1, 2021 there will be a change in our contracted courier at the San Bernardino location. We do not anticipate any problems, but there could be a short delay in turnaround times during this transition. Please contact us if you experience unusual delays.

HAPPY RETIREMENT!

In July 2021, CAHFS said good-bye to two valued faculty members.

Dr. Leslie Woods, Davis Pathologist, retired following 34 years of service. Dr. Woods began her pathology career in 1983 as a veterinary medical officer in the state's Veterinary Laboratory Services' Petaluma laboratory. She transferred to UC Davis in 1987 when the University assumed responsibility of the state's diagnostic laboratory system. Dr. Woods has special expertise in diseases related to toxic plants and diseases affecting avian species and wildlife. She was instrumental in identifying the virus responsible for adenovirus hemorrhagic disease of deer.



Dr. Leslie Woods

Dr. Kristin Clothier, Davis Bacteriologist, retired after 10 years of service. She started her CAHFS career in 2010 after completing her PhD in veterinary microbiology at Iowa State University. She served as the systemwide Bacteriology section leader where she was responsible for providing bacteriology expertise throughout the system. She was instrumental in establishing enhanced diagnostic microbiology detection methods, such as MALDI-TOF and PCR, the latter particularly related to *Tritrichomonas foetus*, *Avibacterium paragallinarum* and *Salmonella*. Dr. Clothier was deeply involved in antimicrobial susceptibility and was instrumental in establishing the minimal inhibitory concentration (MIC) test that CAHFS uses currently to determine antibiotic susceptibility of a specific organism.



Dr. Kristin Clothier

SNOW LEOPARD TESTS POSITIVE FOR COVID-19 VIRUS

A snow leopard from the San Diego Zoo, which had a cough and nasal discharge, tested positive for SARS-CoV-2.



photo by San Diego Zoo Wildlife Alliance

The initial detection was made by the San Diego Zoo Wildlife Alliance Disease Investigation's Molecular Diagnostic Laboratory and later confirmed by the California Animal Health and Food Safety Laboratory System. Final diagnosis is pending confirmation by the National Veterinary Services Laboratories.

The snow leopard appears to be doing well and its habitat mates are being quarantined. This is the first big cat that tested positive for SARS-CoV-2 in California.

Equine

***Rhodococcus hoagii* (formerly *Rhodococcus equi*) infection** was diagnosed in a 4-month-old Thoroughbred foal that died 24 hours after onset of respiratory signs. Necropsy revealed 1 to 10 cm diameter, purulent to caseous abscesses scattered throughout the lung and tracheobronchial and ileocecal lymph nodes. The cecum





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

CONTRIBUTORS

- Pat Blanchard
- Beate Crossley
- Sharon Hein
- Asli Mete
- H.L. Shivaprasad
- Francisco Uzal
- Kate Watson

Equine (cont'd)

and large colon had scattered, 0.5cm, raised, umbilicated nodules on the mucosal surface. Histopathology revealed pneumonia, lymphadenitis and enterotyphlocolitis. This microorganism was isolated in large numbers from the tracheobronchial lymph node. *R. hoagii* is a soil bacteria and infections usually start in the lungs when the organism is inhaled from the soil. From the lungs the infection is spread to the gastrointestinal tract. Rarely the infection may start in the intestinal tract.

Bovine

Pseudomonas aeruginosa mastitis resulted in the death of 10 cows from a group of 65 Holstein cows that were dried off using dry cow treatment tubes on one day. Affected cows exhibited signs of weakness, one or more swollen and reddened mammary glands, and septicemia within 24 hours after dry off. Both cows submitted had severe hemorrhagic mastitis in two glands and embolic pneumonia. *Pseudomonas aeruginosa* was isolated from the mammary glands and lungs. No bacteria were isolated from four dry cow tubes. *Pseudomonas aeruginosa* is most often introduced into the mammary gland from contaminated water at the time of dry off. In this case, several potential water sources were cultured and all were negative for *Pseudomonas* spp.

Poultry and Other Avian

Severe **coccidiosis** involving the small and large intestine was diagnosed in 32-day-old Heritage turkeys from a flock of 1000 birds. The birds were lethargic, depressed and increase in mortality had just started. On necropsy, the small and large intestines were filled with light greenish fluid. Histopathology of the intestine revealed numerous coccidia in various stages of development, as well as **attaching effacing *Escherichia coli*** in the ceca of a few birds. In addition, **Parvovirus** was identified by PCR in the intestine and its contents.

Small ruminants

Compound 1080 (sodium fluoroacetate) toxicosis was the cause of death in more than 20 sheep within 24 hours. The flock was moved from one area of landfill to another where they suddenly began dying; some were laterally recumbent with heavy breathing before death. One 2-year-old ewe and four 6-month-old lambs submitted had bloody and frothy exudate in the nares, abundant froth in the trachea and lungs, rubbery, red to dark red lungs that didn't collapse, hydrothorax, hydropericardium with fibrin, and epicardial hemorrhages. On histology there was severe myocardial necrosis and pulmonary edema. Two lambs tested had below normal selenium in the liver, and the kidneys were positive for 1080, confirming exposure. The owner had lost 150 sheep in a similar way about 8 years ago, due to compound 1080. Sodium fluoroacetate (compound 1080), an organofluorine compound toxic to mammals (including humans), insects, and birds, was introduced in the United States as a rodenticide in 1946. It is currently registered for use only in livestock protection collars as a predicide mainly for coyote control in sheep and goat flocks in states that have registrations, and US Environmental Protection Agency (EPA)-approved certification and training programs; it is not approved for use in California.

Other Mammalian

Chlamydia spp. was the cause of **abortion** of an approximately 7-month-gestation water buffalo from a herd experiencing 5-7 abortions in 5 months. The fetus had meningomyeloencephalitis with vasculitis and nephritis. The brain was positive for *Chlamydia* spp. by immunohistochemistry. *Chlamydia abortus* and *Chlamydia pecorum* have previously been detected in water buffalo.

