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## HOLIDAY SCHEDULE

CAHFS will be closed on **Friday July 3rd** in observance of Independence Day. Please contact your laboratory to plan your testing needs accordingly.

## Director's Message

This past month we said good-bye to four valued CAHFS family members.

**Dr. Richard Chin**, Avian Diagnostician, located at the Tulare laboratory, retired in June following 31 years of service. He began his poultry career as a resident (1984-86) in the Turlock laboratory, while still part of the state's veterinary laboratory services system, under the mentorship of Dr. Art Bickford. Upon completing his residency he was hired by the California Department of Food & Agriculture as a veterinary medical officer in the Petaluma laboratory. He transferred to the University of California in 1987 when the University took over management of the state diagnostic laboratory system. In 1988 he transferred to the Fresno branch laboratory when the Petaluma site was closed, where he served as branch chief for 17 years before that branch was consolidated with the Tulare lab in 2009. He played a major role in re-establishing poultry diagnostic services in Tulare, while maintaining an active caseload, managing client communications and engaging in outreach through a variety of venues.

Also retiring in June were **Jackie Parker**, Davis-Pathology, **Cindy Hult**, Davis-Bacteriology, and **Richard Alberti**, Turlock-Maintenance. Jackie started her University career in 1987 with Animal Resource Services and came to CAHFS in 1997 where she oversaw the Davis Receiving and Pathology sections. Cindy Hult started with CAHFS in 1990 where she dedicated 25 years to the Davis Bacteriology lab finishing her career as the senior classical bacteriology technician. Richard Alberti joined CAHFS in 1995 as the Turlock laboratory's Building Maintenance Worker. His ingenuity for resolving facility issues will definitely be missed.

We thank each of them for their dedication and service to CAHFS and wish them a long and joyous retirement.

## Bovine

**Valvular endocarditis** and multi-organ infection was due to *Trueperella pyogenes* infection in a recumbent 4 year old Angus bull that was submitted for necropsy after a prolonged history of lethargy and lameness. On necropsy the mitral valve had large vegetative masses; the animal also had polyarthritis and embolic nephritis. *Trueperella pyogenes* was isolated from lesions in the heart valve, kidney, joints and other sites.

*Trichomonas foetus* and *Campylobacter fetus subspecies venerealis* were isolated from 9 of 10 and 2 of 10 uterine fluids, respectively, submitted from a bull-bred-dairy experiencing a high rate of mucometra and pyometra.

## PCR Panel Now Available for Swine Corona Viruses

CAHFS is now offering a real-time PCR panel for swine corona viruses which includes porcine enteric disease virus (PED), delta coronavirus, and transmissible gastroenteritis (TGE) virus. Testing will be provided at no cost if samples are submitted with premise ID and age identification. For questions on submitting samples, please contact the Davis laboratory at 530-752-8700.

## CAHFS Lab Locations

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Your feedback is always welcome. To provide comments or to get additional information on any of the covered topics or services, please contact Sharon Hein at [shlein@ucdavis.edu](mailto:shlein@ucdavis.edu).

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## Equine

**Equine multinodular pulmonary fibrosis** presumed to be due to Equine Herpes virus 5 infection was diagnosed in an aged Oldenburg mare euthanized after a month long history of fever. At necropsy the lungs were expanded with prominent rib impressions on the pleural surface. The parenchyma of all lobes had disseminated indistinct firm nodules which consisted of dissecting interstitial fibrosis with moderate mixed inflammatory infiltrate, type 2 alveolar epithelial hyperplasia and alveolar macrophages that had rare intranuclear eosinophilic viral inclusions.

## Small Ruminant

**Coccidiosis** caused multiple cases of **hemorrhagic enterocolitis** in one- to two-month-old goat kids from several premises. Submitted kids were anemic with red intestinal content and raised nodular lesions on the intestinal mucosa. Low liver copper level was also often present.

**Toxoplasmosis and sodium toxicity** were diagnosed in a three-week-old lamb that was unable to stand and had stiff legs and head and neck in full extension. At necropsy, there was cerebellar coning (flattened into the foramen magnum). Histopathology revealed brain edema, mild encephalitis and myocarditis with protozoal cysts that were positive for *Toxoplasma* by immunohistochemistry. Brain sodium levels of 2100ppm were suggestive of sodium toxicosis/water deprivation (normal <1800ppm).

## Pig

**Porcine circovirus 2** was found in a three-month-old Duroc gilt exhibiting high fever, anorexia and circling prior to death. Grossly, the meninges were congested and there was mild cerebellar coning. Histologic examination revealed severe **meningoencephalomyelitis** with prominent **vasculitis**. Immunohistochemistry stain for Porcine Circovirus 2 (PCV2) was positive in the meningeal vessels and lymphoid tissues, and bacterial cultures were negative. PCV2 infection is associated with a variety of syndromes and neural vasculitis has been reported.

**Porcine reproductive and respiratory syndrome (PRRS) virus infection** caused respiratory signs in a four-month-old pig that was treated for several weeks prior to death. The lungs had bilateral patchy regions of red consolidation in all lobes consisting of bronchointerstitial pneumonia. PRRS virus was demonstrated by serology and was PCR positive on the spleen but the lung was PCR negative. This viral infection has been found associated with disease problems in club market pigs. A newer strain of the virus, 1-7-4, causing more severe illness and even affecting vaccinated pigs has now been documented to be present in California.

## Poultry

**Poxvirus** resulted in increased mortality, **respiratory distress** and open mouth breathing in two-year-old layers. At necropsy, birds had moist watery content and mild mucosal thickening in the **trachea and larynx**. Histopathology identified laryngotracheitis lesions with large eosinophilic intracytoplasmic inclusions consistent with avian poxvirus. This case was unusual in that poxviral lesions were identified only in the larynx and trachea of the affected birds.

**Fatty liver hemorrhagic syndrome (FLHS)** was the cause of death of a 1-year-old, backyard brown hen. The bird was in lay and apparently healthy before death. At necropsy, there were large accumulations of fat in the coelomic cavity, a large blood clot on the liver, and multiple subcapsular liver hemorrhages. The liver was very pale and friable (soft) and prone to break. FLHS is frequently diagnosed in backyard flocks but also commonly seen in commercial layers and broiler breeders. FLHS is associated with high levels of calorie intake in actively laying hens.

## Rabbit

Outbreak of **multifactorial diarrhea** was diagnosed in three young adult New Zealand White rabbits from a research facility; all three animals had enterocolitis. Rotavirus type A, *Clostridium difficile*, *Cryptosporidium* spp. and *Eimeria* spp. were detected in the intestine of these rabbits. It is thought that the diarrhea was consequence of the synergistic action of these pathogens.