UCDAVIS
VETERINARY MEDICINE
California Animal Health and Food Safety Laboratory System

CAHFS CONNECTION

December 2015

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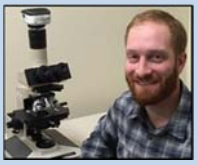
Holiday Schedule

In observance of the University of California's winter holidays, CAHFS will be closed on **Friday, 12/25/15** and **Friday, 1/01/16.**

We will have limited services available (submissions will be received from 8 am—12 pm) on **Thursday, 12/24/15** and **Thursday, 12/31/15.**

Please contact your laboratory to plan your testing needs accordingly as some test set ups will be changed or reduced.

Welcome to CAHFS...



Dr. Andrew Cartoceti

Please welcome Dr. Andrew Cartoceti who joined the Davis laboratory in October as a contract pathologist. Dr. Cartoceti received his DVM in 2008 from Cornell University. In 2015 he completed a 3-year anatomic pathology residency at the Veterinary Medical Teaching Hospital, University of California, Davis—San Diego Zoo Global in addition to obtaining board certification by the American College of Veterinary Pathologists.

Dr. Manuela Crispo

The Turlock laboratory welcomed in October a new avian medicine resident, Dr. Manuela Crispo. Dr. Crispo received her DVM in 2013 from the University of Torino, Italy.

Dr. Arya Sobhakumari

The Davis Toxicology section also welcomed in October a new resident, Dr. Arya Sobhakumari. She received her DVM in 2008 from Kerala Agricultural University in Kerala, India and a PhD in Human Toxicology from the University of Iowa in 2013.

Bovine

***Mannheimia haemolytica* pleuropneumonia** was diagnosed in cows and calves on eight calf ranches, one dairy and five beef operations in October and November. The two most common co-infections were *Mycoplasma bovis* (58%) and *Pasteurella multocida* (29%). Ages of affected animals ranged from 13-150 days with a median age of 90 days on calf ranches and 3 months to 3 years on beef operations. Several premises reported sudden death or respiratory signs of less than 24 hours prior to death. Below normal copper and selenium levels in the liver were found in some affected beef cattle.

Nitrate toxicosis was diagnosed on four beef operations in October and November. All cases were confirmed by high ocular nitrate levels ranging from 19 to 131ppm (normal <10ppm). Sudan hay was the suspected source in 10-month-old steers. Onset of tremors in eight cows of which six died in a 50-head operation occurred within four hours of feeding new hay on one ranch. A third ranch submitted a cow with severe mastitis that had toxic levels of nitrate (131ppm) in the ocular fluid. The cow and one other died in close proximity to each other, shortly after introduction to a new pasture.

Pig

Salt toxicosis /water deprivation was diagnosed in a 10-week-old pig from a group where 10 of 11 pigs in the same pen were found dead. The remaining pig was in lateral recumbency and poorly responsive to stimuli and died four days later. Histological examination of the brain revealed subacute lesions suggestive of salt toxicosis or water deprivation. This was confirmed by sodium levels in brain tissue of 2500 ppm. (> 2000 ppm considered diagnostic). This condition was most likely the cause of death of pen mates. The pig also had severe *Pasteurella multocida* pneumonia probably from prolonged recumbency.

CAHFS Lab Locations

CAHFS - Davis
University of California
620 West Health Sciences Drive
Davis, CA 95616
Phone: 530-752-8700
Fax: 530-752-6253
cahfsdavis@cahfs.ucdavis.edu

CAHFS - San Bernardino
105 W. Central Avenue
San Bernardino, CA 92408
Phone: (909) 383-4287
Fax: (909) 884-5980
cahfssanbernardino@cahfs.ucdavis.edu

CAHFS - Tulare
18830 Road 112
Tulare, CA 93274
Phone: (559) 688-7543
Fax: (559) 686-4231
cahfstulare@cahfs.ucdavis.edu

CAHFS—Turlock
1550 Soderquist Road
Turlock, CA 95381
Phone: (209) 634-5837
Fax: (209– 667-4261
cahfsturlock@cahfs.ucdavis.edu

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 slhein@ucdavis.edu.

We're on the Web
www.cahfs.ucdavis.edu

Equine

Cutaneous habronemiasis was diagnosed in biopsy samples of lesions from the mouth region, eyes and prepuce of multiple horses. Ulcerative eosinophilic and granulomatous dermatitis and cellulitis with intralesional larvae were typically seen.

Small Ruminant

Congenital goiter was diagnosed in a goat kid from a herd of Boer does that had numerous stillbirths. The kid had massively enlarged thyroid glands, with head and neck subcutaneous edema. Histologically, there was had diffuse hyperplasia of the thyroid follicular epithelium consistent with congenital goiter.

Bluetongue virus serotypes 10, 11 and 17 were identified in seven separate sheep flocks between August and October. Four flocks had type 10, one had type 11 and two had type 17. Whole blood or tissue from sheep with clinical signs was positive by PCR, and a new assay available at the National Veterinary Services Laboratory provided typing from the blood or tissue.

Johne's disease resulted in the death of an adult male Boer goat. The clinical signs included weight loss despite a good appetite, fading of the hair coat color and general weakness. No significant gross lesions were present, but histologically the intestinal tract had histiocytic enteritis with abundant intracellular acid-fast organisms. The buck was also marginally deficient in selenium. Johne's disease, caused by *Mycobacterium avium* subspecies *paratuberculosis*, is a common cause of diarrhea and weight loss in many ruminant species, including sheep and goats.

Other Mammalian

Trichinellosis was diagnosed in two wild black bears submitted for surveillance necropsies. One bear was euthanized due to severe emaciation, while the other one was a hunter kill. Both animals had *Trichinella* sp. larvae detected histologically in sections of skeletal muscle, in small and very large numbers, respectively. Two studies in California bears determined a prevalence of trichinellosis of 13.2% (1977) and 8% (2015), respectively. The pathogenesis of *Trichinella sp.* in bears is poorly understood. The main concern with this parasite is its potential transmission to humans, specifically hunters and their families, through the consumption of undercooked meat. This can particularly be an issue with smoked jerky, or with frozen meat that is not cooked properly, as there are some freezing-resistant strains.

Poultry and Other Avian

Infectious laryngotracheitis (ILT) caused by herpesvirus was diagnosed in 18-day-old brown broiler chicks with a history of respiratory signs including open mouth breathing and increased lachrymation. Gross lesions were limited to increased mucus in the trachea, and microscopic lesions included mild to severe laryngitis, tracheitis, sinusitis, rhinitis and conjunctivitis associated with syncytia and intranuclear inclusion bodies consistent with ILT. This disease was confirmed by PCR and immunohistochemistry. It is unusual to see ILT in such young birds (commonly seen around 35-days of age). The birds were also positive for Infectious bronchitis virus by PCR.

Ornithosis caused swelling over the eyes in 13-week-old, female turkeys. Ten percent of 36,000 birds were affected. Histologically, there was nasal gland inflammation and chlamydia was detected only in the nasal gland by immunohistochemistry and fluorescent antibody (FA) testing. The birds were otherwise healthy. Testing of wild pigeons on a neighboring farm confirmed the presence of chlamydia by FA.

Aspergillosis was diagnosed in a six-month female show pigeon which was experiencing respiratory signs for several days before death, and in a 16-week-old female Red Tailed Hawk from another premises which had a prolonged history of anorexia, loss of weight and death. Necropsy revealed multiple, pale yellow nodules in the lungs and a few greenish nodules in the air sacs of both birds and also yellow nodules in the syrinx and base of the heart in the hawk. Histopathology confirmed inflammation in these organs associated with fungi. *Aspergillus fumigatus* was isolated from the air sac and lungs of both birds. The pigeon also had concurrent circovirus infection with viral inclusions in the bursa of Fabricius, associated with lymphoid depletion.