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### Holiday Schedule

In observance of President's day, CAHFS will be closed on Monday, February 16, 2015

Please contact your laboratory to plan your testing needs accordingly.

## CAHFS Plays Critical Role in Diagnosis of Highly Pathogenic Avian Influenza in Commercial Turkey Flock

As reported January 24, 2015 by the United States Department of Agriculture (USDA), Highly Pathogenic Avian Influenza (HPAI) was detected in a commercial turkey flock in Stanislaus County, CA. As part of their ongoing surveillance program, samples were immediately submitted to CAHFS by the company veterinarian when the flock was reported to be experiencing increased mortality. Following the preliminary diagnosis by CAHFS personnel, HPAI was confirmed by USDA's National Veterinary Services Laboratory as influenza A virus subtype H5N8. Fortunately, this strain of H5N8 has not been shown to be a risk to the public.

Please remember to protect your birds from exposure to wild waterfowl, routinely exercise biosecurity, and monitor your birds for signs of illness. All of our CAHFS laboratories provide free diagnostics for two birds (chickens, turkeys, waterfowl and squab) from backyard (< 1,000 birds) flocks located in California. This includes free testing for Avian Influenza. If you observe signs of illness or increased mortality in your flocks, please call your private veterinarian, the California Department of Food and Agriculture (CDFA) Sick Bird Hotline at 866-922-2473, or submit them to the nearest CAHFS lab.

Additional information is available on CDFA's web site at:

[http://www.cdfa.ca.gov/ahfss/animal\\_health/avian\\_influenza.html](http://www.cdfa.ca.gov/ahfss/animal_health/avian_influenza.html)



### Equine

**Leptospirosis** was diagnosed in a premature foal born alive at approximately 10-months of gestation. The foal was unable to nurse or stand up and was euthanized due to poor prognosis. There were no significant gross lesions. Microscopically, there was interstitial nephritis and special stains showed numerous clusters of Leptospira-like spirochetes in the renal cortical tubules. Leptospirosis was confirmed by immunohistochemistry on kidney sections and positive serology for *Leptospira pomona* at 1:3200 and *Leptospira hardjo* at 1:200 in the foal serum.

**Cervical vertebral epidural hematoma (CVEH)** at the level of the 6<sup>th</sup>/7<sup>th</sup> cervical vertebrae was the cause of focally severe compressive myelopathy in a 3-year-old Quarter Horse gelding with neurologic signs over a five day period, after which it was euthanized. CVEH has been previously described in horses, humans and other animal species. In reported equine cases, the hematomas were all dorsolateral to lateral at the level of the C6/C7 intervertebral joint. It has been speculated that the hematomas result from rupture of the spinal branch of the vertebral artery, intervertebral vein or the ventral internal venous plexus. In humans, 95% of reported cases of spontaneous CVEH occur at C5-C7.

## 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](mailto:cahfsdavis@cahfs.ucdavis.edu)

### CAHFS - San Bernardino

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

### CAHFS - Tulare

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

### CAHFS—Turlock

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

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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 [shein@ucdavis.edu](mailto:shein@ucdavis.edu).

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We're on the Web  
[www.cahfs.ucdavis.edu](http://www.cahfs.ucdavis.edu)

## Bovine

**Necrotic laryngitis** was diagnosed in a cow from a dairy with history of several deaths and culling of mid-lactation cows. The submitted cow had a foul odor emanating from the nostril, respiratory signs and low milk production. Necropsy revealed severe necrotic laryngitis from which *Trueperella pyogenes* and *Pasteurella* sp. were isolated. In addition, chronic hardware disease, hepatitis and mastitis were present.

**Pleuropneumonia** was diagnosed in samples submitted from an outbreak of severe respiratory disease involving 10% of recently introduced feedlot steers. Multiple factors were identified including *Mycoplasma bovis*, *Trueperella pyogenes*, BVD virus infection and copper deficiency.

**Calf diarrhea** due to attaching and effacing *E. coli*, Salmonella group B, coronavirus, rotavirus, K99 *E. coli* and Cryptosporidium sp. was diagnosed in samples from 3- to 14-day-old dairy calves with a history of scours and increased death loss. In addition, serum immunoglobulin levels indicated failure of colostral antibody absorption. Coronavirus and attaching and effacing *E. coli* have been found frequently in calves on dairies and calf ranches.

## Small Ruminant

**Sucking lice (*Linognathus africanus*)** resulted in **anemia** and death in a serow (goat/antelope-like mammal). On post-mortem examination, the animal had a very severe lice infestation, was very pale (anemic) and had a nutmeg pattern in the liver due to centrilobular hepatic necrosis, likely a consequence of the hypoxia from severe anemia. The *Linognathus africanus* identified are sucking lice that have been reported to produce severe anemia and death.

**Rhododendron toxicosis** was the most likely cause of 3-days of anorexia and neurologic signs followed by death in a goat. Another goat showed similar clinical signs but survived. The only significant pathologic finding was moderate to marked pulmonary edema. The lesions and test results did not suggest an infectious process. Possible exposure to rhododendron in the clinical history led to testing for grayanotoxins I and III in rumen content and feces; these tests were positive in both samples, confirming exposure to grayanotoxin-containing plants, which includes Rhododendron species. Grayanotoxin poisoning has been described in goats and should be considered as a differential diagnosis in goats exposed to the plant and clinical evidence of gastrointestinal tract irritation, cardiac arrhythmias and/or neurologic signs.

**Copper toxicosis** was diagnosed in a 3-year-old ewe with evidence of icterus and dark grey kidneys. Pathology findings included severe centrilobular hepatic necrosis with portal fibrosis, hemoglobin-induced kidney lesions and toxic levels of copper in both the liver and kidney.

## Pig

***Mycoplasma hyorhinis*** caused **conjunctivitis** on a swine farm in which up to 50% of 3- to 4-month-old pigs were affected. The affected pigs had swollen congested conjunctiva, often bilateral, without corneal involvement or other signs of significant disease. Lesions seen in a submitted pig revealed severe lymphoplasmacytic conjunctivitis. *Mycoplasma hyorhinis* PCR on the conjunctival swab was positive. Compatible bacterial organisms were observed on the conjunctival epithelium by histology. Various cultures and other tests were unremarkable.

## Poultry and Other Avian

**Endemic Infectious bursal disease virus (IBDV)** was diagnosed in 6-week-old Silkies and 5-week-old brown organic broilers located on the same premises. Approximately 10% of the flock was affected. Extensive hemorrhages were present in the skeletal muscles of the breast and legs. Bursas were hemorrhagic and enlarged with extensive lymphocyte depletion and inflammation. Diagnosis was based on histology, PCR and sequencing of the virus.

**Proventriculitis** due to the fungus *Macrorhabdus ornithogaster* (also called megabacteria) was diagnosed in an adult female Budgerigar that died with a history of diarrhea of 30 days duration and weight loss. Necropsy revealed severely dilated and thin proventriculus and focal thickening, the latter due to carcinoma. Histopathology revealed inflammation due to the fungus.