



UC DAVIS

VETERINARY MEDICINE

California Animal Health and Food Safety Laboratory System

# CAHFS CONNECTION

LEADING DIAGNOSTICS NATIONALLY, PROTECTING CALIFORNIA LOCALLY • OCTOBER, 2018



## Low Pathogenic H7N3 Avian Influenza Found in Stanislaus County

Just like in humans, there is a flu season for birds, and that season is here. In early September, CAHFS made a presumptive diagnosis of low pathogenic avian influenza (LPAI) H7 on samples from a commercial turkey flock in Stanislaus County. This diagnosis was confirmed by USDA's National Veterinary Services Laboratory as LPAI H7N3 on September 11, 2018.

CDFA and USDA have taken immediate action, working closely with CAHFS, poultry producers and veterinarians in the area to test other flocks for disease and limit additional introductions and spread. As of September 19, 2018, three additional commercial flocks have been confirmed positive for LPAI H7N3. This form of AI has never had any negative human health impacts and does not affect the safety of food. As a reminder, poultry owners should check to be sure their biosecurity is tight and being followed every day.

Additional information about this outbreak and biosecurity tips to prevent contact between domestic poultry and wild avian species, especially waterfowl which are carriers of this virus, can be found on [CDFA's web site](#).

### Inside this issue:

- **Low Pathogenic H7N3 Avian Influenza Found in Stanislaus County**
- **Horse**
  - Equine multinodular pulmonary fibrosis
- **Bovine**
  - Dermatophilosis
  - Diplomyelia
- **Small Ruminant/Camelid**
  - *Listeria* encephalitis- goat
  - Bluetongue virus- sheep
- **Pig**
  - *Actinobacillus pleuropneumoniae* and *Pasteurella multocida* pleuropneumonia
- **Poultry/Other Avian**
  - Low Pathogenic Avian Influenza H7N3 - turkey
  - West Nile virus- other avian
- **Update: virulent Newcastle disease in California**

### Horse

**Equine multinodular pulmonary fibrosis** due to equine herpesvirus-5 (EHV-5) was the cause of respiratory disease of one month duration in a 14-year-old Arabian stallion. The horse had been unresponsive to antibiotics and febrile before death. Multifocal, firm, well demarcated and white nodules replaced 50% of the lung; these lesions were most common in the caudo-dorsal areas. Histopathology was typical of this condition, and EHV-5 was confirmed by PCR at an outside laboratory.

### Bovine

**Dermatophilosis** caused skin lesions within 10 days of first calving in 20 Jersey dairy heifers. Affected animals developed painful skin breaks, crusts and exudate with hair loss on the ventrum, back legs, udder and neck. They became reluctant to rise, which lead to decreased feed and water intake. Older cows were not affected. Biopsies of three cows revealed typical lesions with organisms consistent with *Dermatophilus congolensis* in the exudate.

**Diplomyelia** was the reason a 6-day-old Holstein calf was unable to stand on the rear legs since birth. The animal, however, was able to move the legs. This rare congenital defect resulted in nearly complete duplication of the spinal cord starting in the lumbar region.

### Small Ruminant/Camelid

**Listeria encephalitis** was diagnosed in 1.5-year-old Boer and 3-year-old Pygmy goat does on separate backyard premises. The Boer doe had a 3-day history of high fever, foaming at the mouth and inability to use the lower jaw. The Pygmy goat had a 2-day history of torticollis to the right side, with loss of palpebral and corneal reflexes, nystagmus, tongue paralysis and drooling. The diagnosis was confirmed by immunohistochemistry and typical lesions in both goats.





**UCDAVIS**

**VETERINARY MEDICINE**

California Animal Health and  
Food Safety Laboratory System

## 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 95381  
Phone: 209-634-5837  
Fax: 209-667-4261  
turlockcahfs@ucdavis.edu

**Bluetongue virus (BTV)** caused respiratory signs and death in two sheep flocks. In one flock, 25% of the sheep experienced a sudden onset of difficult breathing and within a day four had died. A 6-month-old lamb and 3-year-old ram, both foaming from the nose and mouth, were submitted. Both animals had pulmonary congestion and edema, and hemorrhagic and necrotizing myocarditis. In the other flock, a 5-month-old lamb died following a 2-day course of fever and coughing. The lung and heart changes were similar to those described in the animals of the first flock. These changes were accompanied by centrilobular hepatic congestion and necrosis. BTV was detected by PCR in the spleen of both animals from the first flock and in lung of the animal from the second flock.

### Pig

***Actinobacillus pleuropneumoniae* and *Pasteurella multocida pleuropneumonia*** resulted in the death of a 4.5-month-old Hampshire pig on a grower operation where only purchased pigs (not home raised) were affected. The dead pig had been purchased two months earlier and was found dead with no signs observed prior to death. At necropsy, severe pneumonia and fibrinous pleuritis, fibrosing pericarditis and peritonitis were observed. Small abscesses were present on the peritoneal serosa.

### Poultry and Other Avian

**Low pathogenic avian influenza H7N3** was diagnosed in a flock of 25,000 15-week-old turkeys based on serology, PCR, and sequencing. The birds had severe respiratory signs such as open mouth breathing, ocular and nasal discharge, cough and increased mortality. Necropsy revealed severe bilaterally swollen sinuses with mucoid and caseous exudate, collapsed tracheas, conjunctivitis, airsacculitis and pneumonia. The birds also had concurrent infections due to *Mycoplasma gallisepticum*, *Mycoplasma synoviae*, *Ornithobacterium rhinotracheale*, *Reimerella anatipestifer*, *E. coli* and *Pseudomonas* sp. All birds had increased titers for *Bordetella avium* and for Newcastle disease virus and avian Hemorrhagic enteritis virus. The turkeys were depopulated soon after the diagnosis was made and surveillance for avian influenza was undertaken 10 kilometers around the index case.

**West Nile virus (WNV)** infection was diagnosed in a yellow-billed magpie from a region of Sacramento County experiencing an increased incidence of neurologic signs among magpies. The bird was in excellent nutritional condition, and presented with mild focal fungal airsacculitis, which was considered to be an incidental finding. Nonsuppurative hemorrhagic myocarditis and nephritis, typical of WNV infection were detected histologically. WNV was identified in the kidney by PCR.

### UPDATE: Virulent Newcastle disease in California

CAHFS continues working with the California Department of Food and Agriculture (CDFA), the United States Department of Agriculture (USDA) and poultry owners and veterinarians to contain and eradicate the outbreak of virulent Newcastle disease (vND), which was diagnosed in southern California this past May. USDA has recently confirmed that samples from a live bird market tested positive for vND. However, there have been no vND detections in commercial poultry.

A total of 148 cases of vND have been confirmed in California: 95 in San Bernardino County, 21 in Riverside County, 31 in Los Angeles County and 1 in Ventura County. Please continue to be vigilant about the health of your birds and if you think that your birds may have been exposed to this deadly disease, contact the California Bird Hotline at 866-922-BIRD (2473).

