



**UC DAVIS**

**VETERINARY MEDICINE**

California Animal Health and  
Food Safety Laboratory System

# CAHFS CONNECTION

LEADING DIAGNOSTICS NATIONALLY, PROTECTING CALIFORNIA LOCALLY • MARCH, 2017



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## Holiday Schedule

CAHFS will be open, but will have limited services available on **Friday, March 31, 2017** in observance of Cesar Chavez Day

## What's the latest on Avian Influenza?

There have been only two occurrences of avian influenza (AI) diagnosed in wild birds in the U.S. since July 1, 2016. While that is good news, the United States Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) continues to work with state and federal officials to conduct surveillance testing on wild birds. The objective of this effort is to prevent the occurrence of commercial poultry outbreaks, such as the one in 2014-15. Information regarding the United States' AI surveillance is available through [APHIS](#).



Whereas the U.S. has had very few diagnoses of AI, other countries are reporting outbreaks of highly pathogenic H5N1 and H5N8 AI. Information on these outbreaks can be found on the Center for [Infectious Disease Research and Policy's](#) web site. In 2015 the subtype H5N8 did affect two commercial poultry facilities in California

## Bovine

**Streptococcus sp. septicemia** with meningitis, valvular endocarditis and polyarthritis were detected in an 11-day-old Holstein bull calf with an enlarged liver and spleen. *Streptococcus* sp. was isolated from lung, liver and brain, and histologically gram positive cocci compatible with *Streptococcus* were noted in the heart valve lesion. The 1- to 3-day-old bull calves submitted with this calf both had polyarthritis associated with *E. coli* septicemia.

## Horse

**Hyperlipidemia syndrome** was diagnosed in a 14-year-old miniature donkey with a 2-day history of "grumpiness" prior to death. On necropsy the donkey was obese and had acutely bled into the abdomen from a ruptured liver. All organs, and especially the liver, were pale. Microscopy revealed that the liver had severe lipidosis. These findings are consistent with the metabolic syndrome of miniature donkeys and horses called "hyperlipidemia syndrome", in which any condition that results in a negative energy balance can lead to increased blood triglycerides and deposition of excessive fat in the liver and other organs, sometimes leading to liver rupture and bleed-out as in this case.

## Small ruminants

**Encephalitis** was detected in a 5-year-old Boer goat found dead in brush pasture with no apparent cause. Despite the absence of gross lesions at necropsy, the brainstem had multiple foci of suppurative inflammation and necrosis with few Gram positive bacterial rods in the center and moderate, multifocal meningitis. A bacterial culture was not performed but the lesions are most consistent with *Listeria monocytogenes*. Listeriosis is typically associated with feeding of incompletely fermented silage where the organism can grow, but in goats in California it is most often found in pastured animals.

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## Pig

**Porcine circovirus-2 (PCV-2)** was the confirmed cause of abortion in one of two mummified piglets submitted for necropsy. The piglets were from a healthy, first parity sow that farrowed two live piglets and aborted eight mummies. On microscopic examination, one piglet had fibrinous hepatitis and myocardial mineralization with myocarditis. Immunohistochemistry for PCV-2 was strongly positive on the heart lesions of both piglets.

## Cervid

**Paratuberculosis (Johne's disease)** was diagnosed in an adult male Tule Elk with a history of two animals recently dying in the herd. The animal had granulomatous enteritis, pneumonia and hepatitis, with large numbers of acid fast bacilli, which, together with a positive PCR test for *Mycobacterium avium* subspecies *paratuberculosis* (MAP), confirmed a diagnosis of Johne's disease. In addition, this elk had severe tick infestation, pneumonia due to *Dictyocaulus* spp. (lung worms) and *Aspergillus* spp., and an abscess in the neck due to *Trueperella pyogenes* and *Pasteurella multocida*. Elk and cattle sharing pastures can spread infection between each other.

## Other Mammalian

**Myxomatosis** was diagnosed in a 1.5-year-old Angora rabbit that was housed outdoors and developed fever and edema of the ears, eyelids and nose, which were unresponsive to treatment. The animal was euthanized and necropsy revealed, in addition to the lesions mentioned above, nodules in the skin of the axillary and inguinal regions. Histological examination of the affected skin identified lesions consistent with infection by rabbit pox virus (myxomatosis). Myxomatosis is a disease of European rabbits (*Orycto-*

*lagus* ssp). Cottontail rabbits (*Sylvilagus* ssp.) are resistant to the infection but can become carriers and spread the disease to European rabbits. Cases of myxomatosis occur sporadically in southern and central California

## Poultry and Other Avian

**Herpesvirus and chlamydiosis** co-infection was diagnosed in a juvenile tumbler pigeon from an outdoor closed flock of 75 pigeons where adult pigeons had been going off feed and losing weight, and dying 7-10 days after the onset of signs. Young pigeons would develop diarrhea and often die a few hours later. The juvenile pigeon submitted had hepatitis, splenitis, stomatitis, ingluvitis, epicarditis and air sacculitis. Intra-nuclear inclusion bodies consistent with herpesvirus infection (likely columbid herpesvirus-1) were seen in liver, mouth and crop. *Chlamydia psittaci* was also detected in the liver, spleen and air sacs by fluorescent antibody test. Both pathogens, columbid herpesvirus-1 and *C. psittaci*, are found in wild pigeon populations; therefore minimizing flock exposure to wild birds can help prevent disease.

**Colibacillosis** resulted in high mortality of a recently purchased batch of 600 "Cornish" chicks. The mortality progressed from three dead on arrival to a peak of 57 deaths on day 5. *E. coli* was isolated in pure culture from multiple organs. The chicks had severe subcutaneous edema, ascites, fibrinous coelomitis, congested or hemorrhagic lungs, air sacculitis and yolk sac infections.

