



**UC DAVIS**  
**VETERINARY MEDICINE**  
*California Animal Health and  
 Food Safety Laboratory System*

# CAHFS CONNECTION

October 2011

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**Bovine**

**Acute death with hepatopathy** was detected in two, 1-2 week old beef calves on a ranch where 8 of 16 calves were found dead in a short period of time. Calves were nursing cows grazing vetch pastures with black to brown mold on the plants. Cows were unaffected. This syndrome was first seen in 2005 in central California coastal pastures. All affected calves were reported in September and October, most were found dead, a few were observed to have weakness or act drunk before death. The problem resolved when cattle were moved off the moldy vetch pastures while calves are <30 days old. For more information click [here](#).

**Lupinosis** was diagnosed in a 7-month-old heifer that was found down in the field and died several hours later. The heifer exhibited depression with no other clinical signs noted by the owner. Two other deaths occurred in the previous 6 weeks. No significant findings were seen on field necropsy. Tissues, including rumen contents, were submitted to CAHFS. Alkaloid screen on rumen contents was positive for lupanine and nuttaline compatible with ingestion of lupine. Ingestion of lupine can lead to a neurotoxic syndrome characterized by muscle tremors, labored breathing, convulsions, coma and death. Teratogenic effects have also been reported with lupine toxicosis.

**Equine**

**Type C botulism** was diagnosed by detection of *Clostridium botulinum* type C toxin in the dried remains of a cat found in hay on a farm of 80 horses where 4 Quarter horses developed clinical signs of botulism. Signs included acute weakness, ataxia of all four limbs, muscle fasciculation, urinary incontinence, decreased manure passage, poor tail and tongue tone and dysphagia. The weakness progressed to paralysis and recumbency. The animals were obtunded and afebrile. Two horses were euthanized and submitted for necropsy. There was marked subcutaneous and fascial edema of the neck in both horses and no histologic lesions, both of which are characteristic of equine botulism. The other two horses were treated with polyvalent antisera and recovered.

**Other Avian**

**Paramyxovirus-1 (PPMV-1) infection** is an important viral disease of pigeons and doves that causes encephalitis, nephritis, and pancreatitis. Infected birds exhibit neurological signs such as torticollis (twisted neck), opisthotonos (backward arching of the head), and will eventually die. Young and immunologically naïve birds are the most susceptible to this disease. PPMV-1 infection spreads slowly in “lofted” pigeons; therefore, early diagnosis is critical for establishing opportune control measures. Diagnosis of PPMV-1 infection is done by serological testing of unvaccinated birds (hemagglutination inhibition test), oropharyngeal swab or tissue testing by polymerase chain reaction (PCR) or virus isolation, and other ancillary tests.

## 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

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### Pigs

***Clostridium difficile* and TGE diarrhea** were detected in 1-2 week old pigs over a 5 month period from one farm. Piglets initially developed lethargy, fever and rapid breathing at ~1 week of age and within 5 days had diarrhea occasionally with blood in feces. Multiple whole litters were affected. Necropsy revealed colitis and 3 of 4 piglets had mesocolon edema. All 4 pigs necropsied were culture and toxin positive for *C. difficile* and fluorescent antibody positive for TGE on small intestine or colon.

### Poultry

**Transmissible Proventriculitis (TP)** is a common disease of broiler chickens between 1- 6 weeks of age. Clinical signs include malabsorption, poor feed conversion, failure to gain weight and rupture of the proventriculus and spillage of feed during processing resulting in contamination of carcasses. Mortality is variable but has been reported as high as 5% in some flocks. The disease is characterized by enlargement of the proventriculus with thickened pale wall. Microscopically there is necrosis, hyperplasia and mononuclear inflammation in the proventriculus. Recently a novel Birnavirus named Chicken Proventricular Necrosis Virus (CPNV) was discovered and has been attributed as the cause of TP. At the present time there are no molecular tests commercially available to diagnose CPNV but necropsy of chickens and histopathology of proventriculus are strongly suggestive.

### Small Ruminants

**Caseous lymphadenitis** caused by *Corynebacterium pseudotuberculosis* was diagnosed from a number of goats and a few sheep by isolation of the bacteria on aerobic culture of abscess exudate. Abscesses that are present <3 weeks and newly ruptured abscesses induce low or no antibody responses so serology is not diagnostic for this agent at that time. Serology is best for detecting internal chronic abscesses or recurrent abscesses when titers exceed 1:256 or for screening new arrivals in a herd for potential exposure to the agent. Other bacteria can also cause external abscesses in sheep and goats; *Arcanobacterium pyogenes*, *Actinomyces spp.*, and *Bibersteinia trehalosi* have been isolated in the past 2 months.

### Toxicology

First (warfarin, diphacinone, chlorophacinone) and second (brodifacoum, bromodiolone, difethialone and difenacoum) generation anticoagulant rodenticide (AR) exposure is one of the leading causes of toxicant-associated morbidity and mortality in pet dogs. The CAHFS' Toxicology Section has also documented the occurrence of one or more AR in wildlife including mountain lions, bobcats, coyotes, foxes, Pacific fishers, badgers, raccoons, turkey vultures and golden eagles. CAHFS offers testing for all commonly used AR. Specimens of choice are serum (antemortem), liver (postmortem) and suspect bait samples. Click [here](#) to learn more about AR toxicosis and new US EPA regulations.

### **Export Testing**

If submitting serology samples for **export testing**, please be sure to specify both the test method and the initial dilution required, as each country has a different requirement. Turnaround time can be delayed if the test method is not specified, or if signatures are missing on any required forms. Current international requirements can be found at: <http://www.aphis.usda.gov/regulations/vs/iregs/animals/>