



UCDAVIS

VETERINARY MEDICINE

California Animal Health and
Food Safety Laboratory System

CAHFS CONNECTION

May 2014

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Holiday Schedule

CAHFS will be closed on **Monday, May 26, 2013** in observance of Memorial Day.

Please contact your laboratory to plan your testing needs accordingly.

Avian Influenza Detected

As has been reported in the press, state and federal officials are currently responding to an outbreak of low pathogenic H5 Avian Influenza, which was recently discovered in Stanislaus County. We encourage all CAHFS avian clients to be alert for increased mortality or other disease symptoms in their flocks, and to immediately contact their veterinarian for assistance. CAHFS routinely screens all avian necropsy submissions for avian influenza using PCR in order to detect strains of concern (H5 and H7) as early as possible. When strains of concern are detected and confirmed by the federal laboratory, CAHFS supports the CDFA/USDA investigation by performing PCR testing on surveillance samples taken from a wider area to ensure the virus has not spread to other premises. Information on biosecurity and avian influenza virus can be found at the CDFA website, http://cdfa.ca.gov/ahfss/Animal_Health/Avian_Influenza.html

Bovine

An outbreak of **Hardware disease** was diagnosed in a group of pregnant dairy heifers. Necropsy findings in two submitted heifers revealed severe traumatic reticulo-pericarditis with a small diameter, short segment of wire in the pericardial sac. Field necropsy samples submitted from two herd-mates had similar comparable changes. Since hardware disease is usually a sporadic event, further investigation by the submitting veterinarian revealed the heifers were being fed recycled green waste which included grape vine trimmings. Chopped wire from the trellises was the presumed source of the hardware.

Oleander toxicosis was the cause of ataxia, stumbling, collapse and death in an 8-month-old Brahma heifer and a bull on the same premises within a few days. Histopathology of the heifer's heart identified moderate necrotizing myocarditis. The liver had very low selenium levels and was positive for oleandrin. No oleander was present on the property. Possible sources of oleander include windblown leaves, trimmings thrown into pastures and leaves contaminating forages such as hay or green chop. Testing for the toxic cardioglycoside in oleander can be performed on intestinal and stomach/rumen content (best samples), serum and liver.

Equine

Equine bone fragility syndrome was diagnosed in a 14-year-old Quarter Horse that was down, unable to rise or move the back legs. The horse had fractures in the caudal thoracic and two cervical vertebrae as well as rib fractures and calluses on previous rib fractures, consistent with **pathologic fractures**. The pelvic and scapular bones were moth-eaten (**osteoporosis**). Microscopically, the bronchial lymph nodes had fibrosis and granulomatous inflammation and there was regional histiocytic interstitial pneumonia, both lesions associated with intracellular refractile crystals. Lesions were compatible with this recently published condition describing an osteoporotic condition in horses associated with pulmonary silicosis, *Vet Pathology* 48(3):539-615. Affected horses in the paper referred to came from Monterey, Marin, Sonoma, and Napa Counties. The relationship between the musculoskeletal and pulmonary condition is unknown.

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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 shlein@ucdavis.edu.

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

Small Ruminant

Brucella ovis, a cause of ram epididymitis, was isolated from a **stillborn** lamb with very mild pneumonia, submitted from a flock where 10 of 50 ewes had stillborn fetuses. The flock had three *B. ovis* seropositive rams one year earlier on routine testing. In an unrelated flock, ***Actinobacillus seminis***, another cause of ram epididymitis, was isolated from a third trimester **aborted lamb** with severe placentitis and bronchopneumonia.

Selenium deficiency resulted in skeletal muscle degeneration and necrosis (white muscle disease) in two of three goat fetuses submitted from an **abortion** outbreak. No evidence of an infectious cause of abortion was detected. A late pregnancy doe with quadruplets was submitted from a separate goat herd experiencing intermittent, **sporadic deaths** in all age groups. The doe had a 4-day history of anorexia and lethargy followed by death. Findings included pregnancy toxemia, severe aspiration pneumonia and subacute and chronic **heart lesions** of ongoing fibrosis and mineralization. The liver had low levels of selenium and vitamin E. Testing for several cardiotoxins including oleandrin was negative. Selenium and Vitamin E deficiency may have precipitated the heart lesions and predisposed the doe to anorexia leading to pregnancy toxemia and aspiration pneumonia.

Pig

Porcine Epidemic Diarrhea Virus (PEDV) resulted in **diarrhea** and death of approximately 100 nursing neonatal piglets on one premise in 10 days. Two, 2- to 4-day-old pigs were submitted. PEDV, a coronavirus closely related to Transmissible Gastroenteritis Virus (TGEV), was first detected in the U.S. in spring 2013 and has caused epidemic outbreaks in 29 states and Canada resulting in severe economic losses. Recently another new coronavirus, delta coronavirus, has been found to cause epidemic diarrhea in pigs. Confirmation of any of these three viruses requires specific testing for each agent separately. This case was the third herd diagnosed from pigs submitted to CAHFS and the 10th case reported in California on the national tracking database. Updated information on PEDV can also be found at <http://aasv.org/>

Poultry/Other Avian

Ionophore toxicosis was the presumptive cause of 37-day-old turkey poults being down on the hocks. Histopathology revealed **skeletal muscle degeneration**. Approximately 0.25 % of 18,000 turkeys in five houses were affected. Ionophores such as monensin, narasin and nicarbazine are commonly used in turkey feed to control coccidiosis, but ionophores have a narrow margin of safety. Analysis of the feed from three houses revealed normal levels of monensin and absence of other ionophores. Hot spots from incomplete mixing of ionophores might have been the cause of toxicity.

Lameness in 19- to 22-day-old chickens from two broiler flocks was due to a combination of **tibial dyschondroplasia, femoral head degeneration and osteomyelitis** due to *Enterococcus cecorum*. The chickens also had severe degeneration and lymphoid depletion in the bursa of Fabricius suggesting immunosuppression predisposing the birds for secondary *E. cecorum* infection. Infectious bursal disease status of the birds was unknown.

Hepatitis due to *E. coli*, and **roundworms** in the intestine of 3- to 5 year-old **racing pigeons** were the main causes of sudden death in a loft of 800 pigeons. Two pigeons submitted had subcutaneous hemorrhages in the proximal one-third of the neck which was associated with congestion of the blood vessels (*plexus venosus subcutaneus collaris*) involved in thermoregulation.

Fish

Lymphosarcoma and leukemia was diagnosed from formalin-fixed biopsies of a slow growing, raised, fleshy mass involving skeletal muscle and covered by ulcerated skin in the body wall of an aquarium-held arowana. Lymphosarcomas are one of the more commonly identified tumors in fish.