



UC DAVIS

VETERINARY MEDICINE

California Animal Health and
Food Safety Laboratory System

CAHFS

CONNECTION

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Holiday Schedule

CAHFS will be closed on **Monday, September 1, 2014** in observance of Labor day.

Please contact your laboratory to plan your testing needs accordingly.

Bovine

K99 *E. coli* was the only cause of **diarrhea, dehydration and death** in 1- to 3-day-old calves from seven dairies and calf ranches over 5 weeks in June/July. Two premises reported finding dead calves with no prior signs. K99 *E. coli* can cause rapid fluid and electrolyte loss so death may occur before diarrhea is noticed. Typical histologic lesions were seen in the small intestine and infection was confirmed by ELISA on feces. The organism can only attach to the immature epithelial cells in the small intestine which is why disease is rarely seen after 5 days of age.

Pinkeye caused by ***Moraxella bovis*** and ***Moraxella bovoculi*** was diagnosed by isolation of the organism on 11 dairies, beef and calf ranches recently. Both organisms were found in seven herds, *M. bovoculi* only in three and *M. bovis* only on one premises. On average, eye swabs from five animals were submitted per premises. Animals ranged from 1- to 6-months-old and one beef herd reported signs in adults. Twenty percent was the highest rate of illness reported. Two submissions stated autogenous and/or commercial vaccines were in use but were not preventing infections.

Equine

Severe **anemia** in a 6-year-old Friesian mare with a four week history of ill-defined illness and fever was probably due to marked **erythrophagocytosis** by macrophages and neutrophils diagnosed on cytology of splenic impression smears taken at necropsy. Ante-mortem blood work suggested a possible lymphocytic leukemia. At necropsy, the mare was slightly icteric, anemic and had a single enlarged splenic lymph node that histologically had **lymphosarcoma**. Bone marrow and spleen cytology showed regenerative bone marrow and no neoplastic cells. The increased clearance of red blood cells (erythrophagocytosis) may have been due to an immune mediated attack on erythrocytes (Coombs test negative), or an erythrophagocytic syndrome such as that seen secondary to neoplasia which may also cause other paraneoplastic effects such as decreased RBC lifespan.

Small Ruminants

Rumen acidosis was diagnosed in a 1.5 year old Nigerian dwarf female **goat** that was found dead in the morning without clinical signs being observed the night before. The rumen had a large amount of grain and the pH of the rumen content was 4.5. The serosae of all abdominal organs were severely congested. Results of multiple tests performed to rule out other common causes of sudden death were negative.

Caprine arthritis and encephalitis virus (CAEV) was the probable cause of chronic severe bilateral **carpal arthritis** in a 5-year-old Dorper **ewe**. The ewe developed marked swelling of the front knees at the time she became lame. She was housed on a farm with a history of CAEV in goats. CAEV serology and immunohistochemistry on the affected joint were positive. Although serology does not distinguish ovine progressive pneumonia (Maedi-visna virus) from CAEV, the former is not associated with joint infections. Experimentally, sheep have been infected with CAEV and rare naturally occurring cases in which there was extensive goat contact have been reported.

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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 slhein@ucdavis.edu.

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

Pig

Swine Influenza Virus (H3N2) was the cause of moderate to severe **tracheitis** with ulceration and **pneumonia** in two 70lb pigs (a gilt and a boar) submitted for necropsy. Influenza and H and N subtyping PCR tests were performed at CAHFS. The gilt developed a productive cough two days prior to euthanasia and 25% of the total lung was consolidated. The boar died without any signs and had more severe tracheitis and pulmonary edema with mottled red areas of lung that floated in formalin. No bacteria or other viruses were found.

Poultry and other avian

Bordetella avium, Escherichia coli, Ornithobacterium rhinotracheale (ORT) and Salmonella spp. were responsible for **severe respiratory disease** characterized by coughing, snicking, swollen sinuses, watery eyes and increased mortality in 14 to 18-day-old **turkey** poults. Approximately 5.0 % of the poults in a flock of 98,000 were affected. The birds also had enteritis and *Salmonella* spp. was isolated from the intestine.

Duck viral enteritis (DVE) was the cause of severe **lethargy, recumbency** and death in six backyard **Muscovy ducks** that became acutely sick and died within 2-3 days of onset of signs. All three ducks submitted had lesions compatible with DVE including hemorrhagic enteritis, multifocal hepatic necrosis and ulcerative esophagitis, with herpesvirus inclusions in hepatocytes and esophageal epithelial cells. The disease did not affect one Ancona duck and chickens cohabiting the premise. In addition, *Salmonella* group B contributed to the hepatitis and was isolated from an intestinal pool. DVE is an acute, highly contagious disease of ducks, geese, and swans of all ages and it is characterized by sudden death and high mortality (particularly among older ducks). Muscovy ducks are especially susceptible to the disease.

Trichomoniasis and systemic amyloidosis were diagnosed in three **finches** submitted for necropsy from an aviary experiencing high mortality. The three finches had chronic, variably severe **esophagitis and/or ingluvitis** (inflammation of the crop) with trichomonads that were confirmed by IHC within the lesions. The three finches also had variably severe amyloidosis involving the liver, spleen, kidneys and/or intestinal tract. Amyloidosis in all species is usually attributed to an underlying chronic infectious process. Amyloidosis in ducks and finches is common and there also may be a genetic predisposition.

Help is available if you suspect a pet food or livestock feed problem

The FDA's Center for Veterinary Medicine partnered with state diagnostic laboratories approximately four years ago to form the **Veterinary Laboratory Investigation and Response Network (VetLIRN)**. One of the missions of the VetLIRN is to promote human and animal health by investigating potential problems with animal feeds and drugs. State diagnostic laboratories, including CAHFS, have been given additional resources to provide diagnostic testing when requested by the FDA-CVM. CAHFS has averaged approximately one case per month over the last 18 months. Most cases have been related to pet food for dogs, but the program also investigates livestock feed-related events. The most recent case submitted to CAHFS involved **acute hepatic and renal failure** in a 13-week-old Boxer puppy approximately 24 hours after being given an all-natural pet treat. Despite intensive treatment, the puppy died and was submitted to CAHFS for necropsy. The postmortem revealed massive hepatic necrosis, generalized pallor, icterus, severe gastrointestinal tract edema and bleeding, severe acute renal tubular necrosis and pulmonary edema. As a result of the necropsy findings, exposure to a hepatotoxic and nephrotoxic chemical was considered likely. A diagnosis of **toxic mushroom ingestion** was made based upon the detection of α -amanitin in the kidney of the dog. α -Amanitin is the toxin found in several genera of toxic mushrooms including *Amanitin* sp. In this case, a thorough investigation ruled out the pet food as the source of the problem. Veterinarians should visit the FDA-CVM website, www.fda.gov/AnimalVeterinary, and follow the links for initiating a complaint if suspecting a pet or livestock feed related problem. If experts at the FDA-CVM determine that there is sufficient evidence to implicate a pet food or livestock feed, they will initiate an investigation at no cost to the animal owner. The California Department of Food and Agriculture should also be notified in suspected cases of livestock feed contamination.