



**UC DAVIS**

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

# CAHFS CONNECTION

March 2014

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## Holiday Schedule

CAHFS will be open but will have limited services on **Friday, March 28, 2014** in observance of Cesar Chavez day.

Please contact your laboratory to plan your testing needs accordingly.

## Bovine

**Vitamin A deficiency** was diagnosed in a full term fetus from a heifer in a beef herd experiencing term abortions and weak non-viable neonates. The fetus was **small** for its gestational age and the **skull was thickened**. The fetal liver and dam serum had no detectable vitamin A. Vitamin A deficiency is observed in cattle that do not receive sufficient green forage in their diet and is most common in pregnant heifers. Serum and liver for testing should be kept cool and out of direct sunlight.

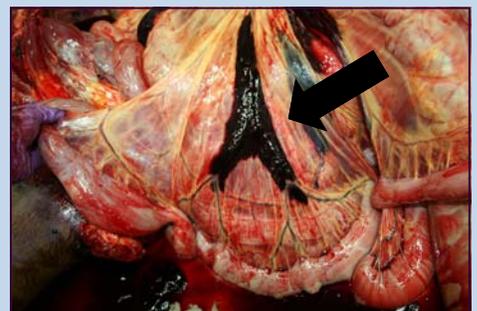
**Copper toxicosis** caused severe **liver necrosis** in 4-month-old Jersey heifers that were depressed and down. Two of three affected heifers were submitted. Several others had died over two months. The only necropsy findings were an enhanced reticular pattern in the liver and marked edema of the mesoduodenum and liver hilus. Liver and kidney copper levels were toxic at 290-310ppm and 25-34ppm respectively. Testing of potential sources was not performed.

Sheep associated **Malignant Catarrhal Fever** produced by Ovine herpes virus type 2 (OHV-2) was diagnosed in a 10-month-old male bison from a group of 40 animals. The animal died after a few days with **bloody diarrhea**. MCF lesions consisted of enterocolitis and vasculitis. The intestine was positive for OHV-2 by PCR. The owner had lost eight bison of suspected MCF, over seven years. The property was 200 yards from a sheep ranch. Most sheep are healthy carriers of OHV-2 and studies have shown that MCF mortality rates in bison herds correlate with distance from feedlot lambs: 1.6 km (17.5%), 4.2km (6.1%) and 5.1 km (0.43%).

**Anaplasmosis** was diagnosed in four, 18-month-old beef cattle in a California feedlot 18-25 days after arrival from an out-of-state feedlot. **Icterus, anemia**, enlarged spleen, centrilobular liver necrosis and visible organisms in red blood cells on special stains were found in all four animals. Three of these animals from which serum was obtained were seropositive. Testing of the rest of the group revealed 21% of the animals were seropositive. It is suspected that the *Anaplasma* infection spread to naïve animals from a carrier animal during processing at the source feedlot.

## Equine

**Perivascular hemorrhages** affecting multiple **arteriolar branches of the cranial mesenteric artery** leading to accumulation of a large amount of blood in the abdominal cavity and death during or immediately after exercising, was diagnosed in four (three Thoroughbred and one Standardbred) 4- to 14-year-old male horses. All cases were diagnosed in 2012 and 2013. The similarity in the clinical histories and pathological findings suggest a possible common etiology leading to peracute arteriolar damage. Mesenteric vessel rupture, anticoagulant rodenticide and heavy metal intoxications, and *Strongylus vulgaris* infestation were ruled out; however a specific cause has not yet been identified. Additional investigations are being carried out to better characterize this rare syndrome.



Arrow to site of perivascular hemorrhage in mesenteric vessel which was the source of blood accumulation in the abdominal cavity.

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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](mailto:shlein@ucdavis.edu).

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### Equine cont'd

**Right dorsal colitis**, presumably produced by **non-steroidal anti-inflammatory drugs** (NSAIDs) was diagnosed in a 4-year-old Thoroughbred gelding that was euthanized after 36 hours of **colic**. The horse had been treated with large doses of NSAIDs before the onset of colic. Most frequent causes of equine colitis (i.e. *Clostridium difficile*, *Clostridium perfringens*, *Salmonella* spp. and intestinal parasites) were ruled out. A diagnosis of NSAIDs colitis is usually based on ruling out other causes of colitis coupled with gross lesions and a clinical history of NSAIDs treatment.

### Small Ruminant

**Johne's disease** was diagnosed in a 4-year-old Barbados ewe with **chronic diarrhea and weight loss**. At necropsy, the ewe was thin with pale mucous membranes, and most of the small intestine and mesenteric lymph nodes had typical lesions. Johne's disease was confirmed by PCR on feces. Other sheep in the flock can be subclinically infected and experience production losses.

**Pregnancy toxemia** resulted in **anorexia, progressive weakness** and death in an 18-month-old Boer goat doe two weeks before delivery. The doe had severe **fatty liver** due to decreased feed intake from the marked compression of the rumen by the four fetuses in her uterus. *Coxiella* spp. was seen in sections of normal placenta; this was considered to be an incidental finding as no placental lesions were observed.

### Pig

**Circovirus**-induced lymphocyte depletion contributed to the death of three, 10- to 16-week-old pigs on one farm. In addition, one of the pigs had **pneumonia** due to ***Streptococcus suis* and *Haemophilus parasuis***. The second one had ***Salmonella* 4,5,12:i:- septicemia** and the oldest pig had ***Salmonella* 4,5,12:i:- and *Lawsonia intracellularis*** enterocolitis causing diarrhea and weight loss.

### Poultry

***Mycoplasma gallisepticum* (MG) and *Mycoplasma synoviae* (MS) infections and ricketts** were diagnosed in a flock of 4-week-old backyard chickens with severe respiratory problems, slow growth, and increased mortality. At necropsy, the thoracic air sacs, turbinates and infraorbital sinuses had exudate, and the leg bones were soft. MG and MS infections were diagnosed by PCR. Histopathology revealed lesions consistent with ricketts due to phosphorus deficiency.

**Inclusion body hepatitis (IBH)** caused by **group I adenovirus** was diagnosed in several seven to eight week-old turkeys in a flock of 8,000 birds, which had a history of increased mortality. The **livers** in the turkeys were diffusely enlarged with **pale foci** of necrosis, inflammation and basophilic intranuclear inclusions in hepatocytes scattered throughout. IBH is very rare in turkeys but common in chickens.

### Other Avian

***Trichomonas***-induced severe ulcerative **esophagitis and ingluvitis** and ***Megabacteria***-associated proventriculitis were the causes of lethargy, green diarrhea, loss of weight and eventual death of a 1-year-old female **Budgerigar**. *Trichomonas* infection is rare in psittacines.

**Strychnine toxicosis** was the cause of death of five blackbirds necropsied from a group of approximately 32 dead **blackbirds** found in a residential area. The birds were in good nutritional condition; oat and milo seeds with some pale green to turquoise discoloration were found in the proventriculus. Strychnine was found in proventricular contents of three birds tested for this substance. Strychnine formulations are often treated oat and milo seeds that are dyed, and in California are labeled only for use to control gophers and for placement underground.

**Leg bone deformity (knock-kneed)**, was diagnosed in 9-week-old **Guinea fowls**. The main deformity was in the tibiotarsus bone, which was curved outward [valgus deformity] at the proximal to mid-shaft sections of the bone. The gastrocnemius tendon was displaced laterally due to the deformation. This type of deformity has been associated with genetic, nutritional, and management factors.