



UC DAVIS

VETERINARY MEDICINE

California Animal Health and Food Safety Laboratory System

CAHFS CONNECTION

LEADING DIAGNOSTICS NATIONALLY, PROTECTING CALIFORNIA LOCALLY • OCTOBER, 2016



Inside this issue:

- Bovine
 - Bovine viral diarrhea
 - Jejunal ascarid impaction
- Equine
 - Congenital heart defects
- Camelid
 - Pulmonary squamous cell carcinoma
- Pig
 - Swine dysentery and Trichuris suis
- Small Ruminants
 - Copper toxicity
- Poultry & Other Avian
 - Avian pox
 - Fowl cholera
 - Necrotic enteritis
 - Infectious laryngotracheitis

As first mentioned in the August 2016 issue of CAHFS Connection, starting October 1, 2016 a \$20 necropsy fee will be charged for backyard flock cases consisting of 1-2 chickens, turkeys, squabs or waterfowl from flocks with less than 1,000 birds. Contact your local laboratory if you have any questions.

Bovine

Bovine viral diarrhea virus (BVDV) hemorrhagic syndrome was diagnosed in a 2-month-old beef calf submitted for necropsy. This animal originated from a herd in which two calves had died over four days, while another one was lethargic and bleeding from the nose. The submitted calf had hemothorax and hemorrhages in all organs. Tissues from this animal tested positive for BVDV by PCR. Testing for anticoagulant rodenticides was negative. BVDV infection has been associated with thrombocytopenia and bleeding disorders in cattle, although this has rarely been seen in California.

Jejunal ascarid impaction leading to volvulus resulted in the death of a 2-month-old American bison heifer that died shortly after being observed lagging behind the herd. The abomasum and the affected segment of small intestine proximal to the volvulus contained very large numbers of adult ascarids, and the intestinal tract distal to the volvulus contained only a small number of these parasites. Heavy loads of ascarids can be a clinical problem in American bison; *Toxocara vitulorum* has been the ascarid identified in bison herds in North America.

Equine

Multiple **congenital heart defects** were detected in a newborn Arabian foal that died 10 hours after birth with evidence of low blood oxygen. The foal had severe congenital heart defects consisting of pulmonary valve stenosis, right ventricle hypoplasia and right atrial dilation. The lungs were collapsed and the liver had centrilobular congestion and necrosis from right heart failure.

Camelid

Pulmonary squamous cell carcinoma was the cause of severe intra-airway bleeding and asphyxia in an adult alpaca. The animal had a bulging, non-healing, round chest mass between the front legs and was found dead. The chest mass was consistent with a severely infected squamous cell carcinoma, which originated in the right cranial lung lobe, invaded and replaced part of the thoracic wall (including the sternal bone), expanded the subcutaneous tissue of the chest and created a few skin ulcers. Another alpaca had been diagnosed with a pulmonary squamous cell carcinoma on the same premise a couple of months earlier.

Pig

Swine dysentery and Trichuris suis co-infection was diagnosed in two pigs from a ranch, where 20 animals had died and 47 more were sick, out of 390 pigs.

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Pigs developed bloody diarrhea 30 days post-weaning and died 1-5 days after first showing signs. Superficial necrotizing colitis was seen in both pigs submitted, associated with *Trichuris suis* infection. Silver stains demonstrated large numbers of spirochetes deep in the crypts and penetrating the mucosa and submucosa consistent with *Brachyspira hyodysenteriae*, the etiological agent of swine dysentery.

Small ruminants

Copper toxicity was diagnosed in three brush control goats submitted for necropsy from a herd of 600 head, in which 75 goats had died two days after moving from a field with a copper mine. Goats were treated with a dewormer, and injected with multi-mineral mix. All three goats had centrilobular hepatic necrosis. Liver copper levels were not in the toxic range but kidney copper was high and considered toxic. Several plants submitted with the goats were examined, but none of them are known to cause the lesions seen. The feed supplement and injectable multi-mineral mix were tested and determined to be within the stated ranges for the products. Toxic doses of copper for goats are not well defined and may depend on the copper salt form. The dose administered to some of the goats (the same dose was used for all goats weighing 70-100 lbs) was near the dose of copper EDTA that caused high mortality in calves in the past. One week post-injection, 111 goats had died.

Poultry and Other Avian

Poultry poxvirus infections. During August and September, numerous avian poxvirus infections were identified in pheasants and backyard chickens. Individual birds had lesions of proliferative dermatitis and conjunctivitis (dry pox) and/or stomatitis and pharyngitis (wet pox). Affected sites had typical lesions of avian pox including large eosinophilic intracytoplasmic viral inclusions.

An unusual case of **fowl cholera** was diagnosed in 18-week-old tom turkeys with a history of difficulty walking, recumbency and increased mortality, but no respiratory signs. Necropsy of eight turkeys revealed severe keel bursitis and synovitis of the hock joints. *Pasteurella multocida* was isolated from several joints. Typically fowl cholera is a respiratory disease in turkeys, characterized by severe pneumonia.

Necrotic enteritis occurred in a small backyard chicken flock experiencing multiple deaths. Submitted hens were pale with red distended proximal small intestines filled with hemorrhage and fibrinonecrotic material. Histologically the affected intestine was hemorrhagic and necrotic with numerous bacterial rods compatible with *Clostridium* spp., and coccidia stages.

Infectious laryngotracheitis (ILT) cases were seen with increased incidence in broiler chickens between 22 and 61-days-old. Typically, the chickens exhibit severe respiratory distress with open mouth breathing, lacrimation and increased mortality. Gross and histological lesions consist of severe laryngitis, tracheitis, bronchitis, sinusitis and conjunctivitis associated with syncytia containing intranuclear viral inclusion bodies. ILT was confirmed in most cases by fluorescent antibody test and PCR.

