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Holiday Schedule

CAHFS will be closed on Monday, **February 18, 2013** in observance of President's Day.

Please contact your laboratory to plan your testing needs accordingly.

Bovine

***Salmonella* Dublin infection** caused **fever, respiratory distress and diarrhea** in a group of 3- to 4-month-old Holstein calves of which approximately 10 percent died over one week. Animals had a poor response to treatment for pneumonia. Gross examination of the dead animals revealed discolored, swollen, wet lungs, and swollen livers and spleens. Some animals were icteric and many had severe enterocolitis with pseudomembranes and fibrin casts in the intestine. *Salmonella* Dublin was isolated from lung and intestine. Most *Salmonella* Dublin infections occur in 30 to 90 day old calves but can be seen as late as 8 months of age.

Infectious bovine rhinotracheitis (IBR) caused multiple **abortions** in Holsteins on two dairies, one of which involved first calf heifers; and in Angus crossbred first calf heifers on a beef ranch. Four of five fetuses submitted were 7.5-8 months gestation and one was 6 months. Microscopically, lung and liver lesions were seen in all fetuses, with spleen, kidney, adrenal or placental lesions in some. Fluorescent antibody test was positive for bovine herpes virus type 1 (IBR) on lung and kidney.

Equine

Four 6-month-old horses died from **toxic hepatopathy**; two were necropsied at CAHFS. The animals were housed in a dry lot, weaned at 4-5 months and from weaning until the time of death they received the same lot of grass hay. The hay was last stand grass hay (cut in August/September). A stallion and a mare that also received the hay had increased liver enzymes with no other signs. The two young horses that were necropsied at CAHFS had chronic hepatopathy with lesions that were classic but not pathognomonic for pyrrolizidine alkaloid (PA) poisoning, but no PA-containing plants were found in the hay and were unlikely to be present due to the stage at which the hay was cut (last cutting). Exposure to aflatoxin can cause similar microscopic changes but no grain or other moldy foodstuff was fed to the horses. Switch grass was found in the hay in which saponins were detected, but it is unknown at this time whether this grass was the cause of the lesions and mortality in this group of horses.

Pyrrolizidine alkaloid (PA) toxicosis from exposure to *Senecio vulgaris* (common groundsel) caused **liver failure** in a Quarter horse mare. The mare and her pen mate had a 2-3 week history of progressive icterus, depression and anorexia with marked increase of liver enzymes and declining albumen indicative of liver failure. No samples were submitted from the mare's pen mate. Histopathology of the liver of the mare was typical for PA toxicosis. *Senecio* was found in hot spots in the July cutting of hay on the premise. *Senecio* sp., a common weed in hayfields, contains PA which causes irreversible liver damage. In many cases, clinical signs of chronic PA poisoning do not appear for 2-8 months after initial ingestion of PA-containing plants. Neurologic signs ("walking disease") from liver failure may be seen in horses. Once clinical signs are observed, the prognosis is poor.



Did you know *Arcanobacterium pyogenes* has been renamed *Trueperella pyogenes*

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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
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Ovine

Campylobacter jejuni was isolated from late-term fetuses submitted from four separate flocks experiencing up to 10 percent **abortions** in ewes. One flock reported only first time ewes were affected despite vaccination with Vibrio vaccine 4-5 months earlier. All submissions had placentitis and two had one or more fetuses with prominent round (donut-shape) areas of liver necrosis, a finding usually associated with *Campylobacter* spp. infection. *C. jejuni* is the most common diagnosed cause of ovine abortions seen at CAHFS.

Porcine

Bacterial and viral pneumonia caused the death of pigs from three locations. Four, 3-month-old pigs died suddenly with no clinical signs in a group of 350 on one farm. One submitted pig had severe pneumonia due to *Pasteurella multocida* and *Haemophilus parasuis* and concurrent severe whipworm infection. On a different ranch, finisher pigs with fever, cough and high morbidity had **H1N1 influenza**, *Pasteurella multocida*, *Streptococcus suis* and *Mycoplasma hyopneumoniae* identified in the lung. At a third location, 3-week-old nursery pigs with increased mortality and respiratory signs were diagnosed with **PRRS virus** and *Haemophilus parasuis* pneumonia.

Poultry

Possible **zinc toxicosis** was found in 20-day-old Red Ranger chickens experiencing a slight increase in mortality and approximately 10 percent of the birds were smaller than the rest of the flock. On gross exam, the birds had petechial hemorrhages in the proventriculus, moderate to severe **sloughing of the gizzard koilin** layer and sub-koilin hemorrhage. The diagnosis of zinc toxicosis was based on high liver zinc levels at 80ppm (normal range 20-40ppm). Usually pancreatic and thyroid lesions would confirm zinc toxicosis but these tissues were not available for histopathology. Other causes of gizzard erosion such as: adenovirus infection, deficiency of sulfur amino acid or vitamin B6, excesses of copper sulfate, cobalt or exposure to ferrous sulfate were ruled out based on the results of laboratory testing and history.

Other Avian

Fowl cholera was the cause of increased mortality in 10-week-old **pheasants**. At necropsy, moderately **swollen legs and hocks** containing caseous exudate was the most striking and consistent lesion. Swollen and mottled spleens, dark red and mottled livers, dark red lungs, caseous exudate in the bursa of Fabricius, and dark red and edematous testes were also seen in some of the birds. *Pasteurella multocida* was isolated from hock, spleen, and liver where there were also microscopic lesions consistent with septicemia.

Polyomavirus infection caused the death in a 3-month-old Caique that presented to a referring veterinarian in sternal recumbency, dehydrated and in poor body condition. The bird had dilated pupils, lime-green liquid mixed with brownish feces and blood in the droppings, bounding pulses, rapid heart rate, respiratory "clicks" and increased respiratory effort. The bird failed to respond to treatment and died. Tissues from a field necropsy revealed severe multifocal hepatic necrosis and splenitis with numerous intranuclear viral inclusions characteristic of Polyomavirus infection, which was confirmed by immunohistochemistry on liver and spleen sections. Polyomaviruses that infect various avian hosts are morphologically and antigenically similar; however, the clinical presentation, distribution of lesions and epidemiologic effects are different among susceptible species. The disease has been reported in budgerigars, finches and other Psittaciformes. The most common gross lesions in psittacines are skin, subcutaneous and myocardial hemorrhages, enlarged liver and spleen, intestinal hemorrhage, feather dystrophy and ascites.

Please help us—help you! When submitting samples for movement testing, tell us the **planned movement date** so we can ensure that testing is completed on time or notify you immediately if it cannot be done. Some tests can take up to six days, while others are only run at one lab and on specific days. Please allow plenty of time in case a test needs to be repeated.

