

November 2014

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Holiday Schedule

CAHFS will be open, but will have limited service on **Tuesday, November 11, 2014** in observance of Veteran's Day.

CAHFS will be closed on **Thursday, November 27, 2014** in observance of Thanksgiving and will be open from 8 am to 12 noon on **Friday, November 28, 2014** as it is a University of California holiday.

Please contact your laboratory to plan your testing needs accordingly.

New Avian Diagnostician in CAHFS-Turlock

Please welcome Simone Stoute who joined the CAHFS-Turlock lab on October 1, 2014. Dr. Stoute obtained her DVM (2004) from the University of the West Indies, Trinidad. She completed a 2-year Avian Disease Specialist residency in the CAHFS-Turlock laboratory and received Diplomate status by the American College of Poultry Veterinarians. Dr. Stoute then went on to complete her PhD (2012) in molecular virology from The Ohio State University. She joins us from the Cornell University where she served as Director of the Cornell Duck Research Laboratory.



Dr. Simone Stoute

Equine

Pistacia toxicosis was the cause of **intravascular hemolysis** and death in three horses submitted for postmortem examination and diagnostic work up. Five horses had died within a 7-day period. The three horses submitted had pale mucus membranes, ataxia and red urine 24 hours prior to death. Trimmings from *Pistacia* trees (small leaf and large leaf pistachio; *Pistacia atlantica* and *P. terebinthus*, respectively) were piled in the horse's enclosure and clinical signs began after the horses were seen consuming the clippings. All three horses had hemoglobinuric nephrosis. Pyrogallol (a metabolite of gallic acid, one of the toxic principles of *Pistacia*) was identified in the kidneys of two horses. The trimmings of *Pistacia terebinthus* and *P. atlanticus* contained 2.3 % and 6.6%, respectively, of gallic acid; all considered toxic levels. Differential diagnoses for intravascular hemolysis in horses include: heavy metal toxicosis, ingestion of wilted red maple, onions, rape and kale, and leptospirosis, all of which were ruled out except for leptospirosis in one of the horses. The horse in which pyrogallol was not detected was positive for *Leptospira spp.* by silver stains on kidney and serology. This case also demonstrates the importance of evaluating more than one animal in an outbreak with multiple casualties in a herd.

Listeria spp. was the presumptive cause of hemorrhagic and ulcerative **enterocolitis** in a miniature horse that died less than 24 hours after onset of severe diarrhea. A second miniature horse with necrotizing colitis was euthanized after eight days of fever, colic, ataxia and neurological signs. *Listeria spp.* was detected associated with intestinal lesions by immunohistochemistry in both horses. Testing for other common pathogens responsible for enterocolitis of horses was negative and no significant lesions in organs outside the alimentary system, including the brain of the second horse, were seen. *Listeria spp.* is a facultative intracellular, Gram positive rod, which is a ubiquitous and highly adaptable opportunistic pathogen. This microorganism can survive long periods in the environment. *Listeria spp.* is considered a rare cause of intestinal disease in several mammalian species including horses.

CAHFS Lab Locations

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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

Bovine

Nitrate toxicosis resulted in the death of four Angus cows in a herd of 50 that were found dead the morning after making a feed change the night before. The cow submitted had chocolate brown to dark red blood and ocular nitrate level was 110ppm (toxic >25ppm). The two samples of hay submitted had 6.2% and 37% nitrate (consistently toxic levels are those greater than 10%).

Blackleg due to *Clostridium septicum* caused the sudden death of six, yearling Holstein dairy heifers in a pen of 80 heifers. No other pens were affected. All three heifers submitted had subcutaneous edema, muscle emphysema, hemorrhage and necrosis in the muscle of the left rear leg and/or left shoulder and neck. *Clostridium septicum* was isolated from the affected muscle of all three animals. Fluorescent antibody testing was negative for *Clostridium chauvoei*. No precipitating cause was identified.

Small Ruminant

Border disease virus was detected in a premature stillborn lamb. There were no significant gross or histologic lesions in the lamb but the BVDV PCR had a suspect band and molecular testing confirmed the presence of the virus. A second PCR that detects BDV was positive.

Selenium deficiency was the cause of **lateral recumbency** and anorexia in a 3-year-old ewe submitted. There was white streaking in the heart muscle and both heart and skeletal muscle had necrosis. Liver selenium was deficient.

***Mycoplasma mycoides spp mycoides* LC infection** was diagnosed in a kid and an adult female Nubian goat. The kid displayed septicemia with arthritis, pneumonia, nephritis and hepatitis. The adult goat had fibrinonecrotic pneumonia, with a secondary infection with *Biberstenia trehalosi*. In both, *Mycoplasma* sp. was isolated from the lung, and identified as *Mycoplasma mycoides spp mycoides* LC. This agent can cause pneumonia and arthritis in any age goat, septicemia in kids and mastitis in adult does.

Pig

Porcine reproductive and respiratory virus (PRRS) was the sole agent detected in a 4-month-old pig that died 48 hours after the onset of a cough. The lung tissue was diffusely purple color and firm but floated in formalin and there was diffuse tracheitis and hemorrhage. Lung tissue was positive for PRRS virus by PCR. Histopathology, in addition to bronchopneumonia and tracheitis, revealed myocardial necrosis and lymphocyte depletion in the lymph nodes due to PRRS virus. PRRS virus can also cause premature births (7 days early) and abortions.

Poultry and Other Avian

Avian poxvirus caused severe **otitis** externa and media in a backyard flock hen with possible secondary bacterial infection. The specific location of the lesions in the ears is unusual for pox viruses and the reason for this location could not be determined.

Avian Encephalomyelitis virus infection was diagnosed as the cause of trembling, ataxia, circling, lateral recumbency, head tremors, wing walking, unsteady gait and/or inability to stand in multiple flocks in the past two months. Affected birds ranged from 10 days to 10 weeks old. Diagnosis was based on typical histologic changes of meningoencephalitis and neuron changes most severely affecting the brainstem and cerebellum.

An **ovarian carcinoma** was diagnosed in a 17-year old cockatiel that died after several days of depression and respiratory difficulty. Post-mortem examination revealed a large firm and multinodular mass replacing entirely the ovary. Histologically, this mass was found to be an ovarian carcinoma which had also produced metastasis in multiple internal organs, including, heart and liver.