



**UC DAVIS**

**VETERINARY MEDICINE**

California Animal Health and  
Food Safety Laboratory System

# CAHFS CONNECTION

LEADING DIAGNOSTICS NATIONALLY, PROTECTING CALIFORNIA LOCALLY • AUGUST, 2019



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### Virulent Newcastle disease update

Good News! There have been no positive virulent Newcastle disease (vND) results since May 29, 2019. This indicates that there is light at the end of the tunnel.

If you have lost chickens or other birds due to vND, please keep in mind that you can have birds again in the future after a bird-free (fallow) period of a minimum 120 days and release of quarantine. Restocking is prohibited until written notification is received from the state veterinarian granting permission to restock. Please contact the California Department of Food and Agriculture, 866 922-2473, if there are further questions.

Please continue to be vigilant and remember to follow [CDFA's biosecurity guidelines](#) for backyard and pet birds. Extensive surveillance efforts will be performed over the next few months to make sure there are no additional pockets of infection. As part of that effort, everybody is encouraged to submit dead or sick birds to any of the four CAHFS locations.

### Bovine

**Urea toxicosis** was the cause of death in four adult beef cattle from two different premises. One group was composed of 65 Angus and the second group was composed of 18 Angus/Shorthorn cross. About one hour after consuming the same brand of feed, the affected cattle struggled to breathe, developed tremors, bloated and died within two hours after onset of signs. Necropsy on three cows revealed diffuse pulmonary edema. The feed samples submitted for analysis had large numbers of small, round, moist, pearl-like structures suggestive of urea. Urea was not included in the feed ingredients list but toxicology analysis found 28.6-31.2% urea in the feed. Urea in cattle diets should not exceed 3% of the grain ration or 1% of the total ration. In general, the postmortem diagnosis for urea intoxication is challenging, as there are no specific lesions observed. Measuring the ruminal pH may be useful as affected animals usually have a pH over 8.0.

lomatous disease in the thoracic and abdominal cavities; multiple granulomas covered the entire epicardial surface of the heart. Impression smears performed at necropsy revealed many fungal spherules consistent with coccidioidomycosis infection, which was confirmed by histopathology.

*Continued*

### Equine

Disseminated **coccidioidomycosis** caused a month-long history of inappetence, lethargy, weight loss, undulating fever that was refractory to antimicrobial therapy and death in a 3.5-year-old Quarter horse. On gross examination, there was disseminated granu-



## HOLIDAY SCHEDULE

In observance of Labor Day,  
CAHFS will be closed on  
Monday, September 2, 2019



## Lab Locations:

### CAHFS – Davis

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## Pig

### Porcine circovirus associated disease (PCVAD)

caused the death of a 4-month-old Yorkshire cross show pig after 2.5 week period of cough, nasal discharge, dramatic weight loss and fever. On gross examination the lungs failed to collapse and oozed frothy fluid, while the tracheobronchial lymph nodes were enlarged, edematous and hemorrhagic. Histopathology revealed interstitial pneumonia and lymphadenitis, generalized lymphoid depletion, necrosis of kidney and liver, and multiorgan vascular lesions. Fluorescent antibody testing on the tonsil and lung were strongly positive for porcine circovirus. The clinical signs and histologic lesion are consistent with porcine circovirus associated disease (PCVAD), formerly known as post-weaning multisystemic wasting syndrome (PMWS).

## Small Ruminant/Camelid

**Nitrate toxicosis** caused sudden onset of weakness, reluctance to move, and mild stupor in a 6-year-old Suri alpaca in a group of 20 housed together on a ranch with a total alpaca population of 250. The animals received orchard grass hay, beet pulp and “herbs” including caraway, fennel, dill, anise seeds, and basil as a dietary supplement. The attending veterinarian indicated that the blood was chocolate brown suggesting a methemoglobin-causing toxicant. A serum sample yielded 160 ppm nitrates (concentrations in ruminants > 20 ppm is indicative of nitrate toxicosis). Subsequent testing of a variety of feed components detected nitrate concentrations in multiple samples of orchard grass between 2 and 3%. A yearling from this herd had died four days previously with similar signs but no testing was done. Nitrate occurrence in forage can be variable, which can require testing of multiple samples. In this case, five randomly collected samples from several orchard grass hay bales showed consistently high nitrate concentrations suggesting uniform distribution in the hay.

**Disbudding thermal injury** was the cause of death in a 3-week-old Nigerian dwarf goat. The kid had hypothermia and was described as being floppy, shaky, unable to stand and convulsing before death. On postmortem examination there was bilaterally symmetrical, circular, deeply reddened brain lesions corresponding to the round disbudding regions in the cranium. On microscopy the affected regions of the brain cortices demonstrated necrosis and meningeal vessel damage.

A **nasal abscess**, which spread to the brain, caused the death of a 4-year-old Mule ewe in a flock of 100. The ewe was shaking, reluctant to move or stand, and exhibited nervous chewing motions. On gross exam, pus from a 2.5 cm abscess in the caudal nasal turbinates extended through the cribiform plate into the frontal lobes of the brain. *Pseudomonas* spp. and *Trueperella pyogenes* were isolated.

## Other Mammalian

**Tularemia** was the cause of death of a wild rabbit from a property with several dead rabbits found over a few weeks. Gross exam revealed pinpoint white foci in the liver and spleen associated with necrosis. The spleen, liver and lung were positive by immunohistochemistry (liver, spleen), PCR and culture (lung, liver) for *Francisella tularensis*.

## Other Avian

**West Nile virus (WNV)** caused the death of a 10 week old Sun Conure that was found dead. Severe myocarditis was observed microscopically and PCR for WNV was positive. This diagnosis emphasizes the importance of our active monitoring efforts to protect animal and public health.

