UCDAVIS VETERINARY MEDICINE
California Animal Health and Food Safety Laboratory System

CAHFS CONNECTION

LEADING DIAGNOSTICS NATIONALLY, PROTECTING CALIFORNIA LOCALLY • JULY, 2018

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Holiday Schedule

In observance of Independence Day, CAHFS will be closed on Wednesday, July 4, 2018.

Virulent Newcastle disease in California: Update

CAHFS continues working with the California Department of Food and Agriculture (CDFA), USDA and poultry owners to contain and eradicate the outbreak of virulent Newcastle disease first diagnosed in California on May 16. As of June 27, 2018, there have been 28 cases confirmed in Los Angeles and San Bernardino counties. More information is available at the **APHIS website**.

All bird owners should report sick birds or unusual bird deaths through California's Sick Bird Hotline at 866-922-BIRD (2473). Biosecurity remains the key step to prevent spread of this disease. Biosecurity information for backyard flocks can be found on **CDFA's web site**.

CAHFS offers diagnostic services for all avian species. Oropharyngeal swabs and/or sick/dead birds are preferred samples for diagnosis of Newcastle disease. We ask if you are planning to submit samples to the CAHFS- San Bernardino laboratory that you consider the following options in order to reduce the risk of contamination:

1. Submit your sample(s)/carcass(es) via courier when possible. You may contact the laboratory at 909-383-4287 to request CAHFS' FedEx account number in order to take advantage of our reduced rates.

Or, if this is not possible

2. Call the laboratory before coming so instructions can be given on where to deliver your sample(s)/bird(s).

The other three CAHFS laboratories continue receiving samples and carcasses per our regular submission procedures. Please contact any of the four CAHFS laboratories if you need additional information on sample submission.

Bovine

***Clostridium perfringens* type C enterotoxemia** was diagnosed in four of 15, 1 to 7-day-old beef calves. Affected animals died quickly. The small intestine from a 7-day-old Angus calf submitted was dark red grossly and on histology there was diffuse, severe superficial mucosal necrosis and hemorrhage in the small intestine and multifocal lesions in the colon. Gram positive rods were numerous in the lesions. The *C. perfringens* toxin ELISA on the intestinal content of this animal was positive for beta toxin, which is the main virulence factor of *C. perfringens* type C. The age of the affected calves, the pathology and the *C. perfringens* toxins ELISA results are diagnostic for type C enterotoxemia. Similar cases have been observed in several northern California beef herds this spring.

Klebsiella mastitis resulted in the death of five, 3-year-old Holsteins which were dried off at the same time. The cows exhibited hot and firm udders affecting 3 quarters and died within days of dry off. One cow submitted had *Klebsiella pneumoniae* isolated from all 4 quarters. It was assumed that the dry treatment tubes had accidentally been externally contaminated prior to injecting the teat canals.

Continued

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Equine

Multicentric B cell **lymphosarcoma** in the muzzle **and** concurrent **chronic strangles** infection in the retropharyngeal lymph node was diagnosed in a 2-year-old Quarter horse. The farm had an outbreak of strangles a few months before this filly presented with bilateral mucous nasal discharge, mild lethargy, and prominent hard swelling of the rostral maxilla and left rostral mandible. At necropsy, the left retropharyngeal region was obliterated by a chronic abscess from which *Streptococcus equi* ssp. *equi* was isolated. The maxillary and mandibular swellings were masses of neoplastic B lymphocytes resorbing bone and destroying surrounding tissues.

Small ruminants

Tracheal edema syndrome appeared to be the cause of "choke" prior to death in a 3-year-old Hampshire ewe from a flock of 40. At necropsy, the proximal two-thirds of the tracheal mucosa were markedly thickened due to edema and hemorrhage. The lesions are similar to "honkers" syndrome in feedlot cattle where infection, hypersensitivity and trauma to the trachea from feed bunks have been proposed causes.

***Salmonella* Dublin** caused **septicemia** in one kid and **pleuropneumonia** in a second on a goat dairy. Both kids were about 3- to 4-months-old. The septic kid had meningitis, hepatitis, interstitial pneumonia, nephritis and lymphadenitis the same lesions seen in calves. The kid with pleuropneumonia only had a partial necropsy and may have also been septic. The goat dairy was housed near a bovine dairy

Pig

Salmonella group B was the cause of **diarrhea** in 3-month-old pigs from two premises, and septicemia with **sudden death** in a juvenile pig from a third premises recently. Diarrheic pigs had initial fever followed by fluid feces with mucus and blood, and weight loss for 3-5 days, followed by terminal weakness and hypothermia. Pigs from all three sites had various degrees of enterocolitis at necropsy. Pigs from one site had concurrent whipworms and coccidia. The septicemic pig had lung, liver and spleen lesions and *Salmonella* group B was isolated from these organs. All affected pigs submitted also had PRRS virus infections.

Poultry and Other Avian

Aspergillosis was the cause of 40% mortality in 11-day-old Heritage turkey poults. All the birds exhibited depression and some had torticollis, lateral or dorsal recumbency with inability to rise and spread wings. Fungal lesions were found in the air sacs, lungs and brains. Aspergillus fumigatus was isolated from brains, air sacs and lungs.

Frequently asked questions:

What type of swab should I submit for PCR and culture?

For viral PCR testing the preferred swab is a plastic applicator handle with dacron swab. The swab ideally would be placed in <3 ml of BHI broth or Viral transport media. In an emergency, if neither is available, place swab in a sterile tube with a small amount (a few drops) of saline to keep moist. Wooden handles, cotton tips, charcoal and gel media may interfere with results and should not be used. Since VTM and BHI contain antibiotics the same swab is not recommended for bacteriology.

For bacteriology, separate swabs are required in media that does not contain antibiotics. Swab samples can be collected using a culturette with soft fluid pack (Amies or Amies charcoal swabs are preferred to support fastidious organisms; Amies or sterile swabs submitted in saline to prevent drying out are acceptable). Culture and mammalian Mycoplasma PCR can be performed using the same swab; however, Salmonella testing would need a separate swab from other cultures. Sample sites which have minimal bacterial flora (i.e. deep nasopharyngeal swabs, sterile abscess aspirate, or edge of a pinkeye ulcer) provide a greater chance for recovery of the responsible pathogen(s) than those with normal flora (nasal, eyelid, or skin sites). For avian MG and MS PCR, dry swabs with plastic applicator handles submitted on ice are preferred.