



UC DAVIS

VETERINARY MEDICINE

California Animal Health and Food Safety Laboratory System

# CAHFS CONNECTION

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## Update: virulent Newcastle disease in California

Four hundred and nine cases of virulent Newcastle disease (vND) have been confirmed by the United States Department of Food and Agriculture (USDA) between May 15, 2018 and March 22, 2019. Cases occurred in backyard exhibition birds of San Bernardino, Riverside, Los Angeles, Ventura and Alameda counties, and in commercial poultry flocks of Riverside and San Bernardino counties, all within California. One case was also confirmed in Utah County, Utah.

To date only one case has been diagnosed in Northern California (Alameda County, March 13, 2019) on a chicken which was submitted to a veterinary office in Redwood City by a backyard bird owner who lived in Alameda County. Currently, the California Department of Food and Agriculture (CDFA) and the USDA are not aware of any other cases in Northern California, but are very actively investigating. Biosecurity is paramount to prevent spread of vND. Poultry owners are advised that to minimize the risk to their birds, they should follow [CDFA's biosecurity guidelines](#) for backyard and pet birds.

If you suspect that your own birds may have vND, do NOT submit the birds directly to CAHFS. Call the **Sick Bird Hotline** at **(866) 922-2473**, where staff can assess vND risk and ensure that the correct samples are collected for diagnosis.

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## Bovine

**Tetanus** was the suspected cause of paralysis in a 3-month-old Angus bull calf that was found down and unable to rise out on pasture. The calf was in lateral recumbency with stiff extension of all four limbs ('sawhorse' stance), wide eyes, and had slight prolapse of the third eyelid. Necropsy examination revealed fluid, fibrin and adhesions throughout the abdominal cavity associated with a subacute, complete and open fracture of the last left rib with protrusion of sharp bone edges into the abdomen. There were large numbers of gram-positive bacterial rods in the overlying skin and muscle. The muscle lesions are most consistent with a diagnosis of gas gangrene caused by several different clostridial species. *Clostridium tetani* is the etiological agent of tetanus; this microorganism can enter the body through a wound in the skin or mucosa. The clinical signs of tetanus are caused by a neurotoxin that blocks inhibitory impulses to the muscle leading to spastic paralysis and muscle rigidity as seen in this calf. Clostridial infections can be prevented by vaccination.

**Salmonella Newport** caused watery and **bloody** diarrhea, and anorexia in Holstein cows at all stages of lactation; 30 cases a day occurred over a 2-day period. *Salmonella enterica* serovar Newport was isolated from 14 out of 14 fecal samples submitted. Diarrhea in the herd resolved a week later after therapeutic treatment.

## Equine

**Cauda equina syndrome** caused sudden onset of hind limb weakness in an aged miniature mare. The condition was refractory to corticosteroid treatment and after three days, euthanasia was elected. Grossly there was only a small area of hemorrhage in the lumbar spinal meninges, and marked distention of the urinary bladder, which also had multifocal hemorrhages. Microscopically there was inflammation in the most caudal portion of the cauda equina.





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## Small Ruminant

**Traumatic brain injury and secondary bacterial meningitis** caused the death of a 4-week-old Boer crossbred goat kid. The kid was initially circling, and then progressed to having frequent seizures over a 2.5-week period. Necropsy revealed bilateral cortical necrosis underneath the horn debudding sites, cerebellar herniation and meningitis. *Trueperella pyogenes* was isolated from the meninges. The kid was also severely copper deficient (1.8ppm, normal 25-150ppm).

**Nasal carcinoma**, which was PCR positive for enzootic nasal tumor virus, was diagnosed on a biopsy from a 2.5-year-old Dorper ewe with a 3-week history of raspy breathing, and 3-day history of bloody discharge from the left nares. The submitting veterinarian had found bilateral nasal masses clinically.

## Pig

**Viral and bacterial bronchopneumonia** and *Streptococcus suis* septicemia caused sudden death in eight, 2-week-old piglets out of a litter of 13, in a 2-3 day period. Gross findings consisted of bronchopneumonia in the two piglets submitted. Histopathologic examination revealed bronchopneumonia in both piglets, and meningoencephalitis with gram-positive cocci in one of them. *S. suis* and *Pasteurella multocida* were isolated from the lungs of both piglets. *S. suis* was also isolated from the liver of the piglet with meningoencephalitis. Swine influenza virus (H1N1 & H3N2) and porcine respiratory and reproductive virus were also detected by PCR in both piglets.

## Wildlife

**Coccidioidomycosis** was diagnosed in a San Joaquin kit fox and a coyote with pyogranulomatous pneumonia. **Canine distemper virus** was detected by immunohistochemistry in the tissues of both animals, indicating concurrent immunocompromised status.

## Poultry

**Necrotic enteritis** was diagnosed in 28-day-old broiler chickens submitted for increased mortality (80 chickens/day). At necropsy, dilated intestinal segments with severely thickened and irregular intestinal mucosa was noted. Small to moderate numbers of coccidia oocysts were detected by direct observation of intestinal mucosal scrapings. *Clostridium perfringens* was isolated from the affected intestine.

**Northern fowl mites** resulted in anemia and death of a 3-year-old backyard flock rooster. The entire body of the rooster was covered with pinpoint black mites at the feather base.

**Fowl pox** was diagnosed in 23-day-old brown broiler chicks from a flock of 17,500, experiencing mortalities of up to 60 birds a day. Examination of 10 poults revealed numerous grey crusty nodules of about 5-8 mm in diameter on the skin of the face, eyelids, comb, wattles and neck. Many birds were blind due to the involvement of the eyelids. Subsequent mortality reached 100 to 500 birds per day. Fowl pox was confirmed by finding characteristic eosinophilic intracytoplasmic viral inclusion bodies by histopathology

Severe **omphalitis** (inflammation of the navel), ruptured yolk sacs and nephrosis due to severe dehydration were the cause of increased mortality in day-old turkey poults from a flock of 20,000. Necropsy of eight poults revealed enlarged and dark navels, watery brown fluid in the abdominal cavity and pale and enlarged kidneys with increased urates.

