



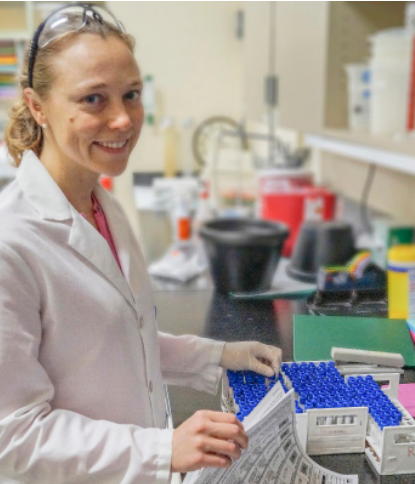
UC DAVIS

VETERINARY MEDICINE

California Animal Health and Food Safety Laboratory System

# CAHFS CONNECTION

LEADING DIAGNOSTICS NATIONALLY, PROTECTING CALIFORNIA LOCALLY • AUGUST, 2022



## Highly pathogenic avian influenza in wild birds in California

During July, **highly pathogenic avian influenza (HPAI) virus H5N1** was detected in wild birds from Colusa, Glenn and Sonoma counties, California. The affected birds included several Canada geese and an American white pelican. The samples were submitted by the California Department of Fish and Wildlife (CDFW) and the US Fish and Wildlife Service (USFWS) as part of their routine surveillance and mortality investigation, and the diagnoses were made by CAHFS and the National Wildlife Health Center, and subsequently confirmed by NVSL.



Canada geese. Photo: CDFW

The strain detected in these cases, and currently circulating elsewhere in the US and Canada, has been causing illness and death in a higher diversity of wild bird species than during previous HPAI outbreaks. The virus is also highly contagious for domestic poultry. Fortunately, so far there are no confirmed cases of HPAI in domestic poultry in California.

CDFW and USFWS, in coordination with its partners, including CAHFS, continue monitoring wild bird populations for signs of illness and investigating mortality events. The public may report dead wild birds using CDFW's [mortality reporting form](#). An [informational flyer](#) addressing frequently asked questions is available on CDFW's website. Practicing biosecurity is the most effective way to keep domestic poultry and pet birds healthy. Please visit the [California Department of Food and Agriculture](#) (CDFA) and United States Department of Agriculture websites for biosecurity information. Sick and dead poultry should be reported to the CDFA hotline at 1 866 922-2473.

## Equine

Systemic *Halicephalobus gingivalis* infection was diagnosed in a 20-year-old Quarter Horse gelding with a history of vision loss, head tilt, and being found down in the stall. On postmortem examination, multiple, well-demarcated, wedge-shaped areas of yellow/tan discoloration were noted in both kidneys. Histology revealed severe, multifocal, granulomatous myocarditis and nephritis with numerous intraleisional nematodes consistent with *H. gingivalis*. This parasite is a free-living nematode that inhabits decaying organic matter and is found commonly in soil, water, and manure. Infections are sporadic and have been described in horses and humans.

falling prior to death despite supportive and antibiotic treatments. Necropsy revealed scant liquid feces in the colon, and numerous coccidia were detected on histopathology and a McMasters fecal exam.

## Bovine

**Coccidiosis** was diagnosed in a yearling male Wagyu with a 2-day history of depression, staggering, diarrhea and



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# UC DAVIS

## VETERINARY MEDICINE

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**Oleander toxicosis** caused the death of an 11-month-old Holstein heifer from a group of 30 in which no other animals were affected. There were severe hemorrhages in the heart, predominantly on the right atrial endocardium, and moderate reddening of the abomasal mucosa. Histopathology confirmed acute cardiac necrosis and abomasal erosions, both compatible with the action of oleandrin, the toxic principle of *Nerium oleander*. Oleandrin was detected in the rumen contents.

### Small Ruminant

**Pyelonephritis** resulted in peritonitis in a 3-year-old Southdown ewe being treated for a suspected reproductive tract infection for over two weeks. The ewe was lethargic and weak, and had a swollen vulva and reduced feed intake prior to death. On necropsy, the peritoneal cavity contained abundant cloudy red fluid. The left kidney capsule was lacerated and there was pus and hemorrhage extending into the retroperitoneal space and fat. Bilateral renal infarcts, dilated ureters and cystitis were also evident. *Trueperella pyogenes* and *Escherichia coli* were isolated from the kidney, peritoneum, lung and uterus. *Clostridium perfringens* was also found in the kidney.

### Pig

**Exsanguination from a gastric ulcer** caused the death of a 2-year-old sow. The week before death, the sow was reluctant to stand, eat or drink, and had not returned to normal feed consumption post-farrowing. On necropsy, a significant amount of clotted blood filled the stomach. The source of the gastric bleeding was a large ulcer on the squamous portion of the stomach. The liver and kidneys were very pale and the lungs were edematous, which are findings consistent with anemia. The main risk factor associated with the development of gastric ulcers in pigs is feeding finely ground feed. Other possible factors are disruption in feed intake associated with illness, hot weather, or management errors that lead to empty feeders.

### Poultry

**Infectious laryngotracheitis virus (ILTV)** caused **conjunctivitis** in a group of 6.5-week-old pullets from a house experiencing 1.25% mortality. The birds were positive for ILTV by PCR four days after the administration of a combined Newcastle disease and infectious bronchitis virus vaccine. Histologically, there were syncytial cells and herpesviral inclusions in the eyelids; these changes are consistent with infection by ILTV, which was also detected via immunohistochemistry. In addition, the birds were positive by PCR for avian paramyxovirus-1, which occasionally occurs if sampling is done shortly after vaccination against Newcastle disease.

**Fowlpox** was diagnosed in a large group of backyard chickens experiencing a marked drop in egg production and loss of about 20% of the flock. On postmortem examination, there was severe thickening, roughening and a raised cobblestone appearance of the skin overlying the entire face with mild subcutaneous edema. Similar skin changes were present on the undersides of the wings. Microscopic changes in the skin were compatible with fowlpox and included the characteristic intracytoplasmic eosinophilic inclusion bodies. PCR testing confirmed the presence of fowlpox virus.

**\*NOTE: CAHFS has seen an increase in leaking samples over the last few months. To avoid processing delays, please ensure that the submission forms are protected from moisture by enclosing them in a Ziploc/waterproof bag.**

