



UC DAVIS

VETERINARY MEDICINE

California Animal Health and Food Safety Laboratory System

CAHFS CONNECTION

LEADING DIAGNOSTICS NATIONALLY, PROTECTING CALIFORNIA LOCALLY • APRIL, 2018



Avibacterium paragallinarum real-time PCR assay available

Infectious coryza is a disease that can affect chickens at any age or state of production. Clinical presentation usually involves upper respiratory symptoms, although it has been seen associated with systemic signs and mortality. *Avibacterium paragallinarum*, the causative agent of infectious coryza, is notoriously difficult to culture and requires enriched media, extended incubation time, and specialized confirmatory tests to identify. CAHFS has validated a real-time PCR assay that can be performed directly on swabs or tissues and which has increased sensitivity and specificity over culture methods. This assay can also be used on samples that may contain other bacterial organisms and decreases the time needed to identify *A. paragallinarum* in a flock. *A. paragallinarum* was recently detected in backyard flock chickens without evidence of disease suggesting a carrier state may exist.



Inside this issue:

- ***Avibacterium paragallinarum* real-time PCR assay**
- **Horse**
 - *Streptococcus equi* ssp. *equi*
- **Bovine**
 - Frothy bloat
 - Actinomycosis
 - Anaphylaxis
- **Small Ruminant/Camelid**
 - *Yersinia pseudotuberculosis* enterocolitis - goat
 - *Mannheimia haemolytica* abomasitis- sheep
 - Perforated pyloric ulcer- alpaca
- **Pig**
 - Erysipelas
- **Poultry/Other Avian**
 - *Streptococcus gallolyticus* septicemia - turkey
 - Lymphoid leukosis - chicken
 - Avian cholera - waterfowl

Horse

Streptococcus equi* ssp. *equi internal abscesses were found in a 9-month-old colt in a herd treated for strangles. After a course of antibiotics and a 60-day quarantine period, the colt was eating and acting fine but developed undulating fever and a warm spot over the right hip. Following euthanasia, the colt was found to have abscesses within the retropharyngeal lymph nodes and mesentery, and peritonitis. *S. equi* subsp. *equi* was isolated from all abscesses.

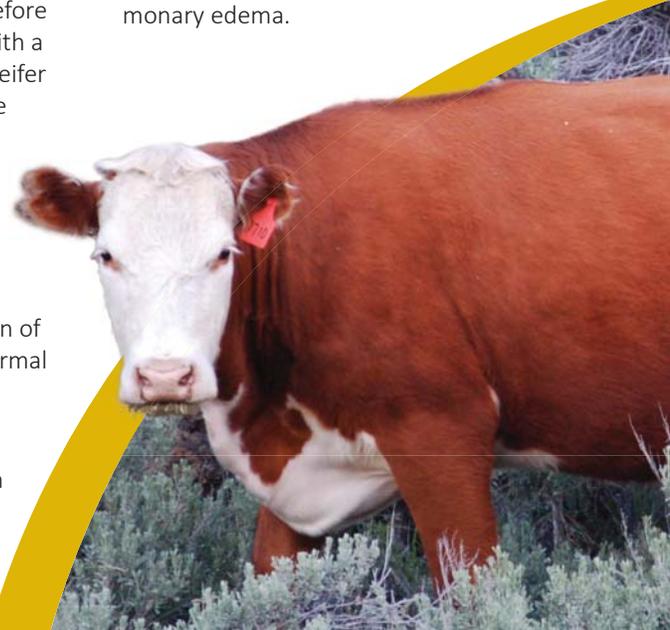
Bovine

Frothy bloat caused the death of an 11-month-old Angus heifer found down and bloated soon before death. An attempt to decompress the bloat with a percutaneous needle was unsuccessful. The heifer was on a pasture with fresh regrowth after the recent northern California wildfires, where another five cattle were found dead. The heifer had a markedly distended rumen filled with abundant, frothy, green ingesta. Within the esophagus at the level of thoracic inlet a clear and well demarcated “bloat line” was observed. Frothy bloat is the accumulation of gas trapped in a stable foam which inhibits normal rumination and eructation of gas.

Actinomycosis was the cause of mandibular osteomyelitis and cellulitis in an adult Holstein cow from a 1,000 head herd, with a history of 50-75 cows exhibiting jaw masses.

On postmortem examination there was a 30 cm firm mass involving the left mandible and surrounding tissue which communicated with 2 and 5 cm diameter oral ulcers with embedded feed. Numerous pinpoint sulfur granules were seen on cut section. Histologic lesions were typical of actinomycosis and *Actinomyces* spp. was isolated from the lesions. Local lymph nodes were markedly swollen and hyperplastic.

Anaphylaxis was the cause of death in a 3-week-old Holstein calf that developed heavy breathing and foaming from the nose and mouth followed by death within one hour after vaccination with an autogenous bacterin. At necropsy there was diffuse pulmonary edema.



Toxicology Residency

CAHFS-Toxicology is accepting applications for its 3-year residency program. More information is available at www.cahfs.ucdavis.edu



UCDAVIS

VETERINARY MEDICINE

California Animal Health and
Food Safety Laboratory System

Continued

Small Ruminant/Camelid

Yersinia pseudotuberculosis enterocolitis caused the death of three adult does from separate premises in February. Affected animals had watery diarrhea for three to seven days before death. Gross exam revealed thickening of the intestine and the affected mucosa was red and roughened or it was covered by a pseudomembrane. Enlarged mesenteric lymph nodes were found in two of the does. One goat had become septic with *Yersinia*. Typical histologic lesions were seen in the intestine and the organism was isolated from the intestine in all three goats, lymph node of two and lung and liver of one. Concurrent problems included copper and selenium deficiency and gastrointestinal parasitism.

Mannheimia haemolytica abomasitis and polyserositis caused the sudden death of a lamb. At necropsy the abomasum wall was diffusely thickened, firm, edematous and showed serosal hemorrhages and dark red-brown mucosa with hemorrhagic folds. The lumen contained dark red fluid and roughage and there was unilateral mild pleuritis, localized pericarditis and histologic peritonitis. *Mannheimia haemolytica* was isolated in moderate to large number from the abomasum and pleura. Abomasal histopathology revealed submucosal lesions typical of those caused by *Mannheimia haemolytica*.

Perforated pyloric ulcer caused the death of a male, 8-month-old alpaca that died within a day of presenting with colic and weakness. The large pyloric ulcer had perforated and the peritoneal, pericardial and thoracic cavities contained fibrinous and watery exudate demonstrating systemic involvement and septic shock. The distal third compartment of the stomach, predominantly the pylorus, is prone for ulcers in alpacas and occasionally perforate causing death.

Pig

Erysipelas was identified as the cause of sudden death without previous signs in two, 8-week-old Berkshire gilts. The spleens were grossly enlarged and the lungs were congested. Histologic

changes consisted of leucocytosis and fibrin thrombi. *Erysipelothrix rhusiopathiae* was isolated in pure culture from several organs.

Poultry and Other Avian

Streptococcus gallolyticus septicemia was the cause of increased mortality with enlarged dark spleens reported on field necropsy in turkeys on seven different ranches in the first three months of 2018. Affected birds ranged from 6-31 days of age. Necropsy at CAHFS most consistently found enlarged dark spleens which on histopathology had necrosis and/or congestion. The organism was isolated from spleen and liver most often but also joint, air sac and yolk sac in some cases.

Lymphoid leukosis (LL) was diagnosed in three, 1-year-old roosters from a backyard flock of 20 chickens. The roosters were depressed, reluctant to walk and were losing weight. Necropsy revealed pale white tumors in the liver, mesentery, abdominal cavity, intestine, pancreas, spleen and bursa of Fabricius. LL is caused by a retrovirus and the virus is transmitted vertically through the egg to the progeny. Unlike Marek's disease there is no vaccine available to prevent or control LL, but is very rare in commercial chickens.

Avian cholera was the cause of death in two separate bird mortality events in Yolo County over the past month. A Greater egret and a Northern pintail duck from two locations were submitted. Both birds had white pinpoint foci scattered in the livers. These lesions, coupled with a history of large numbers of sudden deaths were highly suspicious for avian cholera caused by *Pasteurella multocida*. Avian cholera is one of the most significant causes of die-offs in wild waterfowl.

Lab Locations:

CAHFS – Davis

University of California
620 West Health Sciences Dr.
Davis, CA 95616
Phone: 530-752-8700
Fax: 530-752-6253
daviscahfs@ucdavis.edu

CAHFS – San Bernardino

105 W. Central Ave.
San Bernardino, CA 92408
Phone: 909-383-4287
Fax: 909-884-5980
sanbernardinocahfs@ucdavis.edu

CAHFS – Tulare

18760 Road 112
Tulare, CA 93274
Phone: 559-688-7543
Fax: 559-686-4231
tularecahfs@ucdavis.edu

CAHFS – Turlock

1550 Soderquist Road
Turlock, CA 95381
Phone: 209-634-5837
Fax: 209-667-4261
turlockcahfs@ucdavis.edu

