

Food Safety Laboratory System

# CAHFS CONNECTION

LEADING DIAGNOSTICS NATIONALLY, PROTECTING CALIFORNIA LOCALLY DECEMBER, 2021



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# WINTER & NEW YEAR'S HOLIDAY SCHEDULE

CAHFS will be open, but will have limited services available on Thursday, December 23 and Thursday, December 30, 2021. Submissions on these days will be received from 8 am- 12 noon.

CAHFS will be closed on Friday, December 24 and Friday, December 31, 2021.

## **California Livestock Antibiograms Available**

Judicious use of antimicrobials to treat bacterial infections is essential to maximize treatment success, minimize the use of ineffective and/or multiple antimicrobials, and preserve the efficacy of currently available drugs. Often times, when a bacterial infection is suspected, antimicrobial therapy is initiated before culture and susceptibility results are available. Antibiograms are important clinical tools to support a One Health approach for improving antimicrobial stewardship, and they can be used by clinicians to guide initial antibiotic therapy and to assess trends in antibiotic resistance.



CAHFS, along with the California Department of Food & Agriculture (CDFA) Antimicrobial Use and Stewardship (AUS) program, has developed clinical antibiograms for livestock. Different from an individual susceptibility report, antibiograms gather cumulative susceptibility results specific to a bacterial organism and host species combination over a designated period of time (generally one year) and for a specific population of animals. The resulting report contains the percentage of isolates tested that are susceptible to a given drug and/or the distribution of minimum inhibitory concentrations (MICs) obtained for each drug. The data presented in the CAHFS antibiograms represent clinical MIC results from samples received throughout the state of California.

Additional information and how to use antibiograms in a veterinary practice can be found on the CDFA AUS website.

If you are a California licensed veterinarian and wish to receive antibiograms as they become available, sign up **here**.

### Horse

Inflammatory bowel disease (IBD) was the suspected cause of colic in a 5-year-old female Thoroughbred horse. The mare was euthanized when pain medication and symptomatic treatment did not resolve the colic. On postmortem examination, there was mild and chronic peritonitis. On histology, the primary finding was extensive lymphoplasmacytic enterocolitis with regions of acute and chronic bleeding. Salmonellosis, clostridial diseases, and parasitic conditions were ruled out. The lesions were reminiscent of IBD in other species. Not much is known about this condition in horses, however, it is a differential diagnosis for non-infectious, lymphoplasmacytic enterocolitis.

### **Small Ruminant**

**Bluetongue virus (BTV)** was diagnosed in 10 sheep flocks with various clinical signs including facial swelling/edema, lethargy, coronary band swelling, lameness, sore-footed, fever over 105°F, nasal discharge, cough, anorexia and

respiratory signs. BTV was detected by PCR on EDTA blood from live animals ranging from 6- months to 8-years-old, and on spleen or lung from five dead animals. Serotype 11 was identified in two flocks and serotype 17 in one of the three flocks that were subjected to serotyping.





California Animal Health and Food Safety Laboratory System

### **Lab Locations:**

### **CAHFS** – Davis

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### **Bovine**

Bovine viral diarrhea virus (BVDV) was the cause of myocardial lesions in a 16-day-old Scottish Highland calf with signs of scours, fever, weakness and heavy breathing. On necropsy, the lungs were edematous and congested, and the liver was swollen. On histology, the heart had necrosis, fibrosis and mineralization, and lung and liver changes were compatible with heart failure. BVDV was detected in the spleen by PCR. Based on the age of the heart lesions this calf was likely infected in utero and was persistently infected. The selenium was below normal but a similar age herd mate also submitted had the same selenium levels without heart lesions and was negative for BVDV.

Polioencephalomalacia caused neurologic signs in several 18-month-old Brangus bulls within 12-18 hours after their grain ration was doubled. One bull was recumbent, had labored breathing and was blind. Several other bulls began staggering, were also blind, recumbent, and non-responsive to stimulus. The first bull to exhibit clinical signs was submitted for necropsy; the brain had multifocal yellow tinged gray matter areas, which fluoresced under UV light. The pH of the rumen was 5.0. This was considered to be a case of polioencephalomalacia secondary to destruction of thiamine-producing bacteria by the ruminal acidosis. The bull submitted was the most "aggressive" eater in the herd. The remaining bulls were treated with thiamine and improved.

### Lagomorph

### Esophageal choke and foreign material aspiration

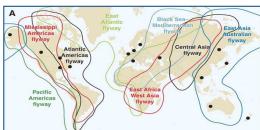
was the cause of death in a 9-month-old, male Lop rabbit with a sudden onset of choking. At necropsy, there was a large bolus of food obstructing the caudal esophagus. Microscopically, plant material was observed in the airways indicating feed aspiration. The rabbit also had gross and histologic evidence of hepatic coccidiosis. This condition, caused by Eimeria stiedae, can occur in either wild or domestic lagomorphs, and is typically subclinical, but in young and immunosuppressed animals it may cause severe illness.

### **Poultry and Other Avian**

Pigeon rotavirus hepatitis was the cause of death in three racing pigeons from various flocks that frequently raced together. No significant gross lesions were observed but histologically there was extensive necrotizing hepatitis and biliary hyperplasia in all three pigeons. Pigeon rotavirus was detected by PCR and the sequencing of the virus confirmed it to be 99.8% identical to the pigeon rotavirus that was detected in California in 2018.

### **Avian Influenza Screening**

CAHFS is proud to be part of the avian influenza virus screening in the Pacific Flyway wildlife again. Just like in previous years, we are testing wild bird samples submitted by Wildlife Services for avian influenza virus. Samples are taken from catch/release birds as well as hunter-killed birds. Monitoring the avian influenza situation in the Pacific Flyway is important for the prediction of future outbreaks in California. The map of the world flyways below shows the 2 'melting pots' (Alaska and Siberia), where multiple flyways overlap and allow the exchange of viruses. By monitoring the Pacific flyway we will gain information of potential dangerous influenza viruses coming from Europe/Asia to the West Coast of North America.



Map provided by Wetlands International

