



UC DAVIS

VETERINARY MEDICINE

California Animal Health and
Food Safety Laboratory System

CAHFS CONNECTION

LEADING DIAGNOSTICS NATIONALLY, PROTECTING CALIFORNIA LOCALLY • FEBRUARY, 2024



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HOLIDAY SCHEDULE

CAHFS will be closed on
Monday February 19, 2024
in observance of
President's Day

CAHFS Tulare Branch

The CAHFS Tulare Branch interim necropsy facility at the Veterinary Medicine Teaching and Research Center (VMTRC) will be closed from Thursday February 1 through Sunday February 4, 2024. We will be completing the final repairs to the VMTRC facility and will have no ability to accept or examine carcasses during this period. We appreciate your patience and understanding and this should be the last interruption to service before we eventually move back to the Alex A. Ardans laboratory that is awaiting repairs. Please call Dr. Cornish (Branch Chief) with any questions [(559) 688-7543].

2022-2023 California Livestock Antibiograms: now available to veterinarians

The California Animal Health & Food Safety (CAHFS) Laboratory System and the California Department of Food & Agriculture (CDFA) Antimicrobial Use and Stewardship (AUS) program have updated livestock antibiograms for veterinarians licensed in California. These antibiograms consist of cumulative antimicrobial susceptibility test (AST) data for specific bacterial/host combinations recovered from livestock samples submitted to the CAHFS lab and are generated from individual MIC tests. They report the percentage of isolates tested that are susceptible to each of the drugs included in the panel.

Often used in human medicine as a critical component of antimicrobial stewardship programs, antibiograms can be utilized by clinicians to target initial antimicrobial therapy in advance of culture and MIC results. They may also be used to assess trends in antimicrobial resistance (AMR) for a particular host-pathogen combination over time. Antibiograms should not replace diagnostic testing as they may not accurately reflect the causative agent or the susceptibility profile in an individual animal. Culture and AST are encouraged when a bacterial infection is suspected and individual patient MICs are essential to create updated annual antibiograms.

The CAHFS Lab currently offers antibiograms to veterinarians for the following: Bovine Respiratory Disease pathogens (*Mannheimia haemolytica*, *Pasteurella multocida* and *Histophilus somni*) small ruminant respiratory disease pathogens (*M. haemolytica* and *P. multocida*); and equine *Streptococcus equi* ssp. *zooepidemicus*.

Antibiograms for additional host species and bacteria may be created as sufficient numbers of isolates become available. This is the first update to the initial 2020-2021 antibiograms released in spring 2022; please refer to these most recent antibiograms for current trends. To assist with evaluating cumulative antimicrobial susceptibility trends over time, antibiograms for 2021-2022 have also been created and are available upon request.

For additional information on antibiograms and how to use them in veterinary practice, check out the following educational materials on the CDFA AUS website:

- [Antimicrobial Selection: Considerations for Veterinarians](#)
- [CAHFS Antibiogram Development Process](#)
- [California Livestock Antibiograms: A User Guide](#)

If you are a California-licensed veterinarian, have not previously registered to receive the antibiograms, and would like to register to receive the antibiograms as they become available, please complete this [livestock antibiograms survey](#). If you received antibiograms in previous years, you do not need to re-register.



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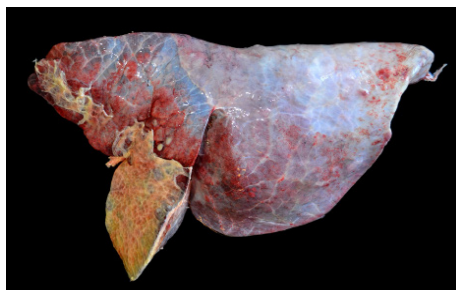
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Bovine

Pneumonia due to *Mannheimia haemolytica*

was the cause of death of a cow that was found dead in the morning without previous signs of illness. Two adult beef cows from a group of 100 died suddenly within a week. Postmortem examination of one of them, a 4-year-old, revealed severe fibrinonecrotizing bronchopneumonia with fibrinous pleuritis. *M. haemolytica* was isolated and no other infectious agent was detected. The cow had severely depleted liver copper concentration (2.1 ppm [reference range 25-100 ppm]). *M. haemolytica* pneumonia is considered common in feedlot cattle as part of the bovine respiratory disease complex. In adult cows, however, fatal pneumonia due to this agent does not occur that often. It is thought that stressors similar to those that predispose to respiratory disease in calves may also play a role in adults. In this case, severe copper deficiency could have acted as a predisposing factor.



Lung with severe fibrinous pleuropneumonia caused by *Mannheimia hemolytica*

Small Ruminants

Pregnancy toxemia was the cause of death of a 2.5-year-old Boer goat doe. The goat went into labor two weeks early, and became vaguely neurologic, anorexic and recumbent before dying. At necropsy, the doe carcass had excessive adipose stores and was pregnant with four large fetuses estimated to be 17 weeks in gestation. The rumen was underfilled with coarse hay, the adrenal glands were enlarged, and the liver was swollen, pale yellow, and a sample of the organ floated in formalin, which is indicative of hepatic lipidosis. Pregnancy toxemia is most common in sheep and goats that either are over-conditioned or markedly under-conditioned during late gestation, and

most often is caused by inadequate nutrition associated with increased energy demands due to pregnancy, and decreased rumen capacity due to the presence of multiple large fetuses.

Avian

Fowl cholera, gangrenous dermatitis and mycoplasmosis were diagnosed in a flock of 10,000, 16-week-old, female, Nicholas **turkeys** which experienced increasing mortality over 5 days with an average of 50 per day. Clinical signs included light cough, recumbency with swollen toes and hocks, and the litter in the house was reportedly wet. Gross findings included subcutaneous hemorrhage with emphysema in the region of the pectoral muscles, severe unilateral pneumonia, multifocal, random hepatic necrosis, and severe fibrinous airsacculitis. Pure cultures of *Pasteurella multocida* were isolated from the lung, *Clostridium septicum* was isolated from the subcutaneous tissue, and, *Mycoplasma gallisepticum* was detected from the trachea via PCR. The ranch had a history of fowl cholera and mycoplasmosis.

Chlamydia hepatitis was diagnosed in a 5-month-old **conure** with no previous history of illness, found dead by the owner. Necropsy was unremarkable, but histology revealed severe hepatitis with intracytoplasmic inclusions. Sections of liver were strongly positive for *Chlamydia* spp. on immunohistochemistry. Avian chlamydiosis is a systemic bacterial infection caused by *Chlamydia psittaci*. This pathogen is zoonotic and can be transmitted by handling infected birds.

