



**UC DAVIS**  
**VETERINARY MEDICINE**  
*California Animal Health and  
 Food Safety Laboratory System*

# CAHFS CONNECTION

December 2011

## Inside this issue:

**Bovine** - Infectious Bovine Rhinotracheitis

**Equine** - Botulism fact sheet

**Equine** - Equine pulmonary silicosis

**Bacterial Isolates**

**Poultry** - Pox

**Small Ruminants** - Most commonly diagnosed causes of abortion

**Toxicology** - Maximize Successful Diagnosis



## HOLIDAY SCHEDULE

CAHFS will be closed on: **Monday, Dec 26th** and **Monday, Jan 2nd**.

We will have only limited services available (submissions will be received from 8 am – 12 noon) on **Tuesday, Dec 27th** and **Friday, Dec 30th**.

Please plan your testing needs accordingly **as some test set ups will be changed or reduced.**

## Bovine

In the past two months CAHFS has diagnosed **Infectious Bovine Rhinotracheitis (IBR) virus** in a group of 9-15 day old Holstein calves from one dairy and a recently fresh 3<sup>rd</sup> lactation Holstein cow from a 2<sup>nd</sup> dairy with a history of yearly IBR vaccination. Two of 3 affected calves and the cow had severe rhinitis. All 3 were positive by PCR on nasal swabs. A calf and the cow also had severe tracheitis. Pneumonia was seen in all 4 and lung was positive by PCR and fluorescent antibody testing (FAT). In addition, IBR was the cause of an outbreak of 6-8 month gestation abortions and early births affecting >12% of 300 primiparous Holstein heifers. Fetuses had severe hepatitis, nephritis and pneumonia. The FAT was positive on lung and kidney of both fetuses tested.

## Equine

A new fact sheet on **equine botulism** is now available on our web site, click [here](#) to review.

**Equine pulmonary silicosis** was reported in the early 1980s in regions of the Carmel-Monterey peninsula due to inhalation of a cytotoxic form of silicate (cristobalite) found in diatomaceous shale geologic formations. Drs. Matt Durham and Coral Armstrong subsequently reported the occurrence of skeletal deformations (bowed shoulder, swayback) in a subset of horses with pulmonary silicosis; however, the nature of the bone disease and potential link with pulmonary silicosis were unknown. Collaborative studies between the U. C. Davis School of Veterinary Medicine and CAHFS have been conducted to investigate the bone lesions, potential link with pulmonary silicosis, and geographic distribution of the disease. Results characterized osteoporosis; documented pulmonary silicosis in most osteoporotic horses; identified cristobalite in pulmonary lesions and thoracic lymph nodes; and extended the geographic distribution to counties where cristobalite was formed by volcanic activity. Future work is planned to further investigate the relationship between cristobalite and osteoporosis, as well as effective means for early detection and treatment of horses affected with the bone disease.

## **Bacterial Isolates**

CAHFS frequently receives requests from veterinarians for bacterial isolates to be maintained and sent to other laboratories. These isolates may be needed for more definitive characterization or autogenous vaccine production. Release of these isolates to the laboratory of your choice requires a CDFA Bacterin Release Form which lists individual case numbers and is signed by both the veterinarian and the owner before the bacteria can be sent out. Please contact the lab as soon as you know that you would like this done so the isolate preparation and paperwork can begin. Not every isolate is stored long term at CAHFS, so to maximize our chance of maintaining viable bacterial agents for your needs it is best to plan ahead for these requests. Contact the biologic vaccine company you plan to use to obtain information on the time needed for vaccine production since these times may vary between firms. Please contact CAHFS with further questions on isolate requests.

## CAHFS Lab Locations

### CAHFS - Davis

University of California  
West Health Sciences Drive  
Davis, CA 95616  
Phone: 530-752-8700  
Fax: 530-752-6253  
[cahfsdavis@cahfs.ucdavis.edu](mailto:cahfsdavis@cahfs.ucdavis.edu)

### CAHFS - San Bernardino

105 W. Central Avenue  
San Bernardino, CA 92408  
Phone: (909) 383-4287  
Fax: (909) 884-5980  
[cahfs-sanbernardino@cahfs.ucdavis.edu](mailto:cahfs-sanbernardino@cahfs.ucdavis.edu)

### CAHFS - Tulare

18830 Road 112  
Tulare, CA 93274  
Phone: (559) 688-7543  
Fax: (559) 686-4231  
[cahfstulare@cahfs.ucdavis.edu](mailto:cahfstulare@cahfs.ucdavis.edu)

### CAHFS—Turlock

1550 Soderquist Road  
Turlock, CA 95381  
Phone: (209) 634-5837  
Fax: (209) 667-4261  
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Your feedback is always welcome. To provide comments or to get additional information on any of the covered topics or services, please contact Sharon Hein at [slhein@ucdavis.edu](mailto:slhein@ucdavis.edu).

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We're on the Web  
[www.cahfs.ucdavis.edu](http://www.cahfs.ucdavis.edu)

## Poultry

**Pox** is an ancient and common disease of birds caused by a virus infection of the *Avipoxvirus* genus, *Poxviridae* family. Many species of birds are susceptible to pox including chickens, turkeys, pet birds, and wild birds. Pox occurs worldwide and is an economically important disease for the poultry industry. Pox happens when avipoxviruses are mechanically transmitted to the injured skin of birds. Blood-sucking insects, mainly mosquitoes, are usually involved in the transmission of pox; therefore, pox is more common during the rainy season. People can transmit pox to birds by handling them without knowing they may carry pox viruses on their hands and clothes. Pox has two main clinical presentations in poultry: 1) encrusted nodular lesions on unfeathered skin of the head, legs, feet, and toes, and 2) raised plaques (diphtheritic form) in the mucosa of the upper respiratory and digestive systems. Cutaneous pox, which is the most common presentation, can occur separately or concurrently with the diphtheritic form. Occasionally, pox may occur in feathered skin areas (*Avian Dis.* 54:1316-1318, Senties). Typical pox gross lesions must be confirmed by histopathology, direct electron microscopy, or viral isolation.

## Small Ruminants

The three most commonly diagnosed causes of **abortion** in sheep and goats at CAHFS are ***Campylobacter jejuni***, ***Chlamydophila*** and ***Coxiella burnetii***. All three organisms cause placentitis but only *Campylobacter* can be consistently recovered from the fetus (abomasal fluid and lung). *Chlamydophila* and *Coxiella* may only cause placental lesions, so it is critical to submit placenta with sheep and goat fetuses in order to optimize the possibility of a diagnosis.

## Toxicology Cases—Maximize Successful Diagnosis

For most veterinary practitioners, **poisoning cases** are not the most frequent presentation. Despite this, poisoned animals can demand extensive effort from the practitioner and often involve emotion and publicity. Accurate diagnosis is the key to handling a potential poisoning case as it allows for adequate treatment of poisoned animals, and is essential in preventing additional cases. Unfortunately, there is no single comprehensive test for all possible toxicants and the practitioner and laboratory must work closely together to establish a diagnosis.

- ◆ Obtain a complete history, including data on breed, age, sex, bodyweight, reproductive status, vaccine history, current medications, past medical history, boarding facilities, and presence of other animals and any abnormalities in them.
- ◆ Carry-out a detective-like inspection of the premises for toxic sources and hazardous conditions, including the following: feed, including recent feed changes, water source, recent application of pesticides or herbicides, recent renovations of old buildings, use of paints or solvents, recent animal movements to a new environment, location of chemicals and household medications, recent animal management changes.
- ◆ Perform a complete physical examination.
- ◆ Perform a post-mortem examination or submit animal for complete necropsy to CAHFS.
- ◆ Contact the CAHFS Toxicology Laboratory (530) 752-6322 for case consultation and advice on sample collection.
- ◆ Collect specimens for toxicology testing in separate containers and store refrigerated/frozen:
  - ◇ Live animal: whole blood (EDTA), serum, urine, ingesta/vomit/feces
  - ◇ Post-mortem: ingesta (stomach/rumen, and cecum/colon contents), liver, kidney, urine, eyeball (or aqueous humor), and blood (if available). Additional samples may include fat, bone, hair, and brain(½ brain, sagittal section).
  - ◇ Environmental samples: feed/food, bait, suspect source material, plants (entire plant, if possible), water.