



October 2005

## **VETERINARY ADVISORY - Canine Respiratory Disease**

### **Background**

For the past 18 months there have been several isolated outbreaks of acute respiratory disease in racing greyhound farms and tracks in Kansas. The disease appears very acutely and is very contagious with high morbidity and low mortality.

The clinical picture and necropsy findings in the Kansas outbreaks resemble other respiratory outbreaks across the country, which have often been attributed to an equine influenza virus initially reported by Dr. Cynda Crawford at the University of Florida.

### [Transmission of Equine Influenza Virus to Dogs](#)

The Kansas State Veterinary Diagnostic Laboratory (KSVDL) has been actively involved in the diagnostic workup on many of the racing greyhound outbreaks. While KSVDL has isolated many of the traditional causative agents for “kennel cough” from sick or dead greyhounds, to date the equine influenza virus has not been identified in the samples examined. Unfortunately, many infectious agents (bacterial, viral and mycoplasma) have been associated with canine respiratory disease. It is unknown at this time if these “kennel cough” outbreaks represent variations of a known agent, a combination of agents, or a “newly emerging” agent (i.e. equine influenza).

Thanks to a generous grant from the Kansas Racing and Gaming Commission in July 2005, the KSVDL personnel are refining the existing diagnostic tests for canine respiratory disease and are developing “state of the art” testing methodologies to address respiratory outbreaks in racing greyhounds, including the equine influenza virus. As a spin-off, the KSVDL is now positioned to utilize improved diagnostic technologies, on a fee-for-services basis, for the general pet population with respiratory disease of unknown etiology.

### **Diagnostic Sampling**

The KSVDL is requesting assistance in determining the cause of unusual respiratory outbreaks and the significance of equine influenza-like virus infections in canine respiratory disease. Practitioners are encouraged to collect pharyngeal swabs from dogs at the onset of clinical signs (1-3 days). Samples collected later in the infection may give false negative results. Swabs collected from dogs that are greater than one year of age, have temperatures of 39.5 to 41.5C, and have a soft, gagging cough are preferred.

It is recommended that two swabs are collected from the dog, one for virus workup and the other for bacteria. Swabs for viral processing should be placed in virus transport medium or alternatively, in a sterile tube (red-top vacutainer) with 6-10 drops of sterile saline. Only place

the swab for bacteria in the bacterial transport medium. Samples should be shipped overnight on ice packs.

Acute and convalescent serum samples will also be helpful in determining the epidemiology of these outbreaks. If both samples cannot be obtained, a single serum for dogs that have recovered can be used to determine exposure.

If an animal dies of respiratory disease, fresh and fixed tissues can be submitted to the KSVDL for a thorough diagnostic workup.

In addition to sample collection, a thorough history/description of the case will be valuable, including number of dogs affected, duration of clinical signs, skin coloration, and the composition of the diet. The presence of horse meat in the diet/food would be of particular interest.

### **Summary of Diagnostic Samples Requested**

#### **Live Animal**

Good history

2 Pharyngeal Swabs

-1 in viral transport media

-1 in bacterial transport media

Serum

-acute and convalescent

-“recovered” serum if only one

#### **Dead Animal**

Good history

Fresh tissue – trachea, lung

Fixed tissue – trachea, lung

### **Diagnostic Submission Form and Fees**

Information and forms can be found at

<http://www.vet.k-state.edu/depts/dmp/service/index.htm>.

KSVDL testing charges for the general pet population include the following:

Accession fee of \$4 per case

Serology is \$12 per animal

Bacterial isolation and identification is \$15

PCR analysis is \$25

Virus isolation and identification is \$27.50.

Please do not hesitate to contact the KSVDL or the KSU canine respiratory group if you have questions.

### **Contact Information**

KSVDL via phone at 785.532.5650 or fax at 785.532.4481

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