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April 8, 2011

To: California Veterinarians in Large Animal Practice
Public Health Laboratory Directors
Local Health Officers
Communicable Disease Controllers
Public Health Veterinarians
Animal Health Branch Personnel
Interested Parties

**Subject: SURVEILLANCE AND REPORTING OF
EQUINE WEST NILE VIRUS**

West Nile virus (WNV) continues to be the most important cause of mosquito-borne neurologic illness and death among humans and horses in California. In 2010, WNV infection was detected in 128 humans and 19 horses from 20 counties. Five (26%) of the horses died or were euthanized as a result of their infection.

In order to facilitate timely and accurate identification of WNV infection in horses in 2011, the California Department of Public Health (CDPH) and the California Department of Food and Agriculture (CDFA) **will provide free-of-charge (as available funding permits) West Nile Virus serologic diagnostic testing of clinically affected horses.** Detailed instructions for submitting equine specimens to the California Animal Health and Food Safety (CAHFS) Laboratory for WNV testing are provided in Attachment A.

Timely and accurate reporting of suspect equine WNV cases by veterinarians to local health officials is a valuable component of arbovirus disease surveillance and helps to direct mosquito control efforts designed to prevent WNV infection in both horses and humans. It is very important that information on each laboratory submission form is complete and accurate; incomplete submission forms may result in a delay in testing while CDFA officials contact the veterinary clinic and/or horse owner to obtain the missing information. When completing the specimen submission form, please pay special attention to:

- **The exact physical location(s) of the horse during the two weeks prior to the onset of clinical disease.** (Please ensure that this information is included in addition to accurate owner contact information.)
- **Detailed clinical signs and signalment.**

- **The present condition of the horse (including whether it survived, died, or was euthanized).**
- **An accurate vaccination history.**

Signs of WNV can be similar to any neurological disease affecting horses including Equine Herpesvirus Myeloencephalopathy (EHM), Equine Protozoal Myeloencephalitis (EPM), and cervical vertebral myelopathy (wobbler syndrome). Rabies must always be considered as a differential diagnosis and appropriate precautions taken when evaluating any horse with signs of encephalitis. Rabies suspects should be reported to the local health department. Contact information for all California local health departments is available at: http://www.cdph.ca.gov/HealthInfo/Documents/LHD_CD_Contact_Info.pdf.

Horse owners are urged to ensure that their horse's WNV vaccination status is current. A comprehensive vaccination plan should be developed in consultation with the veterinary practitioner. Commercially available WNV vaccine products have been shown to provide a high level of protection when used in accordance with the manufacturer's labeled directions. Please note that vaccination does not interfere with WNV IgM serum testing.

Your participation in this important public health program is greatly appreciated. For more information on WNV please visit the California WNV website at <http://www.westnile.ca.gov> and CDFA WNV website at http://www.cdfa.ca.gov/AHFSS/Animal_Health/WNV_Info.html.

If you require additional information, please contact Dr. Katie Flynn, Equine Staff Veterinarian for CDFA Animal Health Branch at 916-651-9335



Curtis Fritz, D.V.M., M.P.V.M.
State Public Health Veterinarian



Kent Fowler, D.V.M.
Branch Chief,
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Attachment

Protocol for Submission of Laboratory Specimens for Equine Neurological Disease
Diagnosis and Surveillance

cc: Richard Breitmeyer, D.V.M., Director
California Animal Health and Food Safety Laboratory System

Attachment A

Protocol for Submission of Laboratory Specimens for Equine Neurological Disease Diagnosis and Surveillance 2011

1. Specimen collection and submission:

A. Blood

- Acute sample (5-10 ml) / no later than 7 days after onset
- Convalescent sample (5-10 ml) / 14-21 days after onset

Red top tubes of whole blood or serum (no preservatives or anticoagulants) should be submitted at ambient temperature to the California Animal Health and Food Safety (CAHFS) Laboratory in your area. Do not freeze whole blood.

NOTE: For WNV, an acute sample only is required since the assay used detects IgM (and vaccine does not interfere). For the other encephalitis viruses, the acute sample should be submitted immediately, and a convalescent sample may be requested later to assist with the interpretation and differentiation of vaccine titers from active infection.

B. Brain

- The local health department and CDFA Animal Health District Office should be contacted if rabies is suspected.
- **The animal or intact head should be submitted to a CAHFS laboratory in your area as quickly as possible.** The intact head should be refrigerated, *not* frozen, immediately after removal using a leak-proof insulated transporting container with "cold packs" to keep the specimen at 4° C while in transit. *When it is impossible for the CAHFS Laboratory to receive the carcass or chilled intact head within 48 hours, the submission protocol should be coordinated with the CAHFS Laboratory.* Submission of the head intact is preferable to removal of the brain because: 1) the brain is better preserved (anatomically and virus titer) when left in the skull during transport, 2) specimens may be compromised if removal is not performed correctly, and 3) brain removal in field conditions may increase the risk of exposure to rabies.
- All equine specimens submitted first to the CAHFS Laboratory will be forwarded to: 1) a Public Health Laboratory to initially confirm or rule out rabies, then to 2) The National Veterinary Services Laboratories (NVSL) for arboviral testing, in addition to a complete diagnostic work-up at the CAHFS.
- All equine specimens submitted first to local public health laboratories for rabies testing and found to be negative should be forwarded to the local CAHFS Laboratory for arboviral testing.

C. Other specimens for differential neurological diagnoses

- Protocol for submission of these specimens may be coordinated through the CAHFS Laboratory, and may include sampling for equine herpes virus, EPM, or other agents associated with clinical neurological presentations.

2. Submission forms: Complete and include the transmittal forms supplied by the CAHFS Laboratory. See attached sample or download the form from their website: <http://cahfs.ucdavis.edu/>. The submittal form for each specimen should be placed in a leak-proof plastic bag and attached to the corresponding container.

3. Imperative information to include on the submission forms if West Nile virus is suspected: Precision case reporting by the veterinary practitioner is critical to mosquito control efforts that prevent WNV infection in both horses and humans. It is very important that each laboratory submission form is completed in its entirety. More specifically, it is imperative to include and communicate to us:

- **The location(s) of the horse during the two weeks prior to the onset of clinical disease.** (Please ensure that this information is included in addition to the "owner's address")
- **Detailed clinical signs.**
- **The present condition of the horse (including dead and euthanized).**
- **An accurate vaccination history.**

4. Shipment: For information on sample shipping including regulations governing the transportation of infectious materials contact CAHFS at 530-752-7578.