

Protecting Your Horse from WNV

A vaccine is available as an aid in control of WNV in horses. The vaccine is safe and has been shown to provide protection in horses. The WNV vaccine is similar to vaccines against EEE and WEE and is only available through licensed veterinarians.

Horses vaccinated against EEE, WEE, and Venezuelan equine encephalitis are not protected against WNV infection. Horse owners are advised to consult their veterinarian concerning WNV vaccination of their horses. Vaccinated horses can be differentiated from infected horses on laboratory tests.

In addition to the vaccine for horses, simple insect control measures should be utilized. Consider the use of insect repellents, and place horses in barns/stables under fans during dusk, dawn, and other times when mosquitoes are present. Eliminate opportunities for mosquito breeding by draining wet areas of pasture, filling puddles, repairing eave troughs, gutters, etc., clearing any containers that might hold even small pools of water, and draining water tanks once or twice weekly. Additionally, consider control of mosquitoes in ponds and large water containers through the use of larvicides and fish.

Reporting WNV and Other Reportable Animal Diseases

West Nile Virus is a reportable animal disease. If you suspect an animal has WNV, please contact your veterinarian, as well as report the case to MDARD at (517) 373-1077.

Contact Information:

Michigan Department of Agriculture and Rural Development

Animal Industry Division
P.O. Box 30017, Lansing, MI 48909
www.michigan.gov/mdard
www.michigan.gov/westnilevirus

Monday-Friday, 8:00 A.M. – 5:00 P.M.
1-800-292-3939
or:
Weekends or after hours
(517) 373-0440



Equine WNV testing specimens should be accompanied by the submission forms available at each laboratory's website.

Diagnostic Center for Population and Animal Health

4125 Beaumont Road
Room 122
Michigan State University
Lansing, MI 48910
(517) 353-5275
www.animalhealth.msu.edu

or:

National Veterinary Services Laboratory

USDA-APHIS-VS-NVSL
1920 Dayton Avenue
Ames, IA 50010
(515) 337-7266
www.aphis.usda.gov/animal_health/lab_info_services/

West Nile Virus in Horses



Diagnosis and Prevention Tips

Michigan Department of Agriculture &
Rural Development and
Michigan State University,
College of Veterinary Medicine and
Department of Animal Science

What is West Nile Virus?

West Nile Virus (WNV) is a mosquito-borne virus that causes encephalitis (inflammation of the brain) and/or meningitis (inflammation of the lining of the brain and spinal cord). Outbreaks of WNV have occurred in Egypt, Asia, Israel, Africa, and some parts of Europe, Australia and the United States (U.S.). The virus was first found in the U.S. in 1999 in New York City, and has since spread nationwide.

WNV in Horses

Most horses bitten by carrier mosquitoes do not develop disease. Of those that do, approximately one-third develop severe disease and die or are so affected that euthanasia is required. The time between the bite of an infected mosquito and when clinical signs appear, ranges from three to 14 days.

Although horses do not usually develop clinical symptoms of WNV infection, horses that are ill vary in symptoms from mild signs to serious and near death. Typical signs include muscle trembling, skin twitching, ataxia (incoordination, stumbling, limb weakness) that either appears suddenly or appears gradually and worsens, sleepiness, dullness, listlessness, facial paralysis (droopy eyelids, lower lip), difficulty with urination and defecation, and an inability to rise. Some horses may develop mild fevers, blindness, seizures, and other signs.

WNV may cross the placenta from mother to gestating foal. Horses cannot spread the disease to humans, but humans are susceptible to the disease if bitten by a carrier mosquito. No transfusion related horse illnesses have been reported. However, human to human transmission via blood transfusions have been confirmed, so this method of transmission is possible in horses.

Birds: the Primary Reservoir Species for WNV

WNV infects and multiplies in birds, which serve as the reservoir species for the virus. The impact of the disease in birds varies, with American crows frequently dying from the infection. Many other bird species survive infection with mild or no indication of disease.

WNV is spread from bird to bird by mosquitoes when they bite birds infected with the virus. Mosquitoes are also capable of spreading the virus to horses, humans, and other mammals. Birds may have a significant impact on the spread of the virus across the U.S.

Birds infected with WNV may show signs such as the inability to fly, incoordination, abnormal movements, and death.

WNV in Other Mammals

Animals other than horses or humans may be susceptible to WNV, but rarely become ill. Antibody has been found in blood samples from bats, cats, chipmunks, gray squirrels, domestic rabbits, eastern striped skunks, cows, sheep, and pigs.

There is no evidence that infected horses, humans, or other animals are able to transmit the virus to other animals, people, or mosquitoes. Only a wild bird/mosquito transmission cycle has been proven as a means of transmitting WNV.



Diagnosis of WNV in Horses

Diagnosis of WNV infection in horses involves testing the blood serum for antibodies.

Horses vaccinated for WNV and foals of positive-testing mares are likely to have a positive blood test for the virus. Veterinarians consider blood test results, clinical symptoms and the possibility of other neurological diseases, including rabies, Eastern Equine Encephalitis (EEE), Western Equine Encephalitis (WEE), Equine Rhinopneumonitis (equine herpes virus type 1), and Equine Protozoal Myeloencephalitis (EPM), before making a diagnosis.

Blood or cerebral spinal fluid samples should be collected by a veterinarian and sent to the National Veterinary Services Laboratory or to the Diagnostic Center for Population and Animal Health (DCPAH) at Michigan State University. Because of the potential for rabies and the related risk to humans and animals, the heads of horses that die or are euthanized due to neurological disease should be submitted to DCPAH. Addresses and contact information are listed on the back of this brochure.

Treatment and Long-term Effects of WNV

Currently, there is no specific treatment for WNV in horses. Supportive therapy should be administered by the horse owner's veterinarian to reduce clinical signs and the possibility for secondary infections. When a horse becomes infected, with or without clinical disease, that horse develops antibodies in response to the infection. Infected horses can acquire long lasting immunity to WNV after recovery, due to these antibodies. If the horse develops encephalitis, there may not be full recovery and the horse may possibly have permanent central nervous system damage.