

# **West Virginia Department of Health and Human Resources Information for Veterinarians – West Nile Virus**

## **What is West Nile encephalitis?**

West Nile encephalitis is caused by a flavivirus and is spread by mosquitoes. West Nile virus (WNV) can infect people, horses, and birds. A few members of other species (including cats, bats, squirrels, etc.) have also been reported with WNV infection. In 2002, more than 14,700 equines in 40 States were diagnosed with cases of illness caused by WNV. Three human and three equine cases of West Nile virus were diagnosed in West Virginia during 2002. We should be on alert for cases West Nile virus again this year during the summer and fall months.

## **What should I be watching for?**

The strain of WNV that emerged in the U.S. has a significant case fatality ratio for crows, approaching 100%. However, West Nile virus has been detected in dead birds of at least 138 species in the US to date. A dead bird that shows no other signs of injury or reason for death may have died from WNV.

The diagnosis of arboviral encephalitis should be considered in a horse demonstrating signs of a nervous system disturbance in the summer and fall. Most horses with WNV have acute onset of illness. Typical signs include: ataxia and weakness, primarily rear limb, and muscle fasciculations or trembling, most commonly on the face and in the fore quarters. Affected animals may stumble, show body stiffness, be reluctant to move or recumbent and have difficulty rising at the time of examination. Other signs include paralyzed or drooping ears, lips, muzzle or tongue. Less than 35% of cases have fever. Mortality ranges around 30 - 35%, with older horses being more likely to die or be euthanized.

## **What should I do if I am aware of dead birds in my county?**

Report sick or dead bird sightings to your local health department. Gather the bird in double plastic bags and get it into refrigeration or on wet ice as soon as possible. Do not handle the bird without gloves. Call your local health department to determine if the bird should be tested for West Nile.

## **What should I do with horses demonstrating signs of a central nervous system (CNS) disturbance or encephalitis?**

Horses with signs of a CNS disturbance or encephalitis should be evaluated for arboviral infection. Determine if the horse was appropriately immunized against eastern and western equine encephalitis (EEE and WEE) or WNV. Contact the West Virginia Department of Agriculture (304-558-2214), USDA, or the West Virginia Infectious Disease Epidemiology Program (1-800-423-1271) for information on testing a horse for WNV.

## **What can be done to prevent West Nile virus infection?**

In November 2002, USDA granted a full license for the equine West Nile virus vaccine produced by Fort Dodge Animal Health. Vaccine should be administered, by a licenced Veterinarian, according to label instructions prior to Arbovirus season.

More importantly, West Nile virus is transmitted by mosquitoes. Cleaning up areas where mosquitoes may breed will protect horses *and their owners* from this disease. Advise horse owners to remove potential mosquito breeding sites or clean them regularly. Potential sites include:

Discarded tires	Wheelbarrows
Clogged gutters and drains	Stagnant ponds
Storm drains	Unwashed birdbaths
Water troughs (traditional or automatic)	Plastic wading pools
Water/feed buckets	Unused swimming pools
Wash stall drains	

In addition:

- Keep buckets, basins, gutters, drains, and pools clean and debris-free.
- Turn over wheelbarrows, wading pools, and other water-collecting equipment when not in use.
- Drill holes in the bottom of containers that cannot be discarded and must be left outdoors.
- Clean and maintain swimming pools regularly.
- Use landscaping to eliminate standing water that collects on the property.
- Keep horses indoors during peak mosquito feeding times, such as dusk and dawn, and apply mosquito repellents according to manufacturers label.

WNV is not transmitted from horse to horse or from horse to human, so no special precautions are necessary for suspect or infected horses.

## **How can I get more information?**

For consultation on West Nile virus, call the West Virginia Infectious Disease Epidemiology Program at 1-800-423-1271. Patient education materials are available on the program website at: <http://www.wvdhhr.org/bph/oehp/sdc/westnile.htm>

We also recommend the following websites:

<http://www.cdc.gov/ncidod/dvbid/westnile/index.htm>

<http://www.aphis.usda.gov/lpa/issues/wnv/wnv.html>

Two articles on equine West Nile virus infection have been published recently:

1. *Emerging Infectious Diseases*, 2001; 7:745-747 and
2. *Emerging Infectious Diseases*, 2001; 7:665-669.