

# **PUBLIC HEALTH FACT SHEET**

## **West Nile Virus in Horses in Massachusetts**

Massachusetts Department of Public Health, 305 South Street, Jamaica Plain, MA 02130  
Massachusetts Department of Food and Agriculture, 251 Causeway Street, Boston, MA 02114

### **What is West Nile virus (WNV)?**

West Nile virus (WNV) can cause illness in humans varying from a mild fever to more serious disease like encephalitis or meningitis. WNV grows in birds and is spread from bird to bird by infected mosquitoes. If mosquitoes infected with the virus bite horses or humans, the animal or person can become sick. In the United States, WNV was first identified in New York City during the summer of 1999. Since then it has spread throughout much of the continental United States. WNV has occurred naturally in Europe, Africa and Asia for many years.

### **How common is WNV in horses?**

During the 1999 outbreak in New York City, 25 horses had clinical signs of WNV disease and 9 of these (36%) died or were euthanized. During 2001, 738 cases of WNV disease were reported in horses in the United States, with 45 of those cases in Massachusetts. In 2002, WNV disease spread across the United States and was reported in 14,900 horses from 40 states. While 45 horse cases were reported in Massachusetts in 2001, only 2 cases were reported in 2002, both in horses not vaccinated against WNV. Current WNV surveillance information for horses as well as humans, birds, and mosquitoes can be found on the MDPH website at [www.state.ma.us/dph](http://www.state.ma.us/dph).

### **What are the signs of WNV infection in horses?**

Clinical signs in horses with West Nile virus infection vary. Some horses may show few or no signs of illness. The most common signs include weakness, ataxia (an unsteady gait), depression or apprehension, fever, muscle fasciculation (tremors) and decrease in appetite. In a small number of horses, muscle weakness may progress to paralysis of all four limbs, recumbency (inability to rise) and death within 2 to 9 days. If you suspect your horse to be ill for any reason, have it examined by a veterinarian.

### **If my horse is infected with WNV, do I have to euthanize or quarantine it?**

No, horses affected by WNV do not need to be euthanized as many horses display mild clinical signs and can recover from the disease with supportive care. Horses are humanely euthanized only when they are suffering from illness from which they will not be able to recover. Of the horses infected with WNV that show clinical signs, approximately 30% are euthanized or die because of the infection. Horses with WNV do not need to be quarantined since infected horses cannot transmit the disease to other horses or humans.

### **Is there treatment for West Nile virus disease in horses?**

Other than symptomatic and supportive veterinary care, there is no specific treatment for horses with WNV.

### **Is there a vaccine for West Nile virus disease in horses?**

In February 2003, the United States Department of Agriculture (USDA) fully licensed a vaccine for WNV. Administration of the vaccine requires two doses 3-6 weeks apart, with an annual booster. Horse owners should discuss the risks and benefits of the vaccine for preventing WNV infection with their veterinarians.

## **Is the Eastern Equine Encephalitis (EEE) vaccine protective against WNV?**

No. If your horse is vaccinated against EEE virus, it will not be protected against WNV infection. Although EEE virus is also carried by birds and transmitted by mosquitoes, it belongs to another family of viruses.

## **If my horse is infected with WNV, can I or my other horses become infected?**

WNV is spread by the bite of a mosquito infected with the virus. There is no documented evidence of horse-to-human or horse-to-horse transmission of WNV. Caring for an infected horse is not considered a risk factor for developing WNV. However, you and your other horses could be also be bitten by infected mosquitoes.

## **What steps can I take to protect my horse from infection with WNV?**

- Consult with your veterinarian about having your horse vaccinated against WNV.
- Remove potential mosquito breeding sites. Mosquitoes can begin to breed in any puddle or standing water that lasts for more than 4 days. Therefore you should:
  - Dispose of or regularly empty any water-holding containers on your property
  - Dispose of old tires
  - Drill holes in the bottom of recycling containers that are left outdoors
  - Clean clogged roof gutters and eliminate standing water on flat roofs
  - Do not leave garbage can lids upside down or allow water to collect in the bottom of garbage cans
- Keep horses indoors during peak periods of mosquito activity (dusk to dawn).
- Thoroughly clean watering troughs on a monthly basis.
- Avoid turning on lights inside the stable during the evening and overnight. Many mosquitoes are attracted to incandescent bulbs that glow yellow.
- If feasible, remove all birds, including chickens, that are in or close to the stable.
- If your local health department considers your area to be high risk, consider using topical preparations containing mosquito repellents that are available for horses. Contact your veterinarian before using such a preparation and follow all instructions on the label for proper use.
- Consider fogging of stable premises, with approved pesticides, in the evening to reduce mosquito numbers. Contact your veterinarian before doing this, and read directions carefully before using foggers.

## **What should I do if I suspect my horse is infected with WNV?**

WNV is only one of many possible causes of central nervous system disease in horses. Other diseases with clinical signs similar to WNV include rabies, equine protozoal myeloencephalitis (EPM), EEE, botulism, and bacterial infections. If your horse has any of the signs associated with WNV infection, you should contact your veterinarian immediately. The Massachusetts Department of Public Health (MDPH) will test specimens from horses with signs suggestive of WNV disease. Veterinarians who suspect WNV disease in horses should contact the Massachusetts Department of Food and Agriculture, Bureau of Animal Health at (617) 626-1795.

### **For more information on WNV in horses:**

- Massachusetts Department of Food and Agriculture (617) 626-1795
- Massachusetts Department of Public Health-Viral Serology Lab (617) 983-6396

### **Websites with information about WNV and people and horses:**

- U.S. Department of Agriculture [www.usda.gov](http://www.usda.gov)
- Centers for Disease Control and Prevention [www.cdc.gov](http://www.cdc.gov)
- Massachusetts Department of Public Health [www.state.ma.us/dph](http://www.state.ma.us/dph)
- Testing for WNV in Veterinary Specimens [www.state.ma.us/dph/wnv/wnvspe.htm](http://www.state.ma.us/dph/wnv/wnvspe.htm)