

West Nile Virus and Horses (USACHPPM)

Q. What is West Nile Virus?

A. West Nile Virus (WNV) is a mosquito-borne virus that is commonly found in Africa, western Asia, the Middle East, and the Mediterranean region of Europe. It is closely related to St. Louis encephalitis (SLE) virus, which is most prevalent in the southeastern and Midwestern United States. Prior to an outbreak in the New York City area in August 1999, WNV had never been documented in the Western Hemisphere. Mosquitoes pick up WNV when they feed on infected birds, then pass it on to the next animal they feed on. Most people who become infected with WNV do not get sick. Others show a wide range of illness, ranging from flu-like symptoms to encephalitis (a serious inflammation of the brain that can be fatal).

Q. How do horses become infected with West Nile Virus?

A. Horses get West Nile Virus the same way humans do, by the bite of infectious mosquitoes. The virus is located in the mosquito's salivary glands. When the mosquito bites (feeds) on the animal, the virus is injected into the blood stream of the horse. The virus then multiplies and may cause illness.

Q. What are the symptoms of West Nile Virus infection in a horse?

A. Following infection by West Nile virus, most horses develop mild or inapparent infections. Symptoms may include listlessness, stumbling, incoordination, weakness, and fever. However, in more susceptible horses, the virus leaves the blood stream, crosses the blood brain barrier, and enters the brain. The virus then interferes with normal functioning of the central nervous system, causing inflammation of the brain that leads to severe clinical disease or even death.

Q. What is the treatment for a horse infected with West Nile Virus?

A. There is no specific treatment for illness caused by WNV. However, the symptoms and complications of the disease can be treated with supportive therapy that is consistent with standard veterinary practices for animals infected with a viral agent. Full recovery from the infection is likely and there is no reason to destroy an animal that is infected.

Q. Can I get infected with West Nile Virus by caring for an infected horse?

A. No. West Nile Virus is transmitted by the bite of an infected mosquito. There is no documented evidence of either person-to-person or animal-to-person transmission of WNV.

Q. Is there an equine vaccine against West Nile Virus?

A. On August 1, 2001, the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) issued a conditional license for an equine WNV vaccine to Ford Dodge Animal Health, a division of American Home Products, Inc. The vaccine is made of killed virus and it has an initial one-year license. Conditional licensing means that the product has shown to be safe, pure, and have a reasonable expectation of efficacy in preventing illness caused by WNV. Each state veterinary authority must also approve the use of the product in their state. Currently, the vaccine has been approved in all states with the exception of California and Montana. The

manufacturer recommends giving two intramuscular doses of the vaccine, 3 to 6 weeks apart.

Q. How can I protect my horse from West Nile Virus?

A. Limit your horse's exposure to mosquito bites as much as possible. Several actions may help in this effort:

- (1) Reduction of mosquito breeding sites is essential. Dispose of water-holding containers, including discarded tires. Drill holes in the bottom of containers that must be left outdoors. If old tires are utilized outdoors, they should be slashed sufficiently to prevent accumulation of any water. Empty, clean and refill livestock watering troughs at least once a week. Clean clogged roof gutters. Turn over wading pools or wheelbarrows when not in use. Empty and clean bird baths frequently. Aerate ornamental pools or stock with fish such as *Gambusia* that eat mosquito larvae. Clean and chlorinate swimming pools and prevent water from collecting on swimming pool covers. Use landscaping to eliminate standing water that collects on your property (mosquitoes can breed in any puddle that lasts more than 7 days).
- (2) Although the primary mosquito species that have been associated with WNV infection in humans in the U.S. feed at dusk and dawn, other mosquito species are daytime feeders, or will feed at any time of the day or night. It is not yet clear which species are responsible for transmission of WNV to horses. However, recent epidemiological evidence suggests that keeping horses in barns at night with the doors closed might be helpful. Screening should be well maintained. Use of fans in the barn may also reduce the feeding ability of mosquitoes.
- (3) Use of insect repellents may offer some protection, but the duration of effectiveness is relatively limited. Be sure to use only those products that are approved and labeled for animal use, and follow label directions carefully. A formulation that contains permethrin may offer the best combination of safety and efficacy.
- (4) Consider having your horse vaccinated. Discuss this option with your veterinarian.

Q. Where can I get more information on West Nile Virus in horses?

A. Contact the U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Veterinary Services, Emergency Programs at (301) 734-8073, (800) 940-6524 or EMOC@USDA.GOV.

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