



## What Farmers Should Know about West Nile Virus

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### What is West Nile virus?

West Nile virus (WNV) is a viral disease previously seen only in Africa, Asia and Southern Europe. This virus can cause encephalitis, an infection of the brain and the spinal cord. WNV was first detected in the United States in 1999 when at least 62 people became seriously ill, and seven of them died. Since then, WNV has rapidly spread throughout the continental United States. In Ohio, WNV was first identified in birds and mosquitoes in 2001. The following year, the first human cases and deaths were reported in Ohio. By the end of 2002, WNV was reported in all 88 Ohio counties, either in birds, mosquitoes, humans or horses. There were 441 human and 644 horse cases identified. WNV is now established in Ohio where cases occur each year and seasonal epidemics can flare up under certain conditions in the summer and continue into the fall.

WNV is spread to people by the bite of an infected mosquito. The principal transmitter of West Nile virus is the Northern house mosquito (*Culex pipiens*). Mosquitoes first become exposed to the virus when they feed on birds that are infected with WNV. Once the mosquito is infected, it may transmit the virus to people or other animals when it bites them. Many birds can be infected with WNV, but crows and blue jays are the most likely to die from the infection. Horses, too, are prone to severe WNV infection. People cannot get WNV from another person or horse that has the disease.

### Who is most at risk?

People over 50 years of age have the highest risk of developing severe illness because as we age, our bodies have a harder time fighting off disease. People with compromised immune systems are also at risk. However, anyone can get the virus.

### What are the symptoms?

Most people who become infected with WNV do not develop any symptoms. About 1 in 5 people who are infected develop a fever with other symptoms such as headache, body aches, joint pains, vomiting, diarrhea or rash. Less than 1% of people infected with WNV develop a serious neurologic illness such as meningitis or encephalitis, which can involve headache, high fever, neck stiffness, disorientation, coma, tremors, seizures or paralysis. If you have any of these symptoms, contact your healthcare provider.

### Is there treatment?

There is no specific treatment for West Nile virus infection. While most people fully recover from the virus, hospitalization may be needed for some severe cases.

### What is being done to protect Ohioans?

In Ohio, state and local governments follow a surveillance and response plan for WNV and other mosquito-borne viruses. Control measures are used to try to reduce mosquito breeding without harming the environment. You can support community-based mosquito control programs by preventing mosquito breeding on your property by eliminating standing water.

## **Is my farm a mosquito breeding site?**

Several habitats found on farms can support the production of mosquitoes. Larvae can develop in watering troughs, small ponds, irrigation ditches, rain barrels, manure lagoons, ruts where farm equipment frequently travels and other areas where water is allowed to accumulate. Even hoof prints can accumulate water and provide a breeding habitat. The close proximity of livestock, nuisance animals (such as birds) and other animals to mosquito breeding habitats increases the risk for the transmission of animal and human disease.

## **What should I do about birds (both alive and dead) on my farm?**

Remove all bird nests from farm buildings. Periodically look around the property for dead birds, such as crows. Use gloves or an implement, such as a shovel, to handle dead birds. You cannot get WNV from handling live or dead birds. The Centers for Disease Control and Prevention has additional information on WNV and dead birds on their website: <http://www.cdc.gov/westnile/faq/deadBirds.html>.

## **How can I prevent mosquitoes from breeding?**

There are many ways to eliminate mosquito breeding areas on farms. This might include improving drainage in areas that are irrigated, or using stone to fill in ruts where farming equipment frequently travels. Make sure you thoroughly clean watering troughs regularly. Remove or frequently empty any containers that accumulate water, including discarded tires and old equipment. Where the farm uses tires to maintain the plastic on silos, the tires should be split or treated with larvicides. Aerate small ponds and stock them with fish.

In situations where eliminating mosquito breeding areas is not a practical alternative, larviciding is the most effective control technique. Several larvicides are well suited for waste-water treatment facilities, including *Bacillus sphaericus*, *B. thuringiensis israelensis* (B.t.i.), Temephos, growth regulators, oils and mono-molecular films. A local pest control company can help you to determine which product would best suit your situation and what type of control activities should be conducted.

## **What is the current status of West Nile virus in Ohio?**

Contact your local health department or visit the Ohio Department of Health's web site for the current status of WNV in Ohio: <http://www.odh.ohio.gov/wnv>.