



Extension FactSheet

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West Nile Virus and Scrap Tires

What is West Nile Virus?

West Nile Virus (WNV) is a viral disease that can cause encephalitis or meningitis, infection of the brain and the spinal cord or their protective covering. Prior to 1999, the disease was found only in Africa, Asia, and southern Europe. Over the past several years, WNV has caused disease in the United States. In 1999, at least 62 people became seriously ill, and seven of those died. Since then, WNV has rapidly spread throughout North America. During the year 2000, 21 human cases of WNV encephalitis were reported in the United States, with two deaths. In 2001, there were 66 cases with nine deaths. In 2002, 4,156 human cases of WNV encephalitis or WNV fever were reported with 284 fatalities. During 2003, almost 10,000 human cases of WNV encephalitis and fever were reported from 46 states, with 264 fatalities. Since 2003, WNV cases and fatalities have continued to remain fairly high. The yearly number of cases and number of fatalities have fluctuated depending on the weather conditions throughout the nation. It is expected that WNV will continue to be a serious disease threat well into the future.

West Nile Virus 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 most likely

Year	United States		Ohio	
	Cases	Deaths	Cases	Deaths
1999	62	7	0	0
2000	21	2	0	0
2001	66	9	0	0
2002	4,156	284	441	31
2003	9,862	264	108	8
2004	2,539	100	12	2
2005	3,000	119	61	2
2006	4,266	177	48	4
2007	3,623	124	23	3

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.

Continued spread of this disease among wild birds and mosquitoes is anticipated. State, federal, and local agencies are working together to address the health risks of WNV to Ohio families and their animals. Ohio public health officials test for WNV in many species of birds, mosquitoes, and horses. Once infected areas are identified, mosquito control efforts are increased in those areas to protect people from the disease.

How to Prevent the West Nile Virus

Scrap tires can be a prime breeding source for mosquitoes, including the Northern House mosquito, which can carry WNV. When discarded, tires can accumulate small

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pools of water, where adult mosquitoes will lay eggs. Over the course of one breeding season, thousands of mosquitoes can be generated from just one tire. If tires infested with eggs, larvae, or pupae are transported, the potential to spread mosquitoes carrying the virus increases. Breeding takes place in water-filled tires where eggs are laid and the larvae and the pupae can grow. Adult mosquitoes emerge from the water in as little as seven days after hatching.

Businesses such as retail tire sales locations, retreading operations, fleet maintenance garages, and motor vehicle salvage dealers routinely remove tires in the course of business. Ohio regulations allow such facilities to accumulate a limited number of scrap tires generated by their business operations, but also require them to control mosquitoes at their facilities. Ohio's tire rules require that these facilities either keep water from accumulating in scrap tires stored at their site, or apply either larvicide or pesticide to the tires each month from April to November each year. Businesses choosing to treat scrap tires must maintain records to document their compliance with the rule requirements.

Scrap tires may also be found around farms and private residences. Scrap tires are often found mixed with other solid waste at open dump sites. Such sites often provide additional containers (such as discarded cartons, packaging, buckets, and more) that provide breeding locations for mosquitoes.

If you have scrap tires on your property, farm, or business location, you are responsible for making sure they do not create a nuisance. There are a number of ways to eliminate mosquito breeding in scrap tires:

- Remove and properly dispose of the tires.
- If the tires cannot be immediately removed, standing water in tires should be eliminated. This can be done by properly storing dry tires under a tarp and making sure rainwater does not accumulate.
- Where breeding areas cannot be eliminated, larviciding is the most effective control technique. Some larvicides can only be applied by certified pesticide applicators.
- If you are concerned about a tire pile in your area, contact local health officials or the Ohio EPA (see web address later in this publication) to find what mosquito control measures are being taken, or could be taken.

West Nile Virus Symptoms

People with mild infections may experience fever, headache, body aches, skin rash, and swollen lymph glands.

People with more severe infections may experience high fever, headache, neck stiffness, stupor, disorientation, coma, tremors, occasional convulsions, and paralysis. If you have any of these symptoms, contact your doctor.

How You Can Reduce the Number of Mosquitoes Around Your Home or in Your Neighborhood, Farm, or Business Location

Breeding sites can be eliminated by removing standing water available to mosquitoes. Here are some simple steps:

- Dispose of tin cans, plastic containers, ceramic pots, or similar water-holding containers that have collected on your property.
- Promptly clean up solid waste and scrap tires that have been dumped or discarded on your property.
- Pay special attention to discarded tires. Stagnant water in tires is an ideal site for mosquitoes to breed.
- Drill holes in the bottom of recycling containers left outdoors and in tires used for swings, barriers, running exercises, etc., so they won't hold water.
- Have clogged roof gutters cleaned every year, particularly if leaves from surrounding trees have a tendency to plug the drains. Roof gutters can produce millions of mosquitoes each season.
- Turn over plastic wading pools when not in use. Stagnant water in a wading pool becomes a place for mosquitoes to breed.
- Turn over wheelbarrows and don't let water stagnate in bird baths. Both provide breeding habitats for domestic mosquitoes.
- Aerate ornamental pools or stock them with fish. Water gardens can become major mosquito producers if they are allowed to stagnate. Clean and chlorinate swimming pools not in use. A swimming pool left untended by a family on vacation for a month can produce enough mosquitoes to result in neighborhood-wide complaints. Mosquitoes may even breed in the water that collects on pool covers.
- Use landscaping to eliminate standing water that collects on your property. Mosquitoes may breed in any puddle that lasts for more than four days. You can call your local health department or your nearest Ohio EPA district office for locations where you can take tires for disposal. To locate the phone number, log onto the web site at <http://www.epa.state.oh.us/dsiwm/pages/dolinks.html>.

Don't dump tires anywhere! Tires last a long time. Sooner or later, someone will be exposed to the mosquitoes breeding in them. Take them to a licensed scrap tire facility. A list of licensed facilities can be found at: <http://www.epa.state.oh.us/dsiwm/pages/general.html>.

What is the status of WNV in Ohio?

WNV has been confirmed in Ohio every year since 2001. Infected mosquitoes, birds, horses, and humans have been found in all Ohio counties. Therefore, the virus is present throughout the state. Contact your local health department in your area, or visit one of the web sites.

For the current status on WNV in Ohio and for more information, you can log on to the following web sites:

The Ohio State University:
<http://vet.osu.edu/1516.htm>

Ohio Department of Health:
<http://www.odh.ohio.gov/odhprograms/idc/zoodis/wnv/wnv1.aspx>

National Pesticide Telecommunication Network web site:
<http://npic.orst.edu/>

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