

# Tire & Rubber

# RECYCLING



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## Scrap Tires and West Nile Virus

*A special report brought to you by  
the Tire and Rubber Recycling  
Advisory Council*

**T**ires are among the discarded items that can hold water and, as such, can create a breeding area for mosquitoes, including the Culex mosquito that transmits West Nile Virus. Tires are often targeted as the prime candidates for mosquito breeding because it is difficult to remove water from them, and they retain heat, which further exacerbates the conditions that attract mosquitoes. In reality, any item or container (birdbath, jar, barrel) that can hold water is also a breeding ground. Many communities alert their citizens to remove all standing water from any container; they are not just singling out tires as they seemed to do in the past.

As noted previously, the Culex mosquito spreads West Nile Virus. This

mosquito prefers stagnant water as a habitat and can grow from egg to adult mosquito in only seven days. Researchers estimate that female mosquitoes seek out stagnant water, in an old pile of tires for example, and begin laying eggs as soon as they come out of hibernation in late March or early April. Within two weeks, depending partly on the weather, the larvae mature and become a new swarm of the disease-carrying mosquitoes.

Industry and state government agencies have made a tremendous effort in recent years to clean up scrap tire stockpiles, a major potential breeding ground for the mosquitoes. In early 1990, the states, the United States Environmental Protection Agency (EPA) and the tire industry estimated there were about 1 billion stockpiled tires in the U.S. Remediation efforts and, unfortunately, some large tire fires have since reduced that number to below 300 million. California reported that a recent inventory of piles in the state showed less than 2 million tires in stockpiles, and several other states indicate they have cleaned up all known large accumulations of tires and are working on piles with less than 50,000 tires.

The tire recycling industry, along with the tire industry, has worked diligently in recent years to create markets and to promote better, more advanced technology, equipment and methods for processing, managing and recycling tires. The industry has also become more aware of using responsible, permitted companies to collect and dispose of their tires. All of these efforts contribute to reducing the number of tires stockpiled.

In many states, Kansas and Illinois for example, tire retailers, recyclers or sites storing more than 500 tires outside for more than 30 days are required to provide effective mosquito control. This can be accomplished by applying a larvacide, draining all standing water or by covering the tires.

The Mid-America Tire Dealers Association's (MTDA) tire retail and tire recycling members have worked actively with state health and environmental officials, scientists and others to find the most effective products and prevention techniques available to mitigate the spread of West Nile. As a result, MTDA has identified several chemicals that can be used on tires. They include:

- Common Rock Salt. According to Ludek Zurek, Assistant Professor in the Department of Entomology for Kansas State University, common rock salt can be as effective as any of the commercial pesticides. A handful per tire should last an entire season.
- Altosid XR-G (methoprene), an insect growth regulator, is highly effective and of very low mammalian toxicity.

**It is important to note that it doesn't take a large stockpile of tires to create mosquito breeding and nesting conditions; a few tires stacked, or even left in a backyard, are just as likely to be an attraction for mosquitoes.**

- Abate (Temephos), an organophosphate, is highly effective as pellets in these habitats (at a rate as low as one per tire).

Any pesticides must be applied in accordance with the regulations governing them. Restricted-use pesticides must be applied by a person possessing a commercial applicator's certificate.

It is important to note that it doesn't take a large stockpile of tires to create mosquito breeding and nesting conditions; a few tires stacked, or even left in a backyard, are just as likely to be an attraction for mosquitoes. This is an area where the tire industry can be effective and dealers can help reduce the possibility that tires will become breeding areas for mosquitoes: by encouraging customers to leave their old tires with dealers when purchasing new ones; by working with local and state agencies to get the message out about the proper handling of discarded tires; and by using licensed scrap tire collection and recycling firms.

In 2002, numerous states, tire dealer organizations, and tire recycling firms launched programs to educate the public and mitigate the potential for disease-carrying mosquitoes to find a home in tires. The Maryland Department of the Environment created and aired a message on local and national television and radio spots about the hazards of stockpiled tires. The New Jersey legislature appropriated \$2 million a year for each of the last two years to establish the Scrap Tire Fund Entitlement Program, a state-wide initiative to help combat the spread of West Nile Virus by helping counties remove abandoned tires.

Last year the Louisiana Independent Tire Dealers Association (LITDA), working with the Louisiana Department of Environmental Quality, launched a state-wide media campaign offering to take motorists' scrap tires to help fight West Nile Virus. The LITDA provided the public with lists of local independent tire dealers who were willing to take as many as 10 tires from each individual who contacted them.

Recently, the Center for Disease Control (CDC) announced that nearly every state is planning West Nile

Virus prevention or education this summer. The CDC expects West Nile Virus to be the number one disease threat in the summer of 2003, according to a National Public Radio report.

One such program is already underway in Missouri, where Aquila, Inc., a high volume consumer of tire-derived fuel, has joined forces with the Missouri Department of Natural Resources and several community organizations to support a program designed to clean up tires in vacant lots and streams, which serve as breeding grounds for mosquitoes that can carry the Virus.

As other states and communities prepare to combat any new outbreaks, tire dealers and tire recyclers can get involved in the effort. In addition to spraying and providing collection or disposal services, tire dealers and tire recyclers often have the first-hand opportunity to educate their customers and the community about the value and benefits of proper tire handling, and the value-added uses that the tire recycling industry has developed for tires after their useful life. Two good resources are the *Lifecycle of the Tire* booklet and poster developed by the Tire Industry Association's Tire and Rubber Recycling Advisory Council (TRRAC). The *Lifecycle of the Tire* is a concise, thumbnail sketch of the life of the tire from the moment it is placed on a vehicle through the options available for minimizing its impact on the environment. It is well illustrated, presents general, non-technical descriptions of the various processing technologies and gives examples of the end-uses and market applications for the recycled tires or recycled tire rubber. It is a great tool for educating the public about what happens to tires and encourages them to recycle their own tires.

Aside from educational materials, there are some simple guidelines tire

dealers and tire recyclers can pass on to their customers to help eliminate breeding grounds for the Culex and other mosquitoes. Dr. Gail Hansen, Deputy State Epidemiologist with the Kansas Department of Health and Environment (KDHE) offered this checklist:

- remove old tires;
- empty buckets (and turn them over when not in use);
- replace water in birdbaths often;
- clean gutters that collect water;
- clean livestock tanks;
- clean pool tarps and keep pools well chlorinated;
- clean plant saucers;
- repair poor drainage areas in yards, lots and pastures.

The following are some additional resources you may consider to keep mosquitoes at bay.

**Mosquito Dunks**, about the size of small bagels, are safe, biodegradable larvicides meant for drains, old tires, birdbaths—places where water collects. Available through [www.marchbiological.com](http://www.marchbiological.com), 800-328-9140.

The **Sonic Web** is a new device effective on up to an acre of land, according to its manufacturer, Applica, Inc. About the size and

weight of a large plastic bucket, the Sonic Web attracts and kills mosquitoes by simulating a human being. It was effective when tested for three weeks in a 50 by 60 foot outdoor space. The Sonic Web contains an octenol scent strip and emits a gentle "heartbeat." Insects fly into it and are trapped by sticky paper. Each sheet lasts about a week. Available through [www.fightthebite.com](http://www.fightthebite.com), 866-766-4293.

**Punk sticks**, made of dried natural materials, really zap mosquitoes. When lit, each 10 1/2" punk stick burns with a woody scent that humans like but flying insects find repulsive. Available through [www.vermontcountrystore.com](http://www.vermontcountrystore.com).

For personal protection, KDHE's Dr. Hansen noted that the Culex mosquito only feeds at night and the best protection is to limit your outdoor activities after dark. If you do go out, use repellents or try the **bug jacket**—a nylon hooded jacket that lets air in and keeps bugs out. It's available through [www.solutionscatalog.com](http://www.solutionscatalog.com). ■

*Sources for this article include MATDA, Scrap Tire News, The New York Times and the Internet.*

