

Preventing West Nile Virus

The Facts about Mosquito Applications

- **The Environmental Protection Agency (EPA) and U.S. Centers for Disease Control and Prevention recognize West Nile virus as a serious threat to the public health and recommend an integrated pest management (IPM) approach** to prevent the spread of the virus. IPM encompasses West Nile virus surveillance and monitoring, sanitation, maintenance, biological and chemical control, and education of the public in prevention measures.
- **Pesticides used in controlling mosquitoes that may carry West Nile virus fall into two categories: larvicides and adulticides.** Larvicides are applied to mosquito breeding grounds to kill developing larvae before they develop into adult mosquitoes. Adulticides target adult mosquitoes and are applied as ultra-low volume (ULV) mist or fogs. ULV sprayers dispense very fine aerosol droplets that stay aloft and kill flying mosquitoes on contact. These products are designed to quickly break down into harmless chemicals in the environment.
- When it comes to West Nile virus, **all IPM tools must be utilized to protect public health, including the physical reduction of mosquito breeding grounds, an effective larvicing program, the proper application of adulticides by well-trained personnel and the use of repellants by the public.** Collectively, these measures represent the only proven and responsible way to protect public health from the threat of mosquito-borne diseases.
- **Mosquito control applications have been evaluated by the EPA and found to pose minimal risks to human health and the environment when used according to label directions.** For example, the EPA has estimated the exposure and risks to both adults and children posed by ultra-low volume (ULV) applications of the insecticides malathion and naled. For all of the scenarios considered, exposures ranged from 100 to 10,000 times below an amount of pesticide that might pose a health concern. These estimates assumed several applications over a period of weeks, and also assumed that a toddler would ingest some soil and grass in addition to skin exposure. Other mosquito control pesticides pose similarly low risks. The EPA routinely monitors and evaluates pesticides to assure that products already on the market continue to meet scientific and regulatory requirements for health, safety and environmental effects.
- **New technology is making mosquito control more precise, accurate and safe.** Mosquito control agencies are using Global Positioning Systems (GPS) on fixed-wing aircraft to improve aerial applications and more accurately target mosquito populations while reducing non-target impacts. Lasers are being used to measure droplet size of insecticide dispersed from aircraft, thus reducing the size of droplets dispersed and the amount of insecticide sprayed. Wind tunnels are used to simulate flying conditions and enable quick and efficient testing of spraying systems to ensure optimal droplet sizes. Night-vision goggles allow pilots to treat mosquitoes during evening hours when they're most active and give pilots a better visual perspective to accomplish spray missions more efficiently.
- **Mosquito control applications are highly effective in preventing the spread of West Nile virus, as evidenced in the city of Fort Collins, Colo.** The city implemented an emergency application program in August 2003 to combat an outbreak of the virus. Before the applications began, 211 people in Fort Collins and its immediate vicinity had contracted West Nile virus. After the applications, only 17 cases were reported in the area through the remainder of the season. According to a report from the Centers for Disease Control and Prevention, the drop in cases in that city was far more dramatic than the gradual decrease in infection rates in the rest of the state.
- **The public supports the use of pesticides in preventing the spread of West Nile virus.** A November 2002 Harvard School of Public Health survey shows 9 out of 10 people in high-mosquito areas of the country favor spraying against mosquitoes to prevent the spread of the virus.

- **Local election results reflect public support for mosquito applications.** In a 2004 local election in Durango, Colo., residents in the Animas Mosquito Control District elected two write-in candidates who endorsed the use of pesticides in controlling the mosquito population and fighting the spread of the virus.
- **Residents of towns that make applications for mosquito control may follow some common-sense guidelines to minimize their exposure.** Generally, there is no need to relocate during mosquito control applications, but citizens may consult local media for announcements about mosquito applications and remain indoors when applications take place nearby. Additional precautions include closing windows, turning off window-unit air conditioners when applications are taking place in the immediate area, and not allowing children to play near or behind truck-mounted applicators when they are in use. Outdoor toys and play equipment may be brought indoors or wiped off with soap and water after applications. Once the mosquito application – consisting of an insecticide mist -- dissipates, it breaks down in the environment (generally within 24 hours) producing little residual effect.

What the Experts are Saying

- "Contrary to the environmentalist view, public health campaigns that use insecticides against diseases have a remarkable record of public safety and a remarkable record of protecting humans from insect-borne diseases."
 - *Dr. Donald Roberts, professor of tropical public health, Uniformed Services University of the Health Sciences*
- "Since West Nile virus is a mosquito-transmitted disease with no specific treatment, the only ways to control the outbreak are by personal protection from mosquito bites, including the use of repellents, and reduction in mosquito populations."
 - *Dr. Jerome Goddard, a medical entomologist and assistant professor of medicine at the University of Mississippi Medical Center in Jackson, Mississippi*
- "The reality is that the risk posed by West Nile virus is much greater than any risk associated with mosquito-control pesticides. The risks associated with proper use of pesticides are so low one cannot document any lasting effects. There are no known deaths from spraying these products. The same cannot be said for West Nile virus, which has affected more than 13,000 people and killed more than 500 in the U.S. since 2002."
 - *Allen James, president of RISE (Responsible Industry for a Sound Environment), an association of manufacturers of pesticide products used in and around homes, businesses and public areas that promotes the safe and responsible use of these products*
- "Certain activist groups claim that pesticides are among the worst things facing civilization – right up there with the politically unpopular items like tobacco and guns. They say pesticide use should be avoided. I am convinced by the data and from my understanding of the EPA registration process that pesticides are generally safe for the public. In fact, they are applied at such low levels that there isn't any measurable impact on humans."
 - *Dr. Jerome Goddard, a medical entomologist and assistant professor of medicine at the University of Mississippi Medical Center in Jackson, Mississippi*

For more information about West Nile virus, visit www.westnilevirusfacts.org. The site provides facts about the virus, dispels myths some people may have about it, and offers ways for people to prevent themselves and their pets from contracting it.