

# The Truth About West Nile Virus

## Bad information and fear lead to dangerous responses

By Jessica Lunsford

Mosquito season is almost upon us and all the experts say that West Nile virus will be back along with those pesky bugs. Last year concerns over this disease stuck fear in the hearts of Americans everywhere and caused a deluge of pesticide applications throughout the country. As of the end of mosquito season 2002 the virus had reached 42 states and the District of Columbia.<sup>1</sup> But what are the real risks from the disease and the chemical response to it? Here are some facts to fend off the fear.

### Facts on disease risks of WNV

While the Harvard School of Public Health surveyed Americans in mosquito infested areas and found 33% think that they or a member of their family is very or somewhat likely to get sick from the West Nile virus this coming season,<sup>2</sup> the true incident numbers, even in heavily affected areas, fall far below this percentage. According to the Centers for Disease Control (CDC), in Mississippi in 2002, one of the hardest hit states, the attack rate was 1.7 per 100,000 people statewide and 8 per 100,000 in the hardest hit county.<sup>3</sup> That works out to be only 0.0017% statewide and 0.008% in the highest county that actually tested for the disease. A door-to-door survey conducted in the fall of 1999 in an extremely hard hit area of New York City found that less than 30% of people who tested positive with the disease had reported symptoms, most of which were characterized as mild. Of those surveyed, 10% that did not have the disease reported WNV-like (or flu-like) symptoms. Moreover, a person who has been infected with West Nile virus is likely to have life-long immunity to the disease whether or not they showed symptoms.<sup>4</sup> The survey also found that over half of those surveyed in high-mosquito areas mistakenly believe that West Nile can be contracted through drinking infected water.<sup>5</sup>



### Facts on chemical repellents

On the main CDC West Nile web page, the primary prevention strategy is the use of insect repellents containing the pesticide N,N-diethyl-m-toluamide or DEET. Yet, this pesticide has been found to cause neurological effects in rats and has been associated with the physical symptoms of the

“Gulf War Syndrome,” especially when combined with permethrin,<sup>6</sup> a CDC recommended mosquito insecticide. According to the CDC Insect Repellent Use and Safety Fact Sheet, DEET is touted as safe and suggests its use in lower concentration for children over the age of two.<sup>7</sup> This recommendation is given even though in 1998 EPA rejected “child-safety” claims of all DEET products. According to EPA, “child-safety claims must be removed from all end-use prod-

## Prevention Over Poison in the West Nile Virus Fight

**Ft. Worth, Texas issues a mandate not to spray**

Don't mess with Ft. Worth! In a state known for its fierce independence with fiery pride, the City of Ft. Worth has chosen to fight West Nile virus with prevention, not poison. Meanwhile, Dallas and Houston have called out the spray trucks in a massive campaign, one that gives people a false sense of security, according to a Ft. Worth official.

### Why Is Fort Worth Not Spraying?

Fort Worth is a medium sized city located in central Texas about 30 miles from Dallas. The Health Authority there has taken what some see as a rather controversial stand on how to best protect its citizens from the threat of this emerging disease. Behind that stand is Brian Rogers D.O., MPH, City of Fort Worth Health Authority. In fact, Fort Worth has not sprayed for mosquitoes since 1991 and continues to prefer prevention over poison.

Referring to Houston's mosquito control program, which extensively utilized sprayed adulticides and has been unable to prevent the many cases of West Nile virus, Rogers expresses his doubts about spraying in a letter to the people of Fort Worth, posted on the Fort Worth Health Authority website:

*Spraying sure sounds [like] the city is doing something, but the reality is, unless the spray has direct contact [with mosquitoes] you accomplish little...In my humble opinion, all they will do is give people the false sense of security that the problem has been handled. The only thing*

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uct labels in order to be reregistered. Child-safety claims are misleading and irreconcilable with the intended use and pesticidal ingredients of DEET products.” This restriction includes DEET containing products with labels such as “For Kids” or “Safe for Children.” In addition to the contradiction of EPA removing all “child-safety” claims while CDC touts DEET as safe for children, EPA states that there is evidence that the concentration of DEET within a product does not affect its safety.<sup>8</sup> This directly contradicts CDC and the American Academy of Pediatrics claims that “a cautious approach is to use products with a low concentration of DEET, 10% or less.”

What is lacking in the CDC’s information arsenal is safety information about the pesticides it promotes. According to the New York State Department of Health, during or after widespread aerial or ground spraying of adulticides, adverse health outcomes might include acute asthma attacks, other respiratory problems, or dermatological problems.<sup>9</sup>

## What to do if spraying starts

If it is not possible to influence your local government not to conduct community-wide spraying for adult mosquitoes, there are steps you should take to protect yourself and your family. Find out when spraying in your area will take place. It is imperative to stay indoors, close all doors and windows, turn off air conditioners, bring in pets and children’s toys. When you go back outside, wash all toys, furniture, and animal dishes that may have been sprayed.

The hysteria about WNV must be balanced with the truth about the disease and the various approaches to prevent it. Prevention of West Nile virus is best achieved by eliminating or reducing mosquito breeding areas, staying inside during peak mosquito times, and using botanical-based repellents that do not contain DEET.

For more information about West Nile virus, alternative control methods, and how to organize your community, please contact *Beyond Pesticides* or our website: [www.beyondpesticides.org](http://www.beyondpesticides.org).

## Prevention *continued from the previous page*

*spraying will accomplish, I am afraid, is cause an onset of symptoms for those with respiratory problems.*

The Fort Worth area has a high rate of Asthma Chronic Obstructive Pulmonary Disease (COPD) and other respiratory disorders, and Dr. Rogers believes, “Spraying for mosquitoes would harm more people than it would help.” He adds that,

*Spraying a mosquito population that is less than 1% infected with a rare virus that infects humans 1% of the time, does not seem to validate the risks involved with massive spraying. As the City Health Authority of Fort Worth, I am sure that spraying will result in risks to citizens far in excess of 1%. Those with respiratory disease will certainly have to change their lives or risk a flare-up of their disease.*

Dr. Rogers uses humor to put in perspective the actual threat the West Nile virus. “An individual has a better chance of winning the lottery or getting struck by lightning than contracting West Nile virus.” For Dr. Rogers and the citizens of Fort Worth, when all of these facts are considered together, it seems the decision not to spray practically made itself.

*Beyond Pesticides has many resources to help your community create a safer mosquito control strategy, including our Public Health Mosquito Management Strategy (free on our website [www.beyondpesticides.org](http://www.beyondpesticides.org)) and Beyond Pesticides Mosquito Organizing Manual (\$10.00 ppd). For copies, please contact Beyond Pesticides.*

## Notes

- Centers for Disease Control, Vector-Born Infectious Diseases, West Nile Virus Case Information, <http://www.cdc.gov/ncidod/dvbid/westnile/index.htm#case>.
- Blendon, R. et al., West Nile Virus Survey, Project on Biological Security and the Public Harvard School of Public Health, November, 2002, <http://www.hsph.harvard.edu/press/releases/press01132003.html>.
- Centers for Disease Control, Morbidity and Mortality Weekly Report, West Nile Virus Activity—United States, August 8—14, 2002, and Mississippi, July 1—August 14, 2002, <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5132a4.htm>.
- West Nile Virus Questions and Answers on Serosurvey, New York City Department of Health, March 21, 2000, <http://www.ci.nyc.ny.us/html/doh/html/wnv/wnvqa.html>.
- Blendon, R. et al., West Nile Virus Survey, Project on Biological Security and the Public Harvard School of Public Health, November, 2002, <http://www.hsph.harvard.edu/press/releases/press01132003.html>.
- Abou-Donia, Mohamed, et al. 2001. “Subchronic Dermal Application of N,N-Diethyl m-Toluamide (DEET) and Permethrin to Adult Rats, Alone or in Combination, Causes Diffuse Neuronal Cell Death and Cytoskeletal Abnormalities in the Cerebral Cortex and the Hippocampus, and Purkinje Neuron Loss in the Cerebellum.” *Experimental Neurology* 172:153-171.
- [http://www.cdc.gov/ncidod/dvbid/westnile/qa/insect\\_repellent.htm](http://www.cdc.gov/ncidod/dvbid/westnile/qa/insect_repellent.htm).
- EPA R.E.D. Facts: DEET, U.S. Environmental Protection Agency Prevention, Pesticides and Toxic Substances, EPA-738-F-95-010, April 1998.
- New York State Department of Health, West Nile Virus Response Plan, APPENDIX B Surveillance of Possible Health Effects from Pesticide Exposure, <http://www.health.state.ny.us/nysdoh/westnile/final/appendixb.htm>, May 2000.