

PRESS RELEASE



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Effectiveness of Widespread Mosquito Spraying for West Nile Virus In Question

(Washington, DC - August 24, 2006) As mosquito vector control officials rev up their truck-based and aerial pesticide spray programs for West Nile virus (WNV) and Eastern equine encephalitis (EEE), important new evidence on the ineffectiveness of their methods is making headlines in scientific circles.

A critical new study by a group of scientists and practitioners, concludes, "We find that ULV applications of resmethrin had little or no impact on the *Culex* vectors of WNV, even at maximum permitted rates of application, [and] such insecticidal aerosols, delivered from the road, may not effectively reduce the force of transmission of WNV."

Recognizing the lack of research on the effectiveness of pesticide spraying, the researchers measured mosquito populations in different suburban landscapes in eastern Massachusetts after a typical resmethrin, a synthetic pyrethroid, spraying. About as many eggs were deposited before the pesticide application as after in both treated and untreated areas, meaning the treatments did not decrease the reproductive activity of the adult mosquitoes. This study, "[Efficacy of Resmethrin Aerosols Applied from the Road for Suppressing *Culex* Vectors of West Nile Virus](#)," funded in part by the Centers for Disease Control (CDC) and the National Institutes of Health and led by the Harvard School of Public Health, appears in the June 2006 issue of *Vector-Borne and Zoonotic Diseases*.

An earlier study on truck-mounted spraying, which appeared in the *Journal of the American Mosquito Control Association* (1998), concludes that the average upwind and downwind mosquito kill from truck-mounted spraying to be between 21% and 45%.

"The CDC states that source reduction, the elimination of mosquito larval habitat, remains the most effective and economical method of providing long-term mosquito control, yet communities across the nation are reverting to spraying adult mosquitoes with little or no monitoring of effectiveness," says Eileen Gunn, Project Director for Beyond Pesticides, a national environmental organization.

David Pimentel, Ph.D, entomologist at Cornell University states that "In order to prove whether pesticides are effectively killing mosquitoes, you need five days of monitoring mosquito populations before and after the spraying." This is consistent with CDC

recommendations for continuous monitoring of control strategies for effectiveness and resistance. For instance, resistance to sumithrin, the active ingredient in Anvil,© has been reported in cockroaches, aphids, mosquitoes and lice.

Public health officials and environmental groups are equally disturbed by the lack of information officials are providing to the public on the health and environmental impacts of the chemicals they are spraying. Often officials claim the pesticides are safe because they are registered by the Environmental Protection Agency (EPA)- a claim that is illegal to make. Many mosquito control and household insecticides are synthetic pyrethroids, with impacts typical of neurotoxins, such as headaches, dizziness, nausea, and irritation.

There are also serious chronic health concerns related to exposure. EPA classifies some pyrethroids as possible human carcinogens and many are endocrine disruptors, which means, even at low levels, they can adversely affect reproduction, sexual development, interfere with the immune system, and increase chances of breast cancer. In breast cancer cells sumithrin increases the expression of a gene involved with cell proliferation in the mammary gland. Pyrethroids may also trigger respiratory problems such as asthma, a particular problem for children in urban areas. Further, piperonyl butoxide (PBO), the synergist in many synthetic pyrethroid products that increases the toxicity, is also classified as a possible carcinogen by EPA, causes atrophied testes, and reduces the activity of important immune system components.

Last summer, CDC released its *Third National Report on Human Exposure to Environmental Chemicals*, showing pyrethroids in the urine of more than 50% of the subjects tested.

There are widespread claims among mosquito control officials that these chemicals just dissipate in a few days with no impact on non-target species. California investigated pyrethroids in stream sediments and found total or near-total mortality to *Hyalella azteca*, a small bottom-dwelling crustacean generally regarded as a sensitive warning species. Such monitoring of impacts to non-target species, especially beneficial predators, is rare. California is currently considering a ban on pyrethroid pesticides.

With the threat of WNV and EEE , public health advocates say mosquito control must be conducted in a way that truly reduces the risks of getting the disease and the hazards from exposure to harmful pesticides, so that the public is not lulled by a false sense of security. Officials need to be aware of important scientific findings that impact the effectiveness of their decisions, and fully disclose the hazards and efficacy of pesticide use to citizens. Pesticides are not a silver bullet and the recent efficacy studies emphasize even more the need for an integrated approach to controlling these viruses.

Beyond Pesticides has several publications and activists tools online including the [Public Health Mosquito Management Strategy: For Decision Makers and Communities](#), [safer repellents](#), [mosquito control pesticides](#), [public service announcements](#) to distribute to your local radio stations, and community policies throughout the nation at <http://www.beyondpesticides.org/mosquito> or by contacting Beyond Pesticides at 202-543-5450.

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