Effectiveness of Widespread Mosquito Spraying for West Nile Virus In Question

(Washington, DC – August 1, 2003) As government agencies conduct pesticide spray programs for West Nile virus, the federal agency responsible for determining the effectiveness of this practice has not conducted reviews, as required by law. Meanwhile, local jurisdictions are beginning to ask for the evidence that spraying their communities with toxic pesticides actually controls the virus and is worth the health risks associated with widespread public exposure to the chemicals.

Noted entomologist and Cornell University Professor David Pimentel told an Ohio audience last month that, “Ground spraying in general is a waste of money. Most ground spraying is political and has very little to do with mosquito control.”

“We have asked the Environmental Protection Agency (EPA) for the data on pesticide product effectiveness (efficacy) for public health mosquito control uses and have been told that there is none,” said Jay Feldman, executive director of Beyond Pesticides, a national environmental organization. “This is particularly problematic because chemicals like chlorpyrifos (Dursban), which was phased out for all household uses beginning in June 2000, continues to be widely sprayed in communities throughout the country. This is especially troublesome given the availability of alternative preventive and less toxic management approaches,” said Mr. Feldman. The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) requires that pesticides registered for public health use are tested for efficacy, but EPA is still in the review process.

Communities across the country are stopping their use of pesticides and adopting preventive strategies that manage mosquito breeding areas and educate people to use non-toxic insect repellents. The City of Lyndhurst, Ohio, a suburb of Cleveland, passed a landmark ordinance on July 7, 2003 prohibiting the spraying of pesticides "in an effort to help control the spread of the West Nile virus." The City’s action follows a community forum in which a panel of experts on mosquito management and health effects of pesticides discussed the hazards and the lack of efficacy associated with the spraying of adulticides, or pesticides used to spray adult mosquitoes. Other communities, such as Ft. Worth, Texas and Washington, DC are on record with no-spray policies.
Currently, the insecticides naled (Dibrom) and chlorpyrifos (Dursban), two of the most toxic organophosphate pesticides on the market, are among the most common chemicals sprayed for mosquito problems in neighborhoods all across the United States. Organophosphates are a highly toxic class of pesticides that affects the central nervous, cardiovascular and respiratory systems. Symptoms of exposure include: numbness, tingling sensations, headache, dizziness, tremors, nausea, abdominal cramps, sweating, incoordination, convulsions, and fatality. Some organophosphates have been linked to birth defects and cancer. Breakdown times range from a few days in direct sunlight, to several months. A 1996 study of children exposed to chlorpyrifos in utero found that extensive and unusual patterns of birth defects, including brain, nervous system, eyes, ears, palate, teeth, heart, feet, nipples, and genitalia. Published literature and EPA documents contain reports that identify similarities in defects found in test animals and children exposed to chlorpyrifos.

Clark Environmental Mosquito Management, Inc., the maker, applicator and distributor of Mosquitomist, is traversing the country selling its popular mosquito control spray, which contains the neurotoxic chlorpyrifos. While EPA retained the public health mosquito use for chlorpyrifos after banning home and garden uses in June 2000, continued exposure to this organophosphate, especially in combination with other pesticides to which children are exposed, presents a health risk that public health advocates say is simply unnecessary in light of viable mosquito prevention programs that are being used successfully in towns across the United States.

Synthetic pyrethroids, such as sumithrin (Anvil) and permethrin, another class of toxic pesticides that are widely used for mosquito control, have irritant and sensitizing properties. Because of the similarities to crude pyrethrum, pyrethroids may act as dermal or respiratory allergens. Contact dermatitis and asthma-like reactions to exposure have been documented. Acute exposure can result in nasal stuffiness, headache, nausea, incoordination, tremors, convulsions, facial flushing and swelling, and burning and itching sensations. The most severe exposures, documented in infants, can result in excitation and convulsions leading to paralysis, accompanied by muscular fibrillation and diarrhea. Death can occur due to respiratory failure. Permethrin, a possible human carcinogen, has also been linked to disruption of the endocrine system, introducing a range of effects that adversely affect childhood development, sexual traits, and chronic effects later in life.

Beyond Pesticides advises communities to adopt a prevention-oriented mosquito management plan and has published the Public Health Mosquito Management Strategy and The Truth About West Nile Virus: Bad information and fear lead to dangerous responses. The organization urges people to use herbal repellents even though they may have to be applied more frequently than DEET (N,N-diethyl-m-toluamide) products, which are linked to neurotoxic effects and carry strict and unrealistic exposure and use warnings on its product label. See Beyond Pesticides chemicalWATCH factsheet on DEET, chlorpyrifos, and synthetic pyrethroids. All this material can be found on www.beyondpesticides.org or by contacting Beyond Pesticides. Beyond Pesticides also publishes a West Nile Virus Organizing Manual, which is available in hard copy only.

##