

ACTION ALERT:

Effectiveness and Safety of Contra Costa County Mosquito Spraying for West Nile Virus in Question

As Contra Costa County Mosquito and Vector Control District (CCMVCD) officials ready their programs for dealing with the West Nile Virus (WNV), important new evidence on the ineffectiveness of truck-based pesticide spraying and the risks to public health and the environment are making headlines in scientific circles.

Ineffectiveness of Spraying

The CCMVCD's primary means of mosquito control has been targeting the mosquito larvae before they become adults. It is agreed that elimination of mosquito larval habitat remains the most effective and economical method of providing long-term mosquito control. Moreover, this method poses less risk to public health and the environment. However, last year, the CCMVCD also began truck-based and aerial pesticide spraying (or "adulticiding") to control adult mosquitoes.

In a recent 2006 study, researchers measured mosquito populations in different suburban landscapes in eastern Massachusetts after a typical truck-based spraying of a synthetic pyrethroid pesticide. 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 adult mosquitoes' reproductive activity. "... insecticidal aerosols, delivered from the road, may not effectively reduce the force of transmission of West Nile Virus." This study was funded in part by the Centers for Disease Control and the National Institutes of Health and led by the Harvard School of Public Health.

In addition, while other studies suggest aerial spraying can be effective at killing mosquitoes, at least in the short term, there is no evidence in the research or from documented adulticiding events demonstrating that these types of applications decrease the incidence of WNV.

Risks to Public Health and the Environment

Public health officials and environmental groups are also disturbed by the lack of information officials are providing to the public on the health and environmental risks of the pesticides they are spraying.

In 2006, the primary pesticide used by the CCMVD for adulticiding was Pyrethrin 25-5. This product contains 5% pyrethrin and 25% piperonyl butoxide, a synergist that inhibits detoxification of pesticides, thus making pesticides more potent. Pyrethrin is listed as a possible human carcinogen by the U.S. EPA. Piperonyl butoxide is also classified as a possible carcinogen, is linked to reproductive damage, and suppresses the immune system. This chemical is also a potential ground water contaminant, being able to move easily through soil.

During the summer of 2006, the CCMVD also applied the pesticide Scourge by spraying into the air. Scourge contains the pesticides resmethrin and naphthalene, both Proposition 65 chemicals. Resmethrin, a pyrethroid pesticide, is a known human reproductive toxin, and naphthalene is a known human carcinogen. Scourge also contains piperonyl butoxide.

Exposure to synthetic pyrethroids can immediately lead to headaches, dizziness, nausea, and irritation. There are also serious chronic health concerns. The EPA classifies some pyrethroids as possible human carcinogens and many are endocrine disruptors. Endocrine disruptors, even at very low levels such as parts per billion, may adversely affect reproduction, sexual development, interfere with the immune system, and increase chances of breast cancer. Pyrethroids may also trigger respiratory problems such as asthma.

The CCMVCD claims that the risk of exposure to the pesticides used in adulticiding is very low. However, during the warm months when adulticiding occurs, many people spend more time outside and have their air conditioners on or leave their windows open. Exposure to some people residing in sprayed areas appears inevitable.

Of those individuals bitten by a mosquito infected with the WNV, less than 1 in 1000 becomes seriously ill from the virus. Any serious illness or death is tragic. West Nile Virus has never caused a public health epidemic anywhere. For example, 19 people died in California from WNV in 2005. While any death is tragic, the risks posed by WNV must be kept in perspective of other public health threats that take more lives. For example, the State DHS has recorded 8,184 people in California dying from influenza in 2003. The increased long term health risks (especially for the fetus, children, the elderly, and those with suppressed immune systems) associated with exposure to the pesticides used by the CCMVD for adulticiding are not being adequately considered.

Finally, there are misunderstandings that these chemicals dissipate in a few hours with no impact on species other than mosquitoes. Dr. Don Weston of U.C. Berkeley investigated pyrethroids in CA stream sediments and found total or near-total mortality to bottom-dwelling crustaceans, regarded as a sensitive warning species. In addition, the piperonyl butoxide added as a synergist to the adulticiding pesticide products have been found to increase the toxicity of pesticides found even at very low levels in the creek sediment. Piperonyl butoxide inactivates the enzyme that functions to protect us from some pesticides. This was formulated into the products to make the product more effective on pests, but since humans have this same enzyme system, it can also damage our ability to protect ourselves from low level exposures to pesticides. After the Sacramento adulticiding event in 2005, researchers detected piperonyl butoxide even at very low levels in the Sacramento creeks, to potentiate the toxicity of pre-existing pyrethroid pesticides in the sediments by ten fold. The Center for Disease Control report of 2003 found an average of 13 Pesticides in the people of the U.S. and Children were found to have the highest levels of some pesticides, sometimes 200% Higher. Pyrethroids were the most commonly detected pesticides in over three thousand people tested, being present in the majority of the population. This means that people who are exposed to piperonyl butoxides from the fogging for mosquitoes may have an increased risk from pre-existing and to be encountered pesticide residues that are found in our bodies from other sources such as foods, from our neighbors' and other public agencies' spraying for weeds

alongside roads and in parts, etc. The CA Department of Pesticide Regulation is currently reconsidering the safety and registration of over 300 pyrethroid containing pesticide products and has taken steps to require manufacturers to conduct adequate studies and retailers to inform consumers about the risks to water bodies. There are many unknowns about the pesticides registered by the US EPA. Reproductive and developmental toxicity has not been assessed for all the thousands of pesticide products on the market and hormone disruption has not even been a factor in the registration of pesticides in CA to date. In time we will discover the effect of pesticides that we are using currently, but often it is after decades of use and damage to society.

Help us and Take Action:

Join Parents for a Safer Environment (PfSE) when concerns on these issues are presented to the CCMVCD's Board of Trustees and staff. Show by your presence, that risks of adulticiding to public health and the environment must be considered particularly when there is lack of evidence that adulticiding is effective.

When: Monday, March 12, 2007

Time: 7:00-7:30 PM

**Where: Contra Costa Mosquito and Vector Control District Offices
155 Mason Circle Concord, CA 94520 (Map quest direction is wrong)
(Check the PFSE website for directions & carpool info: www.pfse.net)**

Please help us keep this meeting scent/fragrance free for those who are chemically sensitive and can become very ill after even a brief exposure.

See our website for references to all issues addressed above.

To RSVP with number of people you are bringing, or for information, contact Susan JunFish, Director, PfSE at junfishpfse@hotmail.com or 925- 283-4609.