School Pesticide Monitor

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Beyond Pesticides / National Coalition Against the Misuse of Pesticides
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School Pesticide Poisonings Spur State to Consider Legislation

Growing out of a concern about pesticides drifting onto school grounds, the Hawaii Senate has begun considering the adoption of legislation that would better protect students and staff from nearby pesticide applications. Studies, such as the 2005 *Journal of the American Medical Association* published "Acute Illnesses Associated with Pesticide Exposure at Schools" (Alarcon, MD et al., JAMA, 294: 455), identify drift as a major source of school poisonings.

The bill, SB 3170, would establish a 1,500 foot no-spray buffer zone for all ground applications and a half-mile buffer zone for all aerial applications around all elementary schools. It would also require 72-hour prior written notification to all schools in the immediate area of a pesticide application, and a one-week prior notification of all commercial use of pesticides within a five-mile radius of any school or educational institution property to the Department of Education, which in turn will notify the appropriate schools within 72-hours of the proposed application.

The bill's author, Senate Majority Leader Gary Hooser, states on his website, "A pesticide is poison. It is designed to kill. No child should be subjected to it, especially in a learning environment. To allow it doesn't even make sense."

Many of those who spoke at the public hearing on the bill in February had been affected by the types applications the bill is trying to prevent.

Kauai's *Garden Island Newspaper* states that in January 10 students and one teacher were sent to the hospital complaining of dizziness, headaches and nausea after pesticides drifted onto the Waimea Canyon Middle School campus. Similar incidents occurred at the school in January 2007 and in November 2006, closing the school for several days. The Hawaii State Teachers Association is seeking an injunction to halt Syngenta Seeds Inc. from applying pesticides on the property next to the school.

Last May a similar incident made students sick at Kahuku High and Intermediate school on Oahu. Ameri-Turf applied Orthene on 9,000 square-feet of its property that borders the school causing the pesticide to drift onto the school grounds. The school was shut down for three days due to lingering fumes. Soil samples taken by state agriculture officials confirm the drift incident.

Kahuku's Principal, Lisa Delong, told NBC's KHNL Channel 8, "We think it is an important bill and we would encourage them to pass it so we can insure our students have a safe learning environment."

Pesticide Exposure May Increase Risk of Asthma

With nearly one in eight school-aged children diagnosed with asthma, it is the leading cause of school absenteeism due to chronic illness. But asthma is not just a problem for children, it also impacts adults. New research shows that pesticide exposure may be a major factor.

Researchers from the National Institute of Environmental Health Sciences (NIEHS) have found that exposure to several commonly used pesticides increases the risk of asthma in farmers. In September 2007, NIEHS researchers presented findings to the European Respiratory Society Annual Congress in Stockholm and in a paper "Pesticide use and chronic bronchitis among farmers in the agricultural health study" (Hoppin, et al., Am J Ind Med. 2007 Nov 1: 17975796), which document that farmers with a history of pesticide exposure are twice as likely to have asthma. Sixteen of the pesticides studied are associated with asthma. Use of coumaphos, EPTC, lindane, parathion, heptachlor, 2,4,5-TP, DDT, malathion, and phorate have the highest odds ratios.

"This is the first study with sufficient power to evaluate individual pesticides and adult asthma among individuals who routinely apply pesticides," said author Jane A. Hoppin, Ph.D.

Another study by the same NIEHS researchers finds a correlation between women's exposure to farm pesticides and allergic asthma (*Am. J. Respir. Crit. Care Med.* 2008; 177:11-18). The study evaluates 25,814 farm women who are participating in the Agricultural Health Study in Iowa and North Carolina.

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Pesticides Found in Children Who Eat Chemically-Treated Foods

A new study published in *Environmental Health Perspectives* (www.ehponline.org/docs/2005/8418/abstract.html) finds that children who eat a diet of conventionally-grown foods carry residues of organophosate (OP) pesticides and that this major source of exposure to young children can be substantially reduced or eliminated when they switch to an organic diet.

The study assessed 19 boys and girls, ages 3-11 years of age living in a suburban city near Seattle, Washington, to determine their exposure and dietary intake to OP pesticides.

The children consumed a diet of conventional foods produced by chemical-intensive practices.

For five consecutive days during the summer and fall the children substituted organic fruits and vegetables for the corresponding conventional food items. Urine samples were collected twice daily for a period of 7, 12, or 15 consecutive days during each of the four seasons. The authors measured specific metabolites for malathion, chlorpyrifos and other OP pesticides.

The year-long study shows that the urinary metabolites for chlorpyrifos and malathion have the highest detection rates among the five OP metabolites that were targeted for analysis.

In less than 36 hours of the children switching to organic fresh fruits and vegetables, the urinary OP metabolites could no longer be detected.

Organophosphate (OP) pesticides have been shown to cause neurological effects in animals and humans.

Although fried chicken nuggets and cheeseburgers still reign supreme in most school cafeterias, a growing number of schools are turning to organic food as a way to improve children's health and fight obesity. *Find out more at www.beyondpesticides.org.*

Pesticide Exposure May Increase Risk of Asthma

continued from page one.

their families in the world, so it gives us an opportunity to look at diseases that haven't been well characterized," said Dr. Hoppin.

The study found 7 of 16 insecticides, 2 of 11 herbicides, and 1 of 4 fungicides are significantly associated with allergic asthma, with parathion use resulting in an almost three-fold increase. Malathion is associated with a 60 percent increased prevalence of allergic asthma. Permethrin is associated with both allergic and non-allergic asthma.