

# School Pesticide Monitor

A Bi-monthly Bulletin on Pesticides and Alternatives



Vol. 7 No. 5 Sep/Oct 2007

Beyond Pesticides / National Coalition Against the Misuse of Pesticides  
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## CDC Links School Environment to Academic Achievement

In a report it releases every six years, the Centers for Disease Control and Prevention (CDC) issued its *School Health Policies and Programs Study* (SHPPS) and for the first time considered "the extent to which schools have health-promoting physical school environment policies and programs." The report's consideration of environmental health issues suggests a breakthrough in public policy at the federal level.

In Part II of the report, in its section on pesticides, the authors cite the work of the American Academy of Pediatrics Committee on Environmental Health, the American Academy of Pediatrics Committee on School Health, the Journal of the American Medical Association, and Beyond Pesticides' report, *The Schooling of State Pesticide Laws*.

In its introduction the report says: "The toll that environmental hazards take on children's health is not completely understood, nor has it been quantified. Nonetheless, environmental exposure to air pollution, lead in paint and drinking water, tobacco smoke,

radon, asbestos, and many pesticides and other chemicals in and around school environments is known to be hazardous to children's health."

The report acknowledges and cites the scientific literature on the special vulnerability of children to environmental hazards during developmental stages of life. The report cites the literature on the elevated exposure to chemicals in the environment relative to their body weight, metabolic rate, and relative consumption of food, as well as exposure patterns and elevated breathing rate. The report says, "Furthermore, the brain is not fully developed until adolescence, and thus, children's brains are more vulnerable than adults' brains to such toxins as metals, solvents, insecticides, and certain gases."

SHPPS found the following: "One third (35.4%) of districts and 51.4% of schools had an indoor air quality management program; 35.3% of districts had a school bus engine-idling reduction program; most districts and schools had a policy or plan for how to use, label, store, dispose of, and reduce the use of hazard-

ous materials; 24.5% of states required districts or schools to follow an integrated pest management program; and 13.4% of districts had a policy to include green design when building new school buildings or renovating existing buildings."

The report makes important linkages and citations to the scientific literature and clearly states that environmental hazards "that sometimes are found in schools... can adversely affect the health, attendance, and academic success of students, as well as the health of teachers and other staff."

For those who advocate the precautionary principle of taking pesticides out of school (replacing chemical-reliant practices with prevention and non-chemical practices), this report clearly supports the notion that what we do know is suggestive of problems that impede the safety of students and their ability to learn and develop to their full potential. These same advocates maintain that what we do not have full information on undermines the very chemical industry and EPA risk assessments. For a copy of the report, see [http://www.ashaweb.org/journal\\_schoolhealth.html#shpps](http://www.ashaweb.org/journal_schoolhealth.html#shpps).

## Pesticide Exposure Linked to Rising Autism Rates

Autism is on the rise, both in prevalence and incidence, and there is growing evidence that environmental insults, such as pesticides, are linked to this developmental disability.

According to the latest study, published in the October issue of *Environmental Health Perspectives*, children born to mothers living near fields where pesticides are applied are more likely to develop autism spectrum disorders (ASDs). The authors of "Maternal Residence Near Agricultural Pesticide Applications and Autism Spectrum Disorders among Children in the California Central Valley" compare maternal pesticide exposure for 465 children with ASDs and 6,975 children without ASDs living in the same area.

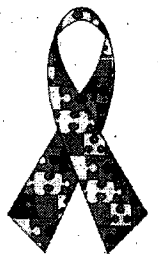
The research reveals that mothers who live within 500 meters of fields sprayed with organochlorine pesticides, specifically endosulfan and dicofol, during their first trimester of pregnancy have a six times higher chance of having children with autism compared to mothers who do not live near the fields.

Dr. Isaac Pessah, Ph.D., a researcher with the University of California-Davis' MIND Institute, which studies autism, described the study as well-conducted, if small. Yet he said scientists need to look at larger populations to better define the relationship between pesticides and autism. This line of research also could divert attention from studying the purported role that mercury and vac-

cines have in causing autism, links that have largely been debunked, he said.

A growing number of scientific studies now link exposure to pesticides with increased rates of certain cancers, nervous system diseases, and other health problems.

Developmental disabilities such as autism, ADHD, developmental delays, and behavioral disorders are being studied for links to childhood exposure and environmental contaminants found in pesticides. Autism currently affects one in every 150 children. The study on maternal exposure to pesticides and autism is available at <http://www.ehponline.org/docs/2007/10168/abstract.htm>.



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# NIOSH Recommends Reducing Pesticide Exposure at Schools

The National Institute for Occupational Safety and Health (NIOSH) released a new document that recommends reducing pesticide exposures at school through the implementation of an Integrated Pest Management (IPM) program. The four-page fact sheet provides information on the risks related to pesticide exposure, recommendations for reducing exposure, and information about IPM.

The fact sheet begins with a brief discussion on the risks related to pesticide exposure, citing "children may be particularly susceptible to pesticide toxicity because of their organ systems have not reached developmental maturity." It goes on to state, "Exposure to pesticides can produce cough, shortness of breath, nausea, vomiting, headaches, and eye irritation. There is also mounting evidence that long-term pesticide exposure in adults is associated with chronic health effects such as cancer, neurologic problems and reproductive problems."

As the fact sheet moves to focusing on recommendations for reducing exposure and routine pesticide applications, it points out that pesticides only "temporarily control pest populations, pests often return to the same location because food, water and shelter are still available."

The main focus of the publication is on the implementation of an IPM program. IPM is described as "an alternative pest-control technique that manages and suppresses pests by preventing their access to food, water and shelter" and does not rely "on the regular use of chemicals." It

cites the fact that IPM "strategies can be more cost-efficient than traditional pest control options."

NIOSH recommends the following eight steps be part of a schools IPM policy and procedural guidelines:

- 1) Appoint a pest manager;
- 2) Monitor for pest problems;
- 3) Identify the origin of any pest problems;
- 4) Eliminate the source(s) of the problems without using pesticides;
- 5) If nontoxic methods fail or are impractical use the least toxic pesticide that minimizes exposure;
- 6) Keep records to document and evaluate the effectiveness of the IPM program;
- 7) Educate the school community about pesticides and IPM; and,
- 8) Notify and provide reentry recommendations when pesticides are used.

Step number eight recommends prior written notification to all students, parents and staff and posting notices around the pesticide treatment area and leaving those notices posted for 48 hours following the application.

It also states, "Avoid spraying pesticides when children and staff are present. Pes-

NIOSH FACT SHEET

### Reducing Pesticide Exposure at Schools

**Summary**  
Pesticides play an important role in food safety, production and disease control, but they can also be harmful to human health. The term pesticide applies to insecticides, herbicides, fungicides, disinfectants and various other substances used to control pests. Pesticides are often applied at schools to help maintain sanitary conditions and suppress rodents and insect populations. Exposure and potential health risks to children and school staff can be reduced by applying routine pesticide applications through an Integrated Pest Management (IPM) program.


IPM is an alternative pest control technique that manages and suppresses pests by preventing their access to food, water and shelter. These strategies can be more cost-effective than traditional pest control options. "Using IPM at schools can reduce pesticide exposure of workers and students."

**Pesticide Exposure at Schools**  
Exposure to pesticides at schools has been associated with illnesses among employees and students, although infrequently. Data on illness from pesticide exposure at schools have been shown to be higher in school staff than in children because staff members are more likely to handle pesticides. However, children may be particularly susceptible to pesticide toxicity because many of their organ systems have not reached developmental maturity.


Exposure to pesticides can produce cough, shortness of breath, nausea, vomiting, headaches, and eye irritation. There is also mounting evidence that long-term pesticide exposure in adults is associated with chronic health effects such as cancer, neurologic problems and reproductive problems.

IPM can be useful to promote a safe learning environment.

**A Multifaceted Approach Needed to Manage and Suppress Pests**  
Although pesticides temporarily control pest populations, pests often return to the same location because food, water and shelter are still available. Consequently, additional actions are necessary to control pests in settings such as schools, workplaces, and homes. A multifaceted approach, such as an IPM program, is essential to effectively manage and suppress pests in any environment.



DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Center for Disease Control and Prevention  
National Institute for Occupational Safety and Health



ticides shouldn't be sprayed during school hours or when school activities are taking place. Applications on Friday evenings are ideal if no weekend school activities are scheduled. Restrict staff and students' access to the treated area..."

The fact sheet ends with a brief discussion on how to choose a qualified pest manager to perform these IPM services.

This NIOSH fact sheet, along with a number of existing documents, calls for safer pest management strategies and should be used to advocate for an IPM program or to improve the existing program at your school. For a copy of the fact sheet, see <http://www.cdc.gov/niosh/docs/2007-150>. For more information on the impact of pesticides on children's health and strategies for getting pesticides out of your school, contact Beyond Pesticides.