

# School Pesticide Monitor

A Bi-monthly Bulletin on Pesticides and Alternatives

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Beyond Pesticides / National Coalition Against the Misuse of Pesticides  
701 E Street, SE, Suite 200 • Washington, DC 20003 • 202-543-5450  
info@beyondpesticides.org • www.beyondpesticides.org

## Asthma, Children and Pesticides: What You Should Know

Over the last two decades, asthma rates in the U.S. have skyrocketed to epidemic levels, particularly in young children. In the U.S. alone, around 16 million people suffer from asthma. Asthma is a serious chronic respiratory disorder characterized by recurring attacks of bronchial constriction, breathlessness, wheezing, and coughing. Asthma is a dangerous, and in some cases life-threatening disease. Researchers have found a significant link between pesticide exposure and asthma.

### Children Are More Susceptible to Asthma

Asthma rates are much higher in children than adults. It is the most common long-term childhood illness. Children are more susceptible to asthma for a number of reasons. In general, children are more vulnerable to toxic chemicals in the environment. Pound for pound, children eat more food, drink more water, and breathe more air than adults, and thus they take in more pesticides and toxic chemicals relative to body weight. At the same time, children's organ systems are still developing and therefore are more vulnerable and less able to detoxify chemicals.

### Cause vs. Trigger

A good way to understand why people get asthma and sudden asthma attacks is to think in terms of causes and triggers. A cause is an underlying reason why a person gets asthma or other disease. A trigger, on the other hand, is something that causes an asthma attack to occur in someone already suffering from the disease. *Pesticides have been shown to both cause asthma and trigger asthma attacks.*

### Pesticides Can Cause Asthma

Determining the causes of a disease as

common as asthma is no easy task, especially since there are so many factors to consider and so many potential pollutants that people are exposed to. Although no single study can conclusively prove that a certain pesticide causes asthma, studies have found evidence that exposure to pesticides is correlated with higher rates of asthma.

An early study done in the 1960s in Hawaii found that frequent household use of insecticides, including common bug sprays, is correlated with an increased prevalence of asthma. A 2003

study of over 3,000 Lebanese children similarly found correlations between pesticide exposures and respiratory diseases. Pesticide exposure included home and garden pesticide use, occupational use by a household member, and living in proximity to a treated field.

A landmark 2004 study shows that timing of exposure is also crucial. The researchers discovered that children exposed to herbicides during their first year of life are over four times more likely to be diagnosed with asthma before the age of five; toddlers exposed to insecticides are

## Back-to-School Actions

September is the perfect time of year to take action and remind schools of the dangers of pesticides use on school grounds and the effectiveness of non-toxic pest management approaches. In an effort to nurture the involvement of school health staff, Beyond Pesticides along with the School Pesticide Reform Coalition, put together a postcard that was launched on September 7, 2005 by parents from 30 states and the District of Columbia. The postcard calls on school districts across the country to start the school year without the use of toxic pesticides in schools.

Please consider sending a postcard to ask your child's school not to spray pesticides that contribute to childhood asthma and other childhood diseases. Call Beyond Pesticides, 202-543-5450 for your free postcard today.

On a federal level, U.S. Senator Frank Lautenberg (D-NJ) announced his back-to-school call for improved protection of the nation's school children from pesticide

use by the introduction of the *School Environment Protection Act (SEPA)*. The bill was introduced in the U.S. House of Representative, earlier this year by Congressman Rush Holt (D-NJ). You can support Senator Lautenberg and Congressman Rush Holt by urging your senator and congressman to support SEPA. To learn more, visit our

**For my child's health,  
please do not spray  
pesticides in  
school.**



### Did you know...

- ⇒ Asthma is the leading cause of school absenteeism due to chronic illness.<sup>1</sup>
- ⇒ 1 in 6 children in the U.S. has a developmental disability, ranging from a learning disability to a behavioral or emotional disorder.<sup>2</sup>
- ⇒ Research shows that pesticides are both a trigger for asthma attacks and a root cause of asthma.<sup>3</sup>
- ⇒ Government testing found residues of pesticides commonly used in schools at highest concentrations in children ages 6-11.<sup>4</sup>

1. Centers for Disease Control and Prevention. 2005. Asthma's Impact on Children and Adolescents. <http://www.cdc.gov/asthma/children.htm>.  
2. Shyfrin, C. A., et al. 1994. "Prevalence and health impact of developmental disabilities in US children." *Paediatrics* 93: 399-403.  
3. Salari, M. V. F. L. B. Langholz, and D. Gilliland. May 2004. Early life environmental risk factors for asthma: findings from the children's health study. *Environmental Health Perspectives* 112(5): 760-765.  
4. Centers for Disease Control and Prevention. 2003. Jan. Second National Report on Human Exposure to Environmental Chemicals.

webpage: <http://www.beyondpesticides.org/schools/sepa/>.

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## Asthma, Children, and Pesticides:

### What You Should Know To Protect Your Family

over two times more likely to get asthma. This study clearly demonstrates that young infants and toddlers are most susceptible to the harmful effects of pesticides on the respiratory system.

#### Pesticides Can Trigger Asthma Attacks

In addition to being an underlying cause of asthma, pesticides can also trigger asthma attacks in those who already suffer from the disease. Asthma is characterized by excessive sensitivity of the lungs to various stimuli, which can trigger asthma attacks. The American Lung Association defines an asthma attack as "a series of events that result in narrowed airways" which lead to breathing problems and the characteristic asthma wheeze. Common asthma triggers include: allergens, irritants, air pollution, and pesticides and other chemicals.

Exposure to even small amounts of pesticides can trigger an asthma attack. Many pesticides are small molecules that can exacerbate or aggravate asthma symptoms. Pesticides can trigger asthma attacks by increasing airway hyper-reactivity, which makes the airway very sensitive to any allergen or other stimulus. Subsequent exposure to the stimulus can cause an extreme reaction in the airway.

#### Specific Pesticides Linked to Asthma

Not all pesticides are associated with

asthma, but many are. Some of the most common herbicides used on lawns and landscapes are linked to asthma and respiratory problems, including the herbicides glyphosate, 2,4-D, and atrazine.

and community. There are easy steps that everyone can take to avoid known asthma causes and triggers, including pesticides, and reduce the risk of getting asthma.

■ **Home:** Avoid applying pesticides indoors, and on your lawn and garden. If you have a pest problem, try preventative measures and non-toxic controls. Reducing indoor allergens can reduce the cost and severity of asthma treatments and the risk of developing new sensitizations and reactions. If you have a house pet, when controlling fleas, avoid insecticide sprays and shampoos.

■ **Schools:** Children spend more than 25% of their waking hours at school. In order to protect children's health, schools should adopt non-toxic management methods. If pesticides are used, request that you be notified before they are applied on schools grounds.

Students suffering from asthma may be able to use the Americans With Disabilities Act (ADA) to require school to provide non-toxic, effective pest management.

■ **For more information on asthma and alternatives or to order a free, full-color brochure on asthma, children, and pesticides,** contact Beyond Pesticides at 202-543-5450 or visit <http://www.beyondpesticides.org/children/asthma>.

### The Cockroach Conundrum

A study of 476 asthmatic children from eight U.S. cities found that 85% of their bedrooms have cockroach allergens. When people learn that cockroaches cause asthma, their first response may be to use pesticides. However, pesticides are even more closely linked to asthma and may only make conditions worse.

#### Tips For Preventing Cockroaches and Asthma

- Remove all food waste and keep food in airtight containers.
- Limit the spread of food around the house.
- Eliminate potential water sources, such as leaky plumbing.
- Caulk and seal all cracks and crevices.
- Vacuum frequently and vigorously.
- Monitor populations using sticky-traps.
- In the event of infestation, use boric acid bait stations.

Many commonly used families of insecticides, as well, are linked to asthma, including pyrethrum and pyrethrins, synthetic pyrethroids, organophosphates, and carbamates.

#### What You Can Do

Asthma is a serious epidemic that will not disappear on its own. Parents with young children, whether they have asthma or not, should limit their exposures to pesticides in the home, school,