School Pesticide Monitor

A Bi-Monthly Bulletin on Pesticides and Alternatives
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Harvard University Proves Organic Lawns Build Healthier Soils

For eight months, Harvard University extensively compared a one-acre lawn test plot of natural, organic management strategies to a control plot of conventional, chemical management techniques. The one-acre underwent a process that included eliminating all toxic pesticides, testing for soil nutrients and organic material content, and adding compost teas to balance soil nutrients and reduce irrigation and nitrogen applications. In the tea are living organisms that control pests and nourish the soil. In the spring, the test plot was core aerated, over-seeded and ½ inch layer of compost was added. In addition, a slow-release organic fertilizer was added.

The results show that the organic plot lead to greater vitality of the turf and trees and greater soil nutrients and soil microorganism, improved root growth, and a reduced need for irrigation.

The success of the one-acre plot showing that halting synthetic toxic pesticide and fertilizer use and using only natural, organic approaches to reinvigorate soil health lead the University to expand the program to 25 acres. Since the expansion over the past months, the program has demonstrated that the campus grounds grown organically are self-sustaining, lush, and beautiful, despite heavy foot traffic. Now Harvard is calling for a phase-in of its entire 80-acre campus over the next few years.

"Instead of applying a topical, chemical fertilizer, our biological approach is to create a chemical change by infusing the soil with biological organisms from the bottom up," states Eric Fleisher, manager of the program. "The lawn takes longer to green up, but it's more enduring and resilient with our properly executed organic approach."

Managing the grounds with an organic approach saves the school two million gallons of water a year as irrigation needs have been reduced by 30 percent, according to the September 24 *New York Times* article, "The Grass Is Greener at Harvard." It cost Harvard $35,000 a year to get rid of "landscape waste" from its campus grounds. That cost is gone now that the school keeps all grass clippings, leaves and branches it can for composting and making compost

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Child's Death Renews Call for Bug Bomb Ban

A boy died in South Carolina after his mother used several insecticide foggers, also known as "bug bombs," inside their home. Elizabeth Whitfield called 911 when her 10-month old son was having difficulty breathing. She and her older son also experienced breathing problems.

According to Beyond Pesticides, every death and injury caused by foggers must be attributed to the failure of EPA's regulatory system to take an unnecessary and ineffective product off the market. The group says that EPA has known for years that foggers kill people and present a serious public health hazard, regardless of warnings on the product label, and can be replaced by safe alternative products and practices. "This child's death should move the leadership of EPA to take the necessary steps to ban foggers, an action that has been urged for years both within and outside the agency," said Jay Feldman, executive director of Beyond Pesticides.

Ms. Whitfield had used the foggers several times inside the small home. Anderson County Deputy Coroner Don McCown said it may have been a day or two days since the last insect fogger was used inside. Investigators found seven foggers inside the house. "Most people put these foggers in — they do it one time a month or every couple of months. She was using two to three a week," Mr. McCown said.

Anderson County Safe Kids Coordinator Dwayne Smith says that while he rarely hears cases of people who die directly from poisoning, places like the Palmetto Poison Center receive thousands of calls annually about children exposed to poisons. In 2007 alone, the Palmetto Poison Center received over 36,000 calls, more than half of which were cases of children six years or younger who had been exposed to poisons.

Children are at higher risk to pesticide poisoning because they are smaller and have faster metabolisms. The Beyond Pesticides factsheet "Children and Pesticides Don't Mix" highlights particular vulnerabilities of children to pesticides. The U.S. EPA, National Academy of Sciences, and American Public Health Association, among others, have voiced concerns about the danger that pesticides pose to children. The body of evidence in the scientific literature shows that pesticide exposure can adversely affect a child's neurological, respiratory, immune, and endocrine system, even at low levels.

In July, Beyond Pesticides submitted a let-

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Elevated Childhood Cancer Rates Near Agricultural Pesticide Use

Children exposed to agricultural pesticides applied near their home have up to twice the risk of developing the most common form of childhood leukemia, according a new study by the Northern California Cancer Center. Some of the pesticides implicated in the study are also commonly used at schools and homes.

The study, published in the journal *Environmental Research*, used a unique California database to reveal an elevated risk in acute lymphoblastic leukemia (ALL) among children with moderate exposure to pesticides classified as: organophosphates (including chlorpyrifos, diazinon, malathion, and trichlorfon) (odds ratio (OR) 1.6); chlorophenoxy herbicides (including 2,4-D, diclofop-methyl, MCPA and MCPP) (OR 2.0); triazines (including atrazine, simazine, cyanazine, prometryn, and pyrmetrozine) (OR 1.9); and, with agricultural pesticides used as insecticides (OR 1.5) or fumigants (OR 1.7).

California is one of the few states in the country that requires active reporting of pesticide applications. For this study, researchers were able to link children's entire residential histories from birth to the time of case diagnosis to this pesticide-use reporting database and identify agricultural pesticides that were applied within one-half mile of each residence.

The researchers identified over 600 different pesticide active ingredients applied near residences during the study period.

A total of 118 of those were selected for the study due to their frequent use and if the chemical is listed as a carcinogen, a developmental or reproductive toxicant, a neurologic cholinesterase inhibitor, a suspected genotoxin or a suspected endocrine disruptor.

"These initial findings suggest that there may be a specific agent or set of agents that can increase the risk of this disease among children," said Rudolph Rull, Ph.D., lead author of the study.

This is not the first time that ALL has been linked to pesticide exposure. According to Beyond Pesticides' research, several previous studies show an increased risk.

A recent study in the August 2009 issue of the journal *Therapeutic Drug Monitoring*, "Pediatric Acute Lymphoblastic Leukemia and Exposure to Pesticides," also found an association between organophosphates and development of childhood ALL.

EPA Looks at Regulating Agricultural Pesticide Use Drift

In November, the U.S. Environmental Protection Agency (EPA) rolled out proposed guidance for new pesticide labeling in an effort to reduce off-target spray and dust drift. According to EPA, the actions detailed in the draft Pesticide Registration Notice on Pesticide Drift Labeling, when implemented, are projected to help improve the clarity and consistency of pesticide labels and help prevent harm from spray drift. The agency is also requesting comment on a petition to evaluate children's exposure to pesticide drift.

Last month, a petition filed by Earthjustice and Farmworker Justice asked EPA to set safety standards protecting children who grow up near farms from the harmful effects of pesticide drift. The groups also asked the agency to adopt an immediate no-spray buffer zone around homes, schools, parks and daycare centers for the most dangerous and drift-prone pesticides. For more information, contact Beyond Pesticides.

Harvard's Organic Lawn Care
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teas, which in turn saves the university an additional $10,000 from having to purchase fertilizers elsewhere.

"It's not product-based. It's knowledge-based," explains Mr. Fleisher. In a *Harvard Gazatte* article he talks about the fact that "adding chemicals denies the biological, chemical, and structural complexity of soils… and that healthy plants begin with healthy soils."

Harvard has developed materials on starting your own organic landscaping program and a calendar of *when to do what* to your lawn at www.uos.harvard.edu. For more information on being a part of the growing organic lawn care movement and for assistance in proposing a policy to your school or community, contact Beyond Pesticides.

Child Dies After Exposure to Foggers
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ter to the Washington, D.C. Department of the Environment urging the suspension of foggers after an explosion on July first. As Mr. Feldman states in the letter, "Aside from fire and explosive dangers, most foggers contain synthetic pyrethroids, such as permethrin, which are linked to cancer, endocrine disruption, respiratory problems, reproductive effects, neurotoxicity and other health and environmental issues. With a high incidence of illness, explosions and even death from the use of these products, their use must be suspended now and ultimately eliminated or highly restricted."

Foggers are notoriously dangerous and, as such, plans to restrict their use in New York state to commercial applicators and take them off the retail market were announced by the Department of Environmental Conservation in October 2008. A Centers for Disease Control study, which pulled data from eight states, identified a total of 466 cases of acute, pesticide-related illness or injury associated with exposure to foggers between 2001 and 2006.

In each of the past several years, total release foggers have caused at least four to eight serious explosions in apartments in New York City, according to Fire Department data. Just last month, an apartment building in Manhattan was evacuated after a fogger caused an explosion. Ten people were treated at the scene, including six who were brought to the hospital.

For safer pest management strategies, contact Beyond Pesticides.