



Questions and Answers About Turf Pesticides

Q. Isn't it necessary to use chemical pesticides to keep playing fields in top condition?

A. Absolutely not. The fact is that playing fields maintained without toxic chemicals can perform just as well as any chemically maintained turf with even greater resiliency, softer playing surface, less water consumption and greater drought tolerance. A naturally maintained field typically requires aeration, regular over-seeding and the periodic application of natural soil amendments (compost or compost teas) and fertilizers. Chemical pesticides can destroy essential beneficial organisms and create unhealthy soil conditions.

Q. What health effects have been associated with chemical pesticides?

A. Many of the chemicals found in pesticide products have been associated with an increased risk of serious acute and chronic health problems, including asthma, certain types of cancer, nervous and immune system damage, liver or kidney damage, reproductive impairment, birth defects and damage to the endocrine system. The development of health problems related to chemical pesticide exposures can be a very complex process, with many genetic and environmental factors playing a role. Some diseases related to pesticide exposures have long latency periods.

Q. How are children exposed to turf pesticides?

A. Children come into close contact with turf pesticides that have been applied to playgrounds and athletic fields. Their hands, arms, legs and faces can all become contaminated as they roll, slip, slide and fall. Typical routes of exposure include inhalation, skin absorption and accidental ingestion. The normal hand-to-

mouth behavior patterns of younger children further amplify their exposure. Additionally, sports gear and water bottles are often thrown down on the turf where they can be contaminated with pesticides and then transferred to athletes when they drink or use the equipment. Pesticide residues on the soles of sneakers and athletic shoes are tracked inside schools and homes where they can continue to create exposure risks for long periods of time.

Q. Are children more vulnerable to pesticides than adults?

A. Yes. Children's bodies are undergoing rapid development, which put them at unusual risk for exposure to chemicals that may interfere with normal growth processes. They also have higher rates of respiration and more skin surface area per unit of body weight. There are certain times during childhood, so-called "windows of vulnerability," when development of organs or body systems can be disrupted from even low-level exposures to certain toxins. Additionally, most major classes of pesticides have been shown to adversely affect the developing nervous system, which begins at about two weeks of gestation and continues through adolescence. Lastly, children have more years of life ahead of them compared to adults, so they have a longer time to manifest the health effects associated with pesticide exposures. (See above for children's unique behaviors that further enhance their exposures)

Q. Is artificial turf a good solution?

A. Artificial or "synthetic" turf is promoted as an environmentally preferable, low maintenance, durable surface that can be played on 24/7. These claims are being challenged, however, as we are learning more about problems associated with toxic infill materials, surface contamination and considerable maintenance costs related to

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heavy usage. More importantly, there are a growing number of questions concerning significant health risks to young athletes which urgently need to be addressed. Please see our section on “Emerging Environmental Health Issues” for more information.

Q. Is "Integrated Pest Management" or "IPM" an appropriate choice for managing school playing fields?

A. IPM is an outdated concept, originally developed by the chemical pesticide industry to address the public's growing concern over health issues related to pesticides. The concept is that non-toxic pest control methods should be tried first, and if that doesn't produce the desired effect, chemical pesticides may then be employed as a last resort. However, IPM programs, which require no special training and have no recognized standards, permit the use of any pesticide product, including the most toxic products on the market.

Sadly, since the introduction and promotion of IPM programs back in the 1970s, the use of pesticides in the United States has increased significantly.

With recent advances in soil science and product development, there is no longer any reason, other than legitimate public health emergencies (which are very rare), to use pesticides on school fields. The evidence linking exposure to pesticides with serious human health problems, especially for children, make IPM programs completely inappropriate for school grounds and playing fields.

Q. Have any state governments acted on the issue of turf pesticides?

A. Yes. In the spring of 2010, New York became the first state in the nation to pass a comprehensive ban on the use of chemical pesticides on school grounds and playing fields for students in grades K-12. The law also applies to most day care centers. Connecticut banned the use of pesticides on school grounds for grades K-8. Its law took effect in July 2010.

Many states have notification laws, under which parents must be notified if their child's school grounds or fields are to be treated with pesticides. Such laws vary by state and could differ as to the time frame or method of notification. It is important to find out if your state has such mandates, and if the school is properly notifying parents and staff.

This document is part of **The ChildSafe School Program** created by Grassroots Environmental Education, a science-based non-profit organization.

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