CT Department of Public Health

March 2006

Questions and Answers About Pesticides In Soil at Enrico Fermi High School

Background

Recent testing of soil at Enrico Fermi High School shows that several banned pesticides were found in soil from the grounds of the school. It is not uncommon to find trace levels of these pesticides in soil because they were widely used in the past. However, one pesticide in particular, dieldrin, was found in soil at levels well above state cleanup standards. Another pesticide, chlordane, was also found at elevated levels, but not nearly as high as dieldrin results.

What was found in soil at the high school?

Two pesticides, dieldrin and chlordane were found in soil at levels greater than CT's soil cleanup standards in various locations in the athletic fields and in landscaped areas around the high school building. Dieldrin was found in soil at elevated levels more frequently than chlordane. Soil tests were done in surface soil (the top layer of soil directly beneath the grass layer), and at deeper depths. The deeper samples did not contain pesticides.

Most of the surface soil samples were taken from areas with grass and some were taken from bare soil infield areas on the baseball fields. Many of the samples from the bare infield soil had dieldrin levels greater than the cleanup standards. Overall, dieldrin levels were much lower on the infield areas than elsewhere on the athletic fields and landscaped areas near the school.

Could there be pesticide contamination inside the school?

It is unlikely that significant amounts of pesticides have gotten inside the school. This is because fields and grounds are well-grassed which keeps soil from becoming dusty and moving into buildings. However, to be sure about this, the Town of Enfield has hired an environmental consultant to evaluate the building interior.

What are Dieldrin's health Effects?

People such as pesticide sprayers and workers in pesticide-making factories who were exposed to very high levels of dieldrin had nervous system effects such as convulsions. Animals who were given large amounts of dieldrin had nervous system effects as well, and also liver and kidney damage and problems with reproduction. It is not known for sure whether dieldrin causes liver, kidney or reproductive problems in humans.

Dieldrin causes cancer in animals but studies in humans have been inconclusive. Based on the evidence in animals, dieldrin is classified as a probable human carcinogen. For this reason, health officials have tried to minimize the public's exposure to dieldrin by developing strict cleanup standards for dieldrin in soil and water.

Important Background on Understanding Exposures to Chemicals

Any chemical that enters your body can be harmful if you take in too much. Whether your health will be affected by a chemical that gets into your body depends on several factors:

- How much of the substance you take in;
- How long you are exposed to it;
- How it enters the body (for example, through eating, drinking, breathing, or touching);
- Your age, general health and other individual traits that determine how susceptible you are to health effects;
- Other exposures you have to the same or similar substances; and
- How toxic the substance is.

Could the Dieldrin in soil at the high school affect my health? My child's health?

It is unlikely that anyone has gotten enough dieldrin in their body to actually cause health effects. This is because:

- You need to have large amounts of dieldrin enter your body in a short period of time to experience short-term (acute) toxic effects. Levels of dieldrin in the soil at the high school are not high enough to cause acute effects.
- You need to have repeated contact with high levels of dieldrin in soil over many years in order to have a significant increased risk of long-term (chronic) effects such as cancer. It is unlikely

that anyone has received such long-term exposure to high levels of dieldrin in soil at the school. Soil where dieldrin was found is mostly grass-covered. This creates a barrier that prevents exposure to contaminated soil that is beneath the grass layer.

Why were the athletic fields closed? Why were landscaped areas fenced?

The environmental testing showed that dieldrin is present in soil in various places on the athletic fields at levels much higher than CT DEP's cleanup standards (up to 30 times higher than standards). Dieldrin is also present at elevated levels in landscaped areas near the school. At the request of the Town of Enfield, CT DPH did an evaluation (risk assessment) of the testing data using very health protective assumptions about people's exposure to the soil. The evaluation showed that theoretical risks were high enough to take a prudent course of action that ensures no potential for exposure. That course of action involved closing the fields and fencing the landscaped areas while additional testing is conducted and the results are fully evaluated.

Is the drinking water at the high school safe to drink?

Yes, the high school's drinking water is safe. The Hazardville Water Company, who supplies public drinking water to the high school, routinely tests the water for pesticides. The most recent tests, as reported to CT DPH, show that no pesticides were found in the drinking water.

Is there a medical test to show whether I have been exposed to pesticides?

Dieldrin and chlordane can be measured in your blood, urine and body tissues such as fat. However, medical tests cannot tell you whether the pesticides that may be in your body are from recent exposure or from exposure long ago. Most Americans have low levels of dieldrin and chlordane in their bodies due to the wide use of these pesticides in the past. In addition, medical tests cannot predict whether a person will have health effects. For these reasons, CT DPH is not recommending any medical tests for students or staff at Enrico Fermi High School. However, if you have specific medical questions or concerns, you should speak with your own physician.

What is Dieldrin?
What is Chlordane?

Dieldrin and chlordane are man-made insecticides that were used in the United States for control of a wide range of insects in soil, especially termites. From the 1950s to the 1970s, dieldrin and chlordane were widely used by farmers to kill insects in seed and on agricultural crops. Because of concerns about human exposure and risk, persistence in the environment and danger to wildlife, use of dieldrin and chlordane on food crops was banned in the late 1970s. These pesticides continued to be used to control termites in homes until the late 1980s, when all uses were banned.

Who Can I Call For More Information?

CT Department of Public Health
860-509-7742

North Central Health District
860-745-0383

CT Department of Environmental Protection
860-424-3705

Agency for Toxic Substances and Disease Registry (ATSDR) Fact Sheets

Dieldrin
http://www.atsdr.cdc.gov/tfacts1.html
http://www.atsdr.cdc.gov/tfacts1.pdf

Chlordane
http://www.atsdr.cdc.gov/tfacts31.html
http://www.atsdr.cdc.gov/tfacts31.pdf

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