



Healthy Schools Campaign 2004 Support AB 1006 (Chu)

Leukemia and Lymphoma linked to pesticides

Certain toxic pesticides used in many school districts throughout California have been associated with serious diseases such as leukemia (cancer of white blood cells) and lymphoma (tumors in the lymph glands). Extensive studies have shown the following links between pesticides and leukemia and lymphoma:

- Non-Hodgkins Lymphoma (NHL) incidence has been increasing by 3-4% per year.¹
- NHL-associated chemicals include phenoxy herbicides, DDT, and organophosphate pesticides.²
- Female teachers, compared to other women of the same age and race in California, have a:
 - 51 percent higher rate of lymphoma
 - 28 percent higher rate of leukemia³
- Risk of childhood leukemia increased more than **six times** when garden pesticides were used at least once per month.⁴

In 2002, 11 of 15 surveyed school districts in California planned to use pesticides containing chlorpyrifos or diazinon

Active Ingredient	Chlorpyrifos	Diazinon
Chemical class	Organophosphate	Organophosphate
Acute symptoms	Headaches, dizziness, mental confusion, inability to concentrate, blurred vision, vomiting, stomach cramps, uncontrolled urination, diarrhea, seizures, ⁵ birth defects and multiple chemical sensitivity. ⁶	Headaches, muscle twitching, tremor, muscle weakness, abdominal cramps, nausea, vomiting, loss of consciousness, blurred vision, wheezing, coughing and pulmonary edema (swelling in the lungs). ⁷
Long term effects	Organophosphate-induced delayed neuropathy, resulting in weakness or paralysis of the extremities. ⁸	Increased risk of non-Hodgkin's lymphoma ⁹
Persistence	"Chlorpyrifos can persist up to eight years after application." ¹⁰	"Diazinon can persist indoors for as long as 42 days after application." ¹¹

AB 1006 would ban the use of toxic pesticides including organophosphates in schools to create a safer, healthier environment for our children and teachers.

Call 888-CPR-4880 or visit www.calhealthyschools.org to get involved.

¹ S.S. Devesa and T. Fears, "Non-Hodgkin's lymphoma time trends: United States and international data," *Cancer Res* 52 (1992 Suppl 19): 5432s-40s.

² S.H. Zahm, D.D. Weisenburger, R.C. Saal, et al., "The role of agricultural pesticide use in the development of Non-Hodgkin's lymphoma in women," *Arch Env Hlth* 48 (1993)5:353-58.

³ Study conducted by University of Southern California, UC Irvine, the Public Health Institute, Northern California Cancer Center, and Department of Health Services

⁴ Lowengart, R. et al., "Childhood Leukemia and Parents' Occupational and Home Exposures," *JNCI*, July 1987, 39-46.

⁵ U.S. Environmental Protection Agency, *Recognition and Management of Pesticide Poisonings*, 5th ed., EPA 735-R-98-003, 1999, 34.

⁶ A. Donnay, *Researchers Link Common Household Insecticide with Serious Birth Defects and Multiple Chemical Sensitivity*, Press Release, 20 November 1996, Baltimore, MD.

⁷ U.S. EPA, *Recognition*, 34, 38.

⁸ U.S. EPA, *Recognition*, 34.

⁹ Zahm, S. "A case control study of non-Hodgkin's lymphoma and agricultural factors in Eastern Nebraska," *Am. J. Epidemiol.* 128 (1988):90.

¹⁰ Cox. "Chlorpyrifos," citing Wright et al., "Chlorpyrifos in the air and soil of houses eight years after its application for termite control," *Bull. Env. Contam. Toxicol.* 52 (1994):131-34.

¹¹ Cox, "Diazinon," 31, citing G. Wright et al., "Chlorpyrifos and diazinon detections on surfaces of dormitory rooms," *Bull. Env. Contam. Toxicol.* 32 (1984):259-64.