

# School Pesticide Monitor

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Beyond Pesticides / National Coalition Against the Misuse of Pesticides  
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## Three New Studies Warn Of Dangers of Pesticides to Children

### French Study Shows Household Pesticides May Increase Leukemia

Findings from a French study conducted to investigate the relationship between leukemia and household exposure to pesticides finds that acute childhood leukemia is significantly associated with maternal home pesticide use during pregnancy. The study, which was published in the February 2006 edition of *Occupational and Environmental Medicine* also shows that lawn chemical use and fungicide use during childhood, as well as insecticidal shampoo treatment of head lice, is associated with childhood acute leukemia. The association of leukemia with insecticidal shampoo treatment of pediculosis has never been investigated before. The researchers, who are from the Inserm Medical Institute, believe it requires further study.

Research from the study focused on data collected from 568 children—half of whom had acute leukemia. The findings show that the use of pesticides at home during pregnancy and childhood double the risk of leukemia. The research team also found exposure to in-

secticidal shampoos doubled the risk of developing leukemia. The use of lawn chemicals was linked to a 2.4-fold increase in risk and fungicide was linked to a 2.5 fold increase.

The report's author, Dr. Florence Menegaux, stated, "The findings of the study reinforce the hypothesis already suggested by the literature that household pesticide exposure may play a role in childhood acute leukemia." Dr. Menegaux continued, "The consistency of our results and the results from previous studies suggests that it may be opportune to consider preventative action."

### New Study Shows Greater Human Vulnerability to Pesticides than Predicted

A new study by researchers at University of California and University of Washington show much broader variability in sensitivity to organophosphate exposure than previously predicted. The cohort study tracking 130 pregnant Latino women and their newborns in Salinas County, California shows that newborns can be 65-164 times more sensitive than adults to two commonly used agricultural pesticides, chlorpyrifos and diazinon.

One factor contributing to the increased sensitivity is a 26-fold variability among newborns in the levels of a key enzyme that detoxifies organophosphates. It can take babies six months to two years to develop mature levels of this protective enzyme. Among the mothers, the variability of the detoxifying agent was 14-fold. EPA allows a safety margin of 10-fold to protect children.

The findings, published in *Pharmacogenetics and Genomics*, indicate that those

individuals with less of the detoxifying agent are more susceptible to the adverse effects of specific organophosphate pesticides, such as impacts to the central nervous system and neurodevelopment.

While residential use of chlorpyrifos and diazinon has been restricted, agricultural use is still widespread and non-residential applications such as golf courses and road medians are still allowed.

Not only does this study raise important concerns about the validity of EPA safety factors for children when they are applied, but with the recent announcement from the U.S. Geologic Survey in early March about the widespread contamination of our ground and surface waters with low level pesticides and degradates, standards used to set safe contamination levels for drinking water standards should be called into question and re-evaluated.

### Pesticides May Effect Pre-Pubescent Breast Development

A recent study indicates that endocrine-disrupting pesticides may be having more of an effect on breast development in young girls under age ten than previously thought.

The study, which was published in the March 2006 issue of *Environmental Health Perspectives*, examined precocious puberty (defined as early development of initial breast and pubic hair development) in 50 healthy young girls ages eight to ten living in two agricultural regions in the Yaqui Valley of Sonora, Mexico – one with little to no exposure to pesticides and one with pesticide exposure.

The study found a distinct difference between the populations. In the population of young girls exposed to agricultural

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## Building the Movement: Taking School IPM From Policy To Implementation

**Beyond Pesticides' 25<sup>th</sup> Anniversary Gala and National Pesticide Forum**  
Washington, DC ■ May 18-20, 2006

Please join us at *Building the Movement*, the 24<sup>th</sup> National Pesticide Forum, and learn how the combination of successful grassroots organizing, public education and technical information can effectively move IPM from the halls of the legislature to the hallways of our schools.

We invite both new and seasoned school activists to join us in a workshop to learn from a successful schools activist, entomologist and IPM coordinator. Immediately following the workshop please join the School Pesticide Reform Coalition for a national schools strategy meeting.



The events will begin with Beyond Pesticides' 25<sup>th</sup> Anniversary Gala on May 18. Honors will be presented to Theo Colborn (*Our Stolen Future* co-author), Norma Grier (NCAP Executive Director) and Rush Holt (U.S. Rep., New Jersey)

by Sandra Steingraber (*Living Downstream* author) and Beyond Pesticides' board members. Actor Ed Begley, Jr. will serve as MC.

Following our Thursday evening dinner and celebration, we will convene our 24<sup>th</sup> National Pesticide Forum, May 19-20. Aside from school IPM, topics will feature: asthma, organics, lawn and landscape care, lessons from successful movements, cutting edge research, water contamination and much more.

**For details and registration information, including an updated speakers list and on-line invitation, visit [www.beyondpesticides.org/forum](http://www.beyondpesticides.org/forum) or call 202-543-5450.**

pesticides, there was a poorly defined relationship between breast size and mammary gland development. In the unexposed population, however, there was a strong positive relationship between breast size and mammary size.

Among the girls exposed to pesticides who exhibited breast development, palpable mammary tissue development was lacking in 12 of the 27 pubescent girls. Comparatively, none of the lesser-exposed pubescent girls ex-

hibiting breast development lacked palpable mammary tissue.

The authors hypothesize "that an altered relationship between breast size, fat deposition, and mammary tissue development could result from in utero and/or childhood exposures to estrogenic or anti-androgenic chemicals as has been reported in studies of laboratory rodents."

The age at which females exhibit breast

development has been declining in over the past fifty years. The reasons for this are currently not well understood by scientists. The process and timing of puberty is made up of complex interactions between neural and sex hormones. Many factors may influence the process including genetics, nutritional and lifestyle factors, and possible cumulative exposure to environmental estrogens beginning in the fetus and continuing until adulthood.