# Learning Curve

## Charting Progress on Pesticide Use and the Healthy Schools Act

by
Corina McKendry, Pesticide Associate
California Public Interest Research Group Charitable Trust


**One in a series of reports by Californians for Pesticide Reform**

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## Californians for Pesticide Reform

Californians for Pesticide Reform (CPR) is a coalition of over 160 public interest organizations committed to protecting public health and the environment from pesticide proliferation. CPR's mission is to 1) educate Californians about environmental and health risks posed by pesticides; 2) eliminate use of the most dangerous pesticides in California and reduce overall pesticide use; 3) promote sustainable pest control solutions for our farms, communities, forests, homes and yards; and 4) hold government agencies accountable for protecting public health and Californians' right to know about pesticide use and exposure.

For more information on pesticides and how you can work to reduce pesticide use and protect your health and environment, contact CPR:
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## California Public Interest Research Group Charitable Trust

California Public Interest Research Group Charitable Trust (CALPIRG CT) is the 501(c)(3) sister organization of CALPIRG, a non-profit, non-partisan research and advocacy organization working on behalf of consumers and the environment. With over 50,000 members and 14 offices statewide, CALPIRG is the largest consumer advocacy group in California.

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*Disrupting the Balance: Ecological Impacts of Pesticides in California,* Pesticide Action Network, 1999.

*Fields of Poison: California Farmworkers and Pesticides,* Pesticide Action Network, United Farm Workers of America, AFL-CIO, California Rural Legal Assistance Foundation, 1999.

*Toxics on Tap: Pesticides in California Drinking Water Sources,* California Public Interest Research Group Charitable Trust, 1999.

*Hooked on Poison: Pesticide Use in California*, *1991–1998*, Pesticide Action Network, 2000.

*"P" is for Poison: Update on Pesticide Use in California Schools,* California Public Interest Research Group Charitable Trust, 2000.

*Advancing Alternatives: Successful Least-Toxic Pest Management Programs in California's Urban Settings,* Pesticide Watch Education Fund, Pesticide Action Network, 2000.

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## Charting Progress on Pesticide Use and the Healthy Schools Act

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# Executive Summary

A new survey by California Public Interest Research Group Charitable Trust (CALPIRG CT) finds that more than a year after implementation of the Healthy Schools Act of 2000 (AB 2260, Shelley), pesticides linked to cancer, reproductive and developmental effects, endocrine (hormone) disruption, and acute systemic and nervous system damage remain widely used in California schools. This progress report investigates two key questions regarding the Healthy Schools Act and pesticides in the state's schools. First, has the act reduced overall pesticide use in California's largest school districts? Second, having had a year to come into compliance, are surveyed districts meeting their responsibilities?

### Highly toxic pesticides are still common in California schools

The 2000 CALPIRG CT report *P is for Poison* surveyed the 15 most populous school districts in California, accounting for over 1.5 million students, or roughly one quarter of all California public school children. All 13 districts that responded reported using one or more extremely hazardous pesticides the previous year. The report also found that many school districts did not track, keep records of or notify parents about school pesticide use, and that the quality of information varied greatly among those that did.

In re-surveying the 15 districts examined for *P is for Poison,* this progress report finds that dangerous pesticides continue to be used and threaten children's health in California schools. Children are more vulnerable to pesticide exposure than adults for a number of reasons: they have relatively greater skin surface and rates of breathing, their behavior puts them in greater contact with contaminated surfaces, and they are closer to the ground where pesticide residues collect. Pesticides in schools expose children to these toxic substances during critical stages of growth. Symptoms of pesticide poisoning are often never properly diagnosed, written off as "flu-like" by parents and doctors.

**More than a year after implementation of the Healthy Schools Act of 2000, pesticides linked to cancer, reproductive and developmental effects, endocrine (hormone) disruption, and acute systemic and nervous system damage remain widely used in California schools.**

Although many of California's largest school districts have moved to reduce use of dangerous pesticides since passage of the Healthy Schools Act, 54 pesticide active ingredients that are known or suspected carcinogens, reproductive or developmental toxins, endocrine disruptors, acute toxins and/or cholinesterase inhibitors (nervous system toxicants) may still be in use in and around California schools. This is 12 more active ingredients than districts reported using in 1999. Even with two school districts providing incomplete pesticide lists, 10 of 15 districts either report using known or probable carcinogens or list them in their parental notification letter as potential candidates for use this year; 13 of 15 list suspected carcinogens; 13 notifications comprise reproductive or developmental toxins; 13 list endocrine disruptors; 13 notifications indicate pesticides that are acutely toxic; and 11 include pesticides that are cholinesterase inhibitors or nervous system toxicants. These results show no significant decrease from the findings of *P is for Poison*.

California's children continue to risk exposure to dangerous pesticides in and around their schools a year and a half after Governor Gray Davis signed the Healthy Schools Act into law, stating that "Kids should not be exposed to dangerous and toxic materials when they go to school."[1]

## Some changes in pest management practices are occurring

Despite continued reliance on dangerous pesticides in California schools, some districts are taking positive steps to reduce children's exposure. Two years ago, Los Angeles Unified and San Francisco Unified were the only districts of the 15 surveyed with model Integrated Pest Management (IPM) policies in place that dramatically reduced use of dangerous pesticides and mandated non-chemical pest control whenever possible. Since passage of the Healthy Schools Act, Oakland Unified has formally adopted a model IPM policy and shows great commitment to elimination of dangerous pesticides on their grounds and in classrooms. Santa Ana Unified has also passed an IPM policy, though weaker than that of Oakland Unified. Two other districts—Capistrano Unified and Garden Grove Unified—have made promising pest management changes, but continue to regularly use many dangerous pesticides. Other districts have made few real changes since the Healthy Schools Act went into effect.

**Our re-survey found that by late January 2002—one year after the Healthy Schools Act went into effect and almost six months after the first full school year under the Act began—a third of the districts were not in compliance with the Act's parental notification requirements.**

## Inconsistent compliance with the Healthy Schools Act of 2000

The Healthy Schools Act, signed into law in September 2000, is a right-to-know law designed to help remedy widespread toxic pesticide use and improve pesticide record-keeping, notification and reporting in California's schools. It requires school districts to send parents annual notification detailing what pesticides the district plans to use in their schools in the coming year and presenting the opportunity to be informed before each pesticide application. The law also requires districts to post warning signs near treated sites before and after each application.

In addition, the Healthy Schools Act mandates that the California Department of Pesticide Regulation (DPR) provide resources and training to school districts to assist in reducing reliance on toxic pesticides. Though the law does not require pesticide use reduction by school districts, it clearly establishes a state policy that promotes reduced chemical pesticide use around children and use of non-toxic pest controls and Integrated Pest Management.

Our re-survey found that by late January 2002—one year after the Healthy Schools Act went into effect and almost six months after the first full school year under the Act began—a third of the districts were not in compliance with the Act's parental notification requirements. This deficiency deprives parents of important information regarding their children's safety and health.

Moreover, many districts that complied with notification requirements were still unable or unwilling to produce records concerning pesticide use and application. The ease of finding out which and how frequently pesticides are applied and how many parents are registered for notification before each application varied greatly among districts. For example, Long Beach Unified returned the survey almost blank and Elk Grove Unified and San Juan Unified required nearly two months of follow-up calls to return even the most basic elements of requested information.

## School districts should adopt strong Integrated Pest Management policies

Adoption of model IPM policies best ensures long-term reduction and elimination of chemical pesticides in California schools.[2] Among surveyed districts, Los Angeles Unified, San Francisco Unified and Oakland Unified boast excellent IPM policies that have dramatically improved pest management practices and reduced reliance on chemical pesticides. These districts show that alternatives to toxic pesticides are effective and debunk the myth that schools must choose between pests and toxic pesticides.

The Healthy Schools Act establishes California's state policy regarding IPM in schools. Under the Act, IPM is a pest management strategy focused on long-term prevention or suppression of pest problems through combinations of techniques that minimize risk to people, property and the environment. IPM methods emphasize monitoring for pest presence and establishing treatment threshold levels, non-chemical strategies to make habitat less attractive to pests, improved sanitation, and mechanical and physical controls. IPM permits

effective pesticides that pose the least possible hazard only as a last resort or after careful monitoring indicates their need according to pre-established guidelines and treatment thresholds. A strong IPM policy eliminates use of the most toxic pesticides.

Though nine of the 15 districts reported having written IPM policies, most of these policies appear to have little if any real impact on pest management practices. Most give mere lip service to less-toxic pest control methods and lack clear guidelines or requirements for their priority and elimination of the most dangerous substances.

By codifying commitment to eliminate toxic pesticides through formally adopting strong model IPM policies, school districts can manage pests in an effective, cost efficient manner that—most importantly—protects the health of California's children.

## Recommendations

Because numerous highly toxic pesticides are still deployed in California schools, much more must be done to protect children from potential exposure to dangerous chemicals. The Healthy Schools Act just begins the work we must do to make California schools safe and healthy. To eliminate the danger of toxic pesticides in schools, CALPIRG CT and the statewide coalition Californians for Pesticide Reform (CPR) recommend the following for school districts, parents and teachers and state policymakers:

### School districts

- Immediately phase out use of highly toxic pesticides.
- Adopt and implement model IPM policies.
- Fully and immediately comply with the Healthy Schools Act of 2000.
- Ensure that thorough, accurate notification is sent to every parent immediately and that the notification registration process is as clear and simple as possible.
- Improve tracking and record-keeping so that pesticide use and application information is available immediately upon request.
- Halt pre-scheduled pesticide applications.

### Parents and teachers

- Obtain a Healthy Schools Pesticide Action Kit for more information on the Healthy Schools Act and how to pass an IPM policy in your school district. The kits are available at http://www.calhealthyschools.org or from CPR (see Appendix E for contact information).
- Work with your school board to adopt and implement IPM policies.
- If your school district already has a strong IPM policy, participate in the IPM oversight committee to help ensure full policy implementation.
- Hold your districts accountable to the Healthy Schools Act and see that they provide notifications and postings as required.
- Register to be notified before each pesticide application.

**By committing to eliminate toxic pesticides through formally adopting strong model IPM policies, school districts can manage pests in an effective, cost efficient manner that—most importantly—protects the health of California's children.**

### State policymakers

- Phase out use of highly toxic pesticides in California schools and anywhere else children are likely to face exposure.

**Notes**

1 *San Jose Mercury News,* September 25, 2000.

2 Definitions of IPM vary substantially. In this report, the definition of IPM or model IPM is consistent with that in the Healthy Schools Act of 2000 (see page 10).

# 1 Introduction: Poisoning Our Schools

Until recently, chlorpyrifos—a nerve toxin and suspected endocrine disruptor—was one of the most commonly used pesticides in the U.S. in both residential and agricultural settings. However in 2000, citing the danger that this pesticide poses to children, the U.S. Environmental Protection Agency (EPA) announced a phaseout and ban on all chlorpyrifos use for residential, park and school purposes and on certain food products that children consume—namely grapes, tomatoes and apples.[1] This move clearly acknowledged that exposure of children to pesticide risks in their homes, schools and parks, or on their food is unacceptable.

That same year, California passed one of the strongest children's pesticide right-to-know laws in the country—the Healthy Schools Act of 2000 (AB 2260, Shelley). For the first time in the state's history, school districts had to regularly provide parents with detailed information regarding pesticide use in their children's schools. The Act also encouraged school districts to eschew chemical pesticide use and required the state to provide districts with training on non-toxic pest management.

Now, a year after the Healthy Schools Act went into effect, this progress report investigates two important questions regarding pesticides in California schools: First, has the Act reduced overall pesticide use in surveyed districts? Second, are districts obeying notification and access to information requirements?

Answers are mixed. While certain California school districts have somewhat reduced pesticide use, most districts have not made substantial changes, and thousands of children continue to be exposed to dangerous, unnecessary pesticides in classrooms and playgrounds. Also, although school pesticide reporting and notification show definite improvement, compliance with the Act is inconsistent.

## P is for Poison and the problem of pesticides in California schools

Since 1997, California Public Interest Research Group Charitable Trust (CALPIRG CT) has undertaken four surveys of pesticide use in California's public schools. The 2000 report *P is for Poison* surveyed the state's 15 most populous school districts, in total over 1.5 million students or just over one quarter (26.4%) of all California public school children. Thirteen districts responded to the survey. The results strikingly illustrated the extent of the problem of pesticide use in schools: every responding district reported using one or more extremely hazardous pesticides.

Furthermore, the report found that many school districts did not track, keep records of or notify parents about school pesticide use at all, and that the quality of information varied greatly among those that did. Before passage of the Healthy Schools Act, it was easier to find out about pesticide use on an acre of cabbage than in a classroom of children. Requests for information about pesticide use might yield no response or a huge stack of indecipherable purchase orders.

*P is for Poison* clearly depicted the problem of pesticides in schools and the need for school districts, decision makers and parents to act to eliminate this threat to children's health. The Healthy Schools Act was California's legislative response, with Governor Davis declaring that "Kids should not be exposed to dangerous and toxic materials when they go to school."[2]

## The Healthy Schools Act of 2000

Governor Davis signed the Healthy Schools Act to address widespread toxic pesticide use in California schools and the failure to systematically track or inform parents regarding this use. The Act does not ban the use of pesticides on school sites, but it does

### What is a pesticide?

The U.S. Environmental Protection Agency defines a pesticide as any substance or mixture of substances intended to prevent, destroy, repel, or mitigate any pest. The term includes not only all insecticides, but also all herbicides, fungicides, rodenticides and various other substances used to control pests. Under U.S. law, a pesticide is also any substance or mixture of substances intended for use as a plant regulator, defoliant or desiccant.

By their very nature, most pesticides create some risk of harm to humans, animals or the environment—they are designed to kill or otherwise adversely affect living organisms. Biologically based pesticides, such as pheromones and microbial pesticides, are becoming increasingly popular and often are safer than traditional chemical pesticides.

Adapted from US EPA, Office of Pesticide Programs, "What is a Pesticide?"

### The Healthy Schools Act of 2000 (AB 2260, Shelley)

**Requirements for School Districts**

- Notify parents annually about what pesticides the district intends to use in their children's schools and on school grounds in the coming year.
- Provide parents the option to register to be notified 72 hours in advance of all pesticide applications.
- Post notice at all entry points of an area treated with pesticides 24 hours before and 72 hours after application.
- Maintain records of all pesticide use for four years in an accessible format available upon request.

**Requirements for the Department of Pesticide Regulation**

- Provide least-toxic integrated pest management training for interested school district personnel.
- Distribute a manual to all schools in least-toxic integrated pest management.
- Maintain a website (http://www.cdpr.ca.gov) to help schools comply with the Act and implement least-toxic pest management.

provide parents with the right to know about pesticide use in their children's schools; establish tools to promote least-toxic pest management in California schools; and establish a strong state policy endorsing reduced reliance on toxic pesticides and greater non-toxic pest management. A large coalition of children's health organizations, medical practitioners and parents concerned about pesticide use in California public schools supported its passage.

The Healthy Schools Act requires a number of things of school districts. Districts must send notification to parents at the beginning of each school year listing pesticides the district intends to use in their children's schools and on school grounds that year. They must provide parents the opportunity to register to be notified 72 hours in advance of all pesticide applications. Schools also must post warnings at all entry points of an area treated with pesticides at least 24 hours before and 72 hours after application and maintain complete records of pesticide use for the most recent four years in an accessible format available upon request.[3]

The Act lists a set of important requirements for the California Department of Pesticide Regulation (DPR) as well. DPR is to provide Integrated Pest Management (IPM) training for interested school district personnel. They also must distribute an IPM manual to all schools and maintain a website (http://www.cdpr.ca.gov) with information to help schools comply with the Act and implement least-toxic pest management.

In sum, the Healthy Schools Act is a means for parents, staff and school districts to move toward reduced pesticide use in California schools and greater protection of California school children.

## A progress report

This progress report is designed to reveal if the Healthy Schools Act is being implemented by California school districts and whether it has reduced overall pesticide use in the state's largest school districts. In January 2002, CALPIRG CT sent a survey to the 15 school districts surveyed for *P is for Poison*, representing a quarter (26.17%) of the state's school children. Follow-up phone interviews with district personnel augmented survey information.

The report begins by analyzing overall pesticide use in the surveyed districts and changes in pest management practices that have occurred since passage of the Healthy Schools Act. Next, it discusses how well school districts are obeying the law, especially in terms of notification and information access. A portrayal of IPM principles follows, with an analysis of IPM policies of the surveyed districts. The report concludes with recommendations for school districts, decision makers, parents and teachers regarding actions to protect children's health.

Appendix A presents a scorecard for each surveyed school district that analyzes pest management practices, implementation of the Healthy Schools Act, and changes made, if any, to reduce pesticide use since the passage of the Act. Appendix B breaks down pesticide use by district. Appendix C lists the health effects of pesticide active ingredients and Appendix D describes their toxicity. Appendix E lists further resources and Appendix F describes the methodolgy used in this report.

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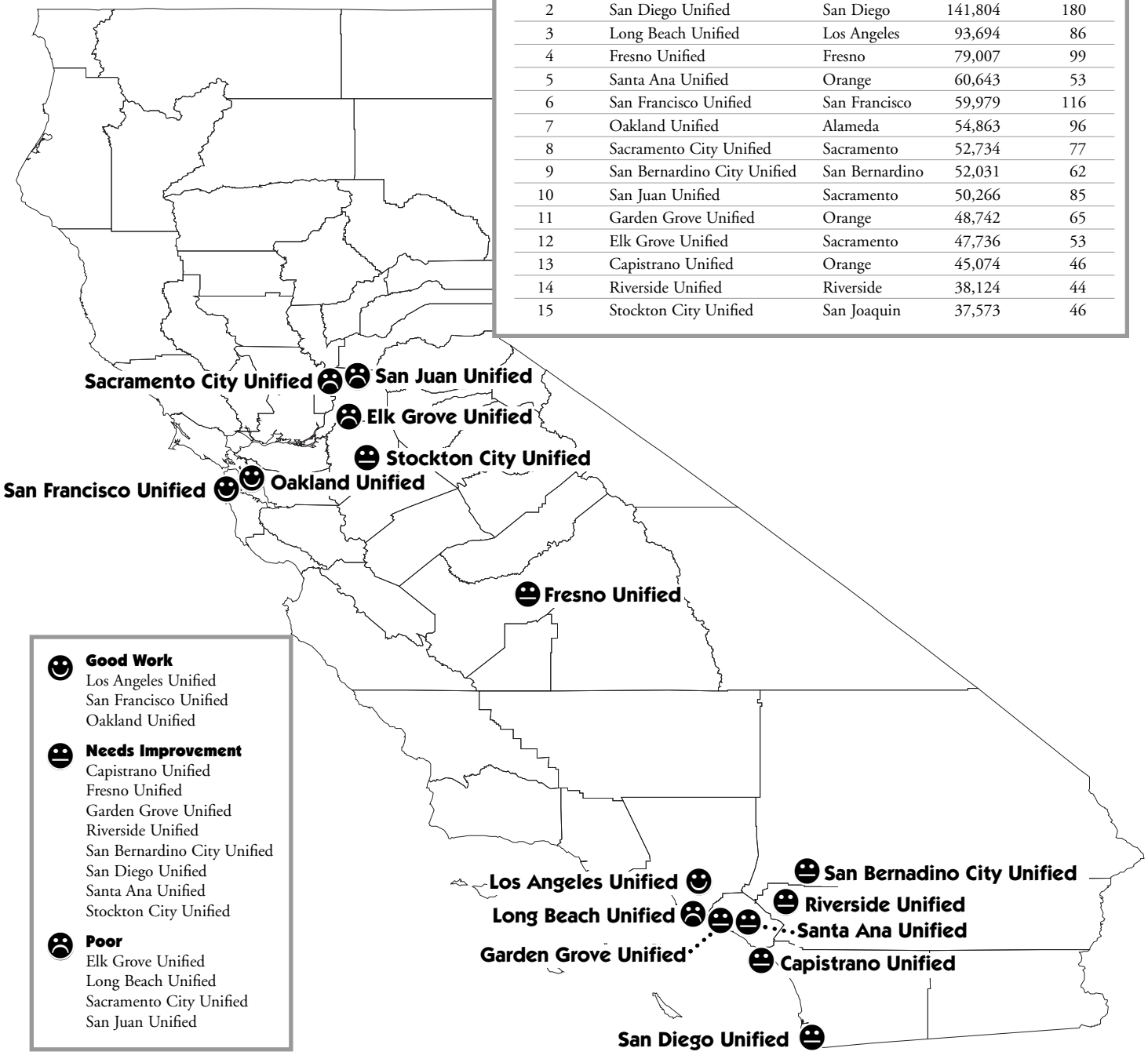
# Towards Healthier Schools

## Progress towards reducing pesticide use and implementing the Healthy Schools Act

### Surveyed School Districts: Enrollment

| *Rank by Enrollment* | *School District* | *County* | *Enrollment* | *Number of Schools* |
|---|---|---|---|---|
| 1 | Los Angeles Unified | Los Angeles | 721,346 | 659 |
| 2 | San Diego Unified | San Diego | 141,804 | 180 |
| 3 | Long Beach Unified | Los Angeles | 93,694 | 86 |
| 4 | Fresno Unified | Fresno | 79,007 | 99 |
| 5 | Santa Ana Unified | Orange | 60,643 | 53 |
| 6 | San Francisco Unified | San Francisco | 59,979 | 116 |
| 7 | Oakland Unified | Alameda | 54,863 | 96 |
| 8 | Sacramento City Unified | Sacramento | 52,734 | 77 |
| 9 | San Bernardino City Unified | San Bernardino | 52,031 | 62 |
| 10 | San Juan Unified | Sacramento | 50,266 | 85 |
| 11 | Garden Grove Unified | Orange | 48,742 | 65 |
| 12 | Elk Grove Unified | Sacramento | 47,736 | 53 |
| 13 | Capistrano Unified | Orange | 45,074 | 46 |
| 14 | Riverside Unified | Riverside | 38,124 | 44 |
| 15 | Stockton City Unified | San Joaquin | 37,573 | 46 |




**Good Work**
Los Angeles Unified
San Francisco Unified
Oakland Unified

**Needs Improvement**
Capistrano Unified
Fresno Unified
Garden Grove Unified
Riverside Unified
San Bernardino City Unified
San Diego Unified
Santa Ana Unified
Stockton City Unified

**Poor**
Elk Grove Unified
Long Beach Unified
Sacramento City Unified
San Juan Unified

# Kids at Risk: Pesticides & Children's Health

Children are especially vulnerable to the health impacts of pesticides. Health professionals, educators and public health advocates agree that school pesticide use can grievously affect their immediate and long-term health. Since the pioneering resolution of the California State Parent Teacher Association in 1972, the National Parent Teacher Association, the National Education Association and many other organizations have joined in its call for reduced school pesticide use.

The California Medical Association and the American Academy of Pediatrics, District IX, passed resolutions in 1999 recommending school pest control programs that preclude use of highly toxic pesticides, reduce overall pesticide use and involve parents in pest management decision-making.[1] As a result of health concerns raised by health professionals across the country, the US EPA has begun assessing pesticides for their health effects on children. The agency recently ordered the phaseout of two popular home and school use pesticides—chlorpyrifos (Dursban) and diazinon—because of their effects on children's nervous systems.

### Pesticides harm human health

Pesticides are linked to a variety of acute and chronic health effects. Acute symptoms include headache, nausea, diarrhea, dizziness, skin rash, asthma attack and respiratory irritation. These symptoms often appear similar or identical to illnesses from other causes such as "the flu," resulting in frequent misdiagnosis of pesticide-related illness. Chronic effects of pesticides may remain undetected for weeks, months, or even years after exposure. Multiple scientific studies, however, link pesticides to cancer, birth defects, nervous system disorders and immune deficiency.

### Children are especially susceptible to pesticide exposure

Children are not "little adults." The vulnerability of children to pesticide exposure is increased by their greater cell division rates and being in the early stages of organ, nervous, reproductive and immune system development.[2] Pesticide concentrations in their fatty tissues may be greater because their fat as a percentage of total body weight is lower.[3]

A 1993 National Research Council of the National Academy of Sciences report shows that children are more susceptible than adults to the health effects from low-level exposures to some pesticides over the long-term.[4] Animal studies also suggest that the young are more vulnerable to the effects of some toxic chemicals. A review of 269 drugs and toxic substances, including a number of pesticides, reveals lower lethal doses in new-born rodents than in adult rodents in 86% of cases.[5]

### Children are likely to receive relatively greater pesticide exposure than adults

In addition to being more vulnerable to pesticide toxicity, children's behavior and physiology make them more likely than adults to encounter pesticides. For example, most pesticide exposure is through the skin—the largest organ—and children have much more skin surface area for their size than adults.[6] Similarly, their higher respiratory rate means they inhale airborne pesticides at a faster rate.[7]

Children's characteristic contact with floors, lawns and playgrounds also increases exposure. Very young children frequently put fingers and other objects in their mouths, risking even greater exposure. The breathing zone for children is closer to the floor, where pesticides re-enter the air after floor surfaces are disturbed. Finally, children may bring home more than their homework—they may track school pesticides into their homes, presenting additional opportunity for exposure.

### Childhood exposures can come from pesticide residues in dust and carpets

Although pesticides contaminate air, soil, food, water and surfaces, studies that examine children's pesticide exposure indicate that the largest number and highest concentrations of chemicals often accumulate in household dust.[8] Because children's breathing zones are closer to the ground, they incur greater exposure to pesticides in carpets and dust than adults.

Carpets are long-term reservoirs for pesticides sprayed indoors.[9] Research assessing pesticide exposure from home carpet dust found an average of 12 pesticides in carpet dust samples, compared with 7.5 in air samples from the same residences. Moreover, 13 pesticides found in the carpet dust were not detected in the air. Diazinon appeared in nine of 11 carpets tested.[10] Carpet cleaning may release pesticides into the air, providing another opportunity for inhalation.[11]

### Pesticide residues often refuse to go away

School districts frequently attempt to reduce exposure risk by applying pesticides after-hours, while students are not present. However, numerous studies indicate that pesticides may remain potent indoors for days, weeks, even months after application. Sunlight, rain and soil microbes are not present to break down or carry away indoor pesticides, which thus persist much longer than in the outdoor environment.[12] Some pesticides can linger indoors for months and years. Indoor air concentrations of several kinds of pesticides may be more than 10 to 100 times higher than outdoor concentrations.[13] Even non-persistent pesticides last much longer indoors because they are not exposed to sunlight and water.[14] For example, one study detected air levels of diazinon 21 days after application at 20% of levels immediately after application.[15]

Not all indoor dust residues stem from indoor use. One study showed residues of 2,4-D and dicamba—herbicides used by some California school districts—could be tracked inside on shoes. Untreated areas, including lawn area and carpets, showed levels of 2,4-D, most likely due to spray-drift from nearby applications. Researchers estimated that residues of 2,4-D can persist in household carpet dust as long as one year.[16] Another study showed that after a single spray application in an apartment, chlorpyrifos continued to accumulate on both plush and hard-plastic children's toys, as well as on surfaces, for two weeks.[17]

When our children's health is at stake, we had better be safe than sorry. Given the serious health risks of childhood pesticide exposure, many school districts in California and nationwide are adopting least-toxic pest control practices.

#### Notes

1 See *Resolution to the CMA House of Delegates,* passed by CMA 29 March 1999 and adopted by California District IX, American Academy of Pediatrics, February 1999.

2 National Research Council, *Pesticides in the Diets of Infants and Children* (Washington, DC: National Research Council, National Academy Press, 1993); Watanabe et al., "Placental and blood-brain barrier transfer following prenatal and postnatal exposures to neuroactive drugs: Relationship with partition coefficient and behavioral teratogensis," *Toxicol. Appl. Pharmacol.* 105 ([1990]1): 66–77; Repetto and Baliga, *Pesticides and the Immune System* (Washington, DC: World Resources Institute, 1996).

3 J. Wargo, *Our Children's Toxic Legacy: How Science and Law Fail to Protect Us from Pesticides* (New Haven, Conn.: Yale University Press, 1996).

4 National Research Council, *Pesticides.*

5 R. Wyatt, "Intolerable risk: The physiological susceptibility of children to pesticides," *J. Pesticide Reform* Fall (1989).

6 Mott, *Our Children at Risk: The Five Worst Environmental Threats to Their Health* (Natural Resources Defense Council, November 1997), 5, citing *Principles for Evaluating Health Risks from Chemicals during Infancy and Early Childhood* (no author or date provided), 56; see also T. Schettler, *Generations at Risk: How Environmental Toxins May Affect Reproductive Health in Massachusetts* (Boston, Mass.: Greater Boston Physicians for Social Responsibility and MASSPIRG, 1996), 50.

7 Mott, *Our Children at Risk,* 5.

8 Schettler, *Generations at Risk,* 51, citing R. Whitmore et al., "Non-occupational exposures to pesticides for residents of two U.S. cities," *Arch. of Env. Contam. and Toxicol.* 26: 1–13. See also, W.R. Roberts et al., "Development and field testing of a high volume sampler for pesticides and toxics in dust," *J. Exposure Anal. and Env. Epidemiol.* 1 ([1991]2).

9 N. Simcox et al., "Pesticides in household dust and soil exposure pathways for children of agricultural families," *Env. Health Persp.* 103 (1995): 1126–34.

10 R.W. Whitmore et al., "Non-occupational exposure to pesticides," *Arch. of Env. Contam. and Toxicol.* 26 (1994): 47–59.

11 E. Esteban et al., "Association between indoor residential contamination with methyl parathion and urinary para-nitrophenol," *J. Exposure Anal. and Env. Epidem.* (1996): 384.

12 Simcox et al., *Pesticides,* 1126.

13 C. Wilkinson and S. Baker, *The Effects of Pesticides on Human Health* (Princeton, NJ: Princeton Scientific Publishing Co., 1990), citing R. Lewis and R. Lee, "Air pollution from pesticides: Sources: Occurrence and dispersion," *Indoor Air Pollution from Pesticides and Agricultural Processes* (Boca Raton, Fla.: CRC Press, 1976), 51–94.

14 Wilkinson and Baker, *Effects of Pesticides,* 83.

15 Leidy et al., "Concentration and movement of diazinon in air," *J. Env. Sci. Health* B17 (1982): 311–19.

16 M. Nishioka et al., "Measuring transport of lawn-applied herbicide acids from turf to home: Correlation of dislodgeable 2,4-D turf residues with carpet residues and carpet surface residues," *Env. Sci. Technol.* 30 ([1996]11).

17 Gurunathan et al., "Accumulation of chlorpyrifos on residential surfaces and toys accessible to children," *Env. Health Persp.* 106(1998): 9–16.

# 2 Pesticide Use: Has the Healthy Schools Act Made a Difference?

### California schools continue to use dangerous pesticides

Many of California's largest school districts have taken steps to reduce use of dangerous pesticides since passage of the Healthy Schools Act. Unfortunately, the surveyed districts show little evidence of reduced overall pesticide use. They listed 54 pesticide active ingredients that are known or suspected carcinogens, reproductive or developmental toxins, endocrine disruptors, acutely toxic, or cholinesterase inhibitors (nervous system toxicants) on their parental notification letters or survey responses—12 *more* than found in *P is for Poison*. The cause of the jump is unclear. The Act's more rigorous reporting requirements may be a major factor in the increase. Clearly, however, California's children continue to risk exposure to dangerous pesticides in and around their schools.

The parental notification letters and CALPIRG CT surveys reveal that the number of districts using each category of toxic pesticide also remains high. Even excluding Stockton Unified and Sacramento City Unified—both of which failed to send lists of herbicides—survey results or parental notification letters from 10 of the 15 districts listed known or probable carcinogens; 13 listed suspected carcinogens; 13, reproductive or developmental toxins; 13, suspected endocrine disruptors; 13, pesticides that are acutely toxic; and 11, pesticides that are cholinesterase inhibitors (nervous system toxicants). This is an insignificant change from the survey results of *P is for Poison* which found 11 of the 13 responding districts used known or suspected carcinogens; all 13 used suspected carcinogens; 11, reproductive or developmental toxins; all 13, suspected endocrine disruptors; 11, acute toxins; and 11, cholinesterase inhibitors.

Eight school districts surveyed for this report—San Juan Unified, Riverside Unified, Garden Grove Unified, Sacramento City Unified, Elk Grove Unified, Fresno Unified, Los Angeles Unified and San Bernardino City Unified—included chlorpyrifos in their notification letter or report of use. Noting the danger that this chemical may present to children, two years ago EPA announced a phase-out of chlorpyrifos in places where children face special risk of exposure—such as schools—as mentioned in the introduction. Over half of the state's largest school districts continue to use this poison. Clearly much more must be done to protect children's health from avoidable danger.

### Strides toward pesticide reduction

Despite the continued prevalence of dangerous pesticides in California schools, a number of districts are taking important steps towards reduced use. Oakland Unified School District has shown the most significant change since passage of the Healthy Schools Act. In June 2001, Oakland Unified adopted an IPM policy that has almost completely eliminated pesticides from district property. This district now joins Los Angeles Unified and San Francisco Unified—both adopted model IPM policies prior to the Healthy Schools Act—as a model of school IPM's potential. Codifying a commitment to IPM is the best way for school districts to eliminate dangerous pesticides from their grounds and to truly protect children's health.

Other districts have made notable, though less significant, changes. In February 2002, Santa Ana Unified passed an IPM policy that is strong, but clearly fails to restrict use of the most dangerous pesticides. Capistrano Unified boasts having eliminated use of pesticides in all school buildings and Stockton Unified reports an end to use of all insecticides for which the Act requires notice and posting. Garden Grove Unified no longer enlists their pesticide contractor as the first response to a pest problem and now uses paint to mark lines on athletic fields rather than "burning" lines with pesticides.

Despite these many commendable moves, there is still much work to be done to protect children from pesticide exposure in California schools. Indeed, most surveyed districts report few changes in pest management practices since the Act's passage. Bolder steps must be taken to eradicate the risk to children of pesticide exposure at their schools.

# 3 Compliance with the Healthy Schools Act

## Notification

The Healthy Schools Act mandates parental access to information about pesticide use in their children's schools through notification and record-keeping. Since the Act took effect, most California parents have received unprecedented information regarding school pesticide use. However, some districts surveyed still have not completely or promptly complied with the Act; thousands of parents remain in the dark regarding their children's potential pesticide exposure.

The survey found that by the end of January 2002—more than a year after the Healthy Schools Act went into effect and almost six months after the first full school year of the law began—a third of surveyed districts had not provided parental notification and were therefore out of compliance. Two districts, San Juan Unified and Santa Ana Unified, first issued the required parental notification in February 2002. As of late March 2002, Stockton Unified had not sent out notification and had no plan to, wrongly believing they were exempt from the requirement. Sacramento City Unified had sent a sample notification to schools but could not say when or whether notification reached parents. Elk Grove Unified's first notification letter is scheduled for July or August 2002. Such failures to issue notification letters at the beginning of the school year violate the law and deny parents important information.

### DPR's Sample Notification Letter

**Sample letter explaining annual written notification and individual application registry**

**For Parents**

Dear Parent or Guardian,

The Healthy Schools Act of 2000 was signed into law in September 2000 and requires that all schools provide parents or guardians of students with annual notification of expected pesticide use on school sites. The notification will identify the active ingredient or ingredients in each pesticide product and will include the Internet address (http://www.cdpr.ca.gov) for further information on pesticides and their alternatives. We will send out annual notifications starting [FILL IN DATE].

Parents or guardians may request prior notification of individual pesticide applications at the school site. Beginning [FILL IN DATE], people listed on this registry will be notified at least 72 hours before pesticides are applied. If you would like to be notified every time we apply a pesticide, please complete and return the form below and mail it to: [SCHOOL OFFICIAL, ADDRESS].

If you have questions, please contact [SCHOOL OFFICIAL] at [PHONE].

Sincerely,

[NAME OF SCHOOL PRINCIPAL]

**Request For Individual Pesticide Application Notification**

[NAME OF SCHOOL]

I understand that, upon request, the school district is required to supply information about individual pesticide applications at least 72 hours before application. I would like to be notified before each application at this school.

I would prefer to be contacted by (circle one):
U.S. Mail Email Phone

Please print neatly:

Name of Parent/Guardian _____

Date: _____

Address: _____

Day Phone: ( ) _____

Evening Phone: ( ) _____

Email: _____

Return to [SCHOOL CONTACT NAME, ADDRESS]

## Registration

The law requires districts to provide parents the option of registering to be notified before each pesticide application. Only the annual notification letter or other transparent instructions on how to get on the school's registry are likely to inform a parent of this right. DPR suggests and offers a sample form that parents can complete and mail to register (see sample below). It is easy to understand and clearly notifies parents of their right to register. Two-thirds of surveyed school districts embraced DPR's model. However, four districts—Capistrano Unified, Elk Grove Unified and San Juan Unified—disclosed the notification option in small print beneath a long list of pesticides or required a trip to the district office to register, alleging that this ensures only parents truly concerned about this issue or with chemically sensitive or allergic children will sign up. The Healthy Schools Act recognizes no such distinction: All parents have the right to as much information as possible regarding pesticide use in their children's schools. Almost without exception, the ease and clarity of registration and the number of registered parents closely correlate.

## Access to pesticide use information

The Healthy Schools Act requires schools to maintain information regarding pesticide use for four years, easily accessible upon request. Unfortunately, the haphazard record-keeping revealed in *P is for Poison* remains widespread.

Though all surveyed districts reported that they record the required information in some form, ease

of access to it varied greatly. Some districts, such as San Bernardino City Unified, knew exactly which pesticides were being used, with what frequency. In others, such as Fresno Unified and San Juan Unified, staff who oversee district pest management practices had no idea how frequently pesticides were applied or how often parents were notified.

A Fresno Unified staff person said that each school site, not the district, kept such records. However, calls to a sampling of district schools revealed inconsistent and incomplete access to information at the sites. By law, each school may hold its notification records. However, if the person ultimately responsible for district pest management does not know how often schools apply pesticides or which they use, overall ease of information access and the district's commitment to implementing the most safe, efficient pest management strategies are questionable.

# 4 Integrated Pest Management

Until use of highly toxic pesticides is banned from schools statewide, adoption of strong district IPM policies best ensures long-term reduction and elimination of chemical pesticides in California schools. A number of California districts—including Los Angeles Unified, San Francisco Unified, Oakland Unified, Ventura Unified, Arcata and Kentfield—have excellent IPM policies that have dramatically improved pest management practices and reduced reliance on chemical pesticides. The Healthy Schools Act requires the state to provide tools and resources that encourage interested districts to adopt such policies.

The Act defines IPM as "a pest management strategy that focuses on long-term prevention or suppression of pest problems through a combination of techniques such as monitoring for pest presence and establishing treatment conducive to pest development, improving sanitation, and employing mechanical and physical controls. Pesticides that pose the least possible hazard and are effective in a manner that minimizes risks to people, property and the environment are used only after careful monitoring indicates they are needed according to pre-established guidelines and treatment thresholds."[4] A strong IPM policy eliminates use of the most toxic pesticides. IPM establishes a hierarchy of appropriate pest management strategies, with monitoring and prevention first and chemical pesticides last. It never weights all available pest control methods equally: It always favors non-toxic options.

Nine of California's 15 largest school districts report standing IPM policies. Unfortunately, policy quality varies widely. Some have strong programs that fully ban the most toxic pesticides and practically eliminate use of all other chemical pesticides. Others comprise a few sentences that bear little if any impact on district pest management practices. The district scorecards (see Appendix A) analyze and grade each district's IPM policy based on a number of criteria: monitoring for pests, provision of a pest action threshold, prioritization of non-toxic before toxic controls, elimination or severe restriction of the most toxic pesticides and community involvement and oversight for thorough implementation (see box on page 16).

Policies of only three surveyed districts—San Francisco Unified, Oakland Unified and Los Angeles Unified—boast all of the strong IPM characteristics described below. Others, such as those of Santa Ana Unified and San Diego Unified, are good but omit one or more important element, such as elimination of the most dangerous pesticides. Some are dramatically inadequate, with vague standards for non-toxic pest control and a weak or non-existent definition of IPM. Weak policies are particularly troubling, in that districts can argue they follow IPM principles, yet never specify what that means or attempt to reduce or eliminate pesticide dependency. Protecting children's health requires that districts like Capistrano Unified, San Bernardino City Unified, Sacramento City Unified and Fresno Unified dramatically strengthen their existing IPM policies. Those lacking policies, such as San Juan

**Overall Grades of District IPM Policies***

| | |
|---|---|
| Oakland Unified | A |
| San Francisco Unified | A |
| Los Angeles Unified | A- |
| Santa Ana Unified | B |
| Fresno Unified | C |
| San Bernardino City Unified | C |
| San Diego City Unified | C |
| Capistrano Unified | D |
| Sacramento City Unified | D |
| Elk Grove Unified | F |
| Garden Grove Unified | F |
| Long Beach Unified | F |
| Riverside Unified | F |
| San Juan Unified | F |
| Stockton Unified | F |

*Districts with no written policy receive an F regardless of pest management practices.

Unified, Riverside Unified, Stockton Unified, Long Beach Unified, Garden Grove Unified and Elk Grove Unified, must immediately adopt and implement least-toxic IPM policies committed to eliminating toxic pesticides in their schools.

### Monitoring

A strong IPM policy clearly states the need to monitor pest levels. Chemical-intensive pest management, especially in schools, commonly hires a contractor to spray or treat for pests on a set schedule regardless of whether or not pests are actually present—an expensive, dangerous and inefficient practice. Regular monitoring identifies pest problems and areas of potential concern when they are still amenable to least-toxic management, reduces unnecessary toxic applications and determines decisions and practices that may affect future pest populations.

### Threshold levels

In tandem with monitoring, a strong IPM policy establishes threshold tolerance levels of pest populations to determine the point at which pests require treatment. A few ants in a classroom after a cupcake party, for example, need not prompt spraying of the entire room for ants.

### Non-toxic controls

A critical element of least-toxic IPM mandates consideration of non-toxic means of pest prevention and control before toxic pesticides. Non-toxic controls include prevention techniques such as sanitation, maintenance, buffer zones and habitat alteration, as well as non-toxic products such as soaps and plant-based oils. IPM does not give equal consideration to all pest control methods. A good policy explicitly states that chemical pest controls only may be used as a last resort or in an emergency, and then only in the least-toxic formulation possible.

### Eliminating the most dangerous pesticides

Mandated first consideration of least-toxic controls is part of the strategy to eliminate the most dangerous chemical pesticides. A good IPM program bans known and probable carcinogens, reproductive or developmental toxins, endocrine disrupters, cholinesterase-inhibiting nerve toxins, and the most acutely toxic pesticides, or puts such severe restrictions on their use so as to virtually eliminate them.

### Community involvement

Finally, an IPM policy should provide for parent and community program oversight. An IPM Committee with community representation can help decide what pesticides the district may use, oversee program implementation to ensure that practices reflect policy, and hold all parties accountable for outcomes. Parents and other concerned school community members can be key to successful implementation of a strong IPM policy and protection of children's health.

## IPM Policy Scorecard Criteria

**See Appendix A (pp.18-32) for District Scorecards.**

| | A | B | C | F |
|---|---|---|---|---|
| **Monitoring** | Policy clearly states that monitoring is the first line of defense against pests. | Policy mentions monitoring but does not clearly establish it as a priority or first course of action. | Policy implies monitoring but does not explicitly mention it. | No written indication that monitoring is a part of district IPM strategy. |
| **Threshold levels** | Policy clearly states that district has established a level of tolerance for pests that will help determine whether or not treatment is necessary. | Policy mentions pest action thresholds, but it is unclear whether they will determine whether or not treatment will occur. | Policy only vaguely implies an action threshold. | No mention or implication of a pest action threshold. |
| **Mandates consideration of non-toxic means before toxic controls** | Policy clearly states that the district strongly prefers non-toxic pest control methods and that chemicals will be used only as a last resort. | Policy states preference for non-toxic pest control but does not establish chemical treatments as only a last resort. | Policy implies that non-toxic methods should be used. | No language that indicates that non-toxic pest controls are favored over chemical controls. |
| **Eliminates highly toxic pesticides** | Policy eliminates use of highly toxic pesticides or has such clear and restrictive standards for use that it effectively bans them. | | | Fails to eliminate use of the most dangerous pesticides. |
| **Community oversight** | Policy clearly lays out the role and composition of an IPM oversight committee to ensure thorough policy implementation. | Policy includes an IPM committee but is less clear on its role and constitution. | | Policy specifies no role for community involvement to ensure reduced pesticide use. |

# 5 Conclusion and Recommendations

The Healthy Schools Act has forced unprecedented awareness of the importance of safe and effective pest management practices upon all California school districts. Some districts applaud the Act for providing an incentive to reduce pesticide dependency. Others complain that providing mandated parental notification is more trouble than it is worth. Yet many districts are taking important steps to reduce toxic pesticide use. The examples districts such as Oakland Unified, San Francisco Unified, Los Angeles Unified and others have established by almost completely eliminating pesticides show that strong IPM and non-toxic pest controls can both protect children's health and solve school pest problems.

Unfortunately, California school children are still not safe from the dangers of pesticides in their classrooms and in their playgrounds. The Healthy Schools Act only begins the work that must be done to make our schools safe, healthy places. To eliminate the danger of toxic pesticides in schools, CALPIRG CT and Californians for Pesticide Reform (CPR) recommend the following to school districts and parents and teachers:

### School Districts

- Eliminate use of all highly dangerous pesticides.
- Adopt and implement a model IPM policy that:
  - Eliminates use of pesticides that cause cancer, adverse reproductive and developmental effects, hormone disruption and nervous system effects;
  - Monitors for pests as the first line of defense;
  - Establishes a level of pest tolerance that helps determine whether treatment is necessary;
  - Mandates considering non-toxic means before toxic controls; and
  - Specifies the role and composition of an IPM oversight committee to ensure thorough policy implementation.
- Fully and immediately comply with the Healthy Schools Act of 2000.
- Provide thorough, accurate, immediate notification for every parent and a clear and simple notification registration process.
- Improve tracking and record-keeping to allow ready access to usable pesticide use information upon request.
- Halt pre-scheduled pesticide applications.

### Parents and teachers

- Obtain a Healthy Schools Pesticide Action Kit for more information on the Healthy Schools Act and how to pass an IPM policy in your school district. The kits are available at http://www.calhealthyschools.org or from CPR (see Appendix E for contact information).
- Work with your school board to adopt and implement an IPM policy.
- If your school district already has a strong policy, serve on the IPM oversight committee to help ensure full policy implementation.
- Hold your district accountable to the law and see that the district provides notifications and postings as the Healthy Schools Act requires.
- Register to be notified before each pesticide application.

### State policymakers

- Phase out the use of highly toxic pesticides in California schools and anywhere else that children are likely to face exposure.

**Notes**

1 See http://www.epa.gov/pesticides/op/chlorpyrifos/agreement/pdf.

2 *San Jose Mercury News,* September 25, 2000.

3 Pesticides that are anti-microbials, self-contained baits and traps, gels or pastes for crack and crevice treatment, or exempt from registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) section 25 (b) are free of Healthy Schools Act notification requirements.

4 The Healthy Schools Act of 2000 (AB 2260, Shelley), Article 17. 13181.

# Appendix A: District Scorecards

Healthy Schools Campaign

## Healthy Schools Scorecard

## Capistrano Unified School District

### Basic Facts


**Students** 45,074 (13th largest district in California)

**Schools** 46

**Location** Orange County

### Healthy Schools Act

**Date notification sent** February 12, 2001.

**Registration process** Difficult: requires written request to school.

**Number of parents registered for notification** 3

**Reported number of pesticide applications this year**

Exact figure not provided. District stated that Roundup is used once or twice a year at each school.

**Most frequently used pesticides** Roundup.

**Does the district have a set schedule for pesticide application or does it apply pesticides on an as-needed basis only?** As needed.

**Are there highly toxic pesticides on the annual notification?**

Yes: Surflan, Tempo, Gopher Getter, Diazinon, Award, Pendulum, Talstar, Ramik.

**Changes in district pest management practices since the passage of the Healthy Schools Act**

According to Capistrano Unified School District's Director of Maintenance and Operations, the district has used the Healthy Schools Act as a tool to prevent teachers and staff from using Raid and other over-the-counter pesticides in school buildings. The district has been experimenting with and implementing a number of non-toxic pest management strategies. The district fired their old pest management contractor because the contractor refused to reduce toxic pesticide use. Chemical pesticides are no longer used inside district buildings.

### IPM Policy*

The district has a written policy. Date adopted: February 26, 1996.

| | |
|---|---|
| **D** | **Overall grade** |
| C | Monitoring |
| C | Threshold levels |
| C | Mandates consideration of non-toxic means before toxic controls |
| F | Eliminates highly toxic pesticides |
| F | Community oversight |

### Comments

Capistrano Unified is making promising steps towards the elimination of toxic pesticides in the district. Though their reported use of pesticides this year is low, the parent notification letter still allows the district to use a large number of dangerous pesticides. Furthermore, the district IPM policy is very weak and does not ensure the reduced use of chemical pesticides. Capistrano Unified should strengthen their IPM policy to codify their commitment to least-toxic pest control and eliminating toxic pesticides.



* See page 16 for description of grade criteria.

Healthy Schools Campaign

# Healthy Schools Scorecard

# Elk Grove Unified School District

## Basic Facts


**Students** 47,736 (12th largest district in California)

**Schools** 53

**Location** Sacramento County

## Healthy Schools Act

**Date notification sent** Never sent.

**Registration prcess**

Medium difficult: parents must call the Maintenance and Operations Department.

**Number of parents registered for notification**

"A few." Though the notification has not yet been sent, a small handful of parents who are familiar with the Healthy Schools Act have requested notification.

**Reported number of pesticide applications this year**

Herbicides are applied at each site an estimated three times a year, or approximately 160 applications a year. Number of insecticide applications unknown.

**Most frequently used pesticides** Roundup, Gallery, Delta Guard Dust, Talstar Flow, Ant Bait, Flourguard.

**Does the district have a set schedule for pesticide application, or does it apply pesticides only on an as-needed basis?**

As needed.

**Are there highly toxic pesticides on annual notification?**

Yes: Snapshot, Micro-Gen ULD BP-300, Spectracide PRO Wasp & Hornet Killer, Premise 75 WP, Talstar Ca Granular Dust Insecticide, Knoxout, Pendulum.

**Changes in district pest management practices since the passage of the Healthy Schools Act**

Minimal changes. Before the Healthy Schools Act, every gardener at Elk Grove Unified School District would carry Roundup with them every day. Now there is just one spray technician who does all of the applications for the district. This has cut down on the use of Roundup in the district tremendously. The district did not provide information regarding changes in insecticide use.

## IPM Policy*

The district has no written policy.

**F Overall Grade**

## Comments

Elk Grove Unified School District is not in compliance with the law—over a year after the Healthy Schools Act went into effect, the district has still not sent parents the required notification. Furthermore, the notification that they plan to send to parents in summer 2002 includes a number of dangerous pesticides. The district has no written pest management policy. Elk Grove Unified should send out their parent notification immediately and adopt an IPM policy that dramatically reduces their use of toxic pesticides.

*** See page 16 for description of grade criteria.**

Healthy Schools Campaign

# Healthy Schools Scorecard

# Fresno Unified School District


## Basic Facts

**Students** 79,007 (4th largest district in California)

**Schools** 99

**Location** Fresno County

## Healthy Schools Act

**Date notification sent** November 2001.

**Registration process** Easy: mail-in form.

**Number of parents registered for notification** District does not know. Information recorded at each school site.

**Reported number of pesticide applications this year** District does not know. Information recorded at each school site.

**Most frequently used pesticides** Roundup, Surflan, Dragnet, Cynoff, Maxforce.

**Does the district have a set schedule for pesticide application, or does it apply pesticides only on an as-needed basis?**

As needed.

**Are highly toxic pesticides included on annual notification?**

Yes: Acme Trimec Plus, Avitrol, Chipco Aliette, Chipco Ronstar G, Contrac, Cynoff, Dragnett SFR, Dursban L.O. Insecticide, Maxforce FC Gel, Maxforce FC Ant Stations, Wasp-Freeze, Micro-Gen ULD BP-300, Vikane, Wilco Gopher Getter Type I.

**Changes in district pest management practices since the passage of the Healthy Schools Act**

None.

## IPM Policy*

The district has a written policy. Date adopted: Unknown.

| | |
|---|---|
| **C** | **Overall grade** |
| A | Monitoring |
| C | Threshold levels |
| B | Mandates consideration of non-toxic means before toxic controls |
| F | Eliminates highly toxic pesticides |
| F | Community oversight |

## Comments

Fresno Unified School District's IPM policy needs improvement. The district uses numerous dangerous pesticides and does not track pesticide applications or notifications. Since notification information is kept at each individual school site, the district IPM coordinator did not know how many parents in the district were registered to be notified before each application or how many times pesticides had been applied. Although it is acceptable under the law for each school site to record this information, a phone survey of several different schools in the district revealed that not every school was able to provide it. One school even said that the information was classified and could not be revealed. The inability to provide this information—and reporting that it is classified—is not in compliance with the law. Fresno Unified should demonstrate their stated commitment to IPM principles by eliminating highly toxic pesticides and tracking pesticide use in the district more thoroughly and carefully.



*** See page 16 for description of grade criteria.**

Healthy Schools Campaign

# Healthy Schools Scorecard

# Garden Grove Unified School District

## Basic Facts


**Students** 48,742 (11th largest district in California)

**Schools** 65

**Location** Orange County

## Healthy Schools Act

**Date notification sent** August 2001.

**Registration process** Difficult: form available in school office.

**Number of parents registered for notification** 0

**Reported number of pesticide applications this year** Approximately 1790 annually. (See application schedule below.)

**Most frequently used pesticides** Roundup, Premis, Dragnet, Demand, Niban EG.

**Does the district have a set schedule for pesticide application, or do they apply pesticides only on an as-needed basis?**

Roundup is sprayed every other week at most sites. This accounts for virtually all the pesticide applications in the district. Other pesticide applications, including baits and gels (which are included in the above number but exempt from notification under the Healthy Schools Act) are not scheduled and occur at approximately four times per month in the district.

**Are highly toxic pesticides included on annual notification?**

Yes: Aero-Cide, PT 565-Plus XLO, Cy-Kick, Demand CS, Dragnet SFR, Dursban TC, Strike Force, Ronstar 40 Coated Grain, Strychnine Coated Grain, Suspend, Wasp Freeze, Weed Hoe.

**Changes in district pest management practices since the passage of the Healthy Schools Act**

Garden Grove Unified School District was, according to their director of maintenance and operations, "spurred into action" by the Healthy Schools Act. They no longer call the exterminator contractor as an initial response to infestations by insects or other pests. If treatment is needed they first use non-pesticide applications of soap and water followed by gels, baits or traps. A second change is that the district has forbidden the use of herbicides for burning lines in athletic fields and has substituted paint. Finally, the district has trained custodial staff and maintenance personnel at all school sites about the Healthy Schools Act and alternatives to chemical pesticides. Notifications have been sent to every school principle regarding their responsibilities under the law.

## IPM Policy*

The district has no written policy.

**F Overall Grade**

## Comments

Garden Grove has taken strides to reduce its reliance on dangerous pesticides. However, although the only pesticide they reported using on a regular basis is Roundup, it is used extremely frequently. The district does not have an IPM policy and has a high number of dangerous pesticides on its parent notification list. The district should codify their commitment to reducing the use of pesticides by adopting and implementing a strong IPM policy and eliminating the use of highly toxic pesticides.

*** See page 16 for description of grade criteria.**

Healthy Schools Campaign

# Healthy Schools Scorecard

# Long Beach Unified School District

## Basic Facts


**Size** 93,694 (3rd largest district in California)

**Schools** 86

**Location** Los Angeles County

## Healthy Schools Act

**Date notification sent** September 2001.

**Registration process** Easy: mail-in form.

**Number of parents registered for notification** District did not provide this information.

**Reported number of pesticide applications this year** District did not provide this information.

**Most frequently used pesticides** District did not provide this information.

**Does the district have a set schedule for pesticide application, or does it apply pesticides only on an as-needed basis?**

District did not provide information.

**Are highly toxic pesticides included on annual notification?**

Yes: Talon-G, Contrac, Chloropicrin, Tempo Insecticide 20, Diazinon 4-E, Diazinon 5-G, PT 515, Florel, Maxforce Bait for Ants, Maxforce Bait for Roaches, Termidor, Methyl Bromide, Microcare, PCO Fogger, Uld Bp-100, Surflan, Ronstar, CB-38, Microcare, PCO Fogger, CB-38, CB-80, Strychnine coated grain, Vikane.

**Changes in district pest management practices since the passage of the Healthy Schools Act**

District did not provide this information.

## IPM Policy*

The district has no written policy.

**F Overall Grade**

## Comments

Long Beach Unified failed to supply much of the requested information. They supplied the parent notification letter, but returned the survey almost blank. The letter states that 41 different pesticides may be applied in the district this school year, many of which have very dangerous active ingredients. The actual number of pesticide applications that have occurred this year or the number of parents registered for notification are unknown. Long Beach Unified should adopt a strong IPM policy and immediately reduce the use of dangerous pesticides.



*** See page 16 for description of grade criteria.**

Healthy Schools Campaign

# Healthy Schools Scorecard

# Los Angeles Unified School District


## Basic Facts

**Students** 736,675 (Largest district in California)

**Schools** 677

**Location** Los Angeles County

## Healthy Schools Act

**Date notification sent** Annually beginning April 1999.

**Registration process** Easy: mail-in form.

**Number of parents registered for notification** 9354

**Reported number of pesticide applications this year**

Approximately 600 applications a year of non-exempt products or procedures.

**Most frequently used pesticides** The district did not provide this information.

**Does the district have a set schedule for pesticide application, or are pesticides only used on an as-needed basis?** As needed.

**Are highly toxic pesticides included on annual notification?**

Yes, but the district's IPM policy clearly regulates how and when these pesticides may be used to minimize their danger. The notification lists Avitrol Whole Corn, Advance Granular Ant Bait, Ascent Fire Ant Bait, Avert Cokcroach, Gel Bait, Avert Crack & Crevice Bait, Contrac All Weather Cake, Gopher Getter, PT Wasp Freeze 515, PT 565 Plus XLO, Delta Dust, Suspend SC, Knox Out 2FM, Generation Mini-Block, Conquer WP, Maxforce Ant Killer, Maxforce Granular Insect Bait, Maxforce Roach Gel, Nylar IGR and Demize EC.

**Changes in district pest management practices since the passage of the Healthy Schools Act**

None.

## IPM Policy*

The district has a written policy. Date adopted: March 1999

**A- Overall grade**

| | |
|---|---|
| A- | Monitoring |
| A | Threshold levels |
| A | Mandates consideration of non-toxic means before toxic controls |
| B+ | Eliminates highly toxic pesticides |
| A | Community oversight |

## Comments

The pest management practices of the LA Unified School District changed dramatically with the adoption of their IPM policy in 1999. Since the implementation of the policy, the number of pesticides used in the district has been reduced from 135 to 37. There is approximately one pesticide application per school per year in the district. LAUSD is the second largest school district in the nation. Their success at reducing pesticide use is indicative of the potential of IPM in any school district. LAUSD should continue working to reduce and eliminate the use of all chemical pesticides.

*** See page 16 for description of grade criteria.**

Healthy Schools Campaign

# Healthy Schools Scorecard

# Oakland Unified School District

## Basic Facts


**Students** 54,863 (7th largest district in California)

**Schools** 96

**Location** Alameda County

## Healthy Schools Act

**Date notification sent** September 4, 2001.

**Registration process** Easy: mail-in form.

**Number of parents registered for notification** Over 1000

**Reported number of pesticide applications this year** 1

**Most frequently used pesticides**

Only one pesticide application has occurred this year and it was a crack and crevice treatment not requiring posting or notification under the Healthy Schools Act.

**Does the district have a set schedule for pesticide application, or does it apply pesticides only on an as-needed basis?**

As needed for emergency use only.

**Are highly toxic pesticides included on annual notification?**

Yes, however the district's IPM policy clearly regulates how and when these pesticides may be used to minimize their danger. The notification lists Tempo 20 WP Power Pak, Tempo 20 WP, Precor 2000 Premise Spray II, Deltadust insecticide, Talstar CA Granular, Stinger Wasp, Maxforce and Gopher Getter Type I.

**Changes in district pest management practices since the passage of the Healthy Schools Act**

Since the passage of the law, the Oakland Unified School District has passed one of the strongest IPM policies in the state. Pesticides are now only used if absolutely necessary in an emergency situation. Though the parent notification letter includes a number of toxic pesticides, these pesticides are not allowed under the IPM policy and none of them have been used this year.

## IPM Policy*

The district has a written policy. Date adopted: June 13, 2001.

**A Overall grade**

A Monitoring

A Threshold levels

A Mandates consideration of non-toxic means before toxic controls

A- Eliminates highly toxic pesticides

A Community oversight

## Comments

In June 2001, Oakland Unified adopted a model IPM policy which has led to the virtual elimination of pesticides in their schools and on their grounds. Under the new IPM policy, pesticides are used only in emergencies as a last resort. As of March 2002, the use of a chemical treatment (crack and crevice gel for ants) had only occurred once so far this school year. Currently the IPM Committee (which includes parents, teachers, Facilities and Planning staff, Buildings and Grounds staff, school administrators, district administrators and community organizations) is working to finalize a list of approved least-toxic pesticides. We commend Oakland Unified for its demonstrated commitment to the elimination of dangerous pesticides in its schools. Next year Oakland Unified should send a notification to parents that more accurately reflects the district's proven commitment to non-toxic pest control methods.



*** See page 16 for description of grade criteria.**

Healthy Schools Campaign

# Healthy Schools Scorecard

# Riverside Unified School District

## Basic Facts


**Students** 38,124 (14th largest district in California)

**Schools** 44

**Location** Riverside County

## Healthy Schools Act

**Date notification sent** August 2001.

**Registration process** Easy: mail-in form.

**Number of parents registered for notification** Over 500

**Reported number of pesticide applications this year**

Approximately four times a year at 43 school sites, or 172 applications in 2001 plus contractor applications.

**Most commonly used pesticides** Roundup, Fumitox, Cy-Kick, Equity, All-Pro Diazinon.

**Does the district have a set schedule for pesticide application, or does it apply pesticides only on an as-needed basis?**

Set schedule for Roundup. Pesticides applied in buildings as needed.

**Are highly pesticides included on annual notification?**

Yes: Catalist, Cynoff, Equity, Siege. Talstar, Termidor SC, Knox Out 2FM, Siege-Pro.

**Changes in district pest management practices since the passage of the Healthy Schools Act**

Riverside Unified said that when they first heard about the Healthy Schools Act two years ago they "knew [they] had to get [their] act together." The district has eliminated the use of any EPA Restricted Use pesticides on their grounds. They still use Roundup, but have reduced their use of this pesticide through increasing weeding. The district is forming a committee of grounds and custodial staff to standardize and reduce pesticide use and to analyze the progress they are making towards these goals. They have also worked to increase employee awareness and training on eliminating pests with minimal pesticide use.

## IPM Policy*

The district has no written policy.

**F Overall Grade**

## Comments

The district says it is "constantly search[ing] for ways to cut down on chemical use." It does appear to be moving in this direction, but many toxic pesticides are still being used. The contracted pest control operators use Restricted Use pesticides for fumigation of buildings. Since children spend much of their time in classrooms, they are very dangerous places to use highly toxic pesticides. To protect its children, Riverside Unified should adopt and implement a strong IPM policy and eliminate the use of highly dangerous pesticides.

*** See page 16 for description of grade criteria.**

Healthy Schools Campaign

# Healthy Schools Scorecard

# Sacramento City Unified School District


## Basic Facts

**Students** 52,734 (8th largest district in California)

**Schools** 77

**Location** Sacramento County

## Healthy Schools Act

**Date notification sent**

District sent sample notification to school sites in April 2001. Unknown when or if school sites sent notification to parents.

**Registration process** Easy: district suggestion to schools is a mail-in form.

**Number of parents registered for notification** District did not know. Information is tracked by each school site.

**Reported number of pesticide applications this year** 617 insecticide applications from February through December 2001. District did not provide information regarding herbicide applications.

**Most frequently used pesticides** Dursban Pro, Drax, Mop-up, Max Force, Raid Fogger, Flourguard, ULD-100, Nylar, AG-90, Diazinon, Maxide, Drione, plus herbicides.

**Does the district have a set schedule for pesticide application, or does it apply pesticides only on an as-need basis?**

There used to be a set schedule, but the district is moving towards "as needed" application only.

**Are highly toxic pesticides included on annual notification?**

The district did not supply a completed notification letter. Pesticide work order reports indicate that high danger pesticides are used, including Max Force Roach, Max Force Ant, Raid Fogger, ULD-100, Dursban Pro, Demize (Nylar), Ortho Fogger, Diazinon, Maxide, Drione, AC 90 Bait, ULD BP 100 Insecticide and JT Eaton. Non-insecticide pesticide work orders were not received.

**Changes in district pest management practices since the passage of the Healthy Schools Act**

The school district is increasingly using non-toxic pest treatments and is moving towards applying pesticides as needed instead of on regular spraying schedules.

## IPM Policy*

The district has a written policy. Date adopted: 1998.

| | |
|---|---|
| **D** | **Overall grade** |
| B | Monitoring |
| C | Threshold levels |
| F | Mandates consideration of non-toxic means before toxic controls |
| F | Eliminates highly toxic pesticides |
| F | Community oversight |

## Comments

Sacramento City Unified provided incomplete information regarding pesticide use and notification. However, it is clear that the district uses a number of highly toxic pesticides and its IPM policy does not promote least-toxic pest management. The district should pass and implement a strong IPM policy and eliminate the use of highly dangerous pesticides.



*** See page 16 for description of grade criteria.**

Healthy Schools Scorecard

# San Bernardino City Unified School District


## Basic Facts

**Size** 52,031 (9th largest district in California)

**Schools** 62

**Location** San Bernardino County

## Healthy Schools Act

**Date notification sent** September 2001.

**Registration process** Easy: mail in form.

**Number of parents registered for notification** 17

**Reported number of pesticide applications this year** 520 in 2001

**Most frequently used pesticides** Gentrol, Pendulum, Roundup Pro, Tempo.

**Does the district have a set schedule for pesticide application, or does it apply pesticides only on an as-needed basis?**

As needed.

**Are highly toxic pesticides included on annual notification?**

Yes: Cy-Kick, Cynoff, Demize, Dragnet, Empire 20, Florel, Fumitoxin, No-Sting, Pendulum, Pyronnone EC, Rak-5, Rodent Bait Diphacinono, Suspend, Tempo, Wasp Freeze, Wilco "Gopher Getter" Bait.

**Changes in district pest management practices since the passage of the Healthy Schools Act**

None.

## IPM Policy*

The district has a written policy. Date adopted: May 3, 1994.

| | |
|---|---|
| **C** | **Overall grade** |
| B | Monitoring |
| C | Threshold levels |
| A | Mandates consideration of non-toxic means before toxic controls |
| F | Eliminates highly toxic pesticides |
| F | Community oversight |

## Comments

The San Bernardino City Unified School District adopted an IPM policy in 1994. However, to protect children's health, the policy must be much stronger. It does prioritize the use of non-chemical pest controls, but failing to restrict the most toxic pesticides allows the opportunity for them to be used around children. Although the majority of the most toxic pesticides on the notification list are not used very frequently, the school uses far more pesticides than would be permitted under a strong IPM policy. However, at the district level, San Bernardino City Unified has one of the most thorough and easily accessible systems for tracking pesticide applications of the surveyed districts. San Bernardino City Unified should strengthen their IPM policy and stop using highly toxic pesticides.

*** See page 16 for description of grade criteria.**

Healthy Schools Campaign

# Healthy Schools Scorecard

# San Diego Unified School District


## Basic Facts

**Students** 141,804 (2nd largest district in California)

**Schools** 180

**Location** San Diego County

## Healthy Schools Act

**Date notification sent** July 2001

**Registration process** Easy: mail-in form.

**Number of parents registered for notification**

Records are kept by individual school sites. Several hundred registrants across district.

**Reported number of pesticide applications this year** 135 from September 2001 to February 2002.

**Most frequently used pesticides** PCQ, Talstar, Roundup Pro, Mecomec, Microcare.

**Does the district have a set schedule for pesticide application, or does it apply pesticides only on an as-needed basis?**

As needed.

**Are highly toxic pesticides included on annual notification?**

Yes: Advance Granular Bait, Avert, Wasp Freeze, Maki Paraffin Block, Maxforce Ant Bait Stations, Cy-Kick, Knoxout 2FM, TKO, Direx 80 DF, Florel, Award, Amdro, Ace Cap, Dragnet, Microcare PT 175, Microgen Uld BP 3000, Pyrenone Industrial Spray, Barricade, Baygone, PCQ, Surflan, Talstar, Team, Tempo 20 WP, Treflan, Trimec, Wilco Gopher Getter Bait, XL 2G, Mecomec, Dragnet, Precor 2000, Bio Barrier, Spike, Spotrete F.

**Changes in district pest management practices since the passage of the Healthy Schools Act**

None.

## IPM Policy*

The district has a written policy. Date adopted: October 22, 1991.

**C Overall grade**

A- Monitoring

F Threshold levels

A Mandates consideration of non-toxic means before toxic controls

F Eliminates highly toxic pesticides

F Community oversight

## Comments

According to the district pest control supervisor, most pest problems in the district are solved by caulking, improved sanitation, and determining and eliminating the cause of the pest problem. The fairly low number of pesticide applications this year indicates that these techniques are being used relatively effectively. However, San Diego Unified still has a high number of toxic pesticides on its parent notification list. To protect children's health and show its commitment to least-toxic IPM, the district should strengthen its IPM policy to eliminate the use of the most dangerous pesticides.



*** See page 16 for description of grade criteria.**

Healthy Schools Campaign

# Healthy Schools Scorecard

# San Francisco Unified School District

## Basic Facts


**Students** 59,979 (6th largest district in California)

**Schools** 116

**Location** San Francisco County

## Healthy Schools Act

**Date notification sent** No notification sent because no pesticides used in district.

**Registration process** n/a

**Number of parents registered for notification** n/a

**Reported number of pesticide applications this year** 0

**Most frequently used pesticides** n/a

**Does the district have a set schedule for pesticide application, or are pesticides applied only on an as-needed basis?**

No pesticides used.

**Are highly toxic pesticides included on annual notification?** n/a

**Changes in district pest management practices since the passage of the Healthy Schools Act**

None.

## IPM Policy*

The district has a written policy. Date adopted: February 10, 1998.

**A Overall grade**

A Monitoring

A Threshold levels

A Mandates consideration of non-toxic means over toxic controls

A Eliminates highly toxic pesticides

A Community oversight

## Comments

When San Francisco Unified was surveyed for *P is for Poison,* they reported using no chemical pesticides in their district. Upon further research it was determined that pesticides were being used in the district occasionally by outside contractors. This year the district reports to have completely eliminated the use of pesticides, including those that had been used by outside contractors. San Francisco Unified has an extremely strong IPM policy and should be commended for their commitment to the protection of children's health.

*** See page 16 for description of grade criteria.**

Healthy Schools Campaign

# Healthy Schools Scorecard

# San Juan Unified School District


## Basic Facts

**Students** 50,266 (10th largest district in California)

**Schools** 85

**Location** Sacramento County

## Healthy Schools Act

**Date notification sent** February 2002.

**Registration process**

Medium difficult: parents must call the Maintenance and Operations Department.

**Number of parents registered for notification** 0

**Reported number of pesticide applications this year**

As of March 11, 2002 the district was spraying Roundup at elementary schools every six days and at high schools every week. The district provided no information regarding insecticide applications.

**Most frequently used pesticides** The district did not provide this information.

**Does the district have a set schedule for pesticide application, or does it apply pesticides only on as as-needed basis?**

Set schedule.

**Are highly toxic pesticides included on annual notification?**

Yes: Talsar, Cy-Kick CS, Demand CS, Dragnet, Contact Rat & Mouse Bait, Delta Dust, BP 300, Drione Dust, Intruder HPX, Strike Force.

**Changes in district pest management practices since the passage of the Healthy Schools Act**

The district is starting to prioritize using pesticides that are exempt from the notification requirements of the Healthy Schools Act.

## IPM Policy*

The district has no written policy.

**F Overall Grade**

## Comments

San Juan Unified School District's parent notification letter was not sent out until February 2002, over a year after the law went into effect and six months after the start of the first full school year under the law. Furthermore, the district has done very little to reduce their use of chemical pesticides. The person in charge of pest management decisions in the district said that if too many parents start registering to be notified before each pesticide application, the district may begin to ask qualifying questions of the registrants to make sure they have a good reason to be on the notification registry. This would break the law and deny parents and guardians the right to be as informed as possible about factors affecting their children's health. San Juan Unified should pass and implement a strong IPM policy, eliminate the use of highly toxic pesticides, and ensure that their notification process is clear and available to all parents.



*** See page 16 for description of grade criteria.**

Healthy Schools Campaign

# Healthy Schools Scorecard

# Santa Ana Unified School District


## Basic Facts

**Students** 60,643 (5th largest district in California)

**Schools** 53

**Location** Orange County

## Healthy Schools Act

**Date notification sent** February 15, 2002.

**Registration process** Easy: mail-in form.

**Number of parents registered for notification** Over 600.

**Reported number of pesticide applications this year** 20 to 25 this school year.

**Most frequently used pesticides** Roundup, Recruit AG, Avert.

**Does the district have a set schedule for pesticide application, or does it apply pesticides only on an as-needed basis?**

Scheduled quarterly Roundup applications.

**Are highly toxic pesticides included on annual notification?**

Yes: Maxforce, WASP Freeze, Talstar, Deltagard G, Dragnet FT, Tempo 20WP, Drione, DeltaDust, Avert.

**Changes in district pest management practices since the passage of the Healthy Schools Act**

In February 2002, Santa Ana Unified School District adopted an IPM policy. The district has three staff people working on the implementation of the policy and shows a commitment to eliminating toxic pesticide use in the district.

## IPM Policy*

The district has a written policy. Date adopted: February 12, 2002.

**B Overall grade**

A Monitoring

A Threshold levels

A Mandates consideration of non-toxic means before toxic controls

F Eliminates highly toxic pesticides

B Community oversight

## Comments

Santa Ana's IPM policy is fairly strong. However, Roundup is still being sprayed on a scheduled basis and a number of highly toxic pesticides are included in their parent notification. Santa Ana Unified appears to have the resources and commitment to implement a pest management policy that fully protects children from the dangers of pesticides. By eliminating highly dangerous pesticides and reducing their pesticide applications even further, Santa Ana could become another model for school IPM.

*** See page 16 for description of grade criteria.**

Healthy Schools Campaign

# Healthy Schools Scorecard

# Stockton Unified School District

## Basic Facts


**Students** 37,573 (15th largest district in California)

**Schools** 46

**Location** San Joaquin County

## Healthy Schools Act

**Date notification sent** No notification sent.

**Registration process** No notification or registration process available.

**Number of parents registered for notification** 0

**Reported number of pesticide applications this year**

District reported no pesticide applications this year. However, this refers only to insecticide applications. District did not send information regarding herbicide or other pesticide use.

**Most frequently used pesticides** District did not provide this information.

**Does the district have a set schedule for pesticide application, or does it apply pesticides only on an as-needed basis?**

District did not provide this information.

**Are highly toxic pesticides included on annual notification?** No notification sent.

**Changes in district pest management practices since the passage of the Healthy Schools Act**

The school district has stopped using all insecticides that are not exempt from the notification requirements of the law.

## IPM Policy*

No formal policy in place.

**F Overall Grade**

## Comments

Stockton Unified School District misunderstood the law. Under the incorrect assumption that the Healthy Schools Act applied only to insecticides and not to all pesticides, the district has done nothing to reduce the use of chemicals that are not insecticides. The district has also failed to provide either the notification or postings required by the Healthy Schools Act. However, completely eliminating the use of non-exempt insecticides is a significant accomplishment. Stockton Unified should apply this same commitment and thoroughness to the elimination of all other pesticides as well and codify this commitment through a strong IPM policy.



*** See page 16 for description of grade criteria.**

# Appendix B: Pesticides and Active Ingredients Used by School Districts*

**Note:** Information may be incomplete due to partial reporting by school districts.

## Capistrano Unified

| Active Ingredient | Product Name |
|---|---|
| Bifenthrin | Talstar |
| Clopyralid | Lontrel |
| Cyfluthrin | Tempo |
| Diazinon | Diazinon |
| Diphacinone | Ramik |
| Diquat dibromide | Reward |
| Fenoxycarb | Award |
| Glyphosate | Round-up |
| Isoxaben | Pendulum |
| Oryzalin | Surflan |
| Strychnine | Gopher Getter |

## Elk Grove Unified

| Active Ingredient | Product Name |
|---|---|
| Bifenthrin | Talstar Ca Granular Dust Insecticide, Knoxout |
| Clopyralid | Lontrel |
| Diazinon | Knoxout |
| Fluazifop-p-butyl | Fusilade II |
| Glyphosate | Round-up Pro |
| Imidacloprid | Talstar Lawn & Tree Flowable |
| Isoxaben | Pendulum, Snapshot |
| N-octyl bicycloheptene dicarboximide | Premise 75 WP |
| Permethrin | Micro-Gen ULD BP-300, Spectracide Pro Wasp & Hornet Killer |
| Petroleum distillates | Spectracide PRO Wasp & Hornet Killer, Premise 75 WP |
| Phenylethyl propionate | ECO Exempt D Dust |
| Piperonyl butoxide | Micro-Gen ULD BP-300, Spectracide PRO Wasp & Hornet Killer |
| Potassium n-ethyl perflouro octane sulfonamide acetate | Pro-Control Dual Choice |
| Potassium salts of fatty acids | Insecticidal Soap |
| Prodiamine | Barricade 65 WG |
| Pyrethrum narc | Micro-Gen ULD BP-300 |
| Sodium metasilicate | Knoxout |
| Tetramethrin | Spectracide PRO Wasp & Hornet Killer |
| Triclopyr | Turflan |
| Trifluralin | Snapshot |
| Trinexapac-ethyl | Primo-Max |

## Fresno Unified

| Active Ingredient | Product Name |
|---|---|
| 2,4-Dichlorophenoxyacetic acid | Acme Trimec Plus |
| 4-Aminopyridine | Avitrol |
| Bromadiolone | Contrac |
| Chlorophacinone | Rozol Ground Squirrel Bait |
| Chlorpyrifos | Dursban L.O. Insecticide, Intern |
| Cypermethrin | Cynoff |
| Diquat dibromide | Reward |
| Fipronil | Maxforce FC Gel, Maxforce FC Ant Stations |
| Fluazifop-p-butyl | Fusilade |
| Fosetyl-al | Chipco Aliette |
| Glyphosate | Surlfan, Round-up |
| Halosulfuron-methyl | Manage Turf Herbicide |
| Imidacloprid | Merit, Pointer |
| Metaldehyde | Durham Metaldehyde Granules 3.5 |
| Monosodium acid methanearsonate | Montery Weed-Hoe |
| Oryzalin | Round-up |
| Oxadiazon | Chipco Ronstar G |
| Pendimethalin | Pendulum 2G |
| Permethrin | Dragnet SFR |
| Phenothrin | Wasp-Freeze |
| Pyrethrins | Micro-Gen ULD BP-300, Tempo SC Ultra Insecticide |
| Sodium chlorate | BareSpot Monobor-Chlorate |
| Strychnine | Wilco Gopher Getter Type I |
| Sulfuryl flouride | Vikane |

## Garden Grove Unified

| Active Ingredient | Product Name |
|---|---|
| Aluminium phosphide | District did not specify product |
| Boric acid | District did not specify product |
| Brodifacoum | District did not specify product |
| Bromadiolone | District did not specify product |
| Chlorpyrifos | Dursban T.C., Strike Force |
| Cyfluthrin | Cy-Kick |
| Deltamethrin | Suspend |
| Diazinon | Demand CS |
| Disodium octaborate tetrahydrate | District did not specify product |
| d-trans allethrin | Wasp Freeze |
| Glyphosate | Roundup Pro |
| Hydramethylnon | District did not specify product |
| Hydroprene-S | District did not specify product |
| Imidacloprid | Premise 75 |
| Lambda-cyhalothrin | Demand CS |
| Monosodium acid melthanearsonate | Weed Hoe |
| N-octyl bicycloheptene dicarboximide | Aero-Cide |
| Oxadiazon | Ronstar 40 Coated Grain |
| Permethrin | Dragnet SFR |
| Petroleum distillates | Aero-Cide |
| Piperonyl butoxide | Aero-Cide, Empede |
| Potassium n-ethyl perfloro octane sulfonamide acetate | District did not specify product |
| Potassium salts of fatty acids | Empede |
| Propoxur | Invader/ Baygone |
| Pyrethrins | Aero-Cide, PT-565-Plus XLO, Wasp Freeze |
| Strychnine | Strychnine Coated Grain |

## Los Angeles Unified

| Active Ingredient | Product Name |
|---|---|
| 4-Aminopyridine | Avitrol Whole Corn |
| Abamectin | Advance Granular Ant Bait, Ascend Fire Ant Bait, Avert Cockroach Gel Bait, Avert Crack & Crevice Bait |
| Boric acid | CB ATTRAX Roach Bait, Drax Ant Kill Gel, Roach X, Niban Granular Bait, Niban-FG |
| Bromadialone | Contrac All Weather Cake |
| Chlorophacinone | Gopher Getter |
| Clove oil | Bioganic Weed & Grass Killer, Bioganic Broadleaf Killer |
| d-trans allethrin | PT Wasp Freeze 515, PT 565 Plus XLO |
| Deltamethrin | Delta Dust, Suspend SC |
| Diazinon | Knox Out 2FM |
| Difenthialone | Generation Mini-Block |
| Disodium octaborate tetrahydrate | NiBor-D, Tim-Bor Professional, Jecta |
| Esfenvalerate | Conquer WP |
| Glyphosate | Round-up Pro |
| Hydramethylnon | MaxForce Ant Killer, Maxforce Granular Insect Bait, MaxForce Roach Gel, Nylar IGR |
| Hydroprene-S | Gentrol IGR Concentrate, Gentrol Point-Source |
| Limonene | Terminator |
| Linalool | Demize EC |
| Mefludide, diethanolamine salt | Embark 2S Plant Growth Regulator |
| *Metarhizium anisopliae* | Bioblast Biological Termiticide |
| N-octyl bicycloheptene dicarboximide | PT 565 Plus XLO |
| Nonanoic acid | Scythe |
| Oil of peppermint | Victor Poison Free Wasp & Hornet Killer |
| Petroleum oil | Volck Supreme Spray |
| Phenothrin | PT Wasp Freeze 515 |
| Piperonyl butoxide | Demize EC, PT 565 Plus XLO |
| Polybutene | 4-The Birds |
| Potassium salts of fatty acids | M-Pede |
| Pyrethrins | PT 565 Plus XLO |
| Pyriproxyfen | Distant IGR |
| Sesame oil | Bioganic Broadleaf Killer |
| Sodium lauryl sulfate | Bioganic Weed & Grass Killer, Bioganic Broadleaf Killer, Victor Poison Free Wasp & Hornet Killer |
| Thyme oil | Bioganic Weed & Grass Killer, Bioganic Broadleaf Killer |

## Long Beach Unified

| Active Ingredient | Product Name |
|---|---|
| Ammonia | Fumitoxin Tablets, Pellets, Bags |
| Boric Acid | Permadust |
| Brodifacoum | Talon-G |
| Bromadiolone | Contrac |
| Carbon dioxide | Fumitoxin Tablets, Pellets, Bags |
| Chloropicrin | Chloropicrin |
| Clopyralid | Lontrel |
| Cyfluthrin | Tempo Insecticide 20 |
| Diazinon | Diazinon 4-E, Diazinon 5-G |
| Disodium octaborate tetrahydrate | Mop Up |
| d-trans allethrin | PT 515 |
| Ethanol | CB-38, CB-80 |
| Ethephon | Florel |
| Fatty acids, mixed | Pro Spreader Activotor |
| Fipronil | Maxforce Bait for Ants, Maxforce Bait for Roaches, Termidor |
| Fluazifop-p-butyl | Fusilade |
| Glyphosate | Roundup Pro |
| Halosulfuron-methyl | Manage |
| Imidacloprid | Merit |
| Iron phosphate | Sluggo |
| Isoparaffinic hydrocarbons | CB-38, CB-80 |
| Isopropanol | Pro Spreader Activator |
| Methyl bromide | Methyl Bromide |
| N-octyl bicycloheptene dicarboximide | Microcare, PCO Fogger, ULD BP-100 |
| Nonanoic acid | Scythe |
| Nonyl phenoxy poly (ethylene oxy) ethanol | Pro Spreader Activator, Roots 1-2-3 |
| Oryzalin | Surflan |

* The pesticide list of every surveyed district included at least one misspelled, inaccurate or incomplete active ingredient name. For the purpose of this report, the lists have been changed to reflect as accurately as possible the active ingredients contained in each pesticide product.

| | |
|---|---|
| Oxadiazon | Ronstar |
| Petroleum derived aromatic hydrocarbons | Fusilade |
| Phosphine | Fumitoxin Tablets, Pellets, Bags |
| Piperonyl butoxide | CB-38, CB-80, Microcare, PCO Fogger, ULD BP-100 |
| Potassium salts of fatty acids | M-Pede |
| Pymetrozine | Endeavor |
| Pyrethrins | CB-38, CB-80, Microcare, PCO Fogger, ULD BP-100, PT 515 |
| Strychnine | Strychnine coated grain |
| Sulfuryl flouride | Vikane |
| Triclopyr | Garlon |
| Vitamin B1 hydrochloride | Roots 1-2-3 |
| Vitamin C | Roots 1-2-3 |
| Vitamin E | Roots 1-2-3 |

## Oakland Unified

| Active Ingredient | Product Name |
|---|---|
| Abamectin | Active Ganular Ant bait Frm 1 |
| Bifenthrin | Talstar CA Granular |
| Boric acid | Borid |
| Carbaryl | Stinger Wasp |
| Cyfluthrin | Tempo 20 WP Power Pak, Tempo 20 WP |
| Deltamethrin | Deltadust insecticide |
| Hydramethylnon | Maxforce |
| Permethrin | Precor 2000 Premise Spray II |
| Piperonyl butoxide | Stinger Wasp |
| Pyrethrins | Stinger Wasp |
| Strychnine | Gopher Getter Type 1 |

## Riverside Unified

| Active Ingredient | Product Name |
|---|---|
| Bifenthrin | Talstar |
| Chlorpyrifos | Equity |
| Clopyralid | Lontrel |
| Cypermethrin | Cynoff |
| Diazinon | Knox Out 2FM |
| Disodium octaborate tethrahydrate | Rimbor |
| Fipronil | Termidor SC |
| Glyphosate | Round up |
| Halosulfuron-methyl | Manage |
| Hydramethylnon | Siege |
| Propetamphos | Catalist |

## Sacramento City Unified

| Active Ingredient | Product Name |
|---|---|
| Boric Acid | Drax Ant Kill Gel |
| Chlorophacinone | AC 90 Bait, JT Eaton |
| Chlorpyrifos | Dursban Pro |
| Cypermethrin | Raid Fogger |
| Diazinon | Diazinon, Wasp Spray |
| Disodium octaborate tetrahydrate | Mop-up |
| Hydramethylnon | Max Force Roach, Max Force Ant |
| Linalool | Demize (Nylar) |
| Petroleum distillates | Greenlight |
| N-octyl bicycloheptene dicarboximide | Demize (Nylar), Ortho Fogger |
| Permethrin | Demize (Nylar), Ortho Fogger |
| Phenothrin | Maxide |
| Piperonyl butoxide | ULD-100, Drione |
| Potassium n-ethyl perflouro octane sulfonamide acetate | Fluorguard |
| Pyrethrins | Drione, ULD BP 100 Insecticide, Ortho Fogger, Wasp Spray |
| Pyriproxyfen | Demize (Nylar) |
| Silica aerogel | Drione |
| Tetramethrin | Maxide |
| Unknown | AC-90 |

## San Bernardino City Unified

| Active Ingredient | Product Name |
|---|---|
| Diphacinone | Rodent Bait |
| Aluminum phosphide | Fumitoxin |
| Boric acid | Perma-Dust PT 240 |
| Chlorpyrifos | Empire 20 |
| Cyfluthrin | Cy-Kick, Tempo |
| Cypermethrin | Cynoff |
| Deltamethrin | Suspend |
| Diphacinone | Rodent Bait Diphacinone |
| Disodium octaborate tetrahydrate | Tempo, Tim-bor |
| d-trans allethrin | Wasp Freeze |
| Ethephon | Florel |
| Glyphosate | Roundup Pro |
| Hydroprene-S | Gentrol |
| Linalool | Demize |
| Pendimethalin | Pendulum |
| Permethrin | Demize |
| Petroleum derived aromatic hydrocarbons | No-Sting |
| Petroleum distillates | No-Sting, Rak-5 |
| Piperonyl butoxide | Demize, Rak-5 |
| Pyrethrins | Pyronnone EC, Rak-5 |
| Resmethrin | No-Sting |
| Strychnine | Wilco "Gopher Getter" Bait |
| Tetramethrin | Dragnet |

## San Diego Unified

| Active Ingredient | Product Name |
|---|---|
| 2-4 Dichlorophenoxyacetic acid | Trimec |
| Abamectin | Advance Granular Bait, Avert |
| Allethrin | Wasp Freeze |
| *Bacillus thuringiensis* | Dipex 2X |
| Benefin | Team, XL 2G |
| Bifenthrin | Talstar |
| Boric acid | Borid, Dr. Moss's Liquid Bait, Drax Ant Kill Gel, Maxforce Roach Killer Bait Gel, Niban Fine Granular Bait, Roach X, CB Attrax Roach Bait, PT 240 - Perma Dust |
| Bromadiolone | Maki Paraffin Block |
| Carbon | Bio Barrier |
| Chlorophacinone | Wilco Gopher Getter Bait |
| Clove oil | ECO Exempt D, ECO Exempt G |
| Cyfluthrin | Cy-Kick, Tempo 20 WP |
| Diazinon | Knoxout 2FM, TKO |
| Dicamba | Trimec |
| Dikegulac sodium | Attrimec |
| Diphacinone | P.C.Q. |
| Diquat dibromide | Dexol Weed and Grass Killer |
| Disodium octaborate tetrahydrate | Jecta |
| Diuron | Direx 80 DF |
| Ethanol | M-Pede Insecticide |
| Ethephon | Florel |
| Fenoxycarb | Award |
| Fipronil | Maxforce Ant Bait Stations |
| Fluazifop-p-butyl | Fusilade II, Ornamec |
| Glyphosate | Roundup Pro |
| Halosulfuron-methyl | Manage |
| Hydramethylnon | Amdro, Maxforce Ant Killer Granular Bait, Maxforce Phoroah Ant Killer, Maxforce Roach Control System |
| Hydroprene-S | Gencor |
| Imidacloprid | Merit, Pre-Empt |
| Iprodione | Chipco 26019 |
| Iron phosphate | Sluggo |
| Limonene | Orange Guard, Terminator |
| MCPP (potassium salt) | Mecomec |
| Metaldehyde | Deadline |
| *Metarhizium anisopliae* | Bio-Blast, Bio Path |
| Methoprene | Precor 2000 |
| Neem oil | Rose Defense |
| Nonanoic acid | Scythe |
| Oil of peppermint | Victor Poison Free |
| Oryzalin | Surflan, XL 2G |
| Paraffinic oil | Sun Spray Ultra Fine |
| Permethrin | Dragnet, Precor 2000 |
| Petroleum hydrocarbons | Drione |
| Petroleum oil | Saf-T-Side |
| Phenylethyl propionate | ECO Exempt D |
| Piperonyl butoxide | Microcare PT 175, Microgen ULD BP 3000, Pyrenone Industrial Spray, PT 230-Tri Die |
| Polybutenes | 4 The Birds |
| Potassium n-ethyl perflouro octane sulfonamide acetate | Advance Dual Choice |
| Potassium salts of fatty acids | M-Pede Insecticide |
| Prodiamine | Barricade |
| Propoxur | Wasp Freeze, Baygone |
| Pyrethrins | Drione, Pyrenone Industrial Spray, Microcare PT 75, Microgen ULD BR 3000 |
| Pyriproxyfen | Distance |
| Resmethrin | PT 110 |
| Sodium borate | Bora Care, Timbor |
| *Steinernema carpocapsae* | Vector, Exhibit |
| Sulfometuron methyl | Oust |
| Tebuthiuron | Spike |
| Thiram | Spotrete F |
| Thyme oil | ECO Exempt G |
| Trichloroethylene | Precor 2000 |
| Triclopyr | Turflon |
| Trifluralin | Bio Barrier, Team, Treflan |

## San Francisco Unified

San Francisco Unified reported that no pesticides are used in the district.

## San Juan Unified

| Active Ingredient | Product Name |
|---|---|
| Allethrin | Wasp & Hornet Killer |
| Bifenthrin | Talsar |
| Bromadiolone | Contact Rat & Mouse Bait |
| Chlorpyrifos | Strike Force |
| Cyflurhrin | Cy-Kick CS, Intruder HPX |
| Deltamethrin | Delta Dust |
| Disodium octaborate tetrahydrate | Tim-Bor |
| Glyphosate | Roundup Pro |
| Imidacloprid | Premise 75 |
| Lambda-cyhalothrin | Demand CS |
| Permethrin | Dragnet |
| Pyrethrins | BP 300, Drione Dust |
| Triclopyr | Remedy |
| Triclopyr, butoxyethyl ester | Remedy |

## Santa Ana Unified

| Active Ingredient | Product Name |
|---|---|
| Abamectin | Avert |
| Bifenthrin | Talstar |
| Boric Acid | Borid |
| Cyfluthrin | Tempo 20 WP |
| Deltamethrin | Deltagard G, Delta Dust |
| d-trans allethrin | WASP Freeze |
| Hydramethylnon | Maxforce |
| Permethrin | Dragnet FT |
| Potassium n-ethyl perflouro octane sulfonamide acetate | FlourGuard |
| Propoxur | WASP Freeze |
| Pyrethrins | Drione |
| Pyrethrum narc | CB-80 EXTRA |

## Stockton Unified

Stockton Unified did not provide information on pesticides used in district.

# Appendix C: Hazards of Pesticide Active Ingredients Used in Surveyed School Districts

For additional information on these and other pesticides, visit Pesticide Action Network's Pesticide Database at www.pesticideinfo.org.

| Active Ingredient | Carcinogen Status[1,2] | Birth Defects/ Reproductive Harm[1,5] | Neurotoxicant by Cholinesterase Inhibition[3] | Acute Toxicity of Pure Chemical[6] | Endocrine Disruptor Status[1,4] |
|---|---|---|---|---|---|
| 2,4-Dichlorophenoxyacetic acid | possible | not listed | no | moderate | suspected |
| 4-Aminopyridine | unclassifiable | not listed | no | high | not listed |
| Abamectin | not listed | yes | no | high | not listed |
| Allethrin/d-trans allethrin | not listed | not listed | no | moderate | suspected |
| Aluminum phosphide | not listed | not listed | no | high | not listed |
| Ammonia | not listed | not listed | no | not available | not listed |
| *Bacillus thuringiensis* | not listed | not listed | no | slightly toxic | not listed |
| Bifenthrin | possible | yes | no | moderate | suspected |
| Boric acid | not likely | not listed | no | slightly toxic | not listed |
| Brodifacoum | not listed | not listed | no | extreme | not listed |
| Bromadiolone | not listed | not listed | no | extreme | not listed |
| Carbaryl | possible | not listed | yes | moderate | suspected |
| Carbon | not listed | not listed | no | not available | not listed |
| Carbon dioxide | not listed | not listed | no | not available | not listed |
| Chlorophacinone | not listed | not listed | no | extreme | not listed |
| Chloropicrin | not listed | not listed | no | high | not listed |
| Chlorpyrifos | not likely | not listed | yes | moderate | suspected |
| Clopyralid | not listed | not listed | no | not available | not listed |
| Clove Oil | not listed | not listed | no | not available | not listed |
| Cyfluthrin | not listed | not listed | no | moderate | suspected |
| Cypermethrin | possible | not listed | no | high | suspected |
| Deltamethrin | unclassifiable | not listed | no | moderate | suspected |
| Diazinon | not likely | yes | yes | moderate | not listed |
| Dicamba | unclassifiable | yes | no | slightly toxic | not listed |
| Difenthiolone | not likely | not listed | no | high | not listed |
| Dikegulac sodium | not listed | not listed | no | not available | not listed |
| Diphacinone | not listed | not listed | no | extreme | not listed |
| Diquat dibromide | not likely | not listed | no | moderate | not listed |
| Disodium octaborate tetrahydrate | not listed | not listed | no | slightly toxic | not listed |
| Diuron | known | yes | no | slightly toxic | not listed |
| Esfenvalerate | not likely | not listed | no | moderate | suspected |
| Ethanol | not listed | yes | no | slightly toxic | not listed |
| Ethephon | unclassifiable | not listed | yes | not acutely toxic | not listed |
| Fatty acids, mixed | not listed | not listed | no | not available | not listed |
| Fenoxycarb | not listed | yes | no | not acutely toxic | not listed |
| Fipronil | possible | not listed | no | moderate | suspected |
| Fluazifop-p-butyl | not listed | not listed | no | slightly toxic | not listed |
| Fosetyl-al | unclassifiable | not listed | no | high | not listed |
| Glyphosate | not likely | not listed | no | slightly toxic | not listed |
| Halosulfuron-methyl | not likely | not listed | no | slightly toxic | not listed |
| Hydramethylnon | possible | yes | no | slightly toxic | not listed |
| Hydroprene-S | not listed | not listed | no | slightly toxic | not listed |
| Imidacloprid | not listed | not listed | no | moderate | not listed |

## Appendix C: Hazards, continued

| Active Ingredient | Carcinogen Status[1,2] | Birth Defects/ Reproductive Harm[1,5] | Neurotoxicant by Cholinesterase Inhibition[3] | Acute Toxicity of Pure Chemical[6] | Endocrine Disruptor Status[1,4] |
|---|---|---|---|---|---|
| Iprodione | known, P65 or TRI only | not listed | suspected | slightly toxic | not listed |
| Iron phosphate | not listed | not listed | no | not available | not listed |
| Isoparaffinic hydrocarbons | not listed | not listed | no | slightly toxic | not listed |
| Isopropanol | unclassifiable | not listed | no | slightly toxic | not listed |
| Isoxaben | possible | not listed | no | slightly toxic | not listed |
| Lambda-cyhalothrin | not listed | not listed | no | not available | suspected |
| Limonene | not listed | not listed | no | slightly toxic | not listed |
| Linalool | not listed | not listed | no | slightly toxic | not listed |
| Manganese phosphate-citrate | not listed | not listed | no | not available | not listed |
| MCPP (potassium salt) | possible | not listed | no | not available | not listed |
| Mefluidide, Diethanolamine salt | not likely | not listed | no | not available | not listed |
| Metaldehyde | not listed | not listed | no | not available | not listed |
| *Metarhizium anisopliae*, var. Anisopliae, strain ESF1 | not listed | not listed | no | not available | not listed |
| Methoprene | not listed | not listed | no | not acutely toxic | not listed |
| Methyl bromide | unclassifiable | yes | no | high | not listed |
| Monosodium acid methanearsonate | known | not listed | no | slightly toxic | not listed |
| Neem oil | not listed | not listed | no | slightly toxic | not listed |
| N-octyl bicycloheptene dicarboximide | possible | not listed | no | slightly toxic | not listed |
| Nonanoic acid | not listed | not listed | no | not acutely toxic | not listed |
| Nonyl phenoxy poly (ethylene oxy) ethanol | not listed | not listed | no | slightly toxic | not listed |
| Oil of peppermint | not listed | not listed | no | not available | not listed |
| Oryzalin | possible | not listed | no | slightly toxic | not listed |
| Oxadiazon | known, P65 or TRI only | yes | no | slightly toxic | not listed |
| Paraffin oil | unclassifiable | not listed | no | slightly toxic | not listed |
| Pendimethalin | possible | not listed | no | slightly toxic | suspected |
| Permethrin | possible | not listed | no | moderate | suspected |
| Petroleum derived aromatic hydrocarbons | not listed | not listed | no | slightly toxic | not listed |
| Petroleum distillates | unclassifiable | not listed | no | not available | not listed |
| Petroleum hydrocarbons | unclassifiable | not listed | no | slightly toxic | not listed |
| Petroleum oil | not listed | not listed | no | not available | not listed |
| Phenothrin | not listed | not listed | no | slightly toxic | suspected |
| Phenylethyl propionate | not listed | not listed | no | not available | not listed |
| Phosphine | unclassifiable | not listed | no | moderate | not listed |
| Piperonyl butoxide | possible | not listed | no | moderate | not listed |
| Polybutenes | not listed | not listed | no | not available | not listed |
| Potassium n-ethyl perfluoro octanesulfonamide acetate | not listed | not listed | no | not available | not listed |
| Potassium salts of fatty acids | not listed | not listed | no | not available | not listed |
| Prodiamine | possible | not listed | no | slightly toxic | suspected |
| Propetamphos | not likely | not listed | yes | high | not listed |
| Propoxur | Probable | not listed | yes | high | not listed |
| Pymetrozine | Probable | not listed | no | slightly toxic | not listed |
| Pyrethrins | Probable | not listed | no | moderate | not listed |
| Pyrethrum narc | not listed | not listed | no | not available | not listed |
| Pyriproxyfen | not likely | not listed | no | slightly toxic | not listed |
| Resmethrin | not listed | yes | no | slightly toxic | suspected |

| Active Ingredient | Carcinogen Status[1,2] | Birth Defects/ Reproductive Harm[1,5] | Neurotoxicant by Cholinesterase Inhibition[3] | Acute Toxicity of Pure Chemical[6] | Endocrine Disruptor Status[1,4] |
|---|---|---|---|---|---|
| Silica aerogel | known, P65 or TRI only | not listed | no | slightly toxic | not listed |
| Sodium borate | not listed | not listed | no | slightly toxic | not listed |
| Sodium chlorate | not listed | not listed | no | slightly toxic | not listed |
| Sodium metasilicate | not listed | not listed | no | not available | not listed |
| *Steinernema carpocapsae* | not listed | not listed | no | not available | not listed |
| Strychnine | not listed | not listed | no | high | not listed |
| Sulfometuron methyl | not listed | not listed | no | slightly toxic | not listed |
| Sulfuryl fluoride | not listed | not listed | no | high | not listed |
| Tebuthiuron | unclassifiable | yes | no | moderate | not listed |
| Tetramethrin | possible | not listed | no | slightly toxic | suspected |
| Thiram | unclassifiable | yes | no | moderate | suspected |
| Trichloroethylene | known, P65 or TRI only | not listed | no | slightly toxic | not listed |
| Triclopyr | unclassifiable | not listed | no | slightly toxic | not listed |
| Triclopyr, butoxyethyl ester | not listed | not listed | no | slightly toxic | not listed |
| Trifluralin | possible | not listed | no | slightly toxic | suspected |
| Trinexapac-ethyl | not listed | not listed | no | slightly toxic | not listed |
| Vitamin B1 hydrochloride | not listed | not listed | no | not available | not listed |
| Vitamin C | not listed | not listed | no | slightly toxic | not listed |

**Notes**

1. "Not Listed" means that no weight-of-the-evidence evaluation has been done. More about weight-of-the-evidence evaluations at http://www.pesticideinfo.org/documentation3/ref_toxicity1.html.
2. The cancer ratings given in this table are a composite of those from the US EPA, the International Agency for Research on Cancer (IARC), the U.S. National Toxicology Program and California's Proposition 65 list. Carcinogenicity designations from different sources are not always in agreement with each other; the ratings given here reflect the most toxic ranking assigned by any organization. The different designations used by different organizations to describe carcinogen status were translated into a single set of terms, using IARC's terminology: Known, Probable, Possible, Not Likely and Unclassifiable. The equivalences between the different ranking systems and more information about each rating can be found at http://www.pesticideinfo.org/documentation3/ref_toxicity3.html.
3. Most pesticides in this category are organophosphorus or carbamate compounds. More information can be found at http://www.pesticideinfo.org/documentation3/ref_toxicity6.html.
4. The sources for this information are a) *Report on Endocrine Disrupting Chemicals,* Illinois EPA (February, 1997), b) Lawrence H. Keith, *Environmental Endocrine Disruptors: A Handbook of Property Data,* Wiley Interscience (New York, 1997), c) Charles M. Benbrook, *Growing Doubt: A Primer on Pesticides Identified as Endocrine Disruptors and/or Reproductive Toxicants,* National Campaign for Pesticide Policy Reform (Washington, DC, September 1996), d) T. Colborn, F.S. Vom Saal and A.M. Soto, "Developmental effects of endocrine-disrupting chemicals in wildlife and humans," *Environmental Health Perspectives,* 1993, v. 101, pp. 378-384. More information can be found at http://www.pesticideinfo.org/documentation3/ref_toxicity5.html.
5. The source for this information is the California Proposition 65 list of chemicals determined by the state of California to cause reproductive and developmental harm: birth defects, infertility, sterility and impairment of normal growth and development. More information can be found at http://www.pesticideinfo.org/documentation3/ref_toxicity4.html.
6. Rankings are based on an EPA scale that evalutes the amount of chemical required to cause death of a certain fraction of the test animals. These ratings are Extreme, High, Moderate, Slight and Not Acutely Toxic. It is important to note that very few pesticide products contain pure active ingredients. Most are in dilute form which moderates their acute toxicity given in this column. For more information on acute toxicity, see http://www.pesticideinfo.org/documentation3/ref_toxicity2.html.

# Appendix D: Toxicity Categories

This appendix describes the different types of chronic and acute toxicity that pesticides cause in humans and animals, including cholinesterase inhibition, cancer, reproductive and developmental toxicity, and endocrine disruption.

### Nervous System Toxins

Cholinesterase inhibitors, or nerve toxins, are pesticides designed to disrupt the cholinesterase enzymes that control insect nervous systems. Since humans have these same enzymes, they interfere with human nerve impulse functions, posing a priority health concern.

Children are particularly vulnerable to disruption in their neurological development. Low levels of neurotoxic pesticide exposure to the developing brain may adversely affect memory, intelligence, judgment and even personality and behavior.[1] Some categories of pesticides such as fumigants and carbamates can cause memory deficits and impair concentration.[2]

### Carcinogens

The US EPA classifies pesticides into five categories, including those known to cause cancer in humans ("known" human carcinogens), those known to cause cancer in animals but not yet definitely shown to cause cancer in humans ("probable" human carcinogens), and those that may be human carcinogens ("possible" human carcinogens). The California Office of Environmental Health Hazard Assessment also maintains a list of chemicals known to the State to cause cancer.[3]

The prevalence of carcinogenic chemicals is of particular concern since approximately 8000 children under the age of 15 are diagnosed annually in the U.S. with a malignant disease—most frequently leukemia and brain tumors.[4] Research suggests a connection between pesticide exposure and certain types of childhood cancer. Several studies link use of home and garden pesticides to increased risk of leukemia, and home pesticide use also increases risk of brain cancer.[5] Yard pesticide treatments have been linked to an increase in soft-tissue sarcomas.[6]

### Reproductive and developmental toxins

Exposure to chemicals identified as a reproductive or developmental toxins by the State of California under Proposition 65[7] may jeopardize a child's physical and mental development, increasing risk of behavioral and neurological disorders, immune system suppression and reproductive disorders. Unborn children carried by pregnant teachers may also face heightened risk of a variety of physical and mental birth defects. Low birth weight, spontaneous abortion or miscarriage, and sterility or infertility also may result.[8]

### Endocrine Disruptors

Endocrine disruptors have been shown to disrupt the proper function of human hormones by blocking, mimicking or otherwise interfering with the action of hormones in the endocrine system.[9] Hormones—chemical messengers that trigger a wide array of highly complex and sensitive biological processes—are responsible for a range of important functions, including determination of height and weight, gender differentiation, development of reproductive organs, energy levels, skin health and other biological processes. Because they can "switch" on and off biological processes at extremely low levels, hormone-mimicking pesticides may be harmful at very low levels of exposure, particularly to developing fetuses and adolescents.[10]

### Acute Toxicity

Acute toxicity is the immediate toxicity of a chemical. Chemicals with high acute toxicity can cause serious health effects or even death at very low doses. Pesticide products (formulations containing active ingredients and other ingredients) are ranked according to their acute toxicity by US EPA, with special signal words used on the product label to inform consumers of its acute toxicity:

**Danger-Poison:** Product has high acute toxicity and will cause systemic poisoning, even if a person is exposed to only small amounts. Many rat and gopher poisons fall in this category.

**Danger:** Product has high acute toxicity to eyes and skin, but is not a systemic poison. Strong acids and other corrosive materials fall in this category.

**Warning:** Product has moderate acute toxicity.

**Caution:** Product has slight acute toxicity. A person could be exposed to higher doses of this pesticide before any symptoms of acute poisoning appear.

### Notes

1 Kegley, Susan, Stephan Orme and Lars Neumeister, *Hooked on Poison: Pesticide Use in California 1991–1998,* Californians for Pesticide Reform, 2000, p. 50.

2 Solomon, Gina, *Pesticides and Human Health: A Resource for Health Care Professionals,* Californians for Pesticide Reform, 2000, p. 37.

3 *Proposition 65 List of Chemicals Known to the State of California to Cause Cancer,* Office of Environmental Health Hazard Assessment; see also Safe Drinking Water and Toxic Enforcement Act of 1986 (Prop. 65), http://www.oehha.ca.gov/prop65.html.

4 Solomon, op.cit., p. 25 and references contained therein.

5 Solomon, ibid., pp. 25-26 and references contained therein.

6 J.L. Daniels, A.F Olshan, and D.A. Savitz, "Pesticides and childhood cancers," *Env Hlth Persp* 105 ([1997]10): 1068-77.

7 See note 3, above.

8 Schettler, Ted, Gina Solomon, Jonathan Kaplan and Maria Valenti, *Generations at Risk: How Environmental Toxicants May Affect Reproductive Health in California,* 1999, pp.6-9.

9 Illinois EPA, *Report on Endocrine Disrupting Chemicals,* Illinois EPA, 1997; L.H. Keith, *Environmental Endocrine Disruptors: A Handbook of Property Data,* Wiley Interscience, New York, 1997; T. Colborn, D.Dumanoski and J.P. Myers, *Our Stolen Future,* Penguin Books, New York, 1996, p. 253; C.M. Benbrook, *Growing Doubt: A Primer on Pesticides Identified as Endocrine Disruptors and/or Reproductive Toxicants,* National Campaign for Pesticide Policy Reform, Washington DC, September 1996.

10 Shettler et al., pp. 89-117.

# Appendix E: Resources for Further Information

### To order this report or for other pesticide-related information, contact:

**California Public Interest Research Group (CALPIRG) Charitable Trust**

3486 Mission Street
San Francisco, CA 94110
phone: 415-206-9338
email: calpirg@pirg.org
website: www.pirg.org/calpirg

CALPIRG has been at the forefront of the toxics movement for more than 20 years. The PIRG staff of attorneys, scientists, policy analysts, researchers and organizers have been instrumental in promoting the public's right to know about toxic chemicals and pressing government and industry to prevent and clean up toxic pollution.

**Californians for Pesticide Reform (CPR)**

49 Powell Street, Suite 530
San Francisco, CA 94102
phone: (415) 981-3939,
(888) CPR-4880 (California only)
email: pests@igc.org
website: www.pesticidereform.org

CPR is a coalition of more than 160 public health, consumer, environmental, sustainable agriculture, labor, farmworker and public interest organizations. CPR's goals are to eliminate use of the most hazardous pesticides in California; reduce overall use; support sustainable alternatives in all settings; and promote and protect the public's right to know. CPR staff provide information on pesticides, pesticide use in California and resources to help individuals work to eliminate pesticide use.

**Pesticide Action Network North America (PANNA)**

49 Powell Street, Suite 500
San Francisco, CA 94102
phone: (415) 981-1771
email: panna@panna.org
website: www.panna.org

PANNA works globally, nationally and locally on pesticides, health and agriculture and advancing non-toxic pest management alternatives. PANNA uses its comprehensive web-available pesticide database (www.pesticideinfo.org) and extensive library of resources to assist pesticide reform activists, farmworkers and others with information and networking.

**PANNA's Pesticide Database**

For more information on the human health and environmental effects of specific pesticides, visit PANNA's comprehensive online pesticide database at www.pesticideinfo.org. It contains detailed human and environmental toxicity information, regulatory information for more than 5,400 chemicals and allows you to perform a chemical name (active ingredient) search or product name (brand name) search.

**Physicians for Social Responsibility—Los Angeles (PSR-LA)**

3250 Wiltshire Blvd #1400
Los Angeles, CA 90010-1438
phone: (310) 458-2694
email: psrsm@psr.org
website: www.psrla.org

PSR-LA works to educate the medical community and the public about the linkages between environmental toxic exposures and human health. PSR also works to encourage health professionals to participate in creating a sustainable and healthy environment. They provide technical assistance and information on human health and environmental issues to citizens groups, health care providers, educational institutions and public policymakers.

**Women's Cancer Resource Center**

3023 Shattuck Avenue
Berkeley, CA 94705
phone: (510) 655-4921
email: wcrc@wcrc.org
website: www.wcrc.org

The Women's Cancer Resource Center (WCRC) provides free non-medical direct services to women with cancer. WCRC also seeks to "stop cancer where it starts" by working to eliminate carcinogens from the environment through community activism and policy change. They are involved in efforts to pass Integrated Pest Management (IPM) policies in schools and other public institutions.

### Other pesticide and school resources:

**Bio-Integral Resource Center (BIRC)**

PO Box 7414
Berkeley, CA 94707
phone: (510) 524-2567
email: birc@igc.org
website: www.birc.org

BIRC specializes in finding non-toxic and least-toxic Integrated Pest Management solutions to urban and agricultural pest problems. Their staff has a sophisticated knowledge of least-toxic programs for home and garden and consults with institutions and the public for a small fee.

**Beyond Pesticides/National Coalition Aganist the Misuse of Pesticides (NCAMP)**

701 E Street SE
Washington, DC 20003
phone: (202) 543-5450
email: info@beyondpesticides.org
website: www.beyondpesticides.org

Beyond Pesticides is a national pesticide activist network that promotes pesticide safety and adoption of pest control alternatives to reduce or eliminate dependency on toxic chemicals. It provides useful information on pesticides and alternative pest management, including factsheets on pesticides, pesticide policy and least-toxic alternatives.

**California State Parent Teacher Association (CAPTA)**

930 Georgia Street, PO Box 15015
Los Angeles, CA 90015-1322
phone: (213) 620-1100
email: info@capta.org
website: www.capta.org

California State PTA announced support for reduced school pesticide use and notification 25 years ago.

**Childproofing Our Communities**

c/o Center for Health, Environment and Justice
PO Box 6806
Falls Church, VA 22040
phone: (703) 237-2249
email: childproofing@chej.org
website: www.childproofing.org

The Childproofing Our Communities Campaign is a locally based, nationally connected campaign to protect children from exposure to environmental health hazards in schools, homes and communities.

**Northwest Coalition for Alternatives to Pesticides (NCAP)**

PO Box 1393
Eugene, OR 97440
phone: (541) 344-5044
email: info@pesticide.org
website: www.pesticide.org

NCAP works to protect people and the environment by advancing healthy solutions to pest problems. NCAP has a wealth of information on pesticides and least-toxic alternatives, including comprehensive factsheets on specific pesticides and pests.

**Washington Toxics Coalition (WTC)**

4516 University Way NE
Seattle, WA 98105
phone: (206) 632-1545
email: info@watoxics.org
website: www.watoxics.org

WTC works to identify and promote alternatives to toxic chemicals. Its website has information on pesticides and details on least-toxic household products and alternative household solutions.

**Healthy Schools Pesticide Action Kit**

This kit has resources to help you get hazardous pesticides out of your schools. It provides information for parents to take full advantage of the Healthy Schools Act of 2000, ideas on how to organize community interest in least-toxic Integrated Pest Management (IPM) policy and resources on the toxicity and health impacts of pesticides applied in schools. The kit, printed in 2001, is available in both English and Spanish. Order the kit from CPR or CALPIRG, contact information above, or visit www.calhealthyschools.org to view and download the kit and to join the campaign.

### Government agencies to contact:

California Department of Pesticide Regulation (DPR)

1001 I Street, PO Box 4015
Sacramento, CA 95817-4015
phone: (916) 445-4300
fax: (916) 324-1452
website: www.cdpr.ca.gov

DPR regulates pesticide use in California. It published "Pesticides in Schools" in 1996 and annually grants "IPM Innovator" awards to institutions in both urban and agricultural settings. DPR's website provides access to information on all the formulations of pesticides registered for use in the U.S.

**U.S. Environmental Protection Agency (U.S. EPA)**

Office of Pesticide Programs (OPP)
Ariel Rios Building
1200 Pennsylvania Avenue NW
Washington, DC 20460
website: www.epa.gov/pesticides

U.S. EPA provides information on individual pesticides.

# Appendix F: Methodology

In January 2002, CALPIRG CT surveyed the 15 largest school districts in California, which together account for over one quarter of California's public school children. We asked each district to respond to a written survey and send a copy of the pesticide notification letter that had been sent to parents as required by the Healthy Schools Act. Although districts are required by the Healthy Schools Act to make much of the information requested in the survey easily available and accessible, very few districts provided the information without one or more telephone reminders, and three districts did not provide the information until late February or early March.

The thoroughness of the responses varied dramatically between districts. Some districts filled out the survey completely and sent a copy of the parent notification letter. Others sent the required notification but did not complete the survey.

The survey included questions about the pesticides most commonly used in the district; the number of parents registered to be notified before each pesticide application; the location, time and manner of pesticide applications; non-toxic pest control methods used by the district; and changes the district has made in pest management practices since the passage of the Healthy Schools Act.

To augment the information gathered through the survey and to clarify unclear responses, we called each of the districts. The phone conversations included questions about the number of pesticide applications in a given time period, specific changes in districts' pest management practices since the passage of AB 2260 and the districts' overall reaction to the new law. Some districts provided in-depth information over the phone while others did not return multiple phone calls. Due to these factors, the thoroughness of information gathered for each district varied greatly.