

Pesticides and You

News from Beyond Pesticides, formerly the National Coalition Against the Misuse of Pesticides

Volume 25, Number 3

Fall 2005



Poisoning Our Pets

How a bug killer almost killed my dog

EPA To Allow Human Testing with Pesticides • For My Child's Health •
Groups Ask FDA To Ban Antibacterial Products Containing Triclosan •
How To Manage Houseplant Pests • Common Pesticide Poisons Homes

Letter from Washington

Ethics vs. Law

The news these days provides an extraordinary lesson in law over ethics. Whether we are reading and talking about Wal-Mart's labor practices, the indictment of I. Lewis "Scooter" Libby, the recent study on children's pesticide poisoning at schools published in the *Journal of the American Medical Association* (JAMA), or the new amendments to the *Organic Foods Production Act*, we're faced with a discussion of ethics and law.

Playing By The Rules

Wal-Mart, said to be interested in expanding shelf-space for organic food and phasing out PVC plastic packaging, has been criticized for squeezing workers with low wages and limited benefits and undercutting community-based stores with cheap prices. Yet, Wal-Mart plays by the economic rules set out by our economic system. Robert Reich, former Clinton Administration Labor Secretary, was quoted in a *New York Times* article, *Our Love-Hate Relationship With Wal-Mart*, on November 5, 2005: "Wal-Mart has devised an extremely efficient way to deliver low prices to consumers and good returns to shareholders. That is American capitalism. That is what the system rewards." According to the piece, Mr. Reich "doesn't even blame Wal-Mart for the fact that its workers often need to rely on Medicaid for their health insurance. According to Mr. Reich, "Medicaid is designed for the working poor and the poor. If we are not happy about the results, then the real question we ought to be asking ourselves is whether we should be changing the rules. Wal-Mart is an invitation to have that debate."

According to a *New York Times* piece, *What is Organic? Powerful Players Want a Say*, "George Siemon, chief executive of Organic Valley, a cooperative of mostly small organic dairy farmers, wrestled with the high cost of organic production a little over a year ago when Wal-Mart asked for a 20 percent price cut. 'Wal-Mart allows you to really build market share,' Mr. Siemon said. 'But we're about our values and being able to sustain our farmers. If a customer wants to stretch us to the point where we're not able to deliver our mission, then we have to find different markets.' Mr. Siemon told Wal-Mart to get a new supplier."

Criminal Acts and Obstructing the Truth

A White House staff indictment for lying to a grand jury. Turning to Mr. Libby and questions of crimes in the White House around the stated basis for the war in Iraq—the so-called Weapons of Mass Destruction (WMDs). Administration supporters say Mr. Libby is vindicated by the fact that he was not indicted for the "real crime" that was being investigated—illegal disclosure of classified information. Yet, prosecutor Patrick Fitzgerald said, according to the *New York Times*, that "he could not make such a determination because his inquiry was obstructed by Libby's deceptions." The questions now lead to whether Vice-President Cheney is behind it all—the public disclosure of an undercover

CIA agent, putting an individual, an operation, and national security at risk—all in an effort to discredit critics of the WMD argument for war.

Public Health Deception

Deception by government officials has certainly led to the widespread use of pesticides and adverse public health impact, threatening our nation's health and therefore its security. As a result, people are not fully aware of pesticide products' potential harm, the inadequacy of safety testing, and the viability of non-toxic approaches. The JAMA-published study (discussed in more detail in this issue), *Acute Illnesses Associated with Pesticide Exposure at Schools*, which cites Beyond Pesticides' school study, finds immediate health effects in 7.4 cases per million children and 27.3 cases per million employees and concludes, "[T]hese results should be considered low estimates of the magnitude of the problem because many cases or pesticide poisoning are likely not reported to surveillance systems or poisoning control centers." The authors also say that the chronic long-term impacts of pesticides have not been comprehensively evaluated and should not be dismissed.

Overpowering Organic

The solution, of course, is an organic one. However, here too, we are moving away from truth in labeling, full disclosure, and democratic-based decision making. This issue of PAY includes a piece on the adoption of amendments to the *Organic Foods Production Act*, which reverse a court decision affirming the original law's prohibition of synthetic ingredients in the highest category of processed food labeled organic. At the behest of the Organic Trade Association and major food companies, and without an open debate, Republican Congressional staffers attached legislative language (a rider) to an appropriations bill. This process of using an appropriations bill that addresses money issues to change substantive law should not be used without consensus. Long-time supporters of organic in Congress are fuming, as are groups like Consumers Union.

And so, we have a new organic law—the rules have been changed from the original law—but does its passage violate the ethical standards and core values that both spawned and supported the astronomical growth of the organic marketplace. To paraphrase Mr. Reich, these developments are an invitation to have a serious debate about the rules that allow poisoning and support alternatives. That debate must include a discussion of ethics and values.



—Jay Feldman is executive director of Beyond Pesticides.

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National Headquarters:

701 E Street, SE,
Washington DC 20003
ph: 202-543-5450 fx: 202-543-4791
email: info@beyondpesticides.org
website: www.beyondpesticides.org

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BEYOND PESTICIDES STAFF

Jay Feldman, Executive Director
John Kepner, Project Director
Shawnee Hoover, Special Projects Director
Michele Roberts, Project Director
Aviva Glaser, Research Associate
Leah Rinaldi, Public Education Associate
Terry Shistar, Ph.D., Science Consultant

PESTICIDES AND YOU

Jay Feldman, Publisher, Editor
Meghan Taylor, Illustrator
Free Hand Press, Typesetting
Jay Feldman, John Kepner, Leah Rinaldi, Michele Roberts, Aviva Glaser and Sue Sturgis Contributors

BEYOND PESTICIDES

BOARD OF DIRECTORS

Ruth Berlin, LCSW-C, Maryland Pesticide Network, Annapolis, MD
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Taking on the Organic Challenge

Hi,
Someone I know who buys organic foods, meat, etc. sent me an article she received from one of her “doubting” friends. I’d love some material to fire back. Can you help?

Sallie Sebrell

Dear Sallie,
Thank you for contacting *Beyond Pesticides* with your question regarding organic farming and how to respond to people who don’t believe in it. I will go through and respond to individual arguments the author has made.

First, the author comments on the high cost of organic food. He asserts that health concerns regarding non-organic food, such as mad cow disease, are really just scare tactics used to convince people to pay higher prices for food. What the author fails to realize is that eating organic does not necessarily mean paying high prices. There are great alternative ways to access organic food that do not cost much money; it just takes a bit more creativity. There are things you can do right at home like growing some of your favorite fruits and vegetables. Even if you do not have a large garden you can fill medium sized pots with various herbs and vegetables. Also rooftop gardens are a great way to grow food if you live in a city or place without a yard.

If growing food is not an option, you can join or start a food collective or food-buying club (see “How-To Get Access to Organic Food, Economically” in our Winter 1995-96 issue of *PAY*).

The next point the author brings up is the fact that organics has turned into a corporate market, just like mainstream food. He asserts that there are problems with corporate monopolies and companies focusing on profit and nothing else. The author is not completely off on this point. It is true that organic food has become a market venture just like most things in our society, and this is hugely problematic. Organic farms have just as many problems with treatment of farmworkers and social justice as non-organic farms. But this just reflects the fact that there is so much more work to be done in this world to achieve true justice. Professor of Education



and Nutrition Joan Dye Gussow, who the author quoted, also makes a really important point: buy local. As long as profit is the main goal of a company or corporation, someone or something will always have to suffer. Local small farmers do their own growing and often times have a deeper connection with the land and the people than industrial farmers (even when the industrial farms are organic). Large corporations are trying to usurp organics; and this needs to be addressed. Luckily, many efforts are currently underway to do just that. We must stand strong in our belief that it is not just the chemicals used, but also the techniques implemented in growing and farming which include how the workers are treated.

The author subsequently accuses organic farming of being unproductive, at least when compared to conventional farming. Organic farming, is, in fact, as productive as non-organic farming, and also much less wasteful (and thus could be seen as more productive). A 22-year study was done comparing an organic farm with a non-organic farm. The

study found the organic farm to be just as productive as the non-organic farm. In fact, during drought years the organic farm had higher yields than the non-organic farm. See “Organic Farms Produce Similar Yields, Less Problems than Conventional” on page 6 in this issue of *Pesticides and You*.

The author of the article ties the myth of lower yields to the fact that the population is ever increasing, and we cannot spare to produce any less food as so many people are already starving worldwide. The reality is that we do not need more food. There are entire warehouses of rotting food that never gets consumed. What we need is less consumption and better resource distribution. We have a tendency to over-produce in this society. Think about the grocery store: every grocery store has at least a few hundred tomatoes, and after a certain amount of time, if those tomatoes have not been bought they go bad. When they begin to go bad they must be thrown away. The same goes for all other products, particularly those with an expiration date. We cannot

predict how much food will be consumed, so we oftentimes over-produce. Governments buy surpluses from farmers to keep price from dropping. Where do the surpluses go? The world, particularly the developed world, needs to begin to evaluate its consumption patterns. Furthermore, our current environmentally destructive methods of farming cannot sustain the demand we are putting on it for long. Monoculture, one of the staple techniques of industrial agriculture, destroys the land. By growing only one type of produce on a large scale, the nutrients that are being leached from the land by the growing process of one particular plant, are not being returned by other plants, thus the need for heavy fertilizers. It is well-known that this type of growing contributes to pest problems and high pesticide use. What we are finding in America is that heavy industrial farming is leading to major desertification, turning our most fertile land into unusable dust.

The author also argues that the harm done by pesticides has been blown out of proportion. He states that, while pesticides used to be very harmful, with all of the advances in science, pesticides are now biodegradable and virtually harmless. The author is simply misinformed. Synthesized chemical pesticides are very dangerous. Many have been linked to cancer, endocrine disruption, asthma and respiratory irritation and other problems. The problem with these synthesized pesticides is that while some naturally derived chemicals can break down relatively fast, when they are combined with other synthetic chemicals such as piperonyl butoxide (PBO), often labeled under "inerts" on product labels, they become infinitely more harmful. Inert additives can extend the half-life of a main ingredient chemical, making the argument that it breaks down fast inaccurate. Also, many pesticides break down into even more harmful compounds. On our website we have a list of various pesticides and their affect on organisms and the environment. This should help to correct any misconceptions that pesticides are harmless.

Next the author brings up genetically modified food. He sees this as a great innovation that is allowing us to use fewer pesticides, thus making our food even safer. But genetically engineered (GE) foods are a problem in and of themselves. The solution to our pesticide

dependence is not to splice genes and try to manipulate nature, but rather to work with nature to best use the natural defenses that already exist. There are some basic scientific reasons why GE is not the way to go, including pesticide resistance, the creation of super weeds, and genetic drift. There is also the very real worry that we do not know the long term affects of GE products, particularly on the young and elderly. We do not know how



our bodies will absorb produce that has been genetically mutated and if it will potentially cause cancer or genetic disorders. One last thing to consider with GE is the ethics behind it. Many animal genes (even some human) are being added into vegetables. What kind of a problem does this then pose for strict vegetarians?

Finally, the author ends his article by pointing out that so-called "natural" pesticides are actually highly toxic. In particular he singles out the pesticide rotenone, a natural insecticide derived from the roots of tropical plants, and pyrethrum, a derivative of the chrysanthemum flower.

Not everything that is natural is safe. Rotenone is recognized as a naturally derived toxic pesticide. Although some growers and homeowners choose to use it, many refuse to due to the inconclusive evidence about environmental and health effects. Pyrethrum is also problematic. While not a carcinogen, natural pyrethrum does induce asthma and respiratory problems. The author may be confusing his facts about natural pyrethrum and synthetic pyrethroids, which are the non-natural version of the same chemical that are manufactured to be more toxic. Also, when

using natural products you have to be careful about what they are mixed with, as I wrote about before. Natural pyrethrum is often times mixed with PBO in commercial sprays. The bottom line is when someone throws out arguments like this, it must be understood that organic farming should not just mean using a natural pesticide over a synthetic one, increasing your manure use, or engaging in workplace practices that are socially oppressive. Rather organic should require a complete shift in our agricultural and consumer habits. It is illogical to think that an organic industry can take the place of the industrial agricultural sector without profound changes in infrastructure and values.

The recent vote on Capitol Hill, which allows synthetic ingredients in the highest category of processed food labeled organic, illustrates the power of large corporations to manipulate the political process over the concerns of consumers (see "Congress Messes With Organic" on page 5 in this issue of Pesticides and You.). We have a lot of work to do to bring producers and consumers together to build a truly organic future.

Good luck and never give up the struggle for a safer and more just world.

Write Us!

Whether you love us, disagree with us or just want to speak your mind, we want to hear from you. All mail must have a day time phone and verifiable address. Space is limited so some mail may not be printed. Mail that is printed will be edited for length and clarity. Please address your mail to:

Beyond Pesticides
701 E Street, SE
Washington, DC 20003
fax: 202-543-4791
email: info@beyondpesticides.org
www.beyondpesticides.org

U.S. House of Representatives Guts Endangered Species Act

According to public opinion polls, more than 80% of the public supports the *Endangered Species Act* (ESA). Nearly half of those asked would like to see the law strengthened, about a third want it to remain the same, and only a small fraction would like to see it weakened or repealed. Despite this overwhelming public agreement, the U.S. House of Representatives voted to severely weaken the ESA by passing the deceptively titled *Threatened and Endangered Species Recovery Act of 2005*, introduced by Rep. Pombo (R-CA). Many of the Act's most important protections for plants and animals facing extinction would be eliminated by the House's action, and new loopholes would allow developers and pesticide applicators to dodge the law. "The Pombo bill is the dream of every irresponsible developer out there," said Defenders of Wildlife President Rodger Schlickeisen. "Not only does this bill gut the ESA, but it creates a government give-away program to greedy developers and provides new loopholes to make it easier to use deadly pesticides that will impact not only wildlife but our children, by polluting our lands and waters." The bill exempts all pesticide decisions from ESA compliance, taking away the ability to stop pesticide use even when necessary to prevent extinction; replaces the mandatory critical habitat system with a system of purported recovery plans that are discretionary and fail to protect habitat; allows federal agencies to avoid consultation, resulting in agencies with little to no experience in wildlife issues deciding if projects will harm wildlife; and, requires the federal government to use taxpayer dollars to pay developers for complying with the law, setting no limits on these payments.

Take Action: *The fight to protect endangered species now*



moves to the U.S. Senate. Let your Senator know where you stand on this important issue. For information on contacting your Senators, visit www.senate.gov.

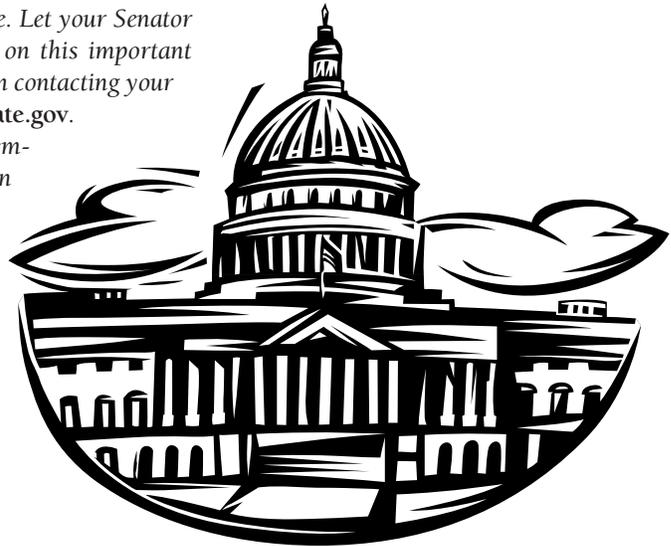
To learn how your Member of Congress voted on the anti-ESA bill, visit <http://action.defenders.org/site/VoteCenter?page=voteInfo&voteId=4397>.

Stop Congress From Rolling Back Clean Water and Other Vital Protections

Multiple bills are being considered in both houses of Congress that would remove pesticides from the *Clean Water Act* (CWA) and allow the Bush Administration to waive or weaken any other environmental, health, civil, and tax laws not only in the Gulf Coast, but anywhere in the country. The bills would roll back the powers of the CWA to safeguard waterways against pesticides, as well as allow a whole range of laws to be waived under the guise of rebuilding in the Gulf region. Hard-fought laws that protect workers, public health and the environment, like the *Clean Air Act*, the *Clean Water Act*, the *Endangered Species Act*, the *Civil Rights Act* and others, could be waived without explanation or public input. In

the aftermath of a disaster like Katrina, the people in the Gulf region need strong health and safety protections now more than ever, say activists. They call these bills "a shameless exploitation of the Gulf tragedy and a total disregard for the need to reduce environmental toxins."

Take Action: *Tell Congress to VOTE NO on roll backs to the CWA that would remove pesticide applications from its purview and*



NO to any bill that waives environmental and other laws that protect communities and future generations from polluted air, contaminated drinking water, dangerous waste disposal, lost species, race discrimination, inhumane wages, and other degradations. See www.beyondpesticides.org for a sample letter to Congress.

Fluoride: Not Just for Toothpaste Anymore

While usually thought of as an ingredient for a healthy smile, fluoride is actually a toxic chemical and an ingredient in a popular pesticide that Dow AgroSciences wants to use on your food. On September 21, 2005, Beyond Pesticides joined with Fluoride Action Network (FAN) and the Environmental Working Group (EWG) in challenging the safety of EPA's new food tolerances for the fluoride-based pesticide, sulfuryl fluoride—which Dow requested. This action marks growing concern among mainstream scientists and environmental organizations that frequent exposure to fluoride, from water, food, and dental uses like toothpaste and rinses, is not safe for vulnerable populations, particularly young children. The challenge is directed at the maximum legal limits for the fluoride-based pesticide in foods, which have been set at levels that dwarf the amount allowed in tap water. In one case, the EPA is allow-

ing 900 parts per million of fluoride in dried eggs, as opposed to the maximum 4 ppm allowed in tap water. One-third of the nation's eggs are sold and consumed in dried reconstituted form. The groups note that 900 ppm set for dried eggs is extremely close to the amount used in toothpaste (1,000 ppm), a level that is considered toxic if consumed in greater

than pea-sized portions. "How can the EPA consider 900 ppm in eggs safe, while the Food and Drug Administration directs parents to call poison control centers if their children consume more than a pea sized portion of toothpaste with fluoride at 1,000 ppm?" asked Paul Connett, Ph.D., Executive Director of FAN. A wealth of independent, peer-

reviewed studies have found adverse effects on children's developing brains, the male reproductive system, kidneys, and bones.

Take Action: Write to EPA and let it know how you feel about the agency's decision to allow fluoride residues in the food we eat. For more information, contact FAN, www.fluoridealert.org.

Congress Messes With Organic

The Organic Trade Association (OTA) moved its amendment to allow synthetic ingredients in the highest category of organically labeled food through Congress in November. The maneuver, spirited through on an agriculture appropriations bill without a public hearing by the Republican staff, left opponents fuming and shaking their heads over the process and outcome. Senator Tom Harkin (D-IA), a supporter of organic said on the Senate floor November 2 before the full Senate passed the bill "[B]ehind closed doors and without a single debate, the *Organic Foods Production Act* was amended at the behest of large food processors without the benefit of the organic community reaching a compromise. To rush provisions into the law that have not been properly vetted, that fail to close loopholes, and that do not reflect a consensus, only undermines the integrity of the National Organic Program." The House passed the measure the previous week on October 28 as part of the Conference Report on H.R. 2744, *Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2006*. The measure passed despite an outpouring of over 325,000 consumer letters and emails asking members of Congress to preserve the no-synthetics clause. Earlier this summer, public input derailed the OTA amendment from being included in the Senate bill, only to be included in the conference bill without debate. Beyond Pesticides wrote to Congress before the vote: "Attempts to amend OFPA through the appropriations process or other legislative vehicles in the face of deep substantive disagreements will cause severe divisiveness and undermine consumer confidence and trust in the organic label and market. Instead, Congress should allow the regulatory process to move forward as ordered by the U.S. Court of Appeals in *Court Weighs in on Organic Integrity* (see PAY, Vol. 25, No. 2, Summer 2005) and afford consumers and other stakeholders the opportunity to participate in an open and public discussion that enables fair and informed decision making. . . . *Harvey v. USDA* has brought into sharp focus key issues regarding the use of synthetic substances in processed foods labeled organic. The case puts a spotlight on USDA's failure to adhere to a central legal standard and principle in the Act. The Act establishes processed food labeled organic



(displaying the USDA organic seal) as 100 percent natural, of which 95 percent must be organic ingredients and up to five percent may be non-organic when organic is not available. Other categories of organic labeling, including the 'made with organic' label, allow for the use of synthetic ingredients."

Senator Feingold (D-WI) said on the Senate floor, "The strength of the organic certification and labeling program through USDA has been the ability of organic consumers, farmers, processors, and retailers to work together to create a seal that everyone has confidence in. The Harvey court decision challenged some of the procedures in place for organic farming and food processing. This situation should have caused the organic community to again come together, openly discuss the issues, and more than likely propose consensus changes to the law to both ensure the reputation of the organic label and allow for the continued record growth of the organic market. . . [B]ackroom deals in the dead of night are not the way to go and have the potential for undermining confidence in the entire organic program." "The real losers today are America's organic consumers who do not expect food labeled as 'organic' to contain artificial (or synthetic) ingredients," says Dr. Urvashi Rangan, senior scientist and policy analyst at Consumers Union. As organizations regroup to determine next steps, USDA will have to issue new regulations to implement the new law. *Stay tuned for more analysis and action.*



Parents Urge Schools to Start Year Without Toxic Pesticides, Support SEPA

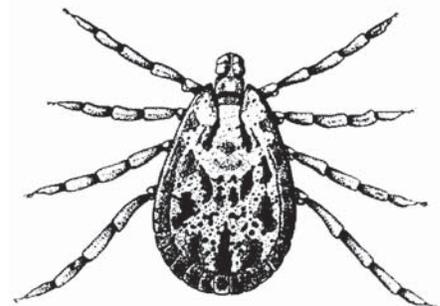
When sending their children back to school in September, parents from 30 states, working with Beyond Pesticides, called on school districts across the country to start the school year without the use of toxic pesticides that have been linked to childhood diseases. Parents urged school districts to adopt non-toxic management strategies and end the use of pesticides that can cause cancer, neurological problems, learning disabilities, asthma and other chemical-induced illnesses. In a back-to-school call for improved protection of the nation's school children from pesticide use, U.S. Senator Frank Lautenberg (D-NJ) announced the reintroduction of the *School Environment Protection Act (SEPA)*, S.1619, on September 7, 2005. Rep. Rush Holt (D-NJ) introduced the bill, H.R. 110, in the U.S. House of Representatives on January 4, 2005. "I am asking my children's school to stop its toxic pesticide use and applauding Senator Lautenberg and Rep. Holt for putting this public health issue before Congress," said Dawn Helm of Paramus, NJ, mother of three children ages 3 to 8. SEPA repre-

sents a straightforward approach to promote integrated pest management (IPM) practices that minimize risk to children and focuses on prevention rather than routine applications of pesticides. In cases where pesticides are still used, schools are required to notify and provide safety information to parents and school staff. This national back-to-school action by parents and in the Congress comes in the wake of a major study released this summer that raises serious concerns about the dangers of pesticide use in the nation's schools. (See "Parents Approach School Health Staff" on page 13 of this issue of *Pesticides and You*.) Beyond Pesticides has identified 48 commonly used pesticides in schools, of which 24 are probable or possible carcinogens, 25 are linked with reproductive effects, 33 with liver or kidney damage, 33 with neurotoxicity, and 39 are sensitizers and/or irritants.

Take Action: Bring a "For My Child's Health" card to your child's school requesting that school health staff ensure that your child is not exposed to pesticides while at school. Contact Beyond Pesticides to order cards. To ensure that children across the country are protected from pesticides in school, ask your Senators and Representative to support and co-sponsor SEPA. See www.senate.gov and www.house.gov/writerep/ for contact information.

As Public Rejects Spraying, New Tools Emerge for Lyme Disease

An increased awareness of the hazards posed by conventional pesticides used to control ticks—typically synthetic pyrethroids that have been linked to asthma and cancer—has led to several new options in the battle against Lyme disease. Marc Dolan, a senior research scientist with the Centers for Disease Control and Prevention (CDC), told the *Associated Press (AP)* in an article published July 31, 2005 in the *Detroit News*, that 75 percent of the public is opposed to spraying for ticks, despite high tick populations in the Northeast. While the ticks that transmit Lyme disease are called deer ticks, both deer and rodents serve as their primary hosts. With this in mind, CDC developed a bait system, the *Maxforce Tick Management System*, that lures rodents into plastic boxes where a wick coats their fur with fipronil, a pesticide that kills ticks for up to six weeks. The bait stations are installed seasonally by professional applicators. Another bait system, the *4-Poster Deer Treatment Bait Station*, feeds deer a mixture of corn and permethrin, an insecticide that later kills feeding ticks. The 4-Poster system was developed by the U.S. Department of Agriculture (USDA) and is licensed to the American Lyme Disease Foundation, which gets a small royalty on sales. The active ingredient in both systems are toxic pesticides; however, bait stations are preferred to spraying because exposure is not widespread. According to



the CDC, 21,273 cases of Lyme disease were reported in 2003, mostly in New England and mid-Atlantic states. The CDC estimates only 10 percent of cases are reported because Lyme disease often causes only mild flu-like symptoms.

Forest Service Proposes Spraying Thousands of Acres in California National Forests

According to Californians for Alternatives to Toxics (CATs), the U.S. Forest Service is proposing to drastically increase pesticide spraying projects in California's National Forests, with the four largest projects covering a total of 40,000 acres. After two decades of decreased pesticide use in California's national forests, environmentalists worry that this could be a return to the massive spray projects common twenty years ago. Given that numerous alternative techniques exist, local environmentalists are calling the spray projects "risky, unnecessary, and potentially precedent setting." Approximately 5,000 exotic plant species have become established in natural and managed ecosystems in the U.S. Because some of these species disrupt the natural ecosystem, invasive weed management, along with the management of native plant species that logging operations find undesirable, has become big business on public lands. In the majority of cases, toxic pesticides are used without adequately exhausting less toxic alternatives, including grazing, reseeding, mechanical harvest, hand-pulling and beneficial insects. A Beyond Pesticides investigation found that Dow Chemical was using undue influence with a university professor to push its herbicide use on National Forests, parks and other public lands in the West. *To read more about the Dow's involve-*



ment in weed management, see "Montana's War on Weeds: Dow Chemical influences Forest Service shift to its herbicides" in the Fall 2004 issue of Pesticides and You (Vol. 24, No. 3).

Organic Farms Produce Similar Yields, Less Problems than Conventional

While almost everyone agrees that organic agriculture is better for human health and the environment, the conventional agriculture industry has argued that organic agriculture cannot produce enough to feed the world. However, a recent review of a 22-year farming trial study by Cornell University professor David Pimentel, Ph.D. debunks this claim. According to the study published in the July 2005 issue of the journal *Bioscience* (Vol. 55, No. 7), organic farming produces the same yields of corn and soybeans as does conventional farming, but uses "30 percent less energy, less water and no pesticides." The study, "Environmental, Energetic, and Economic Comparisons of Organic and Conventional Farming Systems," is a review of the Rodale Institute Farming Systems Trial, the longest running comparison of organic and conventional farming in the U.S. The study compares a conventional farm that uses recommended fertilizer and pesticide applications

with an organic animal-based farm (where manure is applied) and an organic legume-based farm (that uses a three-year rotation of hairy vetch/corn and rye/soybeans and wheat). "First and foremost, we found that corn and soybean yields are the same across the three systems," said Dr. Pimentel, who notes that although organic corn yields are about one-third lower during the first four years of the study, over time the organic systems produce higher yields, especially under drought conditions.

Wind and water erosion degrade the soil on the conventional farm while the soil on the organic farms steadily improves in organic matter, moisture, microbial activity and other soil quality indicators. The fact that organic agricultural systems also absorb and retain significant amounts of carbon in the soil has implications for global warming, Dr. Pimentel said, pointing out that soil carbon in the organic systems increases by 15 to 28 percent, the equivalent of taking about 3,500 pounds of carbon dioxide per hectare out of the air.

Governor Schwarzenegger Signs Bill Protecting Kids from Experimental Pesticides

Thanks to the work of the non-profit organization California Safe Schools and many others, California Governor Arnold Schwarzenegger (R), signed Assembly Bill AB 405, banning the use of experimental pesticides in California schools on October 6, 2005. The bill, authored by Assembly member Cindy Montanez, prevents K-12 public schools from being used as test sites for experimental pesticides, and protects children, teachers and other school employees from being exposed to chemicals whose health effects are unknown. Additionally, it prohibits the use of pesticide products on school sites for which registration has been canceled, suspended, or marked for phase out of use. "California Safe Schools is extremely grateful to Governor Schwarzenegger, Assemblymember Montanez, the California Legislature, and many supporters for ensuring that California's most vulnerable population will now be protected," said Robina Suwol, executive director of California Safe Schools and Beyond Pesticides board member. Ms. Suwol's group identified the experimental use of pesticides in California schools when the Los Angeles Unified School District IPM Oversight Committee, of which California Safe

Schools is a member, was approached by a chemical industry representative to try a new, experimental product in the district's schools. Other groups have reported similar experiences across the country. *For information on protecting school children from pesticides at the national level, see "Parents Urge Schools to Start Year Without Toxic Pesticides, Support SEPA" in this section of Pesticides and You.*

Tomato Grower Cited with Violations Stops Using Suspected Pesticide, Grocery Chain Bans Produce

After months of bad press, Ag-Mart Produce, the giant Florida tomato grower at the center of an investigation involving three deformed babies born to farmworkers, announced it will no longer use pesticides that have been linked to birth defects. One baby was born without arms or legs. Another was born with Pierre Robin syndrome. The third child was missing a nose, ear and sexual organs, and died after three days. According to press reports, the three women who gave birth to these babies and the fathers all lived within 200 feet of one another when they became pregnant in 2004. The *Associated Press* reported that between 1993 and 2003 Ag-Mart was cited three times by state inspectors for violations of pesticide regulations at other fields. The violations involved failure to keep workers out of fields for a sufficient time after chemicals have been used, failure to provide proper protective equipment and failure to keep proper records of pesticide and herbicide

use. Because of these violations in Florida and North Carolina, the grocery chain Publix has stopped carrying Ag-Mart produce. Ag-Mart President Don Long said in a statement that the company is experimenting with alternatives "so that the chemical can be phased out as soon as possible." Shelly Davis, deputy director of the Farmworker Justice Fund and Beyond Pesticides board member, feels Ag-Mart's decision is a good step forward. "We would call on them to work with us so others in the industry will follow suit. It shows they can grow these products profitably without highly toxic pesticides, and hopefully that will be a model that others will adopt," said Ms. Davis. Andrew Yaffa, an attorney representing one of the families, said the company's decision to eliminate some pesticides is "essentially an admission that the chemicals they've been knowingly exposing these workers to do cause harm."

National Survey Estimates 4.4 Million Kids Diagnosed ADHD

A recent report released by the Centers for Disease Control and Prevention (CDC) estimates 4.4 million kids, or 7.8% of school-aged children, have been diagnosed with attention-deficit/hyperactivity disorder (ADHD). The data is drawn from the 2003 National Survey of Children's Health (NSCH) that surveyed parents or guardians of 102,353 sample children. Scientific studies link exposure to common organophosphate and carbamate pesticides, which are found on the shelves of retail stores as well as in agriculture, to adverse cognitive and behavioral effects in mice and other subjects. ADHD is a neurobehavioral disorder characterized by pervasive inattention and/or hyperactivity-impulsivity and resulting in significant functional impairment, according to the CDC. Health care costs associated with ADHD are conservatively estimated at \$3.3 billion annually. Of the estimated 4.4 million youths diagnosed with the disorder, 2.5 million (56%) take medications for the disorder. Diagnosis among

males is reported significantly more often in families with incomes below the poverty threshold (<100%) than in families with incomes at or above the poverty threshold. Considerable uncertainty still exists around the myriad effects of pesticides on children, although it is known that children are far more vulnerable to pesticides than adults. *For more information, see www.beyondpesticides.org/schools or contact Beyond Pesticides.*

EPA Says Race and Income Are Not Environmental Justice Factors

In a recent move by the Bush Administration, the Environmental Protection Agency (EPA) drafted a strategic plan on Environmental Justice (EJ), which it redefined as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to development, implementation, and enforcement of environmental laws, regulations, and policies." While the plan may not sound controversial on the surface, many feel the trouble lies in the word "regardless." EJ is based on the idea that some people, specifically, racial minorities and low income are more affected by environmental problems than others. The administration's move angered environmental and civil rights activists, who believe EPA's plan makes the federal government's EJ policy meaningless. The reaction to the draft plan extends to Capitol Hill. More than 70 legislators signed a letter saying that the EPA's draft plan "fails to address the real environmental justice problems facing our nation's most polluted communities" and lambasting the dismissal of race as "a significant departure from existing environmental justice policies." U.S. Representative Alcee Hastings (D-FL), one of the legislators who signed the letter criticizing the EPA draft, puts it even more bluntly. "It isn't that EPA doesn't know what problems exist," he said. "It's their willingness to do anything about it. Shame on them."



Commentary

EPA To Allow Human Testing with Pesticides

Proposal provides inadequate protections

By Laura Hepting

The Environmental Protection Agency's (EPA) proposed rule to allow human pesticide testing and the use of resulting data for pesticide registration was published in the September 12 *Federal Register*. The rule (70 FR 53838) sets long-anticipated restrictions on human pesticide testing, while continuing to allow intentional dosing experiments and having little impact on other types of human pesticide studies. It falls short of providing adequate protection to human subjects and does little to ensure critical ethical guidelines will be followed. The rule, which amends 40 CFR Part 26 *Protections for Subjects in Human Research*, is open to public comment until December 12, 2005.

Background

Human pesticide testing has long been a controversial issue, as human subjects have been used for decades in such tests by the chemical industry.¹ The last several years have been exceptionally contentious, resulting in a variety of reports, legal maneuvers, and committees. The issue, drawing widespread criticism over the rulemaking process, has escalated to the currently proposed rule.

EPA first addressed the ethical concerns inherent to human pesticide testing during the Clinton Administration, a period in which pesticide manufacturers were increasingly turning to human testing in attempts to reduce the uncertainty factors EPA uses for developing tolerable exposure levels (an unintended and unfortunate result of the *Food Quality Protection Act of 1996*). In response to the increase of human experiments and resulting public criticism, EPA Administrator Carol Browner enacted a moratorium in 1998.² EPA also created a joint committee to review the issue, which stressed the importance of rigorous ethics and stated that, "If the use of human subjects in pesticide testing can be justified, that justification cannot be to facilitate the interests of industry or of agriculture, but only to better safeguard the public health."³

EPA ceased to use human pesticide experiments for consideration in the pesticide registration process for several subsequent years. Administrator Christie Todd Whitman upheld the moratorium, amid internal conflicts over EPA's human testing stance and a brief reversal of the ban in 2001, pending the completion of a review by the National Academy of Sciences (NAS).⁴ The chemical industry challenged Whitman's moratorium by bringing suit in *CropLife America, et al. v. EPA*. The ban ended

in 2003 when the U.S. Court of Appeals for the District of Columbia Circuit ruled that EPA's interim approach had not been established through required rulemaking procedures. The court also ruled, "as a consequence, the agency's previous practice of considering third-party human studies on a case-by-case basis, applying statutory requirements, the Common Rule,^{*} and high ethical standards as a guide, is reinstated and remains in effect unless and until it is replaced by a lawfully promulgated regulation."⁵ EPA made no effort to correct the procedural errors to reestablish a moratorium and continued its human testing policy without formal rulemaking or guidance.

In 2004, NAS completed its evaluation of the issue. The report, criticized as deficient and self-contradictory, concluded human testing with pesticides is ethical, and provided guidelines for developing regulations for human experiments. Regardless, EPA failed to acknowledge NAS recommendations and proceeded to accept third-party human pesticide studies without establishing a new rule to reflect NAS recommendations, and has continued to accept studies unless scientifically unsound or "fundamentally unethical."

In response, Senator Barbara Boxer (D-CA) and Representative Henry Waxman (D-CA) requested a congressional report on 22 studies that EPA provided out of a total of 24 the agency said it was reviewing or expected to review as of April 2005. Conducted from 1967 to 2005, approximately one-quarter of the studies were conducted in the United States. Review of the studies exposed gross scientific and ethical flaws, finding



^{*} The Common Rule, promulgated by the Department of Health and Human Services (Subpart A, 45 CFR part 46), requires that all subjects are volunteers, adequately informed and equitably selected.



Studies dose subjects with pills containing pesticides.

the studies failed to obtain informed consent, used unethical liability waivers, lacked scientific validity, dismissed adverse outcomes, and failed to conduct long-term medical monitoring. Azinphos-methyl, carbofuran, chloropicrin, and dimethoate, as well as several other organophosphates, are examples of the pesticides that were used in the experiments through various exposure methods such as ingestion and inhalation. Methyl isothiocyanate, which is closely related to the chemical that killed thousands in Bhopal, India, was also tested. Under strict ethical guidelines, the majority of these studies would not be allowed, as many were designed to put subjects at risk, tested pesticides that already had a counterpart on the market, and advanced industry interests.

Congressional Action

After the overturn of EPA's ban on human pesticide experiments, Members of Congress made efforts to reestablish the moratorium. The first attempt, in 2003, was an amendment to EPA's budget bill that prohibits the agency from accepting, considering or relying on human pesticide testing. This amendment passed the House but was removed during conference.⁶

The second Congressional attempt to reenact a moratorium has led to the current rule in question. Earlier this year Representative Hilda Solis (D-CA) sponsored an amendment to the Interior Appropriations bill that prohibited:

*... the use of funds by the Administrator of the Environmental Protection Agency to accept, consider, or rely on third-party intentional dosing human studies for pesticides or to conduct intentional dosing human studies for pesticides.*⁷

The amendment passed the House, and was followed by an identical amendment in the Senate, introduced by Senator Boxer, that also passed.⁸

However, a contradictory amendment on human pesticide testing sponsored by Senator Conrad Burns (R-MT) also passed, sending the issue to conference once again. The stated purpose of this amendment was:

*[T]o direct the Administrator of the Environmental Protection Agency to conduct a review of all third party intentional human dosing studies to identify or quantify toxic effects.*⁹

The result was a compromised amendment that would continue to allow human testing, but would force an end to EPA's stalled rulemaking process. The language of the conference committee's report sets a temporary ban on human pesticide testing that will last until EPA implements the final version of the proposed rule. Several requirements for the final rule, including ethical guidelines, are included in the language of the committee's report:

*None of the funds made available by this Act may be used by the Administrator of the Environmental Protection Agency to accept, consider or rely on third-party intentional dosing human toxicity studies for pesticides, or to conduct intentional dosing human toxicity studies for pesticides until the Administrator issues a final rulemaking on this subject. The Administrator shall allow for a period of not less than 90 days for public comment on the Agency's proposed rule before issuing a final rule. Such rule shall not permit the use of pregnant women, infants or children as subjects; shall be consistent with the principles proposed in the 2004 report of the National Academy of Sciences on intentional human dosing and the principles of the Nuremberg Code with respect to human experimentation; and shall establish an independent Human Subjects Review Board. The final rule shall be issued no later than 180-days after enactment of this Act.*¹⁰

Upon completion of a draft rule, EPA's proposed rule on human testing was submitted for review to the Office of Management and Budget (OMB). The role of OMB is to review the rule, make recommendations, and give EPA the opportunity to make changes based on these recommendations. At the point EPA had submitted the internal draft to OMB, it was leaked to the public. This internal draft sparked strong criticism from medical experts, Members of Congress, environmental groups, EPA toxicologists, health experts, and lawyers. The general consensus was that the rules provided insufficient measures for protecting human subjects.¹¹ While some modifications were made to the language of the rule before it was published in the *Federal Register*, it still has many shortcomings.

Summary of Rule

The proposed rule, *Protections for Subjects in Human Research*, focuses on human testing that involves intentional pesticide exposure. Such tests are used to identify or measure toxic effects; examine absorption, metabolism, and other functions; test for insect repellent efficacy; and also includes some non-occupational exposure studies. EPA differentiates intentional dosing studies from other data collection tools (e.g., accident



and incident reports, epidemiological studies, and monitoring studies) available to EPA for risk assessment. Within intentional dosing studies, much of the rule discusses ethical guidelines and focuses on third-party testing of children and pregnant women.

The summary provided in the *Federal Register* reads:

EPA proposes and invites public comment on a rulemaking to ban intentional dosing human testing for pesticides when the subjects are pregnant women or children, to formalize and further strengthen existing protections for subjects in human research conducted or supported by EPA, and to extend new protections to adult subjects in intentional dosing human studies for pesticides conducted by others who intend to submit the research to EPA. This proposal, the first of several possible Agency actions, focuses on third-party intentional dosing human studies for pesticides, but invites public comment on alternative approaches with broader scope.

Other pertinent issues addressed in the proposed rule include the extension of the Common Rule to third-party research, establishment of a Human Studies Review Board and the related role the Institutional Review Boards (IRBs) would play, deferral of additional protections for prisoners, consequences of non-compliance, and ethical standards used to determine whether to rely on human experiments conducted before and after promulgation of the rule for regulatory decisions.

Items for Comment

The following topics are major weaknesses in the proposed rule.

- **Observational studies excluded:** The proposed rule focuses only on intentional dosing studies. It excludes observational studies, which monitor the effects of pesticide use that is already taking place. However, as in the case of Los Angeles Unified School District, experimental and conditional use pesticides are often pushed on school districts and other institutions by the chemical industry (see “Governor Schwarzenegger Signs Bill Protecting Kids from Experimental Pesticides” on page 7 of this issue).

It would also exclude studies such as the highly controversial, and at least temporarily derailed, Children’s Environmental Exposure Research Study (CHEERS), which would have encouraged children’s exposure to pesticides in the home. Senator Boxer called the CHEERS study “a reprehensible idea that never should have made it out of the boardroom.” For more information, see “EPA Cancels Study that Encouraged Children’s Exposure to Pesticides” on page 4 of the Summer 2005 issue of *Pesticides and You* (Vol. 25, No. 2).

- **Vulnerable populations:** Although pregnant women, infants and children are provided additional protections under this rule, populations vulnerable to coercion or undue influence are not. For example, EPA has chosen to defer the proposal of additional protections for prisoners even though the Department of Health and Human Services recommended EPA include additional protections for this population. Additionally, the proposed rule does not address additional protections for low-income and at-risk populations. Rather, EPA states the rule does not have an adverse impact on the environmental and health conditions of these communities, pointing out the rule does call for research procedures that ensure equitable selection of test subjects. However, to be adequate, additional protections must be extended to all vulnerable populations, including those with disabilities and those who already endure significant pesticide exposure on a regular basis.

- **Exceptions, exceptions, exceptions:** Loopholes in the proposed rule undermine the basic tenets that should be established. The rule states that “under no circumstances” will EPA, or an entity that submits findings to EPA from intentional dosing studies, be permitted to “conduct or support research involving intentional dosing of any pregnant woman, fetus, or newborn.” However, another provision states, “EPA shall not rely on any research involving intentional dosing of any pregnant women, fetuses, or newborns, except when such research is deemed scientifically sound and crucial to the protection of public health.” In other words, testing is prohibited on women and infants, yet EPA may still accept data from such studies, contradicting its categorical prohibition on such experiments.

The proposed rule addresses intentional dosing of children under a separate provision. Within this provision, the rule is again undermined: “[R]esearch conducted or supported by EPA outside the United States ... in appropriate circumstances, the Administrator may ... waive the applicability of some or all of the requirements of these regulations.” And again, EPA does not allow data from studies that involve intentional dosing of a child for consideration, “except when such research is deemed scientifically sound and crucial to the protection of public health.”

Another provision states, “EPA will conduct or fund research in which the IRB finds that no greater than minimal risk to children is presented.” Additionally, when greater than minimal risk is expected, “EPA will conduct or fund research in which ... the risk is justified by the anticipated

benefit ... the risk is at least as favorable to the subjects as that presented by available alternative approaches . . . provisions are made for soliciting the assent of the children and permission of their parents or guardians." Even further problematic under the provisions affecting children in the proposed language, "even where the IRB determines that the subjects are capable of assenting, the IRB may still waive the assent requirement." As far as parental/guardian permission, the proposed rule reads, "for a subject population for which parental or guardian permission is not a reasonable requirement to protect the subjects (for example, neglected or abused children), it may waive the consent requirements." This language increases children's vulnerability, rather than offering adequate protection.

- **Failure to establish hard-line rules:** EPA shies away from providing firm incentives not to conduct unethical experiments. Provisions of the rule allow EPA to rely on research conducted before the rule is enacted, unless the "conduct of that research was fundamentally unethical (e.g., the research was intended to seriously harm participants or failed to obtain informed consent), or was significantly deficient relative to the ethical standards at the time." (Note words such as fundamentally, seriously, and significantly leave the language of the rule open to interpretation.)

Research accepted after promulgation of the rule, subject to these exceptions, will lead to circumstances that allow prohibited studies to be used by EPA. It is also worth noting that EPA's refusal to accept a study is the last action listed under the options for possible consequences of noncompliance.

- **The slippery slope of ethics:** In the end, the entirety of the proposed rule boils down to ethics. When reviewing such international ethical guidelines like the Nuremberg Code, with which Congress requires EPA to comply, it is hard to imagine any circumstance where there would be pesticide benefits that justify the intentional dosing of human subjects. The rule does establish an Independent Review Board to review proposed studies, and the Board will approve a study "only if risks to subjects have been

minimized and are reasonable in relation to anticipated benefits." However, EPA does not by practice or rule generally evaluate the actual need for a pesticide to determine whether there is a less toxic approach to managing a defined pest. According to ethicists, there must be a highly significant societal benefit to justify jeopardizing the health of individuals. Pesticide testing is carried out by chemical companies in order to provide data for EPA registration, which then allows widespread human and environmental exposure. However, according to advocates, human testing of pesticides, which frequently have less-toxic equivalents, has no societal benefit.

Take Action: Submit Comments to EPA and Your Elected Officials

Please let EPA know the public will not tolerate weak ethical standards, especially in a rule that allows people to be exposed to unnecessary and potentially detrimental health risks and that the proposal fails to comply with the Congressional mandate. Comments should be received on or before December 12, 2005, but can be sent after that date. Send comments by e-mail to opp-docket@epa.gov or by mail to Public Information and Records Integrity Branch (PIRIB) (7502C), Office of Pesticide Programs (OPP), Environmental Protection Agency, 1200 Pennsylvania Ave., NW, Washington, DC 20460-0001. Include "Docket ID Number OPP-2003-0132" in all comments to EPA.

When the comment period has ended or to improve the impact of your comments to EPA, send comments on human testing to your Senators and Members of Congress. Much of the movement on this issue has been initiated in Congress and may continue as a result of Congress responding to public outrage. To determine your Senators and Member of Congress, visit www.congress.org or contact Beyond Pesticides.

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Parents Approach School Health Staff Toxic Pesticide-Free “For My Child’s Health”

By Jay Feldman and Michele Roberts

The month of September is always a busy month for many especially those preparing for the return to school and a month that should never pass without school officials having a discussion about managing their buildings and grounds without toxic materials. This summer while children and school staff recessed, two landmark studies were released confirming the need for immediate action to protect children. The *Journal of the American Medical Association* in July published a study¹ that documents student and school employee poisoning by pesticide use at schools. While the study focuses on acute, or immediate, effects, the study authors note that, “Repeated pesticide applications on school grounds raise concerns about persistent low level exposures to pesticides at schools...The chronic long-term impacts of pesticide exposures have not been comprehensively evaluated; therefore, the potential for chronic health effects from pesticide exposures at schools should not be dismissed.” The study results show that the incident rates among children increased significantly from 1998 to 2002.

Most illness is associated with insecticides (35%), disinfectants (32%), repellents (13%), and herbicides (11%). The study’s authors also point to a lack of protection for school children and employees under federal law, noting that state laws provide some protection but are varied, leaving large gaps.

Prior to the release of the study in the *Journal of American Medical Association*, the Centers for Disease Control’s (CDC) *Third National Report on Human Exposure to Environmental Chemicals*, was also released in July. The report contains striking new data showing widespread exposure to commonly used synthetic pyrethroid pesticides, with residues carried by over 50 percent of the population. In addition to endocrine disrupting effects, all the pyrethroids are closely associated with respiratory illness and asthma, an illness of increasing concern affecting growing numbers of people, especially children.

Beyond Pesticides has identified 48 commonly used pesticides in schools, of which 24 are probable or possible carcinogens, 25 are linked with reproductive effects, 33 with liver or

For my child's health, please do not spray pesticides in school.



Did you know...

- ⇒ Asthma is the leading cause of school absenteeism due to chronic illness. ⁱ
- ⇒ 1 in 6 children in the U.S. has a developmental disability, ranging from a learning disability to a behavioral or emotional disorder. ⁱⁱ
- ⇒ Research shows that pesticides are both a trigger for asthma attacks and a root cause of asthma. ⁱⁱⁱ
- ⇒ Government testing found residues of pesticides commonly used in schools at highest concentrations in children ages 6-11. ^{iv}

ⁱ Centers for Disease Control and Prevention 2005. Asthma's Impact on Children and Adolescents. <http://www.cdc.gov/asthma/children.htm>.

ⁱⁱ Boyle, C. A., et al. 1994. "Prevalence and health impact of developmental disabilities in US children." *Pediatrics* 93: 399-403.

ⁱⁱⁱ Salam, MT, YF Li, B Langholz, and FD Gilliland. May 2004. Early-life environmental risk factors for asthma: findings from the children's health study. *Environmental Health Perspectives* 112(6): 760-765.

^{iv} Centers for Disease Control and Prevention. 2003 Jan. Second National Report on Human Exposure to Environmental Chemicals.

Dear school health staff:

I am looking forward to a safe and healthy school year and appreciate your efforts in this regard. With safety in mind, please ensure that my child is not exposed to toxic pesticides. Pesticide use is increasingly being recognized by the medical community as a health threat to children. They can cause neurological problems, learning disabilities, asthma, cancer and other chemical-induced illnesses. Pesticides can exacerbate existing health problems and initiate new ones.

In fact, a new study recently published in the Journal of the American Medical Association finds that children and school staff nationwide are being poisoned by pesticide use at schools, with more incidents going undiagnosed and unrecorded. It has been documented that pesticides are not adequately regulated by EPA, especially concerning children's exposure. Please let me know how my child is being protected from this toxic chemical hazard.

To ensure the safety of all children and school staff, I suggest that the school adopt non-toxic integrated pest management strategies. This will ensure a safe and healthy learning environment. I would be happy to put you in touch with those who are successfully managing the school environment without toxic chemicals.

Thank you and sincerely,

Making the Transition to a Healthy, Pest-Free Learning Environment

- ⇒ Integrated pest management (IPM) is a program of prevention, education, monitoring and control that eliminate toxic pesticide use. One school IPM expert says, "You don't have to kill pests when you can prevent pests."
- ⇒ Information to help your school go pesticide-free is available online at www.toxicfreeschools.org.
- ⇒ For more information on starting an IPM program, contact Beyond Pesticides at www.beyondpesticides.org or 202-543-5450, or:

For the sake of your child's health please send a copy of this card to your child's school.

kidney damage, 33 with neurotoxicity, and 39 are sensitizers and/or irritants.

Back-to-School Campaign Launched

In an effort to address the findings of these very important studies as well as continue on-going public awareness regarding the use of toxic pesticides in and around schools, Beyond Pesticides and local and state organizations along with parents from 30 states and the District Columbia launched a back-to-school call to action. A card addressed to the school health staff was used by the parents to urge school districts across the country to adopt non-toxic management strategies and to end the use of pesticides that can cause cancer, neurological problems, learning disabilities, asthma and other chemical-induced illnesses.

In response to the rising asthma rates and new information on the triggers and causality of toxic pesticides, Beyond Pesticides released its latest publication, *Asthma, Children and Pesticides: What you should know to protect your family,*

Due to their small size, greater intake of air and food relative to body weight, developing organ systems and other unique characteristics, children are at higher risk than adults to pesticide exposure.

in September 2005. The goal of the publication is to alert the public and officials to the scientific studies linking pesticide exposure and asthma, a disease that strikes one in eight school-aged children and is the leading cause of school absenteeism due to chronic illness. According to the CDC, the estimated cost of treating asthma in those younger than 18 years is \$3.2 billion per year.

* * *

School Pesticide Bill Reintroduced in Congress

Senator Frank Lautenberg (D-NJ) took action on September 7, 2005 by introducing the *School Environment Protection Act* in the Senate (S.1619). Representative Rush Holt (D-NJ) introduced the same bill in the U.S. House of Representatives (H.R. 110) earlier this year. The purpose of this federal legislation is to improve the protection of the nation's school children from pesticide use. Although there are 33 state laws and over 400 school districts that are known to have policies or programs regarding integrated pest management, pesticide bans, and/or right-to-know, passing federal legislation is critical to providing a safer and healthier environment for all children to learn across the nation.

School Environment Protection Act of 2005

The *School Environment Protection Act* (SEPA) provides basic levels of protection for children and school staff from the use of pesticides in public school buildings and on school grounds.

Children need better protection from toxic chemical exposure while at school. According to the National Academy of Sciences report, *Pesticides in the Diets of Infants and Children*, children are among the least protected population group when it comes to pesticide exposure. The report finds that EPA generally lacks data on children necessary to protect them. Due to their small size, greater intake of air and

food relative to body weight, developing organ systems and other unique characteristics, children are at higher risk than adults to pesticide exposure. Thirty-three states have taken some action to step in and provide protective action to address pesticide use in, around or near their schools. These include a mixture of pesticide restrictions and parental notification and posting of signs before certain pesticides are used. However, state protection is uneven across the country and children in 17 states are provided no protection at all.

Safer practices. The legislation requires that the safest methods of pest management are used in school buildings and on school grounds to protect children. As a first step, it requires public schools to use an Integrated Pest Management Plan (IPMP) for pest management that only uses lowest toxicity pesticides. IPMP relies on a combination of methods that address pest prevention, sanitation, structural repair, mechanical measures, biological controls and other non-chemical methods inside buildings and additional approaches for turf and ornamental plan management that build healthy soil and natural resistance to pests.

General notification. At the beginning of the school year, schools must distribute information to parents on their integrated pest management program, any pesticide that may be used during the school year, and the name of a contact person who will have hazard information on chemicals to be used.

Least toxic pesticides. The legislation generally excludes from use in schools pesticides that are determined by

Demographics of Asthma

The levels of asthma prevalence vary across regions of the U.S. On average, 12.5% of U.S. children have experienced asthma, and 7% have been diagnosed by a doctor or nurse. In Harlem, New York City, 28.5% have been diagnosed.² Trends show that people, especially children, living in urban, inner-city neighborhoods, are affected the most by asthma.

A 1998 study found that in New York the heaviest use of pesticides is in the most urban counties—Manhattan and Brooklyn.³

Urban areas have higher asthma rates for a number of reasons, including higher levels of air pollution, both indoor and outdoor, heavy traffic dust and fumes, indoor pests, and higher levels of pesticide use.

Children who live in poverty in inner-cities at the highest risk, as they often live in crowded, inadequate housing where poor conditions lead to high risk of both exposure to cockroaches and other pests, as well as to toxic pesticides.⁴ Additionally, most housing projects are routinely sprayed with insecticides.⁵

In addition to being elevated in urban areas, asthma rates are also disproportionately high among people-of-color, especially in African-American and Latino communities.⁶ Studies show that African-American asthma-related hospitalization rates are four times higher and asthma death rates are double that of whites.⁷

Geography also accounts for variations in asthma rates. In 2004, the Allergy and Asthma Foundation of America developed a list of top “asthma capitals” based on prevalence, mortality rates, air quality, smoking laws, and asthma medical care. Knoxville, Tennessee, was number one, followed by Little Rock, AR and St. Louis, MO.



The legislation requires that the safest methods of pest management are used in school buildings and on school grounds to protect children.

must remain unoccupied for the following 24 hours, unless the pesticide product label states a specific reentry interval. Specific notification requirements must be provided if a pesticide, other than those exempted from notification, is applied at a school.

Notification of pesticide use. If a school, after utilizing integrated pest management (IPM) and least toxic pesticides, determines that a pest cannot be controlled, the school may use conventional pesticides, provided that the school staff and parents of children in the school are notified 72 hours prior to the use of the pesticide. Notification must include the common and trade name, a description of potential adverse effects, a description of the location and reason for application.

Information on pesticide use. Each local educational agency is required to designate a contact person. The contact person maintains information about pesticide applications, acts as a contact for inquires, makes pesticide material safety data sheets, labels, EPA fact sheets, and any final official EPA information related to the pesticide available to the public.

Posting of notification signs. In addition, the legislation requires that signs are posted 72 hours in advance of the pesticide application and remain in place for 72 hours after the pesticide application. In the case of notification and posting for outdoor pesticide use, three application dates in chronological order must be provided and the application may take place on subsequent dates if the preceding date is canceled

the Environmental Protection Agency (EPA) to cause cancer, mutations, birth defects, reproductive dysfunction, neurological and immune system effects, endocrine system disruption, and those pesticides rated as acutely and moderately toxic. Space spraying for discharging pesticides into the air throughout the school is prohibited. Specific pesticides are identified as acceptable under the definition, including boric acid, silica gels, diatomaceous earth, nonvolatile insect and rodent baits in tamper resistant containers, microbe-based insecticides, botanical insecticides (not including synthetic pyrethroids) without toxic synergists, and biological controls.

Pesticide use. A school may use a conventional pesticide, as long as the area of application is unoccupied during the treatment. For applications of pesticides via baseboard spraying, broadcast spraying, tenting or fogging, the treatment area



due to weather. Signs are required to be posted at a central location noticeable to individuals entering the building and at the proposed site of application.

Emergency use provision. The legislation allows for the emergency use of pesticides when the immediate health and safety of children are being threatened. In this case, pre-notification requirements of the legislation are waived and schools are to provide notice of the application to the individuals listed on the registry within 24 hours of pesticide use and post notification signs immediately following the application. The notice must include information required under the regular notice, as well as a description of the reasons requiring the application to be an emergency.

Legislation does not preempt states or localities. A state or locality can exceed the provisions of this act. States

or localities that already have policies that meet or exceed this act can continue with their implementation.

Integrated Pest Management Trust Fund. The legislation establishes an Integrated Pest Management Trust Fund to support education, training and development of IPM systems in schools where there is noncompliance.

EPA requirements. SEPA requires the Administrator of EPA to appoint an official for school pest management within the Office of Pesticide Programs at the EPA to coordinate the development and implementation of IPMPs in schools. The Administrator is required to make a list of least toxic pesticides, and submit to a regulatory review a list of restricted pesticides. After two years, the Administrator is required to make a finding about whether use of registered pesticides in schools may endanger the health of children.

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Groups Ask FDA To Ban Antibacterial Products Containing Triclosan

By Aviva Glaser

Citing health concerns, a coalition of public health and environmental groups, led by Beyond Pesticides, petitioned the U.S. Food and Drug Administration (FDA) on October 25, 2005 to pull from the market widely used household products that contain the germ fighting chemical triclosan. Scientific studies dispute the need for the chemical and link its widespread use to health and environmental effects and the development of stronger bacteria that are increasingly difficult to control. “The failure to regulate triclosan as the law requires puts millions of people and the environment at unnecessary risk to toxic effects and elevated risk to other bacterial diseases,” said Jay Feldman, Executive Director of Beyond Pesticides.

The groups are asking FDA to recognize the urgency of the problem and expedite action to ban household triclosan use after an FDA advisory panel found in October 2005 that the chemical provides little benefit for healthy consumers but could carry environmental and public health risks. The Nonprescription Drugs Advisory Committee, a group made of scientists and experts in the field, voted 11-1 that antibacterial soaps and washes were no more effective than regular soap and water in fighting infections—both work equally well.

Retired senior National Institutes for Health scientist in microbiology and immunology, Cecil Fox, Ph.D., said, “I am troubled that governmental review of triclosan has failed to scrutinize the development of resistant microorganisms and the by-product, antibiotic-resistant microbial populations, and the transport and accumulation of triclosan residues through skin and mucosal absorption. FDA’s failure is a national scandal.”

Triclosan is found in hundreds of common everyday products, including deodorants, toothpastes, cosmetics, fabrics, plastics and nearly half of all commercial soaps. Triclosan is used so commonly that it has made its way into the human body, with studies showing residues in the umbilical cord blood of infants and in breast milk of mothers. A growing body of research finds that triclosan promotes the emergence of bacteria that are resistant to antibiotics and antibacterial cleaners. Triclosan has also been linked to the formation of dioxin, a highly toxic, carcinogenic substance included in the United Nation’s list of twelve persistent organic pollutants (POPs) and the formation of chloroform, which is classified by EPA as a probable human carcinogen

The petition points out that the household use of triclosan results in contamination of the nation’s waterways. Triclosan is among the most prevalent contaminants not removed by typical wastewater treatment plants, and is commonly detected in streams and other waterways. This creates the conditions that could lead to the formation of dioxin. William Arnold, Ph.D.



Associate Professor, University of Minnesota, Department of Civil Engineering, explains, “Upon triclosan exposure to sunlight, two of the products generated are 2,8-dichlorodibenzodioxin and 2,4-dichlorophenol. If triclosan was exposed to chlorine (from water treatment) and then sunlight, there is the potential for more highly chlorinated products to be produced.”

“With enormous medical concern about antibiotic resistant disease, doctors will tell you that nothing beats good old soap and water,” said Michael Green, Executive Director of the Center for Environmental Health. “FDA’s inaction on triclosan is short-sighted; the agency needs to take a longer view towards protecting public health and the environment.”

The petitioners include Beyond Pesticides, Center for Environmental Health, Advocates for Environmental Human Rights, Alaska Community Action on Toxics, Breast Cancer Action, Breast Cancer Fund, Campaign for Safe Cosmetics, Citizens Environmental Coalition, Environmental Health Fund, Indigenous Environmental Network, Natural Resources Defense Council, Maryland Pesticide Network, Northwest Indiana Toxics Action Project, San Diego Oceans Foundation, Women’s Voices for the Earth, and the organic retailer Seventh Generation, Inc.

For more information, contact Beyond Pesticides and see the ChemWatch factsheet and article in the Fall and Winter 2004 issues of Pesticides and You. The full petition and press release is also available at www.beyondpesticides.org.

Poisoning Our Pets

How a bug killer almost killed my dog

By Sue Sturgis

My dog Lucy nearly died in June 2005 when she was accidentally poisoned by a common pesticide our neighbors used on their vegetable garden.

Sevin—an insecticide manufactured by Bayer CropScience in Research Triangle Park—is widely believed to be safe. There are 68 formulations approved for use in North Carolina on everything from lawns to pets, and millions of pounds are applied each year in the United States. But Sevin's active ingredient, carbaryl, is in fact a potent neurotoxin and suspected carcinogen, and federal regulators are currently considering restricting its use.

Whether or not the government will take action to better protect pets, people and the environment from this dangerous chemical remains to be seen. But in the meantime, I share Lucy's story in hopes of preventing others from suffering a similar fate.

I first noticed something amiss one late June day when I took Lucy and my other dog swimming at our favorite pond. An 11-year-old pit bull, Lucy has a touch of arthritis and moves slower on land than Zoe, a 3-year-old Aussie. But Lucy had always ruled the water until that day, when she couldn't out-swim Zoe to the sticks I tossed.

That night Lucy's unusual behavior continued, as she repeatedly got up from her bed and paced restlessly through the house. When I got up to check on her, I found her bed soaked with drool. When her slobbering continued the next day, I took her to the vet.

After the exam, the doctor looked worried. "I'm feeling some sort of growth in her abdomen," she said. "I'd like to do some X-rays."

Oh God, I thought. Not cancer. My worst fears seemed to be confirmed when the doctor put Lucy's radiograph on the light box and hit the switch. Even a non-medical professional like me could see a dark shadow near her liver.

Over the next few days, the mystery of Lucy's malady deepened. Further tests showed it wasn't cancer, but whatever she had was acutely serious. She was vomiting and growing weaker. At first she was unable to navigate stairs and soon couldn't walk at all. Eventually she couldn't even stand. She also refused water, so I had to hydrate her by injecting fluid under her skin.

At night I'd lie in bed next to her, stroking her to sleep and crying. I was watching my friend die—but of what?

I finally realized what was wrong with Lucy on July 4. To celebrate the holiday, my next-door neighbors asked if it would be OK to set off fireworks. I told them Lucy was terribly sick and I feared the noise would stress her. But they went ahead with their plans anyhow. That evening, as my dog trembled in fear amidst the explosions, I seethed.

How inconsiderate, I thought—and it's not just the fireworks. I was also upset that my neighbors used chemicals on their vegetable patch, which is only a few yards from my own garden, and which is separated from my yard only by a six-inch-high decorative fence.

Then it struck me: They had sprinkled their garden with some sort of white powder the same weekend Lucy got sick. When the fireworks stopped, I went next door to find out what the powder was.

Sevin Dust, they told me. Perfectly safe, they assured.

I looked up Sevin online and discovered the active ingredient was carbaryl. The symptoms of carbaryl poisoning include excessive salivation, vomiting and muscle weakness.

Pets and Some Risks of Pesticides

- A 1991 National Cancer Institute (NCI) study, published in the *Journal of the NCI*, found that dogs whose owners' lawns were treated with 2,4-D, four or more times per year, are twice as likely to contract canine malignant lymphoma than dogs whose owners do not use the herbicide.
- Exposure to herbicide-treated lawns and gardens increases the risk of bladder cancer by four to seven times in Scottish Terriers, according to a study by Purdue University veterinary researchers published in the April 15, 2004 issue of the *Journal of the American Veterinary Medical Association*.
- Research published in the December 1988 issue of *Preventive Veterinary Medicine* links hyperthyroidism in cats to flea powders and sprays, lawn pesticides and canned cat food.
- Allethrin, a common ingredient in home mosquito products (coils, mats, oils and sprays) and other bug sprays, has been linked to liver problems in dogs, according to a 1989 study by the World Health Organization.
- The 1989 edition W.C. Campbell *Toxicology* textbook reports that chronic exposure to abamectin, an insecticide often used by homeowners on fire ants can affect the nervous system of dogs and cause symptoms such as pupil dilation, lethargy, and tremors.



Sue Sturgis with her dogs.

I immediately called my vet at home. Could my dog have been poisoned?

Eureka! Bring her in first thing in the morning, the doctor said.

The next day Lucy got the antidote, atropine. When I fetched her from the animal hospital that afternoon, she was groggy but able to walk. An ultrasound of her abdomen was clear. What we thought was a tumor was actually a liver swollen with toxins.

Sevin poisoned my dog—but how? My neighbor's decorative fence, though flimsy, has always kept her off the garden. Did the chemical drift onto her? Onto grass she then ate? Did she walk in drift and lick her paws? We may never know.

When I told my neighbors what happened, they were aghast. They had no idea Sevin could be so dangerous. In fact, they had originally bought it to sprinkle on their own dog for fleas. To my relief, they promised not to use chemical pesticides on their garden anymore.

A confession: I have a reputation among family and friends as a chemophobe. I garden and eat organically. I clean my house with all-natural products. I even fought the city of Raleigh, North Carolina over what I considered its reckless use of pesticides in parks, twice getting it in trouble with state regulators before it adopted a more responsible pesticide policy.

But even *I* didn't get alarmed when my neighbors doused their garden with what was obviously a pesticide. Even *I* failed to make the connection between the chemical and my dog's

illness. Like most Americans, I presumed that if it's sold in stores for home use, it must be safe.

"The basic assumption that people bring to their purchasing is that availability in the marketplace equates to safety, and that couldn't be further from the truth," says Jay Feldman, executive director of Beyond Pesticides, a Washington-based safety advocacy group.

In fact, though carbaryl was first approved for use in 1959, it's never been brought into compliance with modern safety standards, according to Toxic Tradeoff, a recent report on carbaryl by the Washington Toxics Coalition. As early as 1969, a U.S. government report called for restricting carbaryl after it was found to cause birth defects in test dogs. Carbaryl is also highly toxic to bees and has been linked to immune-system cancer in farmers and brain cancer in children.

In 1980, five years after the Environmental Protection Agency launched a special review over concerns about carbaryl's safety, the review was abruptly ended—a political and economic decision, according to Janette Sherman, M.D., then an advisor to EPA on pesticides and the *Toxic Substances Control Act*.

Carbaryl is currently undergoing "re-registration"—the federal process in which the EPA assesses a pesticide by current standards. The agency has indicated it may make some changes such as eliminating certain lawn care and pet uses, but safety advocates worry regulators might not go far enough. In January 2005, 15 public health, farmworker, beekeeping and environmental groups called on the agency to end all uses of carbaryl because of the harm it causes to human and ecosystem health.

What's especially troublesome to me is that the pain and suffering carbaryl causes is simply unnecessary.

"There are so many non-toxic alternatives out there," says Fawn Pattison, executive director of the Agricultural Resources Center/Pesticide Education Project in Raleigh. "It's not necessary to take risks like that, especially in your garden where you're growing your own food. People should really think twice before they reach for that can."

Lucy and I would agree.

Sue Sturgis is a writer for the Independent Weekly in Durham, North Carolina. This article originally appeared in the August 3, 2005 issue of the Independent and is reprinted here by permission.

If you suspect your pet has been poisoned,

contact the American Society for the Prevention of Cruelty to Animals (ASPCA) Animal Poison Control Center, 24 hours a day, 365 days a year, at 888-426-4435. A \$50 consultation fee may be applied to your credit card. After the emergency, contact Beyond Pesticides to complete a Pesticide Incident Report. We will use this information in the media as a way of exposing an inadequate pesticide regulatory system and exerting increased pressure for change.

How To Manage Houseplant Pests

By Leah Rinaldi

Houseplants are a great option for vegetation if you do not have any outdoor space, or if you simply like to be surrounded by greenery during the cold months. Pests of houseplants can be a real pain, however, and can even threaten the existence of your favorite potted companions. Luckily, we have some great tips on how to manage some of the most common pesky house invaders.

Most common pests:

- **Greenhouse Whitefly:** whiteflies suck the sap out of plants. Plants infested by greenhouse whiteflies may drop leaves prematurely and have reduced vigor. They most commonly infest tomatoes and poinsettias.
- **Mealybugs:** mealybugs also suck sap from plants, while at the same time excreting a sticky honeydew. Mealybugs tend to prefer such plants as coleus, cactus, lantana, hoyo, jade, and poinsettia.
- **Spider Mites:** spider mites feed on the plant's sap and produce small wounds on the plant's exterior. The leaves tend to look slightly off in color and can appear gray or bronze. Spider mites also web, so large infestations may have very visible webs. Ivy, dracaenas, figs, hibiscus, and Norfolk Island Pine, are among the plants spider mites prefer.
- **Aphids:** aphids, also sap feeders, can cause wilting and distortions of new growth with big enough populations. They are most commonly found on ornamental peppers, hibiscus, chrysanthemums, and many garden plants and herbs.

Prevention:

- Check all plants thoroughly before purchasing them and bringing them into the house. Keep them separate from other houseplants for the first few weeks to avoid introducing new pests to the other plants.
- Make sure all windows are screened because some pests, like aphids, are found on both indoor and outdoor plants, and can migrate between the two.

Control:

- **Greenhouse Whiteflies:**
 - Young whiteflies can be hand picked off leaves, or sprayed with insecticidal soap, (e.g., Oil-Away™ or Eco-Oil™). The young whiteflies are most commonly found on the underside of the lower leaves. Make sure when using an insecticidal soap, to avoid

breathing in the mist.

- Adult whiteflies can be trapped using yellow colored sticky cards or tape. Sticky cards can be purchased at various gardening stores or websites including www.wormsway.com, which has two yellow sticky card products, one of which is biodegradable. Sticky cards can also be made at home by applying a thin layer of one part Vaseline and one part dishwashing soap to a yellow board. Face the boards or the tape toward the infested plant, but away from the sun (as to not melt the adhesive). The cards must be washed or replaced periodically to get rid of debris and other insects.
 - Vacuuming is also a good solution that is best used on smaller plants. Vacuuming works best when done in the early morning, or at other times when the air is cool. This is when the insects are most sluggish and easiest to catch. Once caught, put the bag containing the vacuumed bugs into the freezer overnight to kill them.
- **Mealybugs:**
 - Individual mealybugs can be killed by rubbing them off the plant with your fingers or a cotton swab. Dipping the cotton in alcohol first is extra effective. This tactic works best on smaller populations and will not get rid of mealybugs that are in the root-feeding stage. If you do choose to use alcohol, make sure you test a small area on the plant to insure it will not become injured.
 - Insecticidal soap is useful for killing the mealybugs that feed on the plants below the soil line. Mix the soap as a drench according to the directions on the bottle. Then pour it slowly on the plant and soil. Let the plant sit in a soap filled saucer until the soil is sufficiently wet. This can be repeated a week later. Check the root ball every week to make sure the mealybugs are disappearing.
 - Mealybugs can be managed with biological controls. The mealybug destroyer *Cryptolaemus montrouzieri*, or crypts, are a type of orange lady beetle that feed on mealybugs.
 - **Spider Mites:**
 - Early detection of spider mites is key to spider mite management. To detect spider mites, simply take a piece of white paper or cardboard and strike some of the plant foliage on it. The spider mites will be visible and can be seen walking across the paper.
 - Severely infested plants should be disposed of whenever possible, since cross infestation is particularly common with spider mites.

- Spider mites do not survive rainy weather. Dosing the infested plant with a forceful jet of water (from a hose or a kitchen sprayer) can perform the same function as rainy weather. Regular spraying is usually required to keep the spider mites under control. One advantage to spraying is that it can increase humidity, which favors the needs of beneficial spider mite predators.
- There are a number of biological controls that can be used against spider mites. Predatory mites of the family *Phytoseiidae* are important natural predators of spider mites and can completely eliminate spider mites under certain conditions. They should not be used, however, for heavy indoor infestations or individual infestations. For these situations the lady beetle, *Stethorus punctillum*, is the most suitable.
- Insecticidal soaps and vegetable based horticultural oils can be used to kill spider mites. Insecticidal soaps are most useful in the warm season while horticultural oils work well in the fall and spring. Infested plants should be covered thoroughly with the oils and soaps since they work by contact only.

■ Aphids:

- Spraying with water is a useful method of controlling aphids as well as spider mites. Spraying may need to be done every few days in order to keep the aphid population under control. Adding a small amount of dishwashing soap to the water spray can be particularly effective. It is advisable to do the spraying early in the day so that the leaves are dry by nightfall; this can help prevent disease in the plant.
- Prune or pinch off heavily infested leaves or sections of the plant. While it does not eradicate the problem, pruning can provide a temporary solution until natural predators can attack the aphids.
- Aphids are very sensitive to nitrogen levels in plants. An aphid outbreak can be triggered by quick-release fertilizers that are high in nitrogen levels. Avoid encouraging fast plant growth with such fertilizers. To control aphids, make sure you use a slow release fertilizer with moderate nitrogen levels.
- The two most common biological controls for aphids are the lady beetle, *Hippodamia convergens*, and the green lacewing, *Chrysopa rufilabris*.
- An insect killing fungus, *Beauveria bassiana*, is also known to manage aphids. Two common strains are commercially available under the product names Naturalis-O and Botanigard. Spray the infected plant thoroughly with the fungus, making sure as much of it comes in contact with the insects as possible. It may be necessary to repeat the application a few times in order to effectively control the aphids.



Identifying Your Houseplant Pest

Greenhouse Whiteflies:

- Whitefly eggs are found on the underside of leaves in clumps of 200 to 400 eggs. The eggs are clustered together in circles and are a greenish-white cigar shape. Once hatched they become translucent.
- In their adult stage the greenhouse whiteflies have wings and measure approximately 1/16 in. or 1.5 mm.
- Three or four days after emerging from the egg they lose their legs and tightly attach themselves to the leaves like a scale.

Mealybugs:

- Mealybugs have three stages: eggs, nymphs, and adult.
- They spend about a week in the egg stage and about four weeks in the nymph stage.
- Female adults are soft-bodied sucking insects, while male adults sprout wings.

Spider Mites:

- Spider mites are more closely related to spiders than insects. They have four pairs of legs, a single oval body region, and no antennae. They also have the ability to produce a fine web.
- Spider mites are very small, reaching a mere 1/50 in. (0.4mm) in length when fully matured.

Aphids:

- Superficially, aphids resemble human lice, although they are of no relation.

For a cited version, see:

www.beyondpesticides.org/alternatives/factsheets

Common Pesticide Poisons Homes Insecticides Said to Degrade Rapidly Show persistence

By Aviva Glaser

A study published in the *International Journal of Hygiene and Environmental Health* (208: 193-199) finds that synthetic pyrethroids persist in house dust and air in significant concentrations for months after they are applied, disproving the popular myth that they are not long lasting. This class of chemicals is found in such common insecticides as Talstar®, Demon®, Raid® Roach Fogger, Ambush®, and Dagnet®.

Synthetic pyrethroids are chemically formulated versions of the natural-based pesticide pyrethrum, made from extracts from plants in the chrysanthemum family. A widely used class of insecticides, synthetic pyrethroids are designed to be more toxic and longer lasting than pyrethrum, and therefore are more potent to insects and pose more risks to humans.

The study, "Pyrethroids Used Indoor – Ambient monitoring of pyrethroids following a pest control operation," by researchers in various institutes in Germany, specifically looks at the pyrethroids cyfluthrin, cypermethrin, deltamethrin, and permethrin. The researchers collected dust and airborne particles in 19 houses and buildings one day before treatments by pest control operators. They compared these baseline levels of synthetic pyrethroids to levels one day after the treatment, 4-6 months after, and 10-12 months after.

One day after application, all of the pyrethroids were detected in significantly increased concentrations in the houses. Over the course of the following months, the concentrations all decreased. However, after 4-6 months, all four chemicals could still be detected. Shockingly, as long as one year after treatment, both permethrin and cyfluthrin levels remained elevated in house dust, in what the authors called "general background level[s]," indicating that these two pyrethroids especially have very slow degradation times.

Earlier this summer, the Centers for Disease Control (CDC) released its *Third National Report on Human Exposure to Environmental Chemicals*. The CDC, which tracks the human "body burden" of chemicals, included synthetic pyrethroids in the study for the first time ever. The study finds that exposure to synthetic pyrethroids is widespread; specifically, permethrin, cypermethrin, deltamethrin, and/or their metabolites were all found in greater than 50% of the subjects tested.

These two new studies are particularly worrisome in light of the many health problems associated with synthetic pyrethroids. Exposure to synthetic pyrethroids has been reported

to lead to headaches, dizziness, nausea, irritation, and paresthesia (skin sensations). There are also serious chronic health concerns related to synthetic pyrethroids. EPA classifies both permethrin and cypermethrin as possible human carcinogens, based on evidence of lung tumors in lab animals exposed to these chemicals.¹ Many synthetic pyrethroids have been linked to disruption of the endocrine system, which can adversely affect reproduction and sexual development, interfere with the immune system, and increase chances of breast cancer. EPA lists both permethrin and cypermethrin as suspected endocrine disruptors.²

Synthetic pyrethroids have also been linked to respiratory problems such as hypersensitization, and may be triggers for asthma attacks.³ Material Safety Data Sheets, issued by the Occupational Safety and Health Administration (OSHA), for pyrethroid products often warn, "Persons with history of asthma, emphysema, and other respiratory tract disorders may experience symptoms at low exposures." In view of the fact that asthma is the most common long-term childhood illness today, persistent residues of pyrethroids in house dust and air need to be taken very seriously.

Children are especially sensitive to the effects of permethrin and other synthetic pyrethroids. A study found that permethrin is almost five times more toxic to eight-day-old rats than to adult rats due to incomplete development of the enzymes that break down pyrethroids in the liver.⁴ Additionally, studies on newborn mice have shown that permethrin may inhibit neonatal brain development.⁵

Although synthetic pyrethroids are often seen as safe alternatives to organophosphate insecticides, this study clearly demonstrates that when these chemicals are applied in houses, they do not disappear. Moreover, they are making their way into human bodies at alarming rates. At the same time, there are clear established methods for managing buildings that prevent infestation of unwanted insects without the use of synthetic chemicals,⁶ including exclusion techniques, sanitation and maintenance practices, as well as mechanical and least toxic controls (which include boric acid and diatomaceous earth). Based on the host of health effects linked to this chemical class, synthetic pyrethroid use in the home is hazardous and unnecessary, and the effects of long-term low dose exposure need to be more thoroughly studied.

Endnotes

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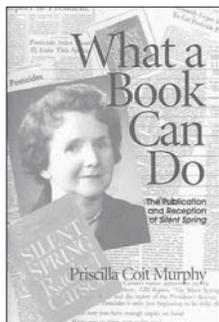
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What a Book Can Do:

The Publication and Reception of *Silent Spring*

Priscilla Coit Murphy. *University of Massachusetts Press, 2005. 288 pp, \$34.95.*
http://www.umass.edu/umpress/fall_04/murphy.html



Priscilla Coit Murphy explores the history of the best-selling and extremely influential book, *Silent Spring*—the book that made pesticides a household word, sparked a widespread de-

bate, and in many ways changed the world we live in. In *What a Book Can Do*, Murphy analyzes the importance of *Silent Spring* and the role that it played in history.

Ms. Murphy begins her book by giving context to *Silent Spring* through a brief political and cultural history of America in the 1960s, as well as a description of Rachel Carson, what led her to write the book, and her relationship both to the book and her editors. Before Houghton Mifflin published *Silent Spring*, the book was actually published as a *New Yorker* serialization, with slight differences in content and very different responses.

Yet Ms. Murphy's book is not just an analysis of the content of *Silent Spring* or the life of Rachel Carson. The heart of *What a Book Can Do* is the investigation of interactions between the book and the media, the firestorm of public controversy the book started, and the massive opposition the book faced. Even before its publication, chemical companies began a smear campaign on Ms. Carson, and even today *Silent Spring* is still a sore issue for some companies.

Ms. Murphy's book comes at an appropriate time, a time in which issues of media interactions, the right to know, the role of science, and the

strength of the chemical industry are still very much being debated. *What A Book Can Do* is an important history

book with a unique perspective and is highly recommended for any reader of *Silent Spring*.

An Unreasonable Woman A True Story of Shrimpers, Politicos, Polluters, and the Fight for Seadrift, Texas

Diane Wilson, *Chelsea Green Publishing, 2005. 392 pp, \$27.50 Hardcover.* www.chelseagreen.com/media/unreasonablewoman

An Unreasonable Woman is a striking tale of the fight for environmental justice in a small town on the Texas Gulf Coast. Diane Wilson, a mother of five, is a fourth-generation shrimper whose livelihood depended on the Texas Gulf. After learning that she was living in the most polluted county in the United States, Ms. Wilson began her fight against Formosa Plastics, a multi-billion dollar industrial corporation that had been dumping the highly toxic chemicals ethylene dichloride and vinyl chloride into the bay and throughout the community.

Despite being “nobody particular,” Ms. Wilson knew something was wrong, and she took her fight to community meetings, picket lines, lawyers, city hall, and through the court system. In the end, the 41-year old Wilson was forced to resort to direct action and hunger strikes to get her message heard.

In addition to chronicling the growth of an environmental activist, *An Unreasonable Woman* also tells of Ms. Wilson's own personal growth and transformation, and of her family and friends' responses, which were sometimes quite negative, to the changes in her life and career. Ms. Wilson reveals how her own brother worked for Formosa Plastics, her neighbors were distrustful of her, and the local fishermen turned their backs on her. Despite the numerous obstacles stacked up against her, Wilson managed to take on an industrial polluter and win, and on the way exposed a web of corporate and government greed and corruption.

An Unreasonable Woman is the gripping and highly personal tale of how one regular woman became a grassroots activist and an inspirational hero in a fight of good versus evil. Diane Wilson has won numerous awards for her work, including the *Mother Jones* Hellraiser of the Month and the Bioneers Award. She helped to found CODEPINK: Women for Peace, and is an activist in the campaign against Dow Chemical Company because of its refusal to compensate the victims of the Bhopal chemical plant disaster in 1984. Ms. Wilson's book is an inspiration to any activist, and a must-read for anyone looking to make change in their community.



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Celebrating 25 Years of Grassroots Action!

On **Thursday, May 18, 2006**, Beyond Pesticides will host its **25th Anniversary Dinner** in Washington, DC. The party will be followed by our **24th National Pesticide Forum, May 19-20, 2006**. Please plan to join us.

The **25th Anniversary Dinner** will feature an evening of organic food and drink, distinguished speakers and live music to help us celebrate with our current allies in the movement, and catch up with friends from the past 25 years.



Our **24th National Pesticide Forum** will follow the anniversary event on **Friday, May 19** and **Saturday, May 20, 2006** in Washington, DC. For more information, contact John Kepner, jkepner@beyondpesticides.org.

Please let us know if you did not receive the previous issue of Pesticides and You (Summer 2005). Due to Hurricane Katrina some mail service was interrupted.



BEYOND PESTICIDES

701 E Street, SE ■ Washington, DC 20003
202-543-5450 (voice) ■ 202-543-5450 (fax)
info@beyondpesticides.org ■ www.beyondpesticides.org

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