Pesticides and You

News from Beyond Pesticides: Protecting Health and the Environment with Science, Policy and Action

Volume 28, Number 2 Summer 2008

Silent Snow

The Unimaginable Impact of Toxic Chemical Use

Making Sure Green Consumer Claims Are Truthful ■ Common Antibacterial Chemical Triclosan Raises Public Safety Concerns ■ Farmworker Justice and Our Healthy Future ■ Remembering Erik Jansson

Networking, Collaborating and Winning

Building the base for reform

Getting together with scientists, pesticide activists, farmworkers, farmers, and policy makers always lifts my sense of optimism. And so it was with the nearly 350 people who met at the University of California Berkeley for the 26th National Pesticide Forum back in March. This year's conference was organized in collaboration with Californians for Pesticide Reform and Pesticide Action Network North America. Here is some of what I said in my introduction to the Forum:

Introduction to the 26th National Pesticide Forum

Beyond Pesticides started convening conferences like this 27 years ago to share the latest science, review the effectiveness of policies, and compare strategies for managing our agricultural and built environment. This is an important opportunity to bring together science, policy and activism as we construct strategies that move us forward in protecting health and the environment.

When Al Gore was given the Nobel Prize for his work on global warming, the director of the Norwegian Nobel Institute said that public concern about the environment has "exploded as a political and moral issue all over the world." On morality, we have a responsibility to define what is right and protect health and the environment, future generations and the earth –to have vision. Clearly, what is right may not always be easy. It may challenge people's conventional wisdom, cultural practices and status quo. But, as you know, the challenge of doing right can be exhilarating and it will certainly be rewarding. A sense of morality helps us to ask and do what is necessary and not be constrained by what we believe is acceptable.

The political and moral issues are absolutely central to the range of issues that are being addressed over at the Forum, whether in the context of workers, children and sensitive populations, indoor environments, such as schools or hospitals, cutting edge science, water quality, disproportionate risk in people of color communities, organic production and processing and the global and local impact, global warming and carbon sequestration, biofuels, risk assessment and the precautionary principle, or LBAM (light brown apple moth).

This conference is about effecting change, helping us to more effectively rally people to change what they do around their homes, in their communities, states, and ultimately the nation. We want changes in practices and we want to codify policies that uphold the right to live and work in an environment that does not poison, one that is healthful for all. We are joined by a common purpose, but we are often isolated in our call for effective and meaningful change. That's why we come together for this conference –to empower ourselves to continue to be effective agents for change, advance change that more clearly defines our relationship to the environment, sharpen our appreciation of nature and its power to protect us, and join with others for a common purpose.

We know that people are motivated by their understanding of the hazards. Our discussion of the latest science that will take place during the conference is critical, whether it is vulnerability of children to chemical exposure, worker hazards, or immune, neurological system impacts.

We know that change is possible. When we began organizing the first national forum in 1981 we were told that organic was fringe, that it was not commercially viable. Now with its success and continued emphasis on the growth of organic, we shift our emphasis. Yes, we have to expand organic AND we have to ensure the integrity of a system of food production that adheres to core values and principles rooted in protection of people and the environment where life is not sacrificed for expediency.

In Barbara Kingsolver's book, *Animal, Vegetable, Miracle*, the author writes about their family's journey in their commitment to organic practices, which are good for the earth, people and natural predators and stemming the tide of global warming by rejecting petroleum-based products and engaging in sound management practices. She describes the impact of organic farmers: "They spare the swallows and sparrows from death by pesticide for lots of reasons, not the least of which is that these creatures are their pesticides."

Environment is in, and so it is easier than before to have broad conversations with those who were previously skeptical. Our challenge is to ensure that solutions —be it legislative, regulatory, or marketplace— embrace meaningful change without compromising health and environment. We come together as an incredible group of people with different experiences and backgrounds, often with a different focus —but with a common purpose. As Shelley Davis, attorney and deputy director of Farmworker Justice, board member of Beyond Pesticides and the recipient our 2008 Dragonfly Award, says, "I hate to be optimistic, but this is a rare moment in history."

The power of networking

Despite intense lobbying by the pesticide lobby, the Farm Bill adopted by a House-Senate Farm Bill conference committee rejected industry language that would have prohibited the Secretary of Agriculture from "discriminating against" or prohibiting pesticides. Instead, the committee adopted conference report language that recognizes USDA authority to restrict pesticide use is entirely consistent with the current regulatory program administered by EPA (despite the inclusion of gratuitous "EPA pesticide registration establishes safety" wording). We are happy that provisions in support of organic agriculture are included in the 2008 Farm Bill. The adoption of the organic provisions, and the affirmation of USDA authority to curtail pesticide use or adopt mitigation measures, enables the Department to play an increasingly important role in helping to reduce pesticide contamination and advance environmental and organic practices. New leadership and our strong network will make it happen!

Jay Feldman is executive director of Beyond Pesticides.

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Positive Feedback

I commend all members of your organization for the quality and depth of information related to pesticides, their use and their hazards, which is found on your website. There is simply no other resource that I have found anywhere that is so thorough, detailed, scientifically based and helpful for policy planning purposes and for convincing politicians about the real hazards that pesticides pose to human health and the environment. I have spent two hours on the site and barely made a dent in reading all of the extensive information.

I live in Vancouver, British Columbia, Canada and I am involved with various groups whose purpose is to persuade municipal governments that the use of cosmetic pesticides poses real and definable hazards to the environment and to human health. Accordingly, we are trying to persuade various levels of government to implement bylaws that ban the use of cosmetic pesticides. We have had some success and some failures but we are slowly making progress.

Would you please tell me what your copyright policy is for the use of the information on your website by other persons or organizations?

- Todd, Vancouver, BC

Thank you for the wonderful feedback on our website (www.beyondpesticides.org). We are constantly adding to it in an effort to increase its content and accessibility. If you have difficulty finding a particular article or document, please let us know so we can continue to improve it!

As for our copyright policy, we encourage individual use of all our publications, whether to hand out to neighbors or present to policymakers. Please do keep all our information intact so that others can contact us as follow-up as needed. If you have any questions about reprinting any materials, please contact us.

Beyond Pesticides Daily News Blog

Daily News Blog is a service of Beyond Pesticides that is intended to keep activists, researchers, policy makers, the health care community, and pest managers informed on key issues and actions that are ongoing and important to the protection of public health and the environment. Daily News Blog is intended to provide a tool for action as we seek to effect a shift in policies, practices and products to safeguard the health of people and the environment. Read and comment on Daily News Blog stories at www.beyondpesticides.org/dailynewsblog.

Excerpt from Beyond Pesticides original blog post (6/19/08):

Rockland NY Legislature Passes Non-Toxic Landscape Act

Rockland County, NY legislators passed a bill on June 17, 2008 to eliminate the use of toxic pesticides on all county-owned or leased land. Rose Marie Racciopi, the community organizer behind the bill, is a member of Beyond Pesticides, the National Pesticide-Free Lawn Coalition, and Orangetown's Environmental Committee. She brought her concerns about pesticide exposure to the Rockland County Legislature last year, and advocated strongly for the passage of the *Rockland County Non-Toxic Landscape Maintenance Act*.

"Dog looks for safe lawn" Says:

I wish my town had done this. They had the opportunity and allegedly due to expense they sought the services of a more conventional landscaper - I guess it all comes down to money - so what message does that send to the community? - that money outweighs your children's safety and future health. I guess so. Stupid. Greed wins.

Rose Marie Says:

Yes, one can be discouraged. New action, new intention, new outreach can bring about a different result. This has not been a course without challenge. The significant issues rest within the ultimate good that is not compromised and the benefit derived from that ultimate good. For something to catch on, one needs to maintain the vision of benefit. We can make the difference!!!

Responses to "How Green Is Golf?"

(Eds. Note. The cover story of Golf Digest *magazine in May, 2008 was an article featuring a number of perspectives on golf course management, including our own Executive Director, Jay Feldman. The piece addressed the environmental toll caused by chemical maintenance practices, and looked forward at the reason and potential for change. You may view the full article on our Golf and the Environment program page, which you can access at www.beyondpesticides.org/golf/index.html.)*

Jay Feldman did a wonderful job as one of seven interviewed for the May '08 *Golf Digest* magazine article "How Green Is Golf?" prefaced on the cover of the magazine as "The Most Important Article We've Ever Published." Jay stated the facts about the hazards of pesticides on the golf course without bias or attack. I thought this was important in continuing to help stimulate awareness and conversation because the issue of pesticides and golf course playing conditions can be a very emotional issue. I have been trying to start a conversation at our golf club since 1995, but it seems that it's easier for everyone to "keep their heads in the sand" and not address the issue. I have felt and seen the effects of pesticides on myself and other golfers. I've seen severe rashes (often from the same fungicide that golfer George Prior died from in 1982), throat and eye irritation, and flu-like symptoms. I also suspect, but can't prove, friends have developed prostate and pancreatic cancer and other problems. I think there is a fear on the part of golf course management and golfers of losing the egoistic attachment to "excellent playing conditions." I think it's because of a lack of factual information and an industry confusion and promotion of "excellent playing conditions" (which often forces the reliance on chemicals and pesticides) versus a more challenging "natural playing conditions" and how the game of golf was intended to be played. The current methods are not sustainable, as the use of chemicals and pesticides causes weaker turf and "dead" soil in the long run and subjects golfers to playing in a toxic environment. From an economic feasibility point of view, I believe the golf industry must go back to emphasizing "natural playing conditions" the way golf was intended to be played. This must filter down from leading golf organizations and publications to golfers and golf course managers. I wish to thank Jay Feldman for his *Golf Digest* interview and his involvement in the Golf & the Environment initiative since 1995 to help stimulate conversation about the issues.

- Jerry, West Babylon, NY

Speak Your Mind!

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 daytime 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:

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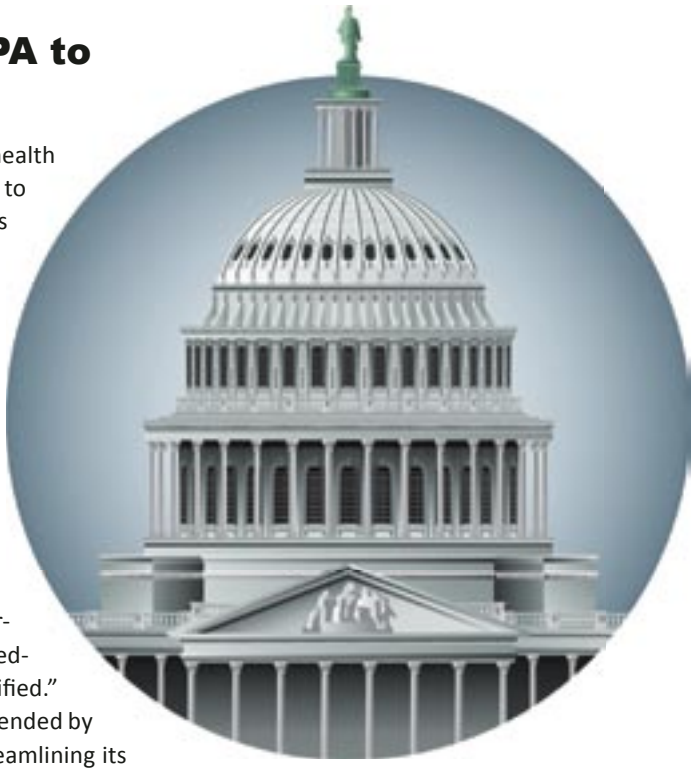
Hi, my name is Ray and I am deaf. I am in the process of reading the latest edition of *Golf Digest*, to which I subscribe. I refer, of course, to their article on the environmental impact of the game. Of all the individuals that were interviewed, I have to say that Mr. Feldman's was the one that fascinated me the most, and to whose theory I now embrace. As a result, I plan on approaching every golf course at which I play, and plan on voicing my opinion that the harmful pesticides be eliminated and that the courses should be treated with organic matter. Certainly, in light of the recent trend to go "green," a golf course that is not the most aesthetically pleasing should not carry the stigma that it is an inferior facility. The first thing us golfers have to understand is that the burden is on us to voice our displeasure with the superintendents, which will have a domino effect on the chemical companies providing the harsh materials. Thank you to Mr. Feldman for opening my eyes. I am but one person, hoping to make a positive change to and through the game I love.

- Ray, Tewksbury, MA

GAO to Congress: Take the Reins at EPA to Stop Undermining of Science



In testimony responsive to a request last year by Senators Barbara Boxer (D-CA) and Hillary Clinton (D-NY), the Government Accountability Office (GAO) told the Senate Committee on Environment and Public Works on April 29, 2008 that the Environmental Protection Agency's (EPA) risk review process is plagued by delays, a lack of transparency, interference from the White House, and threatens the protection of people and the environment from harmful chemical exposures. In its testimony, GAO's director of Natural Resources and Environment, John Stephenson, urged Congress to suspend EPA plans for "reform," which it believes would institutionalize bad science, and require the agency to adopt its recommendations.

The testimony comes on the heels of an April 2008 decision by EPA to revise its Integrated Risk Information System (IRIS), a database created in 1985 as a tool for agency consensus on the health effects of chronic exposure to chemicals. The program was severely criticized by GAO in a March 2008 report (GAO-08-440) for its politicization of science. While EPA said it would consider the report's recommendations, GAO said in its testimony, "EPA's new process is largely the same as the draft GAO evaluated, and some key changes also are likely to further exacerbate the productivity and credibility concerns GAO identified." Key issues that were recommended by GAO and ignored include streamlining its lengthy assessment process and adopting transparency practices "that provide assurance that IRIS assessments are appropriately based on the best available science and that they are not inappropriately biased by policy considerations."

In her opening statement at the hearing, Senator Boxer said, "The GAO report I am releasing today criticizes the Bush Administration changes to the risk assessment process and makes clear the danger faced by the public when political interference and the influence of polluters affects EPA's ability to address the risks of toxic chemicals. Under EPA's new approach politics can be, and already has been, injected into multiple stages in the process."

Bush Administration Uses Risk Assessment to Lower Hazards

As the Bush Administration starts to exit, it is ramping up efforts to utilize risk assessment to erode public health and worker protection. The Associated Press, in a review of EPA decisions, discovered that the agency had reduced the value of a human life, thus making it easier to avoid regulating toxic hazards as the economic impact of the regulation costs more than the lives affected. In a related move, the Administration is said to be on the verge of adopting new risk assessments lowering workplace protections and job safety, according to *The Washington Post*.

Groups Urge USDA to Reinstate Pesticide Reporting Program

As the U.S. Department of Agriculture (USDA) released its scaled-back annual report on 2007 pesticide use on May 21, 2008, a coalition of 44 environmental, sustainable farming, and health advocacy groups, including Beyond Pesticides, called on USDA to reverse its plan to eliminate its pesticide reporting program in 2008. The groups say that elimination of USDA's objective data will open the door to serious misinformation on pesticide use. USDA claims it lacks funding to continue the program. "Without USDA's data, our organizations will be severely hampered in our ability to carry out research on the impacts of pesticides and offer informed input on decision-making," said Charles Benbrook, Ph.D., chief scientist at The Organic Center.

The program, which is run by the National Agricultural Statistics Service (NASS), has already been dramatically scaled back, note the groups. Pesticide use on the most chemical-intensive crops -corn, soybeans and cotton- was surveyed every year in the 1990s, but only every two years through most of this decade. In their letter to secretary of agriculture Ed Schafer, the groups note that alternative sources of pesticide use information are both unaffordable and unreliable. Private firms charge upwards of $500,000 per year for similar information.

Fed Adopts Organic Lawn Care

The General Services Administration (GSA) has begun using organic fertilizer on the grounds of all its federal buildings in the National Capital Region. The region, which is part of the Chesapeake Bay watershed, includes the District of Columbia, as well parts of Virginia and Maryland. According to the U.S. Environmental Protection Agency (EPA), GSA is using 100-percent organic pelletized chicken manure at 64 sites, covering 84 acres. The poultry litter is being collected by a private company and converted to usable organic fertilizer, then transported by truck to the region, and applied at the GSA properties. "Use of organic fertilizer is but one of many sustainable practices that GSA employs in our landscaping program," commented GSA Regional Administrator Tony Reed. "In this first year of utilizing this approach for all of our buildings in the National Capital Region, we have applied 80 tons, enriching our landscapes at the same time we are helping to clean up the Chesapeake Bay." Chemical fertilizer, pesticides, animal manure, and poultry litter are major sources of excess nitrogen and phosphorus that cause water quality problems in the Chesapeake Bay. "GSA is providing a reasonable alternative for poultry farmers to traditional manure applications, creating a sustainable new market for this material. GSA's switch to all organic fertilizer sets a good example of the kind of steps we all need to take to restore the health of the Chesapeake Bay," said EPA Regional Administrator Donald S. Welsh.

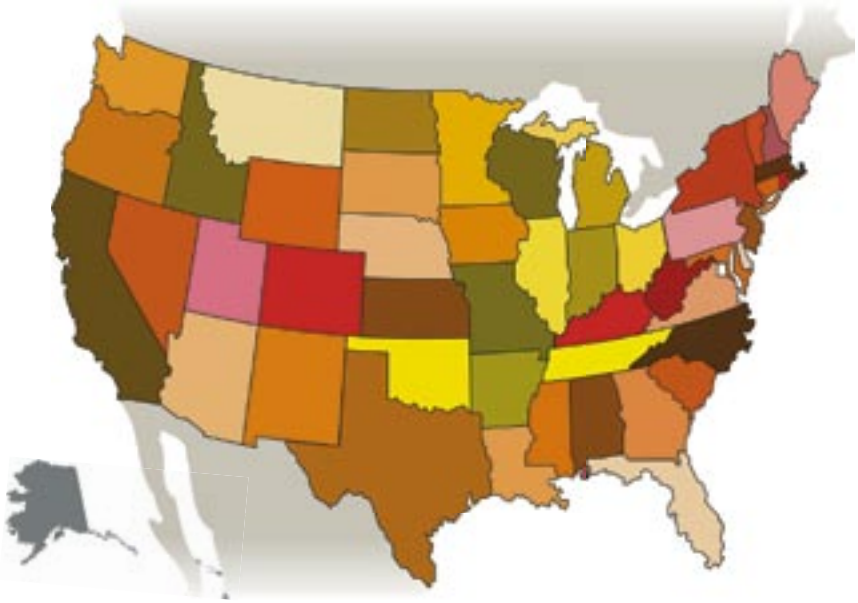
For more than a decade, GSA has implemented an Integrated Pest Management (IPM) program in 30 million square feet, approximately 7,000 federal buildings, in the capital area without spraying toxic insecticides. *For information on helping publicly owned buildings in your area to convert to organic and IPM-based approaches, contact Beyond Pesticides.*

Department of Defense Examines DEET Alternatives

Researchers, with funding from the U.S. Department of Defense, have released preliminary data in the search to find suitable and safe alternatives to the widely used mosquito repellent DEET, which has been linked to Gulf War Syndrome. Ulrich R. Bernier, Ph.D., co-author of "Synthesis and bioassay of improved mosquito repellents," published in the Proceedings of the National Academy of Sciences, and research chemist at the U.S. Department of Agriculture's mosquito and fly research unit in Gainesville, FL, remarked that several of the new chemicals reviewed were "phenomenal." Researchers set out to determine what makes insect repellents work, and then to use that information in finding more effective ways to chase away disease-carrying insects. Using previous USDA data on hundreds of chemicals collected over 50 years, the researchers rated chemicals on their ability to repel insects, and then focused on what the most effective compounds had in common. They were able to narrow the study down to 34 molecules, 23 that had never been tested before and 11 that had been tested, with a focus on a class of chemicals known as N-acylpiperidines. Testing these compounds for potential adverse health impacts will begin later this year.

DEET (N,N-diethyl-meta-toluamide) is commonly used as an insect repellent, linked to serious health impacts, both alone and in combination with other insecticides. DEET is quickly absorbed through the skin and has caused adverse effects including severe skin reactions such as large blisters and burning sensations. Studies have linked the use of DEET to childhood seizures and neurological damage. Several studies done by a team of Duke University researchers, led by Mohammed Abou-Donia, Ph.D., link DEET in conjunction with mosquito-repelling permethrin-impregnated clothing to Gulf War Syndrome.

Safer alternatives to DEET include picaridin, citronella and other essential oils, like oil of lemon eucalyptus. *For more information on safer mosquito repellents and other ways to protect yourself from mosquitoes, ticks and other insects, please visit Beyond Pesticides' insect born disease webpage and fact sheet on mosquito repellents at www.beyondpesticides.org/mosquito.*



California Officials Cancel Aerial Spraying

On June 19, 2008, California state officials abruptly cancelled the program to spray pesticides to combat the light brown apple moth (LBAM). This move came after months of protests by residents over concerns that the chemicals in the pheromone-based pesticide may adversely impact their health and the environment. California's Agriculture Secretary, A.G. Kawamura, announced that the state has abandoned its plan for aerial spraying of the light brown apple moth in urban areas of several counties, including the San Francisco Bay area. However, sprayings may still proceed on farmland in rural areas. Officials also stated that they would not spray over communities near farms. Instead of spraying, the state said that it would keep moth populations under control by releasing sterile moths to halt reproduction by rendering eggs useless.

The light brown apple moth, which federal officials say threatens more than 2,000 varieties of California plants and crops, was first spotted in the state in March 2007. The state began using the pesticide, CheckMate LBAM-F, which works as a pheromone that disrupts the mating cycle of the moth. Uncertainties about so-called inert or undisclosed ingredients, included in most pesticide formulations, are a serious concern. Protests over the spraying began after nearly 500 people reported symptoms ranging from itchy eyes to breathing trouble after planes dusted a fine chemical mist over areas surrounding Monterey and Santa Cruz in Fall 2007. A lawsuit was filed and in April 2008, a California Court ruled that the light brown apple moth was not an immediate threat and delayed aerial spraying so that an environmental impact study was completed. The state says its decision not to resume spraying was based on "new science."

Ontario's Pesticide Law Passes, Weakens Protections in Some Municipalities

On June 18, 2008, Ontario joined Quebec in restricting the sale and cosmetic use of pesticides, but critics say the move will actually weaken some existing anti-pesticide rules across the province because it preempts stronger municipal policies. The provincial ban was the last government-backed bill to be rammed through before the legislature adjourned for the summer, passing 56-17 over the objections of health groups and municipalities. Environmental and public health advocates, including Ontario's nurses, are dismayed that the province's new pesticide law doesn't go far enough to protect public health. "When the premier announced a ban on the use and sale of cosmetic pesticides on Earth Day, we stood side by side with him and applauded what we thought was a step forward to protect people from these poisonous chemicals," said Wendy Fucile, President of the Registered Nurses' Association of Ontario (RNAO). "But today, we see what the province's legislation actually means is that municipalities will be stripped of their tough municipal bylaws to protect people, and the provincial legislation will serve as a ceiling, not as a floor upon which stronger local regulations can build."

Because the new law preempts local by-laws, it actually weakens protections in some municipalities with strong local protections. Since Ontario's ban exempts substances like glyphosate, an herbicide that is currently banned in Toronto and many other municipalities, these communities will have their municipal laws weakened. It also exempts golf courses and allows pesticide use to control weeds, both of which are currently prohibited in Toronto. "Community action to protect pubic health mobilizes best at the municipal level. It is a grave mistake to demobilize that capacity, as this legislation will do," Ms. Fucile said,

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Study Finds Organic Milk Healthier than Conventional

A recent study by Newcastle University, published in the *Journal of Science of Food and Agriculture*, finds that organic farmers who let their cows graze as nature intended are producing better quality milk. The study finds that grazing cows on organic farms in the UK produce milk which contains significantly higher beneficial fatty acids, antioxidants and vitamins than their conventional 'high input' counterparts. During the summer months, one of the beneficial fats in particular – conjugated linoleic acid, or CLA9 – is found to be 60 percent higher. "We have known for some time that what cows are fed has a big influence on milk quality," explained Gillian Butler, livestock project manager for the Nafferton Ecological Farming Group at Newcastle University, who led the study. "What is different about this research is it clearly shows that on organic farms, letting cows graze naturally, using forage-based diet, is the most important reason for the differences in the composition between organic and conventional milk. "We've shown that significant seasonal differences exist, with nutritionally desirable fatty acids and antioxidants being highest during the summer, when the cows are eating fresh grass and clover." This study follows several U.S. studies showing that organic produce is higher in nutrients (see "Report Shows Organic Foods Higher in Nutrients" in the Spring 2008 issue of Pesticides and You).

For more information, visit www.beyondpesticides.org/organicfood.

Greenpeace Report Names Worst Pesticide Companies

Pesticides manufactured by Bayer (Germany), Syngenta (Switzerland), Monsanto (USA), BASF (Germany) and Dow Chemical (USA) pose the biggest threat to human health and the environment, according to a Greenpeace Germany report, *The Dirty Portfolios of the Pesticides Industry*, released June 16, 2008. These five companies together account for 75 percent of the world market and 46 percent of the pesticides they sell worldwide are particularly hazardous substances, according to the report criteria. The overall ranking not only takes into account the hazardous properties of the various pesticides, but also the quantities that are sold worldwide. Monsanto has the portfolio with the highest proportion, 60 percent, of pesticides that are particularly toxic to humans and the environment. However, Monsanto only ends up in the middle of the overall ranking due to its relatively small share of the market. Pesticides manufactured by Bayer pose the greatest threat to human health and the environment, according to Greenpeace.

The criteria used in evaluating substances include: acute toxicity, chronic toxicity, carcinogenic effect, mutagenic (damaging to genes) effect, reproductive toxicity, immune toxicity, hormonal effect, aquatic, bird, bee, and earthworm toxicity, persistence (degradability in the environment), and bioaccumulation (accumulation in the food chain). Any substance that displays at least one especially hazardous property, or appears in the top 10 percent of the substances assessed in its points ranking, is put on a "Black List." Substances about which not enough information is available in common publicly available databases for them to be evaluated are put on a "Yellow List." The Black List comprises 327 substances, or 29 percent of the 1,134 substances examined. The Yellow List of substances includes 564, or 50 percent of the substances examined.

"Our ranking shows how toxic the business of the leading agrochemical companies still is," said Greenpeace chemicals expert Manfred Krautter. "Politicians must now tighten up pesticide laws to protect our health and to preserve biodiversity. Pesticides that can cause cancer, alter genes, and damage the reproductive, endocrine or nervous system must no longer be authorized. Pesticides that harm bees or life in aquatic environments must be banned from the market. The chemical industry is now using its significant lobbying power to try to secure authorization even for toxins like these."

Survey Finds America's Lawns Could Be Much "Greener"

The National Gardening Association's (NGA) *2008 Environmental Lawn and Garden Survey* finds that only one out of five U.S. homeowners chooses lawn and landscape practices classified as "green" by NGA –and the association's standards were not even very high. To evaluate homeowner lawn care practices, NGA used its "Eco-Scorecard" to ask respondents which of 12 environmentally friendly lawn, garden, and landscape practices they will follow at home this year. Unfortunately, maintaining an organic lawn, did not make the survey. Instead NGA, which partners with companies that manufacture and sell lawn chemicals, asked questions like, "Do you read and follow the label carefully when using pesticides and fertilizers?" Forty-nine percent said "yes." Beyond Pesticides has previously told the NGA that label compliance does not adequately protect people, pets and the environment because of deficiencies and limitations in EPA's pesticide regulatory review process, which is focused on risk assessment calculations that, among other things, ignore the effect of chemical mixtures on lawns, low level exposure, endocrine disrupting effects, and the full range of impacts on children and pets.

The results of the survey are as follows: Water your lawn and plants only when they need it. Use water wisely (63%); Read and follow the label carefully when using pesticides and fertilizers (49%); Leave grass clippings in place on your lawn (44%); Keep fertilizer, pesticide, yard, and pet waste out of water sources and off pavement (43%); Apply mulch around trees, shrubs, or garden areas (40%); Choose and use the right plants in the right spot for your climate, sun/shade, soil, and rainfall (39%); Cut your lawn at the highest recommended mower setting (39%); Recycle yard waste by composting grass clippings, leaves, and other organic materials (31%); Before using pesticides to control insects or weeds, make sure the problem and the most appropriate method to control the problem are correctly identified (29%); Use only well-adapted or native plants in your landscaping and remove poorly adapted, exotic, or invasive plants (26%); Learn more about how to best care for the lawn, specific plants, soil, and wildlife at your home (20%); None of the above (10%).

For more information on organic turf management, please visit our Lawns and Landscapes program page. To find a service provider that practices least- or non-toxic methods, visit the Safety Source for Pest Management.

Ontario's Pesticide Law Passes, Weakens Protections in Some Municipalities

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adding that RNAO is calling on the government to correct this mistake by restoring this essential municipal power as quickly as possible and treating municipalities as full partners in public health.

In the U.S., 41 states have preemption laws that prevent localities from passing more protective pesticide laws than the state. In general terms, preemption refers to the ability of one level of government to override laws of a lower level. While local governments once had the ability to restrict the use, sales and distribution of pesticides, pressure from the chemical industry led many states to pass legislation prohibiting municipalities from passing local pesticide ordinances that are stricter than state policy. Preemption laws effectively deny local residents and decision makers their democratic right to better protection when the community decides that minimum standards set by state law are insufficient to protect local public and environmental health.

For more information, see Beyond Pesticides Preemption factsheet at www.beyondpesticides.org/lawns.

Ontario Parliament building in Toronto, ON, Canada

Making Sure Green Consumer Claims Are Truthful

Product labels and certifications may suggest protection without standards or disclosure

By Nichelle Harriott and Natalie Lounsbury

Be wary of "green consumer" claims. Growing consumer interest in environmental issues has encouraged many companies to pursue environmentally sound or "green" images. Although there are a growing number of reputable companies, unfortunately, many businesses only change their image and not their product or service! The best defense against false claims is to look at product labels closely and to question salespeople with a critical ear. According to the Federal Trade Commission (FTC), to evaluate environmental claims in advertising and on product labels, look for specific information. Determine whether the claims apply to the product, the packaging, or both.

Examine labels...

Don't trust the company's marketing claims. It is important to read product labels and Material Safety Data Sheets (MSDS) and find out the ingredients being used. The ingredients speak for themselves. If you are unsure about one or more ingredients, or do not understand the label, you may wish to research them either on the internet, at the local library or by contacting a group knowledgeable about that type of product, such as Beyond Pesticides (info@beyondpesticides.org, 202-543-5450).

Question service people...

When a service provider asserts that he or she has an alternative lawn or indoor pest control service, find out the specifics of their program - an integrated pest management program is only as good as the principles of the person providing it. Here are some points to keep in mind:

1. What products do they consider acceptable?
2. Do they monitor regularly for pests (good) or spray on a schedule (bad)?
3. Do they attempt to determine the cause of the pest problem and fix it (good) or do they treat the symptoms - current pest infestation –only (bad)?
4. Do they keep records of their monitoring results?
5. What training do they have and are they knowledgeable in alternative services?
6. Is most of their business in chemically-based programs or alternative practices and products?
7. If they provide both chemicals and alternatives, do the various applicators use different trucks and equipment, or are they spraying your lawn with soap from a spray tank that recently carried a toxic pesticide?

By asking tough questions, you can begin to separate the real and false claims, becoming a more sophisticated green consumer.

What to look for in a meaningful label...

The best claims/labels are those that have been certified by an independent organization, like the USDA organic certification. These organizations use established criteria to verify that a product meets a set of meaningful and consistent standards for environmental protection and/or social justice. See Table 1 for a comparison of common "eco-labels."

Table 1. A Comparison of Common "Eco-Labels."

Label	Description	Synthetic pesticide use prohibited	Synthetic fertilizer use prohibited	Independent verification	Standards publicly available	Developed with public input
	Products follow National Organic Standards for growing and processing, implemented by U.S. Department of Agriculture in 2002	Yes	Yes	Yes	Yes	Yes
	Products grown with "BioIPM" practices	No *(Least-toxic encouraged)*	No	Yes	Yes	Yes
	Products come from farms deemed to use practices not harmful to salmon habitat. Urban campuses can also be certified for adhering to "salmon safe" landscape management practices	No *(list of prohibited substances, but may be waived)*	No	Yes	Yes	No
	Products tested for pesticide residues, but often the NutriClean allowable residues are no more stringent than the EPA's allowable levels.	No	No	Yes	Yes	No
	Products grown using "environmentally responsible management practices" including integrated pest and disease management practices, soil and water conservation, fair labor treatment practices and good community relations	No *(list of prohibited pesticides)*	No	Yes	Yes	Yes
	Products must be grown or processed with fair working conditions, humane care of livestock, reduced pesticide use, soil and water conservation methods, and wildlife habitat protection	No *(list of prohibited pesticides)*	No	Yes	Yes	No
	Dairy products produced by cows that have very few restrictions. Pesticides, hormones, and antibiotics encourage to increase production	No *(pesticide use encouraged)*	No	No	Yes	No

Portions of the table above are adapted from Consumers Union's Eco-Labels Center, www.greenerchoices.org/eco-labels.

Do your own research...

Investigate the toxicity and environmental effects of each ingredient and decide whether you think the product is environmentally sound. Keep in mind that a toxic material may have environmental impacts because of its production, transport, use and disposal. Also, label statements about toxicity generally refer only to acute or immediate toxicity, but say nothing of chronic or long-term effects like cancer, birth defects, sterility, miscarriage, or other permanent and debilitating effects.

Information on Common Marketing Claims

I. Environmentally Safe/ Environmentally Friendly/ Eco-Safe

There is currently no standard definition for these terms. There is no organization that certifies or verifies these claims and they can therefore offer little information of value. According to the FTC, these claims, or labels that contain environmental seals, are not very meaningful because (1) all products, packaging and services have some environmental impact, although some may have less than others; (2) these claims alone do not provide the specific information needed to compare products, packaging, or services on their environmental merits. The FTC recommends looking at labels that give some substance to the claim, like additional information that explains why the product is environmentally friendly or has earned a special seal.

II. Antibacterial

Used mostly on household products that claim to protect against bacteria and other microorganisms. Such claims are illegal unless the product is registered with the EPA, or are personal care products labeled in accordance with FDA labeling requirements. Check for an EPA registration number on the label. If, however, the claim only applies to protecting the product itself from damage by bacteria and not to provide additional health benefits, it can be exempt from EPA's full review (a health protection claim on a pesticide product requires a review of product efficacy and additional safety reviews), but, clarifying statements must be placed on the label, for example, "This product contains a preservative (e.g., fungicide or insecticide) built-in or applied as a coating only to protect the product."

III. Organic

Organic farming does not permit the use of synthetic chemical pesticides and fertilizers, genetically engineered seeds, antibiotics, sewage sludge, irradiation and other practices. It also conserves natural resources by recycling natural materials and it encourages an abundance of species living in balanced, harmonious ecosystems. Like farming operations, processors must be certified. The U.S. Department of Agriculture (USDA) set national standards for food and fibers labeled "organic," whether they are grown in the United States or imported from other countries. In order for an agricultural product to be labeled organic, an official USDA accredited certifier annually inspects the farm where the food or fiber is grown.

Processed food labeled organic may contain some portion of synthetic or chemically-grown ingredients (up to 5 percent) if their organically grown counterparts are not commercially available. The "USDA Organic" seal may be used only on products that are "100% organic," and "organic" (meaning 95-99% organic ingredients. Products labeled as "made with organic ingredients" must contain at least 70% organic ingredients and may display the certifier's logo but not the USDA organic logo.

Only products with a USDA Organic seal and those certified by an

Labor Practices

Some organizations, such as the Rainforest Alliance, have tried to incorporate growing and labor practices into their certification. Other certifications pertain only to growing practices, or only to labor practices. While the USDA organic certification is the most stringent certification for growing practices, it does not address labor issues beyond the fact that by its very nature, it eliminates the use of toxic pesticides that pose a great risk to farmworkers. A growing fair trade movement both internationally and domestically has developed standards for labor practices that address both compensation and working conditions for farmers and farmworkers. These standards include limitations on chemical use, but they do not require organic production.

Animal Welfare

Both agricultural and cosmetic products are under scrutiny for animal welfare practices. For agricultural standards, there are many claims such as "free-range," "hormone-free," and certifications such as Certified Humane Raised and Handled, and USDA Organic. For cosmetics, there are claims such as "cruelty-free" and certifications such as the Corporate Standard for Compassion for Animals. There are also labels such as Certified Vegan. Some of these labels, such as "cruelty-free" and "free-range" are practically meaningless and generally unverifiable (free-range simply means the animals have been allowed access to the outside at some point). Although some certifications provide an element of confidence about animal welfare, the best way to determine if a farm treats its animals in a humane way is to be acquainted with the farm—support local farms where you can see the farming practices. If you choose to eat meat, eggs and dairy products, these are generally products you can purchase locally year round, so it is worth developing a relationship with a local farmer. If you are concerned about the use of animal products (from manure to bloodmeal) on a farm, talk with the farmer, or look for a "veganic" farm.

official USDA accredited certifier are considered legitimate. Note that the meaning of USDA organic label is different for food than for cosmetics and personal care products.

IV. Natural and Hormone-Free

The "natural" claim is regulated by the USDA when it pertains to meat, but this label has nothing to do with meat production. It simply means that no artificial ingredients have been added to the meat itself. Hormone-free may also be used on a label according to USDA, provided that "sufficient" evidence documents that hormones were not given to the animals. This sufficient evidence does not require third-party verification.

VI. Biodegradable

The biodegradable claim, in some cases, can be misleading and the FTC took action in the early-mid 1990's against several companies for making unsubstantiated, misleading, and/or deceptive biodegradable claims. It implies that the product will break down to natural materials within a reasonably short time after disposal. The label can have different meanings for different products/ingredients, and there is no organization that certifies or verifies this claim. The FTC's *Guide for the Use of Environmental Marketing Claims* states that, "Claims of degradability, biodegradability or photodegradability should be qualified to the extent necessary to avoid consumer deception about: (1) the product or package's ability to degrade in the environment where it is customarily disposed; and (2) the rate and extent of degradation."

VII. Recycled

The recycled label is used for products that contain used, rebuilt, reconditioned, or remanufactured materials. The label must indicate how much of the product is recycled and the origin of the recycled content. Recycled material may be "post consumer" material, which refers to consumer waste e.g. newspaper, glass, plastic, or "pre-consumer" material, also known as manufacturing/industrial waste.

VIII. Safe/Non-toxic

The safe or non-toxic claim, and other similar statements, when used on pesticide products is false and misleading. Evaluation of all product ingredients is the only way to verify product toxicity. This is often difficult to do since product manufacturers are not required to disclose all their ingredients on product labels.

When it comes to pesticide products, claims as to the safety of the pesticide or its ingredients, including statements such as "safe," "nonpoisonous," "noninjurious," "harmless" or "nontoxic to humans and pets" are also considered false and misleading under the *Federal Insecticide, Fungicide and Rodenticide Act* (FIFRA). Products bearing such claims are in violation of FIFRA guidelines.

For more information, visit:

- *EPA: www.epa.gov/pesticides/label*
- *Consumer Reports: www.greenerchoices.org/home.cfm*
- *Federal Trade Commission: www.ftc.gov*

Commentary and Analysis

Common Antibacterial Chemical Triclosan Raises Public Safety Concerns

EPA risk assessment criticized by environmental, public health groups and water agencies

By Nichelle Harriott and Jay Feldman

A hazardous chemical proliferates in consumer products unchecked. Despite its prevalence in personal care products, plastic, paint and fabrics, and studies linking it to endocrine disruption, cancer, bacterial and antibiotic resistance, as well as widespread environmental contamination, the U.S. Environmental Protection Agency (EPA) has proposed to reregister the antibacterial chemical triclosan. EPA's reregistration eligibility decision (RED) risk assessment for triclosan was roundly criticized by environmental and public health groups, as well as water treatment agencies, during a public comment period from May 7 until July 7, 2008. The comments can be viewed at www.beyondpesticides.org/antibacterial. EPA's review is a testament to the manipulation of risk assessment in the regulatory process and will further erode public confidence in the safety of products in the marketplace.

Triclosan and its analog triclocarban are the active ingredients in most antibacterial soaps and other personal care products.

The U.S. Food and Drug Administration (FDA) and EPA hold joint jurisdiction over triclosan. EPA regulates uses in plastics, toys, textiles, counter tops and sponges, to name a few, while the FDA oversees soaps, deodorants, toothpastes and other personal care products. EPA's draft risk assessment for triclosan, published in the Federal Register on May 7, 2008, acknowledges triclosan's broad reach into consumer products and its prevalence in the human population. However, many important health and environmental impacts have been overlooked by EPA and, as a result, the risk assessment does not fully account for all the adverse impacts posed by triclosan.

Beyond Pesticides, along with Food and Water Watch, Greenpeace U.S., Natural Resources Defense Council, Sierra Club, Pesticide Action Network North America and dozens of public health and environmental groups from the U.S. and Canada, submitted comments to EPA to call for an end to the use of triclosan in consumer products. Several deficiencies in the risk assessment were highlighted in comments to the agency, summarized below.

Triclosan Human Health Risks

According to EPA, triclosan has no registered food uses. However, triclosan has been found in fish and in surface waters. In its analysis, EPA recognizes that triclosan residues pose a potential hazard to humans through food and the water supply. However, a formal *Food Quality Protection Act* (FQPA) analysis was not conducted and no food tolerances for triclosan have been set. As a result, human exposure through the consumption of fish, shellfish and drinking water has gone unaccounted for in the dietary risk assessment conducted by EPA.

EPA's aggregate risk assessment also failed to include infants' exposures and in utero exposures to triclosan, even though independent scientific studies have found the chemical in human breast milk and in the umbilical cord blood. Long term residential exposures to EPA registered products such as counter tops, floors and mattresses were not evaluated, despite the hazards posed by dermal absorption of triclosan such as severe dermatitis and other skin irritations. The ability of triclosan to act as an endocrine disruptor, and its adverse effect on the immune and central nervous system has not been considered.

The groups criticized EPA for relying on biomonitoring data from a sample population instead of laboratory test data evaluating all

Aside from household cleaners, EPA also regulates triclosan that is impregnated in countertops, toys, cutting boards, clothing and more.

possible sources of exposure.

Triclosan Environmental Health Risks

According to the U.S. Geological Survey (USGS), triclosan is one of the most common chemicals detected in the nation's waterways. EPA's assessment concludes that levels of concern were not exceeded for fish or aquatic plants. EPA, when making this conclusion, failed to take into account that algal communities are impacted at concentrations presently found in waterways and that methyl triclosan, a degradate of triclosan, bioaccumulates in fish at concentrations comparable to other persistent organic pollutants. Impaired feeding and swimming activity, as well as endocrine disruption, have been observed in juvenile frogs when exposed to triclosan at concentrations lower than those found in surface water. An endangered species assessment was not conducted.

Triclosan is also a concern for wastewater treatment because of the large concentration of triclosan entering these facilities. Triclosan, being a biocide, removes large populations of beneficial bacteria needed for the water treatment process, placing unnecessary economic burdens on wastewater treatment plants. Sludge or biosolids generated in the water treatment process, which are recycled on agricultural fields, contain high concentrations of triclosan, impacting terrestrial microbes as well. These impacts have not been assessed in the ecological risk assessment completed by EPA.

Triclosan Promotes Bacterial Resistance

Triclosan's widespread use poses a secondary public health risk that EPA has not evaluated in its risk assessment. Widespread triclosan use has led to bacterial resistance to triclosan and cross-resistance to antibiotics. EPA-registered products with triclosan, such as cutting boards, sponges, counter tops etc., expose bacteria to long-term low levels of triclosan. Resistance effects have been shown at low, bacteriostatic and sub-biocidal levels. Resistant strains of *Escherichia coli* (E. coli) and *Salmonella enterica* have already been identified.

Triclosan Degradates Have Not Been Evaluated

Triclosan, when in water and exposed to sunlight, degrades and forms toxic compounds. These compounds include dioxins, 2,4-dichlorophenol and other similar compounds. Dioxins are known to be carcinogenic and persistent, while 2,4-dichlorophenol is listed in the European Union as a potential endocrine disruptor and is an EPA priority pollutant. Methyl triclosan, another degradate, bioaccumulates in fish and other aquatic organisms. Triclosan can also interact with free chlorine in tap water to form the carcinogenic compound chloroform. EPA has not considered these byproducts in its analysis of triclosan.

Regulatory Gaps Continue

FDA has responsibility for regulating many personal care and cosmetic products. However, certain dishwashing liquids contain the antibacterial triclosan, and labels state that the intended purpose of triclosan is for use on hands. Despite joint jurisdiction between EPA and FDA, neither agency has evaluated the effects of triclosan in dishwashing liquid, especially residues left on dishes and food. EPA has a responsibility to evaluate the health impacts associated with short and long-term dermal and oral exposures, as well as environmental impacts once it is washed down the drain.

Other products containing triclosan are apparently exempt from full EPA evaluation because of claims to only protect the treated article itself. This accounts for a large proportion of products such as hair accessories, yoga mats and sport equipment, that have gone unregulated, while the use patterns of these products undoubtedly lead to human exposures which have not been assessed.

Conclusion

EPA's review of triclosan reveals several significant issues that have not been fully evaluated or have simply been ignored. Triclosan's impact on the environment, especially as it concerns bacterial resistance and the resulting consequences it may have in a medical setting are too great to be ignored. Its pervasive presence in the nation's waterways and in human beings demonstrates the ability of this chemical to be persistent and bioaccumulative. The hazards posed by its degradates are greater than the parent compound itself, but have gone mostly unchecked. Since is has been shown that the use of the antibacterial triclosan is no more effective than soap and water for handwashing, human exposure to triclosan is not only unnecessary but risky and should not be allowed to continue wreaking havoc on the environment.

A cited version of this article, as well as the complete text of the comment submitted to EPA can be found at www.beyondpesticides.org/antibacterial.

Farmworker Justice and Our Healthy Future

Excerpts from the 26th National Pesticide Forum March 14-16, 2008, University of California, Berkeley

By Arturo Rodriguez
President, United Farm Workers

We have a saying in our movement that the laws in the books are not the laws in the fields. A great example was a law passed in California six years ago called AB 947, which has never been implemented. Basically, AB 947 provides for pesticide buffer zones around schools, communities, parks and towns. But it's never been utilized. Agriculture commissioners knew nothing about it. The school districts, the superintendents, city councils, mayors and so forth weren't aware. Some had heard about it, but there was no enforcement taking place.

Because of this lack of implementation, Gustavo Aguirre (then with the UFW, now with the Center for Race, Poverty and the Environment) used his organizing techniques that we've all learned, and started going into the fields with the workers and talking with their families. He got them to understand, "Hey, we have this right you know, and it doesn't make any difference what our legal status is, we have this right, and they can't take this away from us." So then they started writing letters, and they started talking to other organizations and building that coalition of folks that believed in what they were doing. They went to the schools, the superintendent and the school board, which of course, was all growers. They went to them, and started putting the pressure on them, and really getting them to understand that "look, we want to see this implemented."

Finally, after a little struggle that took place for a few weeks, they were successful in getting the town of Cutler-Orosi, first one in the San Joaquin valley, to implement AB 947 so that now they have a buffer zone around the town. We may say, "Well, OK, that's one town." Yeah, that's one town, but it gives those folks in that community the faith, the confidence and the hope that they can do something to change their lives. And then, that story gets out. That's why we have Radio Campesina. We can go and talk to everybody else about those kinds of victories, and let them know. We tell them, "Hey, the folks in Cutler-Orosi did this. If they did it, you can do it too."

My organization believes that what really brings about change is going out and working with the people that are most impacted and most affected, and giving them the tools that are necessary to really bring about positive change. That is what has changed people's lives and changed the communities that we're working in. That is what brings about the victories necessary to keep an environmental justice movement sustained.

Sisters and brothers, we have the power. That's what those that came before us - Fred Ross Sr., Dolores Huerta, Cesar and Ricardo Chavez, and many, many others who were willing to take the risk back in the 1950s and 60s - taught us. And it's even truer today than back then, because we have so many more tools today. The Internet is also a very powerful tool in bringing about change. Sounds like something very simple, but man is it powerful.

The Power of Boycotts

One of the things that Cesar always talked to us about, when we first became part of the organization, were the boycotts. We were boycott kids as you call them—that's how we got started, boycotting this, boycotting that—hell, we couldn't eat anything because we were boycotting everything. But it taught us the power of doing those kinds of things. Cesar used to tell us, the power of the boycott is that you can do it all day long. You can do it anytime you want. You don't have to worry about the first Tuesday of November to vote. No, you can vote every single day, and you can bring about change, and it is done nonviolently. That is the beauty of a boycott. We forced the largest agricultural industry in the state of California to sit down and bargain with farmworkers back in the 1960s when nobody ever heard about a union among farmworkers. And so he said, "That's very powerful."

Well, I have grown to learn that the Internet is just as powerful, because you can sit in front of your computer, which most people do anyway, and check out the email that somebody's sending you and boom, punch the button and it's there. We do it anyway,

right? We've learned to utilize that. The way you have impact on politicians is two things—money, and votes. We don't have the money, so we got to look for the votes, and build the pressure.

Immigration Reform Offers Power to Protect

This year, we have to make every effort to get immigration reform for farmworkers. We have been working on this as an organization now for over eight years. In March, I was in Washington, DC meeting with Senator Dianne Feinstein (D-CA), Senator Larry Craig (R-ID) and Congressman Howard Berman (D-CA), and we came to agreement with the growers on an immigration deal. Working on this issue takes leadership and a lot of guts, and Senator Feinstein has been there with us for the last three years doing everything possible to make it happen. So once we heard the growers had agreed to our proposal, the Senator said, "Ok, I'm telling you growers you'd better go out and get every single one of your associations behind this because it's going to take tremendous work to make it happen." And it's true.

We're going to be doing a series of marches and mailings to politicians, putting a lot of pressure on a lot of folks. It's time to make this happen. As you know, farmworkers work hard for you every single day of their lives. They sacrifice. It's the farmworkers that first come into contact with the pesticides. They do it, some of them because they don't really know the impact, but most of them do it because they don't have a choice. It's not their decision to work in the fields. It's their only option. We may say, "Why don't they just strike?" Folks, when you've got families to feed, whether they're in this country or in some other country, you don't have a choice. They're going to do what they have to do.

And it's time for us now to do what we have to do. So that's why we want to have the capacity on the Internet. Because we know we're going to have to flood legislators with all kinds of emails, and faxes, and telephone calls over the course of the next few months in order to be able get this, to make it happen. Once farmworkers and other immigrants have some type of legal status, then they'll be free to be able to join and participate –even more so than what they do today. They will be free to go out and do what they need to do to not only protect their families and take care of them, but also to protect their communities. So we really need your help on this one. Farmworkers want to feel this time they're not alone. They make the sacrifices for us every day. It's time for us to make some sacrifices for them.

I'll share with you one final story. A farmworker named Tarino Carlos from the San Joaquin Valley joined us on a UFW lobbying trip to Sacramento with his wife Luz. Towards the end of the day we were having a meeting with the Deputy Assistant for the Governor. There were ten of us, and Tarino was the first to tell his story about what it felt like to be a farmworker and some of the problems he encountered. Then everyone else went around the room to tell their story. We were ready to get up and leave, and Tarino said, "Arturo, I want to make one more comment." Everybody sat back down, and Tarino began to tell a story that I didn't even know.

Tarino works for a grape grower in the San Joaquin valley. He is 76 years old. He says, "You know, I've worked all my life in the grapes. I've been a farmworker all my life. Ever since I migrated over here from Mexico. And my wife Luz, she's 66. We don't mind doing what we do. In fact we're very proud of what we do. But I have never worked under a union contract. I've never got a decent wage. I've never had a medical plan. I'll never have a pension plan—that's why I'm still working. I don't get paid holidays. I don't have vacations. And I got to do what that grower tells me to do every day." And he went on, and man, we all just sat there and listened to him. He said, "I know I'll never see the benefits of what I'm doing today. But I know that the next generation of farmworkers and their children are going to benefit from this. So that's why I'm here."

So that's why we really sincerely believe that we can bring about the changes necessary if we join together, work together, and provide workers with the tools that they need. So we can create more buffer zones. We can get rid of the kinds of pesticides and the chemicals and the carcinogens and the teratogens that impact on their children, and also our children. So sisters, and brothers, it's an honor, and pleasure to be here with you this afternoon. We look forward very much to working with you, and we look forward to working for a victory for farmworkers this year in bringing about immigration reform. If we can do that, then the Tarino Carloses of the world—they don't have to continue doing what they are doing every single day. They can get to a point in their lives where they can enjoy life as well, just like each and every one of us do.

Thank you very much. Si, se puede.

Recognized for Dedication to Farmworker Justice

Shelley Davis, deputy director of Farmworker Justice, receives Beyond Pesticides' Dragonfly Award at the 26th National Pesticide Forum

By Shelley Davis

Beyond Pesticides Board President Robina Suwol (left) presents the Dragonfly Award to Shelley Davis (right).

In 1989, Cesar Chavez, founder of the United Farm Workers, went on a hunger strike, not to demand better wages, although those were needed, but to demand that five pesticides be eliminated from grape orchards and the agricultural workplace in general.

These five products were:

- parathion and phosdrin, highly toxic products that affect the brain and nervous system;
- dinseb, which was shown in animal studies to cause birth defects from a single, low level exposure;
- captan, which in both animal and human epidemiological studies, is associated with increased risk of cancer; and
- methyl bromide, a neurotoxin that is also associated with birth defects and cancer.

Three of these pesticides were eliminated in the course of the next six years: parathion, phosdrin and dinoseb. I and many other advocates worked on these efforts, and it was my privilege to be one of the lead attorneys in the dinoseb case.

But captan, the probable human carcinogen, remains in widespread use. Methyl bromide continues to be extensively used in strawberries and tomatoes, in California and Florida. Nevertheless, it was supposed to be banned worldwide by 2005, under the Montreal treaty due to its ozone depleting properties. Consequently, Cesar's fight remains our own.

One reason that these and other highly dangerous products continue to be used in American agriculture today is that the law, the *Federal Insecticide Fungicide and Rodenticide Act* or FIFRA, governing pesticide use on farms is extremely weak. To eliminate the use of hazardous pesticides on farms, farmworkers must prove that the costs outweigh the benefits. This standard is nearly impossible to meet: The "benefits" to growers from using a particular pesticide are easily stated in dollar terms. But the state of scientific knowledge today is insufficient to allow us to quantify the number of people who will suffer cancer or birth defects as a result of the use of a particular product, much less put a dollar value on those harms – even when animal studies show a link between exposure to the product and these chronic health effects. Consequently, we have been fighting this fight with the scales tipped in favor of the pesticide companies from the outset. This inequity must change.

We owe it to farmworkers and their families today, and the memory of Cesar Chavez, to change the law and change the reality on the ground – so that no one has to work in an environment where they risk neurological damage, cancer or birth defects when they go to work each day. As activists, we can make a difference!

Finally, it is my great pleasure to accept this award on behalf of the farmworkers I represent, not because of any great accomplishments of the past, but as a commitment to fight this fight until we succeed.

Ms. Davis was selected to receive the Dragonfly Award, our highest honor. The award is presented "in honor and appreciation of Shelley Davis for tireless dedication advancing knowledge and action."

Silent Snow

The unimaginable impact of toxic chemical use

By Marla Cone

(Eds Note. The following are excerpts from the presentation, "Pesticides and the Slow Poisoning of the Arctic," given by Marla Cone, author of the book Silent Snow*, and environmental writer for the* Los Angeles Times*, to the 26th National Pesticide Forum, Reclaiming Our Health Future: Political Change to Protect the Next Generation, held at the University of California Berkeley, March 14-16, 2008.)*

Thank you very much. If I may, I will take you on a journey, and this will be a tale of the survival of the fittest. For me, this journey started in the spring of 1997, and I was down in California's Imperial Valley, sitting in a pickup truck, the windows rolled up tightly, as tightly as they could be, for a crop duster was flying overhead, low over a field of vegetables, unleashing a trail of pesticides. I was researching a story about Native American tribes that were considering bans on aerial spraying. When I embarked on the trip, I told myself if any of the pesticide did manage to leak through that tight window, that it would do no harm. But at that moment, alone in that truck, in that field by myself, I was having second thoughts.

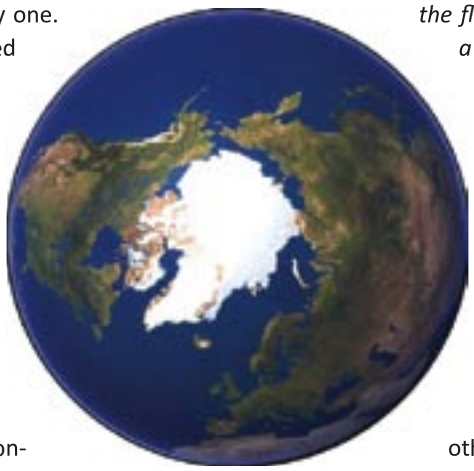
After all, I was five months pregnant, and I knew that the fetus I was carrying was the most vulnerable life form on earth. I knew about the dangers of pesticides and all the other chemicals that I had written about for years. But at that moment I saw a fly buzzing in the windshield. And I watched it, and I told myself: OK, if anything happens to that fly, I'm out of here. I didn't take my eyes off that fly. And I know it's naïve, obviously, we all know about the subtle and long-term effects and those types things about pesticides, but I didn't take my eyes off it as if the life of my unborn son had depended on it. For some reason, watching that fly calmed me that evening.

I now realize that fly was sort of my totem, my symbol of all of us that are exposed to chemicals against our will, all of us who are so highly exposed. That little fly was my canary in the mine. But there are other symbols, too, symbols that are far, far away from us, far away in the frozen north, way off in the Arctic. The Arctic people and animals are highly exposed to chemicals. And like that fly in the pickup truck, we are watching the people in the Arctic to see if they can survive.

A few years ago, I was researching a story for the *Los Angeles Times* about immune-suppressing chemicals. I asked around to my sources. I said, who are the most exposed people on earth, because I really want to see if they are suffering any immune effects. I thought it would be the Great Lakes, or the Baltic, or some industrialized place like that, but what I learned was that it is a remote region I had never heard of, a place called Nunavik, which is in Arctic Canada. I was stunned. I thought, how can people who live in such a remote place and live such a traditional lifestyle– they've never heard of or used these chemicals. They have no use for pesticides, obviously, no use for PCBs or DDT, yet they carry extraordinary loads of some of the most hazardous chemicals on earth. That seemed to me the biggest environmental injustice that I had ever heard. The people and animals of the Arctic are the most highly exposed. I thought, this is a universal tale of contamination, and it's a great location to do it. So, more than anything else on earth, I wanted to go and tell their tale.

Preparing for the Arctic...hopelessly

I am a woman of Los Angeles. I grew up in Illinois and I was used to cold, but then being in Los Angeles, I didn't even own a parka. So, before I left, I went out to places like North Face and Patagonia and bought all this high tech gear, and boots from Canada that were rated to 50 below zero. I brought all this to the Arctic. The Inuit looked at me like I was crazy. They're saying, what do you need all this stuff for? I realized then, what seems primitive to us is really ingenious because they're wearing sealskin. They don't need polar fleece. They don't need all these boots or anything else. I brought Powerbars along in case I couldn't stomach the food of the Arctic. Of course, it was frozen! I mean, I couldn't eat it. It was like this frozen hunk. I would bring trail mix, and the Inuit would look and me and say, "You would die if you ate that here. You can't survive on that." They found it pretty hilarious, the whole thing. Obviously, I wasn't the only one. The explorers in the far north underestimated the ingeniousness of the Arctic people. They thought they could reinvent their sledges, so they tried to put them together with nails and high tech materials when really it turned out that just doing it with ropes made from seal skin and wood works best on the ice. Well, what works best in the Arctic is living a very traditional lifestyle, eating the native foods, and that's why the Inuit people and the polar bears –the Inuit people share the top of the food chain with the polar bear– are the most contaminated people on earth.



My Journey North

I was in the village of Qaanaaq on the northern edge of Greenland [the northern most community on Earth], and there were huge icebergs jutting out in the sea and we traveled about 35 miles on a wood sledge. The team of 15 dogs, walking on ice so jagged that it would leave blood in their wake. We headed to the ocean to hunt narwhale. I was with the best narwhale hunters in northern Greenland, a few hundred miles from the North Pole. One day, the sledge stopped and the hunter that I was with, a man by the name of Mamarut, got out because he had seen a seal and he took his rifle and his blind and he walked out onto the ice. I got off the sledge with my camera and I was taking photos. One of those photos wound up to be the cover of my book, *Silent Snow*. As that happened, the dogs were so excited at the prospect of a seal dinner that they took off. And in a second, I was on that ice by myself. They were a little speck in the distance. All I could think of was, "What do I do now?" I figured they would come back, I didn't think they'd leave me there, but I didn't want to just stand there and wait. I remembered what Mamarut had said, "Only walk in his footprints, because that's where the stable ice will be." So that's what I did, and I realized then that I would not have survived for even probably a couple hours out on that ice. I had no idea how to hunt a seal. I didn't have a sledge. I didn't have a team of dogs. I didn't have any of their seal clothing. I didn't even know where to walk without shattering the ice.

I'll read a little paragraph from my book which I really like, because I really think it tells people the importance of the food and the marine mammals that the Arctic people eat.

> *Survival here means people live as marine mammals live: hunting as they do, wearing their skins, no factory-engineered fleece compares with the warmth of a sealskin parka or bearskin pants; no motorboat sneaks up on a whale like a handmade kayak lashed together with rope; no snowmobile flexes with the ice like a dog-pulled sledge crafted of driftwood; and most importantly of all, no imported food nourishes their bodies, warms their spirit, and strengthens their heart, like the flesh they slice from the flanks of a whale or a seal.*

These people live in one of the most desolate places on earth. They are guardians to one of the last and greatest wilderness that we have.

Arctic Body Burden

What I found in my research is that the Inuit, especially in the northern part of Greenland and Russia, contain more hazardous chemicals in their bodies than any other people on earth. Some of these are

pesticides, including the organochlorine pesticides DDT, Myrex, and some of the other "Dirty Dozen" pesticides. Mercury and PCBs are probably the worst contaminates in them. Nearly everyone tested in Greenland and more than half the people tested in Arctic Canada exceed the amounts of PCB and mercury considered safe under international health guidelines.

There are no vegetarians in the Arctic. People mainly eat seal, whale and some fish. These men are butchering whale meat.

In Greenland, the concentrations are highest. They are so high that many Inuit women in Greenland in the 1980s had breast milk that contained so many chemicals that it literally could have been considered hazardous waste. Let me say that again. The breast milk of those Inuit women could have technically been considered hazardous waste because of the levels of chemicals in their bodies. More than 200 different compounds in their bodies --pesticides, PCBs, mercury, other heavy metals, flame retardants, substances found in Teflon and formerly in Scotchgard. These people are our lab rats. Basically, they're our guinea pigs. They are the involuntary subjects of our accidental human experiment.

The Grasshopper Effect

How does this happen? Well, we basically made the Arctic our toxic waste repository. What happens is basically a quirk of chemistry and biology. Many of these chemicals, especially the chlorinated ones, seek out cold climates, and they do something that scientists call "the grasshopper effect." They actually hop --they'll condense and then fall to the ground and condense and fall to the ground, all the way hopping north, until they finally wind up in the Arctic.

And then what happens is that they fall down in the ice, usually in the springtime right when the animals are gathering there, and they move up the food web from algae or plankton to tiny crustaceans then up to fish and then to seals and then, at the top of the food web, the polar bears and people. This is a web that casts out in many directions. The Arctic has a very long food web, so that's why the people and animals then end up so highly contaminated. They eat much further up on the food web than we do. There are no vegetarians in the Arctic. There are no vegetables in the Arctic. There's no land in the Arctic. So you can see why they resort to eating seal and whale, with fish probably being the lowest thing they eat in the food web.

A woman sits with her children in Qaanaaq, Greenland, eating after a whale hunters return with meat.

I would like to read something to you and have you think about when you think this was written. Many of you will probably recognize this.

"The most alarming of all man's assaults on the environment is the contamination of air, earth, rivers, and sea with dangerous and even lethal materials. In this now universal contamination of the environment, chemicals are the sinister and little-recognized partners of radiation in changing the very nature of the world, the very nature of its life."

Most people I read that to think that has recent roots. Does anybody know who wrote that? Does anybody recognize that? That's Rachel Carson. She wrote that back when I was in kindergarten. And it's still very much true today.

Hunting Trips

There are remote Norwegian islands that are a refuge for polar bears because that's where they den. Svalbard is sort of the nursery for polar bears. I went out with scientists who were tracking them to sample their blood and their fat for chemicals. They remove an old tooth from the bears – an old, useless tooth, actually, molar – to see how old they are. They tranquilize the mother bear and they leave the cubs – the cubs are just very innocent, like little kittens. When they're born they're actually smaller than a kitten, and less than a pound. This is very hazardous, sometimes deadly work for these scientists. I was with a Norwegian team. They've been out there every spring sampling these polar bears for chemicals, looking for the various compounds, testing their hormones to see what kind of effects there are.

I also joined a community in Barrow, Alaska, for a whole different style of hunting. They catch bowhead whales, which are about 50 tons apiece, and they feed an entire village for not just one meal, but many meals in the course of the year. To hunt a bowhead

Clockwise from top left: 1) An Inuit man in Qaanaaq, Greenland with his sledge dogs; 2) A scientist on remote Norwegian islands has trquilized polar bears to examine them and study their toxic load; 3) Children of the Farow Islands, who consume whale meat and other mercury-laden foods, have IQs inversely proportional to their chemical contamination; 4) Whale hunters in Barrow, AK use harpoons to kill a bowhead whale.

whale, a 50 ton whale, there are seven men in a boat, and they row through slush. Boy, is that difficult. They move about ten feet every hour. When a whale is killed, there is such a huge celebration for the people of Barrow and the other communities along the north slope. They celebrate with a huge party. They create a trampoline from the whale shin. It's a school holiday, it's a city holiday, it's just an amazing time.

Since these are people of Alaska, you might say, they have other foods. Why do they need bowhead whales, why don't they leave those bowhead whales alone? But they don't really have other foods. They have some imported foods which aren't very healthy, that aren't good for them, and are very expensive. Whereas, the whale meat contains an amazing amount of iron and other nutrients, and fatty acids.

Most Tested Children on Earth

The children of the Faroe Islands, the northernmost part of North America where they hunt bowhead whale, are the most tested group of children on earth. This girl (pictured above) lives in the Faroe Islands, where people had the highest mercury levels in the world a few years back. And so they've been testing the IQs of these children for 25 years now. Some of the children have been tested every year until they become teenagers. What they found were declines in their IQ, definitely related to the mercury in their bodies. They're seven years old when the testing begins. And you can see, they're not Inuit, they look Danish. This is not an Inuit population, but it still eats whale.

Conclusion

I'll conclude by saying that I think about that day out on the ice when I feared that Mamarut might leave me behind. I think about that day often. And I think about his advice, about how to survive. How his advice was that the ice is too precarious, he told me, so you only can walk where I walk. Walk in my footsteps. I took that very literally that day, but since then I take that very symbolically, too, because if we all walked in the Inuit's footprints, the earth would be a safer place, I believe. Thank you.

Melting Glaciers, Source of Persistent Pollutants

Global warming responsible for releasing once frozen stores of persistent organic chemicals

New research shows that melting Antarctic glaciers are releasing once frozen stores of persistent organic chemicals, now banned in many parts of the world. Heidi Geisz, Ph.D., a marine biologist with the Virginia Institute of Marine Science, studying the fate and effect of organic contaminants in the Antarctic, has found that DDT concentrations in penguins has remained at the same levels as they were 30 years ago, when DDT was widely used.

Arctic animals, such as whales, seals and birds, have had a significant decline in their DDT levels during the past decades, while the more stationary Antarctic penguins have not. The study, "Melting Glaciers: A Probable Source of DDT to the Antarctic Marine Ecosystem," published in *Environmental Science and Technology*, identifies the melting snow and ice as the continued source of total DDT in this southern ecosystem. The release of DDT also means that other persistent organic pollutants (POPs), including PCBs and PBDEs (industrial chemicals that have been linked to health problems in humans) are also being released.

Dr. Geisz and her team sampled Adélie penguins and found similar DDT concentrations to those found when the penguins were sampled in a 1964 survey. She found that the ratio of DDT metabolites, p,p'-DDT to p,p'-DDE, declined over time. This shift indicates that the birds are exposed to the remnants of older DDT deposition. After examining glacial records, Dr. Geisz found a likely explanation for the high concentrations of DDT. During the 1950s and 60s, a time when DDT use peaked, the Antarctic glaciers swelled, potentially locking in chemicals like DDT. However, average winter temperatures on the Antarctic Peninsula have warmed 6 °C in the past 30 years, and glaciers now melt faster than they grow. They estimate that DDT reenters the ecosystem at a rate of 1 to 4 kg per year.

DDT and other POPs follow atmospheric paths to the Antarctic and the Arctic and eventually are deposited there in snow and ice. Animals there sequester these contaminants in their fat. These toxic chemicals persist in the environment, bioaccumulate in the food web and are common contaminants in fish, livestock and poultry and other foods. Many human and animal populations now carry enough POPs in their bodies to cause subtle but serious health effects, including reproductive and developmental problems, cancer, and disruption of the immune system. Indigenous communities in the Arctic region carry alarmingly high levels of these contaminants.

However, Arctic and Antarctic communities are not the only ones at risk. The National Oceanic and Atmospheric Administration's (NOAA) 2007 report, *Southern California Coastal Marine Fish Contaminant Survey*, found that fish caught in southern California waters contain the world's highest-known DDT concentrations. These findings contradict the belief held by some scientists that DDT on the ocean floor has been breaking down into less toxic compounds and would soon disappear from marine life. Earlier this year, the National Park Service (NPS) released a report detailing high levels of DDT and other POPs contamination within park boundaries.

DDT and its metabolites have been identified by government agencies in the U.S. and abroad as agents that can cause cancer and nerve damage. DDT is also an endocrine disruptor that acts as an estrogen mimic and wreaks havoc on biological systems, with adverse health effects showing up later in life.

Remembering Erik Jansson

Environmentalist, conservationist, and founding board member of Beyond Pesticides

With deep sadness, we learned that Erik Jansson (1940-2008) died of injuries from a fall on his farm in Southern Maryland in July. Erik helped give life to the Beyond Pesticides family and community, as he, back in the late 1970s, saw the need for a strong voice and advocate for those poisoned and the environment contaminated by pesticides. At that time, Erik was the pesticides and toxics lobbyist for Friends of the Earth (FOE) in Washington, DC, going on to create the National Network to Prevent Birth Defects and then the Department of Planet Earth. Erik came together with other DC-based organizations, including farmworker, legal action, public health and environmental groups, to form an umbrella organization under which we could voice common concerns and positions –a true collaboration. The umbrella was named the National Coalition Against the Misuse of Pesticides (NCAMP).

Prior to that time Erik had been organizing with people across the country on the problem of pesticide spray drift. He brought activists together from across the country to organize and demand change. Erik knew the facts alone would not effect change. But, he knew that he had to bolster his advocacy with extensive research documents and citations. He turned both advocates and facts on government, urging all of us to ensure that government worked for the people, not the polluters. To that end, in 1979, Erik, on behalf of FOE, petitioned both EPA and the Federal Aviation Administration to curtail spray drift.

Ahead of the Curve

It is fair to say, Erik moved ahead of the curve and put the issues in front of decision makers. In his petitions, he stated unequivocally "people have a right not to be sprayed with any poison without their permission." Erik got their attention. I don't think you would ever see a communication between Erik and government regulators without him asking whether they were fulfilling their responsibility to taxpayers in carrying out their responsibilities.

I was new to the movement in 1977. Watching Erik, his energy, optimism, enthusiasm and belief that change was possible was an inspiration and a guiding light for me. No research effort, no amount of time, late nights, or weekends was too much for this incredibly committed person. No better example, perhaps, is Erik's commitment to the banning of 2,4,5-T, the phenoxy herbicide used as half of the mixture of Agent Orange for defoliation in the Vietnam War, and throughout the northwest in forestry. As Carol van Strum documented in her book, *A Bitter Fog*, Erik went through EPA files, gleaned the stories of 450 poisoning victims and zeroed in on a letter from a women in Alsea, OR who reported on an association between spontaneous abortion rates and herbicide use. So, Erik copied the letter and distributed it widely to decision makers in Washington DC and the media. Carol said upon learning of Erik's death: "The result of his persistence was the EPA's Alsea Study, which linked phenoxy herbicide spraying to 'spontaneous' abortions in a 1600-square mile area surrounding Alsea, OR. Preliminary data from the study prompted EPA to issue an unprecedented emergency suspension of registrations of two phenoxy herbicides in early 1979." She continues, "That was my introduction to Erik Jansson. He was the faceless hero in Washington, D.C. who forced EPA to act on the dangers of domestic herbicide use."

Belief in Individuals' Power to Effect Change

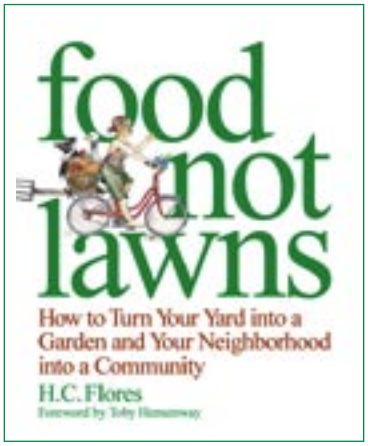
Erik believed in the power of individuals with passion to effect change with his whole being. That is who he was, summoning all the energy he had to move change. It was no surprise then that he was attracted to environmentalist David Brower's style of organization in which he gave people a desk, phone, and typewriter, and later fax machine and computer, and asked them to pour their heart and soul into solving the problems contributing to environmental degradation and environmental illnesses. So, when I was looking for a space to work out of, to nurture NCAMP into a national grassroots organization, it was Erik who invited me to find a space at the FOE office. Moreover, he devoted his own resources to launching NCAMP, now Beyond Pesticides. That began 27 years of Erik and I sharing the same office.

Erik's latest project on global climate change had him advocating that organic farming qualify for carbon credits. Erik's solution: Lobby the Chicago Climate Exchange and others. Erik wrote: "The U.S. House of Representatives recently purchased a fraudulent carbon credit from the Chicago Climate Exchange: i.e. no-till farming from North Dakota. Conventional no-till does not reduce greenhouse gas because it uses high rates of commercial nitrogen fertilizer. Also, the carbon is at the surface of the soil where it can be oxidized."

Erik was in many ways the organic farmer he advocated for; he planted seeds and nurtured their environment to create a healthy and sustainable future. I realize now that I am just one of those seeds that he nurtured, supported, and encouraged. Those who knew Erik know that he did this for his community, the country and the world without seeking acknowledgement, credit, or accolades. Erik did what he thought was right. We are all better off because of him. *The board of Beyond Pesticides will be developing a strategy for continuing Erik's legacy so that others may benefit from his spirit and commitment to a healthier world.* - Jay Feldman

Food Not Lawns: How to Turn Your Yard into a Garden and Your Neighborhood into a Community

(H.C. Flores. White River Junction, VT: Chelsea Green. 2006. $25.00, 344pp.) I was drawn to this book by the title, which seemed to promise a dissertation on why we should replace the suburban institution of a lawn—which gobbles up water and fertilizer, gives kids toxic playgrounds, and sends toxic eutrophying pollution into streams, while polluting the air with noise and gas fumes—with gardens that supply health-giving fruits and vegetables. The take-off on Food Not Bombs held the promise of radical food politics.



Those expectations neglected the "How to" in the subtitle. The first chapter does talk about lawns, but the bulk of *Food Not Lawns* is devoted to those "how-to's." The book is a primer on urban permaculture gardening and grassroots (veggie roots?) community organizing.

As an introduction to permaculture gardening, which the author calls "paradise gardening," the book shows city dwellers how to locate land, seeds, mulch, and food for the soil without spending a lot of money. *Food Not Lawns* is designed for the growing number of people who cannot afford to buy organic food (or high priced garden inputs), but want to turn into food whatever space to which they have access—whether it is a lawn, a community garden space, or a vacant lot. Ms. Flores says, "Going organic isn't just about organic food or organic gardening. It's a way of life. It's not about certification or shopping at the most politically correct supermarket. Going organic is about taking control of your food supply, and thus, your life."

Permaculture, defined as "permanent agriculture and permanent culture," blurs the boundaries between ecological communities and the human communities that depend on them. *Food Not Lawns* also blurs those boundaries, recognizing that on one hand, our gardens must be part of a larger ecological community that feeds soil organisms, insects, and "wildlife," but on the other hand, the gardeners also belong to a larger community of human interactions. Flores says, "Through cooking with Food Not Bombs and interacting with people we fed, I learned that it is not just activists who are concerned about the issues. Everybody is."

The easiest way to give a sense of the incredible scope of this book is to list the chapter titles: Free Your Lawn, Gaining Ground, The Water Cycle, The Living Soil, Plants and Polycultures, Seed Stewardship, Ecological Design, Beyond the Garden, Into the Community, Reaching Out, Working Together, and The Next Generation. *Food Not Lawns* is not encyclopedic, but serves as a good primer, with lots of resources for going further, in each of these areas.

But above all, what I really like about *Food Not Lawns* is the overall philosophy that comes out in every chapter—for example, in the general rule I share with the author to "never pull a plant you don't recognize."

Excerpt from Chapter 2: Urban Ecology

Growing ecological gardens, wherever you can, is never a waste of time. Nothing lasts forever, and if you can get a few baskets of food without damaging the environment, and perhaps leave behind some long-living fruit trees, then the larger ecological community will surely benefit from your labors. If you can do these things while also educating others, then your work will succeed many times over.

In addition, not everyone wants to live in the country, and if everyone moves there it will all become the city. Many people plan to spend their lives in the city, happily, and have no plans to go rural. This is good, because if we want to support the growing human population for more than another few centuries, we are going to have to grow up, not out. We also must ensure that urban communities can provide for their own needs, using resources from the local area. These needs include food, building materials, water, medicine, and much more, and currently there are no cities to provide a model.

We can, however, create our own models by simultaneously caring for the earth, caring for the people, and recycling resources. In these models rural food surpluses will supplement urban subsistence gardens, and the ecological integrity of each bioregion will depend upon how well the city dwellers can provide for themselves.

Improving the ecological health of cities is crucial to achieving a healthy bioregional community, and if the ideas in this book inspire you, then begin doing these things now regardless of where you live or whether you rent or own your garden site. Do it for the land and to experience the personal transformation; consider the harvest a bonus, rather than the goal. The sooner and more fully we embrace an ecological ethic in our daily lives, the better our ability to place ourselves within the deep ecological context of our communities, and the clearer that context, the more accessible our vision of paradise.

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