

Pesticide-Free Parks Project – 2007

City Recognition

Wonderful Effort by Parks and Recreation

National Attention

Recommendations

Assign All Parks to the Pesticide-Free Parks Program

Community Support

Successful Pilot Project

Costs

Roundup Concerns

Playground & Picnic Areas

Notification

Pesticide Record

Native Plants and Food for Wildlife

Signage

Training

Create Jobs

Jobs for Teens Program

Seasonal

Full-time

Contract to Local Companies

Citywide Pesticide Standards

City Recognition

Parks and Recreation has done a great job with the Pesticide-Free Parks Program

34 parks are currently pesticide-free

No Category I or II pesticides are used

Notification has improved

Signs are

Clear and easily recognizable

Put in place one hour before application

Left in place for at least 24 hours after application

Lawrence has been recognized nationally

Time Magazine article

Beyond Pesticides National Pesticide Forum in Washington, D.C.

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Monday, Jul. 11, 2005

How Green Is my Town?

By Jeremy Caplan

With the administration still dragging its feet on joining the worldwide battle against global warming, a growing number of U.S. cities have decided that environmental activism begins at home. More than 160 mayors have signed on to an urban anti-global-warming agreement that some call the "municipal Kyoto." And local initiatives aimed not only at greenhouse gases but also at toxic chemicals and other threats are multiplying.

> **LIGHTS OUT** A new green-purchasing law requires San Francisco to buy low-mercury light bulbs and use arsenic-free wood on playgrounds

> **BACK TO BIKES** In addition to cutting City Hall's energy consumption, Chicago is promoting a public commuter-bicycle station, partly solar powered, which provides indoor parking for 300 bikes

> **FARE DEAL** New York City's cabdrivers can be gruff, but their vehicles, at least, will soon be enviro-friendly: the city's new Clean Air Taxis Act will allow thousands of cabbies to start switching to hybrid models this summer

> **CHEMICAL-FREE TREES** The college town of Lawrence, Kans., is testing a plan to ban all pesticides and herbicides from public parks

> **GREEN FLEETS** In Charlotte, N.C., a Sierra Club campaign helped persuade the municipal government to begin a transition to fuel-efficient hybrid cars for its police force and city-planning department

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Building the Movement

Beyond Pesticides' 25th Anniversary Gala

Josephine Butler Parks Center

and 24th National Pesticide Forum

Resources for the Future Conference Center

Washington, DC ■ May 18-20, 2006

A Chronological Summary of the Program

Recommendations

Add Remaining 18 Parks to the Pesticide-Free Parks Program

All public parks should be maintained without pesticides.

Tremendous community support

Successful 2-Year Pilot Project In Watson Park

“If it can be done in Watson Park, it can be done anywhere”

Costs were comparable to pesticide maintenance

Roundup concerns

Designate Playground & Picnic Areas as Pesticide-Free Zones

All playgrounds and picnic areas should be pesticide-free. Here is a list of buffer zone guidelines from other cities:

Santa Barbara, CA - 100' buffer zone for all playgrounds/ 25' buffer zone for all picnic areas

Seattle, WA - No pesticides around any playground equipment for last 20 years; recent policy establishes 25' buffer zone all around playground areas and picnic shelters

Boulder, CO - 50' buffer zone around all playgrounds

San Francisco, CA - No pesticides are sprayed around playground equipment or picnic areas

Improve Public Notification

Before pesticide application

We still recommend 24 hours notice before pesticide application begins. There have been problems specifically at the levee. A bicycle rider who travels the levee regularly said that on more than one occasion she has been forced to ride through pesticide drift on her return trip and that there were no signs to let her know that spraying would occur.

After pesticide application

We highly recommend that signs be kept in place for at least 7 days. 24 hours does not provide enough time for pesticides to break down.

Make Pesticide Record Available and Up-To-Date

The Pesticide Record must be current and readily available to all citizens. It should be available online and in hardcopy form. In a May 2005 memo, Parks & Recreation agreed to provide the Pesticide Record to the public, yet it is still not available.

Landscape with Native Plants and Provide Food for Wildlife

There should be an emphasis on perennial native plants, which are naturally drought and disease resistant and come back year after year. Using native plants could help the city conserve water, reduce labor, reduce landscaping costs, and save money.

Native plants reflect and promote our Kansas history and provide food and shelter for wildlife.

Fruit-bearing female trees, which also provide food for wildlife, should be a part of the landscape.

Volunteers would like Watson Park to be home to a butterfly garden and a Monarch Waystation.

Improve Pesticide-Free Park Signage

Pesticide-Free Park signs should be larger and more conspicuous. Current signs are not easily seen by drivers or pedestrians.

Invest in Staff Education, Tools, and Technologies

Staff should receive education regarding pesticide-free maintenance strategies. There are many educational opportunities available locally, statewide, and nationally.

Kansas Native Plant Society sponsors an annual tour in Lawrence which highlights organizations and individuals that landscape with native plants.

Beyond Pesticides is sponsoring a teleconference training featuring Chip Osborne, a nationally-recognized natural turf management expert. The cost to participate in the 3-part training is \$45 for city officials.

Create Weeding Jobs

Create job opportunities for our community instead of using toxic pesticides. Some options include:

- Jobs for Teens Program
- Seasonal Positions
- Full-time Positions
- Contract to Local Lawn Care Companies

Adopt Citywide Pesticide Standards

The City of Lawrence should create uniform pesticide use standards that apply to all city government departments and agencies. Current Parks and Recreation standards would be a great starting point.

Supporting Documents

Group Support for Pesticide-Free Parks in Lawrence

Physician Support for Pesticide-Free Parks

Pesticide-Free Parks Volunteers

Estimated Weeding Costs

Roundup Safety Myth

“Hazards of the World’s Most Common Herbicide.” *Mother Earth News*.

“Rethinking Roundup.” *Pesticide Action Network North America*.

“Herbicide Roundup® “Extremely Lethal” to Amphibians
in Natural Setting, Relyea Finds.” *PittChronicle*.

Ladybug Pesticide-Free Zone Sign

Organic Land Care Basic Training Teleconference

Group Support for Pesticide-Free Parks in Lawrence

Lawrence Association of Neighborhoods

Old West Lawrence Association

East Lawrence Neighborhood Association

Pinckney Neighborhood Association

Brook Creek Neighborhood Associaton

Breezedale Neighborhood Associaton

Oread Neighborhood Association

Jayhawk Audubon Society

Wakarusa Sierra Club

Animal Outreach of Kansas

City of Lawrence Recycling and Resource Conservation Advisory Board

Physician Support for Pesticide-Free Parks

Dr. Kathryn Veal, M.D., M.P.H., F.A.A.P.

Clinical Assistant Professor of Pediatrics, University of Kansas School of Medicine
Pediatric Investigator, Mid-America Pediatric Environmental Health Specialty Unit

Pesticide-Free Parks Volunteers

Animal Outreach of Kansas Volunteers	Jane Gibson	Duncan Pratt
Jayhawk Audubon Society Volunteers	Lisa Grossman	Gary Pratt
Wakarusa Sierra Club Volunteers	Juliana Hacker	Lana Hamilton Pratt
Kelly Barth	Randi Hacker	Miranda Pratt
Andy Bloomer	Kevin Hawker	Frank Schawaller
Mike Campbell	Dawn Hawkins	Terry Shistar
Judy Carman	Clarate Heckler	Gail Skinner
Jim Carpenter	Dickie Heckler	Siel Snowden
Mark Cline	Claramae Highfill	Marie Stockett
Michelle Crank	Steven Hill	Cannzana StockWil
Jamie Daniel	Tresa Hill	Samantha Stoppie
Melanie Dill	Susan Iversen	Shannon Tichenor
Melissa Forester	Jeanne Klein	Brent Urban
Sierra Forester	Steve Lopes	Bill Wachspress
Senator Marci Francisco	Beth Anne Mansur	Diana Wadley
Brenda Frankenfeld	Katrina McClure	Scott Wadley
Cypress Frankenfeld	Mike McKinney	Stacy Wall
Estrella Frankenfeld	Carolyn Micek	Ayrton WallGregg
Oliver Frankenfeld	Phil Minkin	Jeudi Ward
Ashley Garcia	Lois Orth-Lopes	Mary Wharff
Ruby Garcia	Sandra Pellegrini	Nicole Williams
Raiden Garcia	Megan Phelps	Jeff Wilson
	Nathan Poell	Kim Wilson
	Daniel Poull	Todd Wyant

Estimated Weeding Costs for Watson Park

Volunteer Hours for Watson Park

2006 Weeding Season
May 1st - October 31st
61 Volunteer hours throughout 26 wks

2005 Weeding Season
July 5th - October 31st
75 Volunteer hours throughout 17 wks

Cost to Replace Volunteers with Paid Labor

2006

The cost to replace the volunteers with paid labor for the 2006 season in Watson Park is estimated to be

Seasonal Labor (61 hrs at \$8/hr) = \$488
or
Full-time Labor (61 hrs at \$12/hr) = \$732

2005

The cost to replace the volunteers with paid labor for the 2005 season in Watson Park is estimated to be

Seasonal Labor (75 hrs at \$8/hr) = \$600
or
Full-time Labor (75 hrs at \$12/hr) = \$900

Reasons Volunteer Hours Decreased in 2006

Overgrown Beds

In 2005, beds were overgrown with weeds when maintenance was passed to the volunteers. Volunteers had to put in more hours than normal in order to clean up the beds.

Frequency of Bed Checks

In 2005, Parks and Recreation asked volunteers to check their beds 1x per week. In 2006, volunteers decided that beds need only be checked 1x every 2 to 3 weeks and notified Parks and Recreation of the change. Some areas of the park needed weeding only 1x per month.

Mulch

In 2005, very little mulch was used in the beds to discourage weed growth. In 2006, generous amounts of mulch were used which drastically cut weeding time.

Projected Costs

“If it can be done in Watson Park, it can be done anywhere”

Based on 2006 Volunteer Hours, the projected annual costs to maintain the remaining 18 parks and Watson Park are:

Seasonal Labor (\$488 x 19 parks) = \$9,272

or

Full-time Labor (\$732 x 19 parks) = \$13,908

Projected Cost Range

\$9,272 to \$13,908

Costs of Pesticide Use

\$8,000-\$10,000 in Pesticides alone

+

Labor

+

Pesticide Certification Fees

+

Storage Costs

+

Transportation Costs

+

Equipment Costs

+

Disposal Costs

Roundup Safety Myth

“This chemical [Roundup] has been used in the industry since the 1970’s and is considered to be a safe product for the applicator.”

- Parks & Recreation Memo (5/30/06)

“Misleading advertising has led many applicators to consider glyphosate nearly non-toxic. In 1996, the New York State Attorney General won an injunction against the chemical's manufacturer, Monsanto, for falsely claiming that the pesticide is as safe as table salt.”

- from “Pesticide Myths of Safety.” *Synergy* Summer 1998.

Hazards of the World's Most Common Herbicide

Two new scientific studies add to concerns about the dangers posed by Roundup (glyphosate), the most widely used weedkiller in the world.

A group of scientists from the University of Caen in France found that human placental cells are very sensitive to the herbicide at concentrations lower than the agricultural use, and that it disrupts human sex hormones. The scientists concluded that the herbicide could "induce reproduction problems" in humans.

In another study, University of Pittsburgh biologist Rick Relyea looked at the effect of Roundup on other life forms. Relyea found that the herbicide caused an 86-percent decline in the total population of tadpoles.

Glyphosate is marketed under several brand names — Roundup is Monsanto's original brand; Syngenta now markets glyphosate as Touchdown Total. These products are widely used in yards and gardens across North America, and U.S. farmers spray millions of acres of crops with them each year. Drift problems are common, where the herbicide spray lands off the targeted area, killing plants.

Use of glyphosate products has increased in recent years as a result of the introduction of genetically modified (GM) varieties of corn, soybean and cotton designed to tolerate glyphosate sprays. (Normal, non-GM crops and other plants die when they are hit with glyphosate.)

Monsanto has sold Roundup since 1974, and the company continues to argue that the weedkiller is safe. (Visit

www.monsanto.com to read Monsanto's responses to these studies.) Others disagree. The *Journal of Pesticide Reform* published one of the most comprehensive reviews of the dangers associated with glyphosate, written by Caroline Cox, staff scientist for the Northwest Coalition

for Alternatives to Pesticides. Here's a summary of her review:

- Symptoms of exposure to glyphosate include eye irritation, blurred vision, skin rashes, burning or itchy skin, nausea, sore throat and difficulty breathing, headache, lethargy, nose bleeds and dizziness.
- In lab tests, glyphosate and herbicides containing glyphosate caused genetic damage to human and animal cells.
- Studies of farmers and other people exposed to glyphosate herbicides link this exposure to increased risks of cancer, miscarriages and attention deficit disorder. Additional laboratory tests have confirmed the results of these studies.
- Laboratory evidence indicates that glyphosate herbicides can reduce production of sex hormones.
- Application of glyphosate herbicides increases the severity of a variety of plant diseases.
- Studies of glyphosate contamination of water are limited, but new results indicate that it can easily contami-



COURTESY NRCS

Above: A farmer mixes Roundup prior to application. Roundup is widely used in yards and gardens across North America, and U.S. farmers spray millions of acres of crops with it each year.

nate streams in both agricultural and urban areas.

- Glyphosate herbicides cause more off-target damage incidents than all but one other herbicide — 2, 4-D.
- Glyphosate herbicides cause genetic damage and harm to the immune system in fish. In frogs, glyphosate herbicides cause genetic damage and abnormal development.

"Every time there is another scientific study showing hazards to human health, to me it's another reason why finding alternatives to pesticides is so important," Cox recently told MOTHER EARTH NEWS.

To read Cox's entire fact sheet on glyphosate, which cites 56 references, go to www.pesticide.org/factsheets.html.

— Cheryl Long

Sources: Seralini, Gilles-Eric, et al. "Differential effects of glyphosate and Roundup on human placental cells and aromatase," *Environmental Health Perspectives*, June 2005. Relyea, Rick. "The impact of insecticides and herbicides on the biodiversity and productivity of aquatic communities," *Ecological Applications*, April 2005.

Rethinking Roundup

August 5, 2005

A recent study of Roundup presents new evidence that the glyphosate-based herbicide is far more toxic than the active ingredient alone. The study, published in the June 2005 issue of *Environmental Health Perspectives*, reports glyphosate toxicity to human placental cells within hours of exposure, at levels ten times lower than those found in agricultural use. The researchers also tested glyphosate and Roundup at lower concentrations for effects on sexual hormones, reporting effects at very low levels. This suggests that dilution with other ingredients in Roundup may, in fact, facilitate glyphosate's hormonal impacts.

Roundup, produced by Monsanto, is a mixture of glyphosate and other chemicals (commonly referred to as "inerts") designed to increase the herbicide's penetration into the target and its toxic effect. Since inerts are not listed as "active ingredients" the U.S. Environmental Protection Agency (EPA) does not assess their health or environmental impacts, despite the fact that more than 300 chemicals on EPA's list of pesticide inert ingredients are or were once registered as pesticide active ingredients, and that inert ingredients often account for more than 50% of the pesticide product by volume.

The evidence presented in the recent study is supported by earlier laboratory studies connecting glyphosate with reproductive harm, including damaged DNA in mice and abnormal chromosomes in human blood. Evidence from epidemiological studies has also linked exposure to the herbicide with increased risk of non-Hodgkin's lymphoma, and laboratory studies have now begun to hone in on the mechanism by which the chemical acts on cell division to cause cancer. A Canadian study has linked glyphosate exposure in the three months before conception with increased risk for miscarriage and a 2002 study in Minnesota connected glyphosate exposure in farm families with increased incidence of attention deficit disorder.

Studies have also documented glyphosate's toxicity to wildlife and especially to amphibians. Recently, studies conducted in small ponds with a variety of aquatic populations have presented evidence that levels of glyphosate currently applied can be highly lethal to many species of amphibians.

Glyphosate is the world's most commonly used agricultural pesticide, and the second most-applied residential pesticide in the U.S. Recent evidence notwithstanding, glyphosate is considered less hazardous than other herbicides, an attitude that has increased the pesticide's use and desensitized policymakers to its impacts. The spraying program in Colombia to eradicate coca and opium poppy—the raw materials for cocaine and heroin—is one example. A mixture of glyphosate and several inerts has been sprayed aurally over more than 1.3 million acres of farm, range and forest lands in that biologically diverse nation for five years. The U.S. Drug Czar recently noted that despite the spraying, which is funded by the U.S. government, the number of hectares in coca production has remained essentially unchanged. A report on the impacts of the spraying produced for the Organization of American States has been sharply criticized by AIDA,

an environmental organization, because the analysis failed to assess the impacts of deforestation resulting from movement of illicit crops into previously forested areas, adverse effects on endangered and endemic species, substantial collateral loss of food crops, livestock and fish, and human health effects. Authorization of next year's funding for the spray program is now underway in the U.S. Congress, where the Senate Appropriations Committee complained in a non-binding narrative report, "The Committee is increasingly concerned ... that the aerial eradication program is falling far short of predictions and that coca cultivation is shifting to new locations."

The herbicide is used in forestry in North America to reduce grasses, shrubs and trees that compete with commercial timber trees. Glyphosate is also widely introduced into the environment and the human food chain through cultivation of transgenic, or genetically engineered crops that are tolerant to the herbicide and contain glyphosate residues. "Roundup Ready" crops have been responsible for increased use of the herbicide in recent years. Monsanto's sales of glyphosate have expanded approximately 20% each year through the 1990s, accounting for 67% of the company's total sales as of 2001. EPA estimates glyphosate use in the U.S. is 103-113 million pounds annually.

Sources: Sophie Richard, Safa Moslemi, Herbert Sipahutar, Nora Benachour, and Gilles-Eric Seralini, *Environmental Health Perspectives*, Vol. 113, No. 6 June 2005, <http://ehp.niehs.nih.gov/members/2005/7728/7728.html>; Glyphosate Herbicide Fact Sheet, *Journal of Pesticide Reform*, Winter 2004, Vol. 24, No. 4, Northwest Coalition for Alternatives to Pesticides NCAP, <http://www.pesticide.org>; Rethinking Plan Colombia, *New Science on Roundup: Threats to Human Health and Wildlife*, Las Lianas, June 2005, <http://www.laslianas.org/Colombia/RoundupFactSheet--June2005.doc>; Critical Omissions in the CICAD Environmental and Health Assessment of the Aerial Eradication Program in Colombia, Interamerican Association for Environmental Defense (AIDA); The Center for International Policy's Colombia program, Relevant Text from the Bills So Far, the 2006 Aid Request, <http://ciponline.org/colombia/aid06.htm#Senate>; PANNA, Monsanto Corporate Fact Sheet; PANNA, *Global Pesticide Campaigner*, Inert Ingredients in Pesticides, Sept. 1998.

Contact: PANNA

PANUPS is a weekly email news service providing resource guides and reporting on pesticide issues that don't always get coverage by the mainstream media. It's produced by Pesticide Action Network North America, a non-profit and non-governmental organization working to advance sustainable alternatives to pesticides worldwide.



SCIENCE



Herbicide Roundup® “Extremely Lethal” to Amphibians in Natural Setting, Relyea Finds Some species totally eliminated in recent field experiment

April 11, 2005 Issue

By Karen Hoffmann

The herbicide Roundup® is widely used to eradicate weeds. But a new study by a Pitt researcher finds that the chemical may be eradicating much more than that.

Pitt Assistant Professor of Biology Rick Relyea found that Roundup®, the second most commonly applied herbicide in the United States, is “extremely lethal” to amphibians. Relyea’s field experiment is one of the most extensive studies on the effects of pesticides on nontargeted organisms in a natural setting, and the results may provide a key link to global amphibian declines.



In a paper titled “The Impact of Insecticides and Herbicides on the Biodiversity and Productivity of Aquatic Communities,” published April 1 in the journal *Ecological Applications*, Relyea examined how a pond’s entire community (25 species, including crustaceans, insects, snails, and tadpoles) responded to the addition of the manufacturers’ recommended doses of two insecticides—Sevin® (carbaryl) and malathion—and two herbicides—Roundup® (glyphosate) and 2,4-D.

Relyea found that Roundup® caused a 70 percent decline in amphibian biodiversity and an 86 percent decline in the total mass of tadpoles. Leopard frog tadpoles and gray tree frog tadpoles were completely eliminated, and wood frog tadpoles and toad tadpoles were nearly eliminated. One species of frog, spring peepers, was unaffected.

“The most shocking insight coming out of this was that Roundup®, something designed to kill plants, was extremely lethal to amphibians,” said Relyea, who conducted the research at Pitt’s Pymatuning Laboratory of Ecology. “We added Roundup®, and the next day we looked

in the tanks and there were dead tadpoles all over the bottom.”



[Rick Relyea](#)

Relyea initially conducted the experiment to see whether the Roundup® would have an indirect effect on the frogs by killing their food source, the algae. However, he found that Roundup®, although an herbicide, actually increased the amount of algae in the pond because it killed most of the frogs.

“It’s like killing all the cows in a field and seeing that the field has more grass in it—not because you made the grass grow better, but because you killed everything that eats grass,” he said.

Previous research had found that the lethal ingredient in Roundup® was not the herbicide itself, glyphosate, but rather the surfactant, or detergent, that allows the herbicide to penetrate the waxy surfaces of plants. In Roundup®, that surfactant is a chemical called polyethoxylated tallowamine. Other herbicides have less dangerous surfactants: For example, Relyea’s study found that 2,4-D had no effect on tadpoles.

“We’ve repeated the experiment, so we’re confident that this is, in fact, a repeatable result that we see,” said Relyea. “It’s fair to say that nobody would have guessed Roundup® was going to be so lethal to amphibians.”

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Eastwood Park, Mill Valley, CA



Marin County, CA



Organic Land Care Basic Training for Municipal Officials or Transitioning Landscapers

The National Coalition for Pesticide-Free Lawns is pleased to announce our **Organic Land Care Basic Training for Municipal Officials and Transitioning Landscapers**. This 3-part teleconference will explain the Simple Steps to beginning an organic turf program and will cover the basic concepts, methods, and materials you need to get started. The training is geared toward school or park and recreation officials, however landscapers interested in transitioning are welcome to attend.



The Program will be taught by Chip Osborne, a professional horticulturist with over 30 years experience and an expert on building and transitioning turf to organic care. He is NOFA-accredited (Northeast Organic Farming Association) in organic land care, and has attended the University of Massachusetts Green School for turf management. He converted his retail greenhouse operation to an organic management plan, designed and constructed Marblehead's Living Lawn Demonstration site, and, as the elected Chairman of the Town of Marblehead, Recreation, Parks & Forestry Commission, is currently implementing an Organic Turf Management Plan for the town's public lands, including all athletic fields.



Chip lectures nationwide on natural turf management, both to homeowners and municipalities, and has addressed the National Sports Turf Managers Association.

The cost of the training is only \$45 for municipal officials and \$95 for professional landscapers. This course will be offered in three 75-minute online sessions February 28, March 5, and March 14, 2007 (12pm- 1:15pm eastern standard time).

To register visit www.pesticidefreelawns.org/training.

If you need more information or have questions call or email Eileen Gunn at (202) 543-5450 or egunn@beyondpesticides.org.