

Health & Environment

Connection

A publication of LocalMotion, a non-profit organization dedicated to "Better Health through Fewer Toxins"

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Organic is Beneficial

NO UNCERTAIN RISK

Scientists at the University of Washington in Seattle have found that preschool children who eat organic diets versus conventional diets have approximately 6 times lower concentrations of organophosphorus pesticide metabolites in their bodies. Children eat more food per pound than adults. Their diets also often include more fruits and vegetables. The authors of the study conclude that, "consumption of organic fruits, vegetables, and juice can reduce children's exposure levels from above to below the U.S. Environmental Protection Agency's current guidelines, thereby shifting exposures from a range of uncertain risk to a range of negligible risk."

CURL, CYNTHIA L., ET AL. ORGANOPHOSPHORUS PESTICIDE EXPOSURE OF URBAN AND SUBURBAN PRESCHOOL CHILDREN WITH ORGANIC AND CONVENTIONAL DIETS. *ENVIRONMENTAL HEALTH PERSPECTIVES*. MARCH 2003, VOL. 111, NO. 3.

SAFER, AND HEALTHIER

A new study published in the Journal of Agriculture and Food Chemistry shows that berries and corn grown without chemical pesticides contain higher amounts of polyphenolics (natural antioxidants) and ascorbic acid, both of which may help prevent cancer and other diseases. Polyphenolics are bitter-tasting compounds produced by plants to fend off pests. The results of the study suggest that when pesticides are used plants do not need to protect themselves, and therefore, do not produce the antioxidants.

ASAMI, D.K., ET AL. COMPARISON OF THE TOTAL PHENOLIC AND ASCORBIC ACID CONTENT OF FROZEN-DRIED AND AIR-DRIED MARIONBERRY, STRAWBERRY, AND CORN GROWN USING CONVENTIONAL, ORGANIC, AND SUSTAINABLE AGRICULTURAL PRACTICES. *JOURNAL OF AGRICULTURE AND FOOD CHEMISTRY*. FEBRUARY 2003, VOL. 51, NO.5.



Is That Your Natural Color?

—Melissa C. Vachon and Kate Webber

MANY LAWNS AND PARKS GET THEIR GREEN COLOR FROM A SPRAY TRUCK OR A BAG OF SYNTHETIC FERTILIZER. One local park, however, is a real natural. Starting this summer the **Tot Lot at Pier Park** in Grosse Pointe Farms will be maintained without the use of pesticides or synthetic fertilizers. Simple maintenance techniques will keep the park looking green and safe for kids. The techniques, which can be applied to lawns as well as parks, can be divided into four basic categories: fertilization, weed control, aeration, and mowing. This summer, you too can have a lawn that is a natural shade of green.

FERTILIZATION

The first step to maintaining a natural insect and weed free turf is to build healthy soil. Healthy soils support a diverse community of organisms, such as earthworms and mycorrhizal fungi, both of which transform nutrients in the soil to a form that plants can absorb. Natural fertilizers feed these beneficial organisms, thus enriching the soil and increasing nutrient availability for plants.

Synthetic fertilizers provide a quick fix to plants, but do not benefit the soil. In fact, salt-based synthetics

can kill beneficial organisms, making a less healthy environment for the plant to live. Natural fertilizers, however, establish a healthy turf that thrives on the continual release of nutrients from the soil.

The **Tot Lot** will receive applications of corn gluten meal once in spring and once in late summer. Corn gluten meal, a by-product of the corn milling process, is a natural fertilizer that contains 10% nitrogen.

WEED CONTROL

The healthy turf established from using a natural fertilizer will choke out most weeds.

Some weeds, however, are inevitable. The goal is not to eliminate all weeds, but to manage them at a level that maintains a desirable turf

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in brief...

HAZARDOUS INHERITANCE

Not only do children inherit our genes, but they also share our chemical exposures while still in the womb.

Researchers from Western Michigan University and Michigan State University's Kalamazoo Center for Medical Studies gathered over 800 dirty diapers from newborn babies at two of the area's major hospitals. What they found was shocking. Testing umbilical cord blood and meconium from the first soiled diapers of newborns, the scientists found that 50% of the babies born over a 10-month period were exposed to lead before they even took one breath of air. Meconium builds up in the bowels of unborn babies during the last five months of gestation. In about 15% of the samples, the researchers also found PCBs and DDT, which have been linked to reduced IQ levels and other developmental problems. Mercury and cadmium were found in 15% of the samples.

Dr. Michael Liepman, director of psychiatry research at MSU/KCMS stated, "It is possible we have stumbled upon the cause for a lot of learning problems, such as dyslexia and attention deficit disorder and other behavior problems of children in our schools."

DIRTY DIAPERS HELP RESEARCHERS PINPOINT FETAL HEALTH RISK. ASCRIBE: THE PUBLIC INTEREST NEWSWIRE, MAY 29, 2003 (ACCESSED JUNE 9, 2003). [HTTP://WWW.ASCRBE.ORG](http://www.ascrbe.org)

ABCs OF PBDEs

A recent report on flame retardants finds polybrominated

LocalMotion Updates



SAFE SCHOOLS

In April the School Pesticide Reform Coalition and Beyond Pesticides released *Safer Schools: Achieving a Healthy Learning Environment Through Integrated Pest Management*, a report highlighting 27 school districts and schools in 19 states, each of which have implemented safer pest management practices that do not rely on hazardous pesticides. As an active member of the School Pesticide Reform Coalition, LocalMotion contributed articles detailing the successful integrated pest management (IPM) programs of Lewis Cass Technical High School in Detroit and West Ottawa Public Schools on the west side of the state. The report also explains what an IPM program is and why it is necessary, and outlines the basic steps to getting a school IPM program adopted. Hard copies of the report are available for \$5.00 each by contacting Beyond Pesticides at 202-543-5450 or info@beyondpesticides.org. The report may be viewed on-line at <http://www.beyondpesticides.org>

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LOCALMOTION PRESENTS

Alarming warnings on many common household products might make you reluctant to use them around your family. Products without hazardous ingredients are available to meet most household needs, whether finishing a basement or putting on lipstick for an evening out.

LocalMotion can provide information on purchasing healthier products for your home. We will also gladly present to small groups. Previous presentations to groups such as the Junior League, garden clubs, and church groups included the following topics:



Cleaning House—provides information on less toxic cleaning and personal care products.

Renovate Right—describes dangers of common household renovation materials and choices for making healthy improvements to your home.

Chemical-Free Lawn and Garden Care—demonstrates how to maintain the lawn and garden you desire without posing a risk to your children, grandchildren, neighbors, pets or yourself.

If you have any questions about making safer product choices or if you are interested in scheduling a presentation, please contact LocalMotion's office.

IN BRIEF continued on page 5

KNOW MOSQUITOES

Take Control of Your Family's Protection

—Liza Rosen



THE SUMMER MONTHS ARE FOR ENJOYING THE OUTDOORS. That means, gardening, barbecues, hiking, and hanging out by the pool. Unfortunately, it also means the return of West Nile virus (WNV). No one wants to let pesky mosquitoes ruin our precious months of warm weather. By learning about the virus, the mosquitoes that carry it, and what you and your municipality can do to safely control mosquito populations, avoiding infection is possible.

West Nile virus first appeared in Michigan in the summer of 2001. No humans were infected that year, but several dead birds tested positive. In 2002, Michigan reported the second highest number of West Nile virus cases, with 644 people becoming infected.

Most people (80%) who become infected with WNV through a mosquito bite never experience symptoms of illness and develop immunity to future infection. The majority of those who do become ill complain of fever, headache, body aches, fatigue, or sometimes swollen-lymph nodes and rashes. Occasionally, WNV progresses into meningitis or encephalitis, which can be fatal. Last year, in Michigan, 51 people died from WNV infection. Young, healthy individuals have a much lower risk of suffering severe symptoms from WNV infections than the elderly and those with compromised immune systems; 83.3 % of deaths in Michigan were people of age 65 or older.¹

Although healthy individuals have a very small chance of dying from West Nile virus, citizens are understandably

concerned. Rather than rely on chance alone residents can take important actions to significantly reduce their risk of contracting West Nile virus.

The first step towards prevention is getting to know the enemy. Not every mosquito carries WNV. Of the 60 different species of mosquitoes present in Michigan, the main WNV vector is *Culex pipiens*. This particular culprit prefers urban and suburban environments to rural, swamp, or marsh areas. The foul, stagnant water that puddles on city streets or in suburban neighborhood garbage pails provides *C. pipiens* with their favorite egg-laying environment.

Mosquito eggs mature through larval and pupal stages before emerging as flying adults, roughly 7 to 14 days later. Adult members of *C. pipiens* generally fly only a few hundred feet from their breeding sites in search of food. As a result, the mosquito that bites you on your front porch, probably bred on your property. Eliminating breeding habitat in and around the home is therefore the most effective way for individuals to protect themselves from WNV infection.

To do this, identify all areas on your property where water may collect and remove or frequently change the water. For example, regularly empty vases, plant pots, and pool or boat covers; frequently change water in bird-baths and pet dishes; repair clogged or sagging gutters; dispose of old tires; drill holes in tire swings and recycling bins; cover garbage pails; and store boats upside down.

Despite your best efforts, some mosquitoes will survive. Several easy

steps can help minimize the number of bites you receive at home.

- Repair or replace all screens and be sure window and door framing is intact.
- Wear long clothing at dawn and dusk, or at any other time of high mosquito activity.
- Keep a fan beside you when sitting outside to keep mosquitoes from landing long enough to bite.
- Encourage habitat that attracts mosquito-eating birds and insects.

Local governments are also doing their part to protect you from West Nile virus. The absence of spray trucks in your neighborhood does not indicate a lack of action. Many local officials are taking charge by educating residents about the risks of West Nile virus, identifying probable breeding sites on public lands, and monitoring mosquito populations. Some municipalities have decided to use chemical controls. The least toxic chemical control option is to apply a larvicide to water with confirmed high levels of mosquito larval activity. The two least toxic larvicides are Bti and Bs, trade names Vectobac and Vectolex respectively. Aerial spraying of adult mosquitoes is the least effective control method and poses the greatest risk to human health. Call your local town supervisor to see what your community is planning.

¹ WEST NILE VIRUS SUMMARY, MICHIGAN 2002.
[HTTP://WWW.MICHIGAN.GOV](http://www.michigan.gov)

For any additional information on West Nile virus please visit our website at <http://www.local-motion.org/wnv>



LIQUID SILVER

—Melissa C. Vachon

MERCURY IN THE TRUNK?

Mercury. Liquid metal. This strange and curious element that defies our common definition of all things metal has been very useful over the years. When the organic form, methylmercury, is ingested, however, there can be serious negative health consequences. Environmental contamination from household products and industrial sources raises concerns about the production, use, and disposal of mercury containing products—even in seemingly small amounts. Mercury can be found in such everyday items as car trunk and hood light switches, thermostats, thermometers, and fluorescent and high intensity discharge (HID) bulbs. There are alternatives to mercury containing products. Car switches with mercury can be exchanged for mercury-free switches that cost less than fifty cents. Digital thermometers are replacing mercury thermometers in schools, hospitals, and homes. For those items that do contain mercury, proper disposal is essential. Many municipalities have programs accepting mercury-containing light bulbs and other products containing small amounts of hazardous materials from residents.

DID YOU KNOW?

- The Clean Car Campaign "Switch the Switch" program aims to recover mercury from vehicles currently on the road and "retired" vehicles. To find out if your car or truck has mercury switches go to www.cleancarcampaign.org.
- Michigan has joined 9 other states with a bill prohibiting mercury thermometer sales. The new state law became effective on January 1, 2003.
- National Electrical Manufacturers Association (NEMA) recently announced a national program that will label mer-

cury-containing bulbs produced by their member corporations. The symbol "HG" will appear on the bulbs and the packaging. Packaging will also provide a website (<http://www.lamprecycle.org>) and a toll-free number to call for information on proper disposal.

- Businesses, large and small, are required to recycle their mercury-containing bulbs. Michigan's Department of Environmental Quality has produced the DEQ Recycled Materials Market Directory, which provides information on where businesses can send their used bulbs. The directory is available at:

http://www.michigan.gov/deq/0,1607,7-135-3585_4130-12387--,00.html or call 1-800-662-9278 to request a printed copy.

- Mercury in fish is still the number one route of human exposure.

WHERE ARE YOU ANGLING YOUR HOOK?

Summertime is for barbeques, picnics, camping and fishing. But before you fire up the grill, pack the tuna salad, or light the campfire remember to check state and federal fish advisories. Lake fish and seafood are rich sources of protein, omega 3 fatty acids, and minerals. Unfortunately, fish and shellfish accumulate environmental toxins. The Federal Drug Administration (FDA) states that, "Nearly all fish contain trace amounts of methylmercury, which are not harmful to humans. However, long-lived, larger fish that feed on other fish accumulate the highest levels of methylmercury and pose the greatest risk to people who eat them regularly." The FDA lists shark, swordfish, king mackerel, and tilefish on their federal advisory. The fish listed in the 2003 Michigan Family Fish Consumption Guide may contain mercury, PCBs, dioxins, chlordanes, and/or DDT. The guide is available online at:

<http://www.michigan.gov/mdch> (click on "Statistics & Reports") or call the Michigan Department of Community Health (MDCH) at 1-800-454-8041.

FISH TIDBITS

- Michigan is one of 19 states with statewide advisories for all of its inland freshwater lakes/rivers for at least one species of fish.
- Michigan has the fifth highest acreage of lakes under mercury advisory (887,019).
- Michigan reels in the ninth highest revenues from recreational fishing (\$838,558,000).

SOURCE: CORRIGAN, ZACHARY. *FISHING FOR TROUBLE: HOW TOXIC MERCURY CONTAMINATES OUR WATERWAYS AND THREATENS RECREATIONAL FISHING*, UNITED STATES PUBLIC INTEREST RESEARCH GROUP EDUCATION FUND, JUNE 2003.

- According to the MDCH, 50% of contaminants such as PCBs can be removed from fish by trimming the fat and cooking so the fat drains off.
- Mercury is found in the muscle of fish (filet). Skimming the fat does not reduce exposure to mercury.
- EPA recommends eating less than 10 grams of fish and shellfish per day (less than 3 ounces per week or a half can of tuna).
- According to a recent study published in the Journal of the American Medical Association, blood mercury levels were 4 times higher in women who ate 3 or more servings of fish in the past 30 days versus women who ate no fish during that time.
- According to a report by the Centers for Disease Control, more than 375,000 children born in the United States each year are at risk for neurodevelopment problems, from mild learning disabilities to mental retardation, because of exposure to mercury in the womb.

appearance.

The corn gluten meal used at the **Tot Lot** also acts as a pre-emergent herbicide, stopping root formation at the time of germination. Brett Marshall of Marshall Landscape, Inc. maintains the park along with the Department of Parks and Recreation. He points out that corn gluten meal will not kill weeds that are already established. As well, the herbicidal properties of corn gluten meal can take up to three years to take full effect. In the mean time, volunteers will hand pull visible weeds. Extra grass seed will be spread in the fall to help the turf out-compete weeds.

AERATION

Heavily used lawns and parks will have compacted soil, making it hard for oxygen, nutrients, and water to reach grass roots. Aeration, or the removal of plugs of soil, allows oxygen to reach deep into the soil and promotes root growth and proper drainage. Earthworms also naturally aerate the soil (another reason to hold off on the pesticides and synthetic fertilizers).



Pier Park is aerated every spring.

MOWING

Simply mowing the grass taller (3 inches) is an excellent way to reduce the need for herbicides. Taller blades provide shade, reducing crab grass and other weeds from germinating. Taller grass is also more stress tolerant due to a larger root structure and an increased uptake of water and nutrients. This is especially important during the intense summer heat.

Mowing techniques throughout **Pier Park** reduce the need for herbi-

cides and more frequent applications of fertilizer. The grass is mown to a height of 3 inches and clippings are left on the lawn to return important nutrients to the soil.

WHAT CAN YOU DO TO REDUCE THE USE OF SYNTHETIC FERTILIZERS AND PESTICIDES AT HOME?

Residents can reduce their use of pesticides and synthetic fertilizers by following the same simple maintenance techniques used at the **Tot Lot**. Corn gluten meal and other natural fertilizers are available at many garden supply stores or through catalogs. Tools, such as fish-tail weeders, make manual removal of weeds easier. Core aeration machines are also available for do-it-yourselfers. A healthy population of earthworms will also keep the ground well aerated. Brett Marshall suggests homeowners use a mulching lawn mower, if available. A mulching lawn mower finely chops grass clippings before depositing them on the ground, making it easier for beneficial organisms to break them down.

Maintaining a lawn can be a lot of work. Many residents may choose to hire a company to fertilize, rid their lawn of weeds, aerate, or mow. Many lawn care companies now offer non-synthetic or organic fertilization programs. If weeds are completely unacceptable, ask your company to spot treat trouble areas instead of broadcast spraying, although, with time and patience a healthy lawn will naturally out-compete weeds. Ask your lawn care company to mow the grass to a height of 3 inches and to use a mulching mower. If the company does not offer these services consider calling another company.

For a listing of non-synthetic fertilizers and where they are available, or for more information about maintaining a chemical-free yard, please contact LocalMotion.

diphenyl ethers, or PBDEs, whose chemical structure is similar to polychlorinated biphenyls, or PCBs, to be similar to the banned chemicals in other ways too. They persist in the environment, bioaccumulate in animals and humans, disrupt hormones, and cause neurological development problems. PBDEs are used to retard the flammability of electronics, such as televisions and computers as well as furniture, carpet, and building materials. Furniture containing PBDEs can be found in homes, cars, and airplanes. People can be exposed through skin contact or by breathing dust containing PBDEs. Since first identified in the food chain in 1981, PBDEs have shown up in a variety of foods tested including pasta, potatoes, meat, dairy products, and Lake Michigan salmon. The report reveals that alternatives to PBDEs are available, currently in use, and still allow manufacturers to meet strict flame retardant standards. Wool and leather are naturally flame resistant. Some types of synthetic plastics are also inherently flame resistant.

Many companies carry products without PBDEs or have reduced their use of PBDEs including: Apple, Ericsson, IBM, IKEA, Intel, Motorola, NEC, Panasonic, Phillips, and Sony.

MADSEN, TRAVIS, ET AL. *GROWING THREATS: TOXIC FLAME RETARDANTS AND CHILDREN'S HEALTH*. ENVIRONMENT CALIFORNIA RESEARCH AND POLICY CENTER, 2003.



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LocalMotion, a not-for-profit, 501(C)(3) organization, uses reliable, substantive, scientific fact to build support for **better health through fewer toxins.**



*Letter from the
Chairperson*

Dear Friends,

Welcome to the first edition of LocalMotion’s quarterly newsletter! This publication is part of our commitment and continuing effort to raise awareness about the connection between health and the environment (for another way we are working to raise awareness, please see LocalMotion Presents, Pg. 2).

Through three exceptional lecture series, LocalMotion has presented information on how toxins in the environment can have negative health consequences. Many who attended asked, “What can I do?” With this newsletter LocalMotion seeks to provide such solutions. Many of the toxins we are exposed to daily are found in commonly used products. However, there are ways in which we can reduce our exposure to these everyday toxins. In this issue we explore how we can prevent the need for mosquito-killing pesticides (Know Mosquitoes, Pg. 3); eat foods containing fewer pesticides and other toxins (Organic is Beneficial, Pg. 1, Where Are You Angling Your Hook, Pg. 4); and purchase products without harmful substances (ABCs of PBDEs, Pg. 2, Mercury in the Trunk? Pg. 4).

For the past three years, LocalMotion has also been encouraging the reduced use of pesticides in the Grosse Pointe communities and, more recently, other areas of Southeast Michigan. It is exciting to see our work having an impact, whether it is a resident who has switched to non-toxic methods of maintaining their yard or a pesticide-free area at a local park (Is That Your Natural Color? Pg. 1).

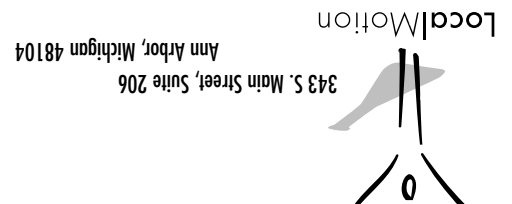
After reading the articles in our first newsletter, I hope that you, too, are inspired to reduce environmental toxins in your life.

Best Regards,

*Missy Danaher
Chairperson*

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