A CALL FOR SAFER SCHOOL GROUNDS:
A Survey of Pesticide Use on K-12 Public School Grounds in Maine
PREFACE

This report was prepared by Toxics Action Center and Toxics Action Center Campaigns, our 501c(4) sister organization. This report is part of our ongoing work with community groups around the state to reduce childhood exposure to pesticides. At Toxics Action Center, we believe everyone has the right to breathe clean air, drink clean water, that our communities should be sustainable, and that our government should operate responsibly and democratically. Our children should be able to grow up free of exposure to dangerous chemicals, and with every opportunity to thrive.

We are grateful for support from the Broad Reach Fund and Maine Initiatives for funding the research that led to this report.

ABOUT TOXICS ACTION CENTER

Toxics Action Center provides assistance to residents working to prevent and clean up toxic hazards in their communities. Since 1987, Toxics Action Center has helped more than 700 communities clean up hazardous waste sites, decrease industrial pollution, curb pesticide spraying, and oppose the siting of dangerous waste, energy and industrial facilities. When government won’t take action, and a company denies there is a problem, Toxics Action Center is a resource for residents concerned about toxic hazards in their communities. We provide residents with information about environmental laws, strategies for organizing, a network of activists throughout the state, and access to legal and technical experts. Toxics Action Center is funded by donations from concerned citizens and grants from private foundations. The financial support enables us to provide our services free of charge to communities facing the threat of toxic pollution. Find out more at www.toxicsaction.org.

ABOUT THE SAFE SCHOOL GROUNDS COALITION

The Safe School Grounds Coalition was created out of local efforts throughout Maine to reduce pesticides on town-owned land. Between 2008 and 2010, Toxics Action Center provided organizing assistance to 11 groups working on pesticide related issues in Maine, including Brooksville, Camden, Cumberland, Falmouth, Gorham, Hiram, Kennebunkport, Ogunquit, Scarborough, South Portland and Yarmouth. Recognizing the momentum, in November 2010 our staff brought together more than 60 local leaders from 25 communities for the Maine Pesticide Summit, where activists learned from each other and strategized on how to support each other’s work and how to pool efforts to make a bigger impact. In an afternoon strategy session at the summit, about 30 core community leaders decided to launch a statewide legislative effort to ban pesticides on public school lawns, playgrounds and athletic fields. Thus began the Safe School Grounds Coalition.
EXECUTIVE SUMMARY

Schools should be safe and healthy environments where children can learn and grow. Concern has been growing among health experts and the public over the health impacts on children exposed to pesticides. Pesticides are toxic by nature, and have been linked to learning disabilities and other serious health effects. Of the 36 most commonly used lawn pesticides: 14 are probably or possible carcinogens, 15 are linked with birth defects, 21 with reproductive effects, 24 with neurotoxicity, 22 with liver or kidney damage, and 34 are sensitizers and/or irritants.¹ Children face higher risks than adults from lawn-chemical exposure because of their small size and developing organ systems.ii

The Maine state legislature requires that all Maine public and private schools adopt Integrated Pest Management (IPM) practices and appoint an Integrated Pest Management coordinator to minimize the use of pesticides in schools and on school grounds. Several Maine communities, including Camden and Scarborough have taken further action and passed policies on the municipal level to curb the use of synthetic pesticides on town-owned land.

It has been over ten years since the State of Maine has issued a comprehensive survey of pesticide use by schools in Maine, so Toxics Action Center conducted a survey of Maine public schools to get a sense of how these IPM policies are working, what pesticides children are most exposed to, and what schools can be used as models for non-toxic pest management practices. We set out to administer 169 surveys via phone and email that covered 584 Maine public schools, 229 school administrative units and 492 municipalities. We received data for 53 surveys with results from 209 schools and 98 municipalities. Depending on the administrative structure of the school, we were often able to get information on a whole district, department, union, or an alternative organizational structure (AOS).

SUMMARY OF FINDINGS

More than half of Maine public schools surveyed spray pesticides: Among the surveys gathered (n=53 which encompasses 209 schools and 98 municipalities) 51% replied that they used pesticides outdoors. This is an increase from the number reported by the Maine Department of Agriculture in 2000. In a 2000 survey of Maine Schools and their Integrated Pest Management practices, almost one-third of schools that responded to the survey said that herbicides or fertilizer-plus-herbicide products are used outdoors.iii

Toxic chemicals are applied on school grounds: Weed and Feed and Roundup were the most commonly reported pesticides used on school grounds. The chemicals in these products, including 2,4-D and glyphosate have known human health impacts, including links in scientific studies to kidney disease and non-Hodgkin lymphoma.

Pesticides are applied for largely cosmetic reasons: The most common reason schools reported the need to spray pesticides was not to reduce pests (such as grubs and bugs). Rather,
schools cited aesthetic reasons, such as needing to get rid of dandelions and brush on athletic fields, reducing broad-leaf weeds around the edges of school buildings and playgrounds, and the reduction of weeds in school gardens.

The state’s IPM policy is inadequate at regulating pesticide application and informing the public on pesticide practices: Although IPM policies and records of pesticide applications are required to be kept by schools under Maine law, the state has largely failed to implement this part of the policy. Sixty percent of schools surveyed reported that they keep IPM records, while 32% reported that they don’t. Eight percent of IPM records are held by outside contractors. In conducting this survey, we received IPM records from only 9% of schools surveyed. Of the survey respondents that reported using pesticides on school grounds, 43% did not have knowledge of the products used.

RECOMMENDATIONS

1) Keep our children safe. The Maine state legislature should ban the use of pesticides on public school grounds. There is considerable scientific evidence that the human brain is not fully formed until age twelve, and childhood exposure to some of the most common pesticides on the market may greatly impact the development of the central nervous system. We should limit children’s exposure to toxic pesticides whenever possible.

2) The Maine State Legislature should ban the use of pesticides for solely aesthetic reasons. Using pesticides for aesthetic reasons is an unnecessary risk to children’s health. Athletic fields and playgrounds are commonly treated for aesthetic reasons, leaving students at greatest risk of exposure.

3) The Maine state legislature and the Maine Department of Education should ban the use of broad-based pesticides such as Weed and Feed and Roundup on public school grounds. Broad-based pesticides, which are designed to kill a number of unwanted weeds and pests, are among the most harmful types of pesticides. Weed and Feed and Roundup are made from glyphosate and 2,4-D, two of the most toxic chemicals used in any pesticides. Our survey results show Weed and Feed and Roundup to be the two most commonly used pesticides on school grounds in Maine.

4) Schools must prepare more specific Integrated Pest Management (IPM) policies to alert parents about pesticide applications when necessary. Because pesticides are toxic, IPM policies and records need to be available online so that parents can see what is being applied at their children’s schools and take proper precautions.

5) The Maine Department of Education should promote organic turf management practices. Schools that manage their grounds exclusively through organic lawn care are very rare. Only nine schools reported the use of organics. Despite this, there is a wide body of evidence
demonstrating that organic lawn maintenance can save money and protect children’s health.

INTRODUCTION: PESTICIDES ARE PERVERSIVE IN SOCIETY

Pesticides are the only toxic substances released intentionally into our environment to kill living things. Pesticides include substances that kill weeds (herbicides), insects (insecticides), fungus (fungicides), rodents (rodenticides), and others.

The use of toxic pesticides to manage pest problems has become a common practice around the world. Pesticides are used almost everywhere – not only in agricultural fields, but also in homes, parks, schools, buildings, forests, and roads. It is difficult to find somewhere where pesticides aren’t used – from the can of bug spray under the kitchen sink to the airplane crop dusting acres of farmland, our world is filled with pesticides. In addition, pesticides can be found in the air we breathe, the food we eat, and the water we drink.

When Rachel Carson wrote Silent Spring in 1962, she raised public awareness about the effects of pesticide use on our health and our environment. However, fifty years after Carson drew attention to the health and environmental impacts of DDT, use of equally hazardous pesticides has only increased. More evidence has surfaced that human exposure to pesticides is linked to health problems. For example, in May 2010, scientists from the University of Montreal and Harvard University released a study that found that exposure to pesticide residues on vegetables and fruit may double a child’s risk of attention deficit hyperactivity disorder (ADHD), a condition that can cause inattention, hyperactivity, and impulsivity in children. Just recently in November 2012, the American Academy of Pediatrics published a report regarding childhood exposure to pesticides, and stated that “beyond acute poisoning, the influences of low-level exposures [of pesticides] on child health are of increasing concern.” The report cited epidemiologic studies that linked chronic pesticide exposure to adverse birth outcomes including preterm birth, low birth weight and congenital anomalies, pediatric cancers, neurobehavioral and cognitive deficits, and asthma.

Pesticides are used in our parks and public lands. Pesticides are sprayed on agricultural fields and wood lots. Pesticides can be found in our air, our food, our soil, our water and even in our breast milk. Most alarmingly, pesticides are frequently used in schools, even though children are the most susceptible to pesticides.

PESTICIDES THREATEN CHILDREN’S HEALTH

Pesticides are toxic by design and can affect more than their intended targets – in fact, these toxins have strong effects on people. Pesticides have been linked to a wide range of human health hazards. Of the 36 most commonly used lawn pesticides: 14 are probably or possible carcinogens, 15 are linked with birth defects, 21 with reproductive effects, 24 with
neurotoxicity, 22 with liver or kidney damage, and 34 are sensitizers and/or irritants.\textsuperscript{vi} Studies on lawn product formulations show effects on learning ability, aggressiveness, memory, motor skills and immune system function.\textsuperscript{vii} Lawn products containing herbicides and fertilizers (such as “weed and feed” products) tested on mice show increased risk of infertility, miscarriage, and birth defects at very low dosages.\textsuperscript{viii}

Children are at higher risk from herbicides and insecticides used on lawns. Children face higher risks than adults from lawn-chemical exposure because of their small size and developing organ systems, their greater intake of air relative to body weight, and their typical behavior of playing on or near the ground and putting their hands close to their faces.\textsuperscript{ix} Children ages 6-11 nationwide have significantly higher levels of pesticide residues in their bodies than all other age categories.\textsuperscript{x} The National Academy of Sciences reports that children are more susceptible to chemicals than adults and estimates that 50% of lifetime pesticide exposure occurs during the first five years of life.\textsuperscript{x} There is also considerable scientific evidence that the human brain is not fully formed until the age of twelve, and childhood exposure to some of the most common pesticides on the market may greatly impact the development of the central nervous system. Children have not developed their immune systems, nervous systems, or detoxifying mechanisms completely, leaving them less capable of fighting the introduction of toxic pesticides into their systems.

It is a commonly held belief that pesticides break down rapidly in the environment and therefore children are unlikely to be exposed, even a short time after application. The reality is that nearly anywhere pesticides are used, unavoidable contamination occurs. Pesticide residues persist in both indoor and outdoor environments.\textsuperscript{xii} When pesticides are used in school buildings or on school grounds, children and other school occupants face unavoidable exposures. Toxic residue from pesticides can transfer easily from surface to surface, most commonly from clothing or shoes to an indoor area where the chemicals take much longer to break down.

**POTENTIAL HEALTH IMPACTS OF PESTICIDES COMMONLY USED ON MAINE SCHOOL GROUNDS**

According to survey results, Roundup and Weed and Feed are two of the most commonly used pesticides on Maine school grounds and athletic fields.

Glyphosate, the active chemical in Roundup has been linked to a range of human health impacts. According to the U.S. Environmental Protection Agency (EPA), glyphosate can cause kidney damage and reproductive disorders in humans and the American Cancer Society links glyphosate to non-Hodgkins lymphoma. Glyphosate damages human embryonic cells and placental cells in concentrations well below those recommended for agricultural use. Exposure to glyphosate-based herbicides, even at very low doses may result in reproductive and hormonal problems, miscarriages, low birth weights, birth defects, and various cancers.\textsuperscript{xiii}
The main ingredient in Weed and Feed, 2,4-D, is an herbicide that has been registered in the United States since 1948, making it one of the oldest pesticides still legally on the market. It is the third most widely used pesticide in North America. The U.S Geological Survey’s national water quality monitoring program found 2,4-D in about half of all surface water samples across the United States and has been detected in groundwater in at least five states and Canada. 2,4-D is in the same class of herbicides that was combined to make Agent Orange during the Vietnam War. 2,4-D has been shown to have extensive hormone-disrupting activity, including anti-thyroid, androgenic, and estrogenic effects.

These pesticides should not be used on school grounds, especially not on playing fields, where kids have direct contact with the grass. Schools should be safe environments where children can learn and grow.

**RECENT HISTORY OF PESTICIDE REGULATION IN MAINE SCHOOLS:**

**MAINE’S REGULATORY FRAMEWORK**

In 2003, the Maine state legislature passed a bill requiring all Maine schools, both public and private, to adopt Integrated Pest Management (IPM) practices and appoint an IPM coordinator. IPM has been an approach used since the 1960s as a framework for pesticide application. The Maine Department of Agriculture, Food & Rural Resources outlines the Board of Pesticides Control’s requirements for all schools regarding pesticide use in Code of Maine Rules (CMR) 01-026 Chapter 27: Standards for Pesticide Applications and Public Notification in Schools.

Specifically, it outlines in Section 2:

A. All public and private schools in the State of Maine shall adopt and implement a written policy for the application of Integrated Pest Management techniques in school buildings and on school grounds.

B. Each school shall appoint an IPM Coordinator who shall act as the lead person in implementing the school's Integrated Pest Management policy. The IPM Coordinator shall be responsible for coordinating pest monitoring and pesticide applications, and making sure all notice requirements as set forth in this chapter are met. In addition, the IPM Coordinator shall maintain and make available to parents, guardians and staff upon request:

1. the school's IPM Policy,
2. a copy of Code of Maine Rules (CMF) 01-026 Chapter 27: Standards for Pesticide Applications and Public Notification in Schools
3. records of all pesticide applications as required under CMR 01-026 Chapter 50 - Record Keeping and Reporting Requirements,
4. copies of labels and material data safety sheets for all products applied, and
5. when pesticides not exempt under Section 3 are applied, records of the IPM steps taken as described in Section 5.B. of this chapter.

C. Each school shall provide an annual notice to parents or guardians and school employees. This notice must be provided within two weeks of the start of the school
year regardless of whether there are plans to have pesticides applied in the coming year.

In 2011, a bill was introduced in the Maine state legislature to ban pesticides on school grounds. Ultimately, the bill was gutted and amended to continue to rely on IPM and instead require development of Best Management Practices (BMPs) and direct the Maine Board of Pesticides Control to assess compliance with current IPM regulations. In February of 2012, these Best Management Practices were adopted by the Board of Pesticides Control with a goal of minimizing human exposure to pesticides, and:

- Minimize pesticide use
- Maintain healthy plants
- Choose pest resistant plant varieties
- Apply spot treatments whenever possible
- Choose products proven to be effective at low application rates
- Choose products that leave little or no residue
- Apply when school is not in session or over extended vacations
- Keep people off treated areas for as long as possible
- Check product label for minimum reentry time

MAINE’S CURRENT REGULATORY SYSTEM FAILS TO PROTECT PUBLIC HEALTH

Unfortunately, the implementation of IPM and BPM by Maine schools often falls short of what Maine law requires. On paper, these policies should reduce human exposure to pesticides. In practice, they rarely live up to their intent. In reality, these policies and practices delay exposure but do not significantly reduce exposure. Within the policies, there is no streamlined evaluation and regulation of these rules by the Maine Board of Pesticides Control. For example, although schools are required to keep IPM policies and records on file, schools are not required to submit them to the Board of Pesticides Control, who in name should be administering the requirements of the law.

There is a whole other set of problems within BPM. Within BPM, there is no recommended timeline for testing safer organic and alternative methods before turning to synthetic pesticides. Therefore the recommendation to ‘think first spray last’ doesn’t require that much thinking before resorting to pesticides. Also, BPM separates school ground turf fields into four ‘Grounds Maintenance Priority Levels,’ which correspond to the intensity of use and aesthetic importance of each area. For example, high impact varsity athletic fields are often categorized into Level 1 or Level 2 priority levels, therefore requiring more maintenance and often times receiving a recommended synthetic pesticide treatment. BPM emphasizes aesthetics as the most important factor to consider when thinking about reducing pesticide use on such fields. If the real intent of BPM is to reduce human exposure to pesticides, alternative methods would outnumber synthetic recommendations for fields that receive the most amount of human play.
In addition to the problems with implementation, evaluation, and regulation, IPM policies and BPM often fall short of protecting human health and the environment, mainly because the broader regulatory system for pesticides is inadequate.

Even if scientific studies point to serious health and environmental impacts from pesticide exposure, including cancer and genetic damage, pesticides may still be allowed for use. The EPA may determine that a cancer-causing chemical may be used despite its public health hazard if its "economic, social or environmental" benefits are deemed greater than its risk. According to the EPA, more than 70 active ingredients known to cause cancer in animal tests are allowed for use. In addition, although industry tests for a wide range of environmental and health impacts, the vast majority of pesticides currently on the market have not been fully tested, particularly for their impacts on humans.

Pesticides often contain inert ingredients in addition to the active ingredients designed to kill the target pest. Unfortunately, the public is not provided information about what inert ingredients are included in pesticides in most cases. Instead inert ingredients are protected as ‘trade secrets’ and companies are not required to disclose them.

At least 382 of the chemicals EPA lists as inert ingredients were once or are currently also registered as pesticide active ingredients. This means that the public is kept in the dark about potentially hazardous contents of pesticide products. Among the chemical compounds listed as both inert and active ingredients are chloropicrin, which has been linked to asthma and pulmonary edema, and chlorothanil, a probable human carcinogen.

**ALTERNATIVES EXIST TO PESTICIDE USE ON SCHOOL GROUNDS AND MANY SCHOOLS AND STATES ARE LEADING THE WAY**

Because the broader regulatory system for pesticides is inadequate, many states and schools are leading the way for pesticide reform. In Maine, the towns of Camden, Ogunquit, and Scarborough have all passed municipal-wide bans for toxic pesticide use on town-owned land. Citizens in Camden has gone a step further in getting schools and daycare centers on board with kid-friendly lawn care, and committing business and apartment managers and local residents to go organic.

There are a number of states with strict pesticide policies that restrict pesticide use on public school grounds including Connecticut and New York. The Child-Safe Playing Fields Act, which went into full effect in New York in May of 2011, prevents all K-12 schools and daycare facilities from using pesticides on their properties. The results have been positive and while having eliminated toxic pesticide use, schools are reporting effective pest management and significant long-term financial savings.

There are safe solutions to some of the most common lawn pest problems and phasing out pesticide use on school grounds is cost competitive. There is a wide body of evidence
demonstrating that organic lawn maintenance can save money and protect children’s health. Chip Osborne’s report, *A Cost Comparison of Conventional (Chemical) Turf Management and Natural (Organic) Turf Management for School Athletic Fields* indicates that after three to four years, organics will save schools and municipalities money.\textsuperscript{vi}

**Some Common Lawn Pest Problems and Solutions**

<table>
<thead>
<tr>
<th>Problem</th>
<th>Chemical Solutions</th>
<th>Safe Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>White grubs, sod webworms, chinch bugs, etc.</td>
<td>insecticide application (ex: Merit, Dylox, Talstar, Acephate)</td>
<td>apply beneficial nematodes, watering lawn before and after application</td>
</tr>
<tr>
<td>Japanese beetle grubs Weeds</td>
<td>insecticide application (ex: Merit, Orthene, Dylox)</td>
<td>apply Milky Spore powder-can provide years of protection</td>
</tr>
<tr>
<td>Fungal turf diseases</td>
<td>herbicide application (ex: Trimec, Trimec Super, Balan, Tupersan, 2,4-D products)</td>
<td>using a spreader, apply a corn gluten product each spring to control crab grass and dandelions</td>
</tr>
<tr>
<td></td>
<td>fungicide application (Ex: Daconil, Bayleton, Banner, Compass)</td>
<td>pull weeds by hand for large patches in lawn and fill bare spots with compost and grass seed</td>
</tr>
</tbody>
</table>

**Product Cost Benefits of Switching to an Organic Nutrient Spray Program**

Cost comparison on granular fertilizer and compost compared to spraying compost tea and fish hydrolysates in Marblehead, MA\textsuperscript{vii}
SURVEY METHODS

To evaluate the success of IPM programs in Maine at reducing pesticides on school grounds, we conducted a survey of schools across Maine. We developed a set of questions and compiled a list of Maine public schools from the Maine Department of Education website, reaching out to them via phone or e-mail. We asked to talk to the IPM coordinator, or if the IPM coordinator was unavailable, an athletic director, maintenance director, or custodian.

SURVEY RESPONSES

There are 623 public schools in Maine that fall into 229 school administrative units and serve 492 municipalities. Based on the administrative structure of these schools, we were able to administer 169 surveys to various districts, departments, unions, and alternative organizational structures (AOS). We received data from 53 surveys with results from 209 schools and 98 municipalities. This is a 31% survey response rate that covers 34% of public schools in Maine and 20% of Maine’s municipalities.

Among the 209 schools surveyed, 51% of schools replied that they used pesticides outdoors. This is an increase from the number reported by the Maine Department of Agriculture in 2000. In a 2000 survey of Maine Schools and their Integrated Pest Management practices, only one-third of schools that responded to the survey said that herbicides or fertilizer-plus-herbicide products are used outdoors.

Regardless of best practices outlined in IPM, schools are still applying toxic chemicals to school grounds. Weed and Feed and Roundup are among the most commonly applied pesticides on school grounds in Maine. These chemicals in these products, including 2,4-D and glyphosate have been linked to human health impacts including kidney disease and non-Hodgkin lymphoma. Merit and Trimex are other pesticides that are being used on school grounds to address grub problems. Merit is a moderately toxic insecticide. Trimex contains 2,4-D and several other possible carcinogens and toxic ingredients. Safer, cost-effective organic alternatives exist that can be used instead of these toxic chemicals.

The surveys also identified that schools are not fully educated about pesticide products they use. Of the schools that reported using pesticides on school grounds, 43% did not have knowledge of the products used. There is also a large gap in reporting among schools. Sixty percent of schools surveyed reported that they keep IPM records, while 32% reported that they don’t. Eight percent of school records are held by outside contractors. It was difficult to obtain these IPM records, reports, and notifications of pesticide spraying. Only 9% of schools surveyed sent us IPM records. IPM policies should hold schools accountable to report on the use of pesticides, but there is a lack of regulation of these policies on the statewide level. Maine state
policy is largely inadequate in successfully reducing exposure to pesticides, especially on school grounds.

Fortunately, municipalities, school districts, individual schools and other states have chosen to adopt policies limiting the use of toxic pesticides, and instead turn to affordable non-toxic alternatives. There is clearly momentum for Maine state policy makers to take stronger action to protect children from pesticides.

**SURVEY CHALLENGES**

The person assigned as the IPM coordinator varied largely within districts, departments, unions, and AOS. This made it difficult to find the right person that could answer the survey questions and it required quite a bit of follow up. However, depending on the administrative structure of the school, we were often able to get information on a whole district, department, union, or an alternative organizational structure (AOS).

IPM policies also vary widely from school to school and within districts, which created gaps in information gathering, especially when it came to reporting. While some schools indicated that pesticides were being used, the quality of the reporting affected the quality of the data we received.

How a school system manages its lawns and athletic fields varies widely as well. Many schools have a district-wide field maintenance team that deals with all the schools in that system. A number of systems relied on the town for maintenance. A number of districts contract out their lawn maintenance. Again, the quality of the reporting affected the quality of the data we received.
Survey

1. Are you the **Inte grated Pest Management coordinator** for the school/district and what is your job title for the school/district?

2. In **general**, what does the school do to care for the lawns and athletic fields?

   a. What **products** do you use to treat the lawns/fields? (according to the table below)

<table>
<thead>
<tr>
<th></th>
<th>School Lawns</th>
<th>Athletic Fields</th>
<th>Playgrounds</th>
<th>Other Grounds (specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fertilizers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pesticides</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Products (organics?)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. What **pests** are your school/district concerned about for which you apply these products?

4. **Who** does the treatment? a school/district employee, a town employee or a contracted company?
   a. If you use a contracted company, please provide their contact information

5. What **time** of the day/year are the products applied?

6. Are any special **precautions** taken (signs, parental notifications)?

7. Has there been any movement to use **organics**?

8. Overall, we are interested in how each school/district is applying their IPM policy. Are you the person in charge of maintaining the **IPM policy and records** for the lawns and grounds?
   a. If so, are you able to **email** me a copy of your exterior chemical application records?
      i. **When** will I be able to expect those records to be sent?
SURVEY RESULTS

KEY FINDINGS OF THE SURVEY:
1) 51% of schools surveyed reporting using pesticides.
2) Weed and Feed and Roundup are the most widely-used pesticides in schools surveyed.
3) 43% of schools surveyed could not tell us what pesticides are used.
4) 18% of schools surveyed do not have a required IPM policy in place.
5) 32% of schools surveyed do not keep required pesticide application records.
6) 3% of schools surveyed use organic lawn care practice.

MOST WIDELY USED PESTICIDES:

![Figure 1: Results of Pesticides Used in Surveyed Schools]

Weed and Feed and Roundup are the most-widely used products reported by schools. Forty-three percent of schools surveyed reported not knowing what pesticides were used on school grounds.
IPM INCONSISTENCY:

Figure 2: % of Survey Respondents with or without IPM policies

- NO IPM: 18%
- IPM: 82%

Figure 3: % of Surveyed Respondents Record Keeping Practices

- Contractor Keeps Records: 8%
- No Records: 32%
- IPM Record Keeping: 60%

Figure 4: % of Records Received From Survey Respondents

- IPM Records Received
  - Received Records: 9%
  - Did not Receive Records: 91%
Figures 2, 3, and 4 are graphs that respond to IPM findings from our survey. While 82% of schools have IPM policies, 18% of schools surveyed are not fulfilling the state requirement to have an IPM policy. While 68% of schools are keeping records either with a contractor or with the school, 32% of schools do not keep records at all, and are again not fulfilling state requirement. Although we asked for IPM record for all schools we surveyed, we did not receive IPM records from 91% of schools surveyed. IPM records should be accessible to the public and indicate exactly what chemicals are being used on school grounds.

**Figure 6: Products Used by Survey Respondents**

<table>
<thead>
<tr>
<th>Products Used By Surveyed Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pesticide, Fertilizer, and Organic</td>
</tr>
<tr>
<td>Fertilizer and Organics</td>
</tr>
<tr>
<td>Organics</td>
</tr>
<tr>
<td>No Products</td>
</tr>
<tr>
<td>Fertilizer and Pesticides</td>
</tr>
<tr>
<td>Fertilizer</td>
</tr>
<tr>
<td>Pesticide</td>
</tr>
</tbody>
</table>

Figure 6 shows the difference in products used by schools that responded to our survey. Eleven percent of schools use a mixture of fertilizer, pesticides, and organic lawn treatments. Five percent use only fertilizers and organics. Just 3% use strictly organic lawn care. Thirty-four percent of surveyed schools use no products on their lawn and only mow and trim grass and bushes.


III Maine Department of Agriculture. 2000. What’s ‘Bugging’ Our Schools?: Pest Concerns and Pesticide Use in Maine Public Schools. [http://www.state.me.us/agriculture/pesticides/schoolipm/pdf/schoolipm_report.pdf](http://www.state.me.us/agriculture/pesticides/schoolipm/pdf/schoolipm_report.pdf)


VIII Greenlee, A. et al. 2004. “Low-Dose Agrochemicals and Lawn-Care Pesticides Induce Developmental Toxicity in Murine Preimplantation Embryos,” Environmental Health Perspectives 112(6): 703-709; Cavieres,


XIII Grassroots Education Fund.


XVIII Maine Department of Agriculture. 2000. What’s ‘Bugging’ Our Schools?: Pest Concerns and Pesticide Use in Maine Public Schools. [http://www.state.me.us/agriculture/pesticides/schoolipm/pdf/schoolipm_report.pdf](http://www.state.me.us/agriculture/pesticides/schoolipm/pdf/schoolipm_report.pdf)