

REPORT ON LAWN CARE PESTICIDE USE



Pursuant to RIGL §23-25-39



**Submitted to Governor Donald L. Carcieri
and the Rhode Island General Assembly**

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EXECUTIVE SUMMARY

In a recent survey of RI schools, almost half of the respondents reported that they were still using pesticides on their grounds. Pesticides can be harmful to humans, especially children. They are often used in school and childcare buildings and on playing fields. Pesticide exposure has been linked to a number of chronic health problems that include cancer, birth defects, endocrine disruption, asthma, neurological disorders, and immune system deficiencies. Acute symptoms such as nausea, headaches and asthma attacks can occur in the short term when children and adults are exposed to pesticides.

Integrated Pest Management (IPM) is an effective, economical method of pest control that eliminates the root cause of pest problems using a variety of non-toxic measures. IPM strategies have been well documented and often provide not only healthier environments for children, but also have been reported to cost less than traditional pesticide applications. Additionally, IPM may improve staff and student attendance, minimize emergency repair expenses and reduce the amount of waste attributable to infested food products. IPM investments may also result in improved maintenance and sanitation.

While many respondents reported that they were aware of IPM practices and requirements for pesticide use, very few RI schools currently implement alternative pest control methods. Based on the health risks associated with pesticide use school settings, the Department would encourage stricter requirements for the use of pesticides in schools and childcare facilities.

We recommend:

- Development of **support materials** such as IPM fact sheets and guidance regarding ways to minimize exposure and precautions to be taken,
- **electronic tracking** of pesticide applications at schools,
- **limiting the type** of pesticides used on school grounds.
- inclusion of the requirement that any school IPM plan must include pesticide use **only** as a last resort
- require all schools to report information (in a self-certification program similar to existing Environmental Results programs) on pesticide use and IPM Management plans. **Electronic reports** would be developed that would be mandated to be completed by school personnel on a 2 or 3 year cycle that would indicate to the Department the status of school programs and ongoing pesticide use.
- continue **partnership with RI Chemical Safe Schools Committee** to consulted in the ongoing development of IPM issues

LEGISLATION

This report is submitted in accordance with R.I.G.L.23-25-39.

WORKING GROUP

In accordance with the legislation, the Department of Environmental Management utilized members of the RI Chemical Safe Schools Committee as a working group. The

RI Chemical Safe Schools Committee is composed of members from the Department of Environmental Management, the Department of Health, the Department of Elementary and Secondary Education, and various school interest groups. The use of this committee was designed to make use of the existing entity in state government, which was already addressing pesticides in schools, as well as to expedite the process of providing a report in a timely manner. The working group was most influential in dissemination of the school survey necessary to obtain information about lawn care use on school grounds.

HEALTH RISKS ASSOCIATED WITH LAWN CARE PESTICIDES

The Problem

Pesticides are chemicals, designed to kill, control, or repel pests. Pesticides can also be harmful to humans, especially children. They are often used in school and childcare buildings and on playing fields. Rhode Island law requires schools to notify parents and staff prior to pesticide applications inside school buildings. Schools must also notify parents of outdoor applications of pesticides.

Health Effects

Pesticide exposure can occur when chemicals are released into the air children breathe or when applied to the surfaces they touch. Spraying, bombing or fogging are of particular concern. Pesticide exposure has been linked to a number of chronic health problems that include cancer, birth defects, endocrine disruption, asthma, neurological disorders, and immune system deficiencies. Acute symptoms such as nausea, headaches and asthma attacks can occur in the short term when children and adults are exposed to pesticides.

Cancer Research

There is an extensive body of evidence linking pesticides and cancer — particularly leukemia, brain cancer and soft tissue sarcomas.

- Household and garden pesticide use can increase the risk of childhood leukemia as much as seven-fold.^{1,2}
- Risk of childhood brain cancer increased two- to fourfold in families that used no-pest-strips, pesticide bombs, garden pesticides, flea collars and certain head lice pesticides.³
- Children receive 50% of the lifetime cancer risk in the first two years of life.⁴

Asthma Triggers

Multiple studies recognize cockroaches and their byproducts as allergens⁵⁻⁹ and have linked asthma to allergens associated with cockroaches.¹⁰⁻¹⁴ Unfortunately, many people believe that the solution is to increase pesticide use in order to reduce roach populations. However, pesticides themselves can exacerbate asthma. Children have a greater risk of developing asthma by age five after pesticide exposure within the first year of life.¹⁵

Targeting Children

In 1993, the National Research Council published a report documenting that infants and children face higher risks from exposure to pesticides than adults exposed at the same level. Children have faster metabolisms, their organs are in the process of rapid development and their bodies retain some toxins for longer periods of time than adults. Children also spend much of their time in childcare facilities, school or on the playground, three areas where pesticides are commonly used. In addition, children's

behavior, including crawling and frequent hand-to-mouth activity, exposes them to much higher levels of pesticides than adults.

The Solution: Integrated Pest Management

Integrated Pest Management (IPM) is an effective, economical method of pest control that eliminates the root cause of pest problems using a variety of non-toxic measures, such as improved maintenance and sanitation, which minimize pests' access to food, water, and hiding places. Existing pest problems are handled in the least hazardous way in order to minimize pesticide use, toxicity, and risk of exposure.

(Information from the Safer Pest Control Project, Chicago, IL)

BEST PRACTICES

IPM Strategies for Outdoor Sites

Typical Pests:

Mice and rats. Turf pests--broad-leaf and grassy weeds, insects such as beetle grubs or sod webworms, diseases such as brown patch, and vertebrates such as moles. Ornamental plant pests--plant diseases, and insects such as thrips, aphids, Japanese beetles, and bag worms.

Playgrounds, Parking Lots, Athletic Fields, Loading Docks, and Refuse Dumpsters:

- Regularly clean trash containers and gutters and remove all waste, especially food and paper debris.
- Secure lids on trash containers.
- Repair cracks in pavement and sidewalks.
- Provide adequate drainage away from the structure and on the grounds.

Turf

Lawns, athletic fields, and playgrounds:

- Maintain healthy turf by selecting a mixture of turf types (certified seed, sod, or plugs) best adapted for the area. Check university or Cooperative Extension service for recommendations on turf types, management practices, or other information.
- Raise mowing height for turf to enhance its competition with weeds; adjust cutting height of mower, depending on the grass type; sharpen mower blades; and vary mowing patterns to help reduce soil compaction.
- Water turf infrequently but sufficiently during early morning hours to let turf dry out before nightfall; let soil dry slightly between waterings.
- Provide good drainage, and periodically inspect turf for evidence of pests or diseases.
- Allow grass clippings to remain in the turf (use a mulching mower or mow often) or compost with other organic material.
- Have the soil tested to determine pH and fertilizer requirements.

- Use a dethatcher to remove thatch. Do this in early fall or early spring when the lawns can recover and when overseeding operations are likely to be more successful.
- Time fertilizer application appropriately, because excessive fertilizer can cause additional problems, including weed and disease outbreaks. Apply lime if necessary. Use aeration to place soil on top of thatch so that microbes from soil can decompose thatch.
- Seed over existing turf in fall or early spring.
- Obtain more information on turf from EPA's brochure entitled, [Healthy Lawn, Healthy Environment: Caring for Your Lawn in an Environmentally Friendly Way \(PDF\)](#) (1.7 MB, [About PDF](#)).

Ornamental Shrubs and Trees:

- Apply fertilizer and nutrients to annuals and perennials during active growth and to shrubs and trees during dormant season or early in the growing season.
- If using a fertilizer, use the correct one at the suitable time, water properly, and reduce compaction.
- Prune branches to improve plants and prevent access by pests to structures.
- Use the appropriate pest-resistant variety (check with your local Cooperative Extension Service), and properly prune for growth and structure.
- Correctly identify the pest in question. When in doubt, send several specimens to your local Cooperative Extension Service. Once the pest is identified, recommendations can be made.
- Use pheromone traps as a timesaving technique for determining the presence and activity periods of certain pest species. Pheromones are chemicals released by various organisms as means of communication with others of the same species, usually as an aid to mating.
- Select replacement plant material from among the many disease-resistant types being developed by plant breeders throughout the country.
- Check with your local State Cooperative Extension Service or university for information on plant types appropriate for your site.
- Remove susceptible plants if a plant disease recurs and requires too many resources, such as time, energy, personnel, or money. Some ornamental plants, trees, and turf are so susceptible to plant diseases that efforts to keep them healthy may be futile.

Applying Pesticides Judiciously

Many different kinds of pesticides are currently available for use against urban and structural pests. An appropriate application uses the least toxic and most effective and efficient technique and material. Due to their potentially toxic nature, these materials should be applied by qualified applicators in a manner to ensure maximum efficiency, with minimal hazard. Pesticides should be applied only when occupants are not present in areas where they may be exposed to materials applied.

Although EPA registers pesticides for use within the United States, the fact that a particular product is registered does not mean that it is "safe" under all conditions of use. All pesticides used in the U.S. must be EPA registered, and the registration number must be listed on the label. Read and follow the pesticide label directions, know how to

apply and handle these chemicals, and try to minimize the exposure to children, adults, and other non-target species.

The following general recommendations should minimize exposure to people and other non-target species when the application of pesticides is being considered:

- Read and follow all label instructions.
- Choose a pesticide that is labeled for the specific site, intended for the pest you are trying to control, and as target specific as possible, rather than broad spectrum.
- Use a spot-treatment method of application when pesticide treatments are required. Treat only the obviously infested plants in an area. This procedure helps conserve predators and parasites needed to reduce future pest populations and increases the time between pest outbreaks.
- Limit the use of sprays, foggers, or volatile formulations. Instead use bait and crack and crevice application when possible. Look for crack and crevice label instructions on how to apply the pesticide. These treatments maximize the exposure of the pest to the pesticide while minimizing pesticide exposure for the occupants.
- Place all rodenticides either in locations not accessible to children and non-target species or in tamper resistant bait boxes. Outdoors, place bait inside the entrance of an active rodent burrow, and then collapse the burrow entrance over the bait to prevent non-target species' access. Securely lock or fasten shut the lids of all bait boxes. Place bait in the baffle-protected feeding chamber of the box. Never place bait in the runway of the box.
- Apply only when occupants are not present or in areas where they will not be exposed to the material applied. Note any re-entry time limits listed on the label, and be aware that some residues can remain long after application.
- Use proper protective clothing or equipment when applying pesticides.
- Properly ventilate areas after pesticide application.
- Notify students, staff, and interested parents of upcoming pesticide applications if that is part of the school pest management policy. Pay particular attention to those individuals that may be at higher risk.
- Keep copies of current pesticide labels, consumer information sheets, and Material Safety Data Sheets (MSDS) easily accessible.

Storing Pesticides

Store pesticides off site or in buildings that are locked and inaccessible to all undesignated personnel. Be sure adequate ventilation is provided for the pesticide storage area. Store herbicides separately to avoid potential damage to plants from the absorption of vapors onto other pesticides stored nearby. Avoid storing pesticides in places where flooding is possible or in open places where they might spill or leak into the environment. Store flammable liquids away from an ignition source. Check for state recommendations and requirements for pesticide storage.

If pesticides are stored in occupied buildings, take special care to ensure that the air in the occupied spaces does not get contaminated. Place a notice outside the designated storage area. Store all pesticides in their original containers, and secure lids tightly. Make sure that childproof caps are properly fastened. However, even closed pesticide

containers may release toxic chemicals to the air through volatilization. Therefore, store pesticides only in spaces that are physically separated and closed off from occupied spaces and where there is adequate exhaust ventilation (i.e., the air is vented directly to the outside). In addition, precautions are needed to ensure that the air in the storage space has no chance of mixing with the air in the central ventilation system.

The pest manager is responsible for periodically checking stored pesticide containers for leaks or other hazards. To reduce pesticide storage problems, buy only enough of the pesticide product to last through the use season. Mix only the amount of pesticide needed for the immediate application

Evaluating Results and Record Keeping

Successful practice of IPM relies on accurate record keeping. Record keeping allows the school to evaluate the results of practicing IPM to determine if pest management objectives have been met. Keeping accurate records also leads to better decision-making and more efficient procurement. Accurate records of inspecting, identifying, and monitoring activities show changes in the site environment (reduced availability of food, water, or shelter), physical changes (exclusion and repairs), pest population changes (increased or reduced numbers, older or younger pests), or changes in the amount of damage or loss.

A complete and accurate pest management log should be maintained for each property and kept in the office of the pest manager or property manager. Pesticide use records should also be maintained to meet any requirements of the state regulatory agency, School Board, and applicable local regulations. The log book should contain the following items:

- A copy of the Pest Management Plan and service schedule for the property.
- A copy of the current EPA-registered label and the current MSDS for each pesticide product used on school property.
- Pest surveillance data sheets, which record, in a systematic fashion, the type and number of pests or other indicators of pest population levels revealed by the monitoring program for the site. Examples include date, number, location, and rodent species trapped or carcasses removed as well as date, number, and location of new rat burrows observed.
- A diagram noting the location of pest activity, including the location of all traps, trapping devices, and bait stations in or around the site.

This information and additional information about IPM can be found at:
<http://www.epa.gov/pesticides/ipm/brochure/steps6-7.htm>

OTHER JURISDICTIONS EXPERIENCE WITH IPM/COSTS

Excerpts from a fact sheet from the Safer Pest Control Project:

Routine pesticide spraying is common in Rhode Island schools. A recent survey found that over 40% of the 49 respondents surveyed regularly spray pesticides on school property.¹⁶ Spraying pesticides in school buildings and grounds unnecessarily exposes children to potential health risks.

Fortunately, IPM is a proven and cost-effective alternative to routine pesticide spraying and is used in some Rhode Island schools.

Everyone agrees that a good IPM program effectively controls pest, but what about the bottom line? According to the US EPA, "preliminary indications from IPM programs in school systems suggest that long term costs of IPM may be less than a conventional pest control program."¹⁷ And schools around the country have saved with IPM:

- One Maryland school district reported savings of \$6,000 in the three years after implementing IPM and additional savings in reduced food infestations.¹⁸
- Illinois Community Consolidated School District 181 adopted IPM in 1992. Facilities Services Coordinator Sue Kamuda says that IPM has been easy, cost effective and successful.
- Schools in Monroe County, Indiana and Susqueanna, New York documented thousands of dollars in long term cost savings through IPM. (Details below.)

In addition to getting rid of pest cost efficiently, an IPM program can also have some indirect benefits. For example, IPM may improve staff and student attendance, minimize emergency repair expenses and reduce the amount of waste attributable to infested food products. IPM investments may also result in improved maintenance and sanitation.

IPM CASE STUDIES

MONROE COUNTY, IN

Nineteen schools make up the Monroe County School District in Indiana. Before an IPM program was implemented, the school district spent \$34,000 on pest control each year, approximately \$1,800 per school per year. During an IPM pilot program implemented over a period of two years, costs decreased by \$6,000. Monroe County has now been using IPM for 4 years. They have hired one in-house half-time IPM technician to handle the program for \$28,000/year, which includes both personnel and materials. The IPM specialist at the Monroe County School states that, "costs are dependent on the condition of the school. We were lucky in this case that Monroe County began this project with a history of good management practices and a structurally sound school building. If a school isn't in good shape maintenance wise, the start up costs of an IPM program can be a little higher in the beginning."¹⁹

Monroe County's IPM program has not only been cost effective, but also less hazardous. Pesticide use has dropped by 90%, and all aerosol and liquid pesticides have been discontinued. Instead, a bait system (baits used only as a last resort) based on monitoring is used. School staff and the IPM technician note that there have been fewer pest sightings since establishing a solid IPM program. That means less staff time is needed to handle pest problems.

SUSQUEANNA SCHOOL, NY

After Susqueanna School children were accidentally exposed to pesticides and became ill in 1991, the New York Department of Environmental Conservation ordered the school to halt all routine pesticide applications and to implement an IPM program. Indoors, engineers and the pest control company on contract are now pleased with the change. Prior to the IPM program, the school was sprayed monthly for recurring ant problems. Now with monitoring, increased sanitation, education, and least toxic baits used only when needed, the number of ant sightings has decreased substantially, while costs have also declined.

Outdoors, Susqueanna's engineers manage the turf and playing fields, where pesticide application has been discontinued altogether. They now use organic fertilizer and compost twice a year on the athletic fields, aerate the soil four times a year, mow high, and mow often. An engineer at the school says, "cost will depend somewhat on how much labor you need to get the job done. In our case, we spent the first year doing some preventative maintenance such as putting plastic lining under the bleachers, and deeply aerating the fields. We have now cut costs and labor across the board for the past 7 years and the turf looks better than ever."²⁰ Susqueanna School is currently saving over \$1,000.00 on pest control annually with their new IPM program.

RHODE ISLAND PESTICIDE USE SURVEY

A survey of 49 schools (24 public and 23 private) around the state was completed in January, 2008. Pesticide use for lawn care is reported at 20, or 40.82% of these schools. In the Preschool category 2.04% report the use of lawn care pesticides, 14.29% of Elementary Schools, 10.20% of Secondary, and 14.29% of schools with both Elementary and Secondary school facilities report using pesticides.

Seven (7) schools applying lawn care pesticides indicate that they have personnel who self apply these chemicals, 4 schools have the applications done by their city or town public works personnel, 14 have the work done by private contractors, and 2 use a mix of applications by public works employees and private contractors. Private contractors apply slightly over 68% of the pesticides for lawn care.

On average those schools utilizing lawn care pesticides make applications twice per year. The majority of these applications are applied during the summer or when school is not in session (e.g. during school vacations). Making the applications when the facilities are not in use limits the risk to human health from these chemicals. The highest pesticide use is the use of herbicides to control weeds. The second highest use is insecticides. Of the pesticide products reported in the survey most fall in the lower toxicity ranges as they relate to human health.

Six (6) schools have tried alternative pest control methods such as Integrated Pest Management to avoid using pesticides, of these 4 found these alternative controls to be successful. Thirteen (13) schools have at least considered IPM as method to control lawn pests. IPM programs can provide health and economic benefits to schools. One of the largest health advantages of an IPM plan is that it limits and controls the use of pesticides on school grounds thus reducing human exposure. If developed and followed correctly IPM plans can provide economic benefits by decreasing pest damage, reducing un-necessary pesticide applications, improving sanitation and maintenance, etc..

Thirty-five (35) of the schools report that they are aware of Rhode Island IPM in Schools Legislation. This legislation requires the notification of parents and teachers regarding any pesticide application in and around school grounds. Two (2) schools reported that they had been notified of real or alleged health or ill effects as a result of pesticide applications in and around the school.

STATUS OF CURRENT RI LAWS FOR PESTICIDE USE IN SCHOOLS

The Rhode Island Pest Control Act and its Rules and Regulations Pertaining to Pesticides regulate the commercial pesticide application firms contracted by schools. The same law and regulations apply to municipal employees applying pesticides. The Department of Environmental Management's Division of Agriculture, Pesticide Program is charged with enforcing this law and its rules and regulations. Each applicator is required to obtain a professional license or certification to handle and/or apply pesticides and must obtain that license or certification only after completing a training course and successfully passing a state exam. Commercial applicators must maintain their licensed or certified status by either re-examination or accruing eight credit hours of training every five years.

Pesticide uses for lawn care at school facilities varies across the country between mandated and voluntary approaches to their use. Most states recommend or require the use of Integrated Pest Management Programs (IPM) before pesticides are used in and around schools. In states, which have mandated IPM for outdoors or lawn care, they all have common basic requirements when pesticides can be used:

- i. Pesticides cannot be applied on the outdoor property while children are located in, on, or adjacent to the area of pesticide application.
- ii. When a pesticide is to be applied outdoors, the school administration, day care center operator, or school child care program operator must ensure that employee's pupils or supervised children and their guardians receive standard written notification at least two working days before pesticides are to be applied to the property. Standard Written Notification includes the following information:
 - o Approximate dates when the application shall commence and conclude;
 - o Specific location of the application;
 - o Product name, type and EPA Registration number of the pesticide;
 - o An IPM Fact Sheet;
 - o A description of the purpose of the application and
 - o A State Pesticide Program approved statement which describes ways to minimize exposure and precautions to be taken.

This information can be obtained from the pesticide applicator. The notification must also be posted in a common area of the facility at least two working days before the outdoor application is to commence and at least 72 hours after the application. Treated areas will be posted with clear and conspicuous warning signs along the perimeter.
- iii. Standard written notification must be posted in a common area of its facility at least two working days before and three days after the outdoor pesticide application. Treated areas will be posted with clear and conspicuous warning signs along the perimeter in accordance with regulations promulgated by the

state's Pesticide Program governing indoor and outdoor pesticide applications at schools.

- iv. A written or electronic record of any pesticide application made at a school in the state shall be maintained on site for a period of not less than five years, and shall be made available to the public upon request.
- v. Only the following pesticide products can be used on outdoor grounds:
 - o Pesticides used as part of the facility's IPM Plan;
 - o Pesticides which are not classified as known, likely or probable human carcinogens;
 - o Pesticides which do not contain any inert ingredients of toxicological concern; and
 - o Pesticides that are applied for reasons other than purely aesthetic purposes. HOWEVER, a municipality can decide to allow the use of pesticides for aesthetic purposes on outdoor grounds.

Rhode Island pesticide regulations already provide the following regarding pesticide use in and around schools:

- 1.) No person other than a licensed or certified commercial applicator shall apply pesticide within any building or on the grounds of any school, and no pesticide shall be applied in any building or on the grounds of any school during regular school hours or during planned activities at any school. This requirement does not apply to the use of germicides, disinfectants, sanitizers, deodorizers, antimicrobial agents, insecticidal gels, non-volatile insect or rodent bait in a tamper resistant container, insect repellants, the application of a pesticide classified by the United States Environmental Protection Agency as an exempt material under 40 CFR part 152.25, a pesticide application by public health officials during a state public health emergency or the emergency application of a pesticide to eliminate an immediate threat to human health, where it is impractical to obtain the services of a licensed or certified applicator; provided the application does not involve a restricted use or state limited use pesticide.
- (2) No person shall apply "restricted use" pesticides or "state limited use" pesticides in or around school property of grades preschool through twelve (12) at any time without prior written approval from the school administration and Department of Environmental Management.
- (3) RULE 23 of Rhode Islands Rules and Regulations Pertaining to Pesticides entitled TURF MANAGEMENT AND LAWN CARE state:
 - (A) Definitions – Unless defined in Rule 4 or the context clearly indicates otherwise, the following terms shall have the following meanings as they are applied to turf management and lawn care:
 - (1) Homeowner shall mean the owner or occupant of a private single-family residence or the manager of a multi-unit dwelling.
 - (2) Applicator shall mean the individual or company providing lawn care services.
 - (3) Immediate Service Call shall include: 1) customer complaints, 2) lawn threatening pests – but shall not include regularly scheduled treatments.

- (4) End Use Product shall mean the pesticide(s) as applied and shall not mean the concentrate.
- (5) Public Recreation Facilities shall include golf courses, playgrounds, athletic facilities, **school grounds**, and parks.
- (B) After entering into or renewing an agreement to apply pesticides to control lawn or turf pests and prior to the initial application of such pesticides, the applicator shall provide the homeowner with a written list of those pesticides, which may be used. Such list shall include common and most likely trade name of each pesticide and any post-application safety, environment or health instructions specified on the label for the end use product. In addition to said list the applicator must inform the homeowner, in writing, that they may request a copy of the label, and/or the material safety data sheet, and/or the EPA Fact Sheet, if available, on any pesticide, which may be used. The Director may require the inclusion of any additional health, safety or environmental instructions generated by the EPA, Department of Environmental Management or Department of Health.
- (C) Any contiguous neighbor to a property under an agreement in (B) above may request the applicator to provide notice 48 hours in advance of each application. If notice by telephone, or mail or in person, cannot be given 48 hours before the application of pesticides the applicator shall leave written notice at that house following the application. Such advance notice shall not be required for immediate service calls. In those cases, written notification following the application shall be left at the requesting neighbor's house.
- (D) Upon completion of each application, the applicator shall leave written notice at the property treated containing the following information:
- (1) The product name of the pesticide(s) that were applied to the property and EPA registration Number.
 - (2) A telephone number of the applicator or applicator's company.
 - (3) The telephone number of the Department of Environmental Management.
 - (4) The name of the person(s) certified or licensed by the Department as well as person(s) applying the pesticide if under the direct supervision of a certified or licensed commercial applicator who participated in the planning and execution of the application.
 - (5) The applicators certification and/or license number.
- (E) At the time of each application, the applicator shall post signs, as prescribed in (F) below, in conspicuous points of access to the property and shall instruct the customer as to their appropriate removal. Conspicuous points of access shall include but not be limited to, unobstructed abutting yard, walkways, paths, etc.
- (F) Prior to commencing each application of a pesticide, the manager of a public recreation facility shall post a notice in the place most likely to inform those who make use of the facility. Such notice shall remain in place for 48 hours after completion of the application. The notice shall list "that pesticides were applied," the date of chemical application, contact person and phone number and the areas treated.
- (G) Signs posted by Commercial Companies shall be no less than 20 square inches (4" X 5") and shall be printed with the following information on waterproof stock in dark letters on a white field:

Lawn Chemicals Applied (in letters at least ½" high)
Applicator or Company Name
Phone Number of Applicator or Company
Date of Chemical Application
Keep Posted for 48 Hours, or as specified by the label, if more than
48 hours
(No smaller than ¼" letters)

(H) Each applicator shall make any written material required in this rule readily available to the Department upon request.

CONCLUSIONS AND RECOMMENDATIONS

The existing State of Rhode Island regulations are quite comprehensive when compared to the common basic requirements used in other states. To further strengthen our program we recommend:

- Development of support materials such as IPM fact sheets, and guidance regarding ways to minimize exposure and precautions to be taken,
- electronic tracking of pesticide applications at schools,
- limiting the type of pesticides used on school grounds,
- inclusion of the requirement that any school IPM plan must include pesticide use only as a last resort.

Enforcement activities for the existing provisions require routine inspections of pesticide applicators making applications on school grounds. The state's Pesticide Program has lost one full inspector to budget cuts. It is therefore not expected that RIDEM can add routine inspections for pesticide use specifically at schools to their workplans. The program currently relies on existing staff to "pick up" these types of inspections during routine applicator inspections of municipal personnel or of companies providing lawn care service to schools. At best it is a hit-or-miss approach to enforcement. This shortage of resources makes it impossible to accomplish any additional regulatory requirement work. Realizing that this situation will probably not get better in the near future, we recommend that a self-certification program, in a manner similar to the programs implemented by RIDEM's Office of Technical and Customer Assistance in their Environmental Results Programs (ERPs) be used to require all schools to report information on pesticide use and IPM Management plans. Electronic reports would be developed that would be mandated to be completed by school personnel on a 2 or 3 year cycle that would indicate to the Department the status of school programs and ongoing pesticide use. The electronic information could be reported in cycles and information could be compared over each year. This system would allow the Department to review the efforts of the schools on a regular basis and alert us to any need to further strengthen the laws relating to this program.

Finally, the recent coordination with the RI Chemical Safe Schools Committee has been proven to be a successful partnership, as it appears to bring together the exact group that is necessary to address these types of issues. The combination of skills and experience that this group holds is an excellent fit for the problems that may arise in the regulation of pesticide issues. It is therefore strongly recommended that this existing committee continue to consult in the ongoing development of IPM issues in RI schools.

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