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New Jersey School Integrated Pest Management (IPM) Program

Introduction

On December 12, 2002, Governor James McGreevey signed into law the [2002 NJ School Integrated Pest Management Act](#), which becomes effective for schools on June 12, 2004. This website was designed to assist public, private and charter schools with the implementation of their individual IPM programs, enabling compliance with this new law. The School IPM Act requires schools to establish an IPM program, which includes adopting a [Model IPM Policy](#) and implementing a Model IPM Plan, which is a comprehensive site-specific document, which guides a school's day-to-day activities for controlling pests. The Policy and Plan cover both the management of indoor pests such as rodents and cockroaches, as well as outdoor pests such as weeds or stinging insects. This website also includes various samples or model documents to help schools successfully implement their IPM Policies and Plans. Model documents for such things as IPM Plans, a 72 hour notification form for parental and staff notification of pesticide use, Model Contract bid specifications for pest control contractors and other model documents are included to help schools comply.

What is IPM?

IPM is a thoughtful, holistic approach to controlling pests that uses a wide variety of tools such as sanitation, structural modifications and other management techniques rather than automatically turning to chemical control as a first option. Pesticide use is an important tool in the pest control "toolbox" but often an effective IPM program can reduce the reliance on chemical control. In a typical program, pertinent information about a pest is combined with careful selection of suitable management techniques to eliminate the causes of pest outbreaks or to otherwise manage the pest in an economical manner that also represents the lowest possible hazard to people, property, and the environment. The legal definition for IPM from the state regulations at N.J.A.C. Title 7:30-1 is the following:

"'Integrated pest management' or 'IPM' means a sustainable approach to managing pests by using all appropriate technology and management practices in a way that minimizes health, environmental and economic risks. IPM includes, but is not limited to, monitoring pest populations, consumer education, and when needed cultivation practices, sanitation, solid waste management, structural maintenance, physical, mechanical, biological and chemical controls."

The School IPM Act adds another aspect to the decision-making process for controlling pests as described above. When a school decides after considering all available pest control options, that pesticide use is needed, the law indicates that preference should be given to using a [low impact pesticide](#).

Why Practice IPM in Schools?

Besides the fact that state law is mandating IPM in New Jersey schools, there are a number of potential health and economic benefits to schools. Reducing the potential for pesticide exposure to children is the driving force behind the School IPM Act. Children are more vulnerable to the effects of pesticides than adults; the school environment is therefore an ideal place to reduce the potential for pesticide exposure through an IPM program. In addition, pests have their own set of acknowledged risks to personal health, property, and the food supply. An effective IPM program can manage the risks from both pesticide and pest, and protect human health by:

- Reducing student and staff exposure to pesticides

- Suppressing pests that may carry allergens or disease pathogens
- Reducing environmental pollution

Implementing IPM may provide cost savings and other economic benefits by:

- Reducing pest damage
- Reducing unnecessary pesticide applications
- Minimizing emergency repairs
- Improving maintenance and sanitation
- Reducing waste caused by infested food products

How to Get Started

IPM begins with learning how to prevent both indoor and outdoor pests from becoming established. Regular communication with the pest control professional hired by the school who must be knowledgeable in IPM is essential to success. With an understanding of how pests live, problems can often be prevented simply by denying them food, shelter, or water - the resources they need to survive and reproduce. Good facilities management is essential to IPM. Preventing an indoor pest may be as simple as blocking the pest's access into buildings or paying extra attention to sanitation and maintenance. Promoting healthy turf on athletic fields may prevent the need for chemical weed or insect control. Buildings must be kept clean, uncluttered, and in good repair to ensure healthy indoor air, maintain structural integrity, and conserve costs and energy. This will also help keep pests below harmful levels. IPM can be a cost-effective way to provide a safe and healthy environment in which students and staff can learn and work. For specifics about the plan your school must follow, see the Model IPM Plan on this website.

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Guidance on "Low Impact" Pesticides

Introduction

The School IPM Law requires that after non-chemical means of pest control have been considered and exhausted and pesticide use is deemed necessary, preference be given to using a pesticide that is classified as "low impact". The use of a low impact pesticide prevents the need for the school to post warning signs or send notices to all staff and parents. This section is designed to clarify what pesticides or pesticide ingredients fit into this classification, and how reducing risk is a process that goes beyond mere product selection.

The law's preference for pesticides it classifies as low impact is an attempt to reduce exposure risk by choosing pesticides that the law considers to be of relatively minimal risk compared to other pesticides. This leads to a very important point for IPM programs and pesticide use in general. Pesticides have some degree of risk associated with them, including those that the law considers "low impact". In order for a pesticide to be truly low impact, other considerations beyond the choice of pesticide product must be considered, including the timing, methods, and site of the pesticide application. Actual risk reduction from pesticide use can only be achieved by careful and knowledgeable product selection, well placed product application and appropriately timed applications.

For example, when a pesticide such as boric acid is classified as "low-impact", consumers or school officials may be led to believe that it can be used without risk. However, children may have adverse reactions when exposed to oral or dermal contact with the product due to improper application. Boric acid will repel and kill cockroaches when it is applied as a fine dust in wall voids inaccessible to people. When applied in this fashion, boric acid could appropriately fulfill its designation as low impact; it has a low volatility and is relatively low in risk to mammals. However, when applied in clumps along baseboards and heating elements where it can become airborne or picked up and handled by small children, this particular application of boric acid is not fulfilling the intent of its low impact designation. In this scenario, boric acid poses a high risk of exposure to children.

In order for a pesticide selection to truly reduce risk in an IPM program (whether or not it is classified as low impact under the law), the following questions must be asked:

- ▶ What is the pesticide being used for?
- ▶ When will it be used?
- ▶ Where is it going to be applied?
- ▶ What methods will be used to apply the pesticide?
- ▶ What organisms will it potentially effect other than the target organism?
- ▶ How much control does the pest control professional or school official have over the application of this pesticide (will it drift? translocate? be carried around?)

Now that it is clear that reducing pesticide risk goes beyond the selection of the product, it is time to discuss the actual list of pesticides and categories of pesticides deemed "low impact" under the law.

List of Low Impact Pesticides

Low impact pesticides as defined in the School IPM Law can be classified in two categories. The first category is pesticides or substances that the Federal Environmental Protection Agency (EPA) has decided are not necessary to regulate, generally because of the minimal risk they represent. The second is a group of other pesticide ingredients or formulation types that the School IPM Law considered to be of lesser risk because of the nature of the product formulation, the ingredient, or how it is used. Become familiar with the products described or listed here. If your IPM decision-making leads you to the conclusion that pesticide use is needed, consult with the pest control professional for your school to determine if any of these pesticides will adequately solve the problem. Questions about whether a product qualifies as low impact should be directed to the Pesticide Control Program at (609) 984-6568.

1. EPA Exempt Pesticides or Substances

The following pesticides have been determined by EPA to not require regulation, and are listed in the federal regulations (for exact text of this federal regulation, please visit the following text excerpted from the Code of Federal Regulations: [40 CFR § 152.25](#)).

- a. **Treated articles or substances**- for instance, wood treated to repel insects. Although the wood has been treated with a pesticide, the wood itself is not considered a pesticide.
- b. **Pheromones or pheromone traps**- substances produced by insects that can be used to lure or trap insect pests of the same species.
- c. **Preservatives** for biological specimens, such as embalming fluids, when used for that purpose.
- d. **Food**- food products used to attract pests.
- e. **Cedar wood**- blocks, shavings, chips, etc., used to repel insects.

f. **"Minimum risk" pesticides.** The following lists "active" ingredients (the ingredient with the pesticide value) that are exempt from EPA regulation assuming the product meets certain conditions. If these ingredients are in a product that is properly labeled with all ingredients (both active and "inert"), does not claim to control disease-carrying pests, and does not make false or misleading claims, they are considered "minimum risk" and thus able to be used as a low impact pesticide under the law.

Castor oil (U.S.P. or equivalent)
Cedar oil
Cinnamon and cinnamon oil

Citric acid
Citronella and citronella oil
Cloves and clove oil
Corn gluten meal
Corn oil
Cottonseed oil
Dried blood
Eugenol
Garlic and garlic oil
Geraniol
Geranium oil
Lauryl sulfate
Lemongrass oil
Linseed oil
Malic acid
Mint and mint oil
Peppermint and peppermint oil
2-Phenethyl propionate (2-phenylethyl propionate)
Potassium sorbate
Putrescent whole egg solids
Rosemary and rosemary oil
Sesame (includes ground sesame plant) and sesame oil
Sodium chloride (common salt)
Sodium lauryl sulfate
Soybean oil
Thyme and thyme oil
White pepper
Zinc metal strips (consisting solely of zinc metal and impurities)

These active ingredients listed above may be combined with any of a number of "inert" ingredients from a list published by EPA. This list of minimum risk inert ingredients is known as List "4A". The current up-to-date list can be obtained from EPA's internet web site for [List 4A ingredients](#).

2. Other Pesticides the School IPM Law Considers "Low Impact"

The following ingredients or types of pesticides are also considered low impact.

a. Formulation Types- gels, pastes, or baits. Ant traps and insecticide gels are good examples of this class of low impact pesticides. Rodent baits also fit into this designation, although rodent baits should be rare in an effective school IPM program.

b. Antimicrobial products- pesticides used to kill microorganisms such as bacteria and fungus. Disinfectants, cleaners, mold and mildew removers all fall into this classification.

The full definition of these products from state pesticide regulations at N.J.A.C. 7:30-1.2 is as follows:

“Antimicrobial agents” means:

1. Disinfectants intended to destroy or irreversibly inactivate infectious or other undesirable bacteria, pathogenic fungi, or viruses on surfaces or inanimate objects;
2. Sanitizers intended to reduce the number of living bacteria or viable virus particles on inanimate surfaces, in water, or in air;
3. Bacteriostats intended to inhibit the growth of bacteria in the presence of moisture;
4. Sterilizers intended to destroy viruses and all living bacteria, fungi, and their spores, on inanimate surfaces; or
5. Fungicides and fungistats intended to inhibit the growth of, or destroy fungi (including yeasts) pathogenic to man or other animals on inanimate surfaces;
6. Commodity preservatives and protectants intended to inhibit the growth of, or destroy bacteria in or on raw materials (such as adhesives or plastics) used in manufacturing, or manufactured products (such as fuel, textiles, lubricants, and paints); or
7. General use algicides labeled for use in:
 - i. Swimming pools, hot tubs, whirlpools, spas, ornamental ponds, fountains, fish tanks, and waterbeds;
 - ii. Water, wastewater and sewerage treatment plants, but only where there is a controlled inlet and outlet; and
 - iii. Industrial, commercial, and manufacturing processes.

c. Specific Active Ingredients- Specific pesticide ingredients the School IPM Law has added to the low impact designation are:

1. boric acid
2. disodium octoborate tetrahydrate
3. silica gel
4. diatomaceous earth

d. Microbe based insecticides- the most common example of this would be bacillus thuringiensis or "Bt", a widely used microbe that is the ingredient in many home and garden products, mosquito larvicides, and gypsy moth control products.

e. Botanical insecticides (not synthetic)- a common example of this would be pyrethrins, extracted from the chrysanthemum plant, or neem oil that is extracted from kernels of the neem plant. Synthetic versions of botanicals or those that contain chemical synergists to enhance the potency do not qualify as low impact.

f. Biological, living control agents- a common example of this would be a pesticide that uses parasitic nematodes (a small worm-like organism) as its active ingredient. These nematodes are used to control a wide variety of insects. Beneficial insects would be another type of control agent that would fit into this category. For more information, see the New Jersey Department of Agriculture's internet web site about beneficial insects.

Conclusion

When pesticide use is needed, careful product selection and consideration of low impact pesticides, good communication with the school's pest control professional (if this service is contracted for), and a realization that risk reduction is more than just product selection are the keys to remember.

Overview of the Law

The School IPM Law supplements existing laws and rules at the federal and state level regarding pesticides. Detailed requirements already exist for pesticide applicator licensing, proper pesticide use, sale, storage, and transport. Pesticide product labels are an important component related to school IPM. It is important to note that label directions on pesticide products are the equivalent of federal law and must be followed. However, states can be more stringent than the pesticide label, but never less stringent (since less stringent would violate federal law). One example in the School IPM Law where New Jersey is more stringent than pesticide labels is student re-entry into a pesticide treated area. The use of certain pesticides will trigger a seven-hour wait before students may re-enter the area, whereas those pesticide label directions may say the students may re-enter after "the spray has dried".

The requirements of the **School IPM Act** to be implemented by June 12, 2004 are listed below. Public school boards, trustees of charter schools, and principals or lead administrators of private schools are responsible for complying. The individual named by the school as the IPM coordinator has joint responsibility for many of the requirements as well.

1. **IPM Policy and Plan:** The law required that DEP develop a **Model IPM Policy** in cooperation with the New Jersey School Boards Association, the Department of Education, and Rutgers Cooperative Extension, by December 12, 2003. Part of this Policy requires the development of an **Model IPM Plan** which is a more detailed and site-specific document that covers how the school will carry out IPM on a day-to-day basis, and covers all elements of the Policy in greater detail.
2. **Schools Adopt the Policy:** The law requires the superintendent of each public school district, the board of trustees of a charter school, or the principal or lead administrator of a private school to **adopt and implement a School IPM Policy** consistent with the model mentioned above. Public, private and charter schools with grades pre-kindergarten through 12 must comply. Not covered by the law are colleges, universities, or day care centers (unless the day care center is on a school property).
3. **IPM Coordinator:** Each public school board, charter school, or private school must **appoint an IPM Coordinator** to implement all aspects of the School IPM Policy and related Plan.
4. **Record Keeping:** The **school must keep records of pesticide application** on school property at each school for three years after the date of application and for five years after the application of a pesticide for termite control. Records are obtained from the licensed pesticide applicator performing the work.
5. **Use of Low Impact Pesticides:** Schools must consider the full range of pest management options that IPM requires, and the law additionally **requires a school to consider using a "low impact" pesticide when it has been determined that pesticide use is needed.**

6. **Annual Notice:** The school must provide **Annual Notification** at the beginning of each school year to all staff and parents or guardians. This notice includes the school's IPM Policy and other information about pesticide use at the school, and a contact for further information. After the annual notice is distributed at the beginning of the school year, **new staff and parents or guardians of new students must receive this notice** upon employment or enrollment, respectively.
7. **72 Hour Notification and Posting:** The school must provide prior notice and post signs before the use of any pesticide (except that notification and signs are not needed when low impact pesticides as defined by the law are used). The **notice must be given at least 72 hours before** the pesticide application to all staff and parents or guardians of students enrolled at the school. **Additionally, signs must be posted** at least 72 hours before the pesticide application. These requirements apply when school is in session. During holiday periods or during the summer months when school is not in session, only staff and the parents or guardians of students using the school in an authorized manner need to be notified.

The notice to staff and parents or guardians may be by:

- ▶ Written note that the student takes home;
- ▶ Written note mailed at least one week prior;
- ▶ Phone call;
- ▶ Direct contact;
- ▶ Electronic mail.

The posted notice requirements are:

- ▶ Signs must be posted in or adjacent to area of the pesticide application
- ▶ Signs must also be posted at each entrance to the building or school ground being treated with pesticides
- ▶ The sign must be posted from 72 hours before to 72 hours after the application
- ▶ The size of the sign must be at least 8.5 inches by 11 inches

Communication with the pest control professional is essential for obtaining all necessary information about the planned use of pesticides. Name and EPA Registration number of pesticides to be used, dates and times for the pesticide use, pesticide product labels, and Material Safety Data Sheets (MSDS) should all be available from the pesticide applicator. Since the notices and signs must contain pesticide label precautions that relate to public safety, and possible adverse effects from the MSDS, IPM Coordinators must familiarize themselves with these documents.

8. **Emergency Pesticide Use:** The law provides for **slightly different notification requirements in the event of a "school pest emergency"** that is defined as an "urgent need to mitigate or eliminate a pest that threatens the health or safety of a student or staff member." It is the responsibility of a school official such as the IPM Coordinator to

determine if an emergency exists. One example of an emergency would be the presence of stinging insects such as ground hornets in an athletic field where events are scheduled. If a pest emergency exists, the school may use pesticides, but the posting must be done at the time of the application, and the **Emergency Notification** to parents and staff must be done within 24 hours (or by the next school morning, whichever is earlier) after the emergency application. The notice that goes to parents and staff must explain what the reason for the emergency was, and if possible, what could be done to prevent such an emergency use next time.

9. **Re-entry:** The law requires **schools and pesticide applicators to carefully time applications and strictly control when students re-enter pesticide treated areas.** The following is a summary of these requirements:
 - ▶ Applications of pesticides (except for low impact pesticides) are not allowed in a school building when students are present, unless the area being treated is served by a separate ventilation system and is separated from the untreated area by smoke or fire doors.
 - ▶ For applications of pesticides (except for low impact pesticides) indoors or outdoors, students are not allowed in treated areas prior to the time allowed for re-entry on the pesticide product label. If the label gives no hour-specific time for re-entry, then the law mandates that seven (7) hours must pass before students can re-enter.
 - ▶ For applications of low impact pesticides, students are not allowed to re-enter until the pesticide application has dried or settled, or if the label specifies a re-entry or ventilation time, until that time has passed.

10. **Additional Information Responsibilities:** The IPM Coordinator for the school is jointly responsible along with the school itself, for carrying out all aspects of the IPM program. Additional logistical items the IPM Coordinator must comply with are:
 - ▶ Maintaining information about the IPM Policy and Plan in place at the school
 - ▶ Maintaining information about pesticide applications on school property including records obtained from the pesticide applicator, MSDS when available for pesticides used, and labels for all pesticide products used.
 - ▶ Maintaining records of any pest monitoring or other IPM-related evaluations.
 - ▶ Responding to inquiries and providing information to students, staff, and parents or guardians regarding IPM.
 - ▶ Providing access to the above information for public review.