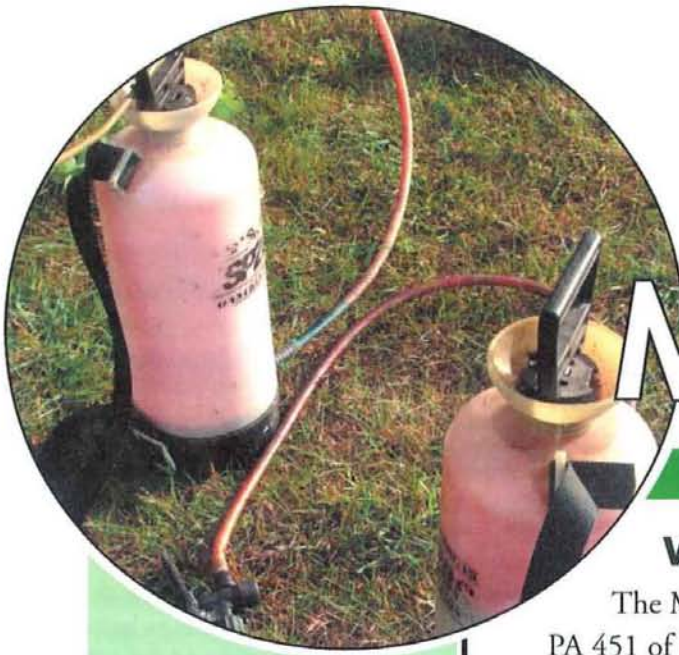


Landscaping practices

# Pesticide Management



## What's the Problem?

The Michigan Natural Resources and Environment Protection Act, PA 451 of 1994, requires that before pesticides can be applied in public buildings the applicator must attend an approved integrated pest management (IPM) training program and a verifiable IPM Program must be in place of each building. (For more on IPM see the companion fact sheets, Introduction to Integrated Pest Management and Implementing an Integrated Pest Management Program.) However, there is no requirement extending IPM programs to municipally owned outdoor sites, such as parks, golf courses, and grounds. Consequently, many municipal pest management programs rely heavily, if not exclusively, on pesticides to control unwanted bugs, insects, and plants on their outdoor properties.

Because of the toxicity of pesticides, they must be carefully handled, stored, and used. In fact, the state or federal government regulates the use and storage of most of the pesticides used by municipalities for pest control. Improper application or accidental spills and leaks of pesticides not only pose a public health hazard but they have the potential to cause significant environmental damage. It can also be expensive to properly contain, clean up, and dispose of the pesticide.

## Low-cost solutions

The proper management of pesticides can reduce or eliminate the risk of spills and leaks. A pesticide management program will also ensure your municipality is in compliance with state and federal regulations. And, it will eliminate the overuse of pesticides, saving money by reducing the amount of pesticides used and the costs associated with their storage and application. Consider implementing a municipal-wide integrated pest management program.

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Source: City of Farmington Hills

## Proper Pesticide Management

There are several steps that a municipality can take in order to ensure the proper handling, storage, and use of pesticides.

**Employee Training:** The employees responsible for pest management need to be provided the training necessary to be certified pesticide applicators or registered technicians. Special training may also be required to protect unique or sensitive areas, particularly near water.

**Recordkeeping:** In addition to maintaining Material Safety Data Sheets, state and federal regulations require that detailed records be maintained and made available on the use of all registered use pesticides.

**Pesticide Storage:** Proper storage facilities are needed to minimize the risk of accidental human exposure and provide adequate safety measures in case of accidental spills or leaks. Also, the areas where pesticides are mixed and loaded for use must meet state and federal regulations for safety and containment.

**Integrated Pest Management:** Municipalities should consider extending their integrated pest management (IPM) programs to include all municipal property, not just public buildings. While integrated pest management will not eliminate the need for pesticides, their use will be lessened, as will the storage and handling needs, reducing the risk of accidental spills or leaks.

**Hiring a Contractor:** Pest management is often contracted to private firms. Before hiring a private entity to meet your pest management needs, several issues should be to considered. These include ensuring that only certified pesticide applicators will be used on municipal property, records of pesticide use are properly maintained, and least toxic alternatives are used when possible. (see the companion fact sheet on hiring contractors.)



Signal Words are used on pesticide labels to identify the level of toxicity associated with a particular product. The signal word used on the label is based on the pesticide's most severe level of toxicity.

**DANGER-POISON** means the pesticide is highly toxic if eaten, inhaled, or absorbed through the skin. The skull & crossbones is required to be on the label and the word **POISON** is in red.

**DANGER** means the pesticide is highly toxic. It is corrosive or causes severe burning of the eyes or skin that can result in irreversible damage.

**WARNING** indicates the pesticide is slightly toxic if eaten, absorbed through the skin, inhaled, or if it causes slight eye or skin irritation.

**CAUTION** means the pesticide is slightly toxic if eaten, absorbed through the skin, inhaled, or if it causes slight eye or skin irritation.

Source: National Pesticide Information Center

## Pesticide Storage, Handling, and Application

As noted, registered pesticides require special storage and handling. Consider the following tips:

- When mixing or loading pesticides, special equipment, such as antisiphoning devices and shutoff valves, must be used.
- Special spill kits must be available at the site.
- The mixing and loading of pesticides, as well as their storage, must be done in areas specially designed to minimize the risk of human or environmental exposure should a spill or leak occur.

Also, anyone applying pesticides in the course of their employment must be a certified pesticide applicator or registered technician. Certification and licensing is done through the Michigan Department of Agriculture (MDA). To become a registered pesticide applicator, an individual must be at least 18 years of age, pass a general standards exam, and attend a MDA-approved training program. Training sessions and manuals are available from the MDA and the exams are offered at various times and locations.

## Environmental Concerns when Applying

Depending upon the location and time of year, special attention may need to be given to specific environmental concerns when applying pesticides.

**Drift:** Drift of spray from pesticide applications can unintentionally expose people, pets, wildlife, and the environment to pesticide residues, resulting in accidental damages or killing non-target species.

**Improper Dose:** Failure to read and carefully follow the label directions can result in over application of pesticides. The excess chemicals can remain on the surface and become a hazard to people, pets, or wildlife or runoff into storm drains or surface waters. Also, frequent exposure to particular pesticides can cause some pests to develop a resistance, ultimately requiring more frequent applications or rendering them ineffective.

**Using the Wrong Pesticide:** Using a pesticide not specific to the target pest or the target's life cycle is not only ineffective in managing the pest, but can result in accidental damages or killing non-target species.

**Improper Application:** Broadly applying pesticides over large areas increases the potential damage to non-target species; exposure to humans, pets, or wildlife; and runoff into storm drains or surface waters. Also, applying pesticides to or near surface waters may require special permits.



Cover photo: Courtesy of  
Oakland County Parks.

## Pesticide Registration

Before a pesticide can be distributed in the United States it must be registered with the Environmental Protection Agency (EPA). To date, the EPA has registered more than 865 active ingredients that are used to formulate thousands of pesticide products sold in this country. In order to be registered by the EPA, studies are conducted to determine the product's toxicity, dose-response, exposure assessment, and risk characterization. The data from these studies is used to determine if a pesticide should be registered for use and if so, what specific restrictions are necessary to protect human health and the environment. For example, applicators may be required to wear personal protective equipment such as a respirator or chemical resistant gloves, limits may be placed on the times of the year when the pesticide can be applied and their application must be done by a certified pesticide applicator.

Employers are also required to have Material Safety Data Sheets (MSDS) available for every hazardous chemical used in the workplace, including pesticides. The MSDS must be readily available to employees. MSDS are available from the manufacturer or from a number of online databases.

Note: Registration of a pesticide does not mean it poses no threat to human health or the environment. Registration means that if the storage, handling and application of a pesticide are done in accordance with the label instructions and state and federal regulations, the risks to human health and the environment are minimized.



Source: Bloomfield Township

## Pesticide Management

### Resources

For information regarding a specific pesticide product, contact the National Pesticide Information Center (NPIC) at 1-800-858-7378, or via e-mail at [npic@ace.orst.edu](mailto:npic@ace.orst.edu). For more information about NPIC, visit the NPIC Web site, <http://npic.orst.edu/>

The Michigan Department of Agriculture (MDA) Pesticide Web page.  
[http://www.michigan.gov/mda/0,1607,7-125-1566\\_2405---,00.html](http://www.michigan.gov/mda/0,1607,7-125-1566_2405---,00.html)

Copies of the MDA brochure describing the integrated pest management requirements for public buildings can be downloaded at  
[http://www.michigan.gov/documents/MDA\\_ipm\\_3937\\_7.pdf](http://www.michigan.gov/documents/MDA_ipm_3937_7.pdf)

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