Integrated Pest Management Program Information

The Natural Resources and Environmental Protection Act, Act 451, Part 83, Pesticide Control and Regulation 637, Pesticide Use has certain requirements when making a pesticide application in schools, day care centers, public buildings, or health care facilities. Those requirements include, but are not limited to:

- A verifiable Integrated Pest Management (IPM) program shall be in place prior to making a pesticide application in schools, day care centers, public buildings or health care facilities. Each building that is treated with a pesticide must have a verifiable IPM program. Note that the Michigan Department of Agriculture and Rural Development (MDARD) interprets the Act to require that a verifiable copy of the IPM program be located at the school, daycare center, public building or health care facility, whether a physical or electronic copy. The idea is that it is available for use and review by facility staff, parents/guardians, or MDARD as needed or requested. All pesticide applicators must be IPM trained. Training can be completed via two methods:
  a) Using the MDARD self-study manual with the training verified by the applicator's immediate supervisor sending a signed form to MDARD.
  b) Through an MDARD-approved training program. MDARD will issue a certificate of IPM training after receiving verification of training.
- All pesticide applicators in the employ of a firm that is required to be licensed must hold a valid commercial pesticide applicator certification credential. Facility employees may be required to be certified too, depending on the type of pesticide treatment applied.

Additional information pertaining to IPM can be found at MDARD's website at www.michigan.gov/mdardpest
The following IPM program can be used as a tool to assist you in creating your own IPM program. This sample IPM program is NOT a completed IPM program. It must be modified for use in your specific facility and the user should recognize that regulatory requirements may change over time. It is the user's responsibility to stay up-to-date on regulatory requirements.

There is no official IPM program or recordkeeping form that must be used to comply with the IPM regulatory requirements. Under current law, you may design a program and forms that are best suited to your needs and that meet the requirements of the law. You are advised to refer to Public Act 451 of 1994, Part 83, Pesticide Control *and* to Regulation 637, Pesticide Use for information pertaining to regulatory requirements for pesticide use in firms covered by the IPM requirements. These laws can be downloaded from MDARD's web site.

This program is intended to serve as a **model** for you to develop your own program. While it is believed that this program serves as an effective model, MDARD does not endorse any specific IPM program. Please feel free to use any or all of the information in this sample IPM program and change it to best suit your individual situation. Be advised that you are responsible for ensuring that your program meets the regulatory requirements.

Special Notice:
IPM Programs are designed for individual sites. Some portions of this IPM Program are not complete.

1. The site evaluation must be done on a case-by-case basis and written specifically for your facility. The site evaluation should include a description of the site (i.e., each area of the facility such as cafeteria, office areas, classrooms, boiler room, etc.). The site description may be written, or may be a site map, or both. The site should be inspected and evaluated for pest management options. The section titled "Site Evaluation" in the attached sample will help guide you through this process. Over time, you may need to revise the site evaluation to better suit the needs of the facility.
2. The user will need to fill in the facility name and address.
3. The user may add or modify other information in certain parts of this sample IPM program.

While it is not currently required by Act 451, Part 83 or by Regulation 637, Pesticide Use, you are advised to include pesticide labels and safety data sheet (SDS) forms for pesticide products that are used in association with this program. If you have questions regarding pesticide regulations, you may contact MDARD at 800-292-3939.

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Integrated Pest Management Program For

(Name & Address of Facility Here)

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Introduction

Integrated Pest Management (IPM) is a pest management system that utilizes all suitable techniques to prevent pests from reaching unacceptable levels or to reduce an existing population to an acceptable level. An emphasis is placed on manipulation of the pest environment to the point that it will not support a pest population.

Two Michigan Laws, the Natural Resource and Environmental Protection Act, Public Act 451 of 1994, Part 83, Pesticide Control *and* Regulation 637, Pesticide Use require that certain conditions must be met prior to making a pesticide application (other than sanitizers, germicides, disinfectants, or anti-microbial agents) in schools, day care facilities, public buildings or health care facilities. These conditions include:

1. The pesticide applicator must have been trained under an approved IPM program.
2. There must be a verifiable IPM program in place for the building.

ONLY QUALIFIED INDIVIDUALS MAY APPLY PESTICIDES AT THIS FACILITY.

PLEASE READ THIS MANUAL CAREFULLY AND FOLLOW APPROPRIATE PROCEDURES BEFORE MAKING ANY PESTICIDE APPLICATIONS AT THIS FACILITY.

Be advised that violations of Michigan's pesticide use laws are misdemeanor offenses and are punishable by administrative fines of up to $1,000 per count, or, upon a conviction in a court of law, may be punishable by fines of up to $5,000 per count. Be advised that the Michigan Department of Agriculture and Rural Development (MDARD) is the enforcing agency for pesticide use requirements and MDARD may conduct routine unannounced inspections to verify compliance with IPM requirements.

This IPM program is intended to help reduce the incidence of pest infestation and to reduce the need for chemical pesticide applications. It is intended to satisfy the regulatory requirement of having an IPM program in place for the building. *Note: in a situation where there are multiple buildings, the program will include a site description and evaluation for EACH building. In accordance with The Natural Resources and Environmental Protection Act, Act 451 of 1994, Part 83, Section 8316(1), a person shall not apply a pesticide in a school or day care center unless the school or day care center has an integrated pest management program in place for the building.* MDARD interprets the Act to require that a verifiable copy of the IPM program be located at the school, daycare center, public building or health care facility, whether a physical or electronic copy. The program must be available for use and review by facility staff, parents/guardians, or MDARD as needed or requested.

Acronyms used in this program include:

IPM	Integrated Pest Management
EPA	Environmental Protection Agency
MDARD	Michigan Department of Agriculture and Rural Development
PA	Public Act
RTU	Ready To Use

Key Terms

Advance Notice — This is a notice of a scheduled pesticide application which is posted at least 48 hours prior to the application and is provided to parents/guardians of children who attend a school or daycare center. The notice shall be posted at the primary point(s) of entry, plus at least one alternative method as identified in the Annual Notification.

Annual Notification — This notification is provided to parents/guardians of children attending the school or daycare center to inform them that they will receive advance notice for certain types of pesticide applications. It also informs them that they may review the IPM Program and records. See the section of this document titled "Pesticide Use In and Around Schools & Day Care Centers" for further details.

Certified Applicator: A person authorized to use and supervise the use of a restricted use pesticide. You must receive a passing score on one or more certification exams administered by MDARD to become a certified applicator.

Commercial Applicator: A person who is not a private agricultural applicator (i.e., a farmer, or someone growing a crop for an agricultural purpose) and who meets one of the following conditions:

a. **who is required to be a certified applicator under this part *(see note below).***
b. who uses or supervises the use of restricted use pesticides.
c. who holds themselves out to the public as being in the business of applying pesticides.

Note: PA 451, section 8314 requires a person to be a certified applicator to apply any pesticide (other than a sanitizer, disinfectant, bactericide or general-use ready-to-use product), other than for a private agricultural purpose, in the course of their employment.

Commercial Building — Any portion of a building that is not a private residence where business is located and that may be frequented by the public.

Concentration: The volume of pesticide formulation and the volume of carrier used to create an end use dilution. For example, 1.5 fluid ounces of pesticide per gallon of water.

Day care Center: A facility, other than a private residence, which receives 1 or more preschool or school-age children for care for periods of less than 24 hours a day, at which the parents or guardians are not immediately available to the child, and which is licensed as a child care organization by the Michigan Department of Human Services.

General Use Pesticide: A pesticide that may be purchased by an individual who is not required to be a certified applicator. For example, products that could be purchased over-the-counter at hardware stores or garden centers, such as RoundUp or Bug-Be-Gone.

Health Care Facility: A facility that is not a private home and at which people may stay one or more nights and receive medical care, such as a hospital or assisted living.

Integrated Pest Mgt.: A pest management approach that uses all suitable techniques in a total management system to prevent pests from reaching unacceptable levels or to reduce existing populations to acceptable levels.

Pest: An insect, rodent, nematode, fungus, weed, or other form of terrestrial or aquatic plant or animal life or virus, bacteria, or other microorganism, or any other organism that the director of the MDARD declares to be a pest under PA 451, Part 83, Section 8322, except viruses, fungi, bacteria, nematodes or other microorganisms in or on living animals.

Pesticide: A substance or mixture of substances intended for preventing, destroying, repelling, or mitigating pests or intended for use as a plant regulator, defoliant, or desiccant. Note that products such as Weed-and-Feed, RoundUp, or Raid are pesticides.

Posting Signage that is intended to inform persons that pesticides have been applied. For outdoor applications, posting is the standard outdoor lawn marker. For indoor insecticide applications to health care facilities or public buildings, posting is the house-in-the-cloud sign. For schools or daycare centers, the Advance Notice serves as "posting" for indoor pesticide applications.

Public Building A building that is owned or operated by a federal, state, or local government, including public universities.

Ready-To-Use Pesticide: A pesticide which is applied directly from its original container consistent with label directions, such as an aerosol insecticide or rodent bait box, which does not require mixing or loading prior to application. Granular weed-and-feed products applied using rotary or drop spreaders are NOT considered to be ready-to-use and for nearly all situations an applicator applying the product as part of their non-agricultural work duties must be certified to use it.

Threshold Level The level of pest numbers or pest infestation that can be tolerated.

Administration

IPM Policy

Michigan law, Act 451, Part 83, Pesticide Control, Section 8316(7) requires the Michigan Department of Agriculture and Rural Development (MDARD) to develop a Model Integrated Pest Management Policy for Michigan Schools. This document serves to meet that requirement, through provision of a sample IPM Policy and sample IPM Program.

- Scope and Application: This integrated pest management (IPM) policy applies to all pest control activities and pesticide use in the school building and related facilities including grounds. Recipients of this policy include faculty, other staff, or any employees monitoring or treating pest problems including any contractors who monitor and/or treat pest problems. Each recipient is required to follow this policy.

- Purpose: The goal of this integrated pest management policy is to provide a safe and healthy learning environment that is relatively pest-free with the least possible use of pesticides. To achieve this goal, it is the policy of this school to develop, implement and maintain an integrated pest management program for the control of pests and minimize pesticide exposure to children, faculty, and staff. This policy is consistent with the State of Michigan's Act 451, Part 83 that encourages schools to adopt an IPM strategy. Sanitizers, germicides, disinfectants, or antimicrobials are exempt from the IPM /notification requirements. This policy adheres to he principles of IPM and is conducted in accordance with all federal and state laws and regulations and local ordinances.

  Pests are controlled to protect the health and safety of students and staff, maintain a productive learning environment and maintain the integrity of school building and grounds. IPM is a pest management system that uses all suitable techniques in a total management system to prevent pests from reaching unacceptable levels or to reduce existing pest populations to acceptable levels while balancing the risk of the pest with the potential risk of the management technique.

- Development of IPM Program: The school's IPM program written under this policy will state the school's goals regarding the management of pests and the use of pesticides. It will reflect the school's site-specific needs and includes the following elements as required by law:
  a. Site evaluation, including site description, inspection, and monitoring and the concept of threshold levels.
  b. Consideration of the relationship between pest biology and pest management methods.
  c. Consideration of all available pest management methods, including population reduction techniques, such as mechanical, biological, and chemical techniques and pest prevention techniques, such as habitat modification.
  d. Pest control methods selection, including consideration of the impact on human health, especially for children, and the environment.
  e. Continual evaluation of the IPM program.

- Responsibilities: The Principal, or Lead Administrator, or their designee shall:
  a. Develop guidelines/procedures for the development of this policy.
  b. Ensure that an IPM Program is developed and is compliant with Michigan law, including the required plan components and recordkeeping.

c. Provide information to the school community, including staff, students, parents/guardians about potential pest problems and IPM methods used to achieve the pest management objectives.
d. Ensure that pesticide applicators who apply pesticides inside the school facility have received the required IPM training.
e. Ensure that all pesticide applicators, including district staff, boosters and volunteers follow state regulations, including licensing requirements, applicator certification/registration requirements, label requirements, and that they comply with the requirements of this policy and the IPM Program.
f. Ensure that proper notifications occur, including the Annual Notification and any Advance Notice that is provided before a scheduled pesticide treatment occurs.
g. Ensure that student reentry to a pesticide-treated area does not occur less than 4 hours after application, unless the product label requires a longer reentry period, and ensure that outdoor ornamental and turf applications of liquid spray pesticides are not made on school grounds within 100 feet of an occupied classroom building during normal school hours, or when persons are using the treatment area.
h. Report annually to the school's governing board on the effectiveness of the IPM Program.

Regulations

Laws concerning pesticide use in schools, day care centers, public buildings, and medical care facilities can be found in:

- Public Act 451 of 1994, Part 83, Pesticide Control
- Regulation 636, Pesticide Applicators
- Regulation 637, Pesticide Use

These laws can be downloaded from the Michigan Department of Agriculture and Rural Development (MDARD) web site located at www.michigan.gov/mdardpest . Type the appropriate Act or Regulation into the search engine and follow the links to get a copy, or you may contact MDARD at 800-292-3939.

Communication

Proper implementation of an Integrated Pest Management (IPM) program requires careful administration. It is important for the building manager and administrative staff to communicate with the pesticide applicator(s) to ensure full implementation of the IPM program. To meet this goal, recordkeeping data will be used as part of the communication process. In addition, the facility may use a sighting log. A sample form is included in this program.

Applicator Credentials

A person who applies a pesticide (other than a sanitizer, germicide, disinfectant, or anti-microbial agent) in schools, public buildings or health care facilities MUST have been IPM trained using training approved by MDARD. Approved IPM training includes use of MDARD's self-study manual and/or attendance at an MDARD approved IPM training session. IPM training credentials do not expire, so the training only needs to occur once. The IPM training manual is available online at www.michigan.gov/mdardpest

Outside contractors who conduct pesticide applications, either indoors or outdoors, at this facility, other than use of a sanitizer, germicide, disinfectant or anti-microbial agent, must be ***licensed*** and ***certified***. Business license information can be found at the MDARD web site identified above to verify that the commercial applicator holds a valid pesticide applicator business license, or you can contact MDARD at 800-292-3939 to verify the license status of the contractor

Persons who are employees of this facility and who have obtained their IPM training certificate may use a *general-use ready-to-use product* (see definitions section) in compliance with State of Michigan regulations without being certified. However, whenever possible, pesticide applications should be conducted by the person responsible for pest control in this facility, or by their designee, or by a licensed and certified professional applicator.

Persons who use a pesticide product at this facility which is NOT ready-to-use, other than a sanitizer, germicide, disinfectant, or antimicrobial agent, *must* be a commercially certified pesticide applicator. Examples of situations where the applicator must be commercially certified include:

- When pesticides are mixed and applied from a compressed air sprayer such as a hand-can or backpack sprayer.
- When pesticides such as weed-and-feed are put into a granular spreader, such as a lawn weed-and-feed spreader, for application.

Pesticide Applications and Personal Protective Equipment

Pesticide applications for non-emergency situations shall only be conducted by an applicator who has obtained their IPM training certificate and shall be made in accordance with this IPM program. Applications must be made in a manner that is consistent with the pesticide label directions, as required by State and Federal law. The applicator shall use personal protective equipment that is appropriate relative to the potential exposure and as required by the pesticide label. Staff who apply pesticides at this facility, other than general-use ready-to-use pesticides are commercial pesticide applicators. Minimum personal protective equipment for commercial pesticide applicators includes long pants, protective footwear, gloves that are impervious to the pesticide being applied (when contact with the hands is likely), and long-sleeve clothing. Short-sleeve clothing may be worn if soap and water is immediately available and a long-sleeved shirt is not required by the pesticide label.

Pesticide Application Records

Records shall be maintained on forms provided by the building manager or by the licensed and certified professional pesticide applicator. A sample form is included in this manual. Records shall contain at least the following information:

1. Site address and the location of the areas or room(s) where pesticides are applied.
2. The date of service.
3. The target pest(s).
4. An inspection report, including the number of pests found or reported (this information may be found in the sighting log), and the conditions conducive to pest infestation.
5. Pest management recommendations made by the applicator, such as structural or habitat modification.
6. Structural or habitat modifications or other measures initiated as a part of the IPM program.
7. The brand name, EPA registration number, concentration and total amount of pesticide(s) used.
8. The name of the applicator.
9. The method and rate of application.

Pesticide Use In and Around Schools & Day Care Centers

This section contains information regarding parental notification and applications of pesticides made in and around public or private school or day care property.

Notifications

Annual Notification to Parents / Guardians

Within 30 days of the beginning of each school year, the primary administrator for the school district or his/her designee, shall provide written annual notification to parents (or guardians) of children attending the school that they will receive advance notice before any pesticide application, other than a bait or gel formulation, is made to the school property. For day care centers, the annual notification shall be issued in September of each year. The written annual notification shall be provided to parents/guardians and shall include all the following information:

- It shall inform them that pesticides may periodically be applied to school or day care property.
- Parents (or guardians) will be notified of such pesticide applications.
- In the case of an emergency, such as an infestation of stinging insects, pesticides may be applied without prior notice. However, notification will be provided after the emergency application occurs.
- The annual notification shall specify 2 methods by which advance notice will be provided at least 48 hours before the application. The first method shall be by posting at the primary points of entry to the school or day care center. The second method shall be by at least 1 of the following methods:
    a. Posting in a public, common area of the school or day care center, other than an entrance.
    b. E-mail.
    c. A telephone call by which direct contact is made with a parent or guardian of a student of the school or a child under the care of the day care center or a message is recorded on an answering machine.
    d. Providing the students of the school or children under the care of the day care center with a written notice to be delivered to their parents or guardians.
    e. Posting on the school's or day care center's website.
- Parents/guardians of children attending the school or day care center are entitled to receive the advance notice by first class Untied States mail postmarked at least 3 days before the schedule pesticide application, if they so request, and the manner in which such a request shall be made.

- For a school, the notice shall state that parents and guardians may review the school's IPM program, if any, and may review records of any pesticide applications.

A sample form for the annual notification is included in this manual.

Advance Notice of Pesticide Application

As stated in the annual notification to parents / guardians, the Advance Notice of Pesticide Application must be posted or delivered at least 48 hours prior to the anticipated treatment (or postmarked at least 3 days before the treatment for those who request notice by first class mail) and the notice must be delivered in the manner(s) described in the annual notice to parents / guardians. The advance notice must be posted in the locations identified in the annual notification.

The Advance Notice of Pesticide Application shall contain the following information:

a. A statement that a pesticide is expected to be applied.
b. The target pest(s).
c. The approximate location of the application.
d. The date of the application
e. The name, telephone number, and if available, e-mail address of a contact person at the school or day care center responsible for maintaining records with specific information on pest infestation and actual pesticide application as required by rules.
f. A toll-free telephone number for a national pesticide information center recognized by the Michigan Department of Agriculture and Rural Development (MDARD) and a telephone number for pesticide information from MDARD. The toll-free telephone number for a national pesticide information center is National Pesticide Information Center at Oregon State University 800-858-7378 with a web site of www.npic.orst.edu. The telephone number for MDARD is 800-292-3939 and the MDARD web site is found at www.michigan.gov/mdard.

Note that the advance notices must be provided to parents / guardians of students enrolled at a school or day care center, ***even during periods when not in session***. An example of a form that can be used to meet this purpose is shown on page #11 of this program manual.

Restrictions Pertaining to Pesticide Applications at Schools

As required by Michigan law under Act 451, Part 83, Pesticide Control, Section 8316(6) and under Regulation 637, Rule 15, there are certain restrictions pertaining to use of pesticides in or at schools, including the following:

a. Liquid spray or aerosol insecticide applications shall not be made in a room of a school building unless the room will remain **unoccupied for at least four hours** UNLESS the product label requires a longer reentry period, in which case the more restrictive requirement must be met.

b. Liquid spray pesticides used for turf or ornamental applications may not be made on school grounds within 100 feet of a building with occupied classrooms during normal school class hours or when persons are using the treatment area.

c. The pesticide applicator shall notify the school's building manager of any reentry periods that are required by the product label.

Posting

When making an application of pesticides a commercial applicator shall place the appropriate signs or markers at the primary point(s) of entry.

Outdoor Turf / Ornamental Applications

Postings shall remain at least 24 hours. Postings will be in compliance with Regulation 637, Rule 11(2). Signs shall be at least 4" high by 5" wide and shall depict a picture of an adult and child walking a dog on a leash. The illustration shall depict, using a diagonal line across the circle, that this action is prohibited. See the rule for additional details on sign requirements. The sign must be in compliance with the requirements of Regulation 637, Rule 11(2). It will look similar to the sign shown below, with the sign having the same information on both sides of the sign.

Illustration # 3

Indoor Pesticide Applications

Public Buildings or Health Care Facilities:
When making a broadcast, foliar, or space insecticide application to a public building or health care facility, a commercial applicator must post, or instruct the building manager to post, an appropriate sign(s). Postings shall remain for at least 48 hours after the most recent application of insecticide. It is the responsibility of the building manager (or their designated representative) to ensure that the appropriate signs are posted.

Posting signs must be in compliance with Regulation 637, Rule 11(4). Signs shall be at least 2 ½ inches square and shall depict a house surrounded by a cloud. The date shall be placed on the sign. See the rule for additional details on sign requirements. Note: Treatments using a general-use ready-to-use product are exempt from the posting requirement.

The posting should be similar to the item depicted in illustration #1 or #2 below.

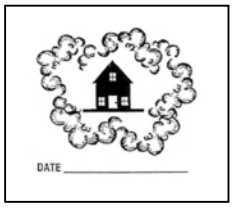


Illustration # 1

Illustration # 2

Schools or Day Care Centers:
A school or day care center shall post the advanced notice of pesticide use at the primary point(s) of entry as previously described in section #2 of this manual titled “Pesticide Use In and Around Schools & Day Care Centers”.

IPM Program Evaluation
The IPM program shall be evaluated periodically to determine the program’s effectiveness and the need for program modification.

Pest Management Strategy & Pest Biology

Strategy

This IPM Program involves the use of various methods or strategies to control pests including sanitation, exclusion, reservoir reduction, harborage reduction and population reduction. These terms are clarified below:

1. Sanitation refers to a reduction of the food and water resources that are attractive to pests. By minimizing the resource of food and water available to the pests, we can greatly reduce the number of pests without the application of pesticides.
2. Exclusion refers to the use of caulk, mortar, screens or similar materials that can reduce or eliminate the entry of pests into the building.
3. Reservoir reduction refers to techniques that reduce a feature that is attractive to pests. For example, a dumpster could be moved a distance away from the building so that pests attracted to the dumpster are not brought close to the building.
4. Harborage reduction refers to elimination of habitat that provides a home (or harborage) to pests. For example, cleaning old equipment from a storage room will reduce harborage for mice. Mowing grass around a building will reduce the cover and harborage for pests.
5. Population reduction refers to measures such as mechanical traps, use of repellents, or use of toxicants to drive away or kill pests. Chemical or biological pesticides may be utilized to reduce pest populations.

Thresholds

IPM programs utilize the concept of threshold levels for pests. The tolerance for pests may vary for different facilities, or for distinct parts of the same facility. For example, a school may decide not to apply pesticides to control a small ant infestation in a closet, but may have a low tolerance for ants in a classroom or lunch room. The tolerance for ants in a hospital office may be a few, while the tolerance for ants in patient's rooms may be zero. Thresholds are established by the user of the IPM Program. Exact numbers are not required to be identified for these thresholds, but the IPM Program should convey the idea of threshold levels to facility staff and users.

Impact on Human Health & Environment

When considering pest control methods, the building manager shall consider the impact of human health and the environment. The pest control method shall consider the effectiveness of the treatment while striving for the lowest level of adverse impacts on human health and the environment.

Pest Biology Information

The method used for pest control shall take into consideration the relationship between pest biology and pest management methods, giving due consideration to the impact on human health and the environment. Chemical controls are sometimes necessary. This program will attempt to use products that are less toxic to human health and the environment, while remaining effective in control of the target pest(s).

Some common pests and pest control measures are described below. **It is important to identify the pest prior to determining a method of control.** For example, pest control measures to control one type of cockroach or ant may be ineffective for another species of cockroach or ant. Some actions taken for ant control can even *promote* the spread of the ants if the ant species is not properly identified. Pest identification should be confirmed by a reliable source, such as use of keys in pest identification manuals (found on the Internet or in reference books), by consultation with a professional pesticide applicator, or by using a service such as the Michigan State University Extension Service.

Brief information regarding some common pests follows. Additional information can be found using pest identification books, the Internet, referencing the MSU General Pest Management Certification Study Manual, or consulting a pest professional.

Ants (General Information)

Ants are a common household pest, often found foraging for food in structures. Pavement ants and carpenter ants are common pests.

Pavement Ants

This ant is 1/10th to 1/16th inch long and has two nodes on its pedicel. Their antenna has 12 segments. They are active forages and establish trails along baseboards and other areas inside structures. They can easily move between floors using plumbing lines, which not only provide movement between floors, but also into the structure itself. The ants feed on a wide variety of foods including pet food, food bits dropped on the floor, grease, and seeds. These ants commonly invade buildings through cracks in cement slab floors and exterior walls. Exclusion through sealing of the cracks is an effective means of control. Exterior perimeter treatments may also provide effective control. If ants still invade the building, baits are an effective means of control.

Carpenter Ants

Carpenter Ants vary in size and color but are usually blackish in color and range in size from ¼" to ½" in size. If winged carpenter ants are seen swarming in the spring, it may mean that there is a colony nesting in the structure. They can be distinguished from termites by the carpenter ant's slender waist. Termites have a wider waist. Carpenter ants look for sites with wet wood to build their nests. Ants inside a structure may be from a nest located within the structure. However, the ants may be foraging for food and may be from a next outside of the structure. Carpenter ants tend to forage at night. You may place some food, such as a dab of honey, to bait the ants. Then, watch where the ants go. If they're going behind a baseboard or into a wall void, then attempt to determine if they're nesting in that location or if they're passing through the structure to an outside nest. Apply an appropriate pesticide. Baits are an effective means of control.

Bedbugs (from https://en.wikipedia.org/wiki/Bed_bug)

Bedbugs are small (1-7 mm) insects that feed on human blood, usually at night when its host is sleeping. Bites may range from non-symptomatic to causing rashes or blisters. Bedbugs found in schools are commonly hitchhikers, rather than part of a pest infestation, but can become an infestation, especially in schools where elementary students nap on sleeping pads or blankets.

Control techniques include chemical and heat treatment options, but control can be difficult and facilities are advised to consider assistance from a licensed commercial pesticide applicator if an infestation occurs.

Bees/Wasps/Stinging Insects

There are many types of bees/wasps and stinging insects. Stinging insects can be painful and dangerous to students and staff, since some people have severe allergies. Keep students and staff away from stinging insects when possible. Use of general-use ready-to-use wasp sprays may be necessary to protect students and staff, or consider hiring a professional commercial pesticide applicator to control the pests.

Spiders

Spiders are known as Arachnids and take on various shapes and forms. All spiders have eight legs and a two-piece body composed of the cephalothorax (front) and abdomen (the bulbous rear). Spiders can generally be identified by the type of web they create. Spiders can bite but most bites only cause swelling and itching of the skin or display symptoms similar to that of a bee sting. They will usually only bite unless they feel attacked or threatened by humans, their first instinct is to run away. Spiders can travel far away from their native ranges since they may hide inside shipping containers and automobiles. There are some spiders that have a venomous bite known to have been encountered in Michigan, the Brown Recluse and the Northern Black Widow Spider. These spiders are not very common but bites by these two types of spiders should be taken seriously and immediate medical attention should be sought. Spider control is primarily conducted for nuisance purposes and pesticides can be used to prevent spiders from entering a structure.

Earwigs

These insects range in size from ¼ to 1 inch long. They have elongated, flat bodies that are typically brown and earwigs have pincers that protrude from the back of the abdomen. The pincers are not a threat to humans but are used by the insect for defense against rivals. Earwigs also have 2 pairs of wings however not all earwig species fly and those that do only do so over short distances. There is no scientific evidence that supports the myth that earwigs crawl into a human ear during sleep. Common prevention techniques for earwigs is to seal structure crevices and cracks including doors and windows. Earwigs prefer moist, protected areas as well as being attracted to leaf piles. Elimination of harborage piles around buildings will also assist in preventing earwigs from entering a structure.

Boxelder Bugs

A true bug, this insect is found primarily on Boxelder trees as well as Maple and Ash. They are approximately a ½ long with a dark brown or black coloration with red wing veins and markings on the abdomen. Boxelder bugs are primarily a nuisance pest to humans in the fall as they enter homes and other buildings seeking a warm place to overwinter and congregate in large numbers. They can enter structures and hide behind siding and inside walls. Boxelder bugs will then seek out food and water and their excreta may stain carpets and drapes. They are harmless to humans and removal of Boxelder, Maple and Ash trees from around a structure is an effective means of control. Treating wall voids for overwintering bugs is not recommended as a more effective method of control is to use a vacuum cleaner to remove live adults and sealing up cracks and other possible entry points (baseboards, door & window frames, etc…). Consult a pest control professional for severe infestations.

Ticks

Ticks are small, parasitic insects that feed on blood from reptiles, amphibians, mammals and humans. They are vectors for many different types of viruses and diseases such as Lyme Disease. Ticks can be commonly found in wooded areas and areas that have tall grasses. Control measures for ticks include clearing tall grass and brush from the edge of lawns and buildings, placing a 3 foot wide barrier of gravel or wood chips to restrict tick migration into recreational areas, frequent lawn mowing and discouraging animals such as deer and racoons from entering lawn areas. Pesticides can also be used to deter tick populations and consulting a licensed, pest control professional may be necessary for control large populations.

Mosquitos

Mosquitos are winged insects that are common, outdoor pests in the spring and early summer. Females feed on the blood of vertebrates, including humans, to reproduce. Females will lay their eggs in water(typically stagnate) where the reproductive cycle will be complete within 5 to 14 days. Mosquitos transmit diseases to humans such as West Nile Virus. Control methods for mosquitos include removal of items that collect water such as old tires and pesticides. The most effective pesticide is larvicide as this is applied to standing water to interrupt larvae development. Spray applications for adults using adulticides are not as effective but can result in lower populations temporarily. Since the chance of spray drift from adulticide applications are higher than other types of pesticide applications, extreme caution should be observed when making applications or consult a licensed, pest control professional.

Roaches (general information)

Roaches can carry germs and disease. Sanitation and reduction of harborage are important in reducing the incidence of roach infestation. Glue boards may be used to detect the presence of roaches. Where roaches are found, baits can be an effective means of control. Crack/crevice/void treatments may also be used.

German Cockroaches

Female German cockroaches carry an egg capsule with 30-40 eggs, producing 4-8 egg cases in her lifetime. That can be over 300 offspring from one female roach and if not controlled the population could explode to as many as 100,000 roaches in one year! German roaches prefer dark places with warmth and high humidity. They prefer harborage where they can fit closely.

Oriental Cockroach

Adult Oriental cockroaches are 1 inch to 1 ¼ inch in size. They are shiny and range from dark brown to black in color. Their wings are not functional. Immature roaches, called nymphs, are darker in color than adults, but have a similar shape. Egg cases are dark reddish-brown and about an inch long. This roach is also known as the "water bug" and feeds on garbage and filth. It prefers a moist environment, so it may be found near leaky pipes or in a moist basement or crawl space. They may live outside during summer months and migrate indoors during cold weather.

Mice

Mice may enter buildings to seek shelter. Exclusion and reservoir reduction are effective means of control. Keep weedy fields mowed. Move dumpsters away from the building. Clean the area of any debris that offers harborage. Use exclusion methods such as screens, caulk, and door sweeps. To eliminate mice present in the building, it is preferable to use mechanical methods such as traps or glue boards. Baits can be an effective tool, but should be used only with extreme caution and should NEVER be used in areas accessible to students.

Head Lice

Head lice generally do not survive for more than a few hours when away from a host. Due to the biology of lice, insecticidal treatments to the school or day care center are generally not effective and should not be done. Instead,

parents should be informed about the pest biology and given instruction for effective control measures on hosts (children) and garments such as hats that may be shared between students. For more information visit www.headlice.org.

Flies and Gnats

There are MANY types of flies and gnats. Proper identification is vital to determine the best type of pest control. Proper sanitation can provide effective control for most flies and gnats. Screen windows and doors to exclude these pests. Garbage containers should be closed and kept an appropriate distance from the buildings. Insecticides may be appropriate for reducing large populations of adult flies, but sanitation is the preferred means of control.

Drain Flies

These flies have short, hairy bodies and wings and are sometimes called moth flies. They inhabit plumbing drains and sewage systems where they can be a persistent annoyance. They are harmless to humans and the most effective means of keeping these pests controlled is by utilizing routine cleaning methods of floor and sink drains and plumbing pipes. This cleaning removes decaying organic debris which creates the food source for developing larvae. The use of pesticides to kill adult flies is not as effective as removing these food sources from drains and drain lines.

Fruit Flies

Fruit flies are extremely small, measuring around 1/8 of an inch in length. These flies appear when rotting or decaying fruit is present. Removing fruit and other food materials where fruit flies can lay their eggs and multiply is key to keeping these pests away. Check and clean garbage receptacles as well as around food preparation areas. Elimination by pesticides is not effective if food sources remain.

Forms

The following forms are included with this IPM Program and are intended to help facilitate compliance with regulatory requirements. Note that there is no specific format required by regulation for forms. Facilities are free to develop whatever format is best suited for their needs.

- Site Evaluation – It is suggested that a building map be utilized, along with a written description of the overall facility and specific areas of interest.

- Pest Sighting & Monitoring – This is an *optional* form that is useful for tracking known locations of pests, and for tracking trap results.

- Pesticide Recordkeeping – This form includes all the required data elements as required under Act 451, Part 83, Pesticide Control.

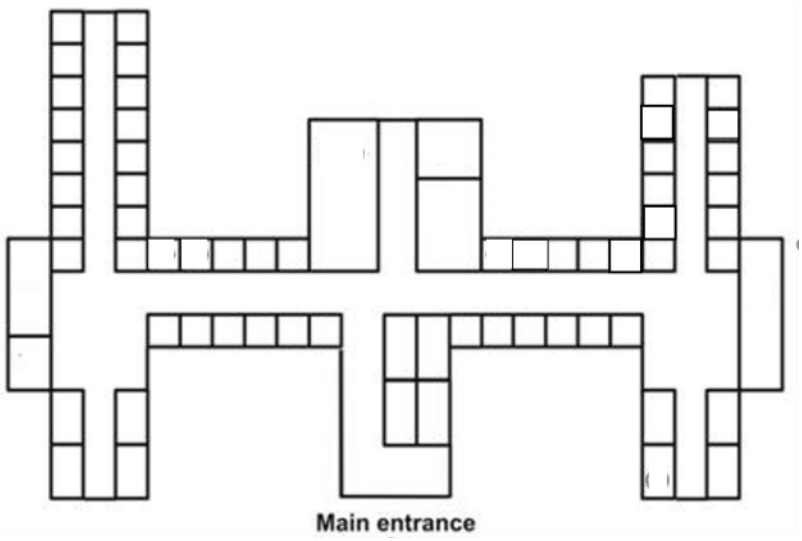
- Annual Notification – When filled out completely, this form includes all the requirements of Regulation 637, Rule 15.

- Advance Notice- When filed out completely, this form includes all the requirements of Regulation 637, Rule 15.

Site Evaluation - An Example

Note: This page is only an example! This page is to be replaced by the actual site evaluation and information pertaining to how and when monitoring will occur. Identify each building by name and address. Provide a brief description of the use of the building and known pest problems. Use a written description and/or map.

STATE OF MICHIGAN MIDDLE SCHOOL
123 Main Street, Lansing, MI 48909



General Information:
This is a middle school, grades 6 - 9, with approximately 400 students. The school has had occasional rodent and ant issues. The initial site inspection was conducted on _____, and the findings of the inspection are provided on the attached school map. Routine monitoring and inspection is the responsibility of the Head Custodian.

Kitchens, Break Rooms, Cafeteria, Home Education Room
Visual inspection. Look for droppings, gnawing, harborage or insanitary conditions. Monitoring devices such as glue boards may be used. Monitor weekly when school is in session, otherwise biweekly.

Bathrooms, Locker Rooms, Store Rooms and Closets
Visual inspection. These areas may be attractive to roaches. Monitoring devices such as glue boards may be used. Monitor weekly when school is in session, otherwise biweekly.

Classrooms and Hallway
Visual inspection. Monitor weekly when school is in session, otherwise biweekly.

Boiler Room, Maintenance Area
Visual inspection. Monitor weekly when school is in session, otherwise biweekly.

Exterior Areas
Monitor periodically. Look for entry points into the building. Look for areas that can serve as a reservoir for pests such as weedy areas or accumulations of debris.

Pest Sighting Report

(Used when staff reports a pest.)

DATE	PEST SIGHTED	LOCATION OF PEST	REPORTED BY:

Pest Monitoring Form

(Used to record trapping data.)

DATE	TRAP LOCATION	TYPE AND NUMBER OF PESTS FOUND IN MONITORING STATION	INSPECTED BY:

IPM Pesticide Recordkeeping Form

LOCATION & INSPECTION INFORMATION

Location: _____

Date: _____

Pests Noted:

Conditions Conducive To Pest Infestation:

Pest Management Recommendations Made By The Applicator:

Structural or Habitat Modifications Undertaken:

APPLICATION INFORMATION

Name of Pest Control Firm (If Employed) & Emergency Phone Number:

Target Pest(s): _____ # Of Target Pests Found or Reported: _____

Name of Applicator: _____ Certification/Registration #: _____

Name of Pesticide(s) [Brand or product name]: _____

EPA Reg #(s): _____ Active Ingredient(s): _____

Concentration of Pesticide(s) Applied (i.e., the amount of formulated material & the amount of carrier used to make the end-use dilution: _____

Total Amount of Pesticide(s) Used: _____

Method of Application (ex: pump sprayer, spreader, etc.): _____

Rate of Application (ex: #/1,000 ft^2, to point of run-off, etc.): _____

Restricted Entry Interval: _____

Location Where Pesticide(s) Applied [Written description or map]:

Notes:

Annual Notification of Pesticide Applications

Dear Parent or Guardian:

State of Michigan law requires that schools and daycare centers that may apply pesticides on school or daycare property must provide an annual notification to parents or guardians of students attending the facility.

Please be advised that the _____ school / daycare center utilizes an Integrated Pest Management (IPM) approach to control pests. IPM is a pest management system that utilizes all suitable techniques in a total pest management system with the intent of preventing pests from reaching unacceptable levels or to reduce an existing population to an acceptable level. Pest management techniques emphasize sanitation, pest exclusion, and biological controls. One of the objectives of using an IPM approach is to reduce or eliminate the need for chemical applications of pesticides. However, certain situations may require the need for pesticides to be utilized.

As required by State of Michigan law, the school or daycare will provide advance notice regarding the non-emergency application of a pesticide such as an insecticide, fungicide or herbicide, other than a bait or gel formulation, that is made to the school or daycare buildings or grounds. Advance notice will be provided, even during periods when not in session. Advance notice is not given for the use of sanitizers, germicides, disinfectants or anti-microbial cleaners. In certain emergencies, such as an infestation of stinging insects, pesticides may be applied without advance notice to prevent injury to students, but the school or daycare will provide notice following any such application.

Advance notice of pesticide applications, other than a bait or gel formulation, will be given by at least 2 methods by which advance notice of the applications of a pesticide will be given at least 48 hours before the application. The first method will be by posting at the main entrance to the school / daycare center, which is located at _____. The second method will be by the method(s) checked below:

- ☐ Posting in a public, common area of the school or day care center, other than an entrance. We will post in the _____.
- ☐ E-mail.
- ☐ A telephone call by which direct contact is made with a parent or guardian of a student of the school / day-are center or a message is recorded on an answering machine.
- ☐ Providing the students of the school or children of the day-care center with a written notice to be delivered to their parents or guardians.
- ☐ Posting information on the school or day-care center's web site.

Please be advised that parents or guardians of children attending the school or day care center are entitled to receive the advance notice of a pesticide application, other than a bait or gel formulation, by first class United States mail postmarked at least 3 days before the pesticide application, if they so request. If you prefer to receive the notification by first class mail, please contact _____ at the school office by calling 555-xxx-xxxx.

Please be advised that parents or guardians of children attending the school may review the school's Integrated Pest Management program and records of any pesticide application upon request. Contact _____ at 555-xxx-xxx or by email at XXXXX@school.net.

Advance Notice Of Pesticide Treatment

This notice is to be provided whenever a pesticide, other than a bait or gel formulation, is to be applied at this facility. The information will be posted using the methods identified in the Annual Notification.

Attention: This facility utilizes an Integrated Pest Management Program for pest control, employing non-chemical methods that include sanitation and exclusion to control pests. However, from time to time a pesticide application may be necessary to control certain pests.

Please be advised that a pesticide is expected to be applied to control _____.

The approximate location of this pest control treatment is _____.

The anticipated date of treatment will be _____.

If you have questions pertaining to this treatment, please contact:

Name:

Phone:

E-mail:

For further information pertaining to pesticides you can contact the National Pesticide Information Center at 800-858-7378. The web site is www.npic.orst.edu.

For additional information pertaining to pesticide use, you can contact the Michigan Department of Agriculture and Rural Development (MDARD) at 800-292-3939. The web site is www.michigan.gov/mdard .