

CHAPTER 2

Implementing an IPM Program for Schools and Child Care Facilities

COMPONENTS OF AN IPM PROGRAM

Communication

The idea behind IPM is not simply to teach people about pests but also to involve them in the pest management program. All involved should understand that they play an important part in IPM and that the success of the IPM program is in their best interest.

Communication about IPM can take many forms, such as informational brochures and handouts, service and sanitation reports, an IPM logbook, conversations between technicians and staff, features in school or child care facility newsletters, notes sent home to parents, presentations to school assemblies, PTA meetings, and staff meetings.

Education

Education is a critical and cost-effective pest management strategy. People need to recognize that the ways they store food and dispose of waste have a significant impact on pest management. Education helps occupants distinguish between incidental pest occurrences and actual pest infestations. This knowledge reduces the anxiety that often produces a demand for immediate and often unnecessary chemical remedial action when a few pests are sighted, and it allows for monitoring to assess the need for any remedial action. Education can also increase people's tolerance of harmless organisms in their environment so they don't insist that pesticides be applied for such nonpest situations. In addition, education increases understanding of the benefits of a holistic approach to problem solving. Science class projects that include hands-on experience can teach children about IPM, which has a long-term effect on the direction of pest management in the United States as these students grow up to become consumers, educators, policymakers, and researchers (Figure 3).

Inspection and Monitoring

An IPM program should begin with a walk-through or initial inspection of the facility to evaluate pest management needs. This process includes identifying problem areas and determining whether structural features or management practices contribute to pest infestations. Interviews with key building occupants (administrative office staff, custodians, cafeteria managers, teachers, and other staff) can also yield critical in-



Figure 3. Educating students, teachers, staff, and parents about their role in the IPM program will help ensure that the program is a success.

formation for planning the IPM program. See chapter 4 of this manual for samples of IPM inspection report forms.

Monitoring includes routine and ongoing inspections to look for evidence of pests and conditions that may encourage infestation. Information from these inspections is always carefully recorded on appropriate data sheets, maps of the school or child care facility grounds, and floor plans of buildings.

Monitoring relies on a combination of communication with building occupants, visual inspection, and trapping to detect pest activity. Monitoring helps identify entry points into buildings and places where pests are finding food, water, and harborage. Use sticky traps and glue boards to detect pests and determine the effectiveness of your control efforts. Place the traps under sinks, under shelves, and along walls in storage rooms, kitchens, bathrooms, and other critical areas where pests are likely to be found (Figure 4). Check traps for pests or pest droppings, and always make sure traps are placed out of the reach of children and where they won't be disturbed or damaged by routine maintenance and cleaning activities.

Monitoring school or child care buildings involves the routine observation and recording of:

- The condition of the building inside and out (structural deficiencies, openings that allow pests to enter, conditions that provide pest harborage)



Figure 4. Monitoring traps should be placed in areas where pests are likely to be found.

- The level of sanitation inside and out (waste-disposal procedures, level of cleanliness, conditions that supply food to pests)
- Pest damage and the number and location of pests or evidence of pest activity (rodent droppings, ants foraging, cockroaches caught in traps)
- Management activities and their effects on the pest population (pest exclusion, cleaning, setting out traps, applying pesticides)

Monitoring helps you decide whether action is necessary. Monitoring can:

- Show whether the pest population is increasing or decreasing. Inspection of problem sites on different occasions will help determine whether a pest situation warrants action.
- Detect pests early, before they become a problem.
- Provide information for discussions about progress in meeting pest management objectives. Without monitoring records, complaints or pest observations by occupants are the only source of information to direct pest control activities.

Monitoring helps to determine what kinds of actions are needed, where action is needed, and when it is needed. Monitoring will:

- Show where pest-proofing, sanitation, and other preventive measures are most needed.
- Pinpoint pest infestations and hot spots, and help target pesticide treatments.
- Help to time and target treatments to the most vulnerable stage in the pest life cycle.
- Help plan treatments to avoid interfering with school or child care activities and provide sufficient time for parent and staff notification, if necessary.

Monitoring also measures the effectiveness of pest control actions and provides baseline data for evaluation and fine-tuning. You should use monitoring data to answer the following questions:

- Did the corrective action reduce the number of pests to acceptable levels? If not, can you determine why? If yes, for how long were corrective measures effective?
- Is additional action needed?
- Were there any undesirable side effects?
- Does the action plan need to be adjusted?

Pest Identification

Assistance with correct pest identification is available from several sources (see chapter 5 of this manual for a list of resources). Once a pest has been correctly identified, you should review information about its biology and behavior. This information provides clues about what to look for during monitoring and what weaknesses in the pest's life cycle can be exploited for more effective management. If damage is the only evidence of pest activity, consider a different monitoring strategy, such as changing your inspection schedule (and method) to match peak time for pest activity.

Sanitation

Sanitation is the most important nonchemical pest control measure. Sanitation reduces or eliminates food and water available to pests and improves the efficacy of other pest control measures, such as baiting. For effective pest management, good sanitation is needed in all areas of the buildings (food-service areas, classrooms, science labs, restrooms, locker rooms, janitorial closets, floor and shower drains). Outside areas are just as critical. Check around the foundation and areas adjacent to the buildings (flower beds, shrubbery, playgrounds, dumpsters). Sanitation practices that discourage pests include the following:

- Clean up spills as soon as possible.
- Do not leave full trash cans or dirty dishes overnight.

- Clean garbage disposal and floor drains routinely to eliminate food debris.
- Store open food in plastic or glass containers with lids that fit tightly.
- Place garbage in trash cans with tight-fitting lids. Use plastic liners in trash cans and recycling bins.
- Clean food preparation equipment and areas after use, and remove grease from vents, ovens, and stoves.
- Periodically move equipment or shelves to clean hard-to-reach areas.
- Repair leaking pipes, dripping faucets, and drainage problems.
- Keep surfaces dry overnight, and eliminate standing water.
- Clean and dry mop buckets after use, and hang the mop vertically to dry.
- Keep all areas free of debris and clutter.
- Vacuum carpeted areas thoroughly and frequently.

Exclusion

Pest exclusion begins with a thorough inspection to locate possible points of entry, both indoors and on the exterior of the building. Once entry points are identified, take steps to make it more difficult for pests to enter.

- Seal holes and cracks on the outsides of buildings. Focus on gaps around pipes, ducts, and window and door frames.
- Install door sweeps on exterior doors, and don't keep doors propped open.
- Make sure window screens fit properly and are not damaged (Figure 5).

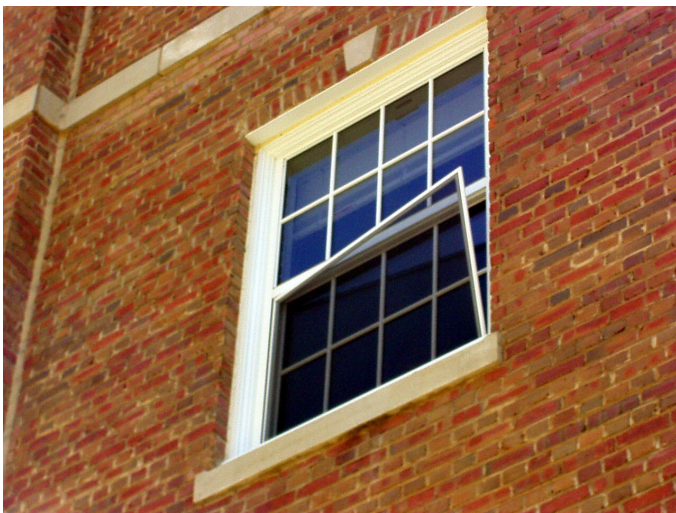


Figure 5. Pest exclusion is an important component of IPM. Make sure all window and door screens fit properly and are not damaged.



Figure 6. Storage areas should be organized and free of clutter to facilitate inspection and monitoring and to limit pest harborage areas.



Habitat Modification

Habitat modification involves altering the environment to make it unfavorable for pest habitation.

- Remove piles of paper, cardboard boxes, and other clutter that gives pests a place to hide and reproduce.
- Organize storage rooms so that they are easily inspected, and clean them periodically (Figure 6).
- Use movable, industrial-grade stainless-steel wire shelving to help reduce cockroach and rodent habitat and to facilitate cleanup of spills and monitoring for problems.
- Keep relative humidity below 50 percent in food storage areas.
- Inspect deliveries for damaged product and hitchhiking pests. Remove items from cardboard boxes, and dispose of the boxes as soon as possible.



Figure 7. Branches and limbs that touch buildings should be trimmed back so that ants and other insects cannot use them to access buildings.

- Avoid storing items in cardboard boxes; they make great harborage areas for roaches and mice.
- If possible, use pest-resistant structural materials, fixtures, and furnishings (for example, purchase cafeteria tables with sealed leg ends to eliminate harborage for cockroaches).
- Eliminate drop ceilings to take away an entire pest habitat within the school, if possible.
- In high-traffic areas, use floor coverings that are easier to clean, such as vinyl tiles, instead of carpeting.
- Pay attention to landscaping practices that contribute to pest problems. For example, plants growing too close to walls may encourage ant, rodent, and other pest problems. Ants can use limbs and branches that touch structures to avoid chemical barrier treatments and to access buildings (Figure 7). Removing dense vegetation near buildings will eliminate places where pests can hide and reproduce. If possible, replace organic mulch with



Figure 8. Use inorganic mulch, such as decorative gravel, around buildings whenever possible to eliminate potential harborage areas for pests.

inorganic mulch, such as decorative gravel, around building foundations (Figure 8).

- Maintain healthy stands of turf, and use mulches judiciously to reduce weeds.

Physical and Mechanical Control

Capture and removal

With individual pests (such as a lone wasp, spider, or ant), capture and removal is a quick, effective, and nonlethal method of control.

Vacuum cleaners

The vacuum cleaner is one of the most effective pest management tools. It can be used to remove live and dead pests, fecal droppings, and food particles on which pests may feed. Some vacuums have special attachments for pest control and can pull cockroaches out of hiding places or collect spiders. Specialty vacuums equipped with HEPA filters can remove allergens from buildings.

Trapping

Traps play an important role in pest control, and a wide variety of traps are available. Traps are mechanical devices that often use an attractant (food, food odors, pheromones) to draw the pest to the trap. Some traps, including cockroach traps and various pheromone traps, are used mainly for monitoring pest presence, although they may be able to control small pest infestations in some situations. Other traps include the familiar snap traps and glue boards for mouse and rat control, and black-light traps and flypaper for flies. Traps can also be an option for invasive wildlife, such as raccoons, opossums, and even some bird species.

Temperature, lights, and air curtains

Freezing can kill trapped insects such as clothes moths and the eggs and larvae of beetles and moths that destroy grain. Placing infested food packages in a freezer (not the self-defrosting kind) at 0°F (−18°C) for 4 days will kill pantry pests before the packages are discarded and will prevent reinfestation of other stored food. Placing items in a clothes dryer on the highest setting (120°F minimum) for 30 minutes will kill all stages of bed bugs. Make sure items can be heated to such temperatures without damaging them, or simply discard them appropriately. Boiling water is sometimes used as an option for weed and fire ant control, although its use comes with some handling hazards.

Nocturnal (night-active) insects are attracted to metal halide lights. Consider replacing them with less attractive high-pressure sodium vapor lamps, which will reduce invasion of buildings by the occasional pests that are attracted to exterior lights.

Installing air curtains (“fly fans”) or vinyl strips on external doors that are open frequently can prevent flying insects from



Figure 9. Air curtains installed above doors can help exclude flying pests.



Figure 10. Crack-and-crevice applications should be used whenever possible to minimize potential exposure of occupants to pesticides.

entering buildings (Figure 9). Air curtains should be installed to start automatically whenever the door is opened.

Weeding

Mechanical removal of weeds by hand or machine is an alternative to using herbicides.

Pesticides

Although pesticides have a role in IPM programs for schools and child care facilities, they should be used with caution and only in very specific situations. The risk of harm from exposure to pesticides is relatively higher for children than for adults exposed to the same level of chemicals. When chemical controls are needed, select reduced-risk formulations such as baits, and use placements that will minimize exposure to occupants (e.g., crack-and-crevice or void treatments).

The following guidelines are recommended for the judicious use of pesticides in and around school and child care buildings:

- Pesticides should be applied selectively and judiciously according to need, not on a routine or predetermined calendar schedule.

- Follow label directions for rates, concentrations, application methods, protective clothing, ventilation of treated areas, and any reentry intervals (particularly when using chemicals outdoors on playgrounds and athletic fields). The label is a legal document that must be read and followed carefully whenever using any pesticide.
- Use application methods and formulations that reduce the amount of pesticide used and minimize the risk of exposing occupants to pesticides.
- Avoid using volatile formulations that may linger in the air.
- Whenever possible, use crack-and-crevice applications. These applications target harborage sites and maximize exposure of the pest to the pesticide while minimizing pesticide exposure for the occupants (Figure 10).
- Spot treatments in combination with improved sanitation, pest-proofing, and other nonchemical methods can minimize risks from pesticide exposure. (Note: The EPA defines an individual spot-treatment area as 2 square feet or less).
- Use appropriate bait formulations to target harborages and hot spots. Baits should be placed in areas that are inaccessible to children.
- Remove or cover aquariums or cages containing animals before any treatments. Check product labels for specific instructions on treating rooms where aquariums are present.
- Rodenticides should not be used indoors. Aside from the potential for children to contact the bait, another concern is the likelihood that rodents will die indoors in open areas, under equipment, or in wall voids where they can create a significant odor problem and attract other pests, such as flies. Because rodents may die indoors, it might be preferable to use traps and glue boards indoors (in tamper-resistant bait boxes). However, traps and glue boards must be checked regularly and dead rodents removed immediately. Outdoors, baiting should be used very selectively and only in tamper-resistant bait boxes (Figure 11). Use only paraffinized bait blocks (never use



Figure 11. Rodent bait should always be placed in tamper-resistant bait boxes.

pelletized bait formulations) to reduce the likelihood that a rodent can remove the bait. In most cases, snap traps in tamper-resistant bait boxes are preferable outdoors to baits around schools and child care facilities.

- If there is a school or child care facility policy concerning notification, be sure to follow guidelines carefully. At a minimum, record all control measures during each treatment. Current regulations of the North Carolina Department of Agriculture & Consumer Services, Structural Pest Control & Pesticide Division, require pest management professionals to maintain records of any pesticide applications so as to ensure written documentation and help prevent misunderstandings.
- Pay particular attention to individuals who may be sensitive to pesticides. The IPM coordinator is the primary contact for all matters related to pest control, and serves as the liaison between building occupants and the pest management professional. He and she should have information from staff, parents, and guardians about members of the school or child care community who may be sensitive to pesticides.
- Keep the pesticide label (the information printed on or attached to the pesticide container), the pesticide labeling (which comprises the label and all other product information received from the manufacturer when the product is purchased), MSDS documents, and consumer information sheets easily accessible and available to anyone who may request the information.

Selecting Pesticides

Reduced-risk pesticides have low or no acute or chronic toxicity to humans. They may affect a narrower range of pest species, which means you need to be more selective in using them. They may also be formulated and applied in a manner that limits or eliminates the exposure of humans and other nontarget organisms. Pesticides are classified according to their potential hazard to humans, animals, and the environment. “Restricted use” pesticides are the most hazardous. For that reason, they can only be purchased and used by certified applicators. “General use” pesticides are the type used by the public. They can still be extremely hazardous if not used properly.

Pesticides can also be identified by one of the following signal words on the label: “DANGER,” “WARNING,” or “CAUTION.” Pesticide products with the signal word “DANGER” pose the greatest potential hazard to humans, while those with “CAUTION” have the least potential hazard. Some pesticides (EPA toxicity category IV) are not required to have “CAUTION” on their label, but the manufacturer may choose to put “CAUTION” on the label regardless. If pesticides are deemed necessary to control pests effectively in schools or child care facilities, appropriate products with the signal word “CAUTION” should be selected. These might include insect and rodent baits in tamper-resistant containers or stations, cockroach baits that can be placed in cracks and crevices,

insect growth regulators, or inorganic pesticides, such as boric acid, diatomaceous earth, and silica gel.

Whenever possible, use appropriate nonvolatile baits (paste, gel, or containerized forms) that contain very small amounts of active ingredient. Some pests, such as cockroaches, can develop resistance to certain pesticides when they are used intensively or exclusively. If pesticides are used for control, rotate among classes of pesticides (switch between pesticides with different modes of action).

Information on pesticide toxicity can be obtained from the pesticide label, the MSDS, the manufacturer, or several other sources, including the Cooperative Extension Service, the National Pesticide Information Network, and nonprofit organizations (see chapter 5, “Resources”).

Currently, the SCHAs restricts all types of pesticide applications except category IV products, as well as bait applications and crack-and-crevice treatments.

Record Keeping

The success of any IPM program depends heavily on an accurate record-keeping system. Keep a simple log of pest sightings (Figure 12). Be sure to include when and where pests occur. The size of the school or child care facility and number of buildings will help determine how many logbooks should be maintained. Logbooks can be established for each building or other facility as determined by the IPM coordinator. Place logbooks in a central location such as the main office, teachers’ workroom, or cafeteria so employees can readily access them to note pest observations and pest management professionals can check them regularly. (See chapter 4 for a sample pest-sighting log.) Using a pest-sighting log and a good record-keeping system for pest management activities will:

- Allow schools and child care facilities to assess whether their IPM program objectives are being met.
- Lead to more efficient decision making and procuring of needed pest control supplies (if pest control is done in-house).
- Show changes in the site’s resource environment (availability of resources for pests), physical environment (exclusion and repairs), pest population (size and location), and the amount of damage or loss caused by pests.
- Provide an ongoing record to help plan for control of seasonal pests or track possible sources of recurring pest problems.
- Preserve important information when employees leave or retire and make it easy to pass this information from one employee to another.
- Help address safety issues that might lead to litigation.

The following items should be kept in the logbook:

- A copy of the approved IPM policy and/or plan and pest control service schedule (regardless of whether the service is in-house or contracted). Remember, a pest control service should not use pesticides on a routine,

To Be Completed By Facility Staff Person				To Be Completed By Pest Management Technician		
Date	Type of Pest(s) Sighted	Location of Sighting (Dept./Specific Location)	Sighted By	Date	Action Taken	Technician Name
5/20	Ants	2nd grade hallway	Mr. Gray	5/31	Treated	John
5/30	Spiders	Storage room in Gym	Mr. Gray	5/31	Treated	John
6/21	Ants	Back Courtyard	George	6/22	Treated / Inspected	John
8/18	Ants	Courtyard facing medline	George			

Figure 12. A simple log of any pest sightings that includes when and where pests are sighted should be maintained.

prescheduled basis. Instead, regular inspection and monitoring, recommendations to correct sanitation issues and structural deficiencies, and other nonchemical control methods should be used first. Pesticides should be used only if deemed necessary based on careful inspection and monitoring. Chapter 4 contains a sample IPM policy.

- Contact information for the IPM coordinator, the contracted pest management professional (if applicable), the poison control center, and similar agencies.
- Maps of the grounds and floor plans of buildings showing sensitive areas (cafeteria, computer rooms, science laboratories, nurseries), the location of pest activity, location of detection and monitoring devices, and location of bait stations in and around the site.
- Pest surveillance record sheets that show the type and number of pests or other indicators of pest population levels found in the pest monitoring program on the site.
- Copies of the current label, labeling, and MSDS for each EPA-registered pesticide product used. This information should be updated as needed.
- Pest management service reports showing dates and areas where action was taken and recommendations for structural repairs and modification.
- Documentation of quality control assessments by the contractor or IPM coordinator.

The IPM records should be reviewed regularly by the pest management professional and IPM coordinator to identify pest trends and problem areas. It is a good idea to create graphs, bar charts, or other visual representations of the information collected. This makes pest patterns emerge quickly, facilitating decision making and updating the facility on progress in implementing the IPM plan.

IDENTIFYING ROLES AND RESPONSIBILITIES

The success of any IPM program depends on the cooperation of all the people involved.

Committee

An IPM committee should be created to work with the IPM coordinator in overseeing the program. The committee is responsible for evaluating the IPM program and conferring with the IPM coordinator on any necessary changes. The committee should consist of teachers, administrators, and parents, as well as other facilities staff, as applicable (maintenance, food service, and grounds staff).

School or Child Care Personnel

IPM coordinator

The IPM coordinator is at the center of the implementation process and is critical to its success. He or she will facilitate communication among all parties involved in the IPM program and ensure that the facility's pest management decisions and actions adhere to the IPM program. The facility manager or director of maintenance of a school is frequently appointed IPM coordinator. In a child care facility this may be the director, although any other person who is interested in ensuring a healthy environment for students and staff is also a candidate. The IPM coordinator should be capable of influencing policy and practices at the facility.

The role of the IPM coordinator is to:

- Serve as the primary contact for the pest control company and pest management professional (if pest control services are contracted).
- Oversee the daily operation of the IPM program and evaluate its progress in achieving pest management objectives.
- Serve as the primary contact for inquiries about pest management and provide information requested by facility personnel, parents, and the general public about the pest management plan.
- Provide local training to school staff and students as needed or requested.
- Update facility occupants and decision makers about progress in implementing the IPM program. Keep accurate records about the IPM program, including pest sightings; the type, amount, and location of all pesticide treatments; dates of each treatment and other IPM activities; any pesticide-related complaints; and needed sanitation, structural, and landscape improvements. The IPM coordinator also evaluates the effectiveness of any treatments and addresses any shortcomings with the pest control service when a treatment doesn't work as expected.

- Implement IPM recommendations from the pest control technician (such as cleaning and repairs) by creating work orders or communicating necessary behavioral changes to principals, teachers, or staff.
- Maintain and make available pesticide labels, labeling, and MSDS documents.

Administrators and decision makers

Administrators and decision makers should understand the legal consequences of improper pesticide use, pesticide safety issues, and decision making about pesticides and their appropriate use in schools and child care facilities. This group may include superintendents and board members, school business officials, child care facility directors, maintenance facilities directors, child nutrition directors, and purchasing agents or contracting officers.

The role of administrators is to:

- Establish and implement a clear IPM policy for their school district or child care facility.
- Select a qualified IPM coordinator.
- Authorize the IPM program, commit the resources needed for pest management, and select a pest management professional (if applicable) who can meet the criteria of the IPM program as defined in the contract.
- Evaluate whether IPM objectives are being met.

Teachers, staff, and students

The cooperation of students and teachers is essential to the success of any IPM program. Classrooms, lockers, desks, and cubbyholes are key sites for pest problems in school and child care facility buildings.

Students and teachers should:

- Clean up food leftovers and store classroom foods properly in pest-proof containers (for example, plastic containers with tight-fitting lids), including snacks, pet food, and food items used in arts and crafts activities. Keep classrooms, cubbyholes, lockers, desks, and other storage areas clean and uncluttered.
- Follow IPM guidelines for reporting pest problems. For example, promptly record pest problems on the pest-sighting log sheets.
- Report conditions that are conducive to pests in and around the building, such as leaky faucets, damaged trash can lids, or loose baseboards.
- NEVER apply pesticides on school property. (Note: This excludes curriculum-related activities such as agricultural and horticultural classes.)



Figure 13. Proper sanitation is critical to a successful IPM program. Floor drains should be cleaned periodically to reduce the availability of food and water to pests.

Kitchen and cafeteria staff

Food handling and preparation areas are the most crucial areas for pest management because they provide all the resources (food, water, and shelter) that pests need. It is critical that cafeteria staff understand the importance of good sanitation, kitchen management, and proper food storage. Kitchen and cafeteria staff should also participate in periodic IPM training.

The roles of kitchen and cafeteria staff include:

- Reduce the availability of resources by practicing proper sanitation, such as cleaning floor drains, cleaning inside and under equipment and racks, and cleaning up spills quickly (Figure 13).
- Recognize, locate, and eliminate pest harborage areas.
- Report pest problems and pest-conducive conditions as dictated in the facility IPM plan.
- Store food off the floor in pest-proof containers.
- Keep storage areas clean and uncluttered.
- Check incoming deliveries for signs of damage or infestation. Practice FIFO (first in, first out): use older stock first.
- Leave pesticide applications to trained and certified pest management professionals only. Kitchen and cafeteria staff should not apply pesticides.

Custodial staff

Custodial staff play a significant role in any IPM program because they are familiar with the buildings they maintain. They are most likely to see pests, evidence of pests, or conditions conducive to pests in and around the buildings. With training, custodians can become instrumental in the success of the IPM program, because many pest problems are prevented or reduced through good cultural practices inside and outside the building.

Custodial staff members are responsible for:

- Reporting incidents and locations of pest problems
- Recognizing and reporting pest-conducive conditions, such as water leaks, and potential pest entry points into buildings (Figure 14)
- Correcting many of the conditions that may lead to pest problems

Maintenance staff

Staff (or contractors) in charge of facility maintenance and repair, landscaping design and maintenance, HVAC services, electrical services, plumbing, and roofing play significant parts in an IPM program. Through their services, maintenance staff can minimize or eliminate the availability of resources that favor pest infestations.

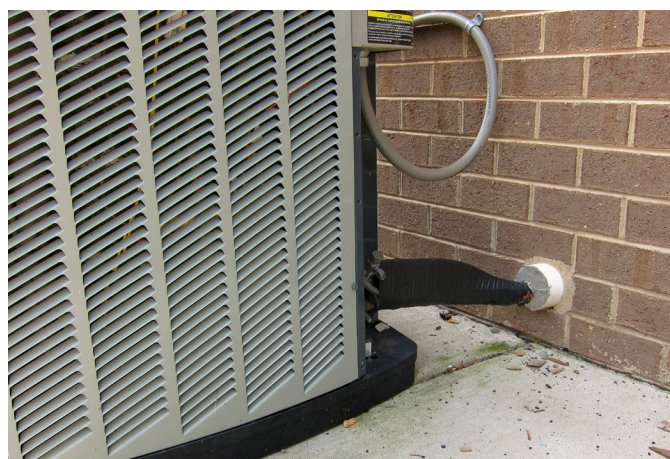


Figure 14. Any gaps around pipes that enter buildings should be sealed to help keep pests excluded.

Parents and community members

Parents need to be aware of the current pest management practices in their children's school or child care facility. Active interest and concern from parents can motivate facility staff to provide effective and safe pest control. Parents and the community can and should express their views to the IPM coordinator, school administrators, the PTA, and school boards. Parents should have representation on IPM advisory committees.

Pest Management Professionals and In-House Pest Management Technicians

Whether your pest control services are performed by in-house staff or by a contracted pest management professional, the services must be performed by individuals who have technical training, knowledge, and experience in integrated pest management. The pesticide applicator is an inspector, pest identifier, communicator, record keeper, and chief decision maker

for pest management tactics. He or she must be sensitive to the health and well-being of students and staff. The pesticide applicator should have a thorough understanding of the goals and objectives of the IPM program, the pest management contract (if services are contracted), and the facility IPM policy and its implications.

A pesticide applicator who practices IPM plays a much more active and interactive role than a conventional pesticide applicator. He or she spends more time inspecting the school and communicating with school workers than applying pesticides (Figure 15). In addition, he or she recommends and applies the appropriate pest management methods based on knowledge of the site and information about specific pests and their biology.

In an IPM program, the pesticide applicator should:

- Be certified or licensed to conduct pest control. Commercial pest management professionals must be licensed or must work under a licensed supervisor.
- Regularly inspect the school to identify conditions, procedures, and practices that encourage pests. This information is then reported to the IPM coordinator with recommendations for changes that can support the pest management effort.
- Monitor the site to identify pests and determine the level of pest presence.
- Provide written pest management recommendations to the facility IPM coordinator and take pest control actions to achieve pest management objectives. If a pesticide application is deemed necessary, the product and application method selected should minimize risk to occupants.
- Keep accurate records of any control actions taken. Monitor the site subsequently to determine if the actions taken are successful.



Figure 15. In an IPM program more time is spent inspecting and monitoring than applying pesticides.

- Routinely check the facility's IPM log(s) for records of new pest sightings and requests for pest control and to determine if the school or child care facility administration has implemented the recommendations for structural modifications or behavioral changes that are needed to discourage pests from entering or establishing.
- Notify the IPM coordinator if there is a need to use nonexempt pesticides (applies to schools following the SCHA).
- Provide periodic written or oral reports showing progress in achieving IPM program objectives.

SETTING UP YOUR IPM PROGRAM

(Note: Adapted with permission from the IPM Technical Resource Center, Department of Entomology, Purdue University.)

IPM is a common-sense approach to dealing with pests that emphasizes pest prevention and provides a decision-making process for determining if, when, and where pest suppression is needed and what control tactics are appropriate. Take the following steps to help transition your school or child care facility to IPM.

1. **Adopt an IPM policy.** A clear IPM policy is necessary for successful transition from a conventional pesticide-based program to an IPM program. The policy statement explains the intention of a school or child care facility to implement an IPM program. It provides specific goals, objectives, and expectations for the program and the education and involvement of staff and contractors. The IPM policy allows the entire community to participate in developing the IPM program and provides the school or child care facility with an effective way to respond to questions from the public. A sample IPM policy can be found in chapter 4 of this manual.
2. **Designate an IPM coordinator.**
3. **Educate staff, faculty, and parents about the IPM program.** Your IPM coordinator can help with this education effort. In addition, see chapter 5 for educational resources.
4. **Implement pest prevention.** These steps for preventing and managing pests are ongoing tasks requiring teamwork and participation from all parties:
 - a. **Sanitation**
 - b. **Pest exclusion**
 - c. **Habitat modification**
 - d. **Pesticides, as deemed necessary based on inspection and monitoring.**
5. **Contract with the right pest control company** (not applicable if pest control is done in-house). It is important to contract with a pest management professional who is qualified to deliver IPM services. See chapter 3 of this manual for information on contracting with pest control companies.

6. **Create pest-specific IPM action plans.** Establish tolerance levels and an action plan for each pest. Determine where and under what conditions pest control activities will take place. Doing so will prevent the unnecessary use of pesticides. For example, little action may be required if a couple of flies are found inside a classroom; the action may be as simple as making sure doors and windows stay closed. On the other hand, there is little tolerance for cockroaches, ants, mice, flies, and other pests found in areas where food is stored, prepared, or served. Just a few pests in this type of area may require a more extensive action plan. See chapter 4, “Sample Forms,” for examples of pest-specific IPM action plans.
7. **Treat existing pest problems.**
8. **Set up procedures for notifying parents and staff.** Set up reliable notification procedures when nonexempt pesticides are applied.

EVALUATING YOUR IPM PROGRAM

One of the most important components of IPM is evaluating how well the program is working, along with fine-tuning it when necessary. Every component of the IPM program will need objectives and criteria for measuring success. In the evaluation step, the IPM coordinator determines whether all the necessary components were actually developed and whether the components are successful.

After two or three periods of fine-tuning the habitat, redesigning or repairing parts of the school, or changing behavioral practices to discourage pests, many pest problems should diminish or even disappear. Once this point is reached, periodic monitoring rather than remedial pest control measures may be all that is needed. However, monitoring must continue at regularly prescribed intervals so that pest problems do not recur or so they can be addressed quickly.

After evaluation, the facility should receive a summary report that notes the current conditions, progress made against particular pests or conditions, remaining problems, and recommendations for additional changes.

Use the IPM program assessment tool found in chapter 4 of this manual to help you evaluate your IPM program.