

## INTEGRATED PEST MANAGEMENT

Pests, such as insects and rodents, can be a serious problem in a restaurant. They can contaminate food supplies as well as damage facilities. More importantly, they can also contribute to foodborne illness and other diseases. Pesticides are often used to control pests but pesticides alone are not the solution. A better solution is to have an integrated pest management program (IPM) as part of your food safety program.

IPM is an approach to pest management that minimizes reliance on chemical pesticides. The three basic rules of an IPM program are to: deny pests access to the establishment; deny pests food, water, and a hiding or nesting place; and work with a licensed pest management professional (PMP) to eliminate pests that are in the establishment.

### Developing Your Program

The first step is to conduct a self-inspection of your restaurant to assess the state of your pest problems. This will help you to identify problem areas in your restaurant and correct these problems. Do so by:

- Developing a pest inspection checklist so you can conduct a thorough self-inspection. The list should include: date and time of inspection, temperature outside and inside the restaurant, pests observed (cockroaches, mice, rats, flies, other), evidence of pests (droppings, egg cases, nesting materials, gnaw marks in building structure or food packaging, grease markings) and location of evidence, deficiencies in building structure or equipment (holes, leaks, standing water, broken equipment, cracks and crevices, screens, doors and windows that are tight fitting, other), sanitation (grease, food or water accumulations and location, garbage and trash receptacles clean and covered) and corrective actions taken.
- Creating a map of your facility's interior and exterior layout so you can mark exactly where you found evidence of pests and where bait traps were placed.
- Bringing a flashlight and mirror on your inspection to help you better identify problems.
- Conducting self-inspections on a monthly basis. Routine self-inspections reduce the need for a PMP.

**NOTE:** Although you have conducted an in-house inspection, you may still need to hire a PMP who is trained to use pesticides in an environment, such as a restaurant.

### Working with a PMP

The PMP should perform an initial inspection and submit a detailed report to you. The report should outline your current pest problems and the PMP's recommendations for addressing the problems and recommendations of what you need to do to prevent further problems. The plan should include a schedule of service dates, pesticides to be used, and methods for treatment to eliminate pest problems.

Maintain your IPM reports in an on-site Pest Control Log book. After each pest control service, the PMP should make written recommendations and meet with you to discuss findings so you can implement needed changes. You should also use the Pest Control Log book to record all pest sightings and other problems seen between the PMP service visits. All problem areas

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noted in the log book should be monitored by the PMP and your workers. Also before and after the PMP visits your restaurant, you need to:

- Prepare the area to be treated by covering all food, equipment, and tableware.
- Cover equipment and other food-contact surfaces that cannot be moved.
- Wash, rinse, and sanitize food-contact surfaces after the area has been treated.

#### **Questions to Ask a PMP before Hiring**

- How long you been in business and can you provide references?
- Do you specialize in commercial treatments? If yes, how many restaurant accounts do you have?
- What pests are covered in the service contract?
- How many service calls are included in the price?
- Are there additional charges when extra service is needed to eliminate a contracted pest?
- What areas of the restaurant are excluded from the contract?
- Do you provide a "satisfaction guaranteed" clause?
- Will you assign one technician or will you rotate my restaurant to different technicians?
- Do you include written reports that highlight sanitation, construction, or other relevant deficiencies?
- Can I accompany the technician during visits?
- At what time are service calls usually made? Or if you have a preference for when the technician arrives, ask "Can you make service calls between the hours of "x" and "y"?"
- What pretreatment and post-treatment precautions and preparations should we perform at the restaurant?
- What chemicals do you use? Will they contaminate food or preparation surfaces? Are they safe for use in a restaurant?
- Can you provide Material Safety Data Sheets and the product labels for all pesticides that are used?
- How fast can the technician arrive in case of emergency?

By interviewing pest control companies before you have a problem, you can avoid hiring the wrong PMP for your establishment.

#### **Denying Pests Access to Your Restaurant**

In addition to conducting self-inspections and scheduling regular PMP visits, there are steps you and your workers need to take to reduce pest problems. Here are some areas that you need to address.

#### **Deliveries**

- Routinely inspect incoming shipments of food, supplies, and delivery areas for insects and rodents.

#### **Doors, Windows, and Vents**

- Seal cracks and crevices and keep screens closed and in good condition.
- Close all openings that surround wiring, drain pipes, vents, and flues.
- Cover windows and vents with at least a 16-mesh wire screening.
- Repair cracks and gaps at all exterior doors and walls

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- Install air curtains or fly fans that blow a steady stream of air that excludes flies at delivery entrances.

#### **Floors and Walls**

- Repair damaged floors and cover floors with a waterproof material, such as tile.
- Keep floor drains free of food particles and other debris.
- Install lighting away from exterior doors because lights attract many types of flying insects.
- Caulk and seal around light switches, bulletin boards, and vent hoods.
- Keep the building exterior and perimeter clean and free of clutter and debris that can harbor mice, rats, and other pests.
- Seal all pipes and electrical lines with wire mesh (copper pads) and/or caulking.
- Store garbage in sealed plastic bags in covered containers.

#### **Denying Pests Food and Shelter in Your Restaurant**

Garbage and trash are breeding places for microorganisms and insects and can serve as food for rodents. To prevent this:

- Keep garbage and trash in easily washed containers that have tight fitting lids that prevent flies from entering them.
- Use plastic liners for garbage cans to make it easier to keep containers clean.
- Wash garbage cans daily inside and out with hot, soapy water.
- Keep areas surrounding trash cans clean as possible.
- Use insect sprays and rodent traps in and near the garbage and waste area. Only use sprays approved by the US Environmental Protection Agency (EPA) for use in food establishments.
- Throw out garbage frequently and properly.
- Store recyclables in clean, pest-proof containers as far away from your building as local regulations allow.
- Keep your dumpster and dumpster pad area cleaned.

Michael Waldvogel

**Comment:** Indoors, I prefer to use traps over baits because you never know where the rodent may die.

#### **Storage**

- Store all food and supplies properly and off of the floor.
- Keep foods covered and clean up spilled foods immediately.
- Clean storage areas thoroughly.
- Eliminate sources of food and shelter in outdoor dining areas.
- Remove foods, such as flour, sugar, pancake mix, from their original containers and place in approved sealed tight containers that are properly labeled.

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## General

- Follow instructions on product labels when using rodent poisons and pesticides.
- Only use those products approved by the US Environmental Protection Agency and your local health department.
- Eliminate conditions that allow pests to nest.
- Use trapping devices or other means of pests control.
- Keep work and dining areas free from debris.
- Compressor motors, such as those on refrigerators and freezers, are prime areas for roaches because they have ideal temperatures for breeding.
- Do not store foods longer than their recommended time.

## Pests Associated with Stored Food

These pests can include moths and beetles that feed on and contaminate stored grains. Again, the best control is prevention. These measures include inspecting all incoming items for the presence of pests, throwing away and cleaning up all spilled or contaminated items promptly, and proper ground maintenance, which is important to reducing sources of pests. Stock rotation in accordance with first-in, first-out principles apply, as old stock is more likely to become infested. Adequate ventilation is necessary in order to reduce moisture levels. While prevention is the best control measure, existing infestations are best treated by a trained and knowledgeable PMP.

## Using and Storing Pesticides

- Keep pesticides in their original containers. Never store pesticides in old food containers.
- Store pesticides in locked cabinets away from areas where food is stored and prepared.
- Check with your local Cooperative Extension or state regulatory agencies about the proper method for disposing of old or excess pesticides.
- Keep a copy of the corresponding product labels and Material Safety Data Sheets in your establishment.

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## Identifying Pests

Pest	Unique Features	Prevention
Mice	<ul style="list-style-type: none"><li>• Gnawing, droppings, tracks, and nesting materials</li><li>• Defecate wherever they travel, but mostly where they feed.</li><li>• Mice have poor vision, and frequently use the same paths or runways close to the walls.</li><li>• Mice eat very little, but will contaminate large amounts of food by nibbling into stored products.</li><li>• Mice need only a crack or hole the size of a dime to enter a building</li></ul>	<ul style="list-style-type: none"><li>• Place traps in their territories, which rarely exceed a 20-foot diameter.</li><li>• Do not use baits indoors except in extreme situations.</li></ul>
Rats	<ul style="list-style-type: none"><li>• Rats need only a crack or hole the size of a quarter to enter a building.</li></ul>	<ul style="list-style-type: none"><li>• Place traps and bait in their territory, which may be up to 150 feet.</li><li>• Check traps and area daily for dead rodents.</li><li>• Rats may be "bait shy" and more cautious than mice. Subsequently, trapping and baiting can be less effective initially compared to "rat proofing."</li></ul>
Ants	<ul style="list-style-type: none"><li>• Ants most often nest outdoors in landscaped areas and under pavement, but may nest in wall voids.</li><li>• Nest size can vary from several hundred to several thousand, and control begins with finding these nesting areas.</li></ul>	<ul style="list-style-type: none"><li>• Liquid treatments may help deter the ants but will not necessarily stop them. Treat nests where possible.</li><li>• Baits placed near foraging trails can be very effective.</li><li>• Caulk and seal around pipes and electrical lines to keep ants out.</li></ul>

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Identifying Pests (continued)

Pest	Unique Features	Prevention
Cockroaches	<ul style="list-style-type: none"><li>• Strong oily odor, fecal smears on surfaces, droppings (feces) that look like grains of black pepper, capsule-shaped egg cases that are brown, dark red, or black and may appear leathery, smooth, or shiny.</li></ul>	<ul style="list-style-type: none"><li>• Use a glue trap – container with sticky glue on the bottom –to identify what types of roaches are present.</li><li>• Caulk and seal possible breeding areas.</li><li>• Use baiting and crack and crevice treatments by a PMP.</li><li>• Control humidity, as areas with 50% or less humidity will reduce the hatching of cockroach eggs.</li></ul>

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