

Safe Pest Control

Table of Contents

- Introduction 1-2
- Common Pests 3
- Environmental Conditions That Encourage Pests 4
- Signs of Pest Presence 5
- Prevention Measures 6
- Pesticide Treatment Program 7-12
 - Pesticide Selection 10-11
 - Pesticide Application 12
- Integrated Pest Management (IPM) Program 13-22
 - Step 1—Pest Prevention Methods 14-15
 - Step 2—Assess the Current Situation 16
 - Step 3—Develop a Site-Specific Plan 17-18
 - Step 4—Implementation 19
 - Step 5—Evaluate the Plan 20
 - Step 6—Make Adjustments 21

INTRODUCTION

1. What is considered a “pest?” In the context of pest control, it is any organism that has a harmful effect on humans, their food, or their living conditions. Pests include animals that:

- (1) Carry disease-causing microorganisms and parasites (mosquitos).
- (2) Attack crops (caterpillars and grasshoppers).
- (3) Damage stored food (rats and mice).
- (4) Attack farm animals (feral dogs, foxes, and wolves).
- (5) Damage clothing (silverfish and moths).
- (6) Damage buildings (termites).
- (7) Bite people (bed bugs and ticks).

2. This document gives an overview of some common types of pests and their effects. It also can assist branches to establish a pest control management plan. A well-documented plan will assist in keeping pests under control, which will reduce the risk of disease, and allow those working in pest control to do so safely.

COMMON PESTS

3. Some common types of pests found around the world include:

Type of Pest	Environment
Bed Bugs	Bed bugs are often transported from place to place in or on a person’s luggage or bedding. They hide in cracks and crevices during the day where people sleep and will seek a blood meal by biting a person in their bed during the night. Bed bugs need a blood meal to mature into adults. Bites can be very itchy and can become infected if scratched.

Cockroaches	Cockroaches thrive under floors of older houses or buildings, behind stoves and fridges, and around garbage, food scraps, dirty benches and tables, bathroom and kitchen cupboards, septic tanks, and drains.
Fleas	Fleas are often found in sandy areas. They need blood to breed. Sometimes fleas are brought into a house on people's clothes, having jumped onto them from outside the house. Fleas can also be transported on bedding. They are commonly found on cats and dogs.
Flies	Flies are often found around garbage, food scraps, open septic tanks, open leach drains, leaves, dirty benches and tables, lawn clippings, and animal feces.
Mites	Mites live and breed on both animals and people.
Mosquitos	Mosquitos prefer cool, dark, and damp places, such as near standing water, dense foliage, and specific types of trees and bushes.
Rats and Mice	Rats and mice are attracted to garbage, exposed food, storage places, kitchen cupboards, and holes in walls. They can be found in pipes, in insulation, under buildings, close to garbage collection points, in ceilings, and in trees and gardens.

ENVIRONMENTAL CONDITIONS THAT ENCOURAGE PESTS

4. A regular review of the environment can identify areas that may be prone to pests. Some of the following conditions should be identified and mitigated:

- (1) Feces or dead animals.
- (2) Septic tanks and leach drains with lids broken or missing.
- (3) Pools of water caused by leaking taps.
- (4) Overflowing storm or sanitary sewer drains.
- (5) Objects left lying around that can collect water, such as old tires or containers.
- (6) Garbage, including food scraps, left lying around.
- (7) Blocked and/or unclean toilets.
- (8) Grass growing in sewage lagoons.
- (9) Food left uncovered in kitchens.
- (10) Unclean tables, bench tops, cupboards, and shelves.
- (11) Unclean kitchen floors.

SIGNS OF PEST PRESENCE

5. During the regular pest inspection process, the following are helpful signs to identify the presence of the following pests:

Type of Pest	Sign of Presence
Bed Bugs	<ul style="list-style-type: none"> • Dark blood spots on bedding • Adult bed bugs hiding in the seams of mattresses, bed frames, or other places • Small white clusters of eggs sticking to the mattress seams • People complaining of being bitten

Cockroaches	<ul style="list-style-type: none"> • Lots of little black droppings • A sweet, sickly smell • Dead cockroaches • Empty egg cases • Chewed labels and paper
Rats and Mice	<ul style="list-style-type: none"> • Teeth marks and damage from chewing • Rat and mice droppings • Greasy smears from the rats' fur marking their runways • Rat and mice holes • Running, chewing, or scratching noises

PREVENTION MEASURES

6. When areas are kept clean, there is no food for pests. This makes the area unideal for them to live and breed, and it drastically reduces the number of pests. Without implementing good sanitation practices, pests will quickly return. Pests can be controlled in the following ways:

- (1) Clean up after meals. Put food scraps in the garbage bin. Wash and dry plates, cups, glasses, cutlery, and cooking pots after use.
- (2) Properly dispose of all garbage.
- (3) Wrap all food scraps tightly in paper before putting them in garbage containers.
- (4) Keep all benches, cupboards, and floors clean.
- (5) Regularly clean behind stoves, refrigerators, and other appliances in residences and in common kitchens.
- (6) In residences, commissaries, and food pantries, keep food in containers with tight-fitting lids.
- (7) Empty garbage bins every day. Dispose of garbage in a reinforced plastic bag, making sure that the bag is well-sealed or tied, and place in a sealed trash container. Pay attention to trash collection days. Do not leave garbage exposed outdoors and unprotected for several days.
- (8) Make sure toilets are clean and any cisterns, wells, and water systems work correctly.
- (9) Make sure all septic tanks and leach drains are well-sealed.
- (10) Use fly screens on doors and windows to stop pests from entering the building.

PESTICIDE TREATMENT PROGRAM

7. A pesticide treatment program is designed to get rid of pests by using one or more pesticides. Pesticides should not be used unless there is a definite need to do so and where a pest problem has been identified, such as in the case of extensive cockroach infestation.

8. Before a pesticide treatment program is undertaken, alternative methods of pest control must be considered, such as domestic hygiene measures. In applying a pesticide, it is extremely important to choose the correct one for the job, apply it safely, and do so in accordance with the label directions.

9. Any pesticides used should be approved for the country it is being used in. The person applying the chemicals should be licensed or otherwise approved, and he should be adequately trained in the use of that particular treatment program.

10. **Pesticide Selection:** In choosing the correct pesticide for a treatment program, there are a number of factors that should be carefully considered before the final choice of pesticide is made:

- (1) Which of the available pesticides will control the target pest?
- (2) Of these, which would be the better pesticide to use? The choice should take into account the required application method and the pesticide's level of toxicity.
- (3) How is it applied?
- (4) For how long will it control the pest?
- (5) How toxic is it to humans and other non-target species?
- (6) Can it cause damage to the environment and how might this occur?
- (7) Is it biodegradable?
- (8) How much pesticide is required for the job?
- (9) Where and how should any remaining pesticides be stored?
- (10) How will empty containers or unused pesticides be discarded?

11. The pesticide selected should be:

- (1) The least toxic to humans and other non-target species.
- (2) Easy to apply.
- (3) Effective in controlling the target pest.

12. **Pesticide Application:** A risk assessment of the application should be performed in advance. The assessment should include the following:

- (1) Pesticide
 - How much of the job will one container of pesticide accomplish? Will more be needed, and if so, how much? Does it need to be mixed with anything? If so, with what and how much?
- (2) Equipment
 - What application equipment is needed?
 - What protective clothing and equipment is required?
 - How should the protective clothing and equipment and the application equipment be cleaned?
- (3) Application method
 - What warnings are given?
 - What safety measures are necessary while the pesticide is being applied?
 - How should the pesticide be applied?

INTEGRATED PEST MANAGEMENT (IPM) PROGRAM

13. An Integrated Pest Management (IPM) program should be developed to identify hazards and create an action plan to prevent or handle pest infestations. The IPM should include the six steps that follow.

14. **Step 1—Pest Prevention Methods:** Pest prevention should be the primary goal of the IPM. Elements of the prevention program include:

- (1) Waste management.
- (2) Cleaning and sanitation control.
- (3) Building repair and maintenance.
- (4) Biological and mechanical controls.

15. With good prevention methods in place, most pests can be managed without utilizing chemicals that may lead to other complications. Pesticides should only be used as a last resort to control pests.

16. **Step 2—Assess the Current Situation:** Assess what is currently happening at the facility. Look for active or potential pest problems. The assessment should include the following:

- (1) Identifying the kinds of pests present (check with a pest control company if needed).
- (2) Studying the pest problem to understand the extent of it in the facility.
- (3) Listing the possible sources of pests (for example, flour beetles could come from contaminated food shipments).

17. **Step 3—Develop a Site-Specific Plan:** Research control methods for the pests common to the area or for what the facility is experiencing. Control methods can include barriers, traps, and removing food debris. It may also include changing the environmental conditions, including temperature and humidity.

18. Identify the key areas that need to be developed or improved to support the pest management plan. Make sure to review:

- (1) Sanitation.
- (2) Transportation and storage of food supplies (stock rotation).
- (3) Purchasing controls (not purchasing so many food supplies that they are stored too long).

19. **Step 4—Implementation:** Implementation includes the elements listed below.

- (1) Training: Those living in a branch facility should be aware of the facility's pest management policies. Be sure to include the importance of cleaning and sanitation.
- (2) Communication: Prepare standard written procedures for all parts of the pest management program, along with communication on verification procedures. Include how those procedures should be checked.
- (3) Monitoring Activities: Ensure that the implementation plan includes direction on regularly reviewing the effectiveness of the plan. (See step 5 below.) Procedures should be in place to ensure that training is up-to-date, that the lessons are being understood, and that communication to all parties is being received and followed.

20. **Step 5—Evaluate the Plan:** Check regularly to ensure that the IPM is working. Look for any areas requiring adjustment. Review any corrective actions and controls implemented to ensure the adjustments are effective.

21. **Step 6—Make Adjustments:** Based on the results of step 5, adjust the plan for ongoing improvements. Check regularly for new ways to control pests. Make sure adjustments take into consideration that pest behaviors change with the seasons.

22. With education and implementation of the IPM controls, the effects of pests to the branch's facilities can be significantly reduced or eliminated.