

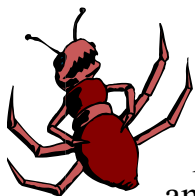


A Safer Way to Keep Bugs Away



The ABC's of IPM

What is a Pest?



What do ants, aphids, mice and mealy bugs have in common?

They are sometimes called *pests*! A pest is an insect, animal or plant that is *out of place*

or not where it naturally belongs. For instance, ants have a place in nature when they dig tunnels underground. This brings oxygen to soil so plants can grow. When a stream of ants is crawling on our kitchen counter however, they are out of place.

Pest Control Tool Box



Although there are many ways to control pests, it can be puzzling trying to figure out the best way. The safer approach called *Integrated*

Pest Management (IPM for short) has been developed to help us solve this puzzle!

Integrated Pest Management looks at a pest problem from different angles and tries to come up with the safest way to control the pest. Using IPM is like having lots of tools in your toolbox. You first use the easiest tools and then move on to other tools if the problem is more complicated. To solve the puzzle of pest control, an IPM detective starts looking for the following clues:

A Identify the Pest



Look closely. What kind of pest is it? Is it really creating a problem? For instance, are one or two ants in the classroom a problem? Are streams of ants in the classroom a problem?

B Monitor and Keep Records



Pay attention to areas or plants where you think there may be a pest problem. Is the pest growing in numbers or doing any real damage? Sometimes, just because an insect is eating a plant, doesn't mean it's really a pest problem. Can you see damage to the plant from ten feet away? Is most of the plant still healthy and nice to look at? Or are all the leaves chewed up with holes that make it look like Swiss cheese? Keep records of what you see and what actions you've decided to take.

C Decide if the Pest is a Problem



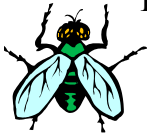
If the pest isn't creating a problem yet, try to figure out when it might become serious enough to require action. Are there certain pests you won't tolerate at all in the home or classroom? Are there others that don't pose a problem if there's one or two?

D Choose the Safest Treatments



IPM always tries to solve the pest problem using the safest way first. The goal is to *suppress* or keep the pest problem down, not necessarily to *eradicate* or destroy every single pest. Select ways to control the pest that are easy to carry out, long lasting and safest for the environment. For instance, instead of using poisonous or *toxic* chemicals called *pesticides* to kill ants, we can put spices like cinnamon or red pepper at the point where they enter the home or classroom. This helps keep ants away.

Different Ways to Keep Pests Away



The goal of IPM is to *limit* or stop the food, water, and shelter a pest has so that it will go away.

Another goal is to prevent it from entering a space or building. There are several ways to do this:

Keep it Clean



Pests are usually attracted to messy or dirty areas. Look to where the pests are and chances are you need to do a little cleaning. Make sure all food is put away and sealed, and that counters are wiped clean. A tiny crumb to you is a feast to a cockroach! Also be sure to properly throw away all garbage, clear out clutter in cupboards, drawers and closets, and pull weeds from the garden. This makes it hard for pests to find food and shelter.

Block Their Way



Even very small holes can act as a doorway for insects to come inside your house. Use *barriers* like window screens to keep out flies and mosquitoes. You can also use a variety of traps to catch flies, cockroaches, ants, mice and rats. Make sure that only adults handle these traps!

Use Your Hands



These actions either directly kill the pest or make it very difficult for them to survive.

For instance, turning the soil in your garden over with a hoe can expose garden pests to birds that may eat them. You can also get rid of snails, slugs and unwanted caterpillars by handpicking them off the plant. Another method would be to use a strong spray of water to remove aphids from plants.

Let Nature Help



All species—including insects—have natural enemies. IPM uses natural enemies or *biological controls* to manage pests. The most common natural enemies are *predators* and *parasitoids*. A predator is an organism that eats another living thing. For example, a ladybug is a predator that will eat an aphid. A parasitoid is an organism that slowly feeds off another organism in order to grow into an adult. One example of parasites used in IPM is mini-wasps which are harmless to humans and which will feed off a variety of insect pests before eventually killing them.

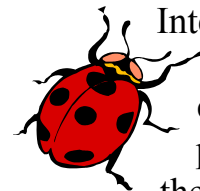
Chemical Uses



If previous methods of pest control have failed to work, IPM will use chemicals to control pests. Only the safest, least toxic chemicals should be used. Treat only the specific problem (like one plant, or one corner of a room) rather than spraying the whole garden or house with chemicals.

Only adults should handle chemicals, and they should be sure to read the instructions carefully. Some natural, safer sprays can be made from household items like dish soap! Just take a spray bottle filled with water and add a few drops of liquid soap. Use this to clean aphids off of plants and to clean up ant trails inside your home.

We can Make a Difference!



Integrated Pest Management reduces the amount of toxic chemicals we use to control pests. By using less of these harmful chemicals, we can protect humans, pets, and wildlife as well as our water supply, air and soil. Let's do our best to use IPM!