

Pest Gnome



What is Integrated Pest Management?

By Jane Purnell | Updated: December 19, 2024

[Pest Control](#)



Integrated Pest Management (IPM) is a long-term, eco-friendly approach to preventing pests in the home and garden with as little pesticide as possible.

While pesticides can help exterminate severe pest infestations, they're often a short-term Band-Aid solution for an underlying problem. They also dent your wallet and can harm people, wildlife, and the environment.

Integrated Pest Management is a less harmful alternative in which homeowners practice regular yard maintenance and cleaning to make their homes and gardens unattractive to

pests in the first place. While it might sound like you need special certification to perform it, anyone can practice IPM around the home. Here are just a few examples of how easy IPM can be:

- **Are ants marching in your home?** Keep them away by sealing cracks and wiping down those kitchen counters.
- **Mosquitos biting you?** Remove empty buckets filled with rainwater, clean the gutter, and add a fountain to the pond.
- **Aphids ruining your garden?** Order a box of ladybugs to your door.

As you can see, IPM can be pretty low-effort. It just requires thinking ahead. If you're interested in how to get started with Integrated Pest Management in your home and garden, here's everything you need to know:

- [What is Integrated Pest Management?](#)
- [How Integrated Pest Management Works](#)
- [Pros and Cons of Integrated Pest Management](#)
- [FAQ About Integrated Pest Management](#)

What is Integrated Pest Management?

IPM is an approach that focuses on the long-term prevention of pests using various techniques, which we discuss in-depth below.

IPM strategies can be executed in all areas where pests exist, including the lawn, home, and garden. All IPM practices are intended to minimize risks to humans, wildlife, and the environment by limiting pesticide use.

Pesticides are used in an IPM program only when previously established guidelines indicate pesticides are necessary.



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How Integrated Pest Management Works

Pests are often attracted to an area because of an available food source, water source, or otherwise suitable habitat. If you don't eliminate these factors from your spaces, pests will keep reinfesting the area. That's why relying solely on pesticides is only a temporary solution.

Good IPM practices include removing the pest's food, water, and shelter. But that's not the only way you can prevent an infestation. Other IPM techniques include:

- [Exclusion barriers](#)
- [Modified maintenance practices](#)

- [Biological control](#)
- [Mechanical control](#)
- [Monitoring](#)
- [Pest-resistant varieties](#)
- [Minimal chemical control](#)

Food Removal

Whether a pest is invading your lawn or kitchen, chances are good it's surviving off a delicious snack. Once you identify the pest, research what kind of food it consumes, figure out where it's getting food in your home or garden, and remove that food source.

Here are some ways you can remove a pest's food source:

- Store human food and pet food in airtight containers.
- Cover indoor and outdoor garbage cans.
- Seal compost bins.
- Sweep crumbs off the floor.
- Wash dirty dishes promptly.
- Wipe the counters after preparing a meal.
- Put pet food bowls away at night.
- Pick up fallen fruit from the ground (such as apples from an apple tree).
- Don't leave plant debris, such as [autumn leaves](#) and [thatch](#), sitting in the yard.

All of the above could be feeding pests such as ants, flies, and roaches. Get rid of their food, and eventually, those pests will die out or move on to a more fruitful feeding ground.



Photo Credit: [Liliana Drew](#) / Pexels

Water Removal

Some pests -- mosquitoes, for example -- need water to rehydrate or lay eggs. Pools of standing water in your yard (puddles, clogged gutters, a pet's water bowl that stays out 24/7) are sure to attract these pests.

Here are some easy ways you can remove pests' water sources indoors and outdoors:

- Bring inside empty flower pots, buckets, or anything else that collects water after rain.
- [Clean your gutters](#). Clogged gutters quickly fill with stagnant water, creating the perfect spot for mosquitoes to lay eggs.
- Fix leaking pipes and faucets to prevent pooling.
- Replace water-damaged wood (which attracts one of the worst pests of all: [termites](#)).
- Empty and clean out bird baths and anything else that holds standing water every day.
- Get a water fountain for your pet that keeps the water moving so it never goes stagnant and attracts pests.



Photo Credit: [U.S. Fish and Wildlife Service Northeast Region](#) / Flickr / [Public Domain](#)

Habitat Manipulation

Habitat manipulation sounds lofty, but it basically just means changing your environment so that pests don't like it anymore. Pests gather in habitats that provide their ideal living conditions.

For example, [spiders](#) like to take cover in undisturbed areas, such as underneath wood piles or in your basement. Ticks hide in thick vegetation where they can climb high and latch onto passersby, like tall grass.

Once you've identified the pests in your lawn, garden, or home, research what kind of environment they like. Then, make your home and garden the opposite. For example, many pests like dark, enclosed places. So, lots of well-lit, open space with nowhere to hide isn't likely to attract many pests.

Examples of habitat manipulation that can make your space less hospitable to pests include:

- Getting rid of excess moisture
- Increasing air circulation
- Removing thick vegetation from the yard
- Mowing the lawn regularly (some pests like to hide in overgrown grass)
- Increasing sunlight in the infested area
- Removing plant debris, such as fallen leaves and dead flowers, from the yard ASAP
- Storing wood piles away from the house

Exclusion Barriers

Sometimes [gophers enter your garden](#) for a quick bite to eat, or mice enter your home through a crack in the foundation. Set up exclusion barriers to *exclude* ("keep out") hungry [rodents](#) and other critters from certain parts of your home and landscape.

Examples of exclusion barriers include the following:

- Seal cracks and crevices with caulk.

- Build an above-ground fence around your garden.
- Build an underground wire fence around your garden (this keeps out critters who burrow underground).
- Protect individual plants with chicken wire or plastic mesh.
- Cover fruit-bearing plants with nets to protect the fruits from hungry birds and insects.
- Protect vegetables with row covers.



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Modified Maintenance Practices

In many cases, improper maintenance practices create an appealing environment for pests. Overwatering the lawn, cutting the grass too short, and over-fertilizing are examples of how maintenance gone wrong can encourage a pest infestation.

Correcting your maintenance regimen for the home, lawn, or garden can significantly impact a pest population. That means cleaning your house regularly, [learning the best way to mow your lawn](#), and watering your garden just enough, not too much or too little.

Biological Control

Biological control simply means that when pests arrive uninvited, you have a natural enemy there to show them the door. Introduce natural predators, such as ladybugs, dragonflies, or frogs, into your yard to manage populations of bothersome pest insects.

Aside from natural predators, there are microscopic organisms you can add to your soil to deal with lawn pests (often sold online or at local garden shops), such as:

- [Beneficial nematodes](#) are microscopic roundworms that exist naturally in soil. Different species of nematodes attack different kinds of pests, so you'll need to do your homework before you release nematodes on your pest problem.
- **Milky spore** is a bacterium that helps control Japanese beetle larvae.
- ***Bacillus thuringiensis (Bt)*** is a microbe in the soil that targets pests in the early stages of their life cycles, including mosquitoes and Japanese beetles. The best *Bt* strain for the job will depend on the pest you're trying to control.
- **Diatomaceous earth:** Food-grade [diatomaceous earth \(DE\)](#) is an organic powder of grounded fossilized algae. It's a non-selective pesticide, killing all exposed insects. DE kills the insects by damaging their exoskeleton and exposing their bodies to the environment.

Because biological control requires a healthy population of beneficial insects or other critters, it's an IPM strategy for outdoor use only.

Mechanical Control

Mechanical control is any physical or hands-on approach used to control pests. Creating an exclusion barrier, such as a fence, falls into this category.

Here are some other examples of mechanical pest control:

- **Set live traps** to catch rodents.
- **Remove lawn or garden weeds** by hand.
- **Handpick nuisance insects** from the garden.



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Monitoring

To keep a pest problem under control, remember to check vulnerable areas for signs of pest damage. If you ignore the signs or just don't notice them in time, a pest problem can

become severe enough to need pesticides. Catch the signs of pest damage early, and you can attempt IPM control methods without pesticides.

Different kinds of pests will leave different marks on your surroundings: Ants build hills, and [Japanese beetles](#) chew holes in leaves, for example. These are some of the most common signs of pests for you to look out for:

- Grass turning yellow or brown
- Plants dying for apparently no reason
- Holes in grass blades or plant leaves
- Mounds of dirt where pests have dug underground
- Tiny eggs stuck to surfaces

Select Pest-Resistant Varieties

Give your lawn and garden a competitive edge by growing pest-resistant plant varieties. For instance, some grass types are bred to resist specific lawn diseases, and some plants in the landscape are naturally [deer-resistant](#).

Minimal Chemical Control

Before you begin your IPM program, set an action threshold, which is how large a pest population can grow before you can't stand it anymore and have to turn to pesticides.

How many pests can you tolerate? One or two bugs in the garden is normal, but how many pests are too many for you to manage? Once an infestation reaches that threshold, you can consider using pesticides (safely, of course).

When mishandled, pesticides can harm human health, wildlife, pets, and the environment.

To remain within the sustainable guidelines of your IPM approach, use as few pesticides as possible. Here are some tips on how to minimize your pesticides' impact on the environment:

- **Perform spot treatments** instead of broadcast treatments. For example, if your lawn suffers from weeds, only spray heavily weeded areas or individual weeds instead of spraying the entire yard with chemicals.
- **Apply selective pesticides** instead of non-selective pesticides. Selective pesticides target specific pests, whereas non-selective pesticides will kill any bug (or plant) they come in contact with, including the beneficial kind.
- **Combine pesticides with other management methods**, such as the ones we described in this article.
- **Use organic pesticides** instead of synthetic pesticides. Organic pesticides are often safer for the environment than their synthetic counterparts.
- **Always read and follow the pesticide's application instructions.** Misapplying a pesticide can be dangerous.
- **Correctly identify the pest** and apply a pesticide that's marketed to target that particular pest. If you misidentify the pest, you risk using the wrong pesticide.

Pros and Cons of Integrated Pest Management

IPM doesn't offer a quick solution like pesticides, but it does offer long-term protection. It also encourages you to take good care of your home, lawn, and garden (which ultimately boosts your property's curb appeal).

Is IPM worth the time and effort? Let's take a look at the pros and cons:

Pros

Cons

- | | |
|--|----------------------------------|
| ✓ Slower development of pesticide resistance | ✗ It takes time to learn |
| ✓ Balanced ecosystems and protected biodiversity | ✗ Trial and error |
| ✓ Saves money in the long run | ✗ Hefty upfront cost (sometimes) |
| ✓ Infestations are less likely to occur | ✗ Physically demanding |
| ✓ Minimal pollution | |
| ✓ Reduces risk to people and pets | |
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Advantages of Integrated Pest Management

- ✓ **Slower development of pesticide resistance:** When you use pesticides against an infestation, the pests can quickly develop a resistance to the chemical via natural selection. The pests that survive the application will pass on their ‘survival’ genes to their offspring. Reducing pesticides means the pests can’t get used to them and become immune.
- ✓ **Balanced ecosystems and protected biodiversity:** Pesticides can have a devastating impact on an ecosystem. Non-selective pesticides will kill the target pests *plus* beneficial non-target pests like earthworms and ladybugs. When a valuable species is eliminated, it can negatively affect the entire ecosystem.
- ✓ **Saves money in the long run:** Pesticides can be expensive, and spending money on them each year can be costly. When you practice IPM, you won’t need to use pesticides as often, if at all.
- ✓ **Infestations are less likely to occur:** IPM corrects the underlying issue that pests find attractive, such as a moist environment, available food source, or shelter from predators. As a result, IPM provides long-term protection.
- ✓ **Minimal pollution:** If your IPM plan is a success, you should rarely need to use pesticides. Pesticides are an environmental risk because they often affect the water quality of streams, ponds, rivers, and other bodies of water via polluted rainwater runoff.
- ✓ **Reduces risk to people and pets:** Pesticides can pose a significant health risk to humans and pets when improperly handled. Example: Rodenticides (a type of pesticide to kill rats and mice) poison over [10,000 children](#) across the U.S. every year.

Disadvantages of Integrated Pest Management

X It takes time to learn: There are many facets to IPM that take time to learn, such as proper lawn care and garden maintenance. That's why many homeowners and gardeners turn to pesticides for convenience.

X Trial and error: Sometimes, one approach to IPM works better than another approach. Finding what works best for your IPM plan can take time and energy.

X Hefty upfront cost (sometimes): IPM is likely to save you money in the long run, but sometimes the initial cost of IPM can be more expensive than a single purchase of pesticides. For example, you may have to purchase the materials for a garden fence.

X Physically demanding: Some IPM techniques can be physically taxing, such as hand-pulling weeds, building exclusion barriers, and manipulating habitats.

FAQ About Integrated Pest Management

How Do I Apply Integrated Pest Management to the Lawn?

Practicing good lawn care is the most effective way to apply [Integrated Pest Management strategies to your lawn](#).

Proper lawn maintenance includes doing this:

- Mow every 1-2 weeks during your grass's growing season
- Dethatch annually
- [Aerate](#) when the soil becomes compacted
- Get rid of weeds ASAP

Keeping your yard well maintained helps remove a pest's food, water, and shelter. A healthy lawn is less likely to succumb to weeds, insects, and fungal diseases. In other words, the healthier your lawn, the better it will outcompete harmful stressors.

How Do I Apply Integrated Pest Management to the Garden?

A severe pest outbreak can be a nightmare for your vegetable garden. After all that hard work digging and planting, you don't want your harvest to suffer from aphids and [spider mites](#).

Here are some valuable ways you can apply Integrated Pest Management to the garden:

- **Observe the pest's behavior**, such as their life cycle and which veggies they like to eat. Some organic pesticides will only work during a particular life stage of the pest.
- **Monitor pest activity** and apply control as needed. If you don't monitor pest damage, the pest population might increase right under your nose.
- **Protect beneficial insects** that encourage plant health, like ladybugs, bees, and other pollinators.
- **Select disease-resistant plants** when certain diseases keep infecting your garden.
- **Install a drip irrigation system** so that the foliage remains dry. Wet foliage can attract pests and pathogens.

How Do I Apply Integrated Pest Management to the Home?

No one wants [cockroaches](#) and mice running around the kitchen at night. Here are some [Integrated Pest Management practices for the home](#):

- **Put away food at night** (and during the day, if possible).
- **Store food in airtight containers.**
- **Sweep and wipe away crumbs.**
- **Fix leaking pipes** and faucets.
- **Seal cracks and crevices** with caulk.
- **Set bait traps or bait stations**, if necessary.

When to Hire a Professional

Integrated Pest Management isn't easy. If it were, more people would be ditching convenient pesticides.

But just because IPM is time-consuming and demanding doesn't mean you can't enjoy its long-term, eco-friendly benefits. Consider hiring a [pest control professional](#) to develop

the first steps of your IPM program. Or, if your property is already suffering from an infestation, an expert can get rid of it quickly and safely.

And remember, a poorly maintained yard is a breeding ground for pests. Hire a [local lawn care professional](#) to prevent pests by keeping the lawn in tip-top shape, from mowing the grass to aerating the soil.

Main Image by [Pxhere](#) with text and logo overlay



Jane Purnell

Having lived in the rural countryside and bustling city, Jane Purnell is familiar with a wide variety of critters sneaking into the home, including mice, spiders, cockroaches, snakes, and stink bugs. She practices a proactive approach (Integrated Pest Management) to keep pests out of her home.

[Posts by Jane Purnell](#)

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