



[go.uvm.edu/gardenquestion](http://go.uvm.edu/gardenquestion)

The UVM Extension Master Gardener Volunteer Helpline serves Vermont residents by providing science-based information about home horticulture and Integrated Pest Management strategies.

Questions may be submitted online 24/7/365 or by phone during the gardening season. Vermonters are encouraged to use the online system to submit photos of plants damaged by insects and diseases.

*The UVM Extension Master Gardener program is a unique volunteer program where Vermonters receive training by university faculty and industry professionals on research-based gardening topics like insects, diseases, IPM strategies and more. In return, participants volunteer in their communities by educating Vermonters on a number of home horticulture topics and answering gardening questions through the Helpline.*



## Why Practice IPM?

- Pests are living beings that adapt and change and it is rarely possible or advisable to eliminate pests entirely.
- IPM uses flexible strategies to avoid or moderate pests before they become a problem.
- Practicing IPM reduces risks to people, property, pollinators, and the environment by using pesticides ONLY as a last resort.
- Homeowners do not rely on growing plants and crops for their livelihood and can be more flexible with pest management options.

## IPM is GOOD for the PLANET!

### UVM EXTENSION MASTER GARDENER VOLUNTEER HELPLINE

[go.uvm.edu/gardenquestion](http://go.uvm.edu/gardenquestion)  
802-656-5421 (seasonal hours)



Contributing authors: the University of Vermont  
Extension Pesticide Safety Education Program

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#### CULTIVATING HEALTHY COMMUNITIES

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# IPM: INTEGRATED PEST MANAGEMENT



[www.uvm.edu/mastergardener](http://www.uvm.edu/mastergardener)

## What is IPM?

"IPM" stands for "Integrated Pest Management" to describe the strategies for dealing with pests such as weeds, insects, and diseases.

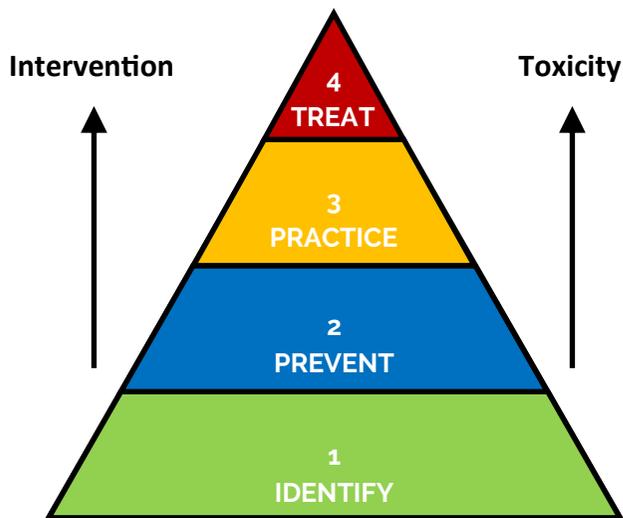
IPM combines cultural, physical, biological, and chemical tools in a way that minimizes impacts on environment, human health, and the health of other living things.

IPM can be applied in all places pests may exist, including forests, parks, wildlife refuges, public areas, schools, homes, and gardens.

## The IPM Approach

- Determine Tolerance Level
- Identify, Prevent, Practice, Treat
- Evaluate & Adjust as Needed

An IPM program is built on a foundation of strategies using the least toxic intervention methods.



The IPM Pyramid



## THE FOUR STEPS OF IPM

### 1 IDENTIFY

Identification of pests, beneficial organisms, and host plants is critical for effective management. Know what pests look like at each life stage and when management will be most effective. Monitor plants regularly for pests and damage to determine when management is necessary. Use a hand lens to improve identification.

### 2 PREVENT

Design diverse landscapes with proper air flow and moisture. Test soils and adjust fertility for plant health. Select plants suited to the site that are resistant or less susceptible to pests. Rotate seasonal crops to minimize pest impact. Time planting and management to avoid major pests. Exclude pests with fences, row covers, or netting. Reduce weeds, inoculum, and prune for airflow.

### 3 PRACTICE

Maintain healthy plants that are better able to resist pests. Physically remove pests by trapping or hand-picking insects, pruning diseased plants, and pulling or mowing weeds. Provide habitat and resources for natural pest predators, parasitoids, and pollinators to thrive. Introduce natural enemies such as beneficial nematodes.

### 4 TREAT

Use pesticides ONLY as a last resort. Always read the label first to ensure a product will affect the identified pest and not harm the plant. Compare active ingredients on labels and choose the least toxic option. Soaps, oils, clays, microbials, growth regulators, and repellents are less-toxic choices. Avoid combining pesticides to avoid synergistic effects that can affect pollinators.

## Considerations

- Vary the IPM approach for every pest and every event. No one approach is applicable to every location.
- Tolerate low levels of pest population pressure to save time and expense.
- Consult a pest management professional. Certified pesticide applicators are trained to ensure that pesticides are used in a proper and legal manner.
- **Organic** is a labeling term for products in accordance with the USDA organic regulations. Many organic practices and materials can also be part of an Integrated Pest Management system.
- **Home Remedies** are not recommended due to poor efficacy and potential risk. Federal law requires any product used as a pesticide to be registered by the EPA following intensive toxicity and residue review.