



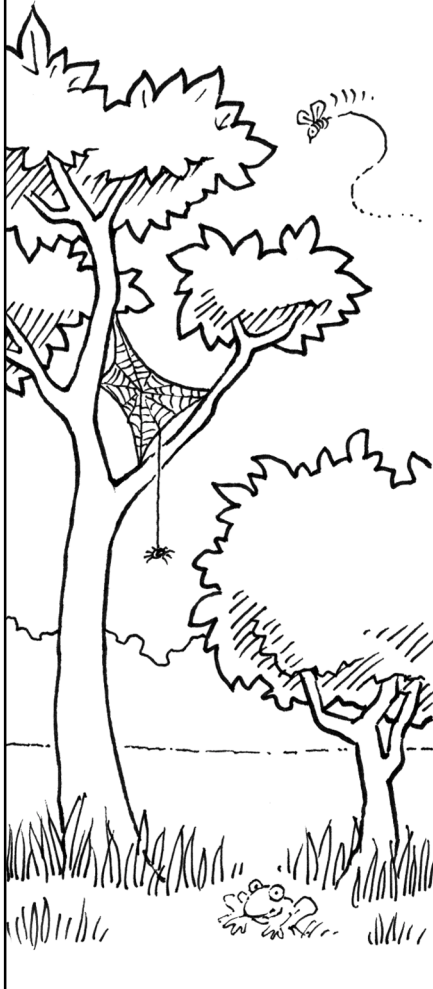
# Controlling Garden Pests



Guide No. 6

## Why be concerned?

Chemical pesticides are poisonous substances. Many of them are harmful to plants, pets and children, and can pollute creeks, ponds, rivers and groundwater resources. The approach of Integrated Pest Management (IPM) is an alternative to purely chemical pest control. It provides a safer, less expensive and more consistent eradication of any pest over the long term.



## What is Integrated Pest Management (IPM)?

IPM recognizes that pests are an integral part of the natural system. This approach works to keep pests at tolerable levels by using cultural, mechanical and biological controls instead of chemical ones, whenever possible. IPM involves paying attention to the landscape and managing it in a way that provides optimum growing conditions for those plants desired, since healthy plants are less susceptible to pests. This includes working to eliminate conditions favorable to pests and promoting natural controls such as beneficial insects.

## Chemical Pesticides: a Last Resort

In IPM, chemicals are just one small part of the whole plan. If pesticides are used, the least toxic one should be chosen and applied at the most effective time in the pest's life cycle.

## Choosing Plants

Choosing the right plants is the best way to avoid pest problems. Choose plants that are naturally free of major pests and diseases, and that are well-adapted to our climate, and to the specific soil, light and moisture conditions on-site. Plants that require shade, for example, are more susceptible to pests when grown in full sun. The pH level of soil can also affect a plant's ability to withstand pests.

For help identifying the plants best suited for your purposes and site, contact the MSU Extension (see "Getting Help"), a local nursery, or a landscape architect.



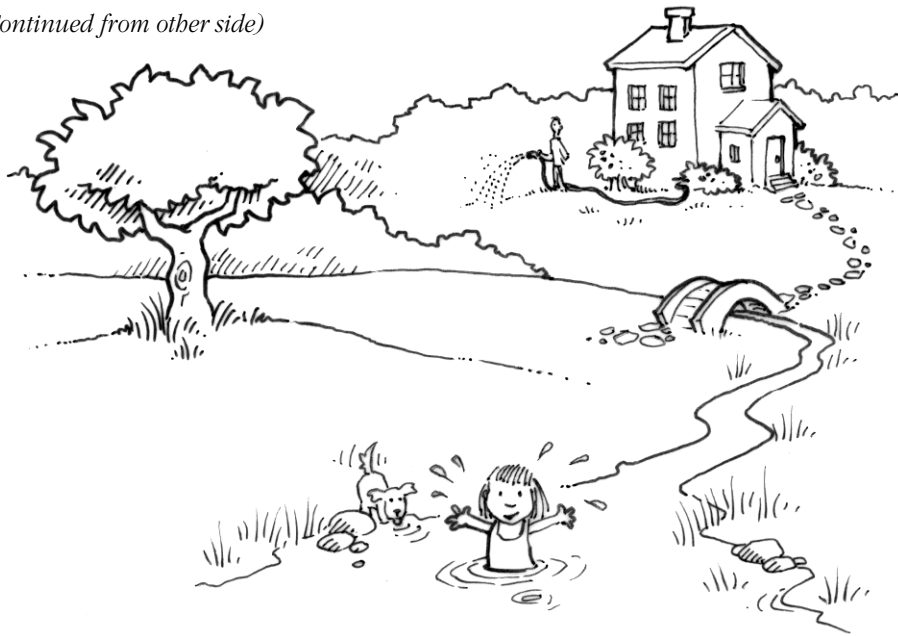
## Keeping Plants Healthy

Weeds, pests and diseases are usually the *result* of poor growing conditions and unhealthy plants, not the *cause* of them. To keep plants healthy, use sound horticultural techniques. Maintaining healthy soil conditions is the foundation of any IPM program:

- Space, thin and prune shrubs and trees to promote air circulation.
- Plant seedlings after the threat of frost and before hot weather.
- Maintain a variety of plants instead of only one or two species, to minimize the spread of diseases.
- Aerate and add organic matter to the soil.
- Water and fertilize plants only as needed.
- Mow grass as high as possible and leave clippings on the lawn.

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## Protecting Sensitive Areas

Consider whether the site is near a water body, stormwater pond, vegetable garden, children's play area, or public place. If it is, select a pest management technique that minimizes harm to these sensitive areas. The wise use of pesticides protects water quality in ponds and streams. If used near lakeshores or streambanks – even in modest amounts – lawn chemicals may quickly find their way into the water.

## The Secrets of Chemical-Free Pest Control

Use methods of pest control that are the least disruptive to human health and the environment.

### Plant Selection

Select disease- and pest-resistant plant varieties. Consult with the MSU Extension Office or a professional landscape architect or nursery for help in plant selection.

### Low Cost / Simple Control Methods

- removing weeds by pulling or hoeing;
- covering planting areas with 2"-3" of mulch to prevent weed germination;
- removing pest-infested plant residue in the fall; and
- removing insect eggs, larvae, cocoons, and adults from plants by hand.

### Retain and Promote Natural Pest Controls

Many organisms feed on, or infect, pests. These natural enemies frequently prevent the pest population from reaching damaging levels. Natural enemies include insect and non-insect predators, parasites, and bacterial, fungal and viral pathogens. Contact the MSU Extension Office for more information (see "Getting Help").

## Managing Gypsy Moths

Gypsy moth outbreaks have been identified in Washtenaw County. There is no need for alarm, however, since the moths can be managed and do not typically kill trees. Homeowners are encouraged to learn more about this pest. For more information, contact the MSU Extension Office (see "Getting Help" below).

## Natural Enemies

Common garden pests include grubs, aphids, scale insects, mealybugs and whiteflies. Populations of these insects may be kept in control by natural enemies such as predatory bugs and other animals. Lady beetles (or "ladybugs") and lacewings, for example, feed on aphids. Robber fly larvae can substantially reduce grub populations in the soil. Garden spiders capture insects in their webs and kill their prey by injecting them with venom. Birds, frogs, and toads, and small mammals such as mice, shrews and moles also help control insect populations.



You can help encourage these natural enemies of garden pests by minimizing or avoiding use of chemicals that are poisonous to all insects and insect feeding animals.

## GETTING HELP

Washtenaw County  
MSU Extension ..... (734) 997-1678