

Integrated Pest Management

Urban Integrated Pest Management (IPM) is an environmentally sensitive approach to controlling pests that does not rely totally on pesticides. IPM depends on frequent monitoring of plants or structures and the accurate diagnosis of the pests so that control strategies are used only when and where needed. A variety of control methods--cultural, mechanical, biological, and chemical--may be employed. IPM takes a look at the entire system and thus monitors the entire system, not singling out only one pest problem.

In some instances IPM may not go far enough, because a fundamental reason for pest problems is unhealthy plants or if in structures, poor sanitation methods. Plant health care and structural sanitation are very important in preventing pest problems. Thus to implement urban IPM you must have an understanding of the vulnerabilities of your structures (food areas, pet sleeping areas) or plants (varieties, common pests).

Practicing IPM may require thinking a little differently. You need to question yourself: do I need a weed-free lawn, are there less pest-prone varieties, can I accept some blemished produce, what are the structural pests feeding on, or where are they nesting? In other words, you need clear understanding of two basic principles, pest or host plant biology and your tolerance of the pest infestations.

Monitoring and correct pest identification is crucial to IPM. You need to know what common pests to look for so you can learn about their biology. Once you know a little about the potential pests, you will know WHEN to look for which pests stages. IPM requires a lot of home work to understand pests. Monitoring may include visual observations or traps, such as pitfall traps, pheromone traps, colored traps, or sticky traps.

Once a pest appears in numbers causing damage above a level you can tolerate, you need to have a management plan in mind. Again this means homework to evaluate the costs (economic and environmental) and effectiveness of different control strategies.

Cultural control depends on knowledge of the plant's needs in a landscape or garden. Stressed plants are more susceptible to insects, fungi, viruses, etc. First, select a plant that will grow well under the soil, water, and light conditions of the site. Select disease resistant varieties. Water and fertilize plants according to their individual species needs. Add competitive ground covers to eliminate weeds in landscapes. Remove problem or diseased plants. Increase air circulation to minimize certain diseases. Fertilize, mow and thatch properly to keep turf healthy, thus outcompeting weeds.

Sanitation in structures reduces insect and rodent populations. Remove pet feces to reduce fly populations. Move wood piles so they do not contact the house, making a natural path for ants to move from the wood to the house structure.

Biological control uses living organisms to suppress pest populations below levels of serious or aesthetic damage. It may include using beneficial organisms already present in the environment or releasing organisms into the area. Prior to releasing beneficial organisms, it again is time to do some home work. Depending on the stage of some insects you purchase, their first inclination upon being released may be to fly away. Certain biologicals only control a small group of organisms, for example Bt (*Bacillus thuringiensis*) only controls caterpillars, several flies (mosquitoes), and some beetles, but no other insects.

Mechanical control may include physical removal by hand, water, or pruning. Trapping using baits, pheromones, color attractants. Using barriers such as screens, nets, and sealing cracks and crevices in homes is very effective. Mulching may reduce weeds in landscapes. Tightly sealing garbage and pet food will prevent rodent and insect infestations. Weed whacking with a hoe or shovel may be effective.

Chemicals may be necessary to control a pest population. Consider using selective materials over broad spectrum pesticides. Timing is extremely important with insect, disease, and weed control. Make sure the product is effective against the target pest. Just because the pesticide you bought works well on aphids doesn't mean it will be equally effective against cabbage worms. Certain pests are only susceptible at specific times of the year. Some stages of insects and diseases are not affected by pesticides. Use the pesticide rates stated on the label. The manufacturer has tested those rates and that is the amount needed to control the target pests listed on the label. Apply only to where the pests live: under or on top of leaves. In some instances, especially with fungicides, repeat applications may be necessary. The label will also tell you where you can use the product (for example, lawns, ornamental plants, swimming pools, inside the house). Be sure the site of your pest problem is included.

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Integrated Pest Management is the best management strategy for many pests. It takes a lot more home work to evaluate the pests and the control strategies. Monitoring is very important. If you need assistance in identifying or researching your pests or the potential control strategies, contact your local county Cooperative Extension office.

Source: Using Integrated Pest Management in the Landscape. WSU Puyallup.

http://pep.wsu.edu/Home_Garden/H_G_Pesticide_Info/Urban_Integrated_Pest_Managmen/index.html