IPM Approach to Managing Landscape Problems

Integrated pest management (IPM) represents a holistic approach to pest control. IPM is part of a total urban community ecosystem approach to gardening, which promotes good management and stewardship strategies. It involves an understanding and careful examination of all factors (and their inter-relationships) influencing plant growth. These include soil, water, air, nutrients, insects, diseases, landscape design, weeds, animals, beneficial organisms, weather and cultural practices. **The goal is to manage problems at acceptable levels rather than attempting to eliminate them.**

In many cases, selecting the appropriate plant species for your particular site and providing the best possible growing conditions can prevent or significantly reduce pest problems. Regular observation or monitoring of the plants in the landscape is critical in helping to decide if a problem requires corrective action. Many factors impact plant growth. Too often, gardeners assume that pests and diseases cause plant problems. For example, insect damage may occur after a plant has been weakened by other factors including site problems, cultural practices or environmental and nutritional problems.

IPM is not a strictly organic approach to pest control. When necessary, chemicals –organic and inorganic - are employed as a last resort. Broad-spectrum residual insecticides should not be relied upon as the primary management strategy. Residual pesticides remain effective in the environment for days, weeks or months, impacting beneficial organisms as well as pests. Except for some serious fruit diseases, pesticides should not be applied on a scheduled or preventive basis. In all cases, the least toxic solutions (cultural, physical/mechanical, biological controls) should always be tried first. The IPM approach compels you to consider your landscape as part of the larger urban community ecosystem to manage responsibly. The impact of your gardening and pest management decisions often extends far beyond your property lines.

Get To Know Your Landscape and Garden

Before you can recognize or prevent problems, you need to become familiar with your plants, their growth habit and necessary conditions for good growth.

- Make a plan of your existing landscape, identify and note the location of your plants and trees.
- Note which look healthy and which seem to have problems.
- Know what your plants should look like. Are they growing normally?
- Be willing to remove plants with chronic problems (e.g. azaleas grown in full sun often have severe lace bug problems.)
- Replace problem plants with plants adapted to your area. Check gardening references and reputable local nurseries for ideas.

Building a Healthy Garden Prevents Problems

Soil building and fertility

- Incorporate organic matter in flower and vegetable beds on a regular basis.
- Feed the soil, not the plants.
- Take a soil test every three years and adjust the pH accordingly.
- Fertilize as needed to maintain vigor.
- Avoid over fertilizing plants, as it can lead to pest problems.

Mulches

- Apply mulch to a depth of no more than 3 inches

- Keep mulch away from tender plants.
- Mulches help to
    - Maintain even soil moisture.
    - Prevent weed-growth and soil erosion.
    - Protect plant roots and crowns from winter damage

Choose the right plant for the right place

- Select well-adapted varieties for the site conditions.
- Select disease or insect resistant varieties.
- Purchase healthy, certified, disease-free seeds, transplants and nursery stock.
- Plant at the right time.
- Purchase plants that will 'fit' into the site when they reach mature size.

Proper planting techniques

- Select suitable sites for the selected plants.
- Prepare soil correctly.
- Make the hole 2–3 times the size of the root gall.
- Plant shrubs and trees with the root flare at or just above the soil line.
- Water newly planted trees and shrubs deeply (2" of water) every 1 to 2 weeks as needed.

Encourage beneficial insects and mites

- Choose plants of different heights to provide refuge for beneficials.
- Provide a succession of flowering from spring to fall to provide food sources.
- Provide water in shallow containers.

Irrigation techniques

- Avoid overhead watering and splashing soil onto plants.
- Water trees and shrubs slowly and deeply. Remember that the root zone can extend out 2 to-3 times the height of the tree beyond the drip line. Check the depth of soil moisture after irrigation by digging a small hole or inserting a stick.
- Use drip irrigation and soaker hoses where practical.

Remove or mow weeds

- Hand pull, rogue out with tools, mow very low or use an herbicide carefully.
- Weeds
    - rob plants of moisture and nutrients
    - are alternate hosts for pests and diseases.

Other cultural practices

- Prune to increase air circulation.
- Avoid accidental root-pruning through hoeing and tilling.
- Do not work with plants when foliage or soil is wet.
- Use floating row covers to prevent pest problems (with vegetables).

Garden sanitation

- Remove and dispose of diseased or infested plant parts and dead plants.
- Rake up and dispose of diseased leaves and fruits.
- Clean up and compost garden debris in the fall.

Healthy transplants

- Use soilless planting media.
- Use clean, sanitized seedling flats and plant containers.
- Do not over-water.
- Acclimatize transplants that are grown indoors by slowly introducing them to outdoor conditions.
- Protect new transplants and seedlings from cutworms and slugs with paper collars.

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