

Integrated Pest Management 1

Objective: to familiarize crew members with the concept of Integrated Pest Management (IPM).

Training Materials: IPM monitoring tools: hand lens, pocket knife, coffee can with both ends removed, soap flush bottles, plastic bags and vials for collecting samples, weed counting grid, clipboard and data collection forms, pest profile chart or phenology indicator chart.

Lesson: *Integrated Pest Management (IPM) is an ecological approach to the management of plant health problems. The founding principle of IPM is to prevent pest problems from occurring by providing ideal conditions for healthy plant growth. IPM managers monitor sites regularly and if pest problems warrant intervention, the least toxic control is considered first.*

Steps in IPM plan:

1. **Manage** the ecosystem, soil and plant health to prevent pest problems.
2. **Inspect** the plants regularly for signs of disease and insect infestation.
3. **Monitor** the pest populations.
4. **Decide** whether control is necessary.
5. **Control** pests using reduced-risk products.
6. **Evaluate** the effectiveness of control methods.

Managing the ecosystem correctly creates the best opportunity for plant growth. In an established landscape, rebuilding a healthy soil may take several years. Correct pruning, watering, mowing, fertilizing practices are all tools

in the optimization of healthy plant growth. Healthy plants are better able to outcompete weeds, and withstand minor infestations of diseases and plant pests.

Regular **inspection** of the landscape for signs of diseases, weeds or insects are another keystone in the IPM process. Identification skills are important skills, as the IPM technician needs to be able to positively identify both the plant and the disease or insect associated with it. Pest profile charts or phenology indicator charts are helpful in determining what pests to look for in the landscape.

Pest populations must be **monitored** to determine what are called 'action thresholds' (the level of infestation at which action should be taken). Careful inspection and record keeping is important to help evaluate and predict the patterns of pest infestation. IPM monitoring tools include a hand lens, soap flush bottles, counting grid and sticky traps.

- *Phenology is the science of using plant biological indicators to predict the onset of pest populations.*

Eg: when horsechestnuts are in early bloom, look for viburnum leaf beetle larvae, cedar leaf miner larvae and lilac borer adults and eggs.

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