

## Master Gardener Recommended Horticulture Best Management Practices

### Practices that should always be recommended:

- Test the soil to learn the pH and nutrients already present
- Group plants with similar needs (water, fertilizer, sun...) for easier maintenance
- Fertilize based on a soil test and at the appropriate time of year
- Identify plant problem and severity of damage before choosing a control
- Read and follow all directions on pesticide labels
- Right Plant, Right Place

### Soil

- Test the soil to learn the pH and nutrients already present
- Before undertaking construction projects make a plan to preserve soil structure as well as root systems of mature trees
- Determine soil drainage capacity before planting
- Use compost to improve soil structure and fertility in lawns and gardens
- Prevent erosion by maintaining vegetative cover using mulch, and correcting drainage problems
- Select plants for the landscape that will grow in the existing soil

### Trees/Shrubs

- When adding trees/shrubs to the landscape, select trees and shrubs that will grow in the conditions (soil pH, sun or shade, etc.) of the landscape
- Plant trees/shrubs in holes that are 3-5 times the width of the root ball, and slightly less the height
- Mulch only 2-3 inches high, and 4-6 inches away from the trunk of the tree/shrub
- Select trees/shrubs whose mature sizes will fit the scale and size of the landscape
- Maintain healthy plants by meeting their cultural requirements with the goal of using less pesticides
- Avoid planting invasive species; instead choose plants, especially native plants that minimize maintenance and increase habitat.
- Use no soil amendments in individual planting holes of new plantings
- In times of low precipitation irrigate landscape plants deeply and infrequently, at a rate of 1" per week

### Turf

- Test the soil to learn the pH and nutrients already present
- Determine soil drainage capacity before planting
- Maintain desirable pH (6.2-6.5) for turf grass through regular soil testing

- Eliminate turf in shady areas where it is difficult to grow
- Use plants or mulch to conserve water, suppress weeds and prevent soil erosion
- Measure your turf's square footage – don't guess!
- Re-test your soil every 3-5 years
- Follow the 1/3 mowing rule --Never remove more than one-third of the leaf blade at any mowing event
- Sharpen mower blades about every 10 hours of use or every 10 to 20 mowings. Wet grass tends to dull blades. Mowing with a dull blade also contributes to lawn diseases.
- Avoid mowing under drought conditions or when the leaf blades are wet.
- Return grass clippings back to the lawn-- it counts for up to 30% of a lawn's nitrogen requirements for the year.
- When selecting plants, consider the site's conditions (sun/shade, moist/dry, pH, growing space available) and the landscape plan.
- Maintain healthy plants by meeting their cultural requirements with the goal of using less pesticides
- Core-aerate the lawn in late August-early September or mid March-mid April.
- Choose a fertilizer with more than 50% Water Insoluble Nitrogen (slow release) formulation rather than a quick release formulation to prevent fertilizer runoff.
- Fertilize based on soil test
  - o Cool season grasses-Fertilize no more than 2 pounds of Nitrogen per 1,000 square feet TOTAL in the Fall; applying no more than 1 pound of Nitrogen every 30 days. Optimal time is September through November. Fertilize no more than 1 pound of Nitrogen per 1,000 square feet TOTAL in the spring. Optimal time is May 15-June 15.
  - o Warm season grasses-Optimal time for fertilizing is June, July and August. Fertilize no more than 1 pound of Nitrogen per 1,000 square feet per application. With no more than 3 lbs of Nitrogen per 1,000 square feet TOTAL for the season
- Apply lime based on a soil test.

### **Annuals, Perennials, Bulbs**

- Test the soil to learn the pH and nutrients already present
- Determine soil drainage capacity before planting
- Avoid planting invasive species; instead choose plants, especially native plants that minimize maintenance and increase habitat.
- Achieve a low maintenance garden by planting natives
- Group plants with similar needs (water, fertilizer, sun...) for easier maintenance
- Use plants or mulch to conserve water, suppress weeds and prevent soil erosion

- Maintain healthy plants by meeting their cultural requirements with the goal of using less pesticides
- When adding plants to the landscape, select ones that will grow in the conditions (soil pH, sun or shade, etc.) of the landscape
- In times of low precipitation irrigate landscape plants deeply and infrequently, at a rate of 1" per week

### **Groundcovers**

- Test the soil to learn the pH and nutrients already present
- Determine soil drainage capacity before planting
- Select a groundcover for the conditions (sun/shade, moist/dry etc.)
- Group plants with similar needs (water, fertilizer, sun...) for easier maintenance
- Use plants or mulch to conserve water, suppress weeds and prevent soil erosion
- In times of low precipitation irrigate landscape plants deeply and infrequently, at a rate of 1" per week

### **Vegetables**

- Rotate crops to avoid the build up of pathogens and pests in the garden
- Test the soil to learn the pH and nutrients already present
- Determine soil drainage capacity before planting
- Utilize companion planting/intercropping to attract beneficial insects and to take advantage of symbiotic biochemical and cultural benefits
- Use cover crops/green manures to improve soil nutrients and structure
- Practice right plant, right place, in order to take advantage of garden microclimates- hot areas, light angles and moisture sinks, when planning your garden layout.
- Identify insects (friend or foe), diseases or weeds and susceptible life cycles and evaluate the extent of the problem before taking remedial action (using the least toxic alternative).
- Improve compacted soil by aerating, double digging
- Select cultivars of plants and seeds that are bred for resistance and tolerate local conditions.

### **Irrigation**

- In times of low precipitation irrigate landscape plants deeply and infrequently, at a rate of 1" per week
- Irrigate early in the morning, rather than late at night, to minimize evaporation losses and allow the grass to dry off before evening.
- Irrigate deeply and infrequently while avoiding runoff. Light, frequent watering encourages shallow roots.
- Calibrate your irrigation system to deliver approximately 1 inch of water per week. Let cool season grasses go dormant in summer.

## Compost

- Top-dress existing lawn with ¼" of compost to improve the soil structure of clay soils. A simple formula to calculate how much compost is needed is : **Area to cover (square feet) X depth of compost (inches) X 0.0031 = compost needed (cubic yards)**
- In late spring, add about 1 inch of compost around the trees and shrubs. Cover with a mulch of shredded pine needles, straw, bark chips, or leaves 2 to 3 inches deep.
- In the fall, spread about 2 inches of compost over your entire garden and work it 6 to 8 inches into the soil

## Insects

- Identify the pest and susceptible life stages before you treat with a pesticide
- Maintain healthy plants by meeting their cultural requirements with the goal of using fewer pesticides
- Monitor plants in the landscape regularly to recognize when pests are present
- Learn which insects are common to the plants growing in your landscape/garden.
- Reduce pest populations by hand removal and regular clean up
- Establish thresholds for acceptable levels of pest infestation

## Diseases

- Learn which diseases are common to the plants growing in your landscape/garden.
- Look first for ways to improve cultural conditions as a means to reduce plant disease.
- Maintain healthy plants by meeting their cultural requirements with the goal of using less pesticides
- Monitor plants in the landscape regularly to recognize when pests are present

## Weeds

- Identify weeds before using a chemical control. Decide which species you can live with and which species you want to control. Contact the Extension office for identification, appropriate timing and control recommendations.
- Use plants or mulch to conserve water, suppress weeds and prevent soil erosion
- Minimize the conditions that produce more weeds than you are willing to tolerate
- Avoid tilling as it exposes weed seeds deep in the soil to favorable growing conditions.
- Hand-pull weeds or use spot herbicide treatments where possible.
- Apply pre-emergent for summer or winter annual weeds at the correct time for most effective control. Choose a product that does not contain fertilizer.

Read the label; many products require a second application or need to be watered in to activate.

### **Wildlife Control**

- Identify species before you choose a control
- Remove food, water, and shelter sources that attract and harbor pests
- Combine tactics for the best control strategy
- Encourage success of natural predators
- Seek professional assistance if problem persists

### **Stormwater Management**

- Remove debris from storm drains regularly, and clear snow from drains
- Clean parking lots and paved areas of leaves, trash and sediment
- Reduce the amount of road salt used in parking lots and walkways, or use ice melt, sand, kitty litter, cinders, ashes or other alternatives, but not fertilizer
- Clear snow to the lower end of the paved areas
- Educate employees/residents on proper storage, handling and disposal of potentially hazardous wastes
- Collect and recycle hazardous waste, waste oils, solvents, etc.
- Store potential pollutants inside or cover
- Minimize the amount of material stored by implementing "just enough" and "just in time" purchasing
- Practice preventive maintenance to reduce leaks, spills

### **Pruning**

- Consult resources to ensure that pruning is done at the correct time of year for a specific plant
- Do maintenance pruning to remove dead, diseased or problem branches as soon as they are found to keep trees and shrubs healthy
- Select the proper pruning tools for the task for the most effective results
- In the future, select shrubs with maximum space requirement at maturity in mind so that only thinning pruning cuts will be needed to promote healthy, attractive plants

### **Indoor plants**

- Identify plant problem and severity of damage before choosing a control
- Prevent over-watering by watering plants only as needed instead of watering on a schedule.
- Select houseplants whose growing (light and temperature) requirements meet those in your home
- Add humidity to the air in your home using a pebble tray filled with water

- For optimum growth fertilize house plants once a month during the warm season.

## **Propagation**

- Use sterile media and containers for propagation
- Obtain seeds and cutting material from a reputable, disease free source
- Harden off plants by reducing moisture and temperatures gradually
- Avoid over watering for optimal root and plant growth
- Familiarize yourself with propagation/growing requirements for each variety you want to grow.

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