



## Plant Pathology Fact Sheet

# Ten Steps to a Healthier Home Lawn

*Ed A. Brown, Extension Plant Pathologist  
Gil Landry, Jr., Extension Crop and Soil Scientist*

A beautiful home lawn is a source of pleasure and pride to the homeowner who has worked to maintain it. Occasionally, however, even with careful management, disease problems can occur.

Three conditions must be satisfied before a disease develops in a turfgrass plant. A susceptible plant and a disease-causing organism (a virulent plant pathogen) must be present and, at the same time, favorable environmental conditions promoting disease development must exist. Disease may be controlled by reducing plant susceptibility, controlling the pathogen or modifying the environment.

The key to disease control is a healthy plant. Under proper turfgrass management, disease-causing conditions are reduced and a healthy turf is maintained. The following management practices will help maintain a vigorous, healthy turf and reduce turfgrass disease problems.

- 1 **PREPARE THE SOIL PROPERLY.** The key to successful turf establishment is proper soil preparation. This includes the following:
  - Taking soil samples to determine proper lime and fertilizer requirements
  - Removing all debris such as rocks, tree stumps and other wood debris. Fairy rings have long been associated with rotting wood and other organic materials.
  - Providing proper water drainage. The area should be graded to prevent surface water collection.
- 2 **PLANT A LOCALLY ADAPTED, DISEASE-RESISTANT TURFGRASS.** Consult your local county extension office for recommended varieties and cultivars for your area.

- 3 **PURCHASE HIGH QUALITY DISEASE-FREE SEED, SOD OR SPRIGS FROM A REPUTABLE CONTRACTOR.** If the lawn is to be seeded, use fungicide-treated seed to discourage pre-emergence seed rot and damping off. Plant material that is certified for varietal purity and freedom from noxious pests is recommended when available. Nematodes and disease problems can be brought in on springs and sod. Inspect the plant material and, if problems are detected, notify the contractor at once, although most turfgrasses will recover from reestablishment shock.
- 4 **MOW AT THE RECOMMENDED CUTTING HEIGHT.**
  - Mow turfgrasses often enough so no more than  $\frac{1}{3}$  of the plant material is removed. If more plant material is removed, the grass will become stressed and more susceptible to disease-causing organisms.
  - **Keep mower blades sharp.** Dull blades shred leaf tips, causing turf to use more water and undergo undue stress.
  - Raise the mowing height during stress periods such as drought.
- 5 **FOLLOW PROPER IRRIGATION PRACTICES.**
  - The single most cost-effective practice that enhances turf growth is proper irrigation.
  - Apply water only at the first signs of moisture stress – dull and bluish-green color, leaf blade folding or rolling, and footprints remaining after walking over the area.
  - Apply enough water to wet the soil 6 to 8 inches deep. This is usually equivalent to 1 inch of water or 600 gallons of water per

1,000 square feet, but the amount will vary with different soils.

- If the soil becomes compacted, loosen it through cultivation such as core aeration, so the water can penetrate into the soil.
- Irrigate during dry periods in early spring and late fall. Late afternoon irrigating will encourage disease development during the night. Irrigation after dew development and before sunrise is most efficient and will not increase disease problems.

6 APPLY FERTILIZER AND LIME ACCORDING TO SOIL ANALYSIS RECOMMENDATIONS. Disease incidence is increased by improper fertilization.

7 REMOVE EXCESS THATCH.

- Excess thatch reduces water infiltration, creates shallow-rooted turf, and encourages insect and disease problems. If the lawn is not mowed, irrigated and fertilized correctly, thatch accumulation could create a problem. Disease-causing organisms survive and multiply in thatch. Excess nitrogen is a major cause of thatch accumulation.
- If excess thatch accumulates, the lawn will feel soft and spongy. If the thatch layer is thicker than  $\frac{1}{2}$  inch, dethatching is needed.

8 ALLOW FOR ADEQUATE LIGHT AND AIR MOVEMENT IN SHADED AREAS. In heavily shaded areas, excessive moisture on grass blades can be a problem. Disease-causing fungi use this moisture to survive and infect the grass. It may be necessary to prune trees and shrubs and design landscape plantings so humidity is reduced by light penetration and air movement. Raise the mowing height in shaded areas to help the plant absorb the limited light penetrating the tree canopy. Reducing fertilizer amounts by 20 to 50 percent in full areas also helps the grass better cope with the limited light.

9 FOLLOW RECOMMENDED DISEASE, INSECT AND WEED CONTROL PRACTICES. Chemicals are not the answer to disease problems. Proper management practices will reduce pest problems and reduce the need for chemicals.

10 CONTACT YOUR LOCAL COUNTY EXTENSION OFFICE FOR ASSISTANCE. If these measures are followed and disease develops, consult your local county extension agent. You can get appropriate recommendations, including cultural practices and chemical recommendations, to reduce disease damage. Your local extension agent can also supply additional turfgrass management publications.

### Attention: Pesticide Precautions

1. Observe all directions, restrictions and precautions on pesticide labels. It is dangerous, wasteful and illegal to do otherwise.
2. Store all pesticides in original containers with labels intact and behind locked doors. "Keep pesticides out of the reach of children."
3. Use pesticides at correct label dosage and intervals to avoid illegal residues or injury to plants and animals.
4. Apply pesticides carefully to avoid drift or contamination of non-target areas.
5. Surplus pesticides and containers should be disposed of in accordance with label directions, so contamination of water and other hazards will not result.
6. Follow directions on the pesticide label regarding restrictions as required by State and Federal Laws and Regulations.
7. Avoid any action that may threaten an Endangered Species or its habitat. Your county extension agent can inform you of Endangered Species in your area, help you identify them and, through the Fish and Wildlife Service Field Office, identify actions that may threaten Endangered Species or their habitat.

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Gale A. Buchanan, Dean and Director