

START RIGHT

Prepare the site well. Remove stumps, construction materials, and other debris. A **minimum** depth of good topsoil is 6". Check for good drainage. Fill low areas. Test soil pH and adjust to 6.0-7.0. Cultivate to provide a uniform, fine, firm (but not compacted) seed bed for seed or sod. Apply starter fertilizer before planting.

Choose seed or sod carefully. Inspect sod for diseases or other problems. Choose high quality, pathogen-free seed. Many disease-resistant cultivars are now available and should be included in blends and mixtures. Genetic variability in lawn grasses will reduce the chance for epidemics that kill large areas.

Other landscaping decisions will affect lawn health. Pruning of tree branches will increase light penetration to allow better turfgrass growth. Trees, shrubs, and other plantings should be placed to allow good air circulation, so the turfgrass will dry quickly after rain or dew. In very shady areas, shade tolerant grass species or cultivars or, preferably, other ground covers should be planted.

Seed should be planted only in well-prepared soil with good drainage when night temperatures stay above 35° and day temperatures are

less than 85°. This range allows rapid germination and establishment. Keep soil and seed moist, but do not overwater. Overwatering may result in damping-off caused by *Pythium*.

ROUTINE CARE

Fertilizers: Apply according to recommendations based on a soil test. Excess nitrogen will cause succulent growth that is more susceptible to disease. Examples where excessive nitrogen causes enhanced disease severity include:

- leaf spot season in early spring,
- brown patch and Pythium blight during hot, humid summer weather,
- snow molds and winter injury if N applications occur just before dormancy in fall.

Some diseases are worse when nitrogen is deficient, e.g., dollar spot, red thread, pink patch, and rust.

Herbicides: Herbicides stress lawn grasses and may make them more susceptible to diseases, e.g., leaf spot. Apply carefully according to the label.

Liming: Adjust pH according to recommendations based on soil test results. Some diseases increase at pH extremes (too high *or* too low).

For example, lime applied late in autumn can increase *Fusarium Patch* (pink snow mold). High soil pH may encourage summer patch and necrotic ring spot.

Mowing: Mowing wounds the leaf blades and spreads pathogens (disease-causing organisms) in turfgrasses.

- Minimize wounding and shredding of turfgrass leaves by keeping mower blades sharp and adjusted properly.
- Mow when grass is dry.
- Mow lawns at a height of 1.5-3.5", using the maximum height in hot weather.
- Mow only 1/3 of the total height at each cutting to avoid stressing the turfgrass.
- Don't "scalp."
- Mow in autumn until the grass stops growing.
- Collect clippings only during disease outbreaks.

Watering: Water is necessary for good plant growth, but too much water floods the air pores in the soil depriving roots of oxygen. Roots will then rot. Disease-causing fungi reproduce by spores that, like seeds, need water to germinate. Dry leaf blades reduce disease by reducing spore germination and infection by fungi.

Water infrequently but deeply, to a depth of 6".

Water early in the day, so the turf will dry quickly.

Night watering after dew appears may help with water conservation but is not recommended on hot, humid nights because it can increase some diseases, especially brown patch and Pythium blight.

Avoid light, frequent sprinklings and do not water in the late afternoon or early evening.

In very hot, dry weather daily watering may be necessary to prevent wilt and dormancy. Areas along walls, sidewalks, and drive-ways may also need to be watered more frequently.

Thatch: Thatch is an accumulation of decaying organic residues between the green portion of the grass plant and the soil. When it is more than 1/2" thick, it reduces nutrient and water absorption and harbors insect pests and disease-causing pathogens.

Prevent excess thatch formation by reducing excessive fertilizer and fungicide applications.

Thick thatch should be mechanically removed.

Compaction: In areas of poor turfgrass growth due to compaction, coring will help aerify the soil and improve turf quality. Compaction is associated with many turfgrass diseases including necrotic ring spot, red thread, rust, and summer patch.

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