

What If You Have Trees, Too? Can Turfgrass Be “Made-In-The-Shade”?

Questions to ask yourself when deciding whether it is feasible to grow turfgrass under your trees:

- Am I ready to undertake a perpetual battle to have turfgrass here?
This section of lawn may become a line item in your budget.
- What quality turfgrass is expected?
You want whaaat?! Be realistic.
- How well is the lawn doing in this same site where it is sunny?
If it's not doing well in the sun, it will do worse in the shade.
- Am I establishing new turfgrass, or trying to improve what I have?
If there is no grass there now, think it through again.
- What are the soil conditions... pH, fertility level, and drainage?
Have you done that soil test yet?!?!
- Is this an individual tree, or a grove?
A shaded lawn is one thing, but grass does not grow readily in a forest.
- What other shade factors apply here... e.g. is this also the north side of the building; is the slope of the land facing north?
- What about the trees we are contending with; are they low or high branching species; dense or thin foliage species; what are their root systems like¹; is allelopathy² a concern; are they new or well established?

¹ Trees are not deep-rooted... all trees have surface roots.

² Allelopathy is chemical warfare among plants. Many species of plants exude chemicals that poison other plants, thereby reducing competitive pressure. Turfgrasses poison trees; and *visa versa*.

- Is pruning the trees an option?
Trees can be over-pruned so don't get carried away with a saw. The lawn can be replaced; the trees cannot.
- Are groundcovers, mulch, or tree removal a better option?
Frequently they are.

Trees vs. Turfgrass: The Negative Effects Of

Trees On Turfgrass	Turfgrass On Trees
reduction in light intensity and quality	mower damage to roots and trunk flare
competition for nutrients	competition for nutrients
competition for water	competition for water
increased relative humidity	increased compaction/less aeration
decreased air movement	reduction in soil organic matter content
increased tissue moisture content	less biological activity
increased nitrogen and nitrate content	disruption of mycorrhizae relationships
blades become thinner and longer	potential for chemical injury
decreased rate of appearance of new leaves	potential for over liming
allelopathic effects	allelopathic effects
decreased shoot density and tillering	reduction of root mass
decreased root-to-shoot ratio	disruption during seedbed preparation
increased disease incidence	edging damage to roots
fallen leaves and debris	decreased soil temperature moderation
rough mowing surface (from roots)	

Relative Adaptation Of Turfgrasses To Shade

(Those in bold type are what we are more likely to see in lawns)

Adaptation	Excellent	Good	Medium	Poor
Cool Season Turfgrasses	red fescue	rough bluegrass	colonial bentgrass	Kentucky bluegrass
	velvet bentgrass	creeping bentgrass	redtop	
		tall fescue	perennial ryegrass	
			meadow fescue	
Warm Season Turfgrasses	St. Augustinegrass	zoysiagrass	centipedegrass	buffalograss
	Manilagrass		carpetgrass	Bermudagrass

Each type of grass has advantages and disadvantages; e. g., when temperatures rise in late spring, red fescues go dormant before tall fescues; therefore tall fescues may be a better choice for low to medium light situations than red fescues.

Turf Management In The Shade of Trees

Alter maintenance practices to fit the situation:

Fertilization

- fertilize by soil test results
- keep pH as low as turfgrass will tolerate (6.0 - 6.5)
- avoid high salt fertilizers
- avoid high nitrogen regimes
- fertilize with natural organics
- apply so that most of the nitrogen becomes available after the leaves have fallen off the trees (late fall)

Tree Care Practices

- raise crown 8-10 feet, using proper pruning techniques
- selectively thin the tree's crown, but generally not more than 10%
- do not scalp roots: add topsoil gradually or mulch into a bed
- root prune judiciously if at all
- do not grow turf within 12 inches of tree's trunk flare (root collar)

Turfgrass Cultural Practices

- control traffic
- raise cutting height (to 3 inches if possible)
- irrigate deeply and infrequently
- open encircling shrub/brush layer to encourage air movement
- use herbicides and fungicides as needed, but don't overdo it; identify the problem and time applications properly for the weed or disease you wish to control
- aerate with core removing aerator in April or September
- remove fallen leaves as soon as possible

Turfgrass Establishment Practices

- do minimal soil prep or grade changing near trees
- seed and overseed in early fall