

Winning the battle FOR HEALTHY TURF

by JERRY ROCHE / Editor-in-Chief

It's summer, and everything from dogs to dull mower blades can damage the turf you're supposed to be tending. This is not the time to bail out—not if you want to stay in the good graces of your customers.

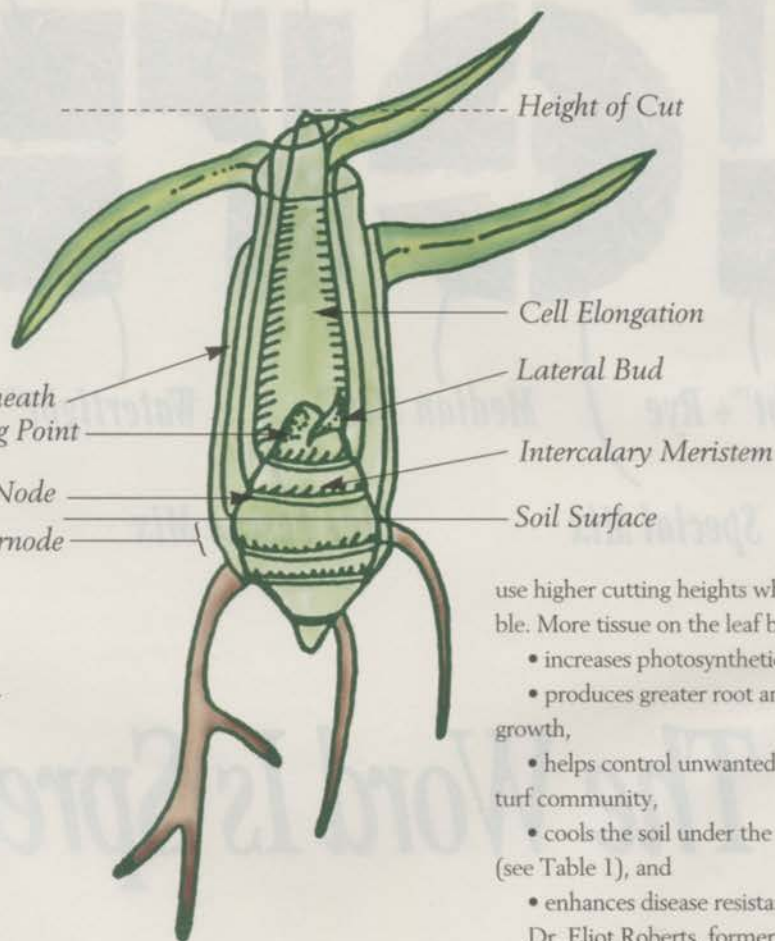
"Problems found in a large portion of [turfgrass] are probably caused by non-living factors," says Davey Tree's senior agronomist, Richard Rathgens.

Certainly, with the onset of hotter, drier weather, mowing practices could be the difference between lush, green vegetation and brown, drought-stricken and/or diseased turfgrass.

"Mowing increases turf quality through better tillering, providing more shoots per unit of ground area," explains Dr. R.W. Sheard of the University of Guelph in Canada. "On the other hand, mowing decreases root growth due to the removal of leaf blades which in turn reduces photosynthesis."

Sheard suggests that professional mowers know about the "meristematic region" of the turfgrass plant—that section where active cell division occurs.

In dicots (many weeds), the growing point is located at the tip of the plant so that the youngest leaves are at the top of the stem. In monocots (turfgrasses), the growing point "seldom moves above the soil surface, except where seedhead formation occurs," Sheard says. So when you're



cutting lawns, you're actually mowing the youngest part of any weeds present and the oldest part of the turfgrass.

Repeatedly removing the top of a grass plant (regular mowing) disrupts the normal procedure for plant development. However, turf-type grasses have, over time, developed a certain tolerance to mowing, much like pasture-type grasses developed tolerance to repeated close grazing, Sheard notes.

To maintain healthy turf, you should

use higher cutting heights whenever possible. More tissue on the leaf blades:

- increases photosynthetic activity,
- produces greater root and rhizome growth,
- helps control unwanted weeds in the turf community,
- cools the soil under the turf canopy (see Table 1), and
- enhances disease resistance.

Dr. Eliot Roberts, former executive director of the Lawn Institute, once calculated that each 1/8-inch increase in cutting height of bluegrass adds 375 sq. ft. of leaf surface per 1000 sq. ft. of turf surface.

Use the "One-Third Rule" of mowing: never remove more than one-third of the leaf blade. Because adverse weather may interrupt your mowing schedule, plan it by the grass's growth rate rather than by the day of the week, as much as possible. (See Table 2 for optimum cutting heights.)

"You have to remember that mowing is an injury in progress," says Dr. Kenneth

Diesburg of Southern Illinois University. "You're cutting live tissues. If you take off only a third, it's a mild enough shock that the grass can rebuild these tissues fairly easily. But if you take off too much, the healing process drains energy reserves in the roots and stems, which weakens the plant."

Also, keep mower blades sharp. Turf plants may appear gray and turn brown or straw-colored one to two days after they are mowed with a dull blade. If the blade isn't sharp, it shreds the end of the grass blade rather than making a clean cut. Shredded leaf tips lose water easily, and will turn brown. They are also more susceptible to diseases. Wounded grass blades take more time to recover because of their large surface area.



Thirsty grass

Drought stress usually occurs in the middle of the growing season. You can tell drought-stressed grass by a blue cast that eventually turns brown, curled and folded leaf blades, and footprints that stay in the grass.

Water is critical, even without fertilizer. And the more lush the carpet, the more water it needs. Water not only moves nutrients through the roots, but it keeps soil cool enough to keep the turf growing.

Most turfgrasses need at least one inch of water per week, generally, to a depth of 6 to 8 inches—either rain from the heavens or potable water from sprinkler or irrigation systems. And remember, when it comes to

water, skimping hurts grass far more than starving it.

"[Dormancy] is an adaptive mechanism that all plants have," says Diesburg, "though it's triggered more quickly in grass because the root system is shallow. Dormant grass will be brown, but it won't be dead."

Bow-wow

Soluble salts in a dog's urine may cause spots on lawns. The damaged spots are generally round, and vary from several inches to about two feet in diameter, according to a news release from Davey Tree. The circular areas have a brown interior and dark green exterior.

A partial answer—if you can't protect the grass from dogs—is to water it frequently. Watering helps move the salt below the lawn's roots and helps the lawn look more attractive. □

TABLE 1. Mowing height and soil temperature

Height of cut (inches)	Soil temp.* (°F at 1 in.)
0.75	93
1.00	90
1.50	83

Note: air temperature five feet above turf was 98°F. at time of test; turf surface temperature was 109°F.

TABLE 2. Suggested mowing heights (in inches)

Type	Early summer	Mid-summer
Bentgrasses	1/2 to 1	3/4 to 1 1/2
Bluegrasses	1 1/2 to 2	2 to 2 1/2
Fescues	2 1/2	3 1/2
Ryegrasses	2 to 3	2
Bahiagrass	2 to 3	2 to 3
Bermudagrass	1 to 2	2
Centipedegrass	1 to 2	2
St. Augustinegrass	2 1/2	3 1/2
Zoysiagrass	3/4 to 1	2

SOURCE: DR. R.W. SHEARD

SOURCE: DAVEY TREE EXPERT CO.