

# How turfgrasses respond to *mowing*

By Dr. Doug Linde

One Saturday evening when I was 16 I had had enough with the slow putting greens at my father's golf course. I slithered into his maintenance shop and lowered the height of cut on the triplex greens mower. Although I had no idea how much I lowered the height, the test cut on the practice green seemed pretty good to me. The next few days golfers were commenting to my father on how fast the greens played. His investigation included seeing some scalp marks and asking his mechanic if he'd touched the cut height, and he soon determined what I had done. I was then given one of my first lessons on how mowing affects turf!

Here I'll share that lesson and others I've learned about the effects of mowing on turf:

## Plant's response to each mowing

Mowing causes plant stress! Fortunately, turfgrasses are well adapted to this stress. There are a variety of responses that occur every time

a single turfgrass plant is cut. One response is fluid exudes from the cut leaf—this includes water and organic compounds. The odor of a freshly cut turf is evidence that organic compounds are leaving the plant through the wound.

Another plant response after being cut is to repair the wound. Like a flesh wound in humans, the open wound becomes an entrance for disease-causing organisms and it's important the plant repairs it as soon as possible. Stored energy (carbohydrates) is used in the repair.

Stored energy is also used in the next plant response to cutting which is to replace the cut leaf tissue by growing new leaf tissue. Simultaneously, the plant is using extra energy for repair and regrowth while it is producing less energy for itself via photosynthesis because part of the plant's energy generator (the leaf) has been removed. As a result, an energy "dip" occurs after each cutting. The plant attempts to replenish its energy reserves as soon as its leaf tissue becomes sufficient again. Scalping, excessive defoliation, and environmental stresses can slow the replenishment and weaken the plant.



Mowing a heat and drought-stressed turf can compound problems.