CORNELL Turfgrass Short CUTT
Your Weekly Link to Turfgrass Information!

Gazing in the Grass

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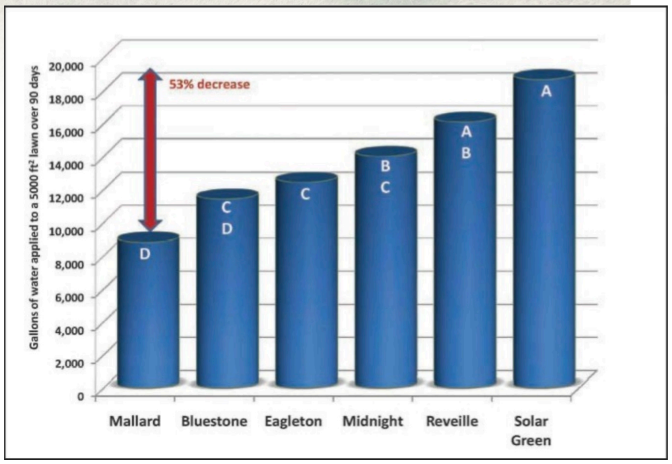
Credit: Aaron Patton

A brief reprieve from the oppressive heat and humidity arrived over the weekend, however no rest for the weary along the I-95 corridor with expected heat stress to return and persist for the next few weeks. The moisture conditions range from drought in the northern section of the region to an overabundance of moisture to the south. Interestingly, this past week recorded the highest EvapoTranspiration (ET) of the season and a record amount over the last two decades at 1.5" of water loss. This amount of water loss makes water management more difficult with high soil temperature exacerbating root injury, restricting root growth, and allowing plants to move into summer dormancy due to severe moisture stress.



Reports from the Rutgers University Plant Diagnostic Laboratory Director Rich Buckley indicate a growing percentage of Kentucky bluegrass in lawns and sports fields and annual bluegrass on lawns and golf courses are suffering from summer patch. It appears summer patch infection is breaking through multiple preventative fungicide applications. This is also true for a growing number of anthracnose outbreaks suggest ing an overall increase in abiotic stress. Persistent abiotic stress such as heat, drought, or saturated root zones exposes deficiencies in the infrastructure of a turfgrass operation such as surface organic matter accumulation, poor irrigation coverage, and areas of persistent high traffic

The urban grasslands in home landscapes are experiencing severe stress, especially in the traditional Kentucky bluegrass dominated lawn mixes. The improvements in the Kentucky bluegrasses over the last decade have included maintaining persistent green color during periods of drought stress. In fact, studies at the University of Arkansas (graph inset) have shown that varieties such as Mallard and Bluestone hold green color longer and persist with less water than Midnight-types. The persistent high night-time temperatures and associated high humidity is exposing weaknesses in the turfgrass species and varieties that dominate our urban grasslands. **Maybe its time to consider new grassing options!**

Frequently Asked Questions (FAQ):

I raised my height of cut and still feel my putting surface mower is causing stress. What should I be looking at?

Mower evaluation research conducted at Cornell University for many years indicated there are two possible stressors related to mowing that are not associated with height of cut (HOC). Frequency of clip (FOC-the relationship among reel speed, ground speed and number of blades on the reel) if set very close to or at greater speeds that the height of cut can produce significant stress. The raking action of the reel is more frequently passing through the canopy and it might make for a slightly cleaner cut, however there were not significant improvements in performance. Secondly, rapid frequency of clip (lower number) more closely aligned to height of cut appeared to increase wounding of the tissue. This was especially true when mowers set FOC=HOC were used on cleanup passes, the combination of turning and abrading of the tissue lead to clear tissue damage. Be mindful of this adjustment when you are planning your mowing for the next few weeks.

The second factor not related to HOC was bedknife position/attitude relative to the centerline of the reel. Our work showed clearly that the further back a bed knife is positioned from the centerline of the reel, the more "aggressive" the mower was cutting the turf. The geometry of the mower reel in relationship to the bed knife can force this to occur as the reel shrinks in diameter from grinding. Also, different rear roller positions, bedbars and bed knives all can contribute to a bed knife position. As the bed knife position moves back from the center line the reel "dips" into the turf as much as 0.030" below the set HOC. Additional research conducted on bed knife position conducted at Michigan State and the University of Tennessee demonstrated no improvement in performance (turf quality and ball roll distance) with bed knife position. However there was an increase in the amount of sand removed from the turf surface, die to the "reel raking" from bedknife position well back from center. Now is the time to take a close look at these factors and recognize where additional stress might be coming from. An excellent review of this issue is available from the USGA Green Section at http://gsrpdf.lib.msu.edu/ticpdf.py?file=/article/whitlark-daniels-managing-2-5-16.pdf.

Clover, Grubs and Pollinators

Widespread reports of flights of adult Oriental and Japanese beetles as well as Asiatic Garden beetles and Masked Chafers have turf managers mindful of preventive insecticide applications. The application of neonicotinoid insecticides (imadocloprid, clothianidin and thiamethoxam) to control white grub populations are made when the adults are laying eggs. For European chafers this may be early July while most Japanese beetles and oriental beetles will not start laying eggs until around the second week of July. This year this is coinciding with a flush of white clover blooming as a result of the decline in many turfgrass areas from drought and heat, lack of effective control programs, and now through encouraging clover as desirable species in the lawn areas. This flowering habit places the foraging pollinators at increased risk, especially to the well documented issues associated with the use of neonicotinoid products. Consider the variety of Best Management Practices to protect pollinators at this time and they are available at http://nysgolfbmp.cals.cornell.edu/pollinator-bmps/ .