

Gazing in the Grass

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Oppressive warm and humid conditions persisted through much of the Northeast over the Labor Day weekend. Temperatures had cooled some leading up to the weekend only to reach into the 90s and high ET and drying conditions were replaced with record dew points in the low 70s. Already stressed plants continued to decline as soils remained in the upper 70s for most of the region. Typical recovery periods after the “unofficial end of summer” when soils often cool and allow for root regeneration will certainly be delayed, in fact patch disease samples (from root infecting fungi) continue to inundate diagnostics labs from St. Louis to NJ.

The May to August period will be among the warmest in the 125 years of NOAA weather record keeping. The length of the growing season will again likely be 5-10 days longer compared to the 30 year average that itself has been warming the last two decades. Moisture is a tale of two seasons and with a gradient North to South, more dry March to May and more wet south of NYC. Drier areas have fared slightly better depending on the precision of water management. Poor irrigation practices often created additional stress with over watering persistently wet areas to keep dry areas alive. “Infrastructural” issues such as a poor irrigation systems or significant accumulation of surface organic matter that kept roots hot and wet have lead to steady and significant turf decline through the season.

A plethora of turfgrass pest issues are visible in the landscape. Crabgrass, nutsedge and white grubs lead the recent reports. However, foliar pathogens are thriving with very high dew points and persistent humidity leading to prolonged periods of leaf wetness. Brown patch and Pythium risks were high across the Northeast for much of the last week and early reports of Fall dollar spot pressure have begun. These pathogens are often non-lethal under “normal” weather conditions, however the recent stretch of humidity is allowing significant progression of these pathogens leading to severe injury and plant death. Be mindful of fungicide program intervals, rates and timings for maximum efficacy. Currently injured turf areas will need some relief from maintenance traffic and are unlikely to significantly recover over the next few weeks as warm and humid conditions are expected to persist. Algal crusts should be broken and any form of surface drying available should be implemented, i.e. fans, topdressing, non-invasive shallow spiking of the turf surface. However, avoid aggressive surface disruption until heat stress conditions, especially in the evening hours, subside.



Credit: Pete Dernoeden



Frequently Asked Questions:

My fields are showing wear stress already after three weeks of use as a result of rainy and now very warm conditions. I'm trying to speak with coaches and parents about field use under these conditions. They keep asking the same question of me, "how many hours of use CAN the field handle"? Can you help?

First big kudos for recognizing the need to communicate with your clients regarding the conditions and safety of the fields. Effective communication is the consistent characteristic of successful professional sports turf managers. We have provided some useful tools to assist with the general information for players, parents, coaches and ADs at <http://safesportsfields.cals.cornell.edu/coaches>. Additionally there will not be any hard fast answer to the question without some qualification and understanding of the root zone, type of use, maintenance inputs, and visual quality expectations. Our first responsibility is to ensure player safety as measured by field hardness, evenness and traction, other field issues become subjective as to what constitutes an "acceptable playing surface". Again there are gray areas when discussing amount of use, as **poor weather** experienced the last 30 days has lead to significantly more wear stress and field decline than expected under average weather patterns. Finally, larger amounts of managed field area that allows for dispersal of focused traffic and the availability of synthetic surfaces both significantly increase overall amount of natural grass playing field use.

Rootzones: loamy soil root zones with some drainage and some irrigation can withstand more than the average amount of use. Sand-based fields with excellent drainage can withstand significantly more than the average amount of use.

Type of Use: Any type of field use that results in repetitive focused traffic, i.e., between the hash marks, goal mouths, sidelines, will reduce the amount of field use. Larger male athletes create more traffic stress than lighter female athletes. Youth sports with smaller athletes and smaller field dimensions that can be rotated, allow for much more use than average. Again rotation allows for dispersal of the traffic.

Maintenance Inputs: Reasonable care of fields is expected as outlined in ASTM F2060 for cool season natural grass fields safety, this will include some amount of field rest and recovery as outlined in these important maintenance schedules <http://safesportsfields.cals.cornell.edu/schedules>. In the simplest of terms, the more use a field receives the more preparation it will need prior to the initiation of use, maintenance during the traffic period, and recovery maintenance following the traffic. No maintenance program will compensate for overuse that leads to decline in field quality below acceptable levels and will need a routine turf replacement program as seen in most professional sporting venues.

Visual Quality Expectations: Players, coaches, parents and Athletic Directors have the right expect to safe playing fields. Sports turf managers must have field safety measurements to effectively determine when field use leads to decline in safety. The visual quality of the field often is correlated to field safety but not always, as a soft bright green field with poor traction is less safe than a slightly brown firm even surface.

In the end, general guidelines suggest good field conditions can be maintained with reasonable care at between 400-600 hours of use per year per field. Beyond 600 hours of use expect a loss in field quality and significant thinning and wear areas even under ideal conditions.

