

Gazing in the Grass

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Dry conditions are beginning to dominate the discussion as unirrigated areas are beginning to show signs of moisture stress. Temperatures last week were normal if not cool. As I was embedded with the Shinnecock Hills Golf Club Agronomy Team last week, I can attest to the 45F temperatures Tuesday morning. That said, heat stress was prevalent for many last week and expected to continue for the early parts of this week. Windy



conditions associated with passing storms are expected. Forecast for this week is calling for patchy rainfall with big winners and losers in the soil moisture replenishment game so expect moisture stress conditions to continue.

Sustained warm dry winds when sun is highest in the sky will lead to surface wilt. This will occur on high cut as well as close-cut surfaces due to high Evapotranspiration (ET) rates from solar radiation that warms the system and wind that disrupts the "boundary layer" of moisture directly outside the stomate. Winds also complicate regular irrigation as most systems in the Northeast are not designed to function at wind speeds above 15mph. The critical nature of water management for high performance golf and sports turf requires a high level of precision to maximize playability whilst preventing lethal stress conditions. The high ET rates over the weekend have only further revealed the poor soil conditions, poorly rooted turf and low soil moisture that creates stress. Annual bluegrass (AB) dominated golf and sports turf areas about to finish flowering will be in a natural decline. This is worst in areas with no irrigation that often results in a high population of the annual biotype AB that flower profusely and then yellow. Golf fairways, tee tops, sports fields and lawns often have high percentages of the true annual to intermediate-type AB. Heavier soils may still have some moisture available deeper for more deeper rooted species such as creeping bentgrass and tall fescue. Kentucky bluegrass is well known for being shallow rooted and likely to experience moisture stress more severely. KBG is a drought "avoider" in that the species will enter a summer dormancy state that results in leaves losing chlorophyll and wilting back to crown meristem. Some varieties have been shown to hold color longer such as 2nd Millennium that held green color in one study more

than 50 days after irrigation withheld. Thinking about drought tolerant grasses consider reviewing the Turfgrass Water Conservation Alliance (https://www.tgwca.org/) website and look for grass seed in the future that has the TWCA seal of approval. This data-driven drought tolerant selection method used by turfgrass breeders represents a collective approach to providing turf grasses that hold green color longer in drought.



Frequently Asked Questions (FAQ): My Sports Fields are Done with Use for the Spring and Will Rest This Summer. What Should I Do Now?

Now that much of the scholastic sports seasons are winding down, a good review of the field is useful. How did the high traffic spots hold up? Do I have the right turf for droughty conditions? What should I do with worn out weedy areas? All of these and many more are excellent questions. Furthermore, this late Spring-early Summer period is less than ideal for reestablishing/renovating/reinvigorating your high traffic sports fields, however if use is expected again this Fall then now is the time!

Generally a good hollow tine coring would be useful but could bring up many unwanted grassy weeds at this time. However, if planning to seed then hollow tine coring helps establish a seedbed. Again this raises the question of sodding. If worn areas such as goal mouths or down the center of fields are low and bare then adding soil and sodding would be an ideal option even though sodding at this time is rarely as successful as late Fall. Be sure to have plenty of water available to irrigate the newly sodded areas. Still, to avoid issues with bringing up weed seed in the soil with hollow tine cultivation we recommend solid tine coring or "knifing" the soil to cause some shattering deeper that will aid in temporary alleviation of compaction, especially when performed when soil is drier and shattering can be more dramatic. Ideally there are many tools that allow for shattering of soil when it is on the dry side, that are also not very disruptive nor likely to lead to weed issues. In the end, without chemical pesticides available for school grounds, you have to be creative. Avoid creating problems and consider solid tine cultivation, leveling worn low areas, and sodding.

Keys to BMPs: Affordable Wash Pad Solution

Now that mowing is underway in earnest and grass clippings become a larger part of the waste stream, keeping the nutrients in grass leaves out of water bodes is critical. An important area of Best Management Practices that has been identified in surveys is equipment wash stations. Recently, Locust Hill Country Club in Pittsford, NY, a New York Green Business (https:// www.dec.ny.gov/chemical/939.html) identified a gap in their operation from lawn mower washing, in which wastewater from the washing is sent through an underground tank and discharged into a town approved wooded area. This overflow sometimes creates undesirable odor problems. The New York State Pollution Prevention Institute (NYSP2I) worked with Locust Hill Country



Club to evaluate opportunities to reduce water use and recycle water from the mower cleaning operations. The work performed included a baseline determination of water use and wastewater quality, spray nozzle alternative trials to reduce water use, filtration testing for potential reuse, and ultraviolet disinfection testing to reduce bacterial growth. Water use for washing was reduced by 50% using air blowing and different water nozzles, reducing the needed water to 700 gal/ day. Then the wastewater was filtered and reused, leading to overall reductions in wastewater over 90%. A detailed bill of materials was created from which Locust Hill Country Club purchased/acquired all necessary components including the screen filter, plastic tanks, sand, UV lamp, pumps and associated piping and fittings. Total equipment costs were valued at \$6,000. The NYS BMP Project received a grant to develop an instructional video, outlining the key features of the wash pad system and can be viewed at https://www.youtube.com/watch? v=3C0TL3KeARg.

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