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Gazing in the Grass

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The old adage, “hurry up and wait” seems an appropriate euphemism for the 2020 growing season. As the phenological indicators continue to suggest, the growing season is advancing earlier and earlier every year. This year has been no different other than it has followed a top 5 warmest and least amount of snowy winters. Still, at this time and for the coming week, much of the Northeast



US will be in a “stall”. Single digits base 50GDD increases expected for most of the region north of PA/NY east-west border, wet soils from rain and lack of sun, and as the week begins much of the region has soil temperatures in upper 40’s to low 50’s at 2” (see inset from local golf course) . As the newsletter goes to print golf is closed in NY, except for maintenance, lawn and landscape business have been deemed essential, except for cosmetic purposes, and grounds and sports are on a “by-facility” basis with most operations experiencing some form of staffing reduction. Labor reductions invariably will lead to changes in maintenance programs. Yet, many are reporting the lack of play on fields and golf courses is allowing much more work to proceed without significant disruption. *This is providing insight into potential operational efficiencies that can be gained when play or use is moderately restricted during non-pandemic times to allow for more efficient maintenance programs.*

Planning for the next several weeks will be crucial when mowing demands will increase significantly. Top growth remains very slow even with adequate soil moisture the cool temperatures, especially at nights are suppressing top growth. Any growth that is occurring is related to organic soluble N sources in the soil that result from decaying microbial biomass that dies-off during winter.

Current recommendations suggest any turfgrass maintained about 1” will not require N fertilization until late May throughout much of the Northeast. Turfgrass maintained at a lower height of cut without traffic should need only that amount of N to keep pace with mowing frequency. In fact, some turfgrass managers have intentionally allowed some P deficiencies to limit growth. With little known about the duration of any work stoppage or reduction it is paramount to plan for reduced maintenance now by avoiding unnecessary pesticide and fertilizer application that might stimulate growth.

Early Season Soil Physical Property Management

Many playing surfaces that normally receive regular traffic are sitting idle this Spring during the pandemic. This will reduce many problems associated with traffic and wear, especially the impact on soil physical properties. Often the best playing surfaces require the least amount of time during these days of minimal maintenance, because of ideal soil conditions. Lower maintenance, higher use fields will have suffered decline in the last several Springs from wet conditions that further damage soil structure. *If able to work safely*, now would be a time to consider developing a plan to rejuvenate generally neglected fields. This should start with the hardest part first, soil physical properties.

Soil physical properties associated with compaction and layering, especially in heavily urbanized environments are the biggest soil problems facing turfgrass managers. This concern is primarily associated with turfgrass areas that receive high rates of frequent focused traffic. The current conditions with wet, cool soils, is not the ideal time for managing any type of soil physical problems. Until a consistent warming and drying pattern, it is best to avoid most cultivation and topdressing, as well as fertilizer applications to very wet soils. However, there are some key practices to consider on well drained soils that allow for more consistent warming that leads to active plant growth.

In native soils, increased diversity, ease and speed of cultivation methods allows for a more programmatic approach that can enhance natural cultivation from frost heaving. (see inset table for Cornell Safe Sports Fields website) Frost heaving can aid with layering problems often below the turfgrass rootzone and while important do not alleviate all cultivation needs.

Cultivation practices for use *between* playing seasons
Adapted from Dave Minner, Iowa State University

Match cultivation goal (below) with the tool (right)	Hollow tine 4-inch	Solid tine 4-inch	Hydro-jet	Shatter tine 4-inch	Shatter blade	Verti-drain	Drill & fill	Slicing	Small slicing/spiking	Vertical mower
Change soil type in top 4 inches by removing soil and back filling with amendment	X							X		
Create large and deep holes or channels that can be back filled with a soil amendment								X		
Remove surface soil layer that was attached to sand-sod during sand-based field construction	X							X		
Promote deep rooting, 8 inches or more			X		X	X	X	X		
Maximum removal of water puddles					X	X	X			
Aggressive fracturing of hard ground (surface to 6 inches deep)				X	X	X				

Further a mild winter would result in less heaving and while it was cold at times, there was often a light snow cover to insulate. Generally, on high traffic turf a light rolling smoothes the turfgrass surface and prevents early season mower scalping.

Hollow tine cultivation (pulling a core) practices at this time can be used to bring soil to the surface to recover damaged turf, or as part of an early season topdressing program for fields with high sand content. Also, *if able to work safely* adding some seeding to the process will increase turfgrass density and reduce pressure from weeds. Solid tine cultivation in a variety of spike, tine, fork, bayonet, knife, blade, etc. forms are available. They can be used for deeper cultivation with “kick” for increased soil shattering, or intermediate depth to penetrate soil/sand interface on topdressed native soil putting surfaces and sand-capped sports fields. Also shallow surface cultivation can be performed as a slice or spike that simply punctures the soil surface often sealed by traffic or matted turf. **Keep in mind this discussion is primarily for turf that receives traffic. Most if not all home lawns that are not regularly trafficked do not require and will rarely benefit from routine cultivation unless a significant soil layering or thatch problem exists.** ▲

