

SEASONAL TURF GRASS MANAGEMENT PRACTICES FOR YOU ATHLETIC FIELDS

1) PRESEASON STARTUP

- a. IRRIGATION SYSTEM – Charge the irrigation system and check all irrigation heads for function. Make sure 360-degree, 180-degree, and 90-degree irrigation head are rotating properly. Look for any water pooling on top surface which could indicate broken pipes. Make sure each zone is coming on and shutting off. If a zone won't shut off there's a good chance the zone solenoid has a little sand in it and is stuck open. Replacement of solenoid may be necessary.
- b. FLAG ALL IRRIGATION HEADS – If an aeration is schedule preseason, flag all irrigation heads and control boxes.
- c. MAINTENANCE – All mowers should be serviced, checked for oil leaks, and mower blades sharpened! Sharp mower blades are critical for a healthy turf grass community. A sharp mower blade cut's the grass shoot tips and allows for quick healing as the wound caused by the mower can seal up faster with a clean cut.

2) MOWING TURFGRASS PRACTICES

- a. Dull mower blades rip and tear the grass shoots tips causing excessive moisture loss "bleed out" in trying to close the wound. During hot weather, this puts undue stress on the turf grass plant. As the turf grass plant tries to heal itself from the damages caused, you can have a yellow cast across the athletic field. Upon closer inspection you will notice the yellow around the tips of the damage mower cut. With a jagged cut the turf grass plant becomes susceptible to external attacks from diseases as it's wide open for disease entry.
- b. WHEN TO START – Mowing should begin as soon as the plant becomes active and the desired cut height can be achieved. During the winter months and before ground temperatures start to fluctuate in the spring, a turf grass plant community may be growing, and an early mowing is necessary. Depending on use and type(s) of turf grass that are present, each field may require different cutting heights. Match your cutting heights to the grass types and desired playing height.
- c. MOWING HEIGHTS – As there are different cutting height recommendations based on turf grass types, i.e., bluegrass/ryegrass, vs. fescue, short cut athletic fields require more attention and maintenance to achieve the desired result. **Frequency of cut is critical if you're going for that "carpet look".** However, certain grass seed types i.e., fescue are not suited for short cuts and should not be considered for athletic fields.
- d. MOWING FREQUENCY (*TIP – Purchase "grass height cut gauge."* www.turf-tec.com - \$35.00)

All athletic fields should be mowed a minimum of 3 times per week during the height of the growing season. If the turf grass gets away from you, cut no more than 1/3 of the plant daily in order to reach your final playtime height. NEVER, I repeat NEVER cut more than a third of the plant height off in one cutting. Doing so will put the plant into shock and perhaps lead to death! It will draw out all the carbohydrate stores from the root structure leaving the plant weak and prone to attack from

disease. If you get behind mowing then measure height of the turfgrass multiple that number by .667, then lower your mowing height to that number. The following day or two measure the height of the turf grass multiple that number by .667, then lower the mowing height to that number. Repeat if necessary until you reach the desired playing height.

- e. WHEN TO MOW AND NOT TO MOW – Ideally you should mow your athletic field turf grass when it is dry. Never when it is wet. *(TIP – When morning dew is on the plant, cycling your irrigation system for a short time i.e., 4-6 minutes per zone, will remove the morning dew and your turf grass will dry in half the time. Remember, this is a quick rinse not a watering event!* It is important to not mow the grass after a rain or full cycle irrigation event. Saturated soils are soft and compact easily when a mower or tractor is driven on top. Compaction is a major enemy to healthy turf grass. Never mow in the middle of the day during hot weather. During these weather conditions early morning mowing or late afternoon into evening should be done. Avoid 11:00 am -5:00 pm. This is an extremely stressful time for the plant as it draws moisture from the soil to cool itself. For those fields that don't have irrigation this is a **major no, no!**
- f. END OF SEASON MOWING HEIGHTS – During the fall time you should slowly bring the mowing height down 2 – 2 ¼ inches. You will notice that the top growth slows down as the daylight hours decrease. Although top growth has slowed down or come to a complete halt, the biology of the plant continues to be active developing new root-structure to survive winter. As outside temperatures begin to fall, ground temperatures begin to fall as well. The purpose of putting your turf grass to bed for the winter short is, that you don't leave any excess growth for snow mold (fungus) to be able to feed on during the cold months. Snow mold is devastating to the turfgrass plant,

3) WATERING SCHEDULE – Controlling water coming in and moving out is everything!
(TIP – Purchase “digital moisture sensor” #MS6-W \$600.00 www.turf-tec.com)

- a. MOISTURE TITHE – What is the ideal moisture percentage during game time play?

A good moisture tithe in none use times is between 25% (drier) to 75% (wetter) soil moisture. Keep in mind the turf grass plant is at its strongest [roots attached to soil] at 25% (dry) soil moisture conditions and can with stand wear and tear better, however soil moisture percentages less than 25% began to put the turf grass plant in to a drought stress situation and should be avoided at all cost. An athletic field should never be played on if soil moisture conditions are below 25%. Immediately irrigate the turf grass and bring soil moisture conditions back to 35%-50%. **Ideally game time soil moisture conditions should be between 25%-35%.**

On the other side of the spectrum, soil moisture conditions between 50% to 75% are ideal for growing turf grass, however these conditions will substantially reduce soil cohesiveness where the turf grass plant is easily pulled out and damaged from heavy foot traffic. This is very common on athletic fields built with native soils and do not drain well. **Overly saturated soils become anaerobic lacking in sufficient oxygen levels for root structure, and plant death is inevitable!** When you look at the time of year for “use-of-field” i.e., spring and fall, then your start to understand why over

saturated soil conditions destroy athletic turf grass when athletes have to play on them.

b. HOW MUCH WATER DOES THE TURF GRASS PLANT NEED? –

The turf grass plant needs approximately 1.5 inches of water every 7 days minus any rain receive, and evapotranspiration rates. However, keep in mind soil profile conditions can vary from field-to-field. Sandy soils drain faster than heavy clay soils. Evapotranspiration is much more profound in 90-degree weather than in 60-degree weather. And the time of year angle of the sun has a major effect on evaporation loss. ***Field soil holding capacity and infiltration capacity are everything for the moisture needs of the turf grass plant.***

c. SETTING UP YOUR IRRIGATION PANEL –

Perhaps the biggest challenge you'll face is the scheduling of the "water window" with the use of fields by the athletes.

Your irrigation system is a great tool to help you manage your turf grass environment. But it SHOULD NOT be set to "auto-pilot" and ignored during the growing season. Over saturated soil conditions over a prolonged period have all sorts of adverse effects not to mention the cost of city water if that is your supply. Depending on time of the year and weather conditions, irrigation setups should be programmed accordingly. There are many factors as to how much time your irrigation system should be set for. Each system is different and the volume of water coming out of each irrigation head determines length of time needed. As a starting point you're looking to get approximately 3-3.5 tenths an inch of water each day you irrigate. ***But understand this, "this is only a starting point." All things should be taken into account i.e., irrigation system capacity, soil types, holding capacities, infiltration rates, time of year, and managed well.***

Finally, as you can see there is a lot going on to achieve success! Our industry has amazing tools and technology at our disposal to achieve desired results. Resource books like *A.J. Turgeon "Turfgrass Management" 9th Edition* can provide you with a wealth of turfgrass knowledge. Having trained staff members and partnerships with turfgrass manage companies such as Hydroseed, Inc. will better improve your natural turfgrass playing surfaces. Knowing you're playing schedules and use-of-field times will help you to properly manage the needs of turfgrass plant, while providing the best performance of your natural turf playing surface.

Sincerely,
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03/07/2019