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Mission Statement
Committed to enhancing the professionalism of athletic field managers in New Jersey by improving the safety, playability and appearance of athletic fields at all levels through seminars, field days, publications and networking with those in the sports turf industry.

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Web Site – www.sfmanj.org
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University, Cook College spoke about Soil Characteristics and Turfgrasses. We got a pretty good discussion going about soils, fertilizers and amendments. Jeff Cramer gave the talk about Understanding Specifications that Dr. Henry Indyk was supposed to give. Dr. Indyk was home recovering from an illness and was unable to join us (please get well soon Henry, we miss you!!!!) We saw a demonstration and discussed the uses of turf blankets (the Cover Sports USA turf blanket was generously donated by John Doyle, JDL Equipment Co.). Brad Park-Rutgers University, Cook College wrapped up the session with a discussion about Pre & Post emergence Selective Weed Control.

Next, we drove about 2 miles to the Tuckahoe Turf Farm where the Betts Family provided a luncheon feast under a big tent. Following lunch, we split into District groups and held brief District meetings. We are hoping to strengthen our District organization in the coming year.

Following lunch and the District meetings, we boarded 2 deluxe motor coaches compliments of Tuckahoe Turf Farm and began a tour of the farm. Tuckahoe Turf Farms is one of the largest growers in the Northeast, and is a leader in new and innovative varieties of sod and growth technology. Their operations include 1500 acres- 800 located in Hammonton and 100 located in Tuckahoe. The balance of the land is used for maintenance and watershed.

George Betts explained that his father Walter Betts and grandfather moved from Stratford, Connecticut in 1931 to Estell Manor, New Jersey and operated a truck farm, producing mainly lima beans and cranberries. In 1967 the family began producing sod and by 1969 devoted their entire

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farm to sod production. The farm in Hammonton was purchased primarily for its soil conditions, water access and prime location for its tri-state sales. In 1980, the business was purchased by Walter's sons, Tom and George, who continue to operate it today with their sons, John ( turf production), James (office management and sales), Philip ( farm manager), and David ( dispatcher). The farm produces primarily bluegrass sod and tall fescue sod. Approximately 83,000 pounds of seed are planted each year.

This farm is big! The Hammonton farm is approximately 6 miles in perimeter. As the busses drove through the verdant sod fields in varying stages of growth development, over the remarkably smooth dirt roads, I admired the irrigation system that the farm uses. This irrigation system uses a number of large above ground irrigation machines on wheels that can roll over the field on a big circle from a central vertical water pivot. The large horizontal pipe with sprinkler heads is called a lateral. The size of these water pivots and laterals range from 1,100-2,000 feet in length, and deliver a water volume of 700-1,000 gallons per minute. The water is supplied from 120'-150' deep wells (10-18" wide) on the farm. George Betts said that it takes 2 days to water the entire farm.

The first stop was a demonstration of how they harvest big roll sod. I was expecting to see a mammoth harvesting machine. Instead, I was amazed that a 30 hp tractor with a 3 pt. hitch mounted harvesting implement not much larger than an aerator was capable of harvesting a 4'x50' roll on sod in less than a minute. Fork lifts load the big rolls on a flat bed semi in record time. George said that they can harvest an acre of big rolls in about 2 hours. And as easy as it appeared to harvest the big roll, the crew gave a demonstration on how to install big roll sod using a tractor equipped with a tool mounted on the 3 pt. hitch that holds the big roll. Tuckahoe will install the sod for you or the attachment is available for you to do it yourself.

Next stop was across the farm to another field where a crew was harvesting the more common slabs of sod that are loaded on pallets. The harvesting machine is configured around a tractor, the pieces are cut, and a conveyer moves the slab from the ground up to a couple of workers who stack the sod on a pallet. The entire work area is under a canopy protecting the workers from the elements. When the pallet is full, the machine drops the pallet on the ground where the fork lifts load it a flatbed. There are about 500 square feet, of sod on a pallet. Acre of pallets can be harvested in about 4 hours. The farm’s eight delivery tractor trailers each hold about 11,000 square feet per truck. This fall, 2 new auto stackers will replace the older harvesters.

In addition to growing sod, Tuckahoe Turf Farm does specialty work such as golf course restoration and installation, athletic fields and major off site seeding projects. They also operate a supply store, selling seed, fertilizer, tools and more. The day concluded with the awarding of pesticide credits.

Our sincere thanks go out to Frank LaSasso and his Team, the Hammonton Board of Education, the Betts family, John Doyle, Dr. Henry Indyk, our featured speakers, members of the Board of Directors and all who helped and who attended for making our Spring Field Day a success.

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White Grub Management in Athletic Field Turf

by Dr. Albrecht M. Koppenhöfer*

In the northeastern USA, a complex of primarily introduced white grub species are the most widespread and destructive turfgrass insect pests. Until recently, the Japanese beetle ( Popillia japonica ) was regarded as the key species, but surveys have indicated that the oriental beetle, [ Exomala (= Anomala ) orientalis ] has become the most important white grub species in New Jersey and some neighboring areas. Thus, the average white grub species composition in New Jersey home lawns in fall 2001 (5 counties, 61 sites, primarily central NJ) was 63% oriental beetle, 14% Asiatic garden beetle (Maladera castanea), 9% northern masked chafer ( Cyclocephala borealis ), 8% Japanese beetle, 4% May/June beetle ( Phyllophaga spp. ), and 2% green June beetle ( Cotinis nitida ) (Koppenhöfer et al. unpublished data).

Another species, the European chafer ( Rhizotrogus majalis ) is the major low maintenance turfgrass pest north and west of New Jersey and may be more common in northwestern counties of New Jersey. However, it is important to keep in mind that species composition can vary considerably among sites.

Different white grub species can vary significantly in susceptibility to different control agents. Therefore proper species identification can be critical. The safest way to identify white grub species in the larval stage is to examine the raster pattern just in front of the anal slit on the grub's underside ( Figure 1 , see insert ). Identification is the easiest when the grubs are 3rd instar larvae but at this point, the damage is often already done or impending. Therefore, identification should be done when grub populations are being monitored to determine whether curative treatments are necessary, i.e., in mid August.

Although the general life cycle of the important white grub species is very similar, the egg-laying period (major target for preventive treatments) and accordingly the occurrence of the voracious 3rd larval stage can vary by a few weeks among species; another reason for obtaining knowledge about the prevalent species in a turf site. Adult beetles emerge between June and August, mate, and the females return into the soil to lay eggs (total of about 20-60) in several batches over a period of 2-4 weeks. The egg stage, 1st larval stage, and 2nd larval stage each last about 3 weeks so that through September most of the grubs will molt to the 3rd and last larval stage. As the soil temperatures cool down in October, the grubs move to deeper soil layers to stay below the frost line to overwinter. During this time most species are more or less inactive. As the soil temperatures warm up in spring, the grubs come up to the root zone to feed for another 4-6 weeks in April and May before they pupate in the soil.

Signs of infestation
White grubs damage turf by chewing

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May/June 2005
During the last 20 years, the use of improved "turf-type" tall fescue varieties for turf has increased dramatically; conversely, the establishment of "forage/conservation-type" tall fescue cultivars such as ‘Alta’ and 'Kentucky 31’ has been more reserved to settings such as roadsides and other utility turfs. Turf-type tall fescues have been used to enhance the quality and durability of school grounds, sports fields, and parks in New Jersey as well as many other areas of the United States. Lower-growing varieties of tall fescue offer reduced mowing frequency as well as improved turfgrass quality. Lower irrigation and fertility requirements of tall fescue make it possible to maintain moderate to high quality sports fields turf while reducing costly inputs.

Tall fescue is well adapted and therefore an excellent choice for use on low maintenance, non-irrigated sports fields because it has the capacity to develop a deep root system that provides tolerance or avoidance of drought stress. The drought tolerance of tall fescue is dependent on the turfgrass stand being capable of developing a deep extensive root system. Utilizing tall fescue on sports fields with shallow or poor quality soil conditions will severely limit root development and reduce any expected benefits of drought tolerance. Thus, efforts to improve soil quality, particularly at the time of sports field construction, will enhance the drought tolerance of tall fescue as well as other turfgrasses.

This turfgrass species can survive under reduced fertility, and tolerates insects better than many other cool-season turfgrasses. Tall fescue is adapted to moderately well-drained and fertile soil of slight acidity (optimum pH of 6.5 to 6.7). Although short rhizomes are observed on some plants, tall fescue is considered to have a bunch-type growth habit (tillers from a central crown). Emergence of tall fescue seed occurs within 5 to 7 days in warm moist soil. Compared to perennial ryegrass, the rate of tillering and establishment of tall fescue is slower.

The good wear tolerance of well-established mature tall fescue makes this turfgrass an option for sports fields and other high traffic sites. When establishing tall fescue on sports fields in late summer, commencement of play should be withheld until the following spring to ensure the development of a wear tolerant turfgrass stand. Good turfgrass recovery from wear damage is largely a result of re-growth from meristems located on the crown at 1/3-inch below the soil surface. Kentucky bluegrass is commonly mixed with tall fescue to increase the ability of the turf to spread laterally due to the strong rhizomatous growth of many Kentucky bluegrass varieties. Such mixtures should consist of one or more Kentucky bluegrass varieties in combination with two or more traffic tolerant turf type tall fescue varieties with the following standards (percentage by weight): 85 95% tall fescue; 5 15% Kentucky
bluegrass. A tall fescue and Kentucky bluegrass mixture should be seeded at 4 to 6 pounds of seed per 1000 square feet (175 to 265 pounds per acre), whereas a 100% tall fescue turf should be seeded at 4 to 8 pounds of seed per 1000 square feet (175 to 350 pounds per acre).

Seed mixtures that contain perennial ryegrass as well as tall fescue and Kentucky bluegrass are also used; however, these mixtures are more likely to produce less uniform turf cover. The most uniform appearance occurs when tall fescue is seeded as the only turfgrass or in a mixture with Kentucky bluegrass. Also, perennial ryegrass has aggressive seedling vigor and may dominate in a turf mixture; therefore, the turf will effectively perform as a perennial ryegrass turf and not a mixture. Under an aggressive fertility program (e.g. 5.0 lbs N [nitrogen] per 1000 square feet per year) tall fescue seed mixed with as little as 5% perennial ryegrass can potentially result in a turf that is 90% or greater perennial ryegrass.

Tall fescue may be grown in some rather poor soil conditions and can be maintained at a higher mowing height and a low to moderate level of fertility. Without measures taken to improve the conditions, the overall appearance of turf grown on poor soil will probably not be of high quality. Mowing heights under very low maintenance or poor soil conditions should be 3.0-inches or higher. A mowing height of 2.0-inches can be used when turf-type tall fescues are maintained with moderate levels of fertility and sufficient water. At mowing heights less than 2.0-inches, tall fescue is prone to the invasion of opportunistic weeds such as annual bluegrass (Poa annua) and crabgrass.

Annual N fertilization rates vary depending on the soil fertility, desired turf quality, and the necessity to encourage turfgrass recovery following sports field use. Annual N rates range from 1 to 4 pounds of N per 1000 square feet of turf area. Higher annual N rates may be appropriate for establishing turf or promoting turfgrass recovery on intensively trafficked turf sports fields where recovery from severe wear damage is necessary. Older turf where soil fertility has been improved will generally require lower rates of N fertilization. Applying the majority of N fertilizer in late summer and early fall will improve density and overall health of the turf better than spring application of fertilizer.

Irrigation of tall fescue sports fields is necessary under severe drought conditions to maintain green vigorous growth; however, a healthy tall fescue turf is capable of surviving drought for many weeks by going dormant. Tall fescue drought survival will be best if traffic, insects, or disease are not damaging the turf. Tall fescue turf grown on shallow or poor quality soils will have a limited root system and, therefore, less persistence under severe drought stress.

**Literature Cited**


*Brad Park is the Rutgers University Sports Turf Research & Education Coordinator. You can reach Brad by email at park@aesop.rutgers.edu*
What Time of Day do you Irrigate your Fields?

by Don Savard CSFM*

What time of day is the best time of day to irrigate sports fields? I used to know the answer to that question. Now, the more I learn, the more I realize the less I know! Back when I was a kid and took care of a lawn for an old man who lived on my street (I think that he was in his mid 40’s), he told me not to water his grass during the hot part of the day “because the sun will burn it up”. I soon learned that watering during the day will not burn up the grass. In fact, an advantage to irrigating during the hot part of the day is the cooling effect the evaporating water has on the turf. (The rapidly evaporating water that does not reach the rootzone is also the disadvantage to irrigating during the hot part of the day). Later, I worked for a big national lawncare company that owned big white trucks. The standard “company line” when people asked when the best time to water was “never water at night because of the higher predisposition to fungus diseases”. It even said so in our literature! After I left the big national lawncare company and started attending “outside” training classes taught by the various state cooperative extension service for pesticide recertification credits, I began to learn that there were other ideas as to when to water. Some of them even made a lot of sense.

Now, I have a confession to make. I have never used an automatic inground irrigation system. Never had them in any of the places that I have worked. Instead, I have only used above ground, portable systems. Miles of hoses, numerous stationary sprinklers, traveling sprinklers of all sizes and configurations. When I irrigate my fields, it REALLY takes a lot of time and effort. I found, that in order to make the entire circuit around my fields it took about 3 days. I irrigated from sun up until after sun down, and localized dry areas and areas of wilting turf received additional attention. My thinking became that of survival; that any water was better than no water and that the time of day the water was delivered was of less importance to me under these circumstances. Last year I was able to keep the playing surfaces from going dormant, while there was an incidence of gray leafspot, it was generally confined to a couple of areas. The turf recovered nicely once favorable conditions returned in the fall.

So when is the best time to water? I’m not always sure. I went online, used Google and “polled” the experts. The answers fell into the categories of: anytime (convenience doesn’t hurt anything), 4AM-8AM and 9PM-9AM (good water pressure, less evaporation, less wet leaf time), 8AM-12PM (convenient). Nobody made the recommendation to water in the

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It Takes More Than Sneakers

by Jim Hermann, CSFM*

As we explore the area of infield maintenance, we find ourselves inundated with products and procedures designed to provide professional results. When reading these articles and advertisements always ask yourself about the similarities in your field environment and the environment you are reading about.

A problem with infield maintenance is that many of us are looking for that perfect product that will minimize maintenance along with increasing the quality of the field. In many cases an increase in quality can also serve to minimize maintenance. However, the maintenance that remains becomes more essential.

An example of this would be the procedure of modifying the pitchers mound with clay. Damage caused by the pitcher is minimized, thereby increasing the quality of the mound and decreasing the time necessary to maintain it. However, the maintenance required becomes more imperative. Once a pitchers mound is modified with clay it should be kept covered when not in play. A higher level of expertise is necessary for maintenance. If the mound is not covered and maintained properly any depressions created by the pitcher become wet and sticky.

On a similar note, if you increase the clay content of your infield mix, you minimize the time necessary to maintain the infield in a safe and playable condition. The clay content causes the mix to become more stable. The mix has less potential to translocate to the perimeters and create that lip we are all so familiar with. On the other hand, the infield mix will have the potential to become much harder when it is dry and hold more water during rainy weather than an infield mix containing a higher percentage of sand. This causes a greater need for a more timely and effective maintenance program.

A great deal of caution and judgment needs to be exercised as you continue to search for effective products. There are many products available that are very effective in accomplishing what the manufacturer states they will accomplish. However, they need to be used within the environment for which they are intended in order to be most effective. Ask yourself these questions:

1. Can I cover the infield when it rains?
2. Can I water the infield when it’s dry?
3. Can I roll the infield when it’s soft?
4. Can I scarify the infield when it’s hard?

Have you ever heard this statement? “We use the same infield mix they use at So and So Stadium.” That’s like saying “I wear Michael Jordan sneakers.” It’s just not the same.

It should not be assumed that failure is eminent if the means are not provided to address the four questions posed. What should be understood is that we need to live within our means, so to speak. It makes little sense to anticipate a level of quality that demands a maintenance program that is unattainable. The quality of your program is not a direct result of the products you use, but more a direct result of how you use those products.

Take care when purchasing a product or service that you have the ability to provide the environment necessary to achieve the benefit that you anticipate. When you make decisions on the products and procedures you include in your maintenance program remember this, “It takes more than sneakers.”

Although it is true, you can’t make a silk purse out of a sow’s ear. You can have the finest silk available, but without the proper tools, equipment and knowledge; you will never create that silk purse.

The best way to gain the knowledge necessary in making educated decisions on equipment and procedures used in athletic field maintenance is to become an active member of SFMANJ. This membership puts you in touch with people in your area who have similar interests. By networking with these people through involvement in tradeshows, field days and seminars you will have the opportunity to learn first hand what works and also what doesn’t work in athletic field maintenance. Involvement allows you to profit from the experience of others. This is an invaluable asset.

* Jim Hermann is a Certified Sports Field Manager, on the Board of Directors of SFMANJ and has over 20 years experience in sports field management as President of Total Control Inc.
Question and Answer

Question: This year it seems as though we have a bumper crop of crabgrass. What is the right way to deal with this problem?

Fact: Crabgrass is a summer annual that germinates, matures, reseeds itself and dies within the confines of one calendar year. The seeds germinate and small plants emerge in the late spring or early summer after soil temperatures reach or exceed 55 degrees for an extended period of time. The young crabgrass is coarse textured and light green in color. Initially, as an immature plant, crabgrass really doesn’t seem too competitive or invasive. As it matures crabgrass has a very prostrate or horizontal growth habit, which interferes with the existence and development of desirable turf. These mature crabgrass plants reseed before dying with the first frost thus setting the scene for next year’s generation.

Answer: The correct answer is that there is no single right or correct way to deal with crabgrass. The best answer to this question lies in your ability as a sports field manager to assess your individual turf program and as such the degree to which crabgrass infestation impacts on the objectives of that program.

There are a number of ways to deal with crabgrass control. You can treat in the spring with a preemergent control product or you can treat in the summer or fall with a selective post-emergent product. You can even treat with a product combining both pre and post-emergent qualities thereby extending the application window of that product in the late spring, early summer. In certain situations a non-selective post-emergent (total kill) application is warranted.

Now, what does all this mean? A ‘post’ emergent crabgrass control product is a product that controls the crabgrass after it has emerged and is visible within the stand of desirable turf. A ‘pre’ emergent crabgrass control product is a product that prevents an anticipated infestation of crabgrass by interfering with the seed germination. ‘Selective’ means that you have discretion on what plants you want controlled based on the label of the product chosen. ‘Nonselective’ means you have little discretion on what plants are affected by the application. A complete understanding of the label description of any product is required by every applicator prior to the application of that product. It should be understood that most preemergent crabgrass control products also interfere with the germination and establishment of desirable turf seed.

As a sports field manager, my main objective is to maintain my fields in a ‘safe’ and ‘playable’ condition. If I can’t shut a field down and crabgrass is the only existing turf cover, it would be my decision to leave it. Once this decision is made, a long-term plan would need to be considered in order to correct the problem in the future. This could include a late fall seeding after the cool weather has killed or severely compromised the development and competition of existing crabgrass. Slice seeding is recommended for this procedure. A follow-up application the following season in the late spring of a crabgrass control product would be indicated. This application should be made after the new seeding has emerged and established in the spring.

If in late summer, it is decided that there is a significant amount of desirable turf within an infestation of crabgrass, the crabgrass could be treated selectively with a post emergent product. In this situation overseeding of desirable turf could be accomplished earlier in the fall while still being effective due to the earlier elimination of competition caused by the crabgrass. The crabgrass control product label should be referenced to insure that seeding is not accomplished too soon after the crabgrass control application.

If the field can be shut down for the fall season, the following options exist:

1. If desirable turf is non-existent or at best not worth considering, a non-selective herbicide could be applied to kill all existing vegetation and overseeding accomplished after the label recommended wait time.
2. If there is a significant amount of desirable turf, a selective post emergent product could be applied to eliminate the crabgrass and seeding could be accomplished after the label recommended wait time has elapsed.

The decision would then need to be made on how to deal with the crabgrass problem the following season.

Crabgrass thrives in compacted soil of low fertility and hot dry weather. Providing an environment conducive to an aggressive, healthy turf is the most environmentally conscientious approach to any and all pest control. This environment would include but not be limited to proper soil pH, adequate soil aeration, adequate soil moisture and adequate nutrient availability. An important outside influence contributing to the control of crabgrass is proper mowing management.

Field Tip- A Point to Remember

by Jim Hermann, CSFM

Problem:
When delineating a baseball or softball field or squaring the base paths of an infield, all dimensions initiate from the apex or back point of home plate. The problem for me has always been that once home plate has been installed I cannot drive a spike at that precise location from which to connect the tape measure or string.

Solution:
Take a piece of wood approximately 2’ in length by eight 8” or 10” in width and drill a 3/8” inch hole in each corner.

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