Update
Sports Field
Managers Association of New Jersey

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www.sfmanj.org

SFMANJ Spring Field Day in Hammonton Hits a Homerun

by Don Savard, CSFM*

It was perfect! The weather was warm, the program was terrific and the tours were outstanding. The 2005 Spring Field Day was held in Hammonton, N.J. this year on April 6, 2005. We met under the water tower at the Grounds Maintenance shed at Hammonton High School. Frank LaSasso and his team of Groundskeepers had everything ready for us. While enjoying coffee and donuts (courtesy of GSI Consultants-Turfcon), we visited and got registered. After a welcome and a brief introduction from our President Eleanor Hermann, we started the tour.

Frank LaSasso brought us to his Varsity baseball field and gave us an overview and history of the complex, from peach orchard to school campus, explaining how he and his crew have overcome some of the problems and challenges of a new site. Frank also gave us some tips on how he prepares his baseball field for games. Jim Hermann CSFM-Total Control gave us a very timely presentation on the Ten Points to a Safe and Playable Infield. A good Q&A session followed.

Betts Family from Tuckahoe Sod Farm

Next it was off to the Football Field (one of the best high school fields I've seen) where Frank explained how they keep the field in top shape. Dr Jim Murphy-Rutgers

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Inside This Issue

This newsletter is the official bi-monthly publication of the Sports Field Managers Association of New Jersey.
For information regarding this newsletter, contact:
SFMANJ at 908-730-7770

Co-editors:
Jim Hermann, CSFM and
Eleanora Murfitt-Hermann, CRS

SFMANJ does not necessarily support the opinions of those reflected in the following articles.

Field Day tour included cutting of big roll sod.

SFMANJ Business

Next Board of Directors Meeting –
June 1st, at Rutgers University, Geiger Bldg. at 5PM

Welcome New & Renewed SFMANJ Members

Currently we have 352 members. In the beginning of November, SFMANJ mailed invoices for 2005 membership dues to all current members. If you did not receive an invoice, please contact us at (908) 730-7770 or download the 2005 membership form available at www.sfmanj.org. Remember to mail your renewal/payment direct to SFMANJ, PO Box 370, Annandale, NJ 08801. ◆

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Bosco, Louis	Philadelphia Turf Company
Bullerjohn Jr., Charles	Jonathan Green
Burke, Shane	Jonathan Green
Capone, Michael	The LandTek Group
Childs, Ed	Finch Services Inc.
Connell, Sean	Georgia Golf Construction
Cooper, Jeff	Lawn Connection
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Dykstra, Pieter	Individual member
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2005

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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.

Contact us at:
P.O. Box 370
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National Organization
Sports Turf Managers Association

www.sportsturfmanager.com
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Hermann, Jim CSFM	Total Control
Kalish, CTP, Rich	Farmside Landscape & Design
Koonz, Barbara	Koonz Sprinkler Supply
Lyons, Marty	The LandTek Group
Marcason, Jeffry	Northvale, Borough of
Mathis, Ken	Brick Township

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Morgan, Larry	Tuckahoe Turf Farms
Mulholland, Steven	New Jersey City University
Orgera, Robert	Mendham Borough
Panek, Zig	Monmouth County Parks
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Patterson, Craig	Richard Stockton College
Paul, Albert	Ridgewood Village
Perdomo, Pedro	Rutgers Cooperative Extension
Pierce, Harold S.	Winslow Twp. Board of Ed.
Radcliffe, Ryan	Lakewood Blue Claws
Ravaschiere, Frank	Long Branch, City of
Ryan, Edward	The LandTek Group
Santalone, Jr., Ed	Atlantic Irrigation Specialties
Siegel, Bill	U.S. Athletic Fields, Inc.
Stetser, Scott	Atlantic Irrigation Specialties
Vestal, Charlie	Profile Products
Wilson, Howard	Somerset County Park Comm. ◆

Did You Know?

The only mandatory dimensions on a regulation baseball or softball infield, regardless of level of play are:

1. Distance between the bases
2. Pitching distance

All other dimensions are "recommended" Painting your fairlines on the infield skin will minimize poor playing conditions caused by sticky powdered materials ◆

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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

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 mainly 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 aeravator 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 conveyor 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. 1 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. ◆

White Grub Management in Athletic Field Turf

Biology of the white grub complex **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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Rutgers Corner – Utilizing and Maintaining Tall Fescue as a Sports Turf

by Brad Park, Rutgers University*

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

Murphy, J. and E. Watkins. 2002. Tall fescue varieties for New Jersey. Rutgers Coop. Res. Ext. Fact Sheet FS990.

Murphy, J. and B. Park. 2004. Tall fescue varieties for New Jersey sports fields. Rutgers Coop. Res. Ext. Fact Sheet FS544.

* 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 course 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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Sports Field Of The Year

Proud Of Your Field?

Want to Show Off Your Hard Work?

SFMANJ is inaugurating an annual New Jersey "field of the year" contest.
Individual awards will be presented to the school, and parks/recreation ***Sports Field of the Year***

Entering is easy, send to:
SFMANJ Contest, Po Box 370, Annandale, NJ 08801
Entries must be received by September 30, 2005

Eligibility:
*two categories; School or Parks/Recreation fields only
*current member of SFMANJ
*natural grass fields

Send:
*color photos of your natural grass field (10 maximum)
*name of facility and location
*name of owner
*your name, position and contact number

Criteria for awards:
*playability and appearance of the playing surfaces
*based on photos and a site visit by the SFMANJ Award Committee
*feel free to have sports groups in your photo

Awards:
Winners will be honored with a plaque at New Jersey Turf Grass Expo in December 2005 and be interviewed for a feature article in SFMANJ "UPDATE" (Also receive a two-night stay at Taj Mahl, Atlantic City and three days of education)
Note:
*photos will not be returned and may be used on SFMANJ website and promotional settings. ◆

Aerification and Repair of Athletic Fields

by James A. Murphy*

Regular aerification of the turf and soil is necessary on athletic fields subjected to intense traffic, especially for soils that are highly susceptible to severe compaction. Effective aerification requires the use of equipment capable of extracting ½- to 1-inch diameter soil cores to a depth of at least 2 to 3 inches. Frequency of aerification is determined by the intensity of field use and severity of compaction. High-priority fields that receive intensive use will most likely benefit from two to four aerification treatments per season. The fall and spring seasons are the best timing for this procedure. Removing the cores or working the cores back into the turf minimizes the objections to the soil cores brought to the turf surface. Soil cores can be broken up and re-incorporation into the turf through verticutting or drag-matting the cores. Soil cores dried to the proper moisture content will be easier to break-up and work back into the turf.

Deep Subsurface Aerification. Many old athletic fields that were established on soils that are highly susceptible to compaction will benefit from deep subsurface areification, which will create ½- to 1-inch diameter holes to a soil depth of 6 to 16 inches. This aggressive form of aerification can alleviate deep compaction of the soil, thereby improving water drainage, as well as infiltration and turf performance. The equipment needed is expensive to purchase, however, it can be readily contracted from local vendors. Cost for contracting will vary; but it is commonly priced for pennies per square foot of field area. Treatment with deep aerification equipment has sufficiently improved many older sports turfs and, as a result, helped avoid the high costs of reconstruction. It is important to note that deep aerification will not solve compaction problems associated with improper construction practices (i.e., severely compacted subgrades that limit drainage of water).

Repair. Many factors can contribute to a weakening or loss of turf. But intensive use is often the primary factor associated with severe loss of turf, particularly on finer-textured soils with slow drainage. A good turf can be restored on worn-out fields through renovation procedures, except for the cases that requiring reconstruction (initial construction was incorrect). Renovation may involve eliminating weed infestations, applying lime and fertilizer, aerifying, overseeding/silt-seeding with a mixture of appropriate turfgrasses, verti-grooving, and dragging/brushing to mix the seed with the soil. Because of rapid establishment and excellent wear tolerance, the improved turf-type perennial ryegrasses or turf-type tall fescues should be considered for overseeding or reseeding mixtures. Refer to Rutgers Cooperative Extension publications FS108, "Renovation of Turf," and FS989 and FS990, "Perennial Ryegrass and Tall Fescue Varieties for New Jersey," respectively, for more information. Renovation is an effective means of introducing seed into an existing turf without destroying the existing grasses, grade, or contour. It will not, however, solve drainage problems, which require partial or complete reconstruction. Late summer through early fall is the best time for repairs. Where the field is actively used for football, the procedure can be successfully performed in late fall or early winter; success for this timing is dependent on soil and weather conditions. Early spring would be the next best time for renovating football fields. Where use of the field cannot be restricted to permit adequate establishment of a new seeding, sod should be considered for the establishment of a turf. Please refer to Rutgers Cooperative Extension publications FS105, FS684, and FS738 for more detailed information. These can downloaded for free at http://www.rce.rutgers.edu/pubs/category.asp?cat=5

* Dr. James Murphy is the Extension Specialist of Plant Biology & Pathology, Cook College, Rutgers University ◆

Calendar of Events

Sat. May 21 from 9am to noon - Snyder Research & Extension Farm – Lawn Care Clinic
Topics include lawn mower races, how to mow less, weed control, selecting grass seed, over seeding demonstration, and fertilizing and lining large lawns. Reg. first 150 attendees. $8. Call to register 908-713-8980

August 3rd - Rutgers University/SFMANJ unites to bring you Lawn/ Landscape/Trade Show 8-9am & Equipment Demonstration Field Days. Adelphia Research Farm Reg 7:00am; Lawn & Landscape Section –Tours begin 9am; Lunch provided. Watch for flier

June 3rd - District I meeting held at Sussex Tech, Rt. 94, Sparta Topic: Softball Infield conversion. Be prepared for a hands-on experience. Sponsored by E&M Golf, Total Control Inc., Lofts/Pennington Seed Lunch provided $15 members, $25 non-members. Watch for flier. ◆

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afternoon or early evening (wind and evaporation are problems).

When and how do you irrigate? Please send me your thoughts and comments so that we might establish a forum on this topic. donsavard@msn.com

* Don Savard is a Certified Sports Field Manager, Vice President of SFMANJ and Director of Athletic

Ann Waters of the (PCP) is taking a new position.

Ann Waters of the New Jersey Department of Environmental Protection Pesticide Control Program of is taking on a new position as an Area Planner with the Office of Smart Growth, within the Department of Community Affairs effective April 18, 2005.

Counties came to rely upon Ann's knowledge and expertise in the application of the PCP regulations in her delivery of CORE curricula across the State. Her work with applicators made it a lot easier for them to want to comply with the regulations. She also reviewed the entire Pesticide Applicator Training Website that was constructed to meet the 2001 changes to the PCP regulations.

Ann was appointed a founding member of the Advisory Committee and has been instrumental in reviewing all major documents that we have released concerning NJDEP pesticide regulations. Ann provided leadership for School IPM to succeed in New Jersey. This included her work on 'The Model Plan for School IPM for New Jersey Schools. ◆

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off roots close to the soil surface. The voracious feeding of the larger late 2nd stage and 3rd stage grubs, when combined with hot and dry conditions, can result in quick and extensive loss of turf from late August through mid-October. All cool-season and many warm-season grasses are susceptible to white grubs. Being alert to the signs and symptoms of white grub infestations will help avoid unexpected loss. Early signs of a white grub infestation include gradual thinning, yellowing, wilting in spite of adequate soil moisture, and the appearance of scattered, irregular dead patches. The patches grow and may join together until large turf areas are affected. Due to the grubs' tunneling activity, infested turf feels spongy underfoot and can be pulled up easily, exposing the C-shaped white grubs. Secondary, often more severe, damage can be caused by vertebrate predators (e.g., crows, skunks, raccoons), that tear up the turf to feed on the grubs.

Early detection, sampling and monitoring, damage thresholds

Mid- to late August, when the grubs are primarily 2nd instars, is the time to monitor for potentially damaging white grub populations. The only way to accurately determine the presence of white grubs is through examining the upper 3-4" of soil under the turf. Most conveniently turf/soil plugs are sampled with a standard golf course hole cutter (4.25" diam ~ 0.1 ft2). More tedious is the use of an oversized hole cutter (6" diam ~ 0.2 ft2; "turf mender") or cutting a square-foot sample with a flat-blade spade. The plugs can be broken up and examined on the spot (preferably on a tray). To improve sample survival, split the soil end of the sample first into halves and then quarters and smaller pieces to reveal the grubs that typically will occur near the thatch-soil interface. Record the number, species (check raster pattern with a hand lens), and life stages on a data sheet or map. Place the soil back in the hole and replace the sod cap. Irrigate to promote turf recovery especially when dry. Because white grub populations have a patchy distribution, several samples should be taken in a grid pattern. Rarely does an entire turf area require treatment.

To save time and effort, sampling can be concentrated on suspected infestation areas, high risk or low tolerance areas, or areas with a history of grub infestations. If historical information is not available and/or a more accurate idea of grub distributions is necessary, mapping and surveying is the thing to do. Using graph paper, prepare a general map of the turf area including landmarks. Mark sampling spots at 6-10 feet (lawns) or 10-20 feet (sports fields) apart in a grid pattern. At each spot take a sample and record number, species, and stage of grubs found (also record 0s!). Experienced samplers can process about 20 samples per hour.

To determine whether treatment is required, transform the grub numbers into 'per ft2'-values and compare to damage thresholds. Most published damage thresholds lie in the range of 6-10 (Japanese beetle, oriental beetle, European chafer) and 15-20 (Asiatic garden beetle) grubs per ft2. However, damage thresholds vary considerably with grass species, management type, and climatic conditions. In well-maintained tall fescue plots I have repeatedly observed grub densities in the range of 30 to 60 grubs per ft2 without any signs of turf damage. With experience, turf managers should develop their own range of thresholds for the various turf

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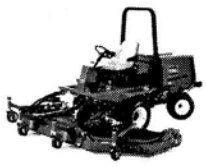

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areas they are responsible for.

Preventative white grub control

The arrival of new insecticide chemistry with long residual activity in the soil in the last few years has added preventative applications as an option in the management of white grubs. The 2 insecticides presently on the market, Merit, a neonicotinoid, and Mach2, an insect growth regulator, can be applied as early as late May and June, respectively, to provide season-long white grub control. If applied that early, various other insect pest can also be controlled (Merit and Mach2: billbugs, annual bluegrass weevil, greenbugs; Mach2: cutworms, sod webworms) or at least suppressed (Merit: chinch bugs). If white grubs are the primary targets, the optimal application time for Merit and Mach2 is June/July when the female beetles are laying eggs. At this time, control efficacy against many white grub species is typically in excess of 90%. As the larvae hatch and go through their 3 larval stages, they become less susceptible to these insecticides (and other insecticides). Applications against the 3rd larval stage in September are not recommended.

Oriental beetle is very susceptible to Merit but MACH2 has only provided 50-60% control on average and should be applied right around peak egg-laying activity. Japanese beetle is very susceptible to Merit and Mach2, and even mid-September applications can still provide around 70% control. Applications after mid-August, however, may not kill the grubs quickly enough to avoid impending damage. Masked chafers are less susceptible to Merit, and where this species prevails, applications should be done during egg laying (June-July) and at the highest label rate. The European chafer appears to be less susceptible to Mach2 and Merit, and applications should be done during the egg laying period (June) and at the highest label rate. The Asiatic garden beetle appears to be immune to Mach2 and Merit.

The obvious disadvantage of preventative applications is that they have to be done before white grub populations can be estimated through soil sampling. Thus, preventative applications are often applied to areas that would need only partial or no control at all. This increases the cost of grub management, resistance development, and may in the long-term dramatically reduce populations of natural enemies by depriving them of prey or hosts. Smart turfgrass manager will restrict preventative applications to high-risk areas, i.e., areas with extremely low damage threshold and tolerance, areas with a history of white grub infestations, and areas with high beetle activity (egg-laying) in June-July.

Curative white grub control

If soil sampling has revealed white grub populations, areas with densities above treatment thresholds or ongoing damage may need to be treated. This curative control approach works best if applied while the grubs are still smaller (i.e., mid August to early September). Monitoring and sampling helps optimize application timing and restrict treatments to areas that actually have high grub populations. Once the grubs have reached the 3rd instar, they are much harder to control. Spring applications (late April through May) are generally the least effective and rarely justified because the grass can outgrow most grub populations. Only extremely high grub populations, unduly stressed turf, or digging grub predators can cause damage at this time. Any necessary treatments need to be applied before the grubs pupate. Due to the annual life cycle of the grubs, areas that had no damaging infestation or were successfully treated in the previous late summer/fall, will not need treatment in the following spring.

For best results with any insecticide, mow the turf and rake out dead grass and thatch before treatment. This will reduce the amount of insecticide bound up by surface debris. Irrigate with 0.5-1" water immediately after treatment (or timely rainfall) to leach the insecticide into the root zone where the grubs are feeding. Irrigation also increases insecticide contact by drawing the grubs closer to the surface. If the soil is very dry, pre-treatment irrigation 1 day before treatment will also increase efficacy by bringing grubs closer to surface and reducing thatch binding and evaporation of liquid treatments. However, do not apply soil insecticides to saturated soil. Also, granular formulations need to be applied to dry grass to allow the granules to sift down into the thatch. Liquid and granular applications are usually equally effective, however, granular formulations may be more forgiving if post-treatment irrigation is delayed.

Successful treatments typically kill 75-90% of the grubs but product performance varies with soil type, thatch thickness, and grub species. Therefore, evaluate treatments and keep record of product performance. While speed

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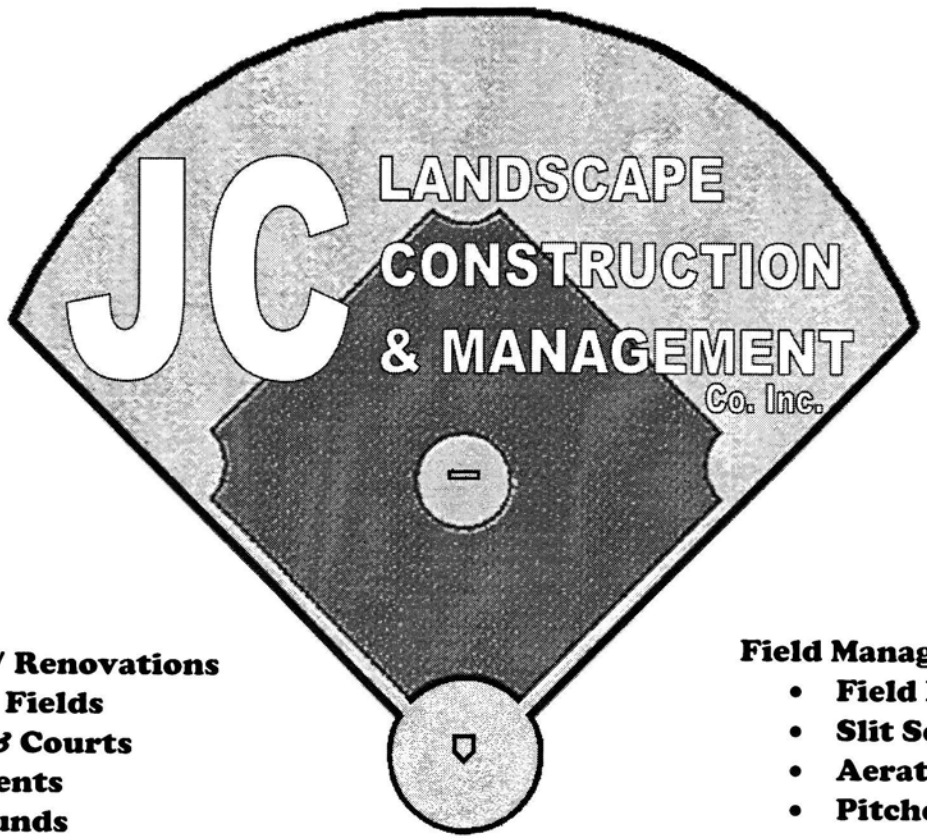

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of kills varies with insecticides, soil insecticide applications never work overnight. Affected grubs usually turn yellow or brown within a week of treatment. Wait at least 1-2 weeks before evaluating. But don't wait longer than 3 weeks to allow for a follow-up treatment if the 1st treatment was ineffective. In the latter case, don't apply the same product again at a rate exceeding the label rate. Rather try a different compound. While development of grub resistance to insecticides is unlikely with the presently used short-residual insecticides, some grub control failures can be caused by enhanced microbial degradation of the insecticide, especially after repeated insecticide use. Avoid unnecessary applications and alternate insecticides.

The range of insecticides available for curative white grub control has already and will continue being effected by the implementation of the Food Quality Protection Act of 1996. Among the organophosphates, only trichlorfon (Dylox) and diazinon (Diazinon) are still available. However, Diazinon production and retail sale is supposed to stop in August 2003. Diazinon may also not be very effective against Japanese beetle grubs. Of the carbamates, only carbaryl (Sevin) is still available but generally does not seem to provide good white grub control. Presently available nematode products for grub control contain the species Heterorhabditis bacteriophora, Heterorhabditis megidis, or Steinernema glaseri. These nematodes can be very effective against Japanese beetle and masked chafer grubs, but are not effective against grubs of oriental beetle, Asiatic garden beetle, or European chafer. While these nematode products have to be handled and stored with more care than chemical insecticides (you are dealing with living organisms!), they have the advantage of no reentry interval due to their non-toxicity. Use of the halofenozide (Mach2) and imidacloprid (Merit) is generally not recommended for curative control. While they

may still provide good overall curative control depending on grub species (see above), their speed of kill is too slow to prevent impending turf damage.

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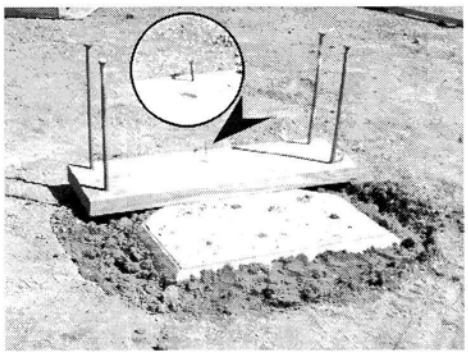
Drive a nail 1" or 2" from the edge, centered on the board from end to end. Allow the nail to protrude through the bottom of the board ¼" or so. File or round the point of the nail to eliminate danger of being stuck by the point of



the nail. Position the board with the nail contacting the home plate at the apex and stabilize the board utilizing landscape spikes. The nail can then be used as a connecting point for your string or tape measure, which can be pulled in any direction from that point.

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