

Every man owes a part of his time and money to the business or industry in which he is engaged. No man has the right to withhold his support from an organization that is striving to improve conditions within his sphere.
Teddy Roosevelt

SFMANJ Invites the green industry to attend:

Third Annual Outdoor Fall Field Day/Trade Show/Equipment Demonstration Day

Tuesday, Aug. 17th, 8am to 4pm
At Plainsboro Twp. Community Park
Plainsboro, NJ

As the green industry becomes more specialized and small organizations become established to provide education for their membership, it becomes more and more difficult for supporters of the industry to remain effective. Like pieces of a pie, each organization establishes its part. As the number of organizations grows, the pieces of the pie grow smaller.

It is only through communication and the cooperation of the entire industry that these individual organizations can benefit their membership without being a drain on an industry that otherwise continues to splinter.

Sports Field Managers Association of New Jersey is one organization that established four years ago based on the need for specialized education in the athletic field maintenance area of the green industry. SFMANJ continues to foster cooperation and communication with other organizations dedicated to similar missions. We are committed to establishing and maintaining lines of communication with these organizations to maximize the benefits of their specialized knowledge and expertise, while at the same time minimizing unhealthy competition that only serves to dilute the potential synergistic development of the green industry.

In view of this concept SFMANJ has, with the support of NJLCA, NJTA, IANJ and NJRPA and Rutgers University made the decision to expand our annual fall field day to include

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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.

an outdoor trade show and equipment demonstration day. The day should prove to be the largest of its kind in the state benefiting not only sports field managers but all those involved in keeping New Jersey green and growing.

By reaching a more diverse audience, commercial equipment, product and service providers will be able to display and demonstrate their wares with more bang for their buck. Spectators will also benefit. The trade show is a tremendous opportunity to visit with a broader based group of suppliers and also have the opportunity to attend educational sessions, which will prove to be universal in benefit. ♦

See Complete Trade Show Description on Page 6.

SFMANJ Business

*Next Board of Directors Meeting –
Aug. 12, Thurs. Storr Tactor at 4:30pm ♦*



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Welcome New & Renewed SFMANJ Members

Currently we have 298 paid members. If you have not seen your name in this newsletter please call (908)730-7770 or email us at hq@sfmanj.org. Take advantage of the August Trade Show and Equipment Demonstration Field Day discount by renewing today. ♦

Tom Barton	Berkeley Heights, Township of
Alan Bodine	Branchburg Township
Dan Callahan	Bernards Township Parks & Rec.
James Campbell	New Brunswick, City of
Bob Grieb	Spring Lake Heights Borough
Robert Hansen	Battery Park City Parks Conservancy
Art Herner	Spring Lake Heights Borough
George Lynch	Red Bank Borough
Dennis Mann	Union Township Board of Education
Tom Mantz	Branchburg Township
Larry Morgan	Tuckahoe Turf Farms Inc.
Dr. James Murphy	Rutgers University
Benito Peta	Professional Aerification Serv. Inc.

(cont'd)

2004

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Brad Park - Rutgers University

George McCarthy - Spring Irrigation Co., Inc.

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TurfCon GSI Consultants, Inc.

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
Annandale, NJ 08801
Web Site - www.sfmanj.org
E-mail - hq@sfmanj.org
Ph/Fax - 908-730-7770

National Organization
Sports Turf Managers Association

www.sportsturfmanager.com
e-mail: SportsTMgr@aol.com
Phone: 1-800-323-3875

SFMANJ Annual Membership Registration Form

* receive update information by email

Name _____

Title _____

Employer _____

Address _____

City _____

State _____ Zip _____

County _____

Phone _____ Fax _____

*E-mail _____

Signature _____

Individual \$35

Associate \$35

Organization/Institution \$35

Additional member from facility \$20

Commercial/Contractor/Vendor/Supplier \$85

Additional member from company \$25

Student \$10

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Annandale, NJ 08801

New & Renewed Members (cont'd)

Alan Phillips

Paul Phillips

Daniel Purner

Randy Rider

Jeff VanAcker

Jack Warner

Professional Aerification Serv. Inc.

Union Township Board of Education

Student

Fisher & Son Co., Inc.

Hardyston DPW

Freehold Township Parks & Rec.

Calendar of Events

Rutgers Turfgrass Research field Days

July 28, Wed.-Lawn & Landscape Section - Adelphia Research Farm. Reg. 8am \$35 reg. includes lunch at 12. – Tour 9am-3pm. Note: First 50 registrants receive a free cap.

July 29, Thurs. - Golf & Fine Turf Research Section – Hort. Farm II-Ryder's Lane, North Brunswick. . 8:30am \$35 reg. includes lunch at 12:30. – Tour 9:30am-3pm
Pesticide Recertification Credits Offered On Both Days.
FOR INFORMATION CALL: Dick Caton (856) 853-5973 or Marlene Karasik (732)932-9400 Ext. 339

14th Annual IANJ Golf Tournament

August 16, Mon. at Royce Brook Golf Club, Somerville. Reg. 10:30am, lunch 11am -1pm, start 1pm, Dinner/awards 7pm. Cost: \$175 per person, \$75 non-golfer. Deadline Aug. 2. Call (973)379-1100

SFMANJ Third Annual Outdoor Fall Field Day/Trade Show/Equipment Demonstration Day

August 17, Tues. – Plainsboro Twps. Community Park. Reg. \$40 members, \$50 non-members Reg. 7:30am, begins 8am-4-m, includes BBQ lunch See front page for details.
FOR MORE INFORMATION CALL (908)730-7770.
Participating organizations are NJTA, NJLCA, IANJ.

New Jersey Recreation & Parks Assoc. Playground Safety Course

For more information call Bill Foelsch (732)568-1270 ♦

Letter from the President

I am very excited to say that our 2003/2004 Membership Recourse Directories have been mailed out. The main person from each organization or company should have received a copy. Because of the high cost in producing the directory, we limited it to the first paying member. If you want more copies we would be happy to send you one for a fee of \$12.00. If you need a replacement binder there will be an extra charge of \$4.00.

Please use this directory to find the products and equipment you need. I encourage you to support our member vendors. Look for fellow sports field managers and professionals to reach out to with your turf problems and product searching. This book is a one-stop shop.

If you did not see your name in the directory, it may be because you did not become a member or renewed your membership in time for this printing. We will send everyone an update in October with any errors and new members. If you are not sure, please call the office or e-mail us at hq@sfmanj.org or (908)730-7770.

Also, I hope you take advantage of the Fall Demo/Trade Show/Education field day on Aug. 17th. Check out the information in this newsletter, sign up now or call if you have questions. This will be our biggest field day ever with the inclusion of NJTA, NJLCA AND IANJ. There will be something for everyone. ♦

Eleanora Murfitt-Hermann

“Rutgers Corner”

Soil pH and Use of Lime

***by Brad Park, Rutgers
Universitypark@aesop.rutgers.edu**

Unfortunately, lime is often applied annually to sports fields for no other reason than, “We’ve always done it that way.” Conversely, some sports field managers are reluctant to apply lime or skeptical of the benefits of applying lime because turfgrass will not show an immediate response to a lime application, in contrast to the rapid growth associated with the application of a soluble nitrogen fertilizer. The purpose of this edition of *Rutgers Corner* is to discuss the concept of soil pH and describe how to utilize liming materials to correct low pH soils.

The basics of soil pH

All soils can be classified as acidic, neutral, or alkaline. Acidity and alkalinity are defined in terms of the hydrogen ion (H⁺) concentration found in pure water. If the soil solution contains more hydrogen ions than are found in pure water, the soil is considered acidic. In contrast, if the soil solution contains fewer hydrogen ions than are in pure water, the soil is considered alkaline. The degree of acidity or alkalinity can be described by a pH range from 0 to 14. Any value below 7.0 is considered acidic; a value of 7.0 is neutral; a value above 7.0 is considered alkaline.

In humid, high-rainfall regions such as New Jersey, soils become acidic through natural processes and human activities. Rainfall will leach elements from the soil such as calcium and magnesium deep into the soil profile and replace them with hydrogen ions from the water. Additionally, use of ammonium-based fertilizers and acid rain contribute to the creation of acidic soils.

Soil pH affects turfgrass health by influencing the availability of plant nutrients as well as elements that can be detrimental to turfgrass vigor. Soil pH can also affect the susceptibility of turfgrasses to certain diseases. Strongly acidic soils (pH ≤ 5.5) may lead to deficiencies in calcium, magnesium, or phosphorous and increase the availability of elements such as aluminum to levels that are toxic to turfgrasses.

In strongly alkaline soils (pH ≥ 8.5), phosphorous can be unavailable to the plant. Interestingly, research has shown that soil pH values above 6.5 appear to enhance summer patch disease development. Kentucky bluegrass is a widely used cool season turfgrass for sports fields in New Jersey and many varieties are susceptible to summer patch. Annual bluegrass (*Poa annua*), while generally considered a weed, is often a species found on sports fields and is also susceptible to summer patch. Repeated annual liming can potentially predispose Kentucky bluegrass (and annual bluegrass) sports fields to summer patch, which can devastate a turfgrass playing surface.

To lime or not to lime ...

To determine whether or not to apply lime to a sports field a soil test must be performed. Soil testing kits may be purchased from a Rutgers Cooperative Extension county office. Each kit includes an information sheet, a questionnaire, and a mailing bag or envelope. The information sheet provided with the soil testing kit describes proper sampling procedures. Additionally, the January/February 2004 issue of SFMANJ Update contains a fine article authored by Clare Liptak detailing the procedures for collecting a soil sample and other rationales for conducting a soil test.

In a standard soil test, the plant nutrients boron, calcium, copper, magnesium, manganese, phosphorus, potassium, and zinc are quantified to determine their availability to a crop, in this case turfgrass. Fertilizer and lime requirements recommended by the Rutgers Soil Testing Laboratory are based on soil nutrient levels, pH, and in some cases, crop management and site

conditions.

Optimally, lime should be applied as part of the turfgrass establishment process, prior to finish grading and turfgrass seeding. Lime should be tilled to a 6-inch depth based on soil test recommendations. In the case of established turfgrass, lime should not be applied in excess of 100 pounds per 1000 square feet.

Very simply, if the results of soil testing determine that a lime application is needed - apply a liming material. If no lime is required - don't apply lime.

Choosing a liming material

When a lime material is applied to soil, it has the effect of neutralizing soil acidity. Calcitic limestone is often referred to as "regular" limestone and is nearly pure calcite or calcium carbonate (CaCO_3). Dolomitic limestone is a mixture of calcium carbonate and magnesium carbonate and can be used when pH is determined to be low and deficient levels of magnesium exist.

Ground agricultural limestone can be used to correct soil pH in turfgrass areas. Depending on the fineness of the material, it may be difficult to spread ground agricultural limestone using a drop spreader because finely ground particles may bridge over the application holes in the spreader. Spinner-type spreaders can be used to apply ground agricultural limestone, however bridging problems may also occur if the hopper is not properly agitated. Because of application problems, pelletized limestone is often applied to turfgrass. Pelletized lime is calcitic or dolomitic ground agricultural limestone that has been aggregated into larger particles to allow for easier spreading through conventional drop and spinner-type spreaders.

Note that the particle size of a liming material will strongly influence the rate in which the material neutralizes soil acidity. While all liming materials are relatively insoluble, materials with finer particle sizes (greater surface area) have an increased dissolution rate in
continued on page 12

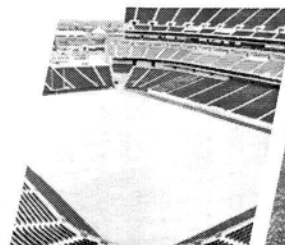
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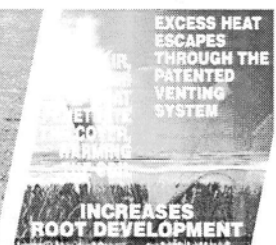
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Field Day Trade Show

Exhibitors/Equipment Demonstrations

See equipment operate under existing field conditions. Discuss your problem fields with contractors who undoubtedly deal with the same problems day in and day out and network with others in attendance. Visit with product suppliers in the trade show area to develop your maintenance strategy for the upcoming season. Equipment, product and service providers will be on hand to display and or demonstrate their merchandise. A review of our preliminary list of exhibitors will confirm; if you're in the market for a type of equipment, service or product, this field day will prove to be a productive and informative day. Please call, email or fax the SFMANJ office if you have an equipment or product request.

Below are exhibitors whose applications we received in time for this publication. See more on our website www.sfmanj.org as time nears.

- **TERRE COMPANY OF NEW JERSEY** Wholesale Suppliers of Turf Products for Sports Fields. "Committed to keeping your sports field's SAFE and looking great all season long".
- **LEVITT'S LLC** Supplier of turface, grass seed, fertilizers, herbicides, field marking lime and paint, lime, hydromulch, hand-tools and related landscape supplies.
- **WILFRED MAC DONALD** For all of your Sports Turf needs, products such as Jacobsen, Smithco, Turfco, National, Kubota and Signature Irrigation Control Systems. Starting back in 1928 Wilfred MacDonald Inc. has worked diligently to identify and provide solutions to the Turf Equipment needs of you, our most valuable customers.
 - **Demonstrating:** Turfcut, Super Rake and Top Dresser
- **HOLMES & MCDOWELL INC.** Insurance Providers for the Green Industry.
- **NATIONAL SEED** Professional Turf Products specializing in quality grass seed to meet all your turf performance standards, carrying a full line of quality mixtures especially formulated for Sports & Athletic Fields, low maintenance areas, general grounds, golf, lawn and reclamation. Technical agronomic support and custom blending available.
- **TURF SPECIALITIES INC.,** Thatch Masters are used from coast to coast by many municipalities, golf courses and professional sports fields. Some users are the Broncos, Steelers, Bengals, U of Texas, U of California and the Padres.
 - **Demonstrating:** Thatch Master TM72 verti-cut.
- **E & M GOLF SUPPLY** Local dealer/contractor for the water Wick Turf Drainage System. The Water Wick gravel injection system dramatically improves drainage without disturbing the playing surface.
 - **Demonstrating:** Water Wick and STH36 36 inch RotaDairon attached to a mini-skid steer
- **DVH ATHLETIC TURF...**"Building Turf is our game!" *Renovation & Construction Services:* Design/layout, top-soiling, soil amendmets, laser-guided grading, in-field mix, sod/seed, pitcher's mound & batter's box construction. *Turf Management Services:* Fertilization programs (also Organic), core aeration, slice-seeding, insect & disease monitoring, IPM, organic treatments.
 - **Demonstrating:** Lazer Guided Grader
- **BEN SHAFFER & ASSOCIATE** Represents nationally known manufacturers of sports goals and nets, equipment boxes, bases, home-plates and pitching rubbers, water fountains, players benches & bleachers, park playground and streetscape solutions.
- **FISHER & SON CO., INC.** The "Green Industry Supplier" Superior products for the Sports Turf Manager and Horticultural Professional. EarthWorks natural organic products, Grigg Bros. "Simply put, this fertilizer has no equal."
- **LYONS & LYONS SALES CO., INC.** Bannerman Sports Field Equipment. Groomers-Topdressers-Seeders-Aerifiers.
 - **Demonstrating:** Bannerman Diamond Master-Ball Diamond Groomer

- **AER-CORE, INC.** Athletic Field Aeration Specialists; Deep-Time, Drill & Fill, Slice & Fill SandMaster, Topdressing, Re-Grassing. Also, sales of deep-tine aerators, topdressers and Blec products.
 - **Demonstrating:** SandMaster Slice & Fill Machine and Deep-Tine Aerator
- **HUSTLER TURF EQUIPMENT** Zero Turn Mowers from 44" to 72" cut; Mini "2", Hustler "2", Super "2" 15 mph ZERO TURN Mower
- **KOONZ SPRINKLER SUPPLY INC.** Supplier of irrigation and Turfgrass products. "Rain Bird"
- **PRIDE LANDSCAPE SUPPLY CO.** Big or small Dingo does it all, trenching, augering, moving of material to excavation.
 - **Demonstrating:** TX 425 / Vibatory Plow, Auger attachment and trencher attachment.
- **PROFESSIONAL AERIFICATION SVCS. INC.** New aerification choice in the sports field industry. We can provide the following services - Deep-tine vertidrain, aerovator and seed, bulk spread topdressing or fertilizer. Pro-Aer will also offer core pulverizers & core cleanup. All work completed by previous 16 year Golf Course Superintendent Benny Peta.
- **MILLCREEK MFG.,** The Turf Tiger from Millcreek is unlike any other topdressing equipment on the market. The large 7500lb. capacity handles 2.5 cubic yards or more depending on material. With the Sabre Tooth attachment you can spread many kinds of material wet or dry.
 - **Demonstrating:** Millcreek Turf Tiger (Top Dresser)
- **SEKELY INDUSTRIES, INC.,** Don't miss VersaGrader, the perfect infield groomer. An exclusive patent-pending balance equalizer system maintains desired leveling angle even when the pulling vehicle goes over a bump. Unique double-V leveling system cuts through high spots as it levels and redistributes soil to a finish grade. Choose from 3 models.
 - **Demonstrating:** VersaGrader
- **STORR TRACTOR COMPANY** will demonstrate the difference between cam type and oscillating tine aerators and also show the newest Irrigation Equipment available.
 - **Demonstrating:** Toro Groundsmaster 3500 mower, McCormick GX50 tractor/Toro Procore 660 and Aeravator AE60 tine aerator.
- **THE GARDEN STATE BOBCAT GROUP** New Jersey's leader in compact equipment. Our Bobcat product line consists of mini-excavators, skid-steers, compact track loaders, backhoes, and the "New" Toolcat. Our Ingersoll-Rand product line consists of air compressors, concrete equipment, generators, reach-fork lifts, light towers and compaction equipment
 - **Demonstrating:** T300-Track Loader/ Dozer Blade, Toolcat /Soil Conditioner
- **JOHN DEERE** A manufacturer of Agricultural, Construction and Commercial and Consumer Equipment. Equipment at the field event will include Compact Utility Tractors, Commercial Mowing and Utility Vehicles. A wide variety of implements will be on display with the equipment present.
- **KPM EXCEPTIONAL DISTRIBUTORS INC.** SCAG Commercial Mowers & Exmark Mfg. Co. Mowers available at FORDS Lawnmower (Local Dealer)

Please Support Our Vendors

Backhoe-Operating Contest

"Test your skill" against other equipment operators. Who will walk off with the trophy and prize money? A ten-dollar entry fee will give you the opportunity to operate the backhoe entry of your choice and see how your skill measures up. As a timed event, you will

use your abilities as an operator to scoop up and deposit a number of plastic balls in a basket utilizing the 1' dipper bucket on the rear of the backhoe. The fastest time wins. The winner will receive a trophy and a minimum of \$100 in prize money. You may enter as many times

as you like. All proceeds for the backhoe-operating contest will support the SFMANJ scholarship program. Contest rules and entry form will be available the day of the contest at the trade show registration table in the trade show area. ♦

Field Day Educational Sessions

1. Laser Grading; the Technology, the Equipment, the Application

Laser grading is fast becoming the standard for accuracy in all grading applications. Whether you are involved in grading the skinned infield area of a baseball field to maintain positive surface drainage or site development for a new corporate headquarters, laser-grading technology is being specified and requested more and more. Both speed and accuracy are the products of this system. Learn basic concepts to practical application in this informative class taught by Keystone Precision Instruments.

2. Mid Size Equipment Operation and Safety

Whether you operate a skid steer loader in the landscaping and construction industry or a mid size tractor in the implementation of your athletic field maintenance program, proper maintenance and safe equipment operation is universal. Every year more and more injuries occur due to unnecessary accidents. Learn national standards of safety and maintenance as required by the Certified Landscape Technician Exam.

3. Intermediate Walk Behind and Riding Mower Operation & Safety

Your turf maintenance crew spends more man-hours either on or behind a mower than at any other task. As we strive for quality and efficiency in the day-to-day operation of our turf maintenance program, we sometimes fail to think about the basics of both safety and maintenance of our mowing equipment. As a refresher for crew leaders or as an introduction for new employees, this class is highly recommended. This class will review mower maintenance and safe operation based on national standards set forth by The Certified Landscape Technician Test Committee.

4. Playground Safety

Learn from a Certified Playground Inspector how to limit your liability and provide a safe atmosphere for the children and parents in your community. Become skilled at noticing potential hazards as Keith Sacks of Game Time-Marturano Recreation Company evaluates the Plainsboro Community Park playground and brings to light the potential dangers involved in improper installation and maintenance of playgrounds.

5. Five Points in a Quality Irrigation Installation

The planning is done. Approval has been secured. The bid has been awarded and construction has begun; this seminar will give you the knowledge to insure you are getting a quality installation of your new irrigation system. It is always easier to get it done right than to correct mistakes at a later date. Bill Wise of Rain Bird Irrigation Company will cover 5 points you can keep your eye on as your irrigation system goes in the ground to insure good performance and long life for this important investment. ♦

One on One Demonstrations

Last but not least there will be time allotted for spectators to spend time with the equipment dealers and operate any of the equipment being demonstrated.

Come show your support to the industry. Registration information can be downloaded from www.SFMANJ.org on the web or see page 17. ♦



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Mowing Management, Maintaining Your Turf at the Height of Quality

*by Jim Hermann, CSFM
hq@sfmanj.org

"Don't ask me, I just mow the lawn". Although thought of by many as a menial task best left to persons whose desire for professional accomplishment falls short of those who have walked the halls of our fine institutions of higher education, proper mowing management is an art form imbedded in science yet perfected through experience and wisdom.

It's easy, right, a no brainer. Just follow a few simple rules and you've got a well manicured, properly maintained complex.

The following is a mowing specification I received for maintenance of a commercial office complex:

1. Lawn shall be maintained at a mowed height of two (2) inches
2. Mowing shall be accomplished on a once per week schedule
3. No more than 1/3 the leaf blade shall be removed at any one time.

What's wrong with this picture? You can't specify the height of cut, the mowing frequency and the portion of cut. You can specify any two but not all three

Knowing that the person who wrote these specs was a bean counter sitting in a cubical in Kansas and being fairly certain no one would be walking the lawn with a ruler, I bid the job for weekly mowing. After being awarded the contract, I threw away the specs and mowed the lawn at the height necessary to maintain a quality appearance and a once per week mowing frequency.

Please understand I am in no way condoning disregard for specifications but I do believe the contracting party, as always has a responsibility to provide potential service providers with effective, doable specifications.

The preceding specifications are just one example of the simplistic thinking and lack of understanding maintained by many people associated with proper mowing management.

Mowing management remains the most important aspect in developing the level of quality achieved on your athletic turf. Improper mowing will diminish the

results of an otherwise effective overall management strategy.

Here's much of what science has to say about proper mowing technique:

1. Never remove more than 1/3 the leaf blade at any one time
2. Always mow when the grass is dry
3. Always mow with sharp mower blades

Here's an approach to applying these 3 little rules:

Never remove more than 1/3 the leaf blade at any one time. Most cool season turf prefers a mowing height between 1.5" and 3". Perennial rye can be maintained comfortably on the low side of this range. Blue grass falls in the middle and tall fescue prefers to be maintained on the higher side of this range. That's only half the equation. What are your capabilities? How often can you mow? Maintaining turf at 1.5" under average fertility conditions would require mowing every other day in order to even come close to following the 1/3 rule. You would only be removing 1/2" or so per cut. If you attempt to maintain turf at a lower height of cut than would be dictated by the frequency, you only serve to stress the turf by removing too much green leaf and also cause an excessive buildup of clippings. Fertilizing to improve the quality and density of turf, which is stressed due to improper mowing management, only compounds the problem. Mowing must come first.

In my opinion, in order to maintain an acceptable degree of turf density and playability, recreational athletic turf must be mowed twice per week or once every 3 to 4 days. In my experience this mowing schedule has limited turf to a mowed height of approximately 2.5". Maintaining a mowed height much higher than 2.5", the leagues become upset and the turf loses density. At a lower height I accumulate clipping. A couple options available in dealing with clipping accumulation caused by improper mowing frequency are clipping removal and double cutting or mowing twice on the same day. In either case

you are attempting to put a band-aid on the most limiting long-term problem you are causing which is turf stress. This turf stress is due to removal of too much green leaf. By collecting and removing clippings you are adding insult to injury by eliminating the recycling of nutrients held within the clippings.

Always mow when the grass is dry. Yea right. Sounds good from where I sit. Realistically, always mowing when the grass is dry can't be done with any degree of consistency. When confronted with this dilemma and given the option, I try to mow common ground when it's wet and attempt to allow the playing areas to dry out. If I have to mow playing areas when they are wet I try to alternate areas so that the same areas are not always mowed wet. Every area takes its turn.

The following comments are in reference to rotary mowers although much of the same can be said for reel type mowers.

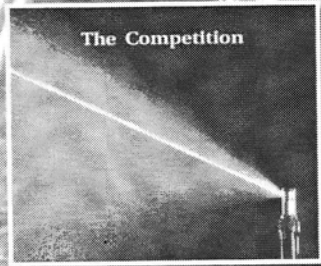
Always mow with sharp mower blades. Again, this would seem a logical observation. The sharper you maintain your mower blades, the better the quality of cut. Dull mower blades tend to rip and shred the grass blade as apposed to cutting it clean. In addition to increasing the potential for fungus in damp conditions, shredding of the blade tips also becomes a consideration as the weather becomes more hot and dry into the summer months. Under certain conditions turf mowed with dull blades tends to acquire a whitish cast or hay like appearance due to desiccation and drying out of the shredded blade tips. Transpiration or loss of moisture through the leaf is increased as the exposed surface area of leaf tissue is increased due to shredding. The clean cut provided by sharp mower blades reduces this moisture loss thus aiding in drought tolerance of the turf.

Along with the agronomic benefits of maintaining sharp mower blades, a faster mowing speed may be maintained while still providing a quality cut.

A grinder designed for the task of sharpening blades is highly recommended as apposed to a typical bench grinder or hand held grinder. Blade sharpening grinders typically have a table designed to help stabilize the blade during the sharpening process thus providing a truer grind and more consistent bevel. They also have a larger diameter grinding wheel with a courser texture that rotates at a slower RPM when compared to a typical bench



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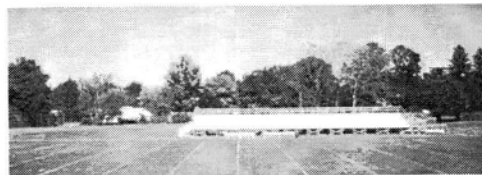
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or hand held grinder. The larger diameter wheel provides a more appropriate bevel to the blade. The slower rotation speed and courser textured wheel help to maintain blade temper by minimizing heat and as such minimize blade wear. In addition to maintaining a sharp edge, blades should periodically be checked for balance and trueness. There is nothing more obvious on an otherwise well manicure field than either dull blades or a bent blade. I know of businesses that sharpen blades every day. I would recommend sharpening every sixteen to twenty hours of use. Under no circumstances would I allow blade sharpening to go more than once per week under normal use.

In addition to blade quality the mower deck should be cleaned. Accumulation of clippings under the mower deck interferes with proper airflow, clipping discharge and quality of cut.

In order to optimize efficiency when mowing, I typically choose to maintain common ground at a higher height of cut thus allowing for a once per week mowing frequency while mowing the playing areas lower and more frequently. This only works if the mowing height of your machine can be adjusted efficiently without too much down time. On one site in particular due to budgetary restraints I was mowing the entire complex on a 4 – 5 day schedule in an attempt to keep the playing areas under control. At this mowing frequency I was unable to maintain the mowed height of the playing areas at 2.5" without excessive clipping accumulation. For this reason I started mowing the playing areas on a 3 – 4 day schedule at 2.5" and extended the frequency on the common ground to once per week (every other mowing of playing areas) while increasing the mowed height to 3.5". I managed to maintain the same number of man-hours per month, keep costs within the budget and increase the quality of the playing areas. The common areas showed little change in quality. If anything the common ground improved in quality and appearance due to reduced turf stress and less clipping buildup.

I believe turf maintained at a higher height of cut will maintain better density and quality as long as the 1/3 rule is followed, than would turf maintained at a lower height of cut while not following the 1/3 rule.

For me, a ¼" mowing height adjustment dictated by varying environmental conditions in combination with slight modifications to the mowing schedule have proven to be the greatest asset in maintaining a quality athletic turf. In order for this strategy to work mowing must be a priority in your work schedule.

If you are like most and maintain your athletic fields within a five-day workweek, you are limited in scheduling options if you intend to mow on a 3 or 4-day schedule. First, save Wednesday as a rain day. Monday & Tuesday, Thursday & Friday are mowing days. If you mow on Monday, you can either mow Thursday or Friday. If you mow Tuesday, you are limited to your follow up mowing being Friday. If you mow Thursday you are limited to your next mowing being Monday. If you mow Friday, you can either mow Monday or Tuesday.

"Tricks of the trade" for maintaining the appearance and playability of your turf

when mowing on a 3 – 4 day schedule.

1. Prioritize between playing areas and common ground.

2. Watch the weather reports and vary your Monday – Tuesday or Thursday - Friday mowing day based on the forecast

3. If growth patterns allow, you can lower the height by ¼" on the 3 day cycle to gain some wiggle room in the schedule

4. If you mow in the rain, or when the grass is excessively wet, you can raise the height ¼" to minimize clumping and lower it back on the next 3 day cycle

5. If clippings start to accumulate you can mow 3 consecutive 3-day cycles to help eliminate excessive clippings. (Tuesday, Friday, Monday, Thursday.) In this situation you would have to mow the following Monday to maintain a maximum of 4 days between mowings.

6. If you miss a day, raise the height ¼" the following day and lower it back on the next normally scheduled mowing day.

7. As growth slows later into the summer and again in late fall move to a 4 – 5 day schedule by mowing Friday, Wednesday, Monday, Friday (in that order). It's the only way to maintain a 4 - 5 day mowing schedule without mowing on the weekend. Only every other week requires two mowings,

providing substantial labor savings while maintaining turf quality.

Regardless of what type of turf you maintain, when it comes to mowing management, "the proof is in the putting".

*Jim Hermann is President of Total Control Inc., Athletic Field Management and Consulting. ♦

Don't Miss the 2004 Rutgers Turfgrass Research Field Days!

by Brad Park, Rutgers University
park@aesop.rutgers.edu

The 2004 Rutgers Turfgrass Research Field Days - "The Finest Programs in the World" – are an annual highlight on the calendar of events sponsored by the New Jersey Turfgrass Association and the Rutgers Center for Turfgrass Science. The Lawn and Landscape Field Day will be held **Wednesday, July 28, 2004** at the **Adelphia Research Farm**. Registration will begin at **8:00 am** and the first 50 registrants will receive a free cap. Presentations will be given on a wide range of topics including turfgrass species that are commonly utilized on New Jersey sports fields and the latest weed control programs and products. Research plot tours will conclude at 3:00 pm.

The Golf and Fine Turf Research Field Day will be held on **Thursday, July 29, 2004** at **Hort. Farm II – Ryders Lane** in North Brunswick, NJ. Registration will begin at **8:30 am**. Tours will end at 3:00 pm.

A separate \$35.00 fee (includes lunch and morning coffee) will apply for each day, but those who wish to attend both Field Days may do so. **Pesticide recertification credits will be offered on both days.** For additional information please call Dick Caton 856-853-5973; or Marlene Karasik 732-932-9400 x 339.

Also, it's never too early to mark your calendars for the **New Jersey Turfgrass and Landscape Expo 2004**. Expo 2004 will be held **December 7, 8, and 9, 2004** at the Trump Taj Mahal Casino-Resort in Atlantic City, NJ. ♦

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continued from page 5

soils, and therefore will have the effect of neutralizing acidity more quickly than a coarser grade lime source.

Burned lime and hydrated lime are other liming sources. These materials are not generally recommended for use in turf because of their caustic properties for applicators and their potential to cause burn on turfgrasses.

Calcium carbonate equivalent (CCE)

The lime requirement given in the soil test results by the Rutgers Soil Testing Laboratory and other labs is based on the use of pure calcium carbonate, which is assigned a relative neutralizing value of 100%. Therefore, a liming material that has the same neutralizing potential as pure calcium carbonate is said to have a calcium carbonate equivalent (CCE) of 100%. If, however, the CCE of the liming material chosen does not have a CCE of 100%, the amount of material to be applied must be adjusted to raise the soil pH to the desired level.

For turfgrass sites, lime requirements made by the Rutgers Soil Testing Laboratory are based on pounds of limestone (CCE=100%) required on a 1000 square foot basis necessary to raise soil pH to 6.3.

Based on the CCE of the material being used to lime a turfgrass area, the amount of material needed can be calculated in the following manner: Liming material needed = (Soil test recommendation/CCE of liming material) X 100

Tying it all together

An example of a soil test recommendation for the establishment of a sports field based on a determined soil pH of 5.35 is as follows:

The soil test indicates a strongly acidic soil, of which the pH is below the best range for the growth of most turfgrass. This soil should be treated with 95 pounds per 1000 square feet of limestone. Spread uniformly on the surface, then mix thoroughly to a 6 inch depth by shoveling or tilling.

In the case of this example, if the liming material available for use has a CCE of 85%, then the actual amount of material needed to be applied per 1000

square feet based on the lime recommendation is: $(95/85) \times 100 = 112$ lbs liming material per 1000 square feet.

In the case of established sports fields and other turfgrass sites, lime requirements are often specified such that the amount of lime required is applied over multiple applications.

Literature cited

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Plaster, E.J. 1992. Soil science and management. Delmar Publishers, Inc., Albany, NY.

**Brad Park is the Sports Turf Research & Education Coordinator for the Department of Plant Bio/Pathology, Rutgers University ♦*



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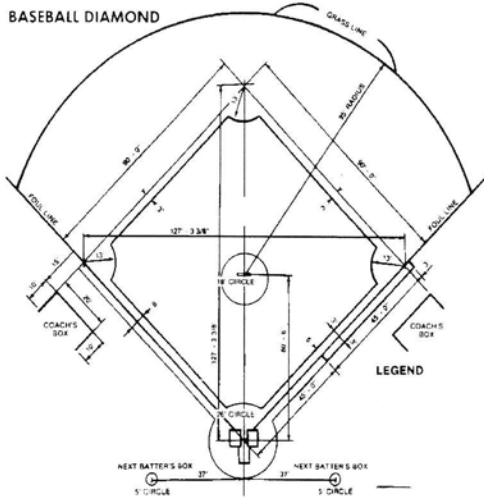
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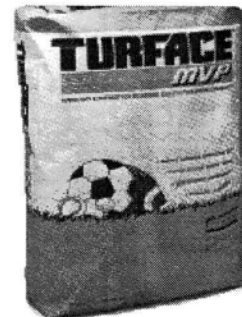
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Turf-Tec Digest For Golf Course Superintendents and Sports Turf Managers

By: John Mascaro Volume 10 Number 2 – July 2004

Diagnostic tests and you.

There are a lot of Infiltrometers out there that you people have purchased and let's face it; some of you are letting them get dusty. I have a vision I would like to share with you. Diagnostic tools are not for the superintendent. They are designed for the assistant superintendent. They are a learning tool for the assistant and a way to find out the soil health for the superintendent. The ideas behind the tools are to give the superintendent real number to base cultural as well as financial decision upon.

The superintendent should have a schedule of diagnostic tasks that the assistant superintendent should do and then create a report to give to the superintendent.

A sample schedule would be as follows:

Daily: Moisture Sensor Readings – to be done by the irrigation technician and readings presented to assistant superintendent. The moisture sensor readings should be done at the one, two, three and four inch level in three different areas on each turfgrass area. In addition if any discolored areas are seen, they should be checked and recorded. These reports should be reviewed by the assistant and a summary given to the superintendent.

Monthly: Infiltrometer readings – These tests should be performed by the assistant superintendent and the final report should be given to the superintendent.

Monthly: Penetrometer readings – These tests should also be performed by the assistant superintendent and the final report should be given to the superintendent.

I have created an Excel Spreadsheet that contains all the necessary information to fill out. The file can be downloaded and the pages printed out, taken into the field on a clipboard, filled out by the assistant and then the data can be entered into the computer. The program will automatically calculate the average of all areas tested.

To view the page about the spreadsheets, go to

<http://www.turf-tec.com/Download.html>

To directly download the Excel spreadsheets, go to

For Golf Course Superintendents:
<http://www.turf-tec.com/Excel/Golf-Tests.xls>

For Sports Turf Managers:
<http://www.turf-tec.com/Excel/Sports-Tests.xls> ♦

Rutgers October Sports Turf Workshop 2004

By Brad Park, Rutgers University
park@aesop.rutgers.edu

Rutgers University will be hosting a Sports Turf Workshop in cooperation with Sports Field Managers Association of New Jersey on **Thursday, October 7, 2004 at Hort. Farm II in North Brunswick, NJ.** Highlights of the day will include field tours of

turfgrass traffic tolerance research and variety trials and the opportunity to receive pesticide credits. Lunch will be included with registration.

Keep an eye out for a promotional flyer in the mail and a schedule of events including a start time in the next newsletter.

'Sports Turf Drainage'

by Dr. James A. Murphy,
Specialist in Turfgrass
Management

Adequate drainage is essential to maximize field use, minimize maintenance problems and provide a desirable environment for turfgrass growth. The main idea in planning drainage is to protect the playing surface from excess water. Many fields attempt to accomplish this by surface flow (drainage). Catch basins and surface inlets (vertical drains) are used around the perimeter of the field to move the excess water away.

Techniques used to protect the root zone from becoming waterlogged include subsurface pipe to intercept a rising water table and vertical or slit drainage (shallow and very close spacing). High sand content root zones work quite well since the depth of the root zone aids in displacing the soil interface deeper so that saturated conditions would mostly occur well below the depth of turf rooting. Root zones constructed from native soil (often problematic) work by encouraging surface runoff (centerline to sideline paths for water flow off field).

Both internal and surface drainage must be considered. Good internal drainage allows excess water to move out of and away from the surface layer where it could be a problem. Surface drainage is sufficient when excess rainfall can runoff the surface layer. Turf areas with minimal surface drainage require high infiltration and internal drainage.

Good surface drainage requires a slope of 2% (1 foot fall over 50 feet). A 1% slope can be effective; however, any imperfections (depressions) along the run of the slope will likely pond water under high rainfall. When surface drainage is inadequate and internal drainage can not removed the

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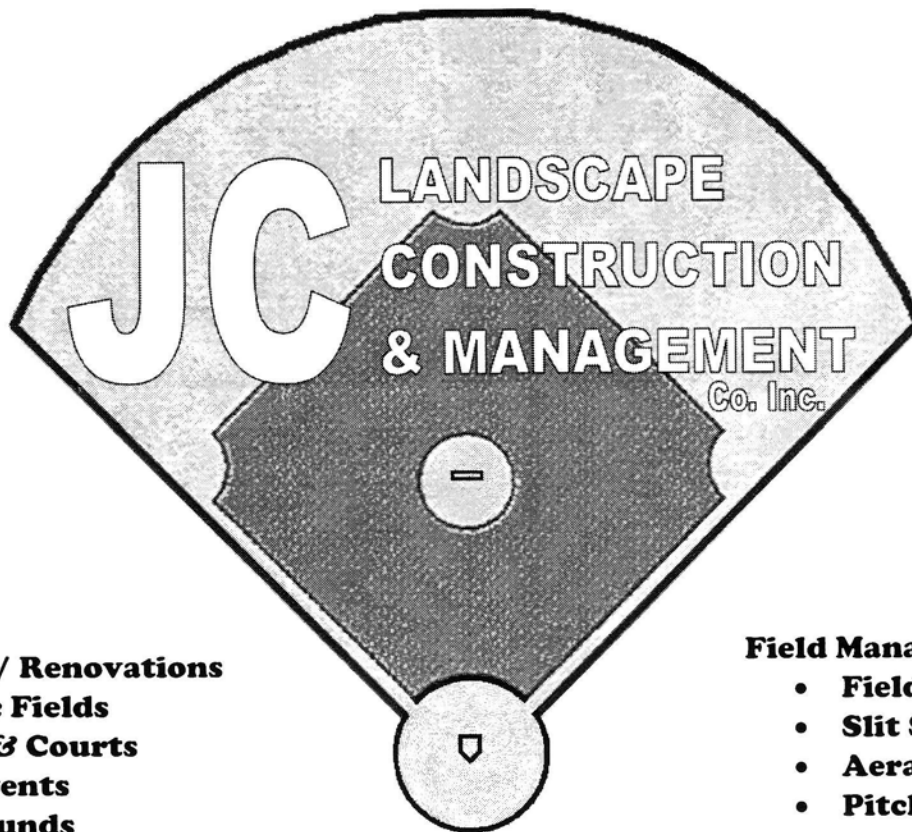
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excess water, vertical drains are necessary to remove the surface water.

Cross drains and perimeter drains are two types of vertical drains. Cross drains are a corrective action used when adequate surface drainage does not exist. Cross drains are placed directly on the playing surface to prevent water from accumulating and running to low portions of the playing surface. Cross drains can be as simple as silt trenches filled with a uniformly sized coarse sand or fine gravel, or prefabricated drains within the trenches. To be effective the trenches need to be open to the surface, thus the trenches should be back-filled to the surface with a readily draining material (i.e., sand, fine gravel, etc.). Covering with a finer-textured soil will seal off the trenches. Slit trenches of various widths and depths have been used successfully to improve surface water conditions. Typically, the trenches are no more than a couples inches in width.

Perimeter drains are placed outside the playing field areas to collect surface runoff (surface inlets) and move the excess water away. Cross drains may be connected with perimeter drains to the direct excess water away from the field.

Subsurface drain tiles are used in fine- and medium-textured soils to lower a water table that is too near the playing surface. Very wet (saturated) soil conditions must exist before water will move from the soil into the drain tile. Therefore, placing drain tiles at hallow soil depths will do little to create drier soil conditions. ♦

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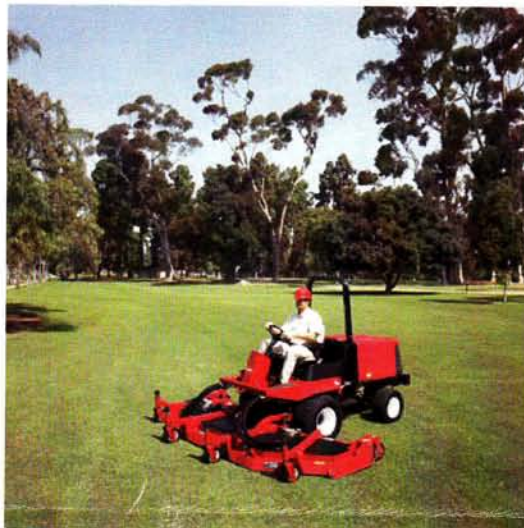
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