

UPDATE



July/August, 2007 • Vol. 7, No. 4
e-mail: hq@sfmanj.org • www.sfmanj.org

SFMANJ to Sponsor Tradeshow & Outdoor Equipment Demonstrations at Rutgers Lawn, Landscape, and Sports Turf Research Field Day

Wednesday, August 1, 2007 - Rutgers Adelphia Research Farm, Adelphia, NJ

By Jim Hermann, CSFM

Sports Field Managers Association of New Jersey (SFMANJ), in cooperation with Rutgers University, and New Jersey Turfgrass Association (NJTA) is sponsoring a Summer Tradeshow / Outdoor Demo Day. Our tradeshow will be held in conjunction with the Rutgers Lawn, Landscape, Sports Turf Research Field Day at the Rutgers Adelphia Research Farm in Adelphia New Jersey on Wednesday, August 1, 2007.

The tradeshow will highlight product suppliers from all across New Jersey and beyond. If it is available in the marketplace you will have the opportunity to view it first hand. Attendees will not only have the opportunity to inspect products, but also view those products selected for demonstration under actual working conditions. The field day is the only tradeshow in New Jersey which also offers outside equipment demonstrations.

Our tradeshow is built around the Rutgers Lawn, Landscape, and Sports Turf Research Field Day. During the walking tour, attendees will have the opportunity to view firsthand, major advances in turfgrass breeding. See tomorrow's cultivars today.

Dr. Steve Hart will be on hand to provide useful information on new herbicides available for athletic field and landscape turf. New product lineups are sure to help improve current weed control strategies and effectiveness on your facilities

Dr. Albrecht Koppenhofer will discuss identification and control of major insect pests. This information is critical to managing quality sports turf.

Dr. Bruce Clarke will discuss the latest strategies for disease control on sports and landscape turf.

So, don't miss out on a day of equipment demonstrations, new product reviews, informative discussion and always, good food and hospitality.

Pesticide recertification credits will be offered.

*Jim Hermann, CSFM is a Certified Sports Field Manager;
President, Total Control, Inc.;
and a member of the SFMANJ Board of Directors.*

The schedule for August 1 is as follows:

7:30 am	Registration and Trade Show Opening
8:45 am	Welcome
9:00 am	Research Tours
11:00 am	Lunch and trade show
12:00 pm	SFMANJ Equipment Demonstrations
2:00 pm	Research Tours
3:00 pm	Conclusion – pesticide credits

For more information log on to www.sfmanj.org or www.njturfgrass.org.



Mowing equipment from various manufacturers will be on-display and demonstrated during the SFMANJ sponsored tradeshow and equipment demonstrations at the 2007 Rutgers Lawn, Landscape, and Sports Turf Research Field Day at Adelphia.



Deep tine cultivation equipment has been demonstrated at previous SFMANJ-sponsored events. Don't miss Wednesday, August 1, 2007 at Adelphia, NJ.



**Loads faster. Cleans faster. But please,
no hugging the line painter.**

© 2011 Toro



*Toro®
products available*

Toro® just made line painting a whole lot better from start to finish. Introducing the Toro Line Painter 1200 with an innovative Express Clean System that cleans out up to 5-times faster. Meritline, its Floating Spray Head, leaves consistent lines even on your roughest fields, spraying from the front, back, left or right. To find out more visit torosports.com/linepainter

Stor-Tractor Company
Branchburg, NJ 908-722-9630



Court on It.

WELCOME NEW & RENEWED SFMANJ MEMBERS

Currently we have 295 new & renewed members. In November 2006, SFMANJ mailed invoices for 2007 membership dues to all current members. If you did not receive an invoice, please contact us at 908-730-7770 or download the 2007 membership form available at www.sfmanj.org. Remember to mail your renewal/payment direct to SFMANJ, PO Box 370, Annandale, NJ 08801.

Erickson, Robert	Bordentown, City of
Geier, Scott	Hawthorne Borough DPW
Kelsey, James C.	Partac Peat Corp./ Beam Clay
Lawson, TJ	Rutgers University, Dept. of Plant Bio/Pathology
Maher, Mal	Turf Sewing Machinery.Com
Meisner, Janet	Byram Township
Ravaschiere, Frank	Long Branch, City of
Sheeran, Jerry	Metuchen Public Schools
Steyh, Adolf	Byram Township

SFMANJ Annual Membership Registration Form

*receive update information by email

Name _____
 Title _____
 Employer _____
 Address _____
 City _____
 State _____ Zip _____
 County _____
 Phone _____ Fax _____
 *E-mail _____
 Signature _____

Individual	\$50
Associate	\$50
Organization/Institution.....	\$50
Additional member from facility	\$30
Commercial/Contractor/Vendor/Supplier.....	\$105
Additional member from company.....	\$35
Student.....	\$15

Send with Check or voucher to:

SFMANJ
 P.O. Box 370 • Annandale, NJ 08801

2007 SFMANJ Board of Directors

President Craig Tolley, County College of Morris
 Vice President . . . Fred Castenschield, Storr Tractor Co.
 Secretary Scott Bills, Northern Nurseries
 Treasurer Jim Gates, Jim Gates & Co., Inc

DIRECTORS

Sean Connell Georgia Golf Construction
 Jeff Cramer, CPWM Howell Township
 Jim Hermann, CSFM Total Control, Inc.
 Brad Park Rutgers University
 Don Savard, CSFM, CGM Salesianum School
 Karl "Chuckie" Singer City of Bayonne

Advisor: Dr. James Murphy, Rutgers University

Past President: . . . Ken Mathis, Brick Township Parks

Executive Secretary: Kathie Hopfel

MISSION STATEMENT:

Committed to enhancing the professionalism of athletic field managers 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:

PO Box 370 • Annandale, NJ 08801
 Web site: www.sfmanj.org
 Email: hq@sfmanj.org
Ph/fax: 908-730-7770

National Organization
 Sports Turf Managers Association

www.stma.org
 Email: stmainfo@sportsturfmanager.org
Phone: 800-323-3875

Inside This Issue

Welcome New & Renewed Members	3
Membership Form	3
SFMANJ Board of Directors	3
Synthetic Infill Field Maintenance Demonstration	
Field Day to be Held in South Jersey	4
Sportsfield Irrigation Audits - Part 1	6
Turf Renovation	8
Calendar of Events	10
Fundamentals of Laser Grading	11
2007 Proud Sponsors Directory	12
My Turf Went to the Dogs	14
SFMANJ Field of the Year Contest 2007	16

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 or Brad Park at (732) 932-9711, x127

Editor: Brad Park, Rutgers University
 Email: park@aesop.rutgers.edu

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



grass roots

"Serving the Turf Professional Since 1978"

FERTILIZERS SEED FUNGICIDES INSECTICIDES HERBICIDES

GROWTH REGULATORS WETTING AGENTS ADJUVANTS

EROSION CONTROL SPREADERS TOOLS ...& MUCH MORE!

LAWN & SPORTS TURF DIVISION
 (973) 252-5455 Fax: (973) 252-2661
 4 Middlebury Blvd., Ste. 14, Randolph, NJ 07869



**TUCKAHOE
TURF FARMS, INC.**

"Instant Lawns"

- * **High Quality Bluegrass and Tall Fescue**
- * **Our Completely Irrigated 700-acre farm allows production and deliveries to parts of Pennsylvania, Delaware, New York and all of New Jersey.**
- * **Sand Sod** grown on Hammonton sandy, loam-type soil designed for today's specialized modern athletic fields
- * **Labor Saving Big Rolls**, please call for custom installation prices

401 Myrtle Ave. • P.O. Box 148 • Hammonton, NJ 08037

1-800-222-0591 1-609-561-7184
 www.ttfarms.com 609-561-0296 Fax

Synthetic Infill Field Maintenance Demonstration Field Day to be Held in South Jersey

Don Savard, CSFM, CGM

Sports Field Managers Association of New Jersey's District 4 will present a Synthetic Infill Field Maintenance Demonstration Field Day field day at the Reccino Field Complex in Haddon Township, New Jersey on Wednesday, September 19, 2007.

Thinking of installing a new synthetic infill sports field system? Joel Taylor, Head Groundskeeper will host a tour of his facility and show how he found creative solutions to the unique problems of synthetic field care.

1. See for yourself how these field systems are cleaned, groomed and maintained.
2. Learn how to avoid costly mistakes when planning and building your field.
3. See a demonstration of synthetic field maintenance equipment.
4. Meet other grounds keepers who maintain synthetic fields and hear what they have to say.

**THIS IS NOT AN INFOMERCIAL FOR A
PARTICULAR BRAND OF SYNTHETIC INFILL
SPORTS FIELD!**

This field day is open to all sports field managers whether you have or are just thinking about getting into the new synthetic infill sports field systems. We especially welcome administrators, facility directors and decision makers to see first hand what synthetic field maintenance is all about.

Date: Wednesday, September 19, 2007

Time: 9:00 AM to 1:30 PM

Cost: \$20 per person - LUNCH IS INCLUDED

For more information call the SFMANJ Chapter @ (908) 730-7770 or visit our website: www.sfmanj.org

Don Savard is a Certified Sports Field Manager (CSFM); Certified Grounds Manager (CGM); Director, Athletic Facilities and Grounds, Salesianum School; and a member of the SFMANJ Board of Directors

Beam Clay®
Baseball Diamond Mix
Pitcher's Mound Mix
Home Plate Mix
Infield Conditioner
Mound Bricks
Mound Top-Dressings
Permanent Pitcher's Mound
& Batter's Box Pads
Warning Track
Pro's Choice®
Diamond Pro®
Stabilizer®
Hillopper®
Diamond Dry®
Nail Drags & Scrifiers
Drag Mats
Course Mats
Infield Grading Equip.
Mound Bricks
Mound Building Tools
Batter's Box Templates
Cloth Cleaners
Batting Practice Screens
Batting Practice Mats
Backstops
Batting Cages
Batting Tunnels

YOUR "ONE-STOP SOURCE" FOR AMERICA'S BASEBALL & SPORTS TURF SURFACES & SUPPLIES!



A SUPPLIER TO EVERY MLB TEAM,
OVER 150 MINOR LEAGUE TEAMS,
OVER 700 COLLEGES AND THOUSANDS OF
TOWNS & SCHOOLS WORLDWIDE!

800-247-BEAM (2326)
www.BEAMCLAY.com

OVER 200 INFIELD & SPORTS TURF PRODUCTS
INCLUDING REGIONAL INFIELD MIXES & RED WARNING TRACKS
BLENDED FOR EVERY STATE & CLIMATE
FROM BULK PLANTS NATIONWIDE!

PARTIC PEAT CORPORATION • KELSEY PARK, GREAT MEADOWS, NJ 07831

"The best infield mix I've ever used!"
— GEORGE TOMA

TenceGuards™
DuraPad™
On-Deck Urinals
Hollywood® & School® Bases
Rogers® Inlet & Away Bases
Soft-Touch™ Bases
Mautz® Athletic Field Paints
Athletic Field Semis
MarkFour™
Layout Systems
IFFY® Line Strippers
Field Marking Equipment & Material
Permanent Foul Lines
Yankee® Rakes
Midwest Rakes
Rain Covers
Safety Fencing
Windscreen
Wall Padding
Bull & Barrier Netting
Benches & Bleachers
Watering Equipment
Water Removal Equipment
Geotextile fabrics
Top Dressing

PLANT FOOD COMPANY, INC.

The Liquid Fertilizer Experts

We specialize in liquid fertilizers and sell many other types of fertilizers, biosimulants, lime and protection products. Everything in the green industry, including trees and shrubs, turf and flowers, grow stronger and more beautiful with our products. Contact us to learn more and request your free catalog.

800.562.1291
609.443.8038 (fax)
pfc@plantfoodco.com
www.plantfoodco.com



Grow with us as part of our expanding family of customers.

SPORTS FIELD IRRIGATION AUDITS - PART 1

Don Savard, CSFM, CGM

Prior to the summer of 2006, I managed the irrigation on my sports fields simply by direct observation. I looked at the condition of the turf, and if it looked dry, I would set up a hose and sprinkler and let it run for a reasonable amount of time. Sometimes I would catch water in a can so that I could measure how much I was putting down. During periods of heat or drought, I would run around like a nut moving hoses and sprinklers to irrigate areas that appeared to be under stress. Many an evening, weekend and holiday was spent attempting to keep my turf green.

Since then, two things have changed. First, I read an article in Sports Turf Magazine by Dr. Dave Minner (Iowa State University) suggesting that my method of irrigation was not efficient. The article went on to say that deeper and denser root systems and better stress tolerance were a result of heavier, less frequent irrigation. Second, at the 2006 STMA Conference in Orlando, I attended an Irrigation Audit Workshop held at the Disney Wide World of Sports Complex. From the workshop, I learned that the irrigation audit was a turf management tool that would help me grow healthier turf, conserve water, and save money. From actually doing it, I learned that it would also save time, *my time!*

An irrigation audit will help you discover how frequently and how long to irrigate. It considers the needs of the turfgrass plant; for example, the depth of the root system helps to determine how much water the turf needs. It helps to determine how well your irrigation equipment or system works. Aside from looking for leaks and other inefficiencies it helps you find out much water is coming out of the sprinkler head in a minute and how uniformly it is distributed over the soil. It will also tell you how the soil and water interacts *on your site!* By performing an irrigation audit you will discover what your soil texture is, how much water the soil can hold and the rate that water moves downward or percolates through the soil profile. You will even learn how the rate of evaporation and transpiration changes during different months.

One Saturday, last May, 2006, the weatherman predicted a warm, sunny day with no wind, a perfect day for an audit! If I got wet, I would not freeze, also no wind meant more precise measurements. I wanted to determine once and for all how much water I was putting down and how frequently I needed to irrigate.

An irrigation audit requires only some time and some very low tech tools (tape measure, catch-can devices, metric graduated cylinder, stopwatch, calculator, notebook and pencil). The audit can be performed with both in-ground and portable above-ground

systems. The audit is sequential, meaning that each step provides information necessary for the next step.

The test requires data collection from the field as well as information found on the internet, books and even from the irrigation systems manufacturer. In the field, you will need to **measure the test area** where you will operate the sprinkler. This could be the irrigation zone for an in-ground system or it could be the area that a portable sprinkler would cover. Next, you place catch-can devices in an equally spaced pattern where you will **collect the precipitation** from the sprinkler. The catch-can devices can be store bought or they can be like mine, simply a paper cup taped to stake to hold them upright. Just make sure that all of the catch cans are uniform. Run water through the irrigation system for a predetermined amount of time and **measure and record** the amount of water collected in each catch-can.

You will need to find out the volume of water coming out of your sprinklers in gallons per minute. This can be determined with a flow metering device, or manufacturer's technical data for the system. This information will help you find gross and net precipitation. **Gross precipitation** is the water that sprays out of the sprinkler nozzle.

$$\text{Gross Precipitation Rate in inches per hour} = \frac{96.3 \text{ gallons per minute from sprinkler nozzle}}{\text{area being irrigated in square feet}}$$

(96.3 is mathematical constant used as a multiplier)

Net precipitation is the amount of water collected in the catch cans. Find the area of the catch-can opening by measuring the area of the circle that is the opening (Area = πr^2).

$$\text{Net Precipitation Rate} = \frac{\text{Average catch volume in millimeters} \times 3.66}{\text{Test run time in minutes} \times (\text{Catch device area sq. inches}) (16.5)}$$

(3.66 And 16.5 are mathematical constants used as multipliers)

Net precipitation is compared with the gross precipitation to observe water loss as well as to measure the **irrigation application efficiency**.

$$\text{Irrigation application efficiency} = \frac{\text{gross precipitation rate}}{\text{net precipitation rate}}$$

After measuring the amount of water in each catch can, I was able to determine **uniformity of distribution** of the sprinklers. This will show how well the sprinklers distributed the water evenly over the test area.

$$\text{Lower quarter distribution uniformity} = \frac{\text{average of the lower quarter of 25\% of the devices in millimeters}}{\text{average of all catch - can devices}} \times 100$$

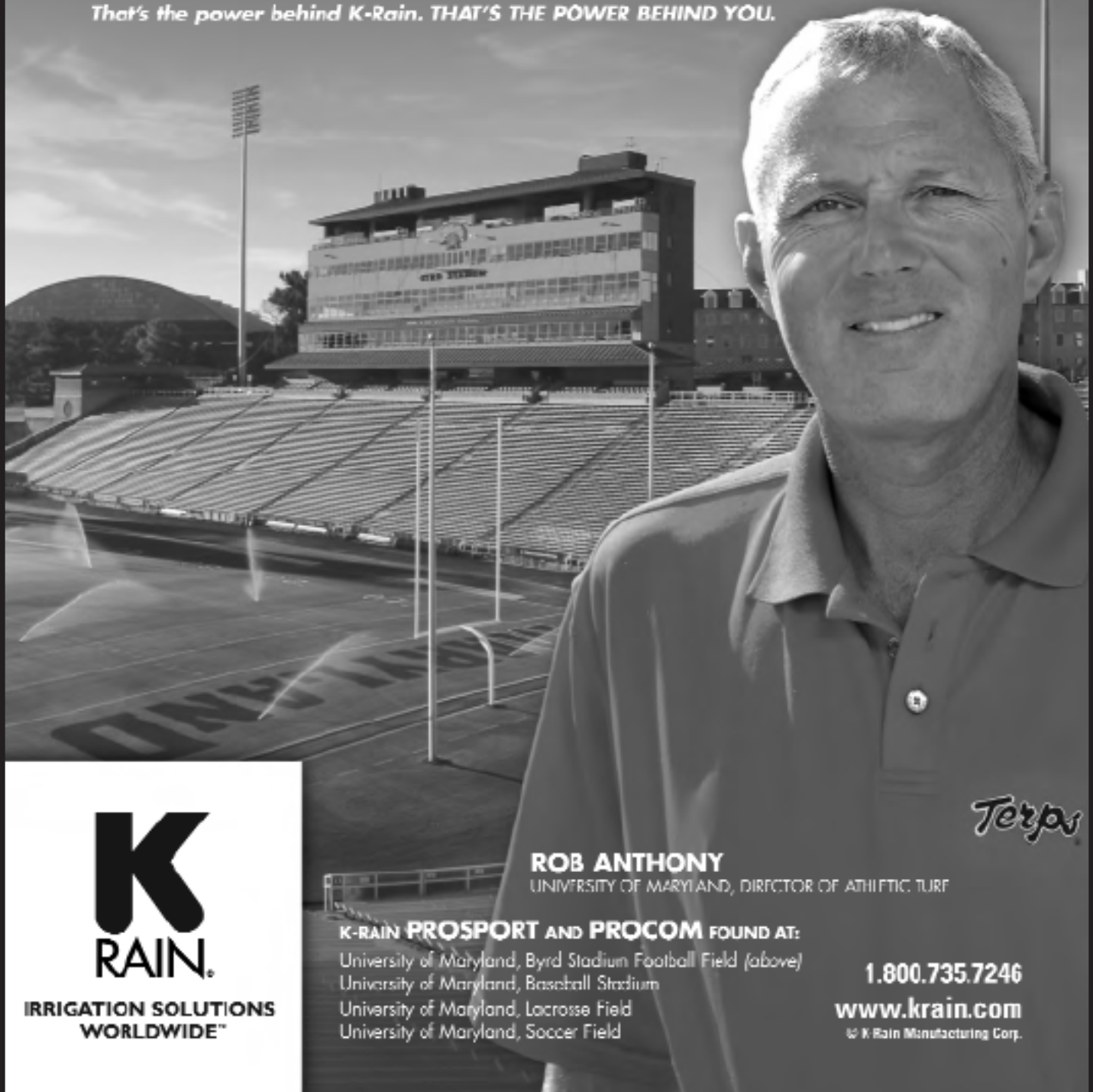
*Don Savard is a Certified Sports Field Manager (CSFM);
Certified Grounds Manager (CGM);
Director, Athletic Facilities and Grounds, Salesianum School;
and member of the SFMANJ Board of Directors*

"K-Rain Products are Better than the Rest"

"K-Rain products are better because the company is totally focused on making the best rotors in the industry. K-Rain is a specialist in sports field rotors, because of this fact they are the rotors of choice. The University of Maryland needed 21st Century irrigation systems. With K-Rain, that's what we have." – Rob Anthony

We work with one mindset: **Make it better.**

That's the power behind K-Rain. THAT'S THE POWER BEHIND YOU.



K
RAIN.

**IRRIGATION SOLUTIONS
WORLDWIDE™**

ROB ANTHONY

UNIVERSITY OF MARYLAND, DIRECTOR OF ATHLETIC TURF

K-RAIN PROSPORT AND PROCOM FOUND AT:

University of Maryland, Byrd Stadium Football Field (above)
University of Maryland, Baseball Stadium
University of Maryland, Lacrosse Field
University of Maryland, Soccer Field

1.800.735.7246

www.krain.com

© K-Rain Manufacturing Corp.

TURF RENOVATION

By Craig Tolley

Renovation can be defined as turf improvement that involves partial or complete replanting without total tillage of the soil. Complete renovation is when the entire turf stand is killed and reseeded. Partial renovation is called for when only a portion of the total area is to be killed off. Renovation of a turf should be considered when the condition turf stand is: severely damaged by pests, predominately covered by weeds (broadleaf or grassy), of a poor quality turf due to excessive thatch or compaction, or if a combination of these conditions exist.

Prior to taking any direct action the site needs to be evaluated to determine how severe and extensive the damage is and to identify the underlying cause of the damage. The evaluation should include identification of the dominant turf species and current density. All weed species should be identified (the weeds can be strong indicators of underlining problems). Additionally the thatch layer, drainage patterns and soil conditions should be checked. Soil should be tested for pH, nutrient levels and compaction. When the root cause of the decline in turf quality can be identified, a long term plan to alleviate the damage and prevent it from reoccurring should be developed and implemented.

Selecting an appropriate species for the site and use of the turf is the most important step in this process. On most athletic fields in New Jersey, the following species are desirable: Kentucky bluegrass, tall fescue, and perennial ryegrass. Kentucky bluegrass and tall fescue tend to be the more durable species; but when time is limited, perennial ryegrass is the fastest to germinate. For these species, the end of August into early September is the best time of year for establishment.

The area should be treated for weeds prior to seeding; preferably with an herbicide that will have short residual life such as glyphosate. Depending on the weeds present, more selective herbicides may be used or applications limited to spot treatments. In this situation one needs to be very careful in the selection of an herbicide since the desirable seedlings will have an increased sensitivity to the chemicals remaining in the soil.

Soil compaction should be alleviated with aggressive hollow tine aerification - at least two to three passes over the area being treated. If thatch is a problem the field should also be dethatched at this time (the slicer can also help break up the cores from aerating if it is done second). This process will help expose the soil and allow for good seed to soil contact.

The last cut prior to over-seeding should be at reduced height to lower the canopy and allow more light to reach the soil for the germinating seeds. The seeding is best performed with a disc-type seeder to get the seeds directly in contact with soil and through the canopy as opposed to a broadcast spreader that may leave the seeds exposed on the surface or in the canopy of the existing grass. The seeding rate will need to be higher than as compared to seeding over bare soil (by roughly 20 percent) due to increased

competition from the standing turf. A thin layer of topdressing can be applied over the top of the seeds to aide at incorporating them into the soil.

The new seeds will need to be irrigated with frequent light applications until they have started to become established. Any fertilizer applications should be based on need as determined from the soil test.

When time is extremely limited one can either prime or pre-germinate the seed for a quicker establishment. Priming the seed is pre-imbibing it with water so when the seed comes in contact with the soil, it is ready to germinate. To do this, place the seed in a burlap bag than soak in a large container of lukewarm water (aerating with a fish tank bubbler helps but is not completely necessary) for about 24 hours than drain and air dry so it can be spread. Pre-germinating is taking this idea a step farther; the seed can be placed on damp paper in a warm location (70-75° F) until roots can be seen emerging form the seed. With the pre-germinated seed the plants are already growing when they first contact the soil. The drawback to either of these 'tricks' is that the seed will be more susceptible to mechanical damage or fungi as you prepare it, so it is best to sow the seed/seedlings by hand (making this not practical for large areas) to minimize the physical damage.

Craig Tolley is Professor, County College of Morris; and President, SFMANJ

NATIONAL SEED PROFESSIONAL TURF PRODUCTS

**Specializing in Quality
Grass Seed to Meet All Your
Turf Performance Standards**

Call For a Catalog

800-828-5856

Carry a full line of quality mixtures
especially formulated for:

SPORTS & ATHLETIC FIELDS

LOW MAINTENANCE AREAS

GENERAL GROUNDS

GOLF, LAWN & RECLAMATION

**Technical Agronomic Support and
Custom Blending Available**



**Dr. Henry W. Indyk
Graduate Fellowship in
Turfgrass Science**

As many of you know, the turfgrass industry lost a dear friend and colleague in September 2005. We will all miss Henry very much and would like to insure that his legacy lives on. The Indyk family would like to establish a memorial fellowship to support graduate students interested in applied turfgrass science. This fellowship is being created to help assure that tomorrow's graduate students have the financial resources to get an advanced degree in turfgrass science at Rutgers University. To fund a full graduate assistantship each year in Henry's name, we will need to raise a total of \$400,000. Your generous support at this time will bring us closer to reaching this goal.

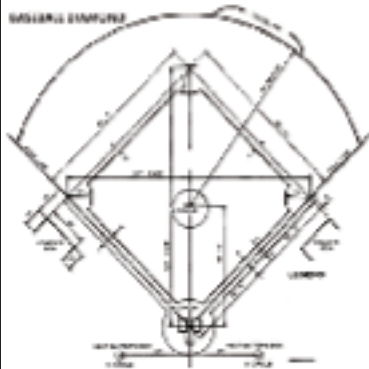
To make a tax-deductible contribution today, please send a check payable to the Rutgers University Foundation, 7 College Avenue, New Brunswick, NJ 08901. Be sure to indicate Indyk Fellowship, Turfgrass in the memo portion of your check. If you desire, you may provide a donation in the form of a pledge payable over several years.

For information on other ways to support this fellowship, please contact Dr. Bruce B. Clarke, Director Rutgers Center for Turfgrass Science (732-932-0400, ext. 331; or clarke@aesop.rutgers.edu) or John Pearson, Director of Leadership Gifts at the Foundation, by calling (732) 932-7598 or email: pearson@lw@narda.rutgers.edu

*Sports
Turf Quote:*

"...I remember when I came here (St. Louis' Busch Stadium) once in '94, the turf was scorching. We had to take our spikes off and put our feet on top of them to keep them from burning."

- Pittsburgh Pitchers' pitcher Rick White on the synthetic surface at Busch Stadium (Pittsburgh Post-Gazette: July 25, 2005)



Terre
has a full line of
Sports Turf Products

- Infield Clay Mixes
- Turf Surface Soil Conditioners
- Grass Seed
- Fertilizers
- Pesticides
- Top Dressing
- Rubber Mulch
- Turf Blankets
- Marking Paints



**Call for a Catalog
or Inquiries.**

**TELEPHONE: (973) 473-3393
FAX: (973) 473-4402**

Keep your
Ballfields safe
and looking great!!!

The Terre Co. of N.J., Inc.
206 Delawanna Avenue
Clifton, NJ 07014

2007 CALENDAR OF EVENTS

Rutgers Golf and Fine Turf Field Day

July 31, 2007
Rutgers Hort. Farm II
North Brunswick, NJ
www.njturfgrass.org

Rutgers Lawn, Landscape, and Sports Turf Field Day SFMANJ Equipment Demos back for 2007

August 1, 2007
Rutgers Adelphia Research Farm
Freehold, NJ
908-730-7770
www.sfmanj.org
www.njturfgrass.org

SFMANJ District 4 Synthetic Infill Maintenance Demonstration Day

September 19, 2007
Reccino Field Complex
Haddon Township, NJ
(908) 730-7770
www.sfmanj.org

New Jersey State League of Municipalities 92nd Annual Conference

November 13-16, 2007
Atlantic City Convention Center
Atlantic City, NJ
www.njslom.org

NJ Turf & Landscape Conference and Expo 2007

December 4-6, 2007
Trump Taj Mahal Casino-Resort
Atlantic City, NJ
www.njturfgrass.org

Sports Turf Managers Association 2008 Conference

January 15-19, 2008
Phoenix, AZ
www.stma.org



An SFMANJ-sponsored tradeshow will be part of the program at the 2007 Rutgers Lawn, Landscape, and Sports Turf Research Field Day on Wednesday, August 1, 2007 at Adelphia.



Turfgrass education and New Jersey DEP Pesticide credits will be available to those attendees at the 2007 Rutgers Lawn, Landscape, and Sports Turf Research Field Day on Wednesday, August 1, 2007 at Adelphia.

Fundamentals of Laser Grading

By Sean Connell

Laser grading is a term in the athletic field construction industry used to describe the process of moving soil with a grading mechanism equipped with an automated control. Laser guided controls can be mounted on any machinery including track hoes, trenchers, motor graders, bulldozers, tractors and infield groomers. In fact, anything with a motor and hydraulic supply can be mounted with an automated laser control system. The fundamental reason to use laser guided equipment is that it creates the most accurate and consistent grade and ultimately improves the drainage, usability, safety, and overall appearance of a sports field.

One of the biggest myths about laser grading is that some fields cannot be laser graded because of the elevations of land or fences that directly encase the field. This is usually untrue. A field can often be laser graded without moving the surrounding topography. In order to do this, you must do the following procedure.

First, grid the field on 40' or 50' centers, then shoot all grades and record on a scale drawing. (Note: most fields have some type of original blueprint so that scale drawings can be made very easily by tracing). After you have a drawing with grades shot, you can evaluate which way the water is going. After determining where the water can drain the most efficiently, you will then determine how much slope you will laser grade. One tenth of an inch in 10 linear feet is 1% of slope, so 1' of fall in 100 linear feet equals 1% slope.

After compiling your information, you need to measure the length of slope to determine your slope %. For example, if you have 4' feet of fall over 200 linear feet, you automatically know that is 2% of slope ($4/200=0.02$). Now you can determine if there are any problems between the points such as a big mound of soil which is holding the water back from draining or a big dip that is holding water. This process identifies problems and helps you determine how much to cut or fill. The automated laser guarantees the 2 points (from high to low) will have continual slope with no holes or high spots to get through. The lowest point is your bench mark so you know you will get positive drainage.

Now that you have a plan, you need to make sure have the right type of equipment to complete the job. For instance, laser grading variances are 1" to 2"; that means 1" to 2" is all the soil you will be able to move with a laser box in a reasonable amount of time. So, given that information, you know you have to make other arrangements to move larger quantities of soil. A farm tractor equipped with a box blade with ripper teeth can loosen the soil from 4" to 6" depths at a reasonable rate. Using larger equipment such as a bulldozer is good, but keep in mind that any equipment you use needs to complement the laser grading.

The sloped laser that is used to control the laser box blade is set in a central location on the field. You point the axis in the direction that you want to laser grade. It is accurate to the thousandths

of a percent. After setting the height of the instrument, you will set the receiver to the relative grade of the soil you're going to grade. The most frequently used type of equipment to laser grade athletic fields is a tow-type box blade. It has a hitch receiver to the draw bar of a tractor and an axle of wheels behind the box blade. It makes it independent of the tractor and provides the most consistent grade. There is also a mast that holds the laser receiver which receives the signal from the sloped laser and sends it in to a control box. The control box sends the signal back into an electric hydraulic valve that controls the box blade that is grading. The signal is instant and in real time. As the tractor moves across the field, the box is making cuts and fills leveling soil giving you the safest playing surface and best drainage. In addition to the tow-type box blade, there are also 3-point hitch versions of the laser guided systems available. Unfortunately, they are more sensitive to the tractor movement. For instance, the front wheel goes into a hole and moves the box blade faster than the system can respond requiring the operator to have more responsibility on the finished surface.

The field is laser graded. All the soil is in-place and you balanced the soil so you do not have to export or import any fill to complete your job. As completion of the field is near, you are going to install your irrigation (always tamp ditches and make contractor fix settling for up to a year, this is a safety issue and is a standard for professional contractors). After irrigation and soil amendments, you will need to prepare the soil for grassing by loosening the top 2" to 3" of soil. To remove all stones, trash, sticks etc. for a clean surface, use a harrow or soil pulverizer to loosen the soil; then smooth with a box blade, preferably with the laser box. After completion, you are ready to seed or sod your field; remember, the biggest chance of damage or slow drainage is when a field is being grassed.

In summary, automated laser grading guarantees safety and improved drainage which are the biggest issues on any field. Understanding the method and how it directly impacts the finished result on any playing field should make it a mandatory trade to be included on any field renovation or construction. You do not let plumbers do electrical work, so why would you let a site contractor grade a field when there are sports turf specific contractors with properly sized equipment and specialize in field construction? Site contractors move soil and install the utilities more efficiently and cost effectively. The same logic should go to the Architect / Engineers by specifying laser grading as a trade and including them on all field construction projects. When renovating and constructing fields, properly sized equipment and trained operators make the difference.

Sean Connell is Owner and Primary Project Manager, Georgia Golf Construction, Woodbine, NJ; and a member of the SFMANJ Board of Directors.

~2007 Proud Sponsor Directory~

US ATHLETIC FIELDS, INC.

Sports Field Maintenance, Renovation & Construction
John McKnight and Bill Siegel
PO Box 38 – Skillman, NJ 08558
609-466-2846 Fax: 609-466-1808
john@usathleticfields.com

STORR TRACTOR COMPANY

Turf, Irrigation and Ballfield Equipment
Sales- Fred Castenschiold, Kevin Hoban, Steve Bradley
3191 Highway 22 Somerville, NJ 08876
908-722-9830 Fax: 908-722-9847

TOTAL CONTROL, INC.

Athletic Field Consulting & Management
Jim Hermann, CSFM
PO Box 422 - Lebanon, NJ 08833
(908) 236-9118
totalcontroljim@earthlink.net

WILFRED MAC DONALD, INC

Turf Equipment/Irrigation
Sales-Bernie White, Mike Clifford, Tim Kerwin
19 Central Blvd., S. Hackensack, NJ 07606
888-831-0891 ex 114 Fax: 201-931-1730
sales@wilfredmacdonald.com

PARTAC/BEAM CLAY

Your "One-Stop Source" For
Baseball and Sports Turf Surfaces & Supplies!
Kelsey Park, Great Meadows, NJ 07838
(800) 247-BEAM, (908) 637-4191
Fax (908) 637-8421, partac@goes.com

FISHER AND SON CO., INC.

Superior Products for the Turf and Horticultural Professional
Agronomic Services, Fertilizers, Seed, and Control Products
Jeff Borajkiewicz (609) 532-4837 • Bruce Cadenelli (732) 245-2599
Brian Robinson (484) 886-0021

BEN SHAFFER & ASSOCIATES

Park, Playground and Streetscape Solutions
Serving NJ since 1921
State Contract Vendor
800-953-2021
Website: www.benshaffer.com

COVERMASTER, INC.

Baseball and football field covers and accessories
Natural turf concert covers & EVERGREENTM turf blankets
800-387-5808 • Fax 416-742-6837
covermaster.com • info@covermaster.com

Put your ad here:

To become a Proud Sponsor Call 908-730-7770
\$150 for one year



PHILADELPHIA TURF COMPANY

Fifty-five dedicated people with the best parts, products and service for the green industry in
Eastern Pennsylvania, Southern New Jersey and New Castle County Delaware.

Phone: 215-345-7200

Fax: 215-345-8132

Web: www.phillyturf.com

Mail: Box 865

Doylestown, PA 18901-0865

Ship: 4049 Landisville Road

Doylestown, PA 18901

many items available
on NJ State Contract

BEN SHAFFER & ASSOCIATES Inc.

Toll Free

1-800-953-2021

sales@benshaffer.com

www.benshaffer.com



PARK, PLAYGROUND & STREETScape SOLUTIONS



- Bleachers
- Benches
- Bases
- Sports Equipment

- Tennis
Nets

- Sport
Goals

- Water
Fountains



and much more!

Experience the Ben Shaffer Difference
Serving NJ since 1921



MY TURF WENT TO THE DOGS - Here's the Scoop on Dog Parks

By Jeff Cramer, CPWM

As grounds managers, we often receive requests for special projects. When our township governing body requested we plan, construct and maintain a “dog park” (off-leash area for dogs) I realized there were many new challenges – not the least was care of the turf.

When I announced the project to my staff, most, if not all, were concerned with the impact of pet waste on staff and equipment. Shortly after the opening of the park we realized that the pet waste was the least of our maintenance problems. Long-term care of the park's turf was our major battle.

Here are some suggestions you may want to consider before installing a dog park:

FACILITY DESIGN AND CONSTRUCTION

1. Visit other existing sites to determine impact on your maintenance program. Don't reinvent the wheel if you don't need to. You can see what is best for you by reviewing what works and doesn't work for other dog parks. Our facility was a one-acre site.
2. Choose better quality fencing materials to provide a safe environment for dogs and to reduce maintenance. Use largest wire core and thickest fabric coating, install a bottom tension wire and use heavier grade posts and rails.
3. Install a double-gated user entrance where owners can un-leash their pets.
4. Plan an equipment service gate of sufficient size for your turf equipment.
5. If a water source is available, install a freeze-proof hydrant convenient to the facility.
6. Do not plant trees or shrubs – they won't survive!
7. Other things to consider: sitting benches, bulletin board, shade canopy, port-a-johns.

PET WASTE CONTROL

8. Post user rules and pet waste regulations at several locations.
9. Install several self-serve pet waste clean-up mitten dispensers with covered and lined waste cans along the inner perimeter.

10. Solicit park users to help enforce self clean-up by owners. This provided excellent results for our facility. Additional enforcement by park rangers if available. This includes pet license enforcement, control of aggressive animals, etc.

TURF MAINTENANCE

11. Locate the facility in a well-drained area.
12. Our facility consisted of primarily K-31 fescue – the tall fescues provide the best wear tolerance.
13. Soil compaction, both the four-legged and two-legged kind, was the biggest problem, not pet waste. Aerate several times per season to help maintain a viable turf.
14. Raise cutting height to 3" – 3 ½".
15. Conduct soil tests to determine soil phosphorous (P), potassium (K), magnesium (Mg), calcium (Ca) and liming needs. Apply slow-release nitrogen (N) sources to provide 3-5 lbs Nitrogen per year.
16. Remove all sod at the entrance gate and replace with #10 cinders compacted over ¾" clean gravel – the turf will never survive here.
17. Use a nonselective herbicide containing glyphosate (e.g., Roundup) beneath the fence line. Keep the park closed during application until herbicide has dried.

For more information go to www.dogpark.com.

Jeff Cramer is a Certified Public Works Manager; Director of Public Works, Howell Township, NJ; and a member of the SFMANJ Board of Directors.



The "Green Industry" Supplier

Randy Rider
302-242-6848

Jeff Borajkiewicz
609-252-1837

Mike Oleykowski
609-410-0709

Brian Robinson
484-886-0071

Superior Products for the Turf & Horticultural Professional!

110 Summit Drive • Exton, Pennsylvania 19341 • 610-363-5225 • Ex. 610-363-4563

BA5F

Bayer

HankWorks

Grigg Brothers

Lebanon Fertilizers

Plant Health Care

ProKaz

Syringate

www.fisherandson.com

Dual Slope Laser Grading



- Automated dual slope
- Accurate to .125" (1/8")
- 1 day service available
- Complete athletic field construction
- Bonded and insured
- Local references

Georgia Golf Construction, Inc.
1441 Route 50
Woodbine, NJ 08270
Tel (609)-628-2597 or (704)216-4445
Fax (609)-628-3087

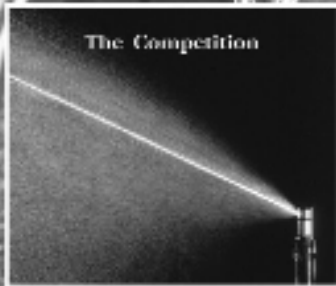
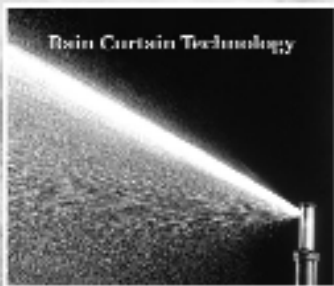
www.georgiagolfconstruction.com

Increase your field's drainage and playability.

DID YOU KNOW?

Hydraulic conductivity is defined as a trait of soil relating to the ease of water movement in that soil.

Install Confidence.



Install Rain Curtain Nozzle Technology.

Only Rain Bird rotors feature Rain Curtain™ Nozzle Technology that delivers uniform water distribution across the entire radius range for green grass results. Gentle, effective close-in watering around the rotor eliminates dry spots without seed washout, and larger water droplets assure consistent coverage, even in the windiest conditions.

Install Confidence. Install Rain Bird.

RAIN BIRD

FOR INFORMATION CONTACT:

BILL WISE

Contractor Account Manager

(610) 770-6885

SFMANJ Field of the Year Contest 2007

Sports Field Managers Association of New Jersey is announcing its annual Field of the Year (FOY) contest.

ELIGIBILITY:

- Must be a current member of SFMANJ
- Only school and parks/recreation fields are eligible
- Must be a natural grass field/fields

CRITERIA:

Award will be presented basis:

- Playability and appearance of the playing surfaces
- Five 6x7 photos & one before photo if possible
- Describe your maintenance program and what you did to improve your field
- Describe yearly budget used for this field
- Feel free to have sports groups in your photo



Edward Grekouski Park - Field of the Year 2006
South River, NJ

SUBMITTING YOUR ENTRY:

Entries are to be submitted by mail and must be received by September 30, 2007. Entries are limited to 10 color photos. Please include the name, location and owner of the facility, along with your name, position, and contact number.

Mail to:

SFMANJ 2007 FOY Contest
PO Box 370
Annandale, NJ 08801

AWARDS:

Winners will be honored with a plaque at New Jersey Turfgrass and Landscape Conference & Expo in December 2007 and will be featured in an article in SFMANJ Update newsletter. The winner will also receive a two-night stay at the Trump Taj Mahal, Atlantic City and three days of education and trade show admission at Expo 2007.

NOTE:

Photos will not be returned and may be used on SFMANJ website and promotional settings.

EVERGREEN™ Turf Blankets... ...trusted around the world!

“Results Outstanding..., Could Not Believe...”

wrote **Dann Daly**, Park Maintenance Supervisor,
Parks & Recr. Dept., North Smithfield, RI

- Earlier spring green-up
- Faster seed germination
- Deeper root development
- Delays dormancy in fall
- Ideal winter blanket
- 3 & 7 yr. warranty covers
- Best for quick turf repairs
- Available in any size

Want to know more?
CALL TOLL FREE
1-800-387-5808

COVERMASTER™
COVERMASTER
COVERMASTER
MASTERS IN THE ART OF SPORTS SURFACE COVERS

COVERMASTER INC., 100 WESTMORE DR., 11-D, REXDALE, ON, M9V 3G3 TEL 416-745-1511 FAX 416-742-5837



Covers for football and soccer fields are also readily available.



Covered... Uncovered...



It works on the greenhouse principle, every time!

covermaster.com

FMAJ - info@covermaster.com

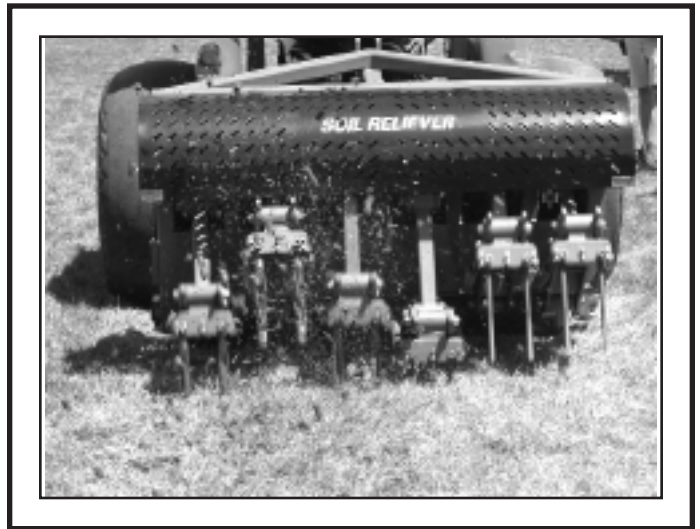




SFMANJ members are encouraged to attend the Rutgers Lawn, Landscape, and Sports Turf Research Field Day on Wednesday, August 1, 2007 at the Rutgers Adelphia Research Farm in Adelphia, NJ. SFMANJ will be sponsoring equipment demonstrations.



Calibration and operation of backpack sprayers is a common tour stop during Rutgers' Summer Field Days.



Deep tine cultivation equipment has been demonstrated at past SFMANJ-sponsored equipment field days.

Killin' weeds and takin' names. Dr. Steve Hart, Rutgers University, explains his latest herbicide efficacy work at a past Rutgers Lawn, Landscape, and Sports Turf Research Field Day at Adelphia.





Dr. Jim Murphy (holding soil plug), Rutgers University and SFMANJ Advisor, annually participates in Rutgers Turfgrass Research Field Days by delivering practical turfgrass education.

Kickin' the tires ... or tines?
SFMANJ-sponsored Field Days are a great opportunity to examine the latest equipment offerings from local distributors prior to making a purchasing decision.



Dennis DeSanctis, Sr.

Cell: 610-608-3181

Office: 610-327-3390

Fax: 610-327-0581

ddesanctis@aer-core.com

1486 S. Hanover St. • Pottstown, PA 19465 • www.aer-core.com

Specialized Turfgrass Services

- Deep Tine - Solid and Coring
- Drill & Fill
- BLEC Ground Breaker Linear Aeration
- Traditional Shallow Coring
- Sandmaster Drainage
- Top Dressing
- Seeding
- Verti-Cutting
- Total Regrassing

Equipment

Wiedenmann Aerifiers • Dakota Top Dressers • Artificial Turf Groomers • BLEC

Turf Specialties, Inc.

Thatch Master Verti-Cut



- 4, 5, & 6 Feet Wide
- Carbide Tipped Blades
- Heavy Duty Construction
- Low Maintenance
- 2 Year Warranty



IMPROVING TURF FOR 15 YEARS

For Additional Information or Product CD

Phone: 1-800-201-1031

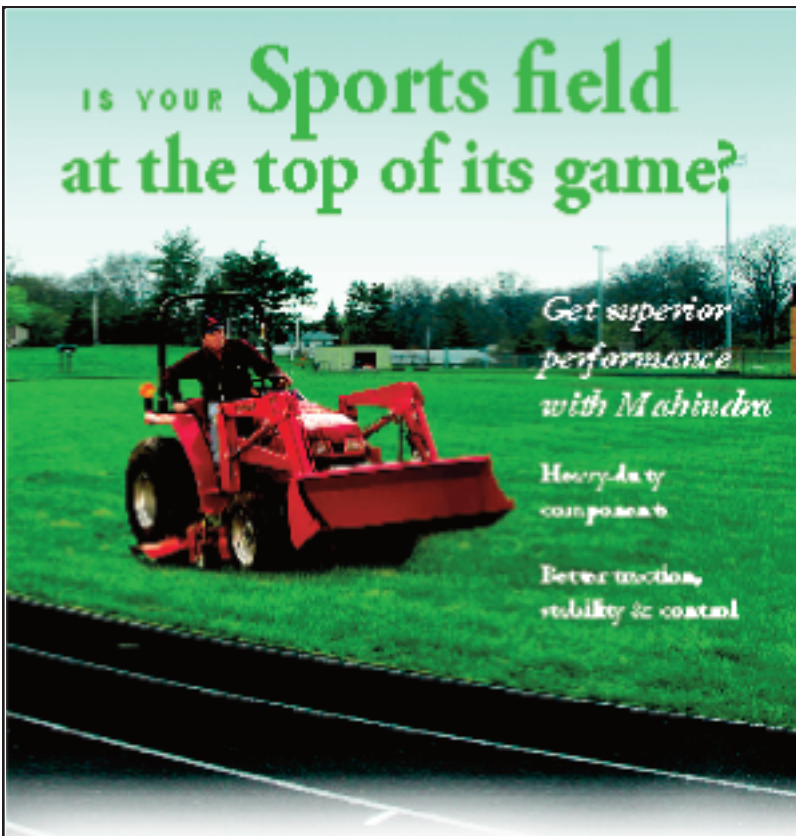
Email: ThatchMaster@turfspecialties.Net

P.O. Box 370
 Annandale, NJ 08801

Or Current Occupant

SportsTurf
 MANAGERS ASSOCIATION

Experts on the Field, Partners in the Game.



As a sports field manager, you need lightweight, dependable, versatile equipment to keep the grounds in top shape. Binder Machinery Company is the one source for



financing available
 Call for details.



tractors, skid steers and other light equipment you need to do just that. With a wide range of products and the expertise to support them with service and parts, Binder Machinery can help you stay on top of your game too.

Contact Binder Machinery for all your utility equipment needs:
 • Komatsu • Ingersoll Rand • Perken
 • Atlas Copco • Sunbelt

www.binder-machinery.com

2820 Hamilton Blvd.
 South Plainfield, NJ
 (800) 562-0012

BINDER
MACHINERY COMPANY
 The Product Support Company



145 Route 73
 Voorhees, NJ
 (856) 767-4900