

## 2003

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### Mission Statement

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

### Contact us at:

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## Looking For an Engineer Experienced in Building Athletic Fields?

by Eleanor Murfitt

As I began interviewing engineers for designing my township's 60-acre site, I wondered how many engineers write effective specifications for athletic field construction? How many use broiler plate **DOT** specifications? How many directors's like myself know the difference? What are effective specifications? When looking at previous projects the engineer was involved in, would I be able to determine who was

## SFMANJ Membership Registration form

\* receive update information by email

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## Welcome New & Renewed SFMANJ Members

Currently we have 286 members. If you did not see your name this year call (908) 730-7770. Renewal forms will go out into the mail the end of November. Please Take **Note:** This year you can not renew with STMA, the National Chapter.

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Craig Tolley

County College of Morris

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School IPM – It's the Law – What You Need to Know  
(Core points)  
**Ann Waters, NJDEP**

Thursday, December 11, 2003  
12:30 – 2:30 pm  
**SFMANJ Business Meeting - Elections**

Field Preparation for the Super Bowl  
**George Toma, NFL Field Consultant for Super Bowl;**  
Appearance Courtesy of Lofts/Pennington Seed

Topdressing: Benefits, Materials, & Techniques  
**Dr. Andrew Mcnitt, Penn State University**

Meeting the Challenges of Sports Field Management  
**Kevin Meredith, National Soccer Hall of Fame**

Specifications for Contracted Maintenance Services  
**James Hermann, Total Control, Inc.**

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## Calendar of Events

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### NJ Turf Grass Association

**Dec. 8 – 11 Expo 2003** Atlantic City, NJ  
Athletic Field Educational Session ½ day Dec. 10 &  
full day Dec. 11. For information call 856-853-5973  
or 732-821-7134

### Rutgers University Athletic Turf Classes

- \* February 24-26 Athletic Field Construction and Maintenance course
  - \* March 9<sup>th</sup> The Importance of Understanding Athletic Field Soil
  - \* March 16<sup>th</sup> The Importance of Understanding Athletic Field Turfgrass
  - \* March 23<sup>rd</sup> Understanding Athletic Field Project Specifications
- Information call 732-932-9271

### NJ Landscape 2004 27<sup>th</sup> Annual Trade Show & Conference

February 25<sup>th</sup>, Wed. 8:30am to 4:30pm. Meadowlands Exposition Center in Secaucus, NJ. Booth spaces available. For information call 201-664-6310 or [www.njlca.org](http://www.njlca.org)

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If you are a member of Sports Field Managers Association of New Jersey, you may be interested in owning a collared knit shirt with our logo. To purchase one of these fine shirts just send a check for \$25.00 to SFMANJ Chapter at PO Box 370, Annandale, NJ 08801

# Nominations Wanted for SFMANJ

## Board of Directors

### 2003/04

Here is your chance to have a voice in 2003-05 leadership of the SFMANJ. We are now accepting nominations for Board of Directors. No experience necessary.

There are 12 people representing Parks & Recreation, Schools, Colleges, Professional DPW, Facilities, Education/Extension, Commercial/Contractors and Buildings & Grounds who serve on the chapters' Board of Directors. Each Director serves a two-year term beginning January 1, 2003. There are six openings. A nomination committee will select members based on the following criteria:

1. Have been interested and active in SFMANJ (a member in good standing)
2. Are proven leaders
3. Are representative of the entire organization, both professionally and geographically
4. Are willing to commit time to the development of our organization
5. Understand when accepting this nomination you are expected to attend one meeting a month (evenings, minimum of 8 meetings), be a Chairperson of one committee, report on that committee at the monthly meeting and help with field days.

*If you or someone you know are interested in serving on the Board of Directors fax or send the name, address, biography and phone number. E-mail or fax by November 30, 2003 to:*

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# Rutgers University October 2003 Sports Turf Field Day

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

On a beautiful early-fall day at the Rutgers Snyder Research and Extension Farm located in Pittstown, NJ, Rutgers University in cooperation with Sports Field Managers Association of New Jersey (SFMANJ) sponsored the October 2003 Sports Turf Workshop.

After a great lunch and introductory remarks made by Eleanora Murfitt, President, SFMANJ; Dr. John Grande, Director, Snyder Farm; and Dr.

on both perennial ryegrass and tall fescue.

The final stop of the field plot tour was an interactive description of baseball/softball infield mixes recently installed at the Snyder Farm. The infield mix plots afforded the sports field managers in attendance the

opportunity to view different mixes they might

encounter and be responsible for managing as part of their job responsibilities. Jim Hermann, Vice President, SFMANJ, took part in the demonstration by describing strategies and management practices required to maintain infield mixes.

As part of a presentation that carried 1 Core NJDEP Pesticide re-certification credit, Geoff



Slifer and Bob Hasse, Rutgers Snyder Farm, showed proper techniques for storing and handling pesticides as well as the process of calibrating a sprayer.

Turfgrass diseases are often overlooked in sports field management. Dr. Bruce Clarke ended the October workshop by delivering a talk on how cultural practices in turfgrass management influence disease severity.

A special thanks goes out to all those who attended the 2003 October Sports Turf Workshop at the Rutgers Snyder Farm. ♦



Bruce Clarke, Director, Rutgers Center for Turfgrass Science, 73 participants began a tour of sports turf demonstration plots.

The tour consisted of field demonstrations created for the purpose of conveying practical and applied information to sports turf managers. Brad Park, Rutgers University, described his broadleaf weed control herbicide demonstration as well as the concept of including a plant growth regulator in turf marking paint. Dr. John Grande and SFMANJ-sponsored student intern, Rob Shortell, Rutgers University showed the results of seeding different turfgrass species at multiple soil depths as well as seeding turfgrasses in early winter. Dr. James Murphy, Rutgers University, illustrated the need for frequent mowing when turfgrass is intensively managed as part of a turfgrass mowing and nitrogen fertilization demonstration conducted



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# Rutgers Corner - Differences Exist Among Infield Mixes

By Rob Shortell (shortell@eden.rutgers.edu) & Brad Park (park@aesop.rutgers.edu), Rutgers University

## Introduction and Rationale

Management and potentially selection of an infield mix are an integral part of a sport turf manager's responsibilities if he or she is required to oversee the maintenance of a baseball or softball field. In many cases, a field manager will only be familiar with his or her infield mix and be unaware of the variety of mixes that are available on the market. In Summer 2003 we created plots at the Rutgers Snyder Research and Extension Farm for the purpose of demonstrating different infield mixes.

Our goals in selecting mixes were to choose various mixes that fell within American Society for Testing and Materials (ASTM) standards as well as choose materials that did not meet ASTM specifications.

According to ASTM specifications utilizing sieve designations, no more than approximately 7% of an infield mix may contain gravel (particle sizes greater than 2.0 mm) and 80-94% of the mix should be comprised of sand. The remaining portion of a mix should be silt and clay.

However, the ASTM standards contain a passage, which states, "In the absence of particle size data to assess materials, a reasonable approach would be to prepare a mixture using 15 to 30% clayey soil and 70-85% sand ...". Using these criteria, we designed the Summer 2003 demonstration that included a total of 5 mixes; two falling within ASTM standards, and three falling outside ASTM standards.

## Materials and Methods

A uniform, non-sloped, well-drained site was chosen and three pits (approximately 30 ft x 10 ft) were excavated by rototilling to a depth of 3.0 inches and removing the loosened soil with a front-end loader. Large stones were removed from the pits and the base of each pit was scarified to a depth of 1.0 inch and rolled.

Two pits were individually filled with two mixes that generally fell within ASTM specifications at the high and low end of percent sand composition. Approximately 0.5 inch

of mix was added to a pit, rolled to create a firm surface, and additional mix was added and rolled at 0.5 inch increments.

Mix 1: 88% sand, 12% silt/clay

Mix 2: 70% sand, 21% silt/clay, 9% gravel

We divided the third pit into three equal 10 ft x 10 ft sections and filled each section with a mix that clearly fell outside the range of acceptability as defined by the ASTM standards.

Mix 3: 95% sand, 5% silt/clay

Mix 4: 66% sand, 17% silt/clay, 17% gravel

Mix 5: 50% sand, 44% silt/clay, 6% gravel

Mix 3 (excessive sand) was prepared by modifying Mix 1 with additional sand. The volume of a 10 ft x 10 ft pit was determined and a calculated volume of sand was added to a known volume of Mix 1 to completely fill the 10 ft x 10 ft pit. Using similar methods, additional



Excavated pits were filled with infield mixes using a front-end loader.

gravel was added to Mix 2 to create Mix 4 (excessive gravel).

While Mix 5 falls outside of ASTM standards due to excessive silt/clay, it must be noted that this mix is acceptable for use in the construction of pitchers' mounds and batters' boxes.

## Maintenance Regime & Discussion

Following installation, the infield mixes were left uncovered and therefore exposed to weather conditions ranging from heavy rainfall to prolonged dryness.

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In order to maintain a “game-ready” infield surface under dry conditions, it was necessary to supply moisture to Mixes 1,2,3, and 4 several times daily followed by hand raking.

We define a “game-ready” infield surface as surface that is firm yet cork-like (using one’s thumb to create an

time to become “workable” with hand rakes and thus easier to prepare for a game-ready surface.

Under all conditions Mix 4 (excessive gravel), displayed identical characteristics (wetting and drying) to Mix 2, indicating the additional gravel had minimal impact on the behavior of the mix. The 17% gravel content comprising Mix 4 (ASTM standards suggest 7% maximum) presents a significant safety hazard and, in our opinion, mixes similar in composition to Mix 4 should not be used as infield playing surfaces.



Rob Shortell, Rutgers University, adds additional sand to Mix 1 (88% sand) to create Mix 3 (95% sand)

imprint in the mix) and can be worked with a rake or other scarification tool to create a loosened “cap layer” of mix.

While the addition of moisture to Mix 3 (excessive sand) added some stability to the mix, because of the excessive sand content and subsequent inability to retain moisture, we deemed Mix 3 to be commercially unacceptable.

Mix 5 (excessive silt/clay) was extremely difficult to manage and was rarely game-ready. During dry weather, this mix became rock-hard and cracked. Following rainfall, Mix 5 was soft, slick, unplayable, and an illustration of another commercially unacceptable mix.

Mixes 1 and 2 (both conforming to ASTM specifications) showed differing moisture requirements and drying times following exposure to dry and wet conditions, respectively. Under dry conditions, Mix 1 (88% sand) required the addition of more moisture compared to Mix 2 (70% sand) to bring to game-ready conditions. Following heavy rains and subsequent dry weather, Mix 1 required less drying

After several weeks of allowing the mixes to be exposed to variable weather conditions, we made the decision to cover the mixes with tarps.

We made this decision, in part, by noting that the ASTM specifications say, “When budget allows ... areas should be covered with an appropriate impervious cover when not in use. Such covers prevent evaporation in dry weather and protect the area from excess water during rainfall or general irrigation of an infield.”

Considering Mixes 1 and 2 (both conforming to ASTM standards), following rainfall, the covers kept the

mixes dryer and reduced the amount of time necessary to prepare the mixes for game day conditions. Despite covering the mixes, Mix 1 (88% sand) continued to require less time to prepare compared to Mix 2 (70% sand) following rainfall.

Conversely, Mix 2 retained moisture longer compared to Mix 1 following prolonged dry weather and removal of covers. As part of this demonstration, we estimated that infield mix maintenance inputs were reduced by as much as half as a result of covering the mixes.

As part of the Sports Turf Workshop held on October 2, 2003 at the Rutgers Snyder Farm, we allowed 1/3<sup>rd</sup> of each mix to remain uncovered for approximately 2 weeks, and the other portion of the mixes to remain covered until the morning prior to the Workshop. We prepared the covered portions of all the mixes to game-ready conditions on the morning of the Workshop. The advantages of covering were evident on October 2 as the covered areas were game-ready whereas the uncovered sections were rock hard.

### Additional Considerations

The infield mix plots at the Rutgers Snyder Farm demonstrated concepts described by the ASTM specifications, most notably the fact that management of an infield mix is affected by relative percentages of sand and silt/clay in the mix. According to the ASTM standards, “... top mixes with 6 to 10% silt/clay [90-94% sand] are better suited in rainy climates due to greater internal drainage. In dry periods, they will



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require frequent irrigation to minimize dust and to provide a firm surface.” Whereas, “... the presence of clay is desirable from the standpoint of providing both a firm and stable surface for good footing ... top mixes 11 to 20% silt/clay [80-89% sand] will drain more slowly but will retain more water. Frequency of irrigation will be less. These mixes will be more cohesive and will be more difficult to loosen when they compact.”

Sports field managers should consider their budgets, availability of labor, and typical environmental conditions (dry climate vs. moist climate) when choosing an infield mix.

Infield mix maintenance has often been considered as much an “art” as it a “science.” While the ASTM standards provide a starting point from which to choose a particular mix, and we effectively demonstrated three mixes that are not acceptable (Mix 3, 4, and 5), the quality of an infield playing surface is most significantly affected by the actions and decisions made by the sports field manager.

*“It has often been observed that the skills of the grounds manager are a greater contributing factor to high quality skinned areas than the materials used to construct these areas. Successful grounds managers must select management practices that are appropriate for the field at hand, or modify field conditions to match a given maintenance program.” – ASTM Standards F 2107-01 ♦*

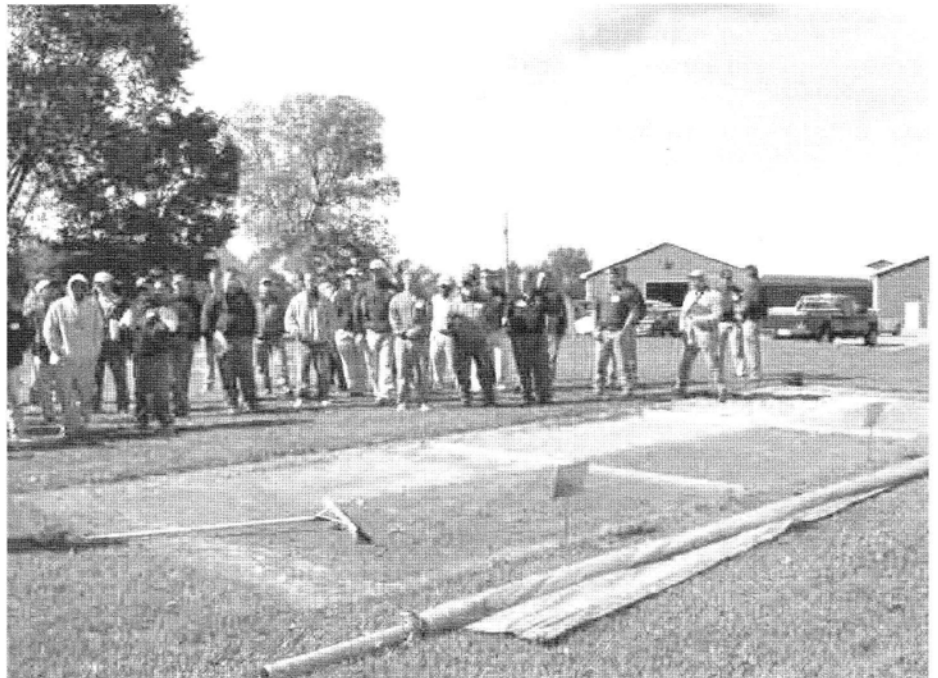
#### Acknowledgements

The authors wish to thank Sports Field Managers Association of New Jersey for financial support of this project and Jim Hermann, CSFM, for project design input and help in mix maintenance and installation.

Additionally, the authors would like to thank Geo. Schofield Co. Inc. and Partac Peat Corporation for donating materials used in this demo.

#### Literature Cited

ASTM. 2002. Standard Guide for Construction and Maintenance of Skinned Areas on Sports Fields. Volume 15.05: Designation F 2107-01.



*A 30 minute presentation on the installed infield mixes was part of the October 2, 2003 Sports Turf Workshop at the Rutgers Snyder Research and Extension Farm located in Pittstown, NJ.*

*continued from page 2*

responsible for the outcome? Did the engineer oversee and enforce the contract properly? Did the contractor follow the specifications to the T? Did the administration cut corners to save money and meet their time-line?

How many of you have asked yourselves these questions? How many of you have had great projects or ones that were not so great? Tell me about them. I would like to hear from directors, contractors, engineers, administrators and the sports field manager. I do not need names or company’s just successes or failures we can all learn from. You do not have to give your name if you do not want it revealed. E-mail or

write to the SFMANJ address in this newsletter. ♦

*\*Eleanor Murfitt is the director of Parks/Recreation & B&G for Washington Township (Morris County) Long Valley, NJ*

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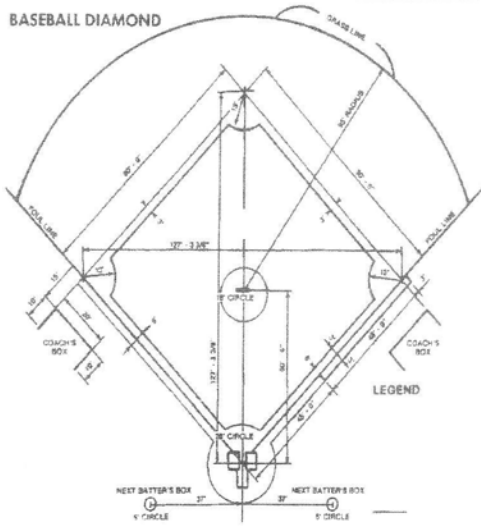
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**Monthly Field Tip - Crabgrass Control**

by Jim Hermann, CSFM\*

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