

profile, as organic and mineral materials accumulate above the synthetic stabilizer. We are interested in finding out if this burying of the stabilizing materials reduces their effectiveness. We also want to know if current management practices can be used to prevent accumulation of thatch above the synthetic stabilizer.

Stabilizers also tend to reduce surface resilience and increase surface hardness (as measured by gmax). Two separate studies established in fall 1996 seek to evaluate mat management above the surface of the stabilizers and to evaluate field hardness.

**Study 1:** This study seeks to evaluate conventional methods of turfgrass management as they apply to SportGrass. Experiments are designed to determine how grass management practices influence the accumulation of organic matter within and above the synthetically reinforced zone.

**Study 2:** This study seeks to evaluate how grass species, seeding rates, and traffic intensity influence the performance of the natural grass/synthetic turf combination. It rates the performance of a SportGrass system with respect to hardness and footing.

Preliminary results have been posted for both studies. Research is continuing on both.

### Stabilizing sand-based athletic fields with Enkamat

This study seeks to determine the proper placement depth for Enkamat and to evaluate it as a stabilization material for sand-based systems. Demonstration plots have shown that when Enkamat is exposed to the surface during field wear, there is a potential for tripping by field users wearing cleated shoes. The research asks how deep Enkamat needs to be placed to prevent exposure to the surface, and looks for benefits of field stabilization with Enkamat.

We constructed a 50-ft. by 50-ft., 6-in. deep, sand-based pad in fall 1997, at the ISU Horticulture Research Station. We placed the sand-based system over a 4-in. gravel blanket with a network of 4-in. drain pipes. Individual plots are 13 ft. by 16 ft., allowing us to sub-divide each treatment plot for further study.

Plots include sand and Enkamat at 0.75 in. and at 1.75 in. The experimental design is a randomized, complete block with three replications of the three treatments.

Plots will be evaluated May through August for turf appearance, surface hardness, and traction. From mid-August

through September, all treatments will receive simulated traffic. The entire study area will receive both hollow- and solid-core aeration in 1998, to determine if Enkamat disrupts this routine management practice.

We will evaluate the turf again during a non-traffic recovery period between October 1 and mid-November.

For more detailed versions of these and other ISU research reports, visit the Internet Web Site: <http://www.hort.iastate.edu/hort/frames/pubs/pframe.html>. For printed copies of this research as posted on that Web page, contact STMA Headquarters by phone: (800) 323-3975, fax: (712) 366-9119, or e-mail: [TrustyTips@aol.com](mailto:TrustyTips@aol.com). □

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# sportsTURF

# Seed

# Development



by Eugene Mayer and Doug Brede

Groundskeepers and turf managers are constantly looking for new varieties and species of seed that will improve the quality of their playing surfaces and tolerate more wear. Historically, seed research has produced a considerable amount of variety improvement in both cool-season and warm-season grasses over the past 20 years. With the current level of plant breeding and the increasingly prevalent use of genetic engineering, seed researchers hope to continue this trend to meet the demands of athletic fields.

### Trends

Researchers agree that in terms of the research being done in athletic turf seed development, there are no new trends. Work continues to pursue the same goals that it has for years.

The problems Sports Turf Managers find in their fields remain the same. Facilities are often larger than their budgets, so seed varieties that help ease maintenance duties are very desirable. Turf must provide excellent resistance to a number of diseases; tolerance to a wide range of stresses, such as heat, drought, and shade; the vigor and durability to withstand traffic; and the ability to recover from damage that these factors cause.

If there is a trend in athletic turf seed development, it's specialization. More and more, breeders are developing specialized varieties to meet high-intensity traffic and other conditions

found on sports turf. No longer are varieties being bred for the mass market.

Today, varieties are tailored to specific applications. There are more turf breeders and more breeding programs ongoing than ever before. Competition between breeders has opened the door for specialty varieties suited to specific niches.

A successful variety maintains a careful balance between superior turf performance and robust seed yield. Seed yield is something that many athletic field managers take for granted in a turf variety. But when it comes to long-term success, a top grass variety will remain in production only if it satisfies the user *and* the seed farmer. It's got to be tops at both.

### High-maintenance turf

With a high-maintenance sports field comes high visibility. These are fields that draw a large pool of spectators, and the size of their maintenance budgets is proportional to the attention they receive.

These fields have to produce a display of color and texture that really catches the eye. They require careful attention to every detail. Most importantly, they've got to withstand the demanding wear and tear of athletic competition.

Kentucky bluegrasses perform well under high-maintenance conditions that provide abundant fertilization and irrigation. Their underground rhizomes help hold the turf together and

fill in worn spots quickly. Bluegrasses also exhibit good tolerance to a wide range of diseases.

Bluegrasses perform best in turf when combined with perennial ryegrasses. Ryegrasses provide a higher level of wear tolerance than other cool-season grasses. They germinate and establish quickly, and can provide a useable turf within three to four weeks. This gives the slower-establishing bluegrass seeds a bit of a cushion. The bluegrass seeds return the favor by providing stability upon maturity with the rhizomes that ryegrasses lack.

Warm-season bermudagrasses provide another option for high-profile field seeding, particularly in warm climate zones. Bermudagrass produces a stable playing surface, especially on sand-based fields.

Brenda Dossey of Seeds West explains that while there aren't many disadvantages to using the species in high-maintenance situations, "Bermudagrass, as a species,

has two characteristics that some may consider drawbacks. First, it has relatively high nitrogen requirements. Second, it does go dormant in the winter."

species has not adapted to the climate. This is creating new challenges to groundskeeper's cultural maintenance practices.



**Breeders continue to develop specialized seed varieties to meet high-intensity traffic and other conditions found on sports turf.**

*Courtesy: Jacklin Seed*

Despite this second problem, bermudagrass use is becoming increasingly common in high-profile fields in northern regions, where the

### Low-maintenance turf

Low-maintenance fields are not watered and fertilized as often as their higher-maintenance counterparts, and they may be constructed from compacted clay. Sustainability is the prime factor in choosing a grass seed.

Turf varieties for low-maintenance sites must have a proven track record. A good showing in the National Testing helps, but viable varieties must prove successful in sports turf applications over a period of time.

When choosing a good grass for low-maintenance fields, one mistake buyers often make is to seek out the lowest priced seed. This is the wrong strategy. Paying just a few pennies more per pound of seed will save water, fertilizer, and pesticide costs over the life of the turf.

In the past, common varieties were

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recommended for low-maintenance turf. Unfortunately, these varieties lack performance features that allow turf to endure the wear particular to sports fields. They may perform well in their first year, but they will fail to meet the field's needs in the long term.

Cool-season tall fescues perform well on low-maintenance athletic fields. They have extensive root systems that can grow deep into the soil profile to gain access to water and nutrients. Tall fescues also exhibit good disease tolerance, and they form a dense and finely textured turf that is desirable for athletic applications.

For warm-season applications, there are several bermudagrass varieties that work well on low-maintenance turf. Several varieties provide tolerance to drought and wear, while still maintaining the uniformity that sports fields require.

## Future

Certain industry trends are already having an impact on sports turf seed development. The new BancOne retractable-dome stadium in Phoenix has created a new and challenging environment for the facility's turf crew. The University of California developed a variety of Zoysiagrass to meet the stadium's particular needs.

Crystal Fricker of Turf Seed reports that combgrass is also offering promise to covered facilities like the one in Phoenix. First introduced in Europe, the new species has tested well in cool climates and in shaded areas. The species' good winter color and growth, high density, and quick establishment give it lots of potential to be a future player in the sports turf market.

Genetic engineering will also play a big role in the future of seed development. It's likely that the next big gains

in sports turf seed research will involve the isolation of single genes for such traits as herbicide resistance, disease resistance, and insect resistance.

Engineered herbicide resistance will allow us to use safer herbicides without risking damage to turf. This will promote greater uniformity in turf, which will translate to safer and more playable fields.

Increased disease and insect resistance will decrease our reliance on pesticides. Plants will be healthier, and better able to withstand the stress of heavy traffic. □

*Eugene Mayer is technical training and support manager for The Scotts Company in Marysville, OH. Doug Brede is research director for Jacklin Seed, a division of J.R. Simplot Company in Post Falls, ID.*

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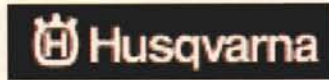
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# Newly Affiliated MiSTMA Holds Meeting

The Michigan Sports Turf Managers Association (MiSTMA) held its first meeting as an official STMA affiliated chapter June 25, at West Ottawa public Schools.

Sixty-eight attendees packed the room for the kick-off of the educational sessions. Meanwhile, several vendor attendees were on the field, wrapping up setup of displays for the trade show and outdoor demonstrations.

Chapter President Rick Jurries welcomed attendees, outlined coming events, and invited guests to take advantage of their final opportunity to sign up as charter members. He turned the program over to Chapter Secretary Kurt Brace, who served as MC for the day.

David Gilstrap of Michigan State University gave the first presentation. He addressed the topic: "Species Cultivar — Selection, Overseeding and Timing for Irrigated, High-Maintenance Sites." He spoke about working with Kentucky bluegrasses and perennial ryegrasses in athletic field seeding and overseeding situations.

Gilstrap noted that most sports turf managers begin the seeding process with 80-percent Kentucky bluegrasses (of at least three cultivars) and 20-percent perennial ryegrasses by weight. Because it takes 23 Kentucky bluegrass seeds to equal the weight of one perennial ryegrass seed, that translates to 95.7-percent Kentucky bluegrass and 4.3-percent perennial ryegrass by seed count. Essentially, the faster-germinating perennial ryegrasses create a light shade that aids bluegrass establishment.

Dr. Paul Rieke of MSU spoke next on the topic: "Timing is Everything."

His presentation included a list of prerequisites for quality sports turf: appropriate choice of grass, acceptable soil conditions, adapted maintenance programs, adequate budgets and equipment choices, reasonable scheduling of the field, and training of the field manager.

STMA Executive Director Steve Trusty welcomed the chapter, and spoke on the national organization and



*Courtesy: Trusty & Assoc.*

benefits of membership. He presented President Jurries with the official MiSTMA Chapter gavel.

Doug Coe, who retired after 30 years as a coach and was inducted into the Coaches Hall of Fame, took the floor with his topic: "Relationships with Pride." He pointed out the similarities between coaching and sports turf management. Both are in the public eye, both are evaluated every game, and both have no place to hide. People in the stands think that both coaching and sports turf management are simple — and they are if everything goes right. We all know that doesn't happen

often. As Coe said, "You can't always do it right, but you must always attempt to do it right."

Networking was in high gear during lunch and afternoon activities. Attendees moved outside for the trade show and outdoor demonstrations. Attendees were divided into groups for up-close viewing of techniques and question and answer exchanges. As they wrapped up the day checking out the exhibits, it was obvious that this first meeting as an official chapter had been a great success.

**WELCOME TO STMA'S TWO NEWEST AFFILIATED CHAPTERS:** The Michigan Sports Turf Managers Association (MiSTMA) and the Great Lakes Sports Turf Managers Association (GLSTMA) have both completed all requirements for affiliation. They were officially recognized as affiliated chapters by the STMA Board at the June 19-20, 1998, Board Meeting.

## Chapter news

**Great Lakes Chapter:** GLSTMA closed charter membership enrollment at the end of its July 10 workshop, the first meeting as an official affiliated chapter. As with all chapters, new members are always welcome and can sign up anytime.


GLSTMA is now accepting entries from active members for the '98 Sports Facility Awards. Categories include Professional Facility; College Facility; and School, Municipal, or Park Facility. All entries must be submitted by September 1.

The annual dinner and awards banquet will be held at 6:30 pm, November 5, at Baldwin-Wallace College. Executive board meetings are

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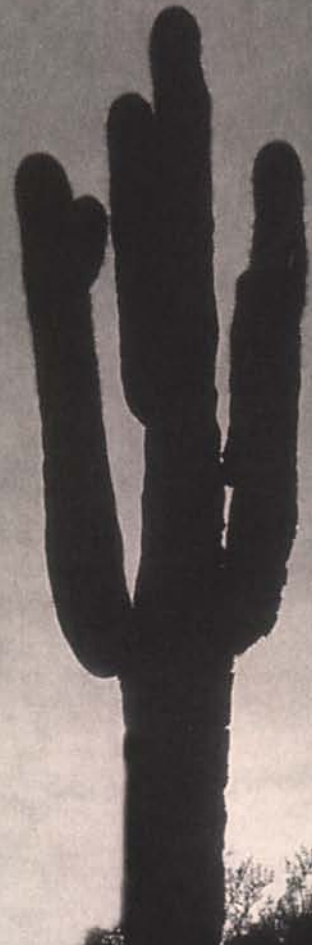
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scheduled for August 25, September 29, and October 27.

For information on these events, the awards program, or the Great Lakes Chapter, contact Joe Zelinko: (800) 897-9714, or Boyd Montgomery: (419) 885-1982.

**Colorado Chapter:** The Colorado Sports Turf Managers Association will hold its fall seminar September 17, at Westminster City Park, Westminster, CO. For more information on this

event, the Colorado Chapter, or upcoming activities, call the 24-hour chapter hotline/fax: (303) 438-9645.

**MAFMO Chapter:** The Mid-Atlantic Field Managers Organization is planning a "Fall Field Day" October 1, at the Baltimore Stadiums. For information on this event, the MAFMO Chapter, or upcoming activities, contact the chapter hotline: (410) 290-5652.

**Iowa Chapter:** ISTMA will

participate in Iowa Turf Institute's benefit golf tournament September 14, at Glen Oaks Country Club in West Des Moines. For information on this event, the Iowa Chapter, or upcoming activities, contact Lori Westrum at The Turf Office: (515) 232-8222, or fax: (515) 232-8228.

**Mid-South Chapter:** A Tour of Pringle Stadium in Jackson, TN, is being planned for early September. Those within the Mid-South Chapter area with ideas for a regional meeting are asked to contact Chip or Jim at the numbers listed.

For more information on the chapter, any of the regions, or pending activities, contact Chip Houmes: (901) 377-5081, or Jim Calhoun: (901) 755-1305.

**Michigan Chapter:** MiSTMA has elected the following officers for 1998:

- Rick Jurries  
West Ottawa Public Schools  
*President*
- Chuck Amos  
Western Michigan University  
*President-Elect*
- Kurt Brace  
J. Mollema & Son, Inc.  
*Secretary*
- Heather Nabozny  
West Michigan Whitecaps  
*Treasurer*
- Matt Heiss  
Turf Services  
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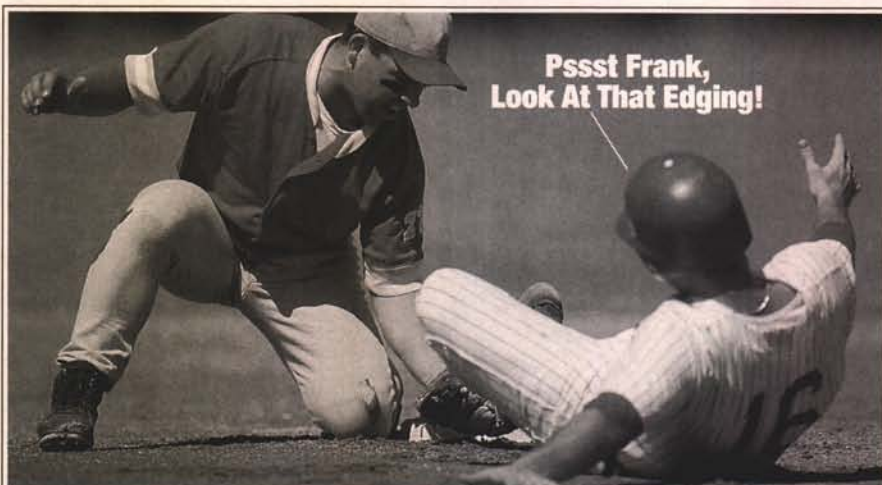
MiSTMA is planning an August event with presentations on football field compaction. For information on this event, the chapter, or pending activities, contact Rick Jurries, West Ottawa Public Schools: (616) 395-2364.

**Minnesota Chapter:** The Minnesota Chapter is planning a September workshop. Details will be announced soon. For information on the September event, the Minnesota Chapter, or pending activities, contact Connie Rudolph: (612) 646-1679.

**KAFMO Chapter:** The Keystone Athletic Field Managers Organization is planning a "Fall Field Day." It's been tentatively set for October 6, at Lehigh University.

For information on this event, the KAFMO Chapter, or upcoming activities, contact Dan Douglas, Reading Phillies Baseball Club: (610) 375-8469 ext. 212.

**Midwest Chapter:** For information on the Midwest Chapter or pending activities, call the chapter hotline: (847) 622-3517.



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