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## PROGRAM

VOLUME 15, NUMBER 3

MARCH 1999

### Main Events

#### 8 Infield Soils and Topdressings

Paul Zwaska of the Baltimore Orioles provides a comprehensive guide to skinned area maintenance.



#### 24 Baseball Field Renovation

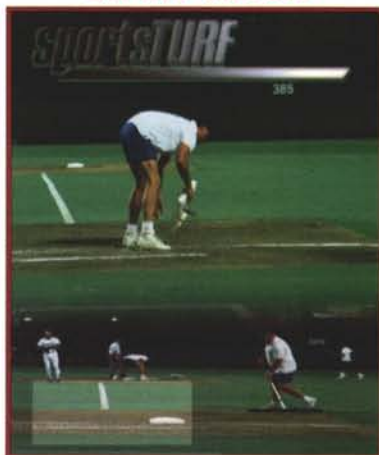
Tim Moore's tips will help you make the most of your field renovation projects.



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## Conference Highlights

• At its Annual Conference, STMA elected its 1999 officers and board of directors. The association's officers will remain the same, as all members were reelected to their respective positions:

**President: Steve Guise**, Marina Landscape, Inc., Anaheim, CA

**President Elect: Rich Moffitt**, St. Louis University, St. Louis, MO

**Commercial Vice President: Bob Curry**, Covermaster, Rexdale, ON, Canada

**Secretary: L. Murray Cook**, Ballpark Services, LLC, Bowie, MD

**Treasurer: Bob Patt**, Civic Center/Stadium Manager, City of Canton, OH

**Tom Burns** of the Texas Rangers was reelected to the *Category I* board position. He'll represent professional facility sports turf managers.

**Dr. Tony Koski** of Colorado State University was elected to the board for the first time. He will replace **Mary Owen** of the University of Massachusetts in the *Category III* position, which represents schools, researchers, extension agents, and teachers. Mary steps down after completing two consecutive terms in the position.

Other board members will continue to serve in the second year of their two-year terms. They include:

**Bob Campbell**, University of Tennessee, Knoxville, TN

*Category II - College and University Facilities*

**Tim Moore**, Maryland National Capital Park & Planning Commission, Wheaton, MD

*Category IV - Parks and Recreation Facilities*

**Lynda Wightman**, Hunter Industries, Inc., San Marcos, CA

*Category V - Commercial*

• STMA handed out many awards during its annual banquet. This year, 12 outstanding facilities were given *Field of the Year* honors. *sportsTURF* will continue to profile each of these fields to showcase the work of their talented maintenance crews.

My favorite moment of the evening came when I presented the *sportsTURF* *Man of the Year* award. We managed to keep the news from **Henry Indyk** until he saw himself in the magazine on the trade show floor. His surprise was worth the wait, and it was an honor to be able to present the award to him in person.

The *Harry C. Gill Memorial Award*, which honors an individual's long-time service and commitment to the association and its goals, was given to **John Souter** of Perthshire, Scotland. He currently serves on the boards of five different companies in the sports turf industry. In addition to his extensive work overseas, Souter has lectured at Purdue University and Cal-Poly University, and he has spoken at several STMA conferences and events through the years.

**Ross Kurcab** earned the *Dick Ericson Award* for his work with the Denver Broncos. Ross gives much of his time to the association, and has supported both the National STMA and its Colorado Chapter for years.

The *Dr. William H. Daniel Award* was presented to **Steve Cockerham**, turfgrass scientist and superintendent of agricultural operations at the University of California-Riverside. The award recognizes Cockerham's extensive and influential research in the sports turf industry.

**Don Kelly**, head groundskeeper for the City of Rocky River, OH Recreation Department, took home the *George Toma Golden Rake Award*. The "and then some" spirit Kelly brings to his work embodies the ideals of STMA founder and long-time supporter George Toma.

In other award news, outgoing Board Member **Mary Owen** received the 1998 *President's Award*; **Dr. James R. Watson** of Toro was awarded STMA's *Honorary Life Membership*; and **Lofts Seed**, a subsidiary of AgriBioTech, Inc., was named *Outstanding Commercial Affiliate*.

**Steve Berens, Editor**  
(847) 427-3005

## Tip o' the Month

### Batter's Box Repair

by Floyd Perry

At most high school, parks & recreation, and municipal facilities, the number-two repair area (after the pitching mound) is the right-handed batter's box. Conditions below the surface can create uneven hitting surfaces and enormous amounts of material tear out. Innovative, below-ground solutions follow:



- Break up heavy clay materials and interlock with the existing clay surface.

- Strategically position heavy clay blocks where the rear dig-in foot and the front landing foot do the most damage.

- Use sub-surface hitting pads 1-1/2 inches below the ground to prevent extra-deep holes.

- Incorporate a clay polymer into the lower levels of the hitting area to eliminate deep holes.

- The most practical way to prevent holes from occurring during pre-game batting practice is to use hitting pads.

- Artificial turf eliminates surface disruption during batting practice, and it creates an extra-hard, compacted clay using the player's body weight at the same time. □

*Floyd Perry is author of three books: The Pictorial Guides to Quality Groundskeeping: I - Covering the Bases; II - There Ain't No Rules; and III - Maintain It Easy, Keep It Safe. He also produces two videos: The ABC's of Grounds Maintenance: Vol. 1, Softball; and Vol. 2, Baseball. For more information, call: (800) 227-9381, or visit his web site: <http://gms.simplenet.com>.*



#### April 7

New York State Turfgrass Association's (NYSTA) Adirondack Regional Conference, Hilton, Lake Placid, NY. Contact NYSTA: (800) 873-8873 or (518) 783-1229.

#### July 21-23

Turfgrass Producers International (TPI) Summer Convention & Field Days, Holiday Inn South, East Lansing, MI. Contact TPI: (800) 405-8873 or (847) 705-9898.

#### July 27

Midwest Regional Turf Foundation's Midwest Regional Turf Field Day, West Lafayette, IN. Contact Bev Bratton: (765) 494-8039, or fax (765) 496-2926.

#### November 9-12

Turf and Grounds Exposition, OnCenter, Syracuse, NY. Contact NYSTA: (800) 873-8873 or (518) 783-1229.

## \*Correction\*

In the February issue of *sportsTURF*, improper credit was given for photos in the feature titled: "Principles of Water Movement." All images were supplied by the Crop and Soil Sciences Club at Washington State University. Address any inquiries regarding the images to Crop and Soil Sciences Club, c/o Dr. Bruce Frazier, Washington State University, P.O. Box 646420, Pullman, WA 99164-6420.

For general inquiries about the article, contact François Hébert at Lanco Aménagement, 1110 Place Verner, Laval, Quebec, Canada H7E 4P2; phone: (888) 664-7489; fax: (450) 664-4555; e-mail: [lancoturf.com](mailto:lancoturf.com).

## STMA MESSAGE

Sports  
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## Rock-Solid Foundation

Every successful association is built on a solid foundation of individuals and commercial affiliates and sponsors. Their roles in the organization further the association's activities and progress. Their ride can feel like a roller coaster going up and down, left and right, until finally leveling out and returning to the platform.

Just like riders on a roller coaster, these association members can arrive at the end of their adventure feeling exhilarated and satisfied. Some leave with a smile, while others, feeling the strain of the experience, shake their heads with relief that they managed to stay on and finish the ride.

Our latest Annual Conference this January had more of these riders in attendance than in past years. You could see the satisfaction in their faces as they looked around and visited with the 500+ attendees. Their involvement and their willingness to share the good and the not so good times are an important part of cementing together the old and new constructions of our organization.

The most important part of any roller coaster is the solid foundation at its base. It must be capable of supporting an equally sound structure at its top. This rock-solid foundation supports the riders during the ups and downs and zigzag paths of the ride.

Like that roller coaster, the STMA has built a solid foundation through the continuing support of all its members in all categories of membership. If any of the less than positive roller coaster rides of our past history repeat themselves, we as an association are on a rock-solid foundation. We are well-prepared to handle whatever comes our way.

Just as members must be professional examples in their positions and in their communities, the STMA has become a professional association. For the STMA to remain financially strong and sincere to our mission, we must continue our efforts to maintain a solid management foundation.

When I select members to serve as chairs of the STMA committees, I must decide on each individual's ability to perform the duties of that committee. Just as importantly, I must determine each individual's willingness and dedication to devote the time and effort required by our active committees.

When committee chairs select their members, they must go through the same assessment process. When those of you who have volunteered to serve on a committee are asked to fill a committee position, you too must assess your own abilities, your workload, your dedication to the goals of that committee, and your willingness to serve. These are important decisions for our association. It is the work of these committees that constructs and creates opportunities that will lead our organization into the future.

So, if after doing your personal assessment, you are interested in getting involved in an STMA committee, please let me know. We need future "founding members" for the many additions that will surely come.

Stephen Guise, STMA President  
(714) 704-0403

# Infield Soils and Topdressings

by Paul Zwaska

**B**aseball is a unique sport in grounds management. It's the only major sport that is played on a field that has both turf and exposed soil for a playing surface.

Ballplayers scrutinize the playability of your skinned areas more closely than you're turf areas. Your reputation as a groundskeeper will depend on the skin you keep.

This is not to say that the turf areas on a baseball field are unimportant. But if you think about it, 75% or more of the game occurs on the skinned areas of the field. Unfortunately, this crucial subject is avoided by the academic institutions that teach many of today's up and coming athletic field managers.

With no written guidance, new groundskeepers must resort to trial and error if they haven't been lucky enough to learn from another groundskeeper in the business.

## Goals for a quality infield skin

• **Traction:** Most players desire the same quality in an infield skin: traction. That's the reason for the spikes in their shoes.



**Keep a vigilant watch on your skin's moisture. Once a skinned area dries too much, it takes twice the work to get the soil moisture content back.**

Courtesy: Paul Zwaska

Nothing makes a player happier than a firm infield skin that is moist and cork-like, not hard and baked dry. The cleat should penetrate the skin and leave a perfect imprint. Very little soil should be disturbed or displaced. When players plant their feet to throw, field the ball, or run, the soil should not give way under them.

The traction in your infield skin comes from its base soil. Choose your mix carefully. Many companies that sell infield skin mixes know nothing about their proper function.

Many mixes are too sandy. Soils that don't firm up (high sand content of 75% or higher) are more mobile. This creates low spots in high-traffic areas (around bases and fielders' positions) more quickly, especially as the field dries out. The loosened material is more likely to be carried to other portions of the field to create high spots and huge lips at the infield skin/turf interface.

These sandy infield mixes increase infield skin maintenance problems. The loose soil also causes unstable footing for ballplayers, increasing the risk of foot, ankle, and hamstring injuries.

• **Drainage:** The proper drainage on your infield skin dictates how quickly you will resume play after a rainfall. About 95% of the water that falls on the skin should run off the surface.

Good surface grade and proper maintenance techniques will give you the best results. Your infield skin should have a minimum 1-1/2-inch fall from the front of the skinned area to the back. Percolation rates on a good, firm infield skin should be 0.03 to 0.05 inches of rain per hour. Only in rare, special problem areas should a sandy infield mix be used to help drainage problems.

Drainage lines installed under the infield skin are a waste of time. If you use the proper soil for the skin, it will never perk enough rain to reach the drain tile.

A drain line is more appropriately positioned five to 10 feet behind the infield skin in the shallow outfield. Here it will cap-

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ture water that runs off of the skinned areas.

Amending infield soils with various miracle materials to enhance drainage throughout the skinned area usually proves unsuccessful. At best, these amendments provide a very short-lived remedy.

• **Topdressing:** Choose the proper topdressing to work with your base mix. Think of your skin as a two-tier profile: the top 1/4- to 1/2-inch consists of your topdressing, and the remainder consists of your base infield mix.

The topdressing on the skin provides a cushion for the players. It creates a buffer zone between the players' cleats and the moist base soil mix, and prevents the soil from sticking. The topdressing layer also helps you endure light rain showers during games.

Don't go any thicker than a 1/2-inch layer of topdressing on the surface of the skin. A deeper layer will cause the ball to skid under infielders' gloves instead of taking the proper hop. It can also drastically influence a ballplayers traction.

#### Infield base soils

• **Testing:** If you don't know the percent breakdown of sand, silt, and clay in your skin base mix, have it tested to give you a reference point for comparisons. Send a sample of your soil to a private testing lab or county extension office that performs particle size analysis or soil texture analysis work.

These labs will give you the composition percentages, and they'll show you where your soil fits into the soil texture triangle. A simplified home version of the test is also available. It can give you a ballpark figure of your percentages (see **Figure 1** on pg. 10 & **Figure 2** on pg. 22).

• **General Guidelines:** Remember that soils differ greatly around the country and they react differently to many things. The following gives generalizations as a guide for base mixes. Soils in your area might not always fall into these guidelines.

You want to keep the sand fraction of your base soil between 50% and 75% (normal base mix). Soils with higher sand content normally become too loose and mobile. The soil becomes loose with play and is transported to other areas of the skin by the dragging process or by play.

You may think you'll gain drainage if your base mix has high sand content. In fact, it creates more maintenance headaches.

The mobile soil rapidly develops high

and low spots in the skin, and lips at the skin/turf interface. Those low spots and high lips interfere with the surface flow of rainwater draining off the skin, and large puddles develop.

In base mixes with higher sand content (>75%), there is not enough binder (clay and silt) to hold the soil firmly together. As a game progresses, the skin becomes more loose in the high-traffic areas. This reduces traction and increases risk of injury to feet, ankles, and hamstrings.

To tighten up a high-sand base mix, till in a nice clay loam soil. Add several tons at a time, till it, work it, let it settle, and pack and see how it reacts before you add more.

High-clay and high-silt soils create a different problem: compaction and hardness. Generally speaking, the combination of these two materials should not exceed 40% to 50% of your soil mix. Too much of either of them can inhibit intake of water into the skin due to lack of pore

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## Figure 1. Soil Texture and Particle Size Determination

Soil texture affects many properties of soil. Compactability, porosity, bulk density, water-holding capacity, and drainage are all affected by the makeup of the soil.

Soils high in sand normally hold very little water and drain rapidly. Soils high in clay normally hold large amounts of water and can drain variably, depending on structure.

Soil texture refers to the percentage of sand, silt, and clay particles in a soil. These particles are defined by their size. The U.S. Department of Agriculture has determined the size of the soil separates to create the classification system below:

SAND	2.0 - 1.0 mm	Very Coarse Sand
	1.0 - 0.5 mm	Coarse Sand
	0.5 - 0.25 mm	Medium Sand
	0.25 - 0.10 mm	Fine Sand
	0.10 - 0.05 mm	Very Fine Sand
SILT	0.05 - 0.002 mm	
CLAY	<0.002 mm	

Soil testing labs use a couple of different quantitative methods to determine relative amounts of soil separates. Once the relative amount of sand, silt, and clay are known, you can determine the soil's textural class using the soil texture triangle provided. Each side of the triangle represents the relative content or percent of one of the three soil particle size classes.

