

continued from page 10

tificate and card from STMA President Mike Schiller. Ericson was originally to be honored at the STMA banquet in Colorado Springs, but a rare absence due to his wife's hospitalization prevented that. She is now fine and was able to witness the presentation along with all the MSTMA members and



**Agronomist Mike Kelly of the Glenn Rehbein Co. discusses the experimental technologies incorporated into the 55-field complex at the National Sports Center in Blaine, Minn.**

Saints fans. Ericson was honored as a founding member of STMA and for his long-term, continuing support. He also was invited by the Saints to throw out the first ball for the game.

As is typical when STMA members get together, the information exchange was great. There were many comments on how worthwhile the day was and how important it is for everyone to share experiences to provide safer and more aesthetically pleasing playing fields.

### STMA Chapter News

**MAFMO Welcomed:** The Mid-Atlantic Athletic Field Managers Organization (MAFMO Chapter STMA) has completed all requirements for affiliation and was officially recognized as an affiliated chapter by the STMA board at the July 11-12 board meeting.

The MAFMO Chapter STMA will hold its Fall Field Day from 8 a.m. to 3 p.m. on September 25 at MacGruder High School in Rockville, Md. This workshop will be a "Turf Ace in Turf" demonstration featuring aeration, top-dressing, overseeding, fertilizing, rolling and field marking. Vendors will

also demonstrate and display their products.

For more information, contact the Hotline: (410) 290-5652.

**Colorado Chapter:** The Colorado Chapter of STMA has set its combination Vendor Expo and Meeting for September 18 at Jeffco Stadium. This replaces the spring event that was canceled due to an April snow.

Just a few of the features of this event will include a presentation on the history of Jefferson County stadiums, a presentation on the STMA Certification program by Certification Committee member Ross Kurcab, a tour of Jeffco Stadium, and product demonstrations.

For more information, call the 24-Hour CSTMA Chapter Hotline/FAX: (303) 438-9645.

**Iowa Chapter:** The Iowa Sports Turf Managers Association will hold a Baseball/Football Workshop from 9 a.m. to noon on October 9 at Waldorf College in Forest City. Sessions will include general care of the baseball mound and home plate and general care of the football field.



**Minnesota Chapter members and guests observe options in action as vendors demonstrate equipment.**

For more information, contact Lori Westrum at The Turf Office: (515) 232-8222 (phone) or (515) 232-8228 (fax).

**Florida Chapter #1:** The Florida #1 Chapter will meet in Ft. Lauderdale on October 21. The meeting will focus on aerifying and top-dressing.

For more information, contact John Mascaro: (954) 938-7477.

**KAFMO:** Keystone Athletic Field Managers Organization is now planning KAFMO Chapter STMA's Fall Field Day. More details will be announced soon.

For more information, contact Dan Douglas, Reading Phillies Baseball Club: (610) 375-8469, extension 212.

**Midwest Chapter:** The Midwest Chapter of STMA will hold its annual meeting on December 2 in conjunction with the North Central Turfgrass Exposition at Pheasant Run Resort and Conference Center in St. Charles, Ill. The annual meeting will wrap up that day's special sports-turf track of educational sessions. The full NCTG Exposition is December 1-3.

For information, call The Chapter Hotline: (847) 439-4727.

**Southern California Chapter:** Plans for an October meeting are in the works. Details will be announced soon.

For more information, contact Chris Bunnell: (619) 432-2421.

**Minnesota Chapter:** As part of the Minnesota Turf & Grounds Foundation, the Minnesota Chapter of STMA will take part in the MTGF 4th Annual Conference and Trade Show, which will be held December 10-12 at Minneapolis Convention Center. For more on this event, contact Scott Turtinen: (612) 473-8169.

For information on the Minnesota Chapter, contact Connie Rudolph: (612) 646-1679.

### STMA Chapters on the Grow

**Northern California:** A budding chapter is taking shape in northern California. The steering committee includes Sal Genito, UC Davis; Steve Abella, Delta Blue Grass; Sandy Jacobson, UC Davis; Bob Milano Jr., UC Berkeley; James Moore, B & B Concrete; Dave Patterson, Sierra Pacific Supply; Greg Roberts, Placer Union High; Tim Smith, Brown Sand; and Dennis Suit, San Jose State. News about the official "Grand Opening" and Charter Commercial Memberships will be announced soon.

For information, contact any of the committee members or the UC Davis Grounds Office: (916) 752-5035.

**Great Plains:** The Great Plains STMA has its Fall Workshop in the planning stage. Details will be announced soon.

For information, contact Mark Schimming, City of Wichita: (316) 337-9123. □



By Victor A. Gibeault and Stephen T. Cockerham

**T**urfgrasses for sports facilities have to fill a tall order. They must be durable grasses capable of withstanding intensive use, often-times under restricted budget and cultural programs, while simultaneously providing a smooth, uniform surface that is conducive to good play and safety. They must also look good because of the aesthetic function they provide for spectators on-site or a television viewing audience.

Viewed from a national perspective, both cool-season and warm-season grasses are used for sports turf facilities with the choice of grass being dependent on local climate and soil, facility use, and budget and personnel support. Zoysiagrasses, which are warm-season turfgrasses, have not been widely used in the past in the warm regions of the country because of the limited availability of good performing cultivars for high-play locations. Nevertheless, zoysiagrasses are tolerant of heat, drought, salinity, shade and are not commonly susceptible to disease, insect or weed invasion problems. Also, they have high-traffic tolerance, an advantage that is somewhat offset by the grass's slow recuperative ability if the sward is severely damaged from too much play.

### Breeding Initiated

Because of the many positive characteristics of zoysiagrass, a long-term plant breeding program at the University of California, Riverside (UCR) focused on the development of improved experimental zoysiagrass lines and, ultimately, cultivars for warm-season turfgrass climate zones. The breeding objectives were to develop grasses having good color, texture, density, uniformity and pest resistance while providing an acceptable establishment rate (zoysiagrasses can be very slow to establish). Of particular interest to southern California and similar climates was for the new grasses to have extended green color retention into, or throughout, the winter season when most warm-season turf-

# De Anza Zoysia: A New Turfgrass for Sports



Zoysia test plots at UCR.

grasses go dormant. Following an extensive breeding and selection program that involved the long-term evaluation of several hundred plant types, De Anza zoysiagrass and a sister grass, Victoria, were recently patented and released from the University of California for commercial development.

De Anza zoysiagrass was produced by hybridizing two distinct zoysiagrass selections: El Toro zoysiagrass was the female parent, and an experimental grass coded UCR #3 was the male parent. Consistently, the winter color retention of De Anza was the best for any of the grasses examined with the cultivar retaining good color characteristics throughout the winter in Riverside (inland) and Irvine (coastal) areas of southern California.

De Anza has a medium leaf texture (with El Toro being coarse textured and Emerald being fine textured); the leaf color is light green. The leaf blade is upright and stiff and withstands wear very well. Like all zoysiagrasses, De Anza spreads by tillers, stolons and rhizomes, again an advantageous growth habit for heavily used turfed sites. There is no seed production of the cultivar, so when used on a turfed site, it will be vegetatively propagated from sod or sprigs.

### Mowing Studied

Two questions raised with this new grass were the mowing height tolerances and the vertical mowing requirements for varying play and use conditions. Several issues were involved: the spongy sensation of walking or

running on traditional, mature zoysia-grasses with deep thatch is objectionable and results in poor footing for sports facilities; also, zoysiagrass at lower mowing heights greens up earlier in spring, recovers quickly from thatch removal, and is of good quality in the summer months. Previous research has shown that maintaining zoysiagrass at a low mowing height and mechanically removing thatch reduced sponginess and improved footing.

For these reasons, a two-year study was conducted at the University of California, Riverside to evaluate De Anza performance under five mowing heights: 3/8 inch, 1/2 inch, 3/4 inch, 1 1/4 inch, and unmowed. Also, three vertical mowing treatments were evaluated: 0, 1, and multiple times per year. It was found at the Riverside location that De Anza gave a similar, good visual appearance at the four mowing heights and that aesthetic appearance was somewhat negatively affected for one to three weeks following vertical mowing.

Clipping yields that were collected showed that most growth occurred with the 3/8-inch, 1/2-inch, and 3/4-inch mowing height treatments, indicating those heights to be very acceptable for optimum growth and development of De Anza zoysiagrass. Thatch thickness increased with increasing mowing heights, as would be expected. Multiple vertical mowing treatments reduced measured thatch by 11% in this study. The multiple treatment also was shown to reduce sponginess between 16% and 34% (summer and



For two years, UCR studied De Anza at five mowing heights, which included an unmown control.

autumn, respectively) as measured by a Clegg Impact Tester.

Regarding mowing in summary, De Anza responded favorably to various cutting heights but definitely benefited from vertical mowing.

### Winter Appeal

Other studies with De Anza have shown it to be a warm-season turfgrass capable of avoiding or postponing winter dormancy in southern California's climate. Chilling temperatures, causing injury or stress, interacting with high light intensity result in loss of chlorophyll and dormancy for most warm-season grasses, until warmer temperatures return in late-winter or early spring when re-greening occurs. Normally, the winter temperatures in southern California are very close to threshold temperatures that cause chlorophyll degradation.

The breeding program that developed De Anza specifically selected for grasses that had superior winter color-retention characteristics when compared to all commercially available and most experimental zoysiagrasses. Also, it has been shown that De Anza responded very strongly to nitrogen fertilization by consistently giving high winter color ratings; iron moderately, but significantly, positively influenced the grass winter color.

Zoysiagrasses can be overseeded for winter color if necessary. De Anza, when overseeded with perennial ryegrass or tall fescue in October, had the cool-season grasses germinating and covering quickly, with the perennial ryegrass and tall fescue mixing well with the zoysiagrass and enhancing winter color marginally under southern California conditions, where the winter temperatures and chilling influence are moderate. The mix of tall fescue and De Anza zoysiagrass was

particularly appealing. Even so, turfgrass quality was compromised during the warmer spring and summer months following overseeding because of the survival and competition from tall fescue and perennial ryegrass under southern California conditions.

### Traffic and Shade

Like all zoysiagrasses, De Anza tol-

erates traffic well but is slow to recover from severe damage caused by too much wear. Under partial shade conditions, De Anza has proven able to provide both shade and traffic tolerance better than other commonly used cool- and warm-season turfgrasses.

For these reasons, De Anza is planned for use in the Bank One Ballpark in Phoenix, a stadium currently under construction to house the

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Arizona Diamondbacks baseball franchise. The facility will have a retractable roof to provide an open air stadium in spring and fall. During home stands in the hot Arizona summer, air conditioning will be required for spectator comfort and the roof will be closed. The commitment was made to have natural grass as the playing surface.

Questions asked regarding the use and selection of natural grass in this unique sports environment included the following:

How much light is required for turfgrass used for sports?

Can the light be supplemented?

Is there a low-light turfgrass suitable for a sports field?

Will the grass make an adequate



**De Anza has been planted on the Arizona State University baseball diamond to test the playability of the new zoysiagrass.**

baseball infield?

Can the roof be closed for home stands?

If air movement is required for grass growth, how much?

How can recovery from injury be enhanced?

How long will it take the sod to root in the spring?

Initial experimentation and literature reviewed indicated that zoysiagrass would have the best chance of providing the needs of the facility because of its adaptability to low light while having good traffic tolerance. It was determined that De Anza had the rapid rate of growth to provide quick establishment and recovery from injury as well as an acceptable tolerance to the anticipated low light conditions of the stadium. Bank One Ballpark is scheduled for De Anza zoysiagrass to be established in the winter season, 1998.

In summary, De Anza zoysiagrass is a new cultivar that will have a role to play in sports fields where warm-season grasses are adapted. It has good color, texture, density, uniformity, shade adaptability, traffic tolerance, and can be maintained at varying mowing heights dependent on the requirements of the facility. Where winter temperatures are moderate, it has superior color retention, especially when fertilized with soluble nitrogen and iron. In locations with more severe winter temperature conditions, overseeding with commonly used cool-season grasses can be performed with a successful mix of the cool- and warm-season grasses.

□ *Dr. Victor A. Gibeault and Dr. Stephen T. Cockerham are turfgrass specialists at the University of California, Riverside.*

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# What I Did Last Summer..

by John L. Mower

Thanks to my very loud  , I got up. It was a sunny morning and I had

planned to spend some time on the lake catching  , but I

had a major problem in the yard. The  trees were growing nicely,

but the bermudagrass was not. It looked as if we had been watering with

a very small  ! Summer was slipping (  ) away and the stress

was mounting. Obviously, it was a growing problem so I began to  for some

in-depth clues.

Then, I had a very  idea. I hurried right to the  and called

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By Bob Tracinski

**F**linn Memorial Stadium, the 1996-1997 STMA High School Football Field of the Year, is home for the Quincy High School Blue Devils and the showplace of the Quincy, Illinois, public schools.

The stadium is part of a complex of nearly 25 acres located at the east edge of the city, approximately a mile east of the high school. The stadium's 3,800 seats are routinely filled for both football and soccer games. This spring's graduation ceremonies drew a crowd of



The challenge of maintaining Flinn Stadium "had me hooked during the first year," says Kurt Knuf, sports turf manager.

## Flinn Memorial Stadium Wins High School Football Field of the Year

over 6,000, requiring on-field seating for the graduating class and part of the audience.

### Futuristic Complex

When the complex was developed in 1978, this forward-thinking, sports-minded community built an extremely workable stadium on the "home team" side of the football-soccer game field. The lower level of the concrete building houses three team locker rooms, one official's locker room, two offices for coaches, a team meeting room, training room, large weight room and an equipment room. On the upper level are two concession stands, men's and women's rest rooms, two large equipment storage rooms and the sports turf manager's office. On top of the stadium is the ample press box with room for three radio stations, press room, video room, two football coaches rooms, a scout room, and a room for the PA announcer and score keeper.

Even more impressive was the installation of a sand-based field able to support the heavy use to come. This field has an extensive sub-surface network of drainage tiles spaced on six-foot centers that leads from the field into the man-made collection pond on site. The in-ground automatic irrigation system was designed with six individual zones and 27 heads. A polyurethane six-lane, all-weather

running track surrounds the field.

The complex includes three football practice fields and a dual soccer-football field for non-varsity games. A video tower for taping practices is located between the practice fields.

### Hooked on Maintenance

Maintenance of this multi-functional facility is managed by sports turf manager Kurt Knuf, who has been in that role since 1985.

"I'm assisted by two college students during the summer, generally from about mid-May to the middle of August," Knuf says. "They help with the general cleaning of the building, mowing and trimming of the three practice fields, the main football field and the other surrounding areas.

"These students have been great assistants over the years. Todd Reagan is in his fourth year here and does an excellent job. My son, Jason, worked with us in 1996. Casey Otten is tackling the assignment this summer. It helps to balance a first-year person with an experienced one. This job takes more focus than the average summer job, including a desire to learn, attention to detail and the commitment to do things right day after day."

It also takes intense organization on Knuf's part to keep all the fields mowed, painted and safe for play at all



Before every football game, Knuf overseeds the field, letting the players "cleat it in." Photos courtesy: Kurt Knuf.

times. Organization is especially important because, during the remainder of the year, he's a one-man crew. He does have a full-time, though non-salaried, staff member. It's Sunshine, the cat who is in charge of rodent control.

Knuf earned an associate degree in civil engineering and worked for a time as a surveyor in Galena, Illinois, before returning to his home town of Quincy. He originally took the school position as a way of combining his love of sports and the outdoors while waiting for a surveying position to open up locally.

"The challenge of this position had me hooked during the first year," he says. "It's just what I was meant to do."

Knuf reports that his wife, Susan, does laugh about the "Mr. Turf" title given him by the local TV sports editor, but as business manager for a local

company, she understands the need to do what it takes to get the job done and is very supportive.

Knuf has found his engineering background an asset in such precise tasks as field layout and marking and in irrigation system maintenance. He continually works to upgrade his job-related knowledge and skills and holds a public applicator turf-pest control license with the state of Illinois.

### Opportunities to Shine

"Scheduling maintenance can be difficult," Knuf says, "because of the number of games played here. Football plays 11 to 13 games in the fall. Boys soccer plays 23 to 25 games during the same period and on the same field. In addition, the varsity and sophomore teams practice on the main field every Thursday night to get ready for their Friday night's game.

"The marching band plays for the home varsity football games. They also will practice on the game field once before the first home football game and occasionally before important competitions. Last year we hosted a marching band competition on the field that brought in eight other bands, one all the way from Columbia, Missouri."

Two soccer games took place on the field during the same day that the band competition was held, but Knuf said it created no problems.

"The field was in great shape going into it and came through just fine," he says. "I thought the band competition was terrific and hope they make it an annual event."

Speaking of annual events, the field is the site of 18 to 20 girls soccer games each spring; boys and girls high



Applying a growth regulator for the first time last year, Knuf has cut back on field painting, which used to be a weekly project.

school track practices and meets; the Great River Golden Games for senior citizens; the Catholic grade school's track field day; the Special Olympics; the public school's fifth-grade field day; the Junior High Regional Track Meet, which pulls in around 1,000 people; and high school graduation.

"I look forward to graduation," Knuf says. "Even though the stage is

on the field for a week, if the weather cooperates at all, the turf snaps back very well. It's really a great opportunity for our facility to shine for the segment of the community that's not into sports."

Besides, Knuf points out, the field has been even busier. Up until the city's Notre Dame Catholic High School built its own field four years

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### Send the information below to enter:

1. Age of baseball diamond (year of installation).
2. Geographic location (city and state).
3. Description of maintenance program.
4. Operating budget for baseball diamond.
5. Irrigation: None \_\_\_\_\_ Manual \_\_\_\_\_ Automatic \_\_\_\_\_
6. Total number of maintenance staff for field.
7. Does baseball field have lighting for night games?
8. Number of events on baseball diamond per year.
9. Types and number of events on diamond other than baseball?
10. How many months during the year is the field used?
11. Why you think this field is one of the best?
12. **IMPORTANT:** Send two sets of color slides or prints.

**Deadline for entries:** Entries must be postmarked no later than November 30. Selection of winners will be made by the Awards Committee of Four Major League Head Groundskeepers.

Mail entries to:  
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ago, Flinn Stadium hosted 52 games each fall instead of the current 35. Because everyone cooperated and communicated, the field held its own then, too.

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Before every football game, Knuf overseeds the field with the same 60

percent bluegrass, 40 percent perennial ryegrass blend as the existing turf and lets the players "cleat it in." The only bare spots that ever appear are along the sidelines where the football players gather to watch the action, and even those bare spots are rare.

When Friday night football games are followed by Saturday soccer games, he'll enhance the normal post-



Developed almost 20 years ago, Flinn Memorial Stadium's construction included a sand-based field to support the heavy use to come.

**Q: What do all of these teams have in common?**

- Oakland A's
- Arizona Diamondbacks
- University of Texas Longhorns
- San Diego Chargers
- University of Southern California Trojans
- California Angels
- Arizona State University Sun Devils
- San Francisco 49'ers
- San Diego State University Aztecs
- San Francisco Giants
- San Diego Padres
- Los Angeles Dodgers
- Oakland Raiders
- Arizona Cardinals

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game divot replacement by rolling the field on Saturday morning.

"I very seldom roll the field otherwise," explains Knuf. "It's basically a step needed to ensure the smooth surface the soccer players expect from our field."

Consistency in irrigation is the biggest problem Knuf faces. It's not a fault in the irrigation design but rather the effects of the constant, every-changing winds that sweep across the open expanse of turf. A day with no wind changing the spray pattern gets marked on his calendar. He fights the isolated dry spots with two oscillating sprinklers and 400 feet of hose.

Offsetting the sand-based field's constant thirst for irrigation is its excellent drainage. The field is ready for Friday night play following a normal rain on Thursday night or even late Friday morning.

Since the complex's practice fields lack installed irrigation, two Rain Trains travel almost constantly when conditions are hot and dry. Knuf schedules the majority of all field irrigation at night when both winds and evaporation rates are more favorable.

Knuf practices standard IPM methods, using control products only as necessary. Because of the high irrigation needs, he monitors nitrogen levels closely to avoid dollar spot and reduce fungicide applications. Constant winds also bring in weed seeds, so a spring preventive application of pre-emergence control is part of the maintenance program.

Fields are mowed three times per week. The football game field is mowed each Monday, Wednesday and Friday with a reel mower. Each five-yard section is mowed in an alternat-