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sportsTURF PROGRAM

Sports Turf Managers Association

THE OFFICIAL PUBLICATION OF THE SPORTS TURF MANAGERS ASSOCIATION

STMA OFFICE
401 N. MICHIGAN AVE., CHICAGO, IL 60611; (312) 644-6610

MAGAZINE STAFF
PRESIDENT **MARK ADAMS**
EDITORIAL DIRECTOR **HELEN M. STONE**
EDITOR **MIKE AUGSDORFER**
EQUIPMENT EDITOR **DANIEL INGHAM**
VICE PRESIDENT GROUP PUBLISHER **COLLEEN LONG**
ADVERTISING SALES **KAPRELIAN & COMPANY, INC.**
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MAIN EVENTS

LINE-UP

On the Cover:

The sport of lawn bowling requires proper upkeep and attention to maintain good playing conditions. Photo courtesy Joe Siegman, ALBA.

STMA MESSAGE

Network Associates

By Greg Petry

I recently attended a brainstorming workshop for the Waukegan Symphony Orchestra and Concert Chorus. The purpose of this meeting was to discuss the vision of both groups and what steps they would take in the future.

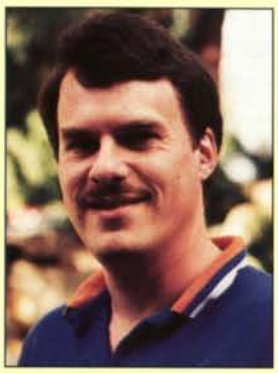
A professional consultant was brought in to help facilitate the meeting. Many diverse ideas were brought up reflecting the wide range of opinions of the different groups. As I listened, it occurred to me that we in STMA face similar challenges with our diverse group of members from professional sports turf facilities, two- and four-year colleges and universities, school districts, research agents, parks and recreation, municipal facilities, students, commercial affiliates and international members. After meeting with both groups, the consultant was able to draw the conclusion that the most important objective should be to network together more in order to get acquainted with the members of the other group.

The networking is happening with STMA's regional chapters, institutes and annual national conference and exhibition. Looking back, the importance of our 1994 annual meeting in Baltimore was that while each segment has special needs, all the common interests come together as a group. This synergy continued earlier this year in Bradenton and has strengthened our organization. As we move west to our next all-industry event in Anaheim in January, I expect to find that this maturity and growth will be contagious in California.

While we all have our individual jobs to do, we cannot forget about the value of coming together to strengthen our knowledge and our common profession.

THE FRONT OFFICE

OPINION PAGE



What Is Sports Turf?

Most people probably think of sports turf as the grass that college and professional football and baseball players play on, usually hybrid bermuda in the South and perhaps a blue/rye mix in the North. Maybe soccer fields and some high school stadiums would be included as well. Of course, those who actually work in the sports turf industry know that the definition extends well beyond those narrow boundaries. That's why *sportsTURF* magazine occassionally ventures beyond the limited world of baseball, football and soccer fields to explore some unique or unusual sports turf applications.

Last month we featured a story on turf racetracks, which offered information that should be helpful to anyone who maintains a heavy traffic turf area. This month we look at lawn bowling greens. These delicate turf surfaces are built and maintained to precise specifications, but some of the methods used in the construction and maintenance of lawn bowling greens can be applied to other sports turf surfaces as well. For example, Dr. Edgar Haley details the importance of a proper sand base for the turf and explains why standard irrigation practices may literally drown turf. While this information is most applicable to turf managers who maintain lawn bowling greens, some sports turf managers who maintain other types of playing surfaces should be able to use this information.

As the official magazine of the STMA, *sportsTURF* plans to cover a wide variety of turf topics in future issues. We plan to look at turf surfaces for tennis, polo, croquet, field hockey and other sports while maintaining extensive coverage of maintenance techniques for major turf sports such as baseball, football and soccer. As always, we welcome suggestions and ideas concerning the editorial content of the magazine. Your input is always appreciated. While these "minor" sports may not get as much attention as the "majors," these turf surfaces are considered "sports turf" in the same context as the fields at Fenway Park or Notre Dame Stadium are sports turf fields.

So what is sports turf? Perhaps the best answer is "any grass surface on which athletic or recreational activity is conducted."

Mike Augsdorfer

Mike Augsdorfer

EVENTS

CALENDAR

September

24 Southern California STMA event at Dodger Stadium. Contact: Chris Bunnell, (619) 432-2421.

October

3 Thirtieth Annual Turfgrass Equipment, Irrigation and Suppliers Field Day, sponsored by the Golf Course Superintendents Association of New Jersey. The Mattawang GC, Belle Mead, NJ. Contact: Judy Policastro, (201) 379-1100.

4-5 Thirty-fifth Southern California Turfgrass Expo, Costa Mesa, CA. Contact: (800) 474-2967.

5-6 Texas Turf Irrigation Association convention and trade show, Grapevine Convention Center, Dallas, TX. Certified Irrigation Professional CEU courses will be available. (Also offered October 12-13 in San Antonio.) Contact: TTIA, (817) 598-0907.

9-12 Forty-ninth Northwest Turfgrass Conference and Golf Tournament, sponsored by the Northwest Turfgrass Association. Skamania Lodge and Conference Center, Stevenson, WA. Contact: (206) 754-0825.

10 "Principles of Sports Turf Management," sponsored by CHEMSEARCH. Glendale Community College, Glendale, AZ. Contact Brian Barklage, (800) 477-6242.

19 Colorado Chapter STMA Golf Tournament and Annual Business Meeting. Contact: Ross Kurcab, (303) 649-9000 or David Rulli, (303) 982-8528.

October - November

29-3 Agronomy Meetings, sponsored by the Turfgrass Science Division of the Crop Science Society of America. St. Louis, MO. Contact: Dr. Keith Karnok, (706) 542-0931. e-mail: kkarnok@uga.cc.uga.edu.

5-8 Twenty-fifth annual conference and show, sponsored by the National Institute on Parks and Grounds Management. Toledo, OH. Contact: National Institute, (414) 733-2301.

5-10 Eighty-third Congress and Exposition, sponsored by the National Safety Council. Dallas Convention Center, Dallas, TX. Contact: (708) 285-1121.

7-10 Turf and Grounds Exposition, sponsored by the New York State Turf Association and Cornell University. Rochester Riverside Convention Center, Rochester. Contact: (800) 873-TURF or (518) 783-1229.

9-10 Golf Course Expo, Orange County Convention Center, Orlando, FL. Contact: (207) 846-0600.

12-16 PGMS 84th Annual Conference and Sixth Annual Green Industry Expo. Worthington Hotel, Fort Worth/Tarrant County Convention Center, Fort Worth, TX. Contact: PGMS, (800) 609-7467 or Eleanor Ellison, (770) 973-2019.

27-29 North Central Turfgrass Exposition, Pheasant Run Resort, St. Charles, IL. Contact: Illinois Turfgrass Foundation, (312) 201-0101.

December

5-8 Ohio Turfgrass Foundation Conference and Trade Show. Columbus, OH. Contact: (614) 261-6750.

6-8 Forty-second Turfgrass Conference and Trade Show, sponsored by the Rocky Mountain Regional Turfgrass Association. Currigan Hall, Denver, CO. Contact: (303) 688-3440.

11-13 Texas Turfgrass Conference and Show, sponsored by the Texas Turfgrass Association. Houston. Contact Shirley Duble, executive director, (409) 693-1656.

January 1996

24-28 STMA Seventh Annual National Conference and Exhibition, Anaheim, CA. Contact Carey Haines, (312) 644-6610.

25 Ninth Annual Inland Northwest Turf and Landscape Trade Show, sponsored by the Inland Empire Golf Course Superintendents Association. Spokane Interstate Fairgrounds, Spokane, WA. Contact: Julie Boyce, (509) 535-8305.

February

5-12 Golf Course Superintendents Association of America International Golf Course Conference and Show. The Peabody Orlando, Clarion Plaza Hotel and Omni Rosen Hotel, Orlando, FL. Contact: GCSAA, (800) 472-7878.

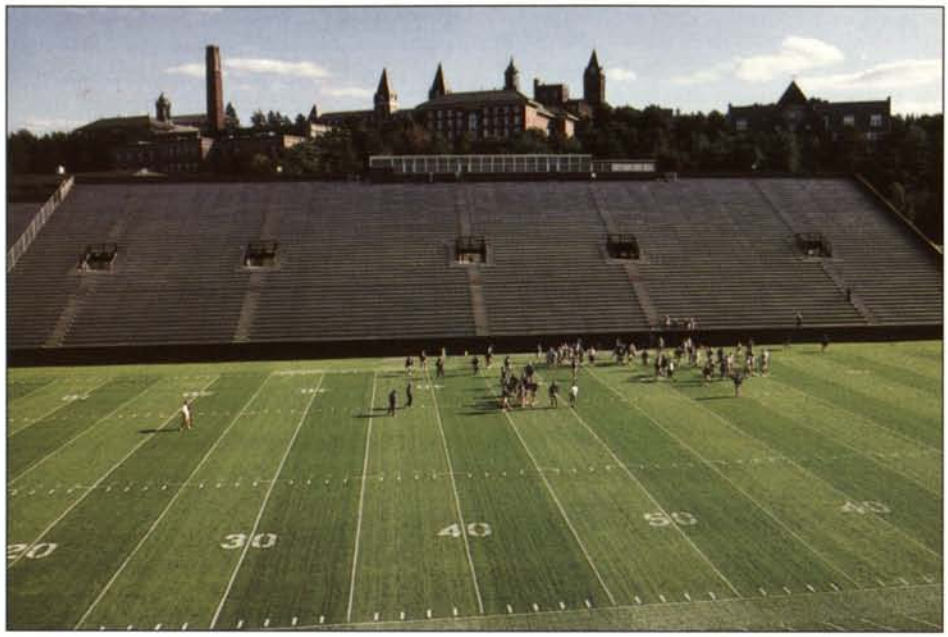
16-17 Tampa Bay Horticultural Trade Show, sponsored by the Tampa Bay Wholesale Growers Association. Tampa Convention Center, Tampa Bay, FL. Contact: (813) 960-1457.

March

2-5 Forty-seventh Canadian Turfgrass Conference and Trade Show, sponsored by the Canadian Golf Superintendents Association. Vancouver Trade & Convention Centre, Vancouver, BC, Canada. Contact: Andrea Franks or Chuck Desveaux, (905) 602-8873 from U.S.; (800) 387-1056, within Canada.

Send event announcements two months in advance to: Editor, **sportsTURF**, *68-860 Perez Road, Suite J, Cathedral City, CA 92234. Fax: (619) 770-4380.*

Fall Fertilization:



For cool-season fields, such as this football field at College of the Holy Cross in Worcester, MA, both fall and late fall fertilization should be considered.

Breakfast for Champions

By Dr. Paul E. Rieke

Sports turf managers have a variety of projects which require their time and attention during the fall. Turf management practices done in the fall and late fall have a major effect on the quality of turf the following spring. Fertilization is one of the most important fall practices.

Some turf consultants have suggested that phosphorous (P) and potassium (K) are the key nutrients to apply in the fall, but most acknowledge that nitrogen is the most important nutrient in fall fertilization. Of course, if P is recommended (based on soil tests) this would normally be applied as needed, split into several applications over the year.

Because K is so important in stress tolerance, application of some K in late fall programs should be considered on high-maintenance turfs like athletic fields. On sandy soils, some late fall K should be a regular part of the program. Potassium is easily leached from sands, so regular applications are needed and should be made in the fall and late fall as well as throughout the year. This is especially important for turfs which receive heavy traffic, such as athletic fields.

To be confident the soil contains adequate potash, use a soil test for medium and fine-textured soils. If tests suggest potash is needed, appropriate rates should be applied based on recommendation and common sense. Recommendations for P_2O_5 and K_2O given in soil test reports are for the amount needed for an entire year. In fall to late fall, apply reasonable and safe amounts to achieve the total needed over the year. If soil tests have been taken in late summer, the recommended amounts should be applied over the next 12 months as a general rule.

When late fall nitrogen fertilization is practiced, some potash should also be applied along with the nitrogen on high-use turfs. Without the benefit of soil-test recommendations on finer-textured soils, apply potash at about half the rate of nitrogen. On sands, use equal quantities of nitrogen and potash.

Fall Nitrogen

Both fall and late fall fertilization are beneficial on cool-season grasses. Depending on location and weather conditions, fall nitrogen can be applied in early September. The appropriate date will be later for the transition zone, perhaps a little earlier for short summer locations. With shorter days and cool nights, the grass tends to grow laterally to fill in open areas and will begin to accumulate carbohydrates more efficiently. Fall is probably the most important time of year to apply nitrogen. This helps not only to improve turf density but builds up the plant for next year. Unfortunately, turf managers often overlook fall fertilization as they are busy with other projects and do not want to encourage more growth.

How much nitrogen should be applied in the fall? Consider the density of the turf. If it is thin, use one pound of N per 1,000 square feet. If the density is very good, a lower rate can be applied. Usually a minimum of 1/2 pound of N per 1,000 square feet should be used. For new turfs or others which need more nitrogen, another application can be made two to three weeks later.

In October, we normally suggest no nitrogen be applied. During this time, the plant is hardening off and preparing for winter. As the plant hardens off, it becomes less susceptible to frost injury caused by a hard frost after several weeks of excellent growing weather.

Timing of Late Fall Applications

There are different ideas as to how and when to use late fall nitrogen applications. In part, this occurs because of differences in climatic zones and variations from one season to the next. Perhaps the more important reason for variation in late fall fertilization is the objective for this practice.

In my opinion, the most important objective of late fall nitrogen fertilization is to *supply nitrogen to the turf after growth has ceased but when photosynthesis can still occur*. This will normally take place anywhere from the last week of October in northern Michigan to the second week of November farther south in Ohio and Indiana, for example. Some additional short growth spurts may

require mowing after that time, but regular mowing is no longer necessary. At this time, the root system is still active since the soil is warmer than the air. While top growth has ceased, photosynthesis can continue, and roots can take up nutrients.

The appropriate timing for fall N will vary by a week or more depending on the particular year. In 1994, for example, cool weather in October led some to consider applying the late fall application earlier than usual, but then the weather turned warmer in November and growth continued later than normal.

With the root system still active, nitrate nitrogen can still be taken up and utilized by the plant. If proper nitrogen fertilization has been practiced during the fall (September) period, the turf should still be green and physiologically active in the late fall. This permits the plant to continue photosynthesis whenever conditions of moderate temperature and some sunlight occur. Carbohydrates manufactured during this time are not "burned off" with growth and clippings but are stored. This builds up the plant for next year, which permits root growth initiation in the spring even before top growth begins.

Late fall N also reduces the need for early spring N, which enhances growth and mowing requirements at a time of year when growth is likely to be very rapid anyway. Carbohydrates lost with the clippings in the spring are obviously no longer available to the plant. It makes real sense to hold these carbohydrates in the plant as long as possible. As the hot weather of summer comes, the carbohydrates will be lost readily. Keeping the carbohydrate level in the plant high enhances stress tolerance and keeps some reserves in the plant for recovery of turf density if needed.

Nitrogen Carrier

The choice of carrier is another important factor in late fall nitrogen fertilization. To accomplish the objective of getting a significant portion of the applied nitrogen into the plant right after application necessitates that the major portion of the nitrogen be from fast acting, soluble sources. The balance (preferably 25 percent or less) can be slow-release. This slow-release carrier will provide a small amount of N next spring, but will not result in any major response or flush of growth. Any of the slow-release carriers should be acceptable for this portion of the fertilizer.

If straight slow-release N sources are applied during this late fall period, not enough N will be available to the plant to provide the response desired of enhancement of photosynthesis and carbohydrate storage. Some golf course superintendents like to use natural organic fertilizer right after Thanksgiving and have been pleased with the responses observed the next spring. This approach has been used with success for years but does not accomplish the objective of carbohydrate storage during the late fall provided by the earlier application.

Rate of Nitrogen Application

How much nitrogen should be applied with the late fall application? Rate of application of N will again vary with turf conditions and philosophy of the turf manager. For golf greens, 1/2 pound N per 1,000 square feet may be sufficient. Lawns and general grounds can receive 3/4 to one pound N. Some agronomists may encourage even higher rates as a general practice, but the increased potential for leaching of nitrates would suggest caution against using higher rates of N. An exception might be football and soccer fields which have been thinned by fall play and need the extra boost from N. Rates as high as 1.5 pounds N per 1,000 square feet may be needed on these turfs.

If late fall N has been applied, the need for early spring N will be reduced. Many turf managers do not fertilize again until just before Memorial Day since the residual effect from fall and late fall applications has provided good color and density without the spring growth flush caused by early spring applications.

Late Fall N for All Turfs?

Some turfs may perform better without the late fall nitrogen. Some lawn care companies cannot sell the late fall nitrogen program because of cost. However, those who buy the late fall application will surely be happy with the condition of their turf the next spring.

What about the early spring application at the time of preemerge crabgrass applications? A little lower rate of N could be used with the late fall N application, then use a light rate (perhaps 1/2 pound N per 1,000 square feet) with the preemerge treatment. Turf quality should be very good with less growth and reduced mowing. Turf density should also be good, providing sufficient competition with weeds.

For sites that are very wet in the early spring and where mowing is limited, late fall N rates should be reduced. Still, there will be considerably less mowing than after an early spring fertilization. This should be evaluated on a site-by-site basis.

Increased snow mold has been observed where late fall nitrogen has been applied. However, research done by Dr. Joe Vargas demonstrates that while in most years the late fall nitrogen may increase the amount of snow mold, there is much quicker recovery from any injury caused than on unfertilized plots. The snow mold damage seems to be more superficial with the late fall nitrogen. The next spring, the turf returns to a better quality condition sooner with late fall nitrogen.

Other Problems

Other potential problems with late fall fertilization include the potential for leaching of applied nitrogen, late fall growth which would require more mowing, increased potential for dessication, greater thatch accumulation, and more growth in the spring. For most of these concerns the potential is small, and they are not considered major problems.

For example, a study being conducted at Michigan State by Eric Miltner and Bruce Branham compared late fall nitrogen treatments with those emphasizing spring applications. The study found no significant leaching of nitrates from either treatment. If the nitrogen is applied while the plant is still physiologically active, the soluble nitrogen should be taken up and used so it will not be available for leaching over the winter. These results are relieving objections to late fall fertilization expressed by environmentalists and some agronomists.

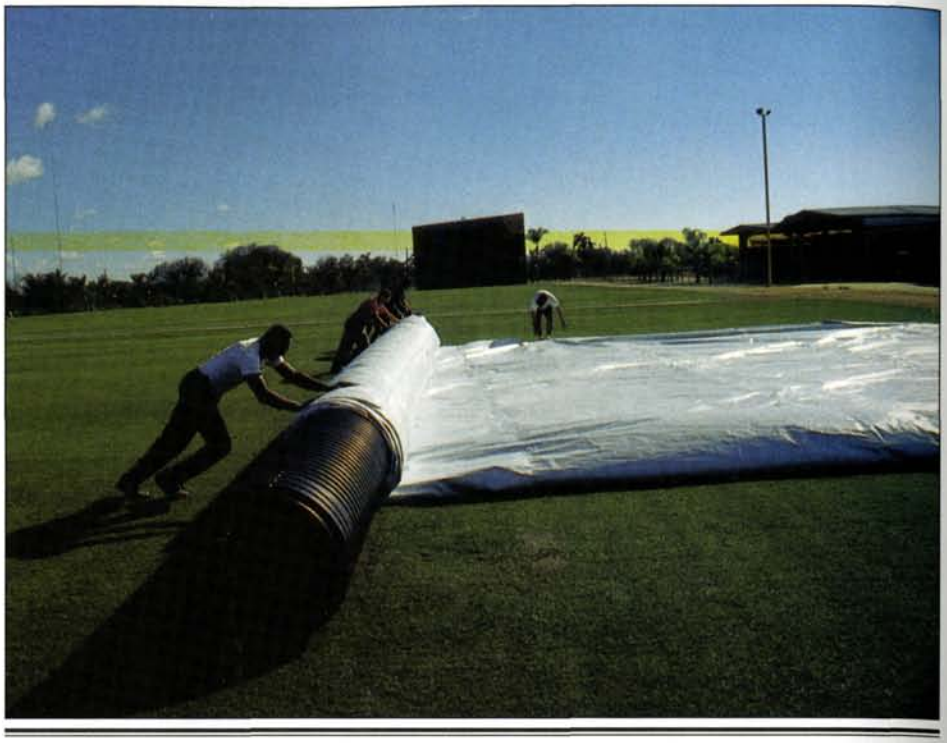
While there may be a small increase in growth during the fall or spring, most turf managers are satisfied the benefits far outweigh any potential negative effects. There is no evidence that late fall N applications increase susceptibility to low temperatures or crown hydration injury. In fact, if such winter injury does occur, late fall N application may speed recovery.

Benefits of late fall nitrogen include good carbohydrate levels in the turf the next spring, good early spring root growth, good fall and spring color and good turf density, so there is less potential for establishment of spring weeds. Since spring root growth of cool-season grasses begins before top growth, it is essential that a high level of carbohydrates exists in the plant to initiate that root growth.

With many advantages apparent for late fall nitrogen and few disadvantages, it is clear why so many turf managers have adopted this practice. I have not talked to anyone who has tried late fall nitrogen fertilization who has not continued to utilize the practice for agronomic reasons. This is the best testimonial for late fall fertilization. ❑

Dr. Paul E. Rieke is a professor of crop and soil sciences at Michigan State University.

Extending Field Use With Covers



Lightweight field covers are easy to remove when weather conditions improve. Photo courtesy: Trusty & Associates.

By Steve and Suz Trusty

Sports turf managers often need to cover more than their bases when coping with the whims of Mother Nature. Field covers are an important tool in providing playable conditions despite onslaughts of adverse weather conditions.

Across North America, professional, collegiate, high school, junior high and elementary school teams, as well as the organized teams of community parks and recreation systems, compete on fields in open, outdoor sites. These fields may be surrounded by complex stadiums, bordered by a set of bleachers or simply bare. Whatever the setting, the essential playing surface — the field — is exposed to the ever-changing, seasonal weather conditions.

Often key organizational revenues are generated from fan support of games, on-site and/or via TV and radio. A game canceled is money lost. In other situations, the focus and skills of young athletes are enhanced by regular, scheduled competition. A missed game can be a devastating blow to an eager player. The sports turf manager must also contend with the expectations of owners, managers, athletic directors and coaches, who expect a playable field no matter what obstacles nature may erect. Playable practice facilities are equally important. A properly conditioned and trained athlete is less susceptible to injury.

Wind, rain, snow, cold, heat and drought have no respect for practice and game schedules. Few organizations other than major colleges and professional athletic teams can afford domed, climate-controlled facilities for continual field protection, but field covers can provide an affordable alternative for allowing play during or following adverse conditions — and for extending the playing season. To accurately calculate the return on investment, determine the usable life of the cover and allocate a proportionate amount of its initial cost over that period. Then determine what benefits the covers can provide in your situation and how those benefits, translated to extended field use, affect your budget.

Starting Earlier

Ken Mrock, chief groundskeeper for the Chicago Bears football program, oversees the Halas Hall practice facility on the Lake Forest campus and coordinates operations at Soldier Field as well. Chicago is a tough venue. Summer temperature and humidity levels can combine to put the heat index in the hundreds, and winter is erratic with drastically fluctuating temperatures, icy winds and alternating bouts of heavy snow and no snow. In addition, the "lake effect" can create temperature fluctuations up to 15 degrees from within just two or three miles. Though snow may be falling at the lake, the city may be sunny and clear.

The NFL season is long, starting with training camp in early April and the playoffs lasting into January. Though turf growth is stopped by wintry weather, practices continue. Mrock and his crews essentially reestablish the turf each spring.

Normal spring weather in the Chicago area brings strong northeast winds and temperatures in the 40s, conditions that are not conducive to germination and establishment of cool-season grasses. Mrock uses an 84-by-110-yard section of lightweight, perforated poly cover to warm and protect the seed. He uses a pregerminated mix of 50 percent bluegrass and 50 percent perennial ryegrass, which is broadcast and the same seed mix ungerminated, which is slit-seeded in two directions. A light topdressing is applied.

A four-person crew, with one person at each corner, places the cover and anchors it with four-inch metal ground staples. The greenhouse effect of the cover raises soil temperatures by as much as six to eight degrees. Light, air and water easily pass through the cover, yet it has enough holding power to keep seed from washing away during heavy rains. Even under cover, germination takes from five days to two weeks, depending on weather conditions.

The turf is irrigated as necessary through the tarp. In some seasons the cover is removed to allow mowing and then replaced.

Tom Lujan, stadium turf manager for Denver's Mile High Stadium, over-

continued on page 12