Modular makeover at Michigan State

Photos by Kurt Stepnitz, MSU Plant Research Lab

BY ERIC ADKINS, CSFM

This fall, for the first time in 33 years, something will take place at Michigan State University's Spartan Stadium that most people take for granted. College football will be played on a natural grass surface.

A system of 4,800 GreenTech ITM modules was installed in Spartan Stadium in June. The modules are plastic, measure 46-inches square, and have channels every 22 inches on all four sides.

Initial stadium construction started after the last home game in December 2001. The old Astroturf was removed and lowering of the field surface began. The old asphalt pad and 12 inches of gravel base were removed to accommodate the height of the new modular system. A drainage system surrounds the outside edge of the new asphalt pad. A 1-percent slope of the asphalt pad will allow excess water to flow to the perimeter drain lines.

Underground irrigation lines and a new irrigation well were completed before the new asphalt surface was installed. Four irrigation lines run the length of the field, approximately 60 feet apart, beneath the asphalt. Down both sidelines is a series of vents that will allow for the air movement throughout the modular system. Warm air can be forced through the sideline vents and into the channel system of the modules, extending the growing season in East Lansing.

Homegrown turf

Growing the turf started at the Hancock Turf Research Center in May 2001. Final assembly and field construction was completed by the Clark Companies of Delhi, NY. During the final field construction phase, root zone materials were added to bring the height of each module to 12 inches. Turf Center manager Mark Collins and the research support staff began the seeding and grow-in phase. The modules were seeded at 1.3 pounds of seed per 1,000 square feet. Nine varieties of bluegrass were used: Limousine, Coventry, Rugby II, Unique, Midnight, Moonlight, Northstar, Champagne, and Serene.

The root zone was composed of 90 percent coarse USGA sand with the remaining 10 percent a combination of silt and clay. Fertilization began as turf growth started and was continued at 2-week intervals. During the first 6 months of growing time, the turf received more than 6 pounds of nitrogen and nearly 6 pounds of potassium per 1,000 square feet. Phosphorus applications totaled more than three pounds per 1000 square feet during the same 6-month time frame.

On June 10 this summer—after 13 months of preparation—moving day finally arrived. The turf was in excellent shape with a healthy, mature root system that seemed to be growing right out the bottom of the module. The nine varieties of bluegrass were becoming very aggressive and competitive with each other. A small thatch layer was starting to form, which is why seed was planted so far in advance of the actual moving day. The result was like bringing 4,800 individual football fields into Spartan Stadium.

As the modules were assembled in May 2001, a 12-inch high grow-in fence surrounded every module. This fence acted like a guard preventing the modules from growing together and also made separating the modules very easy. Forklifts pulled apart each individual module. Separated modules were loaded onto wagons for the 2-mile journey to the stadium. The University Farms staff, led by farm manager Barry Darling, was in charge of transporting the modules from the Hancock Turf Center to the stadium. On Monday, June 10, the first day of moving modules, eight farm tractors with single wagons were used. Each wagon could transport eight modules. Tuesday through Thursday the pace increased. Four tractors pulling two wagons became the

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process that worked the best. Each set of a tractor and the loaded wagons weighed more than 30,000 pounds. Each module weighed more than 1,300 pounds. Each driver and tractor averaged eight trips a day between the Turf Research Center and Spartan Stadium.

Pieces of a puzzle

As the modules entered the stadium, forklifts unloaded them and placed the modules back in the same order that they occupied at the Hancock Turf Center. By placing each module back in the same order, edges and seams fit back together tightly. Foot locators helped with proper placement of each module, which allowed installers of the modules to make tight fits and maintain proper alignment. Before each module was set in place, its two outside edges received a gasket-type sealer, a material found commonly on the bottom of most garage doors. To help seal out wind and rain, it was used as the seal between the modules. The tiny gap that occurred at the intersection of four corners was filled with a small amount of a foam sealer. This will ensure that no root zone material will move down through the module edges or intersections.

When the installation team reached the rows that contained irrigation sprinklers, they installed the sprinkler into the module by using a hydraulic flex pipe and fittings. Once the irrigation heads was determined, 8 inches of root zone and 4 inches of birds eye pea gravel were removed from the module with a golf course cup cutter. A hole sawed through the bottom of the module allowed the irrigation head to slip into the module. From the asphalt surface, a valve box connected the sprinkler to the irrigation line, by the use of a 1-inch diameter flex pipe. All of the 16 Toro 640 irrigation sprinklers within the actual playing surface were installed this way. Perimeter sprinklers were attached to the outside retaining wall.

Our local Toro Equipment and Irrigation Company, Spartan Distributors, which donated all of the irrigation heads, did an excellent job on the installation. Even though they practiced this procedure at the turf research center, the actual installation was much harder than anticipated, but they managed very well.

Days two through four became routine. The University Farms personnel were able to keep up with the demand of supplying modules to the stadium at the rate of more than 100 per hour. The field installation company, Kares Construction, was installing modules at that same rate. By the end of day four, 85 of the 100 rows of modules were in place. Kares crews worked hard to finish project the by the self-imposed Friday deadline.

During the move-in process, moisture levels were monitored to insure that newly exposed edges didn't become too dry. Staffers at the research center mowed and irrigated each module daily. Maintaining proper moisture in the module made it much easier to separate at the Turf Research Center. As the number of modules increased inside the stadium, proper turf maintenance continued. Thanks to Spartan Distributors, Toro mowers began mowing the Spartan Stadium surface on the afternoon of June 11. Some modules were transported, installed, and mowed all in the same day. By the end of the third day of installation, half of the irrigation system was operable.

As the last day approached, we knew that the installation process would slow because the workspace was becoming smaller. The double wagon tractors went back to single tractors and wagons. Forklifts gave way to pallet jacks. The last two modules were lowered into place by the use of straps and a sky jack. As the last module approached the stadium, the MSU Department of Pubic Safety provided a police escort into the stadium, acknowledging the momentous occasion. The last row was installed and the installation completed on Friday, June 15, to the delight of everyone involved.

For the first time in 33 years, grass was back in Spartan Stadium. For many people at Michigan State University, it is a dream come true. For others, it is a job well done. **ST**

Eric Adkins, CSFM, is the athletic turf manager for Spartan Stadium at Michigan State University.

The price of being a Certified Sports Field Manager

Now that I have been a Certified Sports Field Manager (CSFM) for more than 2 years, my perspective is changing. In the past, if you watered faithfully, followed some type of fertilization program, maintained good cultural practices, and mowed three times a week, that was all you needed to be a good sports turf manager. Ten years ago, that might have been right.

But now, more fields are becoming state of the art. There are new turf systems on the market every day, from the portable and removable turf systems, to all kinds of stabilized sand-based systems, to modified native soil fields. Today we are inundated with all kinds of soil amendments, the newest and best fertilizers, the best turfgrass varieties, and the latest and greatest chemicals, all of which we need to perform our jobs correctly.

Who are the Sports Turf Managers that will be able to manage the latest and greatest turf systems? I am sure we will have more venues where the grass will be grown indoors, pushing the limits of turf even farther than imagined. Who are the Sports Turf Managers that will continue to improve and up-grade existing fields?

The answers to those questions are the sports turf managers who will continue with their professional development. Professional development is the single most important action you can take to improve your career and further your potential new employment opportunities. The Certification Program guides you in the right direction.

Becoming certified isn't easy. If it were easy, all would be certified. Today's CSFM has made the commitment to learning more about the sports turf industry. This shows us that, for CSFMs, the education and professional development process never stops.

Here at Michigan State University, you don't have to look far to see the future of the sports turf industry. The 2-year Sports and Commercial Turf Management Program and the 4-year degree program are bringing a better-educated turf manager to the turf industry. Researchers at the Hancock Turf Research Center continue to work toward the next best sports turf grass species and cultivars and toward finding the best combination of sports turf grasses that can take use and abuse, and recover quickly. They continue testing the latest new products that enter the market.

Researchers are continuing to test turf grass soils, based on soil physical and chemical properties. All of the information and learning experience has proved to be invaluable for me. While not everyone has a turf research center at his or her disposal, new information on turf grass research is becoming more available.

The CSFMs of the future will have the best education and experience, putting them at the top of our profession. You can't put a price on education and experience, or maybe you can—your salary. The CSFMs will become the industry leaders in expanding their horizons by pursuing new educational opportunities. To say I know all there is about turfgrass and turfgrass management would be a false statement, but I'm constantly striving to learn more. Being a CSFM has shown that professional development will make me a better sports turf manager, a small price to pay for being recognized as a leader in the sports turf industry. ***—Eric Adkins, CSFM***

About the Certified Sports Field Manager program

Having recognized the importance of fostering and improving professionalism within the sports turf industry, the Sports Turf Managers Association (STMA) developed the certification program for sports turf managers.

The STMA firmly believes that a combination of education and experience are necessary to be the best possible athletic field manager. However, it also recognizes that in a profession as diverse as the sports turf industry, experience should play a major role.

In order to successfully gain certification, you must meet certain education and/or experience requirements. These requirements were set to establish minimum criterion for becoming certified. You will notice, however, that there is a strong leaning toward experience as a sports field manager. For example, it is possible to be certified without having any formal education beyond high school if you have enough years of experience. You cannot, however, become certified by virtue of education alone.

CSFM REQUIREMENTS

A total of 40 combined education and experience points are required to take the certification examination.

EDUCATION

PROGRAM	POINTS
Associate Degree	
Non-Turf	2
Turf Related	8
Bachelor Degree	
Non-Turf	8
Turf Related	16
Advanced Degree	
Turf Related	24

Note: Education points are not cumulative. No more than 50% of total experience points can be earned on a golf course.

EDUCATION

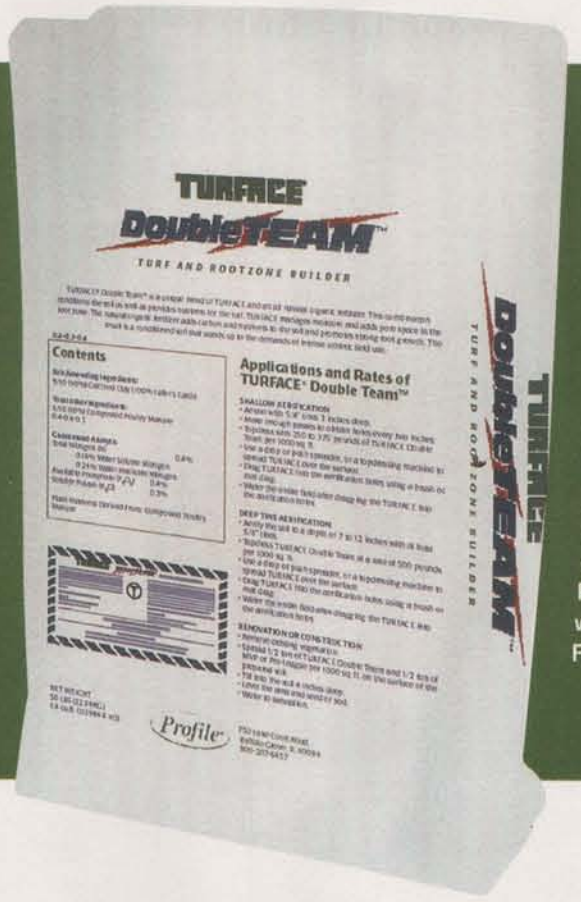
Activity	Points/Year
Sports Turf Crew	1
Sports Turf Supervisor	3
Sports Turf Manager	6
Golf Asst. Supt.	1.5
Golf Superintendent	3

EXAMINATION

The examination for certification covers four major areas of sports field management:

- Agronomics
- Pest Management
- Administration
- Sports Specific Field Management

If you're interested in raising the level of professionalism in the sports turf industry or simply advancing your career, becoming a Certified Sports Field Manager may be the best thing you can do. For more information on the program contact STMA Headquarters at 800/323-2875 or via email at STMAHQ@st.omhcoxmail.com or check out the STMA Website: www.sportsturfmanager.com.



TURF & SOIL CONDITIONER IN ONE

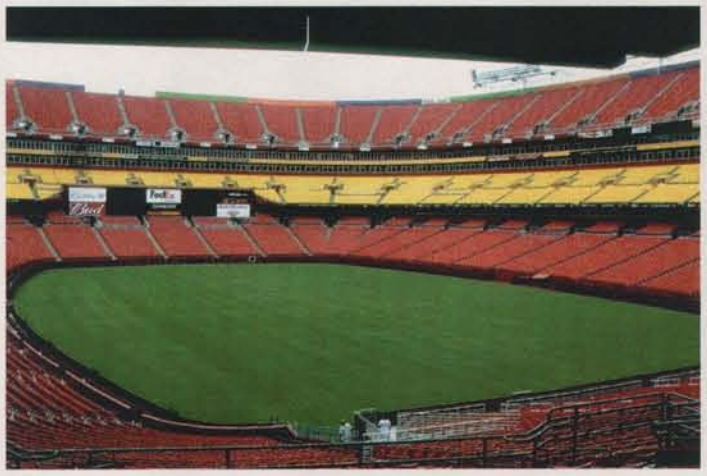
Turface DoubleTEAM is a turf and soil conditioner in one. The blend of Turface MVP and natural organic fertilizer conditions the soil and provides plants with organic nutrients to recover from the stress of athletic traffic. The product helps produce and maintain stronger and healthier turf under tough conditions.

Profile Products/800-207-6457
www.turface.com
For information, circle 162

CERTIFIED BERMUDAGRASS

TifSport's turf quality, turf density and turf strength all helps it recover quite rapidly from injury and stress. This is a bermudagrass that's ideal for athletic fields, golf course fairways, teeboxes, putting green fringes and practice areas. In addition to superior color, cold hardiness and disease resistance, it handles frequent, lower mowing heights exceedingly well.

TifSport/888-584-6598
www.tifsport.com
For information, circle 158



tomcat
TURF-TYPE TALL FESCUE

TALL FESCUE

Tomcat is a new tall fescue released by Clemson University that is heat and disease resistant. It is recommended for permanent turf in full sun or partial shade on golf course roughs and commercial grounds.

Cebeco International Seeds also has available Showboat, an economical overseeding custom ryegrass blend that will transition in the spring. Showboat is a blend of improved perennial ryegrasses such as Derby Supreme and the new and improved Axcella annual ryegrass.

Axcella is the first turf-type annual ryegrass available for the sports turf industry. It exhibits a light green turf color, is slower growing, and has greater tiller density and narrower leaf blades than other commercially available annual ryegrass varieties, says Cebeco. Axcella provides earlier transition to warm season grass than improved intermediate and perennial ryegrass.

Cebeco International Seeds/800-445-2251
www.intlseed.com
For information, circle 160

REDUCED MAINTENANCE BERMUDAGRASS

Celebration bermudagrass is the newest release in the line of superior turfgrasses from Sod Solutions, Inc., a leader in developing improved warm season varieties. Celebration is the result of more than 10 years of development with Dr. Rod Riley, Australia's most accomplished turfgrass breeder. This winning selection offers an unbeatable combination of striking dark blue-green color, soft texture, and dramatically reduced mowing requirements. Grounds maintenance professionals also appreciate its drought tolerance, good cold tolerance, and higher degree of shade tolerance. Adaptable to zones 6b-11.

Sod Solutions, Inc./843-849-1288
www.sodsolutions.com
For information, circle 161

NEW POP-UP ROTORS

Hunter Industries has expanded its I-20 Ultra rotor line with 6-in. pop-up models, offered in either stainless steel or plastic risers. The new pop-up clears tall grasses, flowering shrubs, and ground covers; the stainless steel risers offer better endurance in coarse or sandy soil conditions, says Hunter.

The I-20 Ultra is the company's "upgrade" rotor because all models feature FloStop control, which allows you to turn off one head while the system continues to run. An expanded selection of specialty nozzles for the I-20 models recently was introduced.

Hunter Industries/800-733-2823
www.hunterindustries.com
For information, circle 166

SEEDED BERMUDAGRASS

Did you know that a seeded Bermuda could present you with one and the same class of Bermuda turfgrass? Princess-77 provides a stand of Bermuda that even professionals are hard pressed to see the difference between the seeded variety and a vegetative type variety. Plus, Princess-77 exhibits a more efficient use of water by requiring 21 percent less water to provide the preferred results, recovers quicker from wear and tear than the most commonly planted vegetative type. All of these features including the natural dark green color and improved shade tolerance can benefit the presentation of your product, the superb playing field, plus offers the ease of establishment on your schedule since you can spread the seed.

Pennington Seed/706-342-1234, x281
www.penningtonseed.com
For information, circle 159

GET ALL GRUBS

Grub treatments just became easier with an application rate change for MACH 2 specialty insecticide. A newly approved federal label states that all white grub larvae can be treated at 2 lb. of active ingredient (halofenozide) per acre. The previous MACH 2 label specified a range of 1.5 to 2 lbs. of active ingredient per acre depending on the grub. The label change applies to both liquid and granular formulations.

The new rate is based upon efficacy performance from field trials conducted within the last year.

Dow Agrosciences/800-255-3726
For information, circle 175

REDUCING WILT

A controlled study at Michigan State's Hancock Turfgrass Research Center last year compared wilt ratings of bentgrass turf grown with and without Hydrozone, a water-absorbing polymer. The turf grown with the product showed significantly less wilt and was able to go longer periods without watering.

The root system of the treated turf established faster and had greater mass and density than the untreated turf, according to Hydrozone producer AAdvanced Water Management.

AAdvanced Water Management/877-994-3494
www.hydrozone.net
For information, circle 174

TRIPLE BENEFITS

A new omni-directional surfactant with enhanced kelp, Aqua-MAXX was developed to put down water, wetting agent, and growth stimulant all in one application. The product is formulated from a highly stable, enhanced kelp extract, and combined with an industry-proven wetting agent to produce maximum root growth and root density in minimum time, says Aqua-MAXX.

Aqua-MAXX/800-394-1551
www.aqua-maxx.com
For information, circle 165

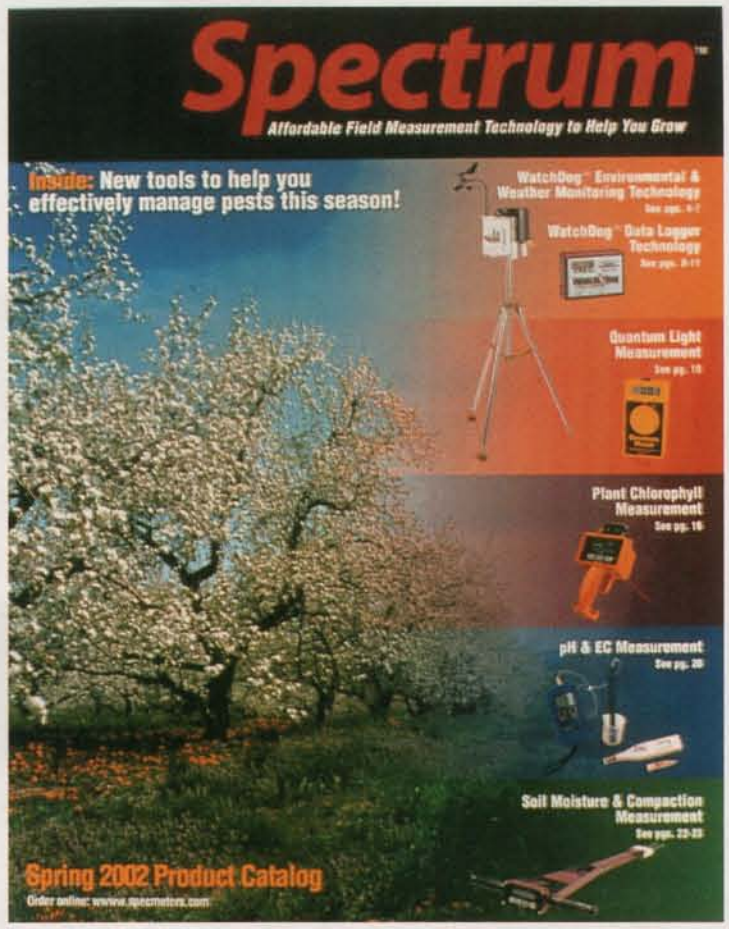
SR 2284 Kentucky Bluegrass

NEW KY BLUEGRASS

Seed Research of Oregon has released a new Kentucky bluegrass variety , SR 2284, which will be highly sought in its first commercial year release this fall due to its high drought tolerance and excellent leaf spot resistance.

SR 2284 is an excellent choice for the sod grower and sports field manager who is looking for a dark green, uniform color and strong performance in the shade.

Seed Research of Oregon/800-253-5766
www.sroseed.com
For information, circle 163



MEASUREMENT TOOLS

Spectrum Technologies has published its latest catalog, which features agronomic tools, including a new line of integrated pest management (IPM) software. Used in conjunction with Spectrum tools, these systems can help you predict diseases and other adverse growing conditions.

The catalog features many products, including the WatchDog weather station that can activate fans or heaters.

Spectrum Technologies/800-248-8873
www.specmeters.com
For information, circle 172

HERBICIDE

Karmex IWC is a diuron dry flowable herbicide for control of many weeds. It may be used as a pre-emergent treatment any time of the year when ground is not frozen. Best results if applied shortly before weed growth begins. In dense growth, remove tops and spray the ground.

Griffin LLC/800-737-3995
For information, circle 171