

general meeting at USC June 24 beginning at 11:00 AM. The meeting topic is Field Installation. Lunch will follow. For info on the Chapter or pending events, call Eric Johnson, University of Southern California, at 213-821-5654 or email ejohnson@busaff.usc.edu.

Nebraska Sports Turf Managers Association:

The Chapter will meet June 29 at the Nebraska College of Technical Agriculture in Curtis. Registration opens at 8:30 AM. Program highlights include: Overview of Sports Turf Management Program at NCTA by Brad Jakubowski, NCTA; Football/Soccer Field Preparation for the Fall Season by Mike Andresen, CSFM, Iowa State University; Athletic Field Fertility - The Basics - Dr. Dave Minner, ISU; Mound Building Seminar (Curtis Baseball Field) by Pat O'Donnell, ODEY'S; Fertilizer Product Primer by Ted Bethel, Van Diest Supply, McCook; Field Painting Strategies by Mike Andresen, CSFM, ISU; Seed Options by Jim Girardin, Jr., Arrow Seed, Broken Bow; and Equipment Demonstrations by vendors and on your own. An option Golf Outing is scheduled for 2:45 at Arrowhead Meadows. For more details on this event, contact: Brad Jakubowski at 308-367-5226 or bjakubowski2@unl.edu. For info on the Nebraska Chapter, or upcoming events, call Loren Humphrey at: 402-461-2324 or email to lhumphrey@cityofhastings.org.

Colorado Sports Turf Managers Association:

The Chapter will meet June 30 at Denver University. Mark your calendars now for the annual Lawnmower Man Open golf tournament to be held at The Heritage at Westmoor July 20. The Chapter also will hold an event August 6 at the Vail Recreation District. For info on the Chapter, or upcoming activities, visit the Chapter's website, www.CSTMA.org, or call the CSTMA Chapter Hotline at 303-346-8954, or contact Chapter President Ryan Jensen at 303/464-5687 or rjensen@ci.broomfield.co.us.

Florida Chapter # 1: The Chapter will meet July 20 at Florida International University in Miami. Make plans now to attend the Florida Turfgrass Association 52nd Annual Conference & Show to be held September 12-15 at the Hyatt Regency Downtown Tampa. For info on this event, visit the website: www.ftga.org. For information on the Chapter, or pending activities, contact John Mascaro at 954-341-3115 or STMA@Turf-Tec.com.

Virginia Sports Turf Managers Association:

VSTMA will hold its Field Day at Atlee High School, Hanover County, July 20-21. Host is Marc Moran, VSTMA Category 3 Director. For Field Day Information contact Marc: mmoran@hanover.k12.va.us. The chapter also will participate in the Virginia Tech Field Days July 27-28. For information on this event contact: David McKissack at: 540-231-5897 or turf1@vt.edu. For info on the Chapter, or other upcoming events, contact: Bob Studholme, Fairfax County Park Authority via e-mail: Robert.Studholme@FairfaxCounty.gov or at 703-324-8590.

Wisconsin Sports Turf Managers

Association: The Chapter will participate in the Wisconsin Turfgrass Association Summer Field Day that will be held from 8:30 AM to 3:00 PM July 27 at the O. J. Noer Turfgrass Research and Education Facility in Verona. Turfgrass research is showcased during the morning research tours followed by an extensive trade show in the afternoon. For more info on the Chapter, or other pending events, contact Chris Brindley at 715-346-3622 or cbrindle@uwsp.edu.



Sports Field Managers Association of New Jersey:

SFMANJ will participate in the Rutgers Turfgrass Research Field Days. The Landscape and Sports Turf Research Field Day will be held from 9:00 AM-3:30 PM July 28 at the Plant Science Research & Extension Farm in Adelphia. The Golf and Fine Turf Research Field Day will be held from 9:30 AM-2:30 PM July 29 at the Hort Farm II, North Brunswick. For info on the Chapter, or upcoming events, call SFMANJ at 908-730-7770 or Eleanora Murfitt-Hermann at 908-236-9118; or e-mail to HQ@sfmanj.org or visit the chapter's website: www.sfmanj.org.

South Carolina Chapter of STMA: The Chapter will participate in the 2004 South Carolina Recreation and Parks Association Conference at the Charleston Convention Center. For a complete schedule of events, including offsite sessions at Collins Park and Joseph P. Riley Jr. Park, home of the Charleston Riverdogs, visit the Chapter website. The Chapter also will participate in Clemson University's Annual Turfgrass Field Day to be held at the University's Madren Center Pavilion September 14. Participants may choose between two optional events that afternoon: playing in the fundraising golf tournament at the Walker Course on campus, or visiting the University's sports field facilities.

For info on the chapter or upcoming events, contact Dr. Hale at 843-662-3526 extension 206 or by email at thale@clemson.edu or on the chapter's website www.scstma.org.

Sports Turf Managers Association of Arizona:

For info on the chapter, or upcoming events, contact Chris Calcaterra at e-mail: chrisc@peoriaaz.com or tel. 623-412-4231 or Bill Murphy, at e-mail: bmurphy@ci.scottsdale.az.us or 480-312-7956.

Northern California Chapter of the Sports Turf Managers Association: For info on the Chapter, or pending events, call Janet Gift at 530-758-4200.

Southern California Chapter: For info on the Chapter, or pending activities, call Michael Tarantino at 858-679-2526 or MTarantino@powayusd.com.

Chesapeake Chapter STMA (formerly called Mid-Atlantic Athletic Field Managers

Organization - MAFMO Chapter STMA):

For info on the Chapter, or other pending activities, call the Hotline at 866-818-8873 or email Nick Gammill, CSFM, at ngammill@american.edu.

Gateway Chapter Sports Turf

Managers Association: For info on the Chapter or upcoming events, call Mike Krone, Missouri Baptist College, 314-392-2328 or email krone@mobap.edu.

Georgia Sports Turf Managers

Association: For info on the chapter or upcoming events, contact Skip Kirby at 770-928-1580 or email skip@sportsturfmanagement.com

Indiana Chapter:

For info on the Chapter, or pending activities, contact Stan Moscrip, Indiana University, at 812-856-2256 or smoscrip@indiana.edu.

Kentucky Sports Turf Managers Association:

For info on the chapter or upcoming events, contact Tom Nielsen at TNielsen@batsbaseball.com or Aaron Boggs at AVBoggs@netscape.net.

Midwest Chapter STMA: For info on the Chapter, or pending activities, visit the Chapter's website, <http://mcastma.org/>, or call Libby Baker at 847-263-7603 or email Bake60ft6in@aol.com.

MO-KAN Sports Turf Managers Association:

For info on the Chapter, or upcoming events, call Mike Green at 913-888-8055 or mikegreen@3and2baseball.com.

Pacific Northwest Sports Turf Managers

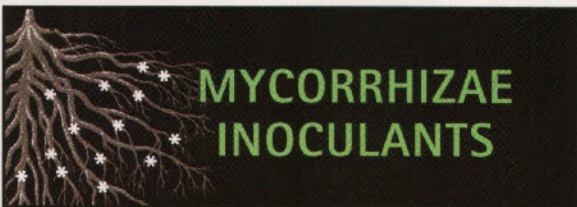
Association: For info on the chapter or upcoming events, contact: Bob Christofferson at bchristo@mariners.org.

Tennessee Valley Sports Turf Managers

Association (TVSTMA): For info on the Chapter, or upcoming events, call Chapter President, Bob Elliott, Tico, at 800-239-9547 or Glenn Lucas at 800-837-8062; email to Glenn@tvstma.org, or visit the chapter's website: www.tvstma.org.

Texas Sports Turf Managers Association:

The former North Texas Chapter and the former South Texas Chapter have merged to become the Texas Sports Turf Managers Association. The mailing address for the Texas Chapter is: PO Box 1078; Keller, TX 76244. The Phone/Fax number is: 866-TXSTMA1 (866-897-8621). The Chapter Website: www.ntstma.org.



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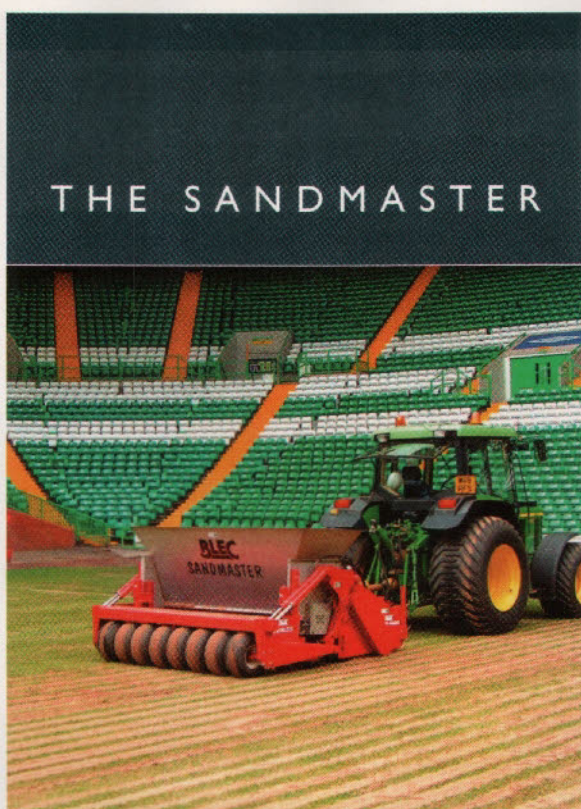


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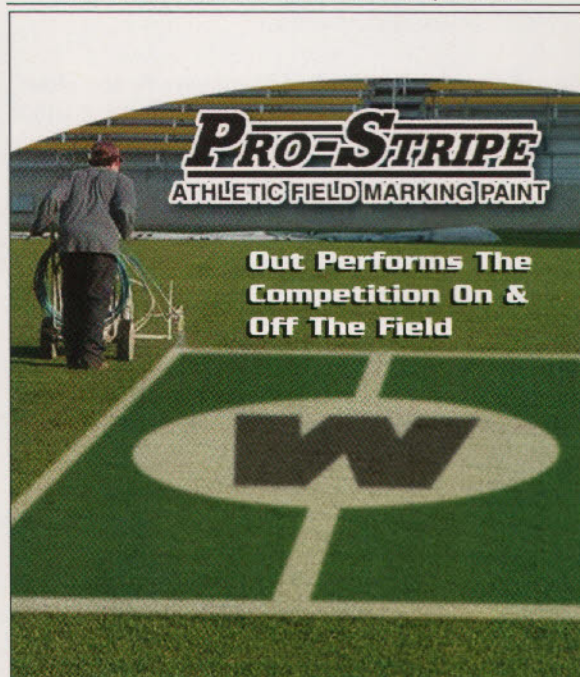
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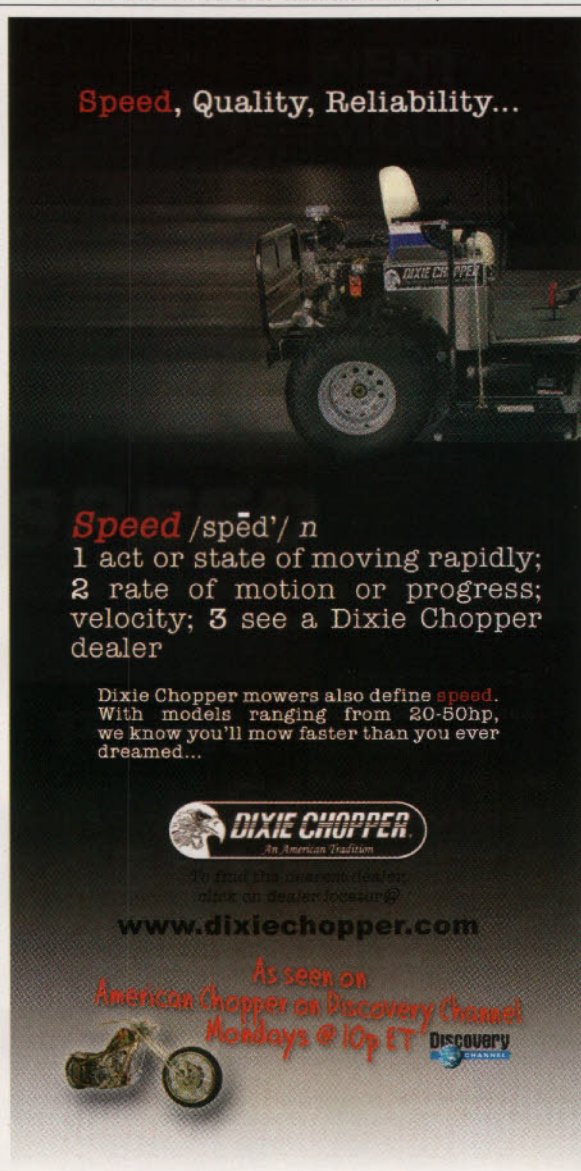
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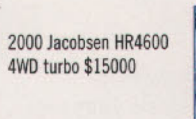
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Changing your spots

I maintain a couple of school athletic fields with sandy soils in North Florida. This spring I noticed the Bermudagrass on one is not greening up very uniformly. We still have some pretty big brown spots on the field. I fertilized it and think I did a good job of distributing the nutrients. It seems to be doing better now that the nighttime temperatures have warmed up a bit. My extension agent told me it looks like either nematodes or perhaps an irrigation issue. The agent took some soil samples to test for nutrient deficiencies and nematodes. What should I do to rule out irrigation?

This is an interesting question since so many different things can cause "spots." After visiting with you I would tend to agree with the assessment from the extension agent. Your area has had a very dry spring, you have sandy soils, and the spots are very large. It was a good idea to go ahead and rule out nutrition and nematodes. If the problem were nutritional it would be easy and cheap to correct. If the problem turned out to be nematodes, then the primary approach on athletic fields is to try to promote healthy roots with cultural practices since we don't have much in the way of nematocides labeled for athletic fields. [Curfew does have a Florida label for sports turf, but must be applied by an authorized custom applicator, requires a 100-foot barrier to buildings, and has a 24-hour reentry restriction.]

During spring green-up of warm-season turfgrass such as bermudagrass it is important to have uniform temperature and wetting of the soil. The grass comes out of dormancy due to a response in temperature and day length in the presence of moisture. Any time that irrigation is the sole source of moisture, there is potential for influence in turf growth if it is not distributed uniformly.

The more uniform a water application, the less operating time an irrigation system needs to make up for poor coverage. Uniformity from a design perspective is based on the nozzling and spacing of individual sprinklers. Depending on its radius of throw, each sprinkler applies a specific amount of water over a specific area in a specific amount of time. This is the precipitation rate, and it is usually measured in inches per hour. If the precipitation rate varies significantly over the area being irrigated, uniformity is poor; a precipitation rate that is nearly equal throughout the area provides good uniformity.

To eliminate your irrigation system as the culprit of your spots, you should conduct an irrigation audit. You could hire an auditor certified by the Irrigation Association (IA) or you can do a basic audit yourself. A comprehensive irrigation audit can reveal inefficiencies such as 1) quantity of water exceeding the plant needs, 2) non-uniformity

of water application, 3) precipitation rate exceeding soil infiltration rate, 4) incorrect heads/nozzles, 5) improper application pressure, and 6) malfunctioning and/or misdirected sprinklers.

It should not take a very extensive audit to determine if the irrigation system is the cause of your brown spots. The first step is to run the system and check for any heads that do not turn or that are not level. These should be fixed or replaced before proceeding with distribution tests. Catch-container tests are most often used to determine delivery uniformity. This test compares the aver-

Distribution Uniformity Calculation

Distribution uniformity is typically calculated as the *Low Quarter Distribution Uniformity* or DU.

$$DU = \frac{\text{Avg LQ}}{V_{\text{avg}}} \times 100$$

Where: DU = Lower Quarter Distribution
Avg. LQ = Average volume of lower 25% of sample
V_{avg} = Average catch can volume

age of the lowest 25 percent of the readings in catch-containers to the overall average. A value of 100 percent is perfect, but not attainable.

To evaluate your system distribution, use a series of collection containers spaced uniformly in a specified area. Spacing of about 30 feet on center is sufficient for an athletic field. If container number is limited, you can pour out and re-use the same containers as you test zone by zone. Another method sometimes used is to place a container at each head and halfway between heads. This is a simple placement pattern that requires a minimum number of containers. When placing catch-containers at each head, make sure the cans are far enough away from the heads so as not to interfere with the spray pattern. Each irrigation zone should be run for 10-30 minutes during a period of minimum wind (less than 10 mph). A suggested minimum depth in the collection container is 0.5 inches. The run time should allow for five to ten rotations of a geared rotor or impact sprinkler head. Running the system longer will lead to more accurate results. If possible use a pressure gauge to check and record the water pressure at each sprinkler head while the system is running. Volume in each collection container can then be measured and recorded.

As you record the amounts in each container, note containers that are empty or have much lower amounts than most. It often helps to record or map the volumes on a coach's tablet that has a picture of a field so that you can go back and located problem areas. Compare the areas of low irrigation volumes to locations of your brown spots. Do they match?

To carry the audit one more step, summarize your catch container values into one value using the distribution uniformity equation. To do this, divide the average volume of the lower 25 percent of samples by the average volume of all the containers, and then multiply by 100 to get a percentage. The IA suggests that a "very good" system should have a value of 70 percent or above, whereas a value of 50 or below is considered "poor." If the audit indicates poor distribution, with a little work, you can change those brown spots to green. **ST**

QUESTIONS? Send them to Grady Miller at the University of Florida, PO Box 110670, Gainesville, FL 32611, or email gmliller@mail.ifas.ufl.edu. Or, send them to Dave Minner at Iowa State University, 106 Horticulture Hall, Ames, IA 50011, or email dminner@iastate.edu.





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