



High Performance Material Handling and Topdressing Equipment

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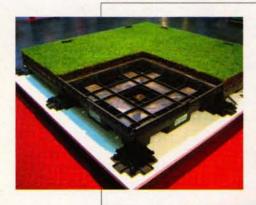
- 1. the leader in high performance top dressing equipment since 1985
- multifunctional, for applications of wet or dry materials at different depths and widths
- top dressing equipment available in practical sizes and prices to meet any need
- 4. standard features: low impact 4 wheel walking beam suspension, endless floor belts (no seams or staples to come apart), simple to use controls, heavy duty long lasting quality, powder coat paint





QuickPass 300

Circle 111 on card or www.oners.ims.ca/2086-111



TRAY DRAINAGE

GreenTech module, 46 in. square and 8 1/2 in. deep, high-density polyethylene plastic container, in effect replace traditional drainage systems. On the bottom of each module, channels accommodate forklift arms on all four sides (pallet channels), and numerous small holes enable drainage and rootzone airflow capacity. GreenTech/804-965-0026 For information, circle 077 or see www.oners.ims.ca/2086-077

TRENCH DRAINS

ACO Sport trench drains provide a continuous line of

drainage between the track and playing field to act as a barrier and prevent track run-off from draining onto the field. Playing field drainage systems generally cannot cope with large run-off volumes from adjacent running track surfaces, often resulting in flooding at the perimeter.

ACO Sport/440-285-7000 For information, circle 081 or see www.oners.ims.ca/2086-0801

SUBSURFACE DRAINAGE

Fielder's Choice just completed a three-field renovation at Mayde Creek High School in Katy, TX. The project consisted of two practice fields and one game field. Pictured



is the subsurface drainage system installed in one of the practice fields. The company puts perforated pipe in trenches with a filter sock, and also adds a special rootzone sand mixture to create a base that will provide the drainage needed to make full use of the system.

Fielder's Choice/713-466-9200 For information, circle 080 or see www.oners.ims.ca/2086-080

RED CLAY CONDITIONER

TURFACE Pro League Red is the first and only patented red calcined clay conditioner. It combines a rich red color with proven infield conditioning benefits, and

> requires about half the tonnage versus aggregates to obtain adequate coverage. Profile Products/847-215-3470 For information, circle 091 or

see www.oners.ims.ca/2086-091



Color * Conditioning * Performance

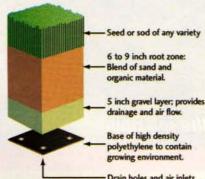
Benefits of GreenTech ITM System:

CONTROL-Temperature, moisture and gas levels for optimal environment to sustain healthy turf

O DRAINAGE/AIR FLOW - 40 times the drainage and air flow capacity of traditional field designs

TRANSPORTABILITY - Construct the ITM System at remote location so grass matures while stadium being built

@ TURF REPLACEMENT - No need to resod. Remove worn areas and replace with mature turf



HOW IT WORKS:

A guide system, (foot locator pad) assures Tray wall folds down, joining neighboring turf sections to create A forklift moves the the proper position of through channels in

"The GreenTech® ITM "System is Absolutely the Best!"

"It has exceeded all of our expectations. Anytime you have control, complete control, over your surface, it doesn't get any better than that. Virginia Tech now has the best football field in the country."

Frank Beamer, Virginia Tech NCAA Football Coach of the Year



Lane Stadium, Virginia Tech



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and

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CUSTOMIZED STENCILS

Pioneer Mfg. can customize a stencil of your school's logo, mascot, or special occasion artwork. Stencils are light enough for one person to manage but heavy enough to lie flat to assure line definition and minimize overspray. Available in any size up to 30x30 ft. Pioneer Manufacturing/800-877-5500 For information, circle 089 or see www.oners.ims.ca/2086-089

ELECTRICAL/ **IRRIGATION CATALOG**

King Innovation, formerly King Safety Products, has a new catalog that details products including DryConn Waterproof Connectors, Proline, Safetyguard, and Easyguard connectors, irrigation products, hand tools, and electrical accessories. King Innovation/800-633-0232 For information, circle 088 or

see www.oners.ims.ca/2086-088



SAFE PAINTS

World Class Athletic Surfaces manufactures quality bulk and aerosol paints and custom stencils. For athletic programs that cannot find specific colors, World Class will create a custom color. Company supplies custom color paints and coatings for field marking, traffic, goalposts, non-slip floors, and artificial

World Class Athletic Surfaces/800-748-9649

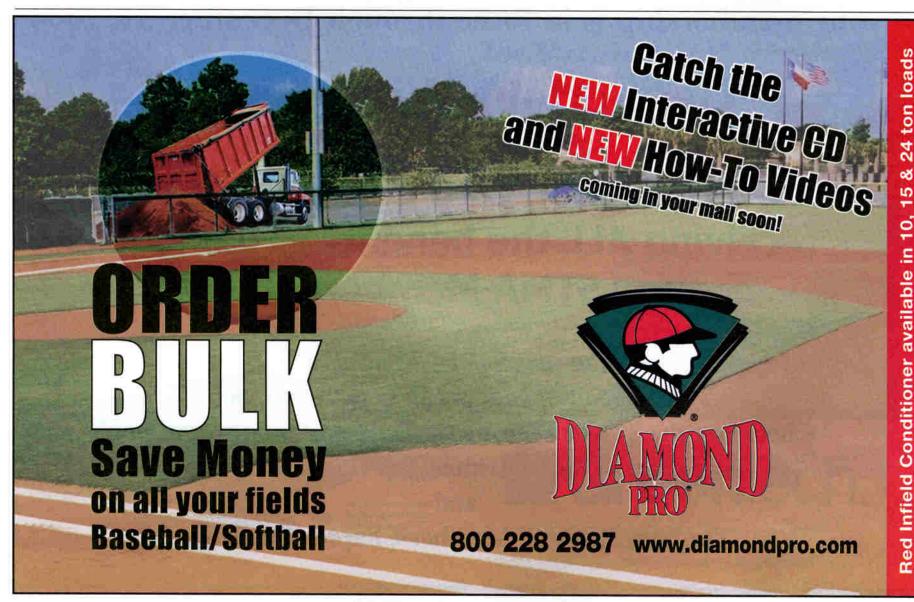
see www.oners.ims.ca/2086-090

SOIL PENETRANT

JADA Corp. has introduced FloThru 2403 soil penetrant that reduces water loss from runoff and evaporation, evenly distributes water, and decreases channeling of water through soil profile. This can reduce your water and energy costs, says the company. FloThru can also be mixed with most surface applied chemicals.

JADA Corp./973-762-8002 For information, circle 087 or see www.oners.ims.ca/2086-087





Circle 113 on card or www.oners.ims.ca/2086-113

YANKEE STADIUM TURF

Turf-Seed, Inc. supplied Yankee Stadium with a blend of four bluegrass varieties: Midnight, the most-copied bluegrass ever developed; Brilliant, a top NTEP performer with good drought tolerance and high seed count; Moonlight, a variety with excellent shade tolerance that performs well in the Northeast and Midwest; and Unique, a bluegrass variety that grows well in sand or clay soils.

Turf-Seed, Inc/800-247-6910

For information, circle 085 or

see www.oners.ims.ca/2086-085



GREENS AERATION

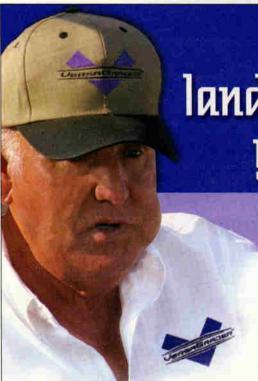
Advanced Aer has improved its line of subsurface greens aeration products (previously known as Soil Air Technology). This automated sensor-based permanent system attaches to the network of drain tiles under a putting green and continually monitors oxygen, moisture, and temps in the root zone.

Advanced Aer/561-625-3301 For information, circle 083 or see www.oners.ims.ca/2086-083

GOLF BUILDER MOVES IN TO **PARK & REC**

Landscapes Unlimited has made the natural leap into recreational field and parks development. One of the world's largest Stadium, the training facility for the San Francisco Giants, and in late-summer Baylor University's 15-acre intramural fields.

The company's Construction Group's Sports Development Group is also targeting parks and recreational open spaces, including vertical construction. Landscapes Unlimited/402-423-6653 For information, circle 082 or see www.oners.ims.ca/2086-082



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- Richard Confoey, Inventor

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FIELD CONSTRUCTION COMPANY DIRECTORY

Here is a listing of companies that construct or renovate athletic fields:

ATD Sports Field Specialists

Garfield Heights, OH 216-581-4990 www.atdsportsfield.qpg.com



Alliza Sports Turf Alvaton, KY 270-842-0473



Alpine Services, Inc.

Gaithersburg, MD 800-292-8420 www.alpineservices.com



American Civil Constructors, Inc. Littleton, CO

303-795-2582 www.acconstructors.com

Architerra, PC Coopersburg, PA 610-282-1398

Athletic Fields, Inc. Cartersville, GA 770-382-7284



Athletic Fields Tennessee

Athletic Fields Tennessee

Humboldt, TN 866-287-4763



Athletic Field Services, Inc.

Oregon, OH 419-836-5730 www.athleticfieldservices.com

Ballard Sports Cary, NC

919-654-6814 www.ballardsports.com



beals sport

Beals Sport San Clara, CA 408-985-7200

www.bealssports.com

Celebrating 5 YEARS

Robert A. Bothman, Inc. San Jose, CA

408-279-2277 www.bothman.com



Carolina Green Corp.

Indian Trail, NC 704-753-1707 www.cgcfields.com



Championship Turf Surfaces

Harwinton, CT 860-485-0219

Clark Companies Delhi, NY

607-746-2727 www.clarkcompanies.com



Colony Landscape & Maintenance, Inc.

Alviso, CA 408-941-1090 www.colonylandscape.com

Creative Landscape & Irrigation, Inc.

Maugansville, MD 301-745-5737 www.creativeirrigation.com

Diamond Athletic Turf, Inc. Stow, MA 978-897-0344

Duraturf Service Corp. Richmond, VA 800-358-8283



Fielder's Choice Inc. Pearland, TX

888-853-4353 www.fielderschoiceinc.com

GSI Consultants/Turfcon Somerset, NJ 732-247-8026

Gale Associates Inc. Weymouth, MA 781-335-6465

Geller Sport Boston, MA 617-523-8103 www.gellersport.com **Grant Sports Fields**

Columbus, GA 706-596-9236 www.grantsportsfields.com

GreenTech, Inc.

Savannah, GA 912-353-7944 www.greentechitm.com

Greenway Services

Horsham, PA 215-343-0110

Gregori International

Miami, FL 305-663-7393 www.gregori.com

D.A. Hogan & Associates Seattle, WA 206-285-0400

Huffman SportScape Inc.

Independence, KY 859-647-3000

Hummer Turfgrass

Systems Inc. Lancaster, PA 800-872-8873 www.usaturf.com

The LandTek Group, Inc.

Amityville, NY 631-691-2381 www.landtekgroup.com



Lawn Care Unlimited

Leavenworth, KS 913-682-6706

Mercer Group, Inc.

Troy, OH 937-335-7100 www.mercer-group.com

Mid-Atlantic Turf, Inc.

Gaithersburg, MD 301-990-0315 www.mid-atlanticturf.com

The Motz Group

The Motz Group, Inc. Cincinnati, OH 513-533-6452

Munie Outdoor Services Caseyville, IL 618-632-5296



RTM Sport, Inc. Burtonsville, MD 301-421-0070

R.T. MacKenzie, Inc. Burtonsville, MD 301-384-6287 Realty Landscaping Corp.

Phoenixville, PA 610-631-2523 www.realtylandscaping.com



Glenn Rehbein Co.

Blaine, MN 763-784-0657

REIL Construction, Inc. Union, IL 815-923-4321



Rettler Corp. Stevens Point, WI 715-341-2633

SPORTEXE

Fonthill, Ontario, Canada 905-892-6000 www.sportexe.com

Sports Field Consultants
Duncanville, TX

Buncanville, TX 872-298-0220

SRI Sports

800-233-5714 www.srisports.com

Sportscape International

Youngstown, OH 330-726-9452

SPORTS

Sports Turf Company Whitesburg, GA 800-273-8608 www.sportsturf.net



Team All Sports Cincinnati, OH 513-241-6210

Nolan Thomas & Co. Stovall, NC 919-693-6478

Turf Services Spring Lake, MI 616-842-4975

U.S. Athletic Fields Skillman, NJ 609-466-2846

Van's Enterprises Mundelein, IL 847-367-7828

Wilson & Associates Lexington, SC 803-957-3115

welcome to the future of green replication

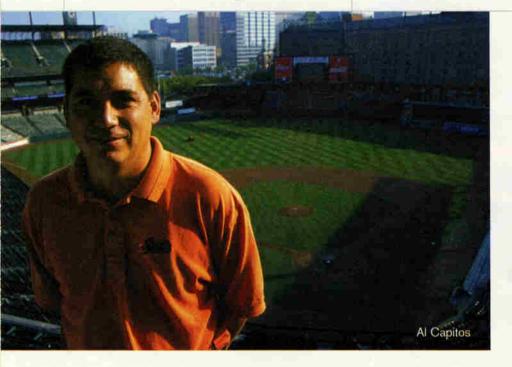
When it comes to green replication, not much has changed over the past several years...until now.

Introducing the entirely new GradeMaster 3D Grading System. This box scraper automatically restores greens and other contoured areas to their original state, allowing you to maintain and refinish with unparalleled accuracy and efficiency.

Using Trimble machine control technology, the GradeMaster 3D allows contractors to topo the existing surface and recreate the original design once work is completed.

The GradeMaster 3D offers a comprehensive, automated process to return greens to their original design specs.

If you would like to learn more about this revolutionary grading system, click on www.laserleveling.com for more information.



BY EVAN LUBOFSKY

DATA LOGGERS IMPROVE TURF MANAGEMENT AT CAMDEN YARDS

ne is buried behind the mound of Baltimore's Oriole Park at Camden Yards, the other in right field.

The crowd can't see them, nor can the players. In fact, only a handful of people know they are there, entrenched just 2 inches below the lush green ball field.

What are these objects buried beneath one of America's most beautiful ballparks? If you guessed Orioles season's tickets or Cal Ripken's old batting gloves, guess again.

They are data loggers—tiny, battery-powered devices that Oriole Park groundskeepers use to continuously monitor soil temperature throughout the season. More specifically, the loggers are used to record and time-stamp field root-zone temperatures over monthlong intervals, at which time the data is offloaded onto a PC for graphing and analysis.



Circle 117 on card or www.oners.ims.ca/2086-117

"We try to track field conditions to the greatest extent possible, and part of our strategy is to use data loggers as a record-keeping mechanism," explains Al Capitos, head groundskeeper at Oriole Park. "By keeping track of the temperatures over time, we can establish trends, which ultimately puts us in a better position to proactively deal with turf diseases associated with high soil temperatures."

Capitos monitors the soil with HOBO H8 data loggers from Onset Computer Corp. The H8 incorporates a microprocessor, an internal temperature sensor, and a user-replaceable battery into a hard-plastic casing slightly larger than a matchbox. By burying one H8 behind the pitcher's mound and the other in the outfield, the groundskeeping team can profile two distinctly different microclimates that exist at the stadium. Each logger is housed in a moisture-resistant enclosure, and takes temperature readings every 30 minutes.

After a month's worth of data has been collected, groundskeepers "unearth" the data loggers and offload the data from each onto a PC. Using Onset's software, the data is immediately translated into easy-to-read graphs that clearly show spikes and drops in root zone temperature. The data is then matched up with soil temperature readings that are taken manually with a probe, a process that Capitos refers to as "double-measuring."

"Some people may think this is way too much information, but we believe that having as much temperature data as possible is key to really getting in touch with the field," he says.

One area where data loggers have really proved their value at Oriole Park is in crabgrass prevention. In order for a pre-emergent herbicide to be effective in preventing crabgrass, the field must be sprayed after the soil temperature has been 55 degrees F for at least 4 days. According to Capitos, historical data recorded by the loggers over the past several seasons helps them predict when this block of time is likely to occur.

"The year-to-year data allows us to almost predict exactly when the temperatures will break," he says. "Knowing this helps us make good decisions as to when we need to spray. After all, the chemicals we spray on the field are expensive, and we have an obligation to be responsible applicators. I sure wouldn't want to be the guy who goes out and puts down chemicals ineffectively."

Capitos now trains new turf management interns on using the products. "We have interns from a variety of schools, including Penn State and Iowa State, and it's great to get them involved with the equipment so they can visualize the collected data and begin learning how to predict trends. It's fun for the students, and they can take the knowledge and experience with them after they graduate and go on to manage their first field."

Since the data loggers were originally buried in the spring of 1999, they have been functioning without any problems. Capitos has been impressed with their durability, and feels that any ballfield, especially those with a variety of microclimates, could benefit from the technology.

He says, "The most important thing is that we can now manage our field proactively instead of having to catch up with problems that we didn't expect."

Evan Lubofsky works for Onset Computer Corp., www.onsetcomp.com.



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University of California Berkeley's football program, and M&T Stadium in Baltimore.

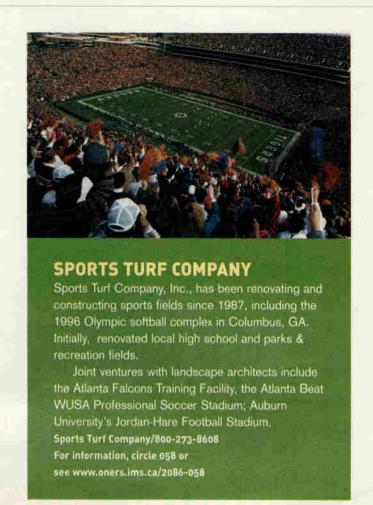
Sportexe/905-892-6000 For information, circle 060 or see www.oners.ims.ca/2086-060

GREGORI INTERNATIONAL

Gregori International has more than 30 years experience in all aspects of sports field construction, installation, grow-in, and maintenance. Gregori has built high-profile facilities all over the

world for Soccer, Rugby, and Cricket and, recently, has begun marketing its expertise in Equestrian and Polo field construction, and the use of its patented FIBERsoil product and process. Gregori International/305-663-7393 For information, circle 059 or see www.oners.ims.ca/2086-059







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