just a little rain used to flood the University of Mississippi women's softball field, but not any more thanks to recent renovations.

"Both the infield and outfield were non-playable after a half inch to one inch of rainfall," explains Clay Stewart, President of Stewart Environmental Construction, Inc. The Tupelo, Mississippi-based firm specializes in sports field and golf course construction and renovation.

"[The renovation] addressed several problems dating from the original construction. Due to those problems, the university had to make numerous repairs and upgrades over the years," Stewart says. "The original grades, which were done mechanically, had deteriorated and drainage was not moving fast enough. Using new technologies not available at the time of the original construction, we've been able to improve both the surface and sub-surface drainage. We've changed some existing grades to meet our desired drainage criteria, and altered the tight soil configuration to allow more percolation."

First, the crew used a Caterpillar 262 skid steer loader to remove the existing turfgrass. After stripping the soil and removing the existing drainage system, Stewart and his crew began establishing new grades for proper drainage and creating a different soil profile for all turf areas. A Cat D4G LGP track-type tractor smoothed the varied elevation of the existing grade, providing a consistent profile of material, according to Stewart. "We used the D4G dozer to create a level plane and decrease mounding between the planes," he says. "The existing grade had undulations, so we had to remove some soil and do some cut-and-fill. This size machine was ideal for the job, not too big for a small area, but strong enough for the work involved. Once we laser-shot the desired sub-grade, the dozer was able to get to that level without having to re-establish the elevation."

The finished grade of both surface and sub-surface now measures one percent, an increase from the 0.8 percent average of the original grade. "We laser-graded the existing sub-grade," Stewart says. "We installed a larger storm drainage system for surface runoff, and a complete under-drainage system, with 4-inch laterals tied into 6- and 8-inch storm drains." The new irrigation system is designed to connect into a new central system currently under development by the university.

The crew used a Cat 303CR hydraulic excavator to install both the main trunk line storm drainage and the under-drainage system. "We used an excavator instead of a trencher because the excavator can also load a dump trailer. This way we avoided double work," Stewart reports. "In addition, the existing soil was so heavy with clay that a trencher would have had trouble staying on grade."

The sub-surface drainage uses N-12 ADS perforated pipe, chosen for its double wall design, which could be used for both surface and subsurface. Nyloplast catch basins collect the surface water.

"On the field itself, we've employed a lab-tested pea gravel and a USGA sand mixture. Changing the soil profile improved the percolation rate from 3 to 4 inches an hour to our desired rate of 13 inches per hour, when mixed with the native soil. Testing verified that the sand will bridge over the pea gravel and won't infiltrate it."

Stewart Environmental used a calcinate clay material in infield skinned areas and installed a new warning track of crushed red stone. The crew put down a new field-tested variety of certified 419 Bermuda turfgrass, chosen for its traffic tolerance, denser growth, and greater propensity for self-repair. "It's also more drought and cold tolerant," Stewart says.

After the modifications to the surface and sub-surface drainage system, Stewart says that now even after a 2-inch rain the water moves fast enough to make the field playable within 30-45 minutes.

Kurt D. Tisdale is manager, general construction, North American Commercial Division, Caterpillar Inc.
It can be a dreaded word: relationship. “Yes, dear.” “Sure, dear.” “Of course I'd rather go shopping with you instead of watching the game.” Yeah, right. But you know that without such minor concessions, your relationship might dissolve into little pieces and then you'd be sorry. The key is to keep the two elements of any relationship in harmony; if neglected, the consequences are undue stress and sometimes, even ruin. Not a pretty picture. Relationships are easily maintained with some regular attention and occasional adjustments, and your reel mower deserves the same attention to help maintain the relationship between the reel and the bedknife.

Unlike you and your significant other, a reel and bedknife should NEVER touch. Contact causes friction and heat buildup, resulting in rollover, dulled square edges, and distortion. The reel and bedknife should maintain a clearance of .001-2 inches. A mower with less clearance may result in an unacceptable cut quality, undue strain on drive mechanisms, and premature wear of the cutting unit. After all, a little space is always good.

As in any relationship, appearances aren't everything, but if there's trouble on the surface, it's often a sign of problems underneath. Of course, the best way to prevent such ripples is by taking preventive measures. You don't want your mate to be mad, so make sure you say a few nice words daily. You don't want your field to be uneven, so every day, spend a few minutes maintaining your reel blades.

Introducing Game-On
Sports Field Conditioner

Available bagged or bulk

dramatically improves turf and skinned infield performance
unique ceramic pore structure provides high absorption and durability
reduces compaction of hard clay and soil
increases soil porosity and drainage

hayditegame-on.com
1-888-593-0395

if your passionate about performance, game-on is your ticket to success

Circle 115 on card or www.oners.ims.ca/2807-115

SPORTSTURF • http://www.greenmediaonline.com
Backlapping is a simple process that should be performed regularly. It should take no more than 15 minutes to backlap a reel. And, depending on your hour usage and conditions, it can be performed daily or weekly.

Backlapping helps maintain sharp edges by the application of special abrasive compounds while spinning the reel backwards, ultimately giving you a cleaner cut. This process should remove no more than .005 inches of metal—you don’t need extreme changes, just subtle tweaks. Course compounds should be used first, followed by a finer abrasive to hone the edges. Sharpening compounds should not be toxic, oily or greasy. Recommended grits for larger cutting units are 60, 80 and 120; with smaller reels such as walking reel mowers, use a 120, 180 or 220 grit.

While daily maintenance helps keep a relationship strong, sometimes it still can get a little off track. So pause for a moment, take stock of the current situation and make some adjustments to get realigned. While regular backlapping is important, eventually a reel and its bedknife will require grinding.

Over time and use, a blade can get dull. This results in squeezing and tearing of grass instead of cutting. Tearing is a shock and can retard growth. Grinding will restore the cylindrical shape of a reel that has become cone-shaped and restore the edge if the grass is not being cut across the entire length of the bedknife.

After spin grinding, John Deere recommends relief grinding the reels because it:

- Removes metal from the trailing edge of the blade forming an angle (relief angle) to reduce the contact area of the cutting edges. This reduces blade contact area resulting in less friction.
- Ensures longer wear life.
- Makes backlapping faster and more efficient.
- Reduces squeezing and tearing of the grass as the unit dulls.
- Requires less horsepower to drive the reel.

John Deere also recommends backlapping after spin grinding to remove burns and rough edges left from the spin grinding procedure. Backlapping produces a honed edge that will cut the grass evenly and leave the tops of the grass with clean, straight edges.

Working to restructure and correct the relationship (at home or on the job) results in fewer daily problems and requires less energy to maintain it. Remember, a little regular maintenance now can help prevent major overhauls in the near future.

Tracy Lanier is a Product Marketing Manager for John Deere Golf & Turf One Source, 800-537-8233.
**REEL PRODUCTS FROM TORO**

Toro provides the economical Reelmaster 2000-D to the innovative Reelmaster 3100-D Sidewinder. For large areas of turf, Toro offers a full range of five- and seven-gang mowers, with power and attachments. Financing options are available. The Toro Company/800-348-2424

For information, circle 082 or see www.oners.imca/2907-082

**REDESIGNED WORKMAN**

The redesigned Toro Workman Heavy Duty now has significantly more legroom and adjustable seats and the fully hydraulic steering system makes it easier to turn. A higher dashboard means more accessible controls and gauges.

The Toro Company/800-348-2424

For information, circle 079 or see www.oners.imca/2907-079

---

**NEW DEALERS FOR SISIS**

SISIS Inc. has appointed three new regional dealers to sell their turf maintenance equipment.

Midland Implement, Montana and northern CO, 406-252-5772; Revels Tractor, counties in SC, NC, and VA, 800-849-5469; and Georgia Turf & Tractor, Georgia, 800-736-4533.

SISIS/844-843-5972

For information, circle 080 or see www.oners.imca/2907-080

---

**PLAY HARD**

We built our reputation as the reliable manufacturer of premium quality field paints and custom stencils. For all your facility needs, World Class is the only name you need to know.

- **Premium Field Paints** - Bulk and Aerosol - Turf Colorants
- **Graphic & Logo Stencils** - Field Numbers - Hash Marks - Sports Field Layout Systems
- **Field Covers and Windscreens** - With logos available
- **Tennis Court Coatings** - Nets - Full line of accessories
- **Sports Field Accessories** - Grace and Trusco Stripers - Full line of accessories

Contact us today at 1-800-748-9649 or info@wrldclass.com

---

**AERA-VATOR®**

**BY FIRST PRODUCTS INC**

*Call for a free video today!*

The First Products AERA-VATOR® uses a "patented" vibrating action to loosen and break up hard and compacted soils in the root zone, without destroying existing turf on the surface. The AERA-VATOR® has a unique swing hitch that allows the operator to turn around objects without tearing the turf. The rear roller can be pinned to control tine depth up to 3 3/4 inches deep. The AERA-VATOR® comes in several models ranging from 40" to 80" wide. The unit also comes with optional seed box for over seeding or primary seeding.

WWW.1STPRODUCTS.COM 800-363-8780 SALES@1STPRODUCTS.COM

---

**REEL LIFE**

Here is a list of most manufacturers of reel mowers and accessories:

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Phone Number</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cub Cadet Commercial</td>
<td>877-836-7841</td>
<td>800-537-8233</td>
</tr>
<tr>
<td>Dixie Chopper</td>
<td>765-246-7737</td>
<td>800-537-3713</td>
</tr>
<tr>
<td>Husqvarna</td>
<td>800-438-7297</td>
<td>800-348-2424</td>
</tr>
<tr>
<td>Jacobsen</td>
<td>868-922-8873</td>
<td>909-277-3180</td>
</tr>
</tbody>
</table>
COMPACT ZTR
The Yazoo-Kees compact Mini-Max zero-turn riding mower has a large fuel tank, dampened steering control, new hydraulic system, and warranty as larger mowers but at just 72 in. overall length. Units available with 17- or 19-hp Kawasaki engines and 42- or 48-in. cutting widths.
Yazoo-Kees/877-368-8873
For information, circle 086 or see www.oners.ims.ca/2907-086

DETHATCHER
RotaDairon Emrex, Inc. is introducing its ED 130 dethatcher. This high tech machine not only enhances turf growth but also saves time with the quick remount device that allows you to replace knives quickly and safely without bolts. The ED 130 has a 61-in. work width and a work depth adjustment controlled by two stainless steel rollers.
RotaDairon Emrex/570-662-3963
For information, circle 088 or see www.oners.ims.ca/2907-088

VERTICAL MOWING SYSTEM
National Mower introduces its new Vertical Mowing System (VMS). Designed as an attachment for National's 8400 and 84VAN mowers, the VMS can handle tough areas on banks and slopes as well provide versatility like dethatching, stimulating root growth, and overseeding preparation.
National Mower Company/988-907-3463
For information, circle 090 or see www.oners.ims.ca/2907-090

COMPACT ZTR
The new Scag Wildcat zero-turn rider is a stable compact mower with a 61-in. cutting capacity that fits tight areas. Low-back soft-ride seat and cupholder are standard. Twin stick steering mechanism means easy driving.
Scag/920-387-0100
For information, circle 088 or see www.oners.ims.ca/2907-088

Great Fields Get Noticed.

Turfco offers you a strong team of turf building equipment. They're the fastest and most versatile equipment to let you build harder and healthier turf. Your sports fields become safer to play on and become easier to maintain. Originators of Me-te-R-Matic® top dressers in 1961, Turfco's professional equipment gives your field a look that gets noticed.

Pro Turf Edger
Special design makes it easy to follow any edge. Eliminates spade work around the diamond. Oscillating blade action cuts fast and clean. Leaves no mess or no thrown debris to clean up.

Economy Aerator
Now you can afford to breathe life into any sports field. This low cost, 62" aerator has no hydraulics or mechanical linkages for easy use and low maintenance. Hooks up to any vehicle in seconds.

Precision Top Dresser
Fast, uniform, versatile. Patented chevron belt lets you handle top dressing, lime, crumb rubber, gypsum, calcite clay, compost and even overseeding with precision. Level fields and amend soil consistently.

For details and the name of your local dealer, call
1-800-679-8201
Turfco Manufacturing Inc.
1655 101st Avenue Northeast
Minneapolis, MN 55449-4420

Choice Performers, Choice Fields.

Circle 138 on card or www.oners.ims.ca/2907-138

http://www.sportsturfmanager.com • STMA
**REDUCE BEDKNIFE-REPLACING TIME**

The new MAG-Knife from Jacobsen uses powerful permanent magnets to firmly hold the bedknife to the backing on Jacobsen reel mowers. With no screws to remove or adjustments needed, the time needed to remove and replace bedknives is reduced from hours to minutes.

Jacobsen/888-922-B873
For information, circle 084 or see www.oners.ims.ca/2907-084

**REELMASTER ROLLER BRUSHES**

Toro says the Reelmaster 5000 and 6000 series fairway mowers now have powered rear roller brushes option available, which eliminate the clumping of grass clippings during wet cutting conditions. Brushes are easy to install and operate, are belt-driven, and powered off the reel. Brushes should eliminate need to drag or blow fairways.

Toro/800-803-8675
For information, circle 085 or see www.oners.ims.ca/2907-085

**HIGH HP WALK-BEHIND**

Hustler Turf Equipment has a new Super WalkBehind with a 23-hp Kawasaki with a 48-in. deck and 25-hp Kawasaki with 54-in. deck. Can run double blades or mulch. "H-bar Steering" is easy to learn and operate. Lifetime warranty on leading edge of deck.

Hustler Turf Equipment/800-395-4757
For information, circle 087 or see www.oners.ims.ca/2907-087

**AerWay® - Groundhog for Sports Fields**

It’s about Time... YOUR TIME!

Sports turf experts agree, regular aeration is the one thing that will immediately improve turf health and vigor, reduce fertilizer costs and optimize the use of valuable water.

The all new AerWay® Groundhog allows you to aerate a sports field in less than 1 hour, and play right away.

**AerWay® - less Time - lower Cost!**

Minimum Time - Maximum Benefit
- for a SAFE and PLAYABLE field

for further information call 1-800-457-8310

Advanced Aeration Systems
www.aerway.com email: aerway@aerway.com

Circle 119 on card or www.oners.ims.ca/2907-119

Heidorn Stadium - Atlanta Beat
Women's Professional Soccer Stadium
Atlanta, Georgia

Call for information on samples of our full line of sports field products, including Rapid Dry® drying agent, saltmaster® soil conditioner and other field supplies.

Don Wright

SPORTSTURF • http://www.greenmediaonline.com
FLATFREE TIRES
New "Polyurethane Closed-Cell Foam" tires insure "no more flats" on the job. These tires are non-marking and won't dry rot or crack. They are 100% recyclable and applications include riding and ZTR mowers, as well as wheelbarrows and hand trucks.
Amerityre Corp./800-808-1568
For information, circle 091 or see www.oners.lms.ca/2907-091

SOD CUTTER
BlueBird's SC18 sod cutter works on solid-rubber 10-in. tractor-tread wheels and 4-wheel drive transmission. Four speeds (two cutting, two transport) and a power reverse can cut up to more than 20,250-sq. ft. an hour. Cutting depth up to 2.5 in. with 18-in. cutting width.
BlueBird/800-868-2473
For information, circle 089 or see www.oners.lms.ca/2907-089

DEERE B SERIES
The John Deere B-Series lightweight fairway mowers offer latest technology in three levels of power. The 3225B and 3235B machines feature a bedknife-to-reel adjustment, coupled with a triple pump, to increase cutting power and function. Standard micro-lap back-lapping with reel speed control provides state-of-the-art sharpening.
John Deere/800-537-8233
For information, circle 095 or see www.oners.lms.ca/2907-205

RENT AN AUGER
Echo’s EA-500 earth auger delivers the strength, durability, and reliability of commercial-grade equipment for one-time projects and repeated use, making it an ideal rental product. The powerful engine and wide range of attachment augers enable the unit to dig holes quickly and easily.
Echo Inc./800-473-1558
For information, circle 092 or see www.oners.lms.ca/2907-092

HUSQVARNA 64
The Husqvarna 64 is a classic reel lawn mower, ideal for small grass areas, and offers superior results with its Novocut cutting system. The unit is 16 in. wide with five blades; the cutting height is adjustable up to 2.25 inches. The Husqvarna 64 is quiet, efficient, and designed to be easy to push with an overall weight of 19 pounds.
Husqvarna/800-438-7297
For information, circle 093 or see www.oners.lms.ca/2907-093

Problems with drainage?
Increase Safety, Playability, and Wear Tolerance of Turf with...

QwikDRAIN SYSTEMS
- Increase aeration and drainage with a narrow slot "trench-n-fill" system at 20" o.c.
- Minimal surface disruption
- Fast, clean, cost effective operation
For a Certified Contractor Nearest You. Call Toll Free
1-866-567-6872
Division of GreenONE Industries
Revolutionizing Golf & Sports Turf Drainage
Circle 120 on card or www.oners.lms.ca/2907-120