

FIELD REHAB REDUCES RAINOUTS AT OLE MISS

BY KURT D. TISDALE

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 an inch to one inch of rainfall," explains Clay Stewart, President of Stewart Environmental Construction, Inc. The Tupelo, MI-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 sod 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 sub-surface. 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 on 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.

ST

Kurt D. Tisdale is manager, general construction, North American Commercial Division, Caterpillar Inc.

BY TRACY LANIER

REEL SHARPNESS: THE RELATIONSHIP & THE GRIND

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.

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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 a 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 burrs 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.

ST

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



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Dixie Chopper	765-246-7737	Locke Turf	800-537-3713
Husqvarna	800-438-7297	Toro	800-348-2424
Jacobsen	888-922-8873	Tru-Cut	909-277-3180

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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.ims.ca/2907-079



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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 51-in. work width and a work depth adjustment controlled by two stainless steel rollers. RotaDairon Emrex/570-602-3050 For information, circle 081 or see www.oners.ims.ca/2907-081



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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

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National Mower Company/888-907-3463

For information, circle 090 or see www.oners.ims.ca/2907-090

COMPACT ZTR

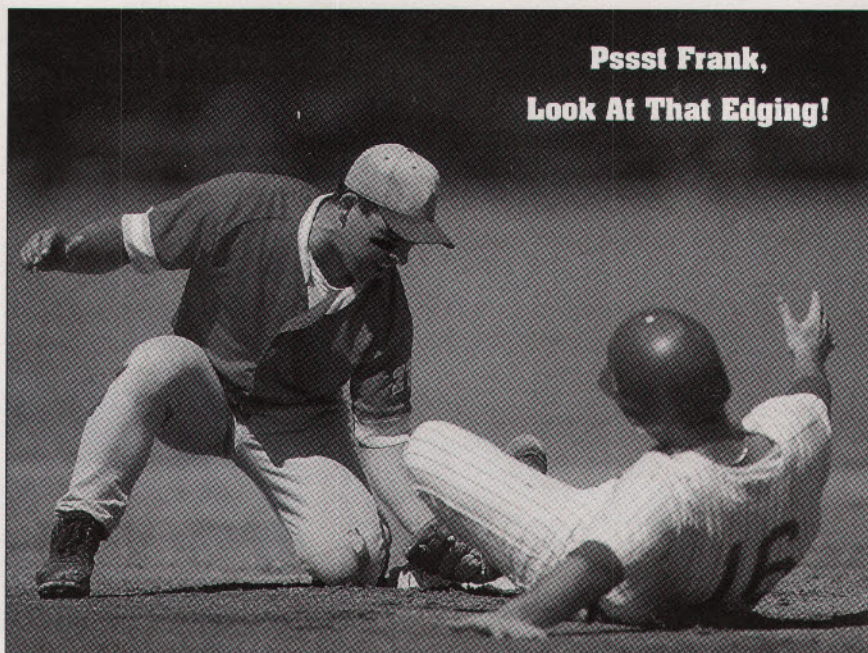
The new Scag Wildcat zero-turn rider is a stable compact mower with a 61-in. cutting capacity that fits tight areas. Low-back soft-ride seat and cupholder are standard. Twin stick steering mechanism means easy driving.

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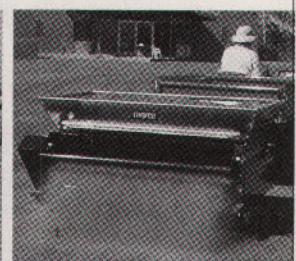
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Hustler Turf Equipment/800-395-4757
For information, circle 087 or see www.oners.ims.ca/2907-087



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Toro/800-803-8676

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