AMETEK
http://www.ametekwater.com

DOGGETT
http://www.doggett.net

Irrigation Supply Inc.
http://www.irrigationsupply.com

OTTERBINE BAREBO, INC.
http://www.otterbine.com

Aqua Master FOUNTAINS AND AERATORS
http://www.aquamasterfountains.com

EWING IRRIGATION PRODUCTS
http://www.ewing1.com

Irrigation Station
http://www.irrigationstation.com

PLANT HEALTH CARE, INC.
http://www.planthealthcare.com

BOSS IRRIGATION SYSTEMS
http://www.bossirrigation.com

GLEN•HILTON PRODUCTS · INC
http://www.glenhilton.com

JOHN DEERE
http://www.deere.com


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DIEHARD™ Mycorrhizal "Cocktails"
http://www.hortsorb.com

Lofts Seed
http://www.turf.com

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http://www.reinco.com

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http://www.dataindus.com

HOT BOX.
http://www.hot-box.com

MAASDAM POW'R-PULL® INCORPORATED
http://www.maasdam.com

Tanaka
http://www.tanakapowerequipment.com

DIG CORPORATION
http://www.digcorp.com/asdig

Hunter®
http://www.hunterindustries.com


http://www.aip.com/monson

WA
http://www.westag.com

Ditch Witch The Underground Authority WORLDWIDE
http://www.ditchwitch.com

Husqvarna
http://www.husqvarna.com

NETAFIM USA PRECISION IRRIGATION
http://www.netafim-usa.com

Weathermatic
http://www.weathermatic.com

Sod and Field Repairs

by Steve and Suz Trusty

Damage happens. For some of the most field-stressing sports, play takes place come rain, shine, snow, or hail. As facilities strive to meet community needs and generate sufficient funds to continue operations, potentially damaging events continue to be held on playing surfaces.

After damage occurs, the job of providing a safe, playable surface intensifies. All too often, there is a very short window of opportunity in which to accomplish this task. Sports turf managers need to evaluate the situation, consider all available options, and select the solution that's most effective, least disruptive, and within the budget.

To sod, or not to sod

Sometimes there's no way to bring existing turf into playable condition within the available time frame. Turf may also be damaged beyond repair. In these cases, sod offers a fast solution.

As a means of repair, sodding isn't necessarily an easy answer. The disruptive procedure involves removal of existing turf and replacement with another section of turf. Time and expense come into play each step of the way.

You must identify the section of turf to be removed, and select the most efficient, least damaging method of removal. Replacement sod must be selected, procured, and transported from its growing site. Installation must be performed carefully to protect surrounding turf from damage.

Ideally, the seam where installed sod meets existing turf is minimal. A smooth, even transition protects the players.

The seam issue becomes greater when multiple sections of replacement sod are needed within the same area. The type and quality of sod and the skill of those doing the installation are major factors.

The match game

Field damage seldom happens in small, barely noticeable parts of the field. High-traffic, high-visibility areas experience the greatest wear: the soccer goal mouth, between the hash marks of the football field, in front of the pitcher's mound, etc.

In any of these areas, a section of sod with discernible difference in color or texture stands out like a coffee stain on the front of a clean white shirt. Every eye focuses on it.

Replacement sod grown on a soil profile that exactly matches the soil profile of the field provides the ideal match. Marked differences between two soil profiles pose layering problems that may affect water infiltration and percolation rates, effectiveness of fertilization and pesticide applications, depth and development of turf roots, and compaction rates.

Unmatched segments of replacement sod respond differently than the established turf to basic maintenance procedures, and differences in turf color and texture increase. If the sod is to remain in the field, maintenance procedures must be adjusted to fit turf needs and to reduce barriers between different soil profiles.

The perfect match *can* be achieved. Some sports turf managers grow their own replacement sod in on-site nurseries. The sod consists of the same turfgrass varieties and the same soil profile as the playing field turf, and it's managed with identical maintenance practices.

Other sports turf managers work with the producer who supplied the

Crews load fresh sod into a machine to wash soil from the rootzone.
Courtesy: Trusty & Assoc.

texture, and color do matter; but for sports activity, such factors as the soil profile of the growing medium, turf vigor and density, and depth and development of the root system are of equal or greater importance.

To solve problems of aesthetics, colors can be blended with turf dye. The sod can also be over-

field's initial sod to arrange for a continuing supply of replacement sod. The producer agrees to set aside a predetermined area of matching sod, and to follow the program developed by the sports turf manager to maintain that sod.

The sod farm must be near the field to reduce time and expense of transportation. The sod producer must be capable of cutting and delivering replacement sod as needed and on short notice. There will be a cost for this on-going service, but the end results can be as effective as those achieved with an on-site sod nursery.

In each of these instances, the length and width of the sod sections and the depth of the attached growing medium can be specified within the limits of those doing the harvesting, transporting, and installation of the sod.

Washed sod

When the sod's turfgrass varieties and turf vigor match the field's existing turf, but the soil profile is incompatible, washed sod may be a repair option. Standard sod rolls can be processed through equipment that washes the growing medium from the root system. Sufficient time is required for the bare-roots to knit into the field's soil profile before adequate stability is achieved to support play.

Washed sod is most commonly used on sand-based fields, where irrigation and nutrition can be closely controlled to promote rapid rooting into the soil profile. Initial costs are defined by the special handling involved in the washing procedure, transportation, and installation.

Which sod?

If matched sod isn't available and washed sod isn't a workable solution, sports turf managers still have several options. Turfgrass varieties,

This machine helps lay big-roll sod.
Courtesy: Trusty & Assoc.

seeded or sprigged with the turfgrass varieties found in the existing field.

Stability is always an issue. Sod roots need time to grow into the underlying soil profile to provide stability and solid footing. Before that knitting occurs, standard-cut rolls of sod may be too small and insufficiently anchored by their depth of soil to stay in place during the heavy wear of competition. Such sod can slip under an athlete's cuts and turns.

The position of the repaired area and the type of sport played on it will also affect the suitability of the sod: the more aggressive the activity, the greater the stability level needed.

Thick-cut sod

There's seldom enough time for solid knitting in emergency field repair, so sod producers have developed options to provided a greater degree of temporary stability.

Thick-cut sod is one of these options. It increases the depth of the attached growing medium according to the anticipated level of play. This helps hold the section of sod in place for at least one game.

Thick-cut sod is often used to repair relatively small, but important sections of the field, such as the goal mouth area of a soccer field. Sections of thick-cut sod may be no larger than those of standard-cut sod, but they're heavier. Again, precision installation to reduce the seam factor is a major issue.

Unfortunately, added stability comes at the cost of extra effort and expense. Special machinery is required to harvest the sod, production time can be increased, extra material may need to be removed from the field, and the technique can produce greater transportation and installation costs.

Big-roll sod

Big-roll sod is another option that increases immediate stability. This technique increases the length of the sod strip dramatically to add weight to the sod section and to reduce the seams.

Special equipment is required for the harvest, transportation, and installation of big-roll sod. The depth of the attached soil depends on the equipment used.

The same factors that give big-roll sod its stability make it difficult to move once it's rolled out. Generally, it's rolled into place directly from the harvested roll, while a large number of individuals steer the sod strip into place as tightly as possible.

Again, costs increase due to additional equipment, transportation, and labor costs.

Big-roll sod often works well when you totally resod a field. It's also appropriate when concentrated areas of an existing field have been damaged, such as the area between the hashmarks on a football field from goal line to goal line.

Use it again sod

Movable blocks of turf are an option for areas that are subjected to nearly constant wear. These blocks are comparable to sections of thick-cut sod, but they're much bigger.

Additional materials are often used in the soil profiles of these blocks to increase root development and resistance to compaction. The blocks may be enclosed in some form of edging material, holding it together tightly and providing a mechanism to which cable can be attached to move the block.

Two or more blocks of equal size and shape are then used as interchangeable modules for a specific section of the field. While one module is in place on the field, the other modules are actively growing in the nursery, recuperating from the last stint in the field and preparing for the next one. ❑

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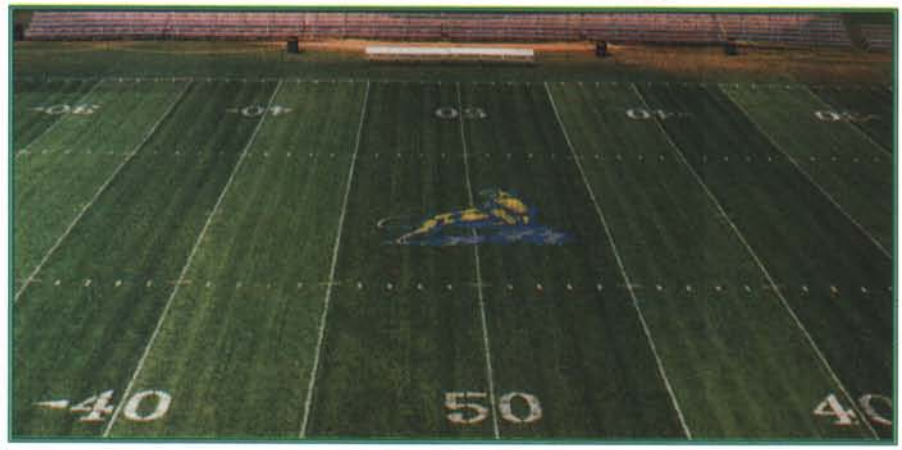
Casey Field

Field Focus

by Bob Tracinski

1997-1998 STMA Football Field of the Year



Casey's award-winning football field doubles as its baseball outfield. The visitors' bleachers run directly over third base. *Courtesy: City of Covington Parks and Recreation*

Casey Field, STMA's 1997-1998 Football Field of the Year, is the showplace and night gathering spot for many of the 7,198 residents of Covington, VA. The multi-use field hosts football from August through November, and baseball from mid-February through July.

Facility layout

Director of Parks and Recreation Allen L. Dressler explains, "The home side of the stadium is constructed from steel beams and concrete, with fiberglass, bleacher-style seating capable of accommodating 4,000 spectators. It includes a top-level press box with space for the PA announcer, spotters, clock operator, radio stations, film crew, and assistant coaches. Beneath the stadium are restroom facilities, plus fully-equipped locker rooms for both teams, a tape room, and private offices for coaches.

"There are two concession facilities, one on the home side, and the other, which includes restroom facilities, on the visitors' side. It becomes the single concession facility for baseball game attendees."

Organized athletic competition has been played at Casey Field since the spring and summer of 1962. The Boston Red Sox had a Rookie League team at the facility in 1967, and the Houston Astros had a Class A farm club team there from 1968 to 1976.

"What is now Casey Field was once a brick tannery and then a landfill site," says Dressler. "The brick debris became the base, and the landfill materials the subsurface. This was covered with native soil, a sandy loam, to complete the field."

No subsurface drainage system was installed, but Dressler asserts that none is needed, "The bricks underneath the field are the best system we could have. Water infiltrates and percolates through our sandy loam very quickly. Then it's held in the subsurface maze of bricks. When we installed new goal posts about three years ago, we hit standing water. The bricks form a reservoir from which water is wicked up to the turf during the extended dry periods so typical of our summers."

Field use

The double-duty field faces a full schedule with football alone. In 1997, it hosted 10 high school junior varsity and varsity football games and 20 youth league football games. Wednesday pre-game practices for the junior varsity team and Thursday pre-game practices for the varsity football team add to the field's traffic.

Baseball occupies the field seven days a week from the start of practice in mid-February through the end of the season in July. The schedule includes 20 high school baseball games, district and regional playoffs, 45 Little League baseball games, a three-day baseball camp, and the annual spring break trip of the Wellsville, NY High School baseball team.

Casey Field also hosts special events, such as Covington's annual Labor Day Celebration, which attracts several thousand people. In 1995, the East Regional and State Senior Little League Baseball Tournament brought in teams from West Virginia, North Carolina, South Carolina, and Virginia.

In 1998, high school baseball started February 16. As soon as the season was over, Little League baseball began, wrapping up July 17. Football preparations started July 20. The first scrimmage was held August 15, and the first game was played August 28. The tight schedule allowed only four weeks to make the conversion to football.

Field maintenance

Casey's playing surface consists of a mixture of bluegrass varieties, supplemented by an aggressive overseeding program. For the majority of the year, the overseeding mix contains five or six bluegrass varieties as a method of disease resistance. A mix of perennial ryegrass varieties is added to the bluegrass mixture for faster fill in during the football season.

Generally, the Friday night varsity game is followed by youth league play on Saturday, so divot repair, overseeding, and irrigation regularly take place on Mondays. Soil temperatures are still warm enough for major overseeding when football wraps up in late October or early November. Turf blankets are used in the wear areas until late February to achieve maximum germination.

Dressler keeps the turf between two and 2-1/2 inches in height for football and baseball. He maintains a three-inch height during the heat of summer, saying, "If anyone complains that the grass is too tall, I just tell them we're using it to teach those kids to hustle: to run to the ball, not wait for it to come to them. Besides, I used to play football as tight end and defensive end, and I never had a grass plant trip me."

The facility uses a riding mower with mid-mount rotary deck. To achieve a light and dark pattern, chelated iron is sprayed in the end zones, and in alternating five-yard strips up to the 40-yard lines. Iron is applied to the five-yard strips on both sides of the 50-yard line, resulting in a 10-yard, dark block.

The first lining process takes place one week before the first home game, and it's repeated approximately four more times during the playing season. The same strips are sprayed at each application.

Field layout marking and painting are completed on Friday morning, followed by a final, aesthetic mowing once the paint is dry. Combined with the striping program, this Friday mowing really gives the field a manicured finish.

There is no automatic irrigation system, so watering the playing surface is a challenge. Dressler explains, "We use four tripod sprinklers, alternating coverage areas periodically through the morning hours. In 1997, annual rainfall was 6.5 inches below normal, intensifying the challenge."

In 1998, spring rains created near monsoon conditions. This made irrigation unnecessary, but shifted the challenge to mowing and general maintenance. Despite preventive measures, disease stressed the turf.

A switch to hot, dry weather coincided with the heavy traffic of baseball play. It hit hard on the double-use section of the field. There was only one measurable rainfall between early June and August 31: a total of 1-1/2 inches of natural moisture. However, the crew managed to have the field in great shape entering football season.

Dedicated crew

Dressler became director of parks and recreation in 1993. He says, "This top-level field wouldn't be possible without the expertise and dedication of Crew Supervisor Charlie Baker and our three groundskeepers: Joe Morris, Gene Crawford, and John Hutcheson. Another key member of our staff and my right hand in coordinating all this is Administrative Secretary Jane Tucker."

Since Casey Field earned the Field of the Year Award, $110,000 has been invested in facility improvements. The bulk of the money has gone to minor repairs to the concrete, painting, bleacher improvements, and the addition of ramps and a platform to comply with ADA requirements. The original chain-link fencing, installed around 1962, was replaced. Dressler says, "We installed 7-foot tall chain-link fence around the entire sports complex because we didn't want the field hidden. This is the community's resource, and we want the taxpayers to see where their money is going and the kind of results it is producing."

Dressler sees field maintenance as three parts of a whole. He says, "Our number-one goal is providing a safe, playable product for the athletes. Then comes giving our attendees good accommodations. Finally comes the aesthetics of the field and facility.

"The answer to what it takes to make our field look the way it does is simple — PRIDE. We don't have the budget, fancy equipment, or the in-ground irrigation systems that some of our constituents are fortunate to have, but we do have four individuals who work hard and care about their facility as though it were their own front lawn. Even those who don't understand the game of football can understand that a lot of pride went into game-time preparations." ❑

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Casey Field Maintenance Program

March
- Core aerate: 3 directions, overlap each pass
- Overseed: multiple varieties, Kentucky bluegrasses and perennial ryegrasses
- Drag core material and seed
- Irrigate as necessary throughout active-growth period

April
- Fertilize: 20-10-10, 4 lbs./1,000 sq.ft.
- Apply: Dimension crabgrass control, Trimec spot treatment for broadleaf weeds

May
- Core aerate: 2 directions, overlap each pass
- Overseed: thin areas only, multiple varieties, Kentucky bluegrasses and perennial ryegrasses
- Drag core material and seed

June
- Apply Merit Insecticide for grub control

Aug.
- Fertilize: 32-5-7 with 25% sulfur coated urea (SCU), 3 lbs./1,000 sq.ft.
- Apply: Lawnplex chelated iron, Trimec spot treatment for broadleaf weeds
- Repair divots
- Spot overseed weekly during entire football season

Sept.
- Core aerate: 2 directions, overlap each pass
- Overseed: majority of playing surface, multiple varieties, Kentucky bluegrasses and perennial ryegrasses
- Drag core material and seed

Sept./Oct.
- Apply: chelated iron at 3-week intervals (for light/dark striping)

Late Sept./early Oct.
- Fertilize: 32-5-7 with 25% SCU, 3 lbs./1,000 sq.ft.
- Apply: Lawnplex chelated iron to entire field, Trimec spot treatment for broadleaf weeds

Nov.
- Fertilize: 35-3-5 all-soluble fertilizer, 4.5 lbs./1,000 sq.ft.
- Core aerate: 3 directions, overlap each pass
- Overseed: sideline areas, bleacher placement area, multiple varieties, Kentucky bluegrasses and perennial ryegrasses
- Turf blankets (until late Feb.)
- Drag: entire playing surface, 2 directions