

Success Soars at Redbird Softball Complex

THE 1999 COLLEGE SOFTBALL FIELD OF THE YEAR

by Bob Tracinski

As each member of the home team passes through the gate, a tremendous sense of pride is felt. Players chatter. Bats crack. Fans applaud a well-executed play. The smell of freshly mowed turf mixes with the aroma of popcorn. Crisp white chalk lines contrast with the dark brown infield while a dense carpet of green in the outfield invites players to tread upon it. Fly balls are caught; runs are scored. The game is won (or lost) and the opponents make their way to the waiting bus, but not without complimenting the coach on an outstanding playing surface and the excellent Redbird Softball Complex facility. This is a typical day of play for Illinois State University's Lady Redbird Softball team and their coach, Melinda Fischer."

This opening paragraph (penned by Darcy Loy, ISU grounds gardener) captures the excitement generated by STMA's 1999 College Softball Field of the Year. Illinois State University is in Normal, Ill., in the central part of the state. Serving a growing student body, now around 20,000, has brought nearly constant change to the 850-acre urban campus. Planned construction of a new parking structure and a new College of Business building at the center of campus forced the demolition of the existing soil-based softball field and facility. The new softball complex was added to the West campus area already home to football, baseball, soccer and track facilities.

Maintenance Matters

Mike O'Grady, superintendent of grounds, has been with the University for 23 years. His staff of 19 maintains 350 acres, including 70 acres of parking lots, 23 miles of sidewalks and everything on the exterior of the buildings, from signage to turf and flower beds. They also handle snow removal and garbage pickup.

O'Grady says, "We have 9 1/2 acres of athletic fields that we strive to maintain at a professional level: football, baseball, soccer, track, the soccer field of the university's

laboratory high school and the new softball field. Our football game field is artificial turf; the practice field is real grass. All other game fields double as practice fields.

"I develop all the grounds maintenance programs. Denny Deterding handles the day-to-day maintenance of the athletic fields and interacts with the coaches. He'll get assistance from other staff members for such projects as topdressing or spraying. Our athletic department has attendants that do the field layout and dragging and the chalking or painting of the fields. Our department will provide assistance with the application of calcined clay."

The softball field is used from March through the beginning of October, primarily for ISU NCAA Division I softball games and the practices of the Lady Redbird team. The ISU Athletic Department handles all scheduling. Non-softball activities are not allowed on the field.

Under Construction

O'Grady was given full authority to work with the university architect to design the new softball field. He says, "I had a vision of what I wanted the field to be and what long-term maintenance issues I wanted to minimize through field construction. I also tapped a lot of resources, including Dr. Henry (Hank) Wilkerson of the University of Illinois and Dr. Dave Minner of Iowa State University.

"One interesting design challenge was posed by the creek

that wraps around the back of the softball complex. We designed the field 10 feet shorter than planned, ending up with alleys of 190 feet and a centerfield of 210 feet, to accommodate the rules and regulations of the proximity of structures to the creek and still comply with NCAA standards. Our Athletic Director at that time had wanted a home run ballpark and it does add excitement for the fans.

"Because the parking lot across the creek produced windshield glare for late afternoon games, we moved mature mock orange shrubs from another campus construction site and replanted them across the creek from the outfield fence. This also provides a solid background for the batter's eye to pick up the ball and gauge speed and timing."

O'Grady, Wilkerson and Minner decided on a 10-inch

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straight sand outfield profile, using USGA sand specifications. The skinned infield is composed of a mix of 80 percent clay and 20 percent sand with calcined clay incorporated into the surface layers. An additional 6 tons of calcined clay are incorporated into the skinned area each spring. The entire field was constructed with a 1/2 percent slope from behind the catcher's position all the way out to the end of center field for surface drainage. O'Grady says, "In previous fields and on our baseball field we tried to contain runoff in the tarped clay area but, when the tarp was pulled and dumped, it created a large amount of water on the turf. The 1/2-inch total field slope eliminated this."

After the field subgrade was exposed, the contractor trenched in 6-inch wide and 12-inch deep trenches on 10-foot centers in the outfield, arching in a half moon pattern from first to third base. A main trunk drainage line runs down the center of the field. Advantage Drainage by ADS, 12 inches high by 1 inch wide, was then placed in the trenches and bedded in pea gravel all the way to the surface. A shallow level of pea gravel was placed over the subsoil.

O'Grady says, "The straight sand profile was selected from a local contractor. They made adjustments in the mix to meet our specs and checked it for a percolation rate of 32 inches of rain per hour. The sand was premixed at the gravel pit and trucked to our site. But when we pulled samples to check the specs on the first delivered load, it didn't pass. The contractor's crew had pulled material from the wrong pile. The contractor took it back and brought the correct mix, but it definitely reinforced our conviction to test and retest throughout the construction project."

Irrigation Issues

The Rainbird EXP-LXT irrigation system uses Hunter I-40 part- and full-circle heads in seven separate zones within the turf areas. Turf irrigation takes place on a daily basis at a rate of 1-1/2-inches of water per week. That rate is increased during the playing season in accordance with evapotranspiration rates.

A rain sensor control automatically shuts down the irrigation system if rainfall over 1/4 inch takes place.

O'Grady says, "We installed a high-speed rotation irrigation system utilizing Hunter I-42 nozzles for the clay infield. It took a little tweaking for locations, spacing and timing. These irrigation heads run all along the perimeter of the clay right at the edge of the turf. One head was placed in the center of the clay in a small valve box that sits right behind the pitchers rubber. When the system is turned on, the water pressure forces the cover off and the head pops up to irrigate. The crew replaces the cover and tamps down the infield clay around it when the cycle is completed. This system speeds the irrigation segment of skinned area preparation and allows us to implement dust

control for games. We can flip on the infield irrigation for 2 or 3 minutes between double headers. It also eliminated the need for an on-field quick connect and those occasional emergencies when a coach or player spun off the entire coupler and created a gusher."

Sod Story

O'Grady consulted with Dr. Wilkerson to identify a source of suitable sand-based Kentucky bluegrass sod produced within the same climate zone. They worked with Huber Ranch Sod Nursery of Schneider, Ind., to select a 9-month old sod composed of four bluegrass varieties. Wilkerson advised use of the younger sod over similar older plots to speed on-site adaptation after installation.

"The landscape contractor we hired had never installed large roll sod on a sand-based field before and was concerned about the ruts he might make in the sand," reports O'Grady. "He wanted to use a crane placed on the infield clay to install the big roll sod. I agreed as long as he would absorb the extra costs and successfully complete the project within our time frame. We were concerned about heat buildup in the sod rolls so we wanted to insure all of the cut sod would be installed within 24 hours of being cut. The sod was unloaded and strategically placed on the infield clay. The same machine used behind a tractor

Redbird Softball Complex - Maintenance Program

- March 15:** Apply pre-emergent to warning track and fence lines.
- April 5:** Apply 8-4-24 fertilizer at rate of 1.5 pounds per 1,000 square foot. Apply Primo Growth Regulator. Core aerate with 3/4 inch tines; drag cores into field.
- May 3:** Apply Fungicide (Heritage). Apply Primo Growth Regulator. Apply 8-4-24 fertilizer at rate of 1.5 pounds per 1,000 square foot.
- June 7:** Apply 8-4-24 fertilizer at rate of 1.5 pounds per 1,000 square foot.
- June 8:** Apply Fungicide Mix (Banner/Daconil Ultrex) Apply Primo Growth Regulator
- June 14:** Core aerate with 3/4-inch tines; drag cores into field
- July 5:** Apply 8-4-24 fertilizer at rate of 1.5 pounds per 1,000 square foot. Apply Fungicide (SPTeremec) Apply Primo Growth Regulator Spray warning track for broadleaf weeds if necessary.
- July 19:** Apply grub control (Merit)
- August 2:** Apply Fungicide (Heritage). Apply Primo Growth Regulator Apply 8-4-24 fertilizer at rate of 1.5 pounds per 1,000 square foot.
- August 6:** Slice aerate.
- Sept. 6:** Apply Fungicide Mix (Banner/Daconil Ultrex) Apply Primo Growth Regulator. Apply 8-4-24 fertilizer at rate of 1.5 pounds per 1,000 square foot.
- Oct. 4:** Apply Primo Growth Regulator. Apply 8-4-24 fertilizer at rate of 1.5 pounds per 1,000 square foot. Slice aerate.
- Nov. 15:** Apply 18-5-18 fertilizer at rate of 1.5 pounds per 1,000 square feet. Shut down and drain irrigation system.
- Nov. 16:** Core aerate with 3/4-inch tines; leave cores on field over winter.

As O'Grady had predicted, after all the pre-planning, **attention to detail** during construction, and the **aggressive maintenance program** following construction, the field was in **great shape and ready for use.**

Photo courtesy: STMA



Left: Steve Guise, past president of STMA, presents the 1999 College Softball Field of the Year Award to Illinois State University's Superintendent of Grounds, Mike O'Grady, (center) and Denny Deterding.

Photo courtesy: Illinois State University



Precision lighting keeps the light on the field and away from nearby residents.

Photo courtesy: Illinois State University



The softball field is used from March through October, for ISU NCAA Division I softball games and the practices of the Lady Redbird team.



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Photo courtesy: Illinois State University



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Field construction was **completed** in August of 1998 with the softball team's fall practice sessions coming just **5 weeks** after the sod installation.



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Daily Infield Maintenance

Pre-practice and Pre-Game:

Drag skinned area with nail board and drag mat. Touch up turf edges with hand rake. Irrigate lightly.

Between Doubleheaders:

Mat drag infield skin and baselines. Irrigate lightly.

Pre-game or In-game:

Apply calcined clay to wet or heavy wear areas.


Post Game:

Mat drag infield skin and baselines.

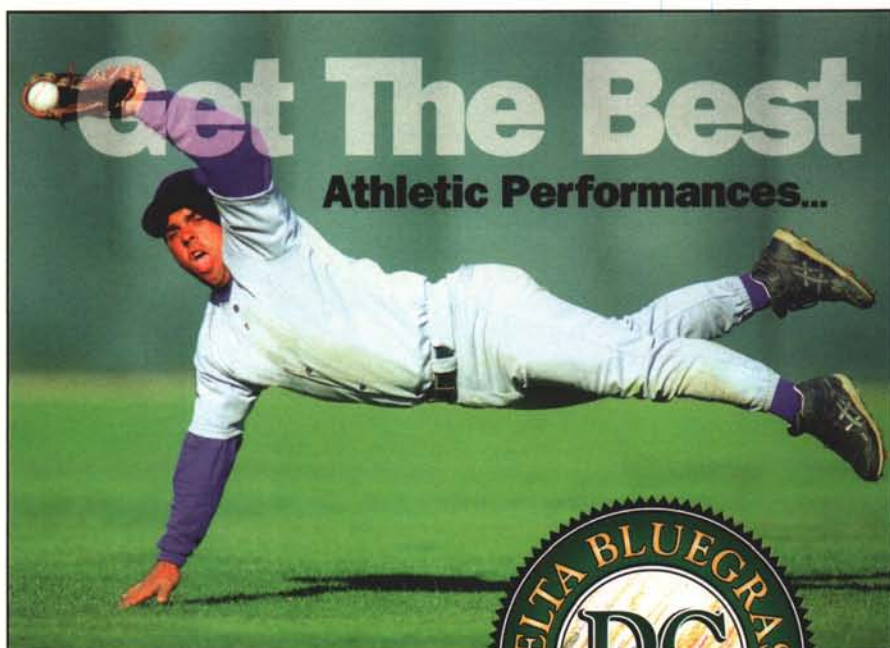
for big roll installation was placed on the crane which then swung it into the proper place in the outfield. One crew member used a lead rope, moving backward in front of the roll to guide it into place. Two other crew members used rakes to make sure the sod was tight and straight. The contractor laid 5,000 yards of sod in less than 24 hours using this method. Though it was effective, the contractor admitted that the costs were so high he probably won't use the method again. With the sod in place and the turf mowed twice a week with a reel mower to a height of 1 1/4 inches, the field drains at the rate of 2 1/2 inches of rainfall per hour."

Let there be light

Lighting was another challenge. O'Grady says, "The softball field is only divided from a residential area by a 40-foot wide street, so we needed to take great care to keep from invading people's privacy. Musco installed a TLC system with a 70/50 foot candle ratio that focuses the light to exact locations on the field with no spill over. It effectively stops the reflective light of our field at the curb line."

Field construction was completed in August of 1998 with the softball team's fall practice sessions coming just 5 weeks after the sod installation. As O'Grady had predicted, after all the pre-planning, attention to detail during construction, and the aggressive maintenance program following construction, the field was in great shape and ready for use. 

Bob Tracinski is the business communications manager for the John Deere Worldwide Commercial & Consumer Equipment Division headquartered in Raleigh, N.C. He serves as public relations co-chair for the national Sports Turf Managers Association.



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