Texas A&M University Earns Soccer Field of the Year Honors

by Steve and Suz Trusty

The women's soccer field of Texas A&M University earned the STMA 2000 Soccer Field of the Year honors in the College Division. The field is located on the University campus in College Station, Texas, approximately 70 miles northwest of Houston. What was once a dairy cow pasture is now a beautifully groomed playing field—a tribute to the expertise, commitment and dedication of the Texas A&M athletic field staff.

The field was built in 1994 by the University Grounds Department as a practice field for the women's soccer team. Instead, it became the game and practice field.

The native soil consists of a few inches of topsoil over a heavy clay base. The 120 yard by 80 yard field area was plowed and disked, mixing the topsoil with the subsoil, and resulting in a heavy native soil profile. This was then leveled with a boxblade to create a one percent grade from sideline to sideline. There is no subsurface drainage system. The field was covered with Tifway 419 sod grown on a heavy clay soil.

Lights and permanent bleachers were added in 1997. Seating capacity is currently 1,500, with expansion planned in the future. Also part of the University's capital improvement program is conversion of the soccer field from a native soil to a sand-based profile complete with internal drainage and a new irrigation system. The timing of this major renovation is yet to be determined.

The soccer field is just part of the 17 acres of turf maintained by the athletic field staff of three full-time operators and four student workers under the direction of Athletic Field Manager, Leo Goertz, and Assistant Athletic Field Manager, Craig Potts. This includes the baseball and softball fields, the track infield, the sand-based football game field, two sand-based football practice fields, and the areas around the stadium. They also maintain the non-turf tennis center.

As shown by the packed stands at this game, Texas A&M University's women's soccer program is very well-supported.

Potts says, "The heavy native soil profile and the sod's base of heavy clay soil both contribute to the drainage issues on the soccer field. Infiltration rates and percolation rates are very slow. We estimate the infiltration rate at about 1/100th of an inch per hour so we need to rely on the slope to eventually move surface water off the field. In addition, the soccer field is the lowest point in our sports complex, lower than the softball and track fields around it. Rain water drains off the softball roof onto the soccer field. In effect, one-half inch of rain on the softball field puts approximately one-inch of rain on the soccer field. Yet, because of the thick stand of turf, this will result in standing water, not mud."

Potts reports the staff's most difficult maintenance challenge is a poorly designed irrigation system. He says, "The design has eight stations that run diagonally across the field. Three stations contain a mix of full and partial circle heads. The half circle heads apply double the water that the full circle heads apply during the same time cycle. The spacing between the heads doesn't provide head to head coverage. These problems will cause some areas to be too wet while other areas will have extreme drought-

stressed 'hot spots.' Two of the stations have heads positioned right in front of the bleachers. If we use the irrigation system to reach sufficient water levels in the hot spots, we will create a muddy mess for the fans to navigate getting to the bleachers."

The obvious answer to the irrigation problems is renovation of the irrigation system. But, the realities of sports turf management all too often make the obvious solution an unrealistic one.

First, there's the issue of field use. Potts notes that the University soccer program keeps the field in nearly constant use for eight months. Practices begin the first of August and last all month. The fall season runs from September through November. Spring practice begins in February, with the spring soccer season running through May. During those eight months, the field is used almost daily, with weekday practices and weekend games. The team will play away games one or two days a week. In addition, the field hosts college tournaments and two or three high school tournaments each year.

Once the official season ends, summer camps move in. Six four-day soccer camps are held, each bringing over 200 young players to the field. The camps run in a series of two, with a one week break in between each series. The field also is used for softball camps during the summer and as a warm up area for opposing softball teams during the season.

"That leaves us December and January with little on-field activity," says Potts. "With the unpredictable Texas weather during that period we've not wanted to tackle a project as disruptive to the field as renovation of the irrigation system. We've also determined it wouldn't be cost effective with the planned conversion to a sand-based field.

"Our solution to the problem has been to depend less on the irrigation system and focus on watering the drought-stressed areas. We accomplish this by utilizing three quick couplers. One is located at the southern end line behind the goal, one at the west side of the field near the mid-line, and the third is on the northeast corner of the bullpen on the adjacent softball field. We attach lawn sprinklers to 5/8-inch hoses running from the quick couplers. It takes up to six hoses to reach the soccer field from the softball field. We'll leave each sprinkler on an area for two hours, applying between 1 inch and 1-1/2-inches of water, then move them to the next area. This will control the 'hot spot' for approximately 3 to 4 days, until we can irrigate the whole field with the irrigation system.

"This method allows us to prevent shallow rooting and conserve water by avoiding frequent irrigation with only minimal benefits to the drought-

Athletic Field Manager Leo Goertz (center), and Assistant Athletic Field Manager Craig Potts (right) accept the STMA 2000 College/University Soccer Field of the Year award from STMA President Rich Moffitt, during STMA's 2001 Conference in Tampa, FL.

stressed areas. It is very labor intensive. Someone from our staff must monitor the stressed areas seven days a week to prevent tissue loss from stress. This was extremely important the summer of 2000 when there was very little rainfall and temperatures exceeded 100 degrees for over a month. Yet, when conditions are right, this is the best-looking field on campus."

The aerification and sand topdressing program, started in 1997, is limited by heavy field use. The program has slightly improved the infiltration rate and had a limited impact on compaction problems. The sand also helps smooth the field surface.

The fertilization program is based on soil and tissue test results and visual appraisal and varies each year. Area soils are high in phosphorus, so no applications are made. Generally, two pounds of potassium per year are sufficient. Nitrogen applications will vary from 8 to 10 pounds per thousand square feet each year. Potts says, "We're forced to push the turf with nitrogen between the end of summer camp until the beginning of fall workouts to achieve recovery from the camp traffic."

The staff considers proper mowing the most important aspect of turf management. Potts says, "The field is mowed 4-5 times a week during the camp season and when growth rate slows. We mow at 5/8-inch from April until the middle of August to promote turf density. We raise the mowing height to 3/4-inch throughout the fall and spring seasons. During the fall season we mow every day because of the increased growth rate and amount of field use. We feel the frequent mowing promotes turf density and faster recovery from damage. We'll pattern the field during the fall season for aesthetics, but mow against the pattern on off weeks to avoid developing any grain in the turf."

The baseball and softball fields are overseeded annually with perennial ryegrass because they can gradually

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transition back to bermudagrass. Once the playing season ends in June, these fields see minimal use until October. When the soccer field was overseeded, the transition back to bermudagrass was difficult and occurred just prior to the summer camps. This put more stress on the turf and made preparations for the early August season more difficult.

The soccer field has not been overseeded since 1997. Potts says, "We begin using green turf dye once every two weeks when nighttime temperatures start to fall below 50 degrees. We use a rate of one gallon of dye to 30 gallons of water to just darken the color a bit. This allows the plant to capture more of the limited fall sunlight and grow at a higher rate. We're not sure exactly how it works, but feel that it helps in continuing the photosynthesis process as temperature and sunlight decrease. We need to mow more frequently and the field recovers more quickly in the fall when it is dyed. We've also noticed that the dye helps the turf emerge from dormancy more quickly in the spring. We've occasionally used the same rate of dye in an application or two in the spring to speed up the growth process."

The staff is very cognizant of environmental issues and public perception. The integrated pest management system they've developed uses control products only when levels pass the tolerance point. Billbug control has been applied on occasion. The soccer field's dense turf requires little weed control, however, we apply a pre-emergent for winter annuals at the end of September or beginning of October.

The soccer field is a team effort. Potts credits the coaches for such field preservation measures as moving the goalie practices around the field, and playing from side to side along the sideline to avoid excessive wear in the goalmouths. He says, "If wet conditions are persistent, they may move practice to the sand-based track infield, even occasionally holding a night practice to accommodate scheduling. We're also fortunate to have an administration that understands the importance of proper field maintenance and gives us the tools and staffing necessary to do the job."

Potts and Goertz both give their highest praise to their staff. Potts says, "We have a staff of high-quality, dedicated people who are committed to excellence. The reward is the positive feedback from players and coaches who appreciate the results we produce for them."

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Texas A&M University Soccer Field Maintenance Practices

FERTILIZATION

Nitrogen: Granular applications of ammonium sulfate (21-0-0) at 8 to 10 pounds per thousand square feet, per year.

Phosphorus: Sufficient in the soil, no applications needed.

Potassium: Granular application of 0-0-22 at 2 pounds per thousand square feet, per year, based on soil and tissue testing.

Micronutrients: No micronutrient deficiencies, no applications needed.

MOWING & FIELD CARE

Mowing Frequency: Four to five times per week from spring green up until the end of July. Mowed daily from the last of July through the fall season.

Clippings: Remain on the field to avoid nutrient removal.

Height of Cut: 5/8-inch from mid-May through mid-August. Raised to 3/4-inch for fall and spring playing seasons.

MAINTENANCE PROCEDURES

Verticutting: Once per year in late May.

Aeration:

* 8-inch deep tine aeration in late May. Remove cores and topdress with sand.
* 4-inch core aeration once in summer. Remove cores and topdress with sand.
* 4-inch solid tine twice per year, timing as needed.

Overseeding: None

Green Turf Dye: Used to increase photosynthesis levels when fall evening temperatures drop. 1 gallon of dye to 30 gallons of water applied at 2-week intervals.

Painting: Game day painting and for practices depending on schedule.

Irrigation: Irrigation system run every 3 to 4 days based on evapotranspiration rates. Irrigation of drought-stressed "hot spots" with sprinklers and hoses as needed.

PEST CONTROLS

Weed control: Frequent mowing to promote dense turf. Apply pre-emergent for winter annuals at end of September or beginning of October. Hand pick any weeds.

Disease control: Control products applied only as required. To date, none needed.

Insect control: IPM with insecticides applied only when target levels exceeded.

Texas A&M's women's soccer team looks to score on North Carolina.