EVENTS

CALENDAR

APRIL

21-22 40th Southeastern Turfgrass Conference, Tifton, GA. Contact Glenn Burton, Coastal Plain Experiment Station, Tifton, GA 31793. (912) 386-3353.

23-25 Landscape Industry Show, Long Beach Convention Center, Long Beach, CA. One of the largest trade shows in the landscape industry. Contact California Landscape Contractors Association, 2226 K Street, Sacramento, CA 95816, (916) 448-2522.

MAY

5-7 27th Turf & Landscape Institute, Anaheim Convention Center, Anaheim, CA. Contact Southern California Turfgrass Council, 2492 E. Mountain St., Pasadena, CA 91104, (818) 798-1715.

21 North Carolina Turf and Landscape Field Day, NCSU Turf Field Center, Raleigh, NC. Contact J.M. DiPaola, Box 7620, North Carolina State University, Raleigh, NC 27695-7620, (919) 737-2657.

JUNE

8-11 National Association of Collegiate Directors of Athletics, Marriott Resort, Marco Island, FL. Contact Michael Cleary, NACDA, (216) 892-4000.

19 Fourth Annual Turf Field Day, Turf Seed, Inc., Research Center, Hubbard, OR. Contact Tom Stanley, Turf-Seed, Inc, P.O. Box. 250, Hubbard, OR 97032.

26 Midwest Sports Turf Institute, College of DuPage, Glen Ellyn, IL. Presented by the Sports Turf Managers' Association. Contact Susan Benson, Business and Technical Institute, College of DuPage (312) 858-2800, ext. 2196.

THE FRONT OFFICE

OPINION PAGE

TAKING A CHANCE ON PROGRESS

In the last few weeks I've taken part in three different sports turf clinics in Texas and California. Clearly the market has come a long way in a short time. Seminars have been packed. Both industry and turf extension have been highly supportive. Attendance at the seminars has been very strong. We are on the verge of greatly improving field conditions and safety.

The technology to make natural turf fields withstand heavy use exists now. The only things preventing fields from being updated is resistance to change and money.

One of the main reasons why the sports turf market has not kept up with available technology is a general disagreement among experts over field construction and maintenance methods. Many athletic field managers have been putting off important field changes because of this disagreement. I say we can't wait for these experts to agree, we have to take a chance on progress.

To wait until research has settled all disagreements could destroy much of the healthy momentum now in the market. First of all, it takes years to obtain funds for such research and then another two to five years to get reliable results. That research should definitely be initiated and pushed, but to freeze progress until this research is concluded is impractical and overlooks years of experience on the part of sports turf managers.

It's not as if applicable research doesn't already exist. There are basic areas of agreement to use as a starting point. These are adequate drainage, core aerification, proper mowing and fertilization, irrigation and a certain amount of annual renovation. Vast improvement is possible without a large investment just by making these few changes in a maintenance program.

However, better fields aren't free. The proper equipment to maintain them often costs more than the turf manager's spending authority. The right chemicals and seed are not so much alike that buying the cheapest ones will provide the same results. Additional labor is necessary if fields are to be properly maintained by crews. These are facts, not speculation.

Any athletic field manager is on solid ground if he asks for more money to correct a drainage or irrigation problem, to purchase an aerifier or mower, buy additional fertilizer, mow more frequently and renovate and overseed. These items will produce noticeable results for the investment. The results are more than appearance, they are playability, extended use, safety and team pride.

It's not so easy to stick your neck out for construction at this time. This is where most of the disagreement lies. Should a field be sand? If so, which of five to ten designs is best? Why do so many landscape architects and contractors know so little about sand-based athletic fields?

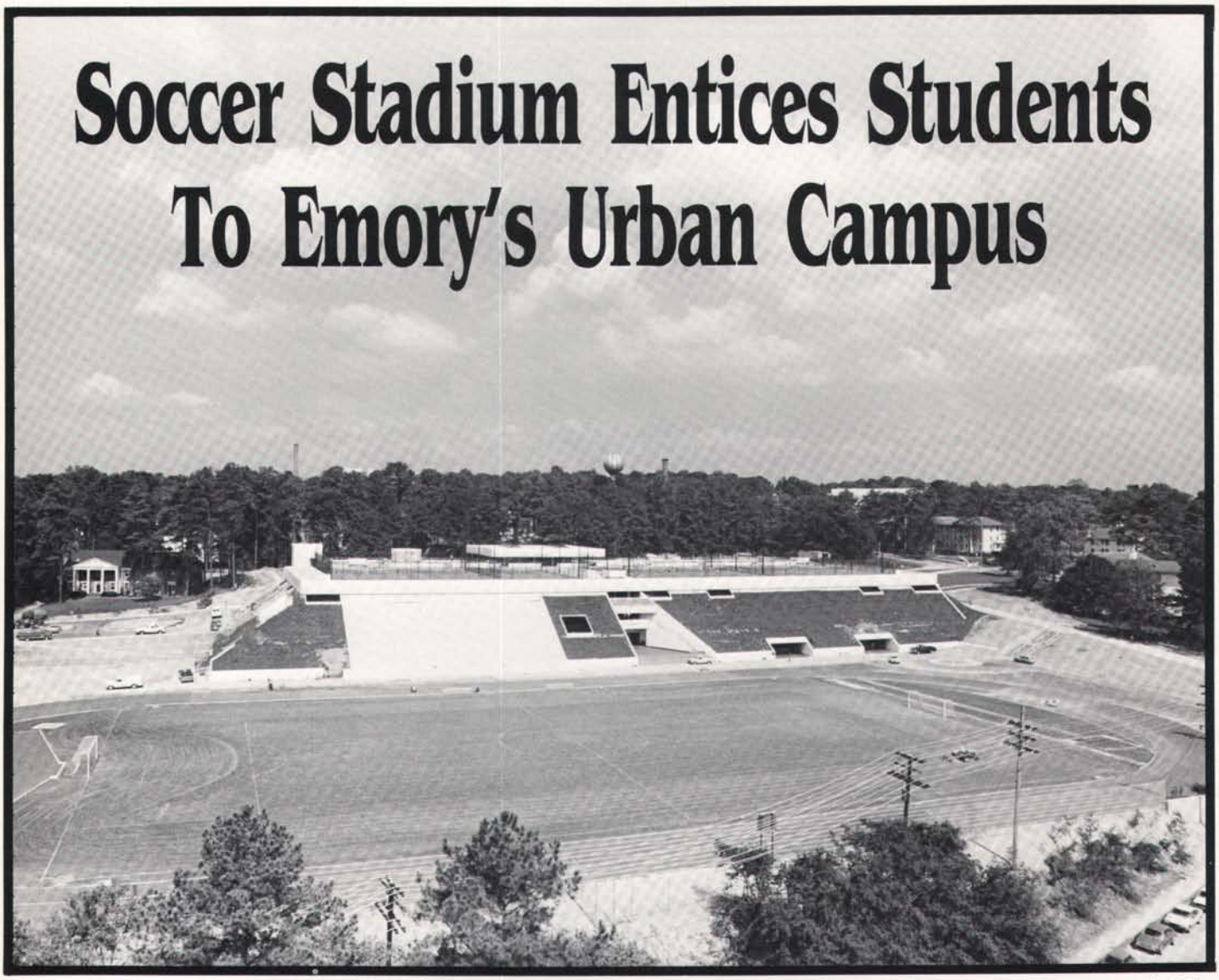
There are less expensive options to reconstruction that can be employed until the construction controversy is settled. Drainage can be improved in a variety of ways. Resodding does not mean the turf manager failed to do his job. Resodding periodically is standard even on the expensive sand based fields. Irrigation repair and improvement can be one of the best moves you can make without reconstruction.

One thing that has proven very beneficial to better sports turf at all levels has been including the purchasing manager in your plans. Invite him to attend a local sports turf seminar, take him to a turf field day and show him area fields that are properly funded. Explain to him the risks as well as the benefits. Pass along copies of **sportsTURF** magazine to him. Get him involved early. Don't fight the battle alone.

Sports fields are an asset to any physical plant and require periodic investment. Don't be afraid to speak out for clearly needed supplies. The number of people who will support you is growing daily. It's much safer today to take a chance on sports field improvement than it was just a year or two ago.

Bruce F. Shonk

Soccer Stadium Entices Students To Emory's Urban Campus



The George Woodruff Physical Education Center and soccer stadium was designed as a complete unit with the stands on one end of the building which is hidden by planted mounds.

Soccer, the sandlot sport of the '60s, is becoming the preferred sport of well-rounded college students. At least this was the conclusion reached by Emory University's trustees when they decided how to spend 20 million donated dollars for physical education.

Emory, a 150-year-old university tucked into an older residential neighborhood in Atlanta, GA, was out of space. It had 18 acres to serve its popular intramural and intercollegiate sports programs. The student population had swollen to 4,400 undergraduate and 3,800 graduate students since the sports facilities had been constructed in 1948. Students were voicing their dissatisfaction with the gym and fields and trustees anticipated this was having an effect on recruitment of students.

As colleges and universities compete for students, athletic facilities are being recognized as an increasingly important part of the campus physical plant. Colleges are responding with impressive new physical education centers. Such investments can spill over into athletic fields.

The Emory philosophy has traditionally been "athletics for all." Since becoming president of the university in 1977, J.T. Laney has strengthened this position in an effort to make Emory a place "where an outstanding student would go in order to develop a full range of abilities, intellectual as well as personal." Laney found Emory trustee George Woodruff a strong believer in this philosophy and in 1979 Woodruff made a large gift to the school to launch a $20 million investment in physical education.

The Woodruff Physical Education Center was an opportunity to attract the kind of students the school sought, bright and athletic. As John Palms, vice president for academic affairs told the trustees, "This facility is going to be a significant addition to the life of the campus. It's going to be an important factor in our recruiting of outstanding students. I think it will pay off.

With this gift in hand, the trustees pondered the choices. The school lacked intercollegiate football, basketball and baseball programs. Should they use the funds to attract athletes for these highly publicized sports since they did not provide athletic scholarships? Or should they follow tradition and invest in the intramural program and the NCAA Division III soccer, golf, tennis, cross country, swimming and track and field teams? Like more urban colleges today the trustees voted to spend the money on sports the students could play, not just watch.

The architects went to work on an athletic complex devoted to the recreational needs of the students. At the same time, Clyde Partin, chairman of the Department of Health and Physical Education, started

to lobby for improving the 18 acres of fields on campus as part of the overall improvement program. Partin was responsible for the more than 1,000 scheduled activities on the fields each year. No one knew better than Partin the punishment the fields were subjected to. He initiated a plan to reconstruct all the existing fields and to build a new soccer field adjacent to the planned Physical Education Center.

Partin believed an all-season field and state-of-the-art track would provide the students with quality, reliable facilities and attract special events to the Emory campus. He convinced the trustees, the fields were added to the budget and the campus now hosts an invitational NCAA soccer tournament, the Martin Luther King Freedom Games and many regional soccer championships.

To take charge of building and maintaining the fields, Partin hired Charles Scott, a veteran landscape contractor familiar with athletic fields. Scott, who had helped construct the Atlanta/Fulton County Stadium, consulted Turner Gibson, vice president and agronomist for Southern Turf Nurseries, Tifton, GA.

Partin told Scott he needed a field that had excellent footing, could withstand the wear and tear of 1,040 games and practices a year, could be played on rain or shine, would survive from year to year and could be maintained before daylight or after dark without conflicting with field activities.

Scott concentrated on one main point—percolation. His 28 years of experience had taught him drainage was the most important factor in turf survival under heavy use. The field had to be able to hold together under heavy spring rains to meet Partin's goals.

"We dug down 24 inches and sloped the subgrade," Scott explained. "Then we installed four-inch laterals connected to six-inch drain lines on each side of the field. The drain field was covered with six inches of washed stone between 1/2 and 3/4 inches in size.

The next step was finding the perfect soil. We had soils from all types of sites analyzed, testing each one for percolation. The soil we chose came from the banks of the Chattahoochee River. Turner Gibson calls this sandy soil the perfect soil mix, the best he has seen since he built his first golf course in 1939."

When tested, this soil was 93 percent sand, three percent silt and four percent clay. Ninety-five percent of the sand was larger than 0.1 mm with more than half 0.25 to 0.5 mm. Nearly ten inches of water per hour flowed through the mix. One percent of the mix was organic matter.

Sixteen inches of this mix was spread over the field and graded with a slope from the center of the field to the sidelines. Meanwhile, Southern Turf Nurseries had been custom-growing Tifway (419) on sand to prevent any problems with compatibility between the sod and the soil mix. After a Rain Bird automatic irrigation system was installed, the field was sprigged in the summer of 1983.

Emory University's timing couldn't have been better. A track made of specially designed rubberized asphalt was installed around the new soccer field. Top track and field athletes from across the U.S. competed on the Emory track during the Martin Luther King Freedom Games to qualify for the Olympics to be held in Los Angeles the following year.

That fall more than 14 special dedication events utilized the new field and physical education center. Highlighting these events was the Emory University Invitational Soccer Tournament featuring the University of North Carolina at Greensboro (NCAA Division III 1982 National Champions) and Florida International University (NCAA Division II 1982 National Champions).

When the students arrived for the fall semester they were greeted by the sparkling new Physical Education Center, soccer field and track. Immediately student use of the facilities jumped. The soccer field schedule was packed solid seven days per week.

The impact of the new facility on Emory's intercollegiate teams was felt almost immediately. The 1984 Eagles coached by Tom Johnson was the best soccer team Emory ever fielded with 16 wins, three losses and two ties. The same year student Tony Lewis became Emory's first cross country All-American. Both men's and women's tennis teams were ranked in the NCAA Division III top ten in 1984. The greatest impact was felt in track and field with 35 school records broken the first year.

After nearly three years the main soccer field still stands up to the daily assault of soccer, lacrosse, rugby and touch football players. Scott does not overseed the field with ryegrass despite year-round use. Instead he starts gradually raising the cutting height of the bermudagrass in August from 3/4 inch to 1½ inch by November. "We leave as much fluff on in the winter as possible," says Scott. The Tifway survived record cold

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The soccer Eagles were the best team fielded by Emory the year after the new soccer stadium was completed.

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temperatures this winter of 1983-84. He is exploring the idea of burning off the thatch and topdressing to eliminate thatch built up over three years.

Like more urban colleges today, the trustees voted to spend the money on sports the students could play, not just watch.

The field is mowed nightly with a tractor-drawn gang of Roseman reels during the spring and fall. Twice a year Scott aerifies the field, drags it, fertilizes and irrigates heavily. During the year he fertilizes heavily. He applies 90 lbs./acre of ammonium nitrate more than twice a month alternating every three weeks with a complete fertilizer. He limes the field four times per year. When the bermudagrass is actively growing Scott irrigates at night for an hour. So far he reports no problems with diseases.

Infestations of annual bluegrass and winter chickweed have been stopped with applications of Poast says Scott.

Immediately following graduation ceremonies in May Scott leases a sprig planter and sprigs any thin areas around the goals. He has kept his eye on percolation by having the soil tested each year. "After three years it still takes the field less than 20 minutes to drain off after a three-inch rain." boasts Scott.

In the spring he lowers the cutting height and vacuums the field with a Giant Vac that he uses for other campus cleanup. This year Scott may topdress the field for extra smoothness.

Plans for the Woodruff Physical Education Center also included renovation of seven softball fields, seven soccer and/or touch football fields and one field used for rugby and lacrosse. These are located in three different areas on campus.

The largest is ten acres and has four softball fields, four soccer fields, a rugby/lacrosse field and a baseball field. Used mainly for intramurals, last fall there were approximately 60 intramural soccer and football teams as well as 130 softball teams using these fields. This translated into roughly 80 games per week for intramural teams.

A six-acre field is dominated by fraternities and team practices. A third two-acre field is used for women's sports and teaching classes. A band shell and outdoor stage are planned for this field in the future.

The impact of the new facility on Emory's intercollegiate teams was felt almost immediately.

These fields were renovated since 1983. Four inches of stone and perforated drain tile under 14 inches of soil mix keep the fields playable. Older Nelson irrigation systems are used to water the fields when needed.

Maybe no student ever picked a college to attend because it had a great soccer fields. But Emory trustees believe soccer is an important part of of its Physical Education Center. Partin and Scott have shown the university community that natural fields can meet the needs of urban colleges with limited acreage. The key is in the soil.►

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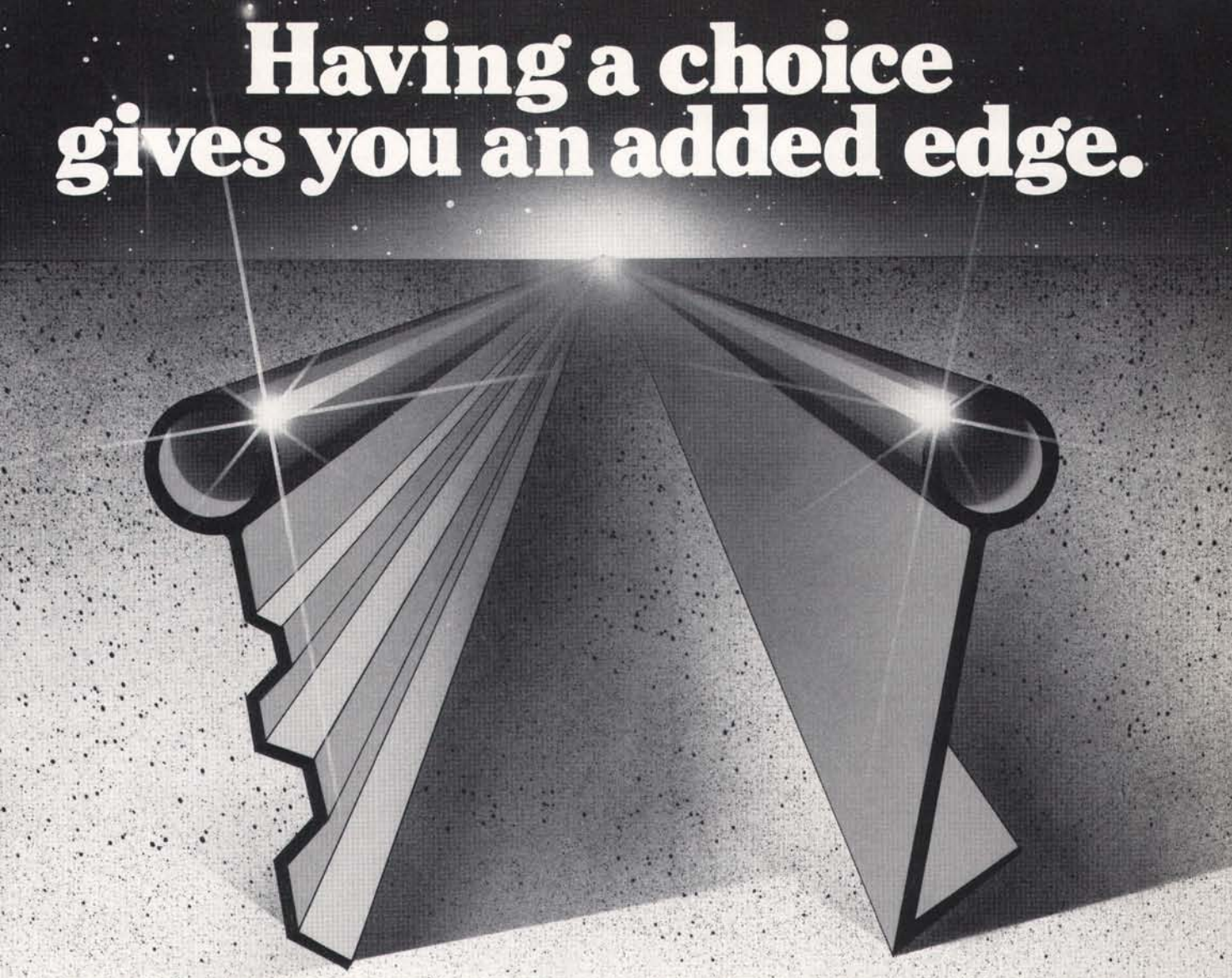

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TEXAS RANGERS HOST TURF CLINIC

Texas Rangers turf manager Jim Anglea gave more than 250 athletic field managers from three states his tips on how to prepare a Major League infield during a one-day clinic at Ranger Stadium in March. Texas A&M turf specialists also provided seminars on fertilization, aerification and weed control during the event. Athletic field managers travelled from as far as Louisiana and Oklahoma to attend the first-time event.

DESERT FIELD DAY HELD AT FOSTER TURF FARM

Leaders from the turfgrass and landscape industries in the Palm Springs desert areas gathered recently at Foster Turf Products' Sod Farm in Thermal, Calif., for a field demonstration day.

According to John Foster, president of the firm, "Our idea in developing the field day was to compare the older perennial varieties with newly developed varieties under our own desert conditions. We prepared 136 plots of perennial ryegrass, seeded at different rates and fertilized at different rates, but all grown under our own conditions so that people could actually compare the differences.

"We were quite pleased with the turnout and enthusiasm that those in attendance showed," Foster declares. "It is our third field day. We will continue to provide the turfgrass industry with an extensive educational program each year."

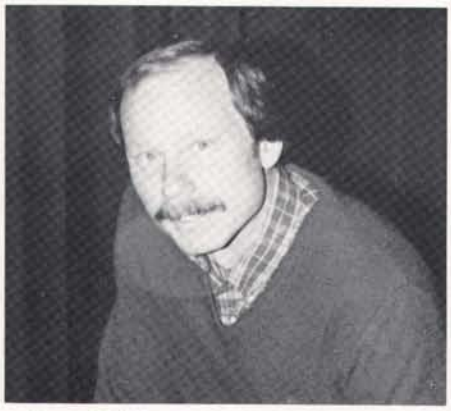
Speakers included Dr. Bill Meyer, Pure Seed Testing, Hubbard, Ore.; Dr. Richard Hurley, Great Western Seed, Albany, Ore.; Bill Rose, Tee to Green Corporation, Hubbard, Ore.; and Dr. Paul Beaty, Southwest Aquatics, Palm Desert, Calif.

Bud Lombard, vice president and sales manager of Foster Turf Products, was in charge of preparing the demonstration plots

for the seminar. Over 40 varieties were shown, grown and seeded at two different rates.

Foster Turf Products is a division of Landmark Lake Company, Inc.

WIGHTMAN ELECTED PRESIDENT OF STMA



Steve Wightman, director of turf maintenance at Denver Mile High Stadium, is the new president of the Sports Turf Managers' Association. Wightman served as treasurer of the organization for the past two years during STMA's management changeover. He led the association through incorporation in 1985.

A Colorado native, Wightman received a degree in marketing and finance from the University of Northern Colorado, Greeley. After working for a public accounting firm for two years, Wightman accepted a position with the Denver Parks and Recreation Department as director of the city's recreational ball program in 1973.

The city moved him over to Mile High Stadium in 1976 after a major renovation of the field and stadium, which included installation of a Prescription Athletic Turf system. Last year the stadium hosted more than 110 events including rock concerts, the Denver Broncos, and minor league baseball.

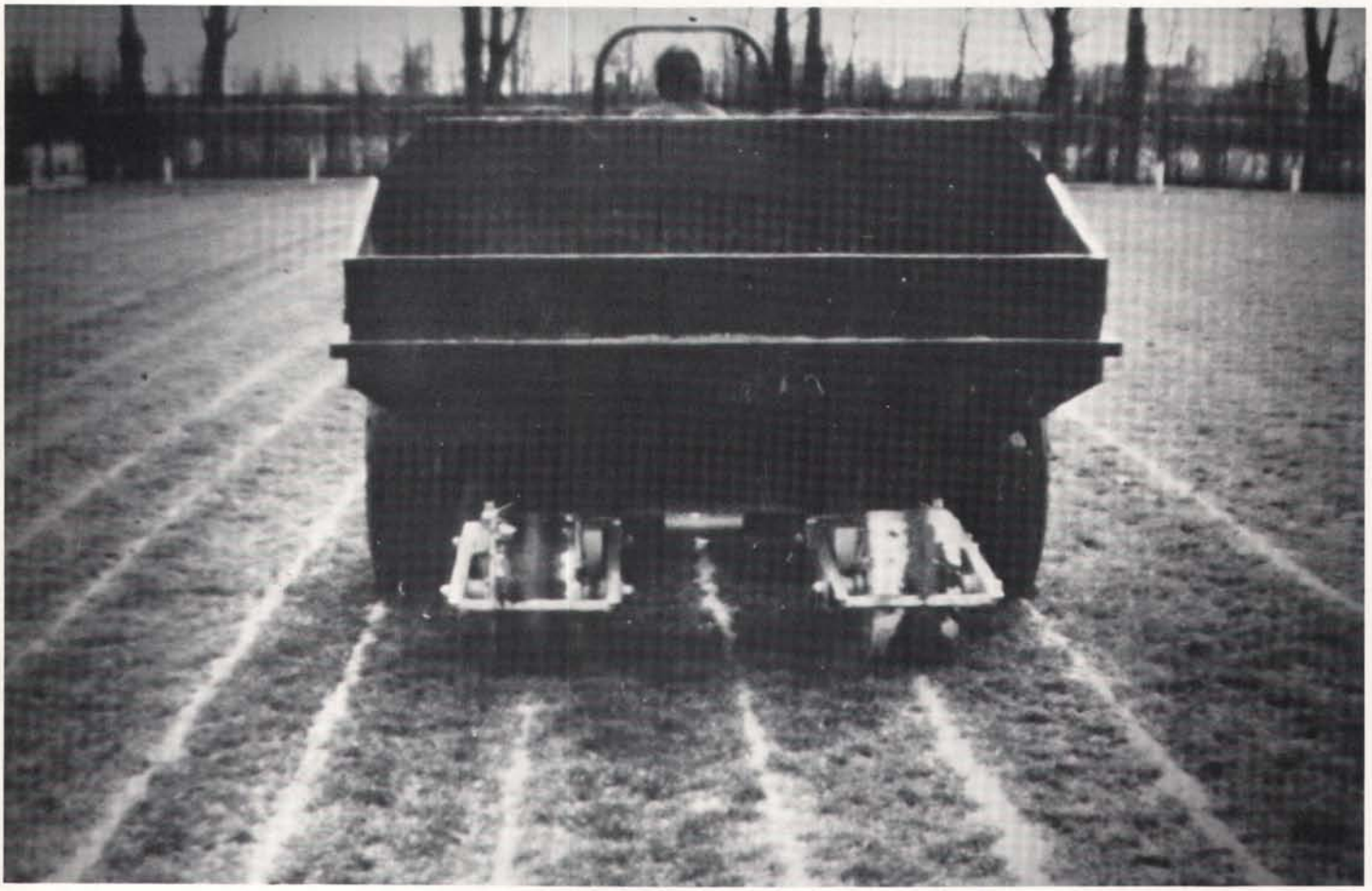
"One of the things I'd really like to get started as president is the development of field maintenance guidelines which can be used by everyone from parks and schools to the National Football League and Major League Baseball," says Wightman. "These guidelines could solve all kinds of problems at all levels in the future."

Wightman joined STMA in 1982 because he felt it would give him an opportunity to get to know other turf managers and to discuss mutual problems. He served as regional director for one year and was appointed treasurer in 1983 when the group held its annual meeting in Denver.

Mile High Stadium was built in 1948 for the Denver Bears, a minor league baseball team in the New York Yankee organization. The Broncos started using the stadium in 1958. The city of Denver took it over in 1967 and added to it in 1968 and 1975. Rumors that a second private or public facility would be built in Denver to host a major leage baseball club have not become reality.

Sports Turf Drainage:

A Battle of Two Forces



Sand is injected into a British soccer field by a machine designed just for sand-slitting sports fields.

By John W. Moreland

When sports turf managers experience problems with insects, diseases, drought or winterkill, they may not realize these are often visible manifestations of poor drainage. The full impact of poor drainage on turf is not well documented, but few would argue that poor drainage is the number one problem of sports turf.

Drainage is a lot more complex than "water runs downhill." In soil, water moves according to two forces which often oppose each other. Gravity is the first force, the one that makes water go downhill. The force gravity exerts on water is dependent on the depth of sample. From this relatively simple concept of gravity we jump to the other, more complicated force called capillary attraction.

If gravity was not opposed by another force, soil would not retain water for plant use. The main factor in capillary attraction is the size of the pore spaces in the soil. Smaller pore spaces have stronger capillary attraction than large ones.

An easy way to illustrate the two forces is with a wash cloth. Water will move in a wash cloth in very much the same way that it does in soil.

First, thoroughly soak a wash cloth and hold it parallel to the floor. It remains wet and drips very little. The capillary attraction of the wash cloth is greater than the force of gravity on such a shallow sample. Now rotate the wash cloth 90 degrees so it's perpendicular to the floor. Water flows freely down the wash cloth. The top edge of the cloth is no longer as wet as the bottom.

Although the wash cloth has the same capillary attraction in both positions, the force of gravity has increased more than tenfold due to the increased depth of the sample. Gravity then exceeds the force of capillary attraction in the large pores of the cloth. The cloth remains wet because the force of gravity is not sufficient to pull the water out of the smaller pores.

These two forces working within the soil sample really determine how much water is removed from the turf. In most cases the permeability of the soil is the limiting factor, not the size of the drain pipe.

In fact, if the soil were absolutely uniform in permeability, water moving downward in the soil profile would not enter the pipe at all, it would be carried around the pipe by the capillary attraction of the soil.

Sports turf drainage is not the same as agricultural drainage. In agriculture, the cultivated surface soil is more permeable than the subsoil. French drains are very effective in these situations. A French drain is

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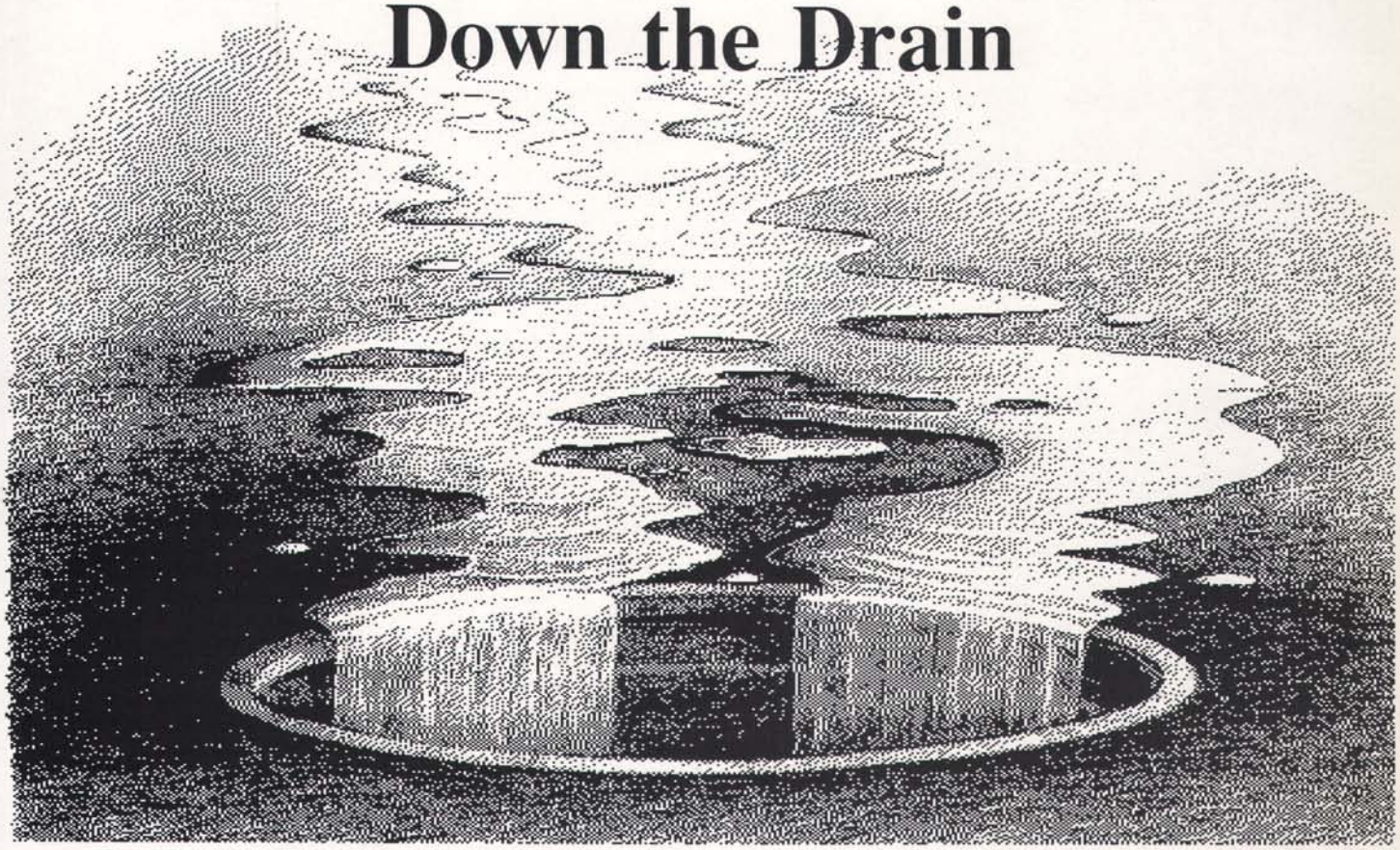
Stop Pouring Water, Time and Money Down the Drain



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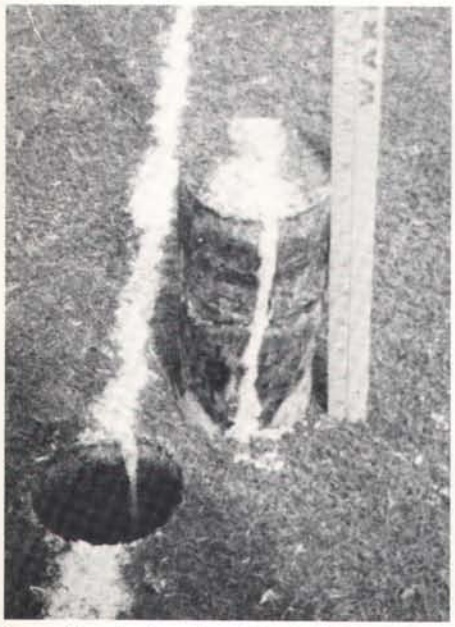
installed by trenching through the permeable topsoil and a foot into the impermeable subsoil (hardpan). A four-inch drain pipe is placed in the trench and backfilled with gravel up to the top of the subsoil. Topsoil is used to fill the trench the rest of the way to the surface.



Narrow bands of sand are injected eight inches deep into the soil in a crossing pattern.

The water moves through the highly permeable topsoil to the water table created by the less permeable subsoil (hardpan). The drains set in the subsoil carry the water away. In other words, the force of gravity is sufficient to move water through the highly permeable topsoil when it is saturated. As the topsoil dries, its capillary attraction increases and the rate of water removal decreases. When the capillary attraction becomes equal to the force of gravity, water stops moving and the drain ceases to function.

In sports turf the surface soil is usually compacted and less permeable than the subsoil. It is very difficult for water to move through the top few inches of soil to the more permeable subsoil. Player damage to turf is severe when the surface soil is compacted and saturated with water. When the water finally does make it through the topsoil, it moves downward at a faster rate. Under these circumstances, a conventional French drain is ineffective.

Agricultural drainage systems are inadequate for sports fields. Additional control over soil moisture is required to assure a durable surface that resists compaction and damage to turf. This control has been achieved by reconstructing fields to place a sand rootzone over a gravel blanket on top of the subsoil. Properly sized sand will not compact and will remain highly permeable. French drains would then be effective when installed into the top of the subsoil. This provides outstanding results. But, such construction is expensive and requires the use of three to four thousand tons of sand and a large amount of gravel.

Sports turf drainage is not the same as agricultural drainage. Topsoil in agriculture is cultivated and highly permeable. Topsoil in sports turf is often compacted and impermeable.

Unfortunately, such reconstruction is not always practical. The Cambridge system was designed as a solution to poor drainage when total reconstruction is impractical. It avoids much of the expense of reconstruction by utilizing a grid of perforated pipes in narrow sand-filled trenches in conjunction with sand topdressing.

The system puts the forces of gravity and capillary attraction to work in harmony. The