

## PARKS S-T-R-E-T-C-H TO MEET FIELD DEMAND

Park superintendents add fields while budgets and staff stay the same. Utility turf programs and old equipment may not be enough to keep fields in play.

By Bruce F. Shank, Executive Editor

Park superintendents are stretching resources to keep up with demand for playing fields according to the latest *Weeds Trees & Turf Landscape Management* survey. Meanwhile, budgets remain the same and equipment is doctored to keep it in use.

More than two-thirds of the respondents in the survey indicated their equipment budgets were not enough to buy the equipment needed to keep up with increased field use. Seventy percent said they had increased the number of fields to meet the demand for fields by sports leagues and taxpayers. Despite this, only 18 percent have had a budget increase and 27 percent have had to cut maintenance budgets. Staff size has stayed the same in two-thirds of the cases and decreased in 27 percent.

Stretching resources may be an understatement. The increased use of existing fields is exceeding the protection provided by utility turf management programs standard for parks.

The typical annual regimen of park sports field care is spring and fall fertilizer applications of 50-100 lbs. N/acre, aerification twice a year, overseeding worn areas in the fall, and a single application of a postemergence broadleaf herbicide in late spring. Mowing at 2½-inches on an eight-day cycle is common.

Dr. William Daniel of Purdue University terms 2 lbs. N/1,000 sq. ft./year (87 lbs./acre) a minimum diet for turf. Considering the wear sports fields receive, and that overseeding mixtures are often perennial ryegrass and Kentucky bluegrass, a minimum turf diet

might be impairing the ability of park turf to recover from injury. Daniel terms 4 lbs. N/1,000 sq. ft./year (174 lbs./acre/year) adequate for cool season lawns.

Tall fescues have a lower nutrient requirement than other turfgrasses and establish slower than ryegrass but faster than Kentucky bluegrass. Fertilization programs should match the turf species. Overseeding may alter the primary turfgrass on northern fields.

Park superintendents see the pressure from adult sports leagues as the leading factor in increased field use. Soccer and children's sports leagues tied for second. Women's sports was a close third.

League officials do perform some maintenance according to 40 percent of the park superintendents, but league fees do not encourage them to build more fields. Only ten percent said league fees help pay maintenance costs.

Despite the fact that the amount of work has increased and park staffs are staying the same or decreasing, less than ten percent of the park superintendents use outside contractors to perform some maintenance services. Daniel believes, however, that firms specializing in athletic field maintenance will be accepted by public agencies in the future as an alternative with the special knowledge and equipment required to maintain quality athletic fields.

Artificial turf is currently viewed by the park superintendents as a possible option to counteract extensive field use in certain cases. Nearly half thought it may be necessary if field use exceeds the ability of the turfgrass to recover. They

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Economy Athletic Field Care

- Fertilize in early fall with 60 lbs. of nitrogen per field. Slow-release nitrogen formulation of 16-4-8 preferred.
- Water as needed with traveling irrigation equipment.
- Mow often at 2-inches.
- Overseed lightly before games with 5 lbs. seed per field.
- Mulch thin areas immediately after the last game of the season.
- Fertilize lightly in late winter or early spring with soluble nitrogen source.
- Apply preemergence herbicides after first mowing in spring.
- Apply postemergence herbicide to kill broadleaf weeds before mid-June.
- Increase cutting height in summer.

# LANDSCAPE MANAGEMENT



**BEFORE:**

## The Orange Bowl

Dale Sandin keeps Miami landmark a step ahead with innovation, determination

By Maureen Hrehocik  
Associate Editor

**AFTER:** The Miami Dolphins, New York Jets playoff game



Dale Sandin remembers well the sleepless night of Jan. 22. The grounds and turf manager of the Orange Bowl in Miami listened to the rain pelting down and could only think of his field—the site of the New York Jets-Miami Dolphins playoff game the following day. For three days prior to that, the rain hadn't let up and curtailed the kind of field preparation Sandin usually did before a major game.

"I had scheduled my crew to come in at 5 a.m. the next morning to start getting the field ready as best we could," said Sandin. "When I arrived, water was standing on the entire field at least an inch to an inch-and-a-half deep."

Not even the field's Prescription Athletic Turf pumps, which had been running all night, could keep up with the rain.

At noon the day of the game, the rain stopped and play began at 1 p.m.

"The field was very muddy, but we kept the pumps going and by halftime it had improved considerably," Sandin said. "I went out to inspect the damage thinking I'd find six to eight inch holes in the playing surface, but surprisingly, it was only chewed about an inch to an inch and a half. We still had firm footing underneath. I credit most of it to our PAT system."

While the weather is probably the most unpredictable element Sandin works with on his field, it is certainly not the only concern on a field that is used for 35 events during the football season, 10 events during the off season, pro, college and high school football games, rock concerts, religious functions and special attractions. The Orange Bowl turf every year hosts the Orange Bowl Classic and Orange Blossom Classic and some years the Super Bowl. It was turned into a boxing arena for the Alexis Arguello prize fight, hosted the likes of Jimmy Buffet and endured the pounding hooves of the University of Colorado's mascot—a buffalo.

With all of these varied uses, Sandin takes pride in his stadium

as not only offering excellent playability, but also as a public relations tool for the city of Miami.

"When people see this stadium on national TV, they see a good side of Miami, one that works, and I'm proud of that," Sandin said.

The Orange Bowl is only one of three pro stadiums to have installed a PAT system, developed by Dr. W.H. "Bill" Daniel, professor of Agronomy at Purdue University. Only Kennedy Stadium, home to the Washington Redskins and the Denver Bronco's Mile High Stadium, sport the system that provides for removal, conservation and addition of water to the field through pumps attached to drain lines which draw the excess water away from the playing surface. Sandin describes it as a "bathtub effect"—the plastic liner underneath the field holding the sand, drainage pipes, soil and turf. The Orange Bowl's system was installed in 1976 after Astro Turf that was laid in 1970 was removed.

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"When people see this stadium on national TV, they see a good side of Miami, one that works and I'm proud of that."  
—Sandin

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Sandin said he uses his Rainbird overhead sprinkling system the majority of the time, but sometimes needs to irrigate near a playing date.

"Then we use the PAT system," he says. "I've found it helps control disease because the soil drains well."

Another reason Sandin sings the praises of the PAT system is because of the Miami-area weather.

"Last year we had a drought," he explained. "We couldn't irrigate the field. With the PAT system, we held a reserve of water under the field at a level we predetermined. It can be a lifesaver."

The sideline and goal post areas are not in the PAT system.

The 2½-acre Orange Bowl is sodded with a 419 Tifway bermudagrass grown in sandy-type soil, similar to the soil mixture on the field.

"The ideal way if you have the time is to vegetatively plant the field using sprigs," Sandin said. "that way you're not contaminating the soil with a nursery soil. I've found Tifway to be aggressive and hardy in this climate. It's also very available."

Sandin's irrigation schedule depends on the weather. In the summer he irrigates more. Around April he is trying to discourage his overseeded ryegrass and lets the field dry out more. Sandin uses Derby ryegrass as his overseed from November on. He says the Ph.D blend of Derby, Regal and Elka gives him good results.

His main reason for overseeding is cosmetic.

"With national television here quite often, I have to keep the field looking good. When the bermuda wears down the roots are left, but the top blade is destroyed. We need to beautify it a little bit. It also protects the root system of the bermuda. Ideally, I would like to overseed and then keep traffic off. But, on a field like this, of course that's impossible. I can't put up a temporary playing field in the parking lot."

To give him more turnaround time, for the past two years Sandin has been pregerminating his seed and finds by doing that it gives him as much as four days lead time on the grass.

"If you seed on a Sunday or Monday, the grass usually pops through the next Saturday or Sunday and that's usually right around game time. The grass gets ripped out immediately. When I pregerminate, the shoots are coming up in about three days.

To pregerminate, Sandin soaks his seed in water for about 36 hours changing the water every eight to 12 hours. The seed is then spread on the concrete concourse and approximately 500 to 1200 pounds of calcined clay in the form of Terra-

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green or Turface are added. Sandin says this absorbs water quickly and acts as a carrier.

"We can spread the seed on the field within two hours."

A little crowsfeet which is discouraged with MSMA is about the only weed problem Sandin has to contend with. Disease problems are more of a concern.

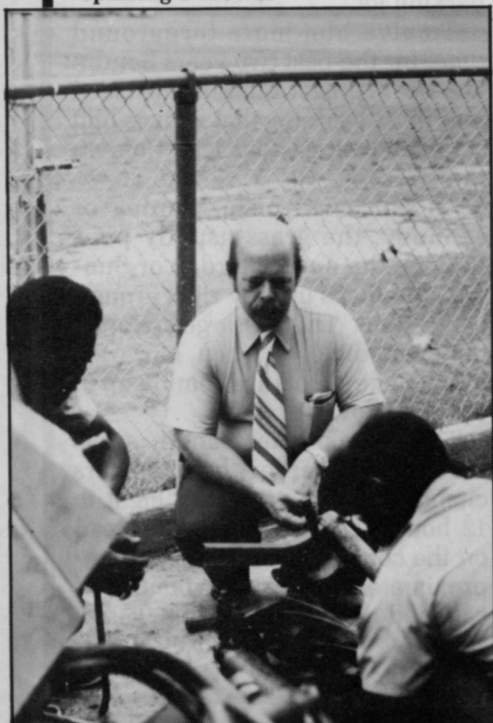
"During the fall, we have a *Pythium* problem. I've been using Koban or Tersan SP. We also use Fore and Daconil as broad spectrum fungicides. We've had some algae problems, but the Fore has nipped that, too. My maintenance program seems to have prevented a lot of disease as well as weed problems."

Nemacur is used once a year to take care of nematodes. Diazinon, Sevin and Baygon are used as needed. Mole crickets are a problem, but Sandin says they are maintained through the regular spraying program.

Chinch bugs and sod webworms are controlled the same way. Sandin says he changes chemicals to eliminate some resistance-type problems.

Sandin uses about 30 pounds of nitrogen a year.

**Sandin offers suggestions to workers repairing a mower**



"That probably sounds like a lot, but this field tends to require it. It's sandy and drains well. When we use the pump system, it tends to suck out the nitrogen quicker. I've used sulphur coated urea and urea formaldehyde but supplement it with an 18-4-8 complete fertilizer."

The field's fertilizer needs are determined by soil tests two or three times a year. Since Sandin works for the City of Miami, all of his purchasing must be done through the city's purchasing department. Because this can be a slow process, Sandin finds himself having to plan ahead to make sure he has what he needs when he needs it.

"It's not the best, but you learn to work within the system," he says.

Sandin aerifies during the spring and summer and verticuts very frequently (about once a month) to keep the ground loose. During the football season, he can't do it as often. He says he prefers to use the spiking method because it leaves less spots torn up.

Pre-game preparation entails mowing the field three times a week. Sandin starts the season at a 5/8 inch mowing height and graduates up to plus or minus an inch, but never higher than 1 1/8 inches. Lines are painted. Bench marks are made on each line. A string is stretched to each mark to mark the line. The spray painting is done with a spray gun and templates (a guide for the paint) at exactly a four inch width (an eight inch width is used for the goal line).

"Using templates is a time-consuming task that takes more labor, but what we end up with is sharp, straight lines. We get no complaints from officials, and in pro games, that's very important."

Sandin says the template also helps inexperienced line-painters do a good job.

Next, any decorations are painted on the field such as the Dolphin's helmet or in the case of the Orange Bowl, the King Orange insignia. Goal post adjustments are made depending on whether the game is college or pro.

"We curtail overhead watering

24 to 30 hours prior to any game," Sandin said.

Painting the field takes one to one-and-a-half days and up to two days for decorating, as in the case of the Orange Bowl or Super Bowl. Sandin said NFL consultant George Toma comes in to offer whatever help or advice he can.

"I look at him as a friend," Sandin says. "I can use all the good help I can get."

And after the game? The answer is simple. Prepare for the next game or event.

"We get a lot of debris that blows down from the stands that has to be picked up. We re-sod the dug-out area which is usually not extensive, but it can be. Every game is different as far as field damage depending on the team and weather."

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Sandin aerifies during the spring and summer and verticuts about once a month to keep the ground loose.

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If it is during an overseeding period, the overseeding continues along with the mowing.

"Sometimes we have back to back games with a college game on Saturday and a pro game on Sunday. In that case, the crew comes in around midnight and works all night retouching lines, repairing sod and cleaning up. Sometimes we use a colorant or dye to get the turf to match and have an even tone, however we don't do this as general practice."

Sometimes the field requires rolling to smooth down the kicked up areas, however, Sandin says the field generally does not tear up because of the PAT system.

Sandin works on a \$200,000 budget, including salaries. He has a crew of from eight to 12 including two "lead people," Larry Brod and Bill Campbell. He used to have 35 workers thanks to a Comprehensive Employment and Training Act grant, but since the funds have

*Continued on page 44*



Workers mark lines on the field using templates.

been curtailed, his staff has greatly diminished. During the season or for special events, he can hire people on an hourly basis.

As grounds and turf manager for the City of Miami, Sandin is also responsible for Miami Stadium which seats 10,000 and is used as the Baltimore Orioles training facility and Marine Stadium, a 6,500 seat water stadium made on an inlet of the Bay of Biscayne. His equipment as well as staff is rotated between the three stadiums. Sandin reports directly to the stadium administrator, Walter Golby.

The equipment inventory includes a Toro Turf-Pro 84 mower, three gang mowers, two Massey-Ferguson tractors, a Lely fertilizer spreader, a Jacobsen verticut and aerifier and Jacobsen tractor-mounted verticut and sweeper, two Kut-Kwicks for the parking lots, two Ford flail mowers, two Cushmans and two Toro Trucksters. Sandin's sprayer is mounted on a Toro Truckster. The stadium uses a Meter-matic topdressing machine, a Lindig soil shredder, two paint spray units (a 35 gallon and a 15 gallon), two Giant Vac vacuums, a few leaf blowers and string weed eaters and edgers.

Sandin, a former golf course superintendent, sees many similar-

ities—and differences—between maintaining a golf course and a sports complex.

"The biggest difference I see is that if the weather is inclement, a golf course superintendent can close his course or at least limit cart traffic in certain areas. Here, the game goes on rain or shine and the field has to be able to withstand it."

Sandin, 39, graduated from the Stockbridge School of Agriculture at the University of Massachusetts with an Associates degree in Turf Management. After graduation, he worked at several country clubs in the northeastern part of the country gaining experience prior to taking a job at Tacona Country Club in Westfield, MA. He then worked for Zikorus Construction Co. in Connecticut in golf course construction. From there, Sandin went to the Redding Country Club in Redding, CT, where he was superintendent for five years. Prior to coming to the Orange Bowl in 1976, Sandin was the golf course superintendent for two years at Lake Arrowhead Country Club in Canton, GA.

Sandin says he doesn't look at the similarities between the two jobs.

"It's all a matter of maintaining turf," he says. "I have different

problems now. My turf is more intensively used than any golf course in the country. The hardest thing for me to accept about this job is the damage the turf must endure."

His varied experience in the field and recognition of a need for more research have been the catalysts for Sandin to get involved in his profession.

A couple of years ago he was having problems in keeping the lines on the field from being depressed due to band traffic.

"Enkamat was just coming out on the market," he says now. "We installed it on the lines and it helped at the time."

Because the percolation area of the PAT system has slowed, Sandin will be putting sand slits in the field by the Cambridge injection system. This, he hopes, will allow the water to percolate better. Sooner or later, he says, the PAT system will need to be redone. By adding the sand, it should last another five to eight years.

Sandin is also working with a Miami designer to come up with a machine that will aerify the entire top soil surface profile no matter what depth.

The Orange Bowl is also bidding to host the World Cup Soccer match in 1986. The field will have to be widened 10 or 15 feet, players' benches will have to be removed along with the area's artificial turf. The PAT system would also have to be enlarged.

"In this business, you sometimes have to put your foot forward and be the first one to try something new or innovative," he says.

And what challenges face the people who maintain sports complexes? In Sandin's opinion, the challenge is simple—to keep your turf in as good a shape as possible.

"We'll need to do whatever it takes," he explains. "Turf managers in the future will need to be open to everything. We will need to try worker ideas, be aware of chemicals on the market and the safeguards that protect the applicators as well as the players. We will need to not be afraid of being innovative."

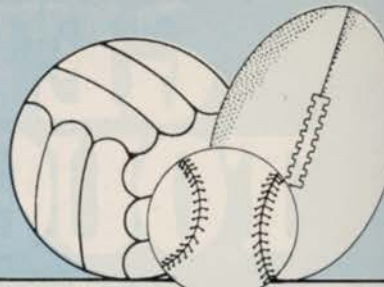
WTT

understand players don't like it as well and more than a third feel it should not be used as a substitute for natural turf, but they still see it practical for certain limited cases.

Surprisingly, park superintendents reported they manage more tennis courts than soccer fields. Baseball and softball fields are the most common athletic responsibility of the superintendents with 86 percent managing an average of 14 fields. Nearly 70 percent manage an average of 13 tennis courts. Two-thirds care for an average of 7 soccer fields. Football fields are the responsibility of 57 percent of the park superintendents with an average of 4 fields. Sixty percent are responsible for swimming pools with an average of 2.5 pools. Finally, less than a fifth care for golf courses.

The average acreage managed is 208 acres. The most common title is superintendent of parks and recre-

**Impact on Athletic Field Use  
by Percent Responding**



	Great	Moderate	None
Women's Sports	48	48	4
Soccer	52	34	9
Children's Sports	55	45	0
Teenage Sports	41	62	0
Adult Sports	69	38	0

ation. The closer the individual in charge of fields is to the actual maintenance, the more knowledgeable he is. A set of national standards for park athletic fields could be a major support for park superintendents in combatting in-

tensive wear of athletic fields. We offer Dr. Daniel's standards here as an example.

It seems only sensible to spend a little more for natural field maintenance than a great deal more for an artificial surface. **WTT**

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