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Nassau is a hybrid variety (P-59 X Baron) developed by Dr. C. Reed Funk of Rutgers University.



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### CHARTING THE SPORTS TURF MARKET



One year ago we were nervously putting the first issue of **sportsTURF** to bed. Months of planning and preparation were all wrapped up in 60 pages. Everything had to be perfect. We were about to enter uncharted territory.

With the excitement of frontier reporters, we've filled the pages with information designed to help as many of you as possible, based upon our knowledge of your needs and input we receive from our board of advisors. Your response has been phenomenal. Every phone call and letter we receive gives us important information on how

to serve you better.

Now, there is a bigger job which must be completed to help organize the sports turf market on a national scale. I'm talking about documenting you and your workplace statistically. It sounds a bit impersonal, but there are many reasons to paint a numerical picture of your profession.

The first is to gain the recognition you deserve for what you do. Many people don't realize the value of your work. They don't know the scale of your responsibilities or the skills involved. We believe that documenting the significance of your work can increase your job security and income.

Secondly, by revealing your equipment and chemical needs, we can open up a flood gate of new products designed to help you do your job. We are constantly asked for market statistics by manufacturers to give them the confidence they need to invest in the sports turf market. They sense the great opportunity to serve you, but they must support their feelings with facts.

We also need to establish industry benchmarks to gauge market growth. Starting with this year, a numerical perspective of the market can be developed for comparison in future years.

Like the National Golf Foundation has developed an excellent statistical sketch of the golf course market, we need to gather as much information as possible about the non-golf portion of the sports turf market. Colleges, schools, parks, resorts and the vast network of amateur and professional teams need to be documented according to their management of turf and related recreational facilities.

We need to document field use as well as management. Initial inquiries have revealed significant growth in tennis, lawn bowling, polo and croquet. Soccer continues to expand as baseball, softball and football hold their traditional places in American culture. But we need to document this growth with statistics, not general observations.

Only you can make such documentation possible. Please take a couple of minutes to fill out and return the **sportsPOLL** card in every issue. Your cards are the foundation of a new data base. The information you volunteer can only help you in the long run.

If you would like to share more about you and your place of work, write me. We're always looking for aggressive, creative sports turf managers to feature in the magazine. As we write the history of this important market for the first time, you may discover your accomplishments of historical significance. The sports turf frontier is a big, uncharted territory. Let us know more about you so we can put you on the map with other important pioneers.

Finally, I'd like to express our gratitude to Dennis Orsborn, vice president of golf operations for the Sunrise Company, Palm Desert, CA, for the photos in the over seeding article in this issue.

*Bruce Shank*

### SEPTEMBER

**11** Ohio Turfgrass Field Day, Turfgrass Research Facility, Columbus, OH. Contact the Ohio Turfgrass Foundation, (614) 422-2601.

**20** Oklahoma Turfgrass Research Field Day, Turfgrass Research Center, Stillwater, OK. Contact Michael Kenna, extension turf specialist, Dept. of Horticulture, 335 Agricultural Hall, Stillwater, OK 74078. (405) 624-5404.

**22-25** Northwest Turfgrass Conference, Red Lion Inn, Pasco, WA. Contact Dr. Roy Goss, Western Washington Research and Extension Center, Puyallup, WA 98371. (206) 593-8540.

**27** Virginia Tech Turfgrass Research Field Days, Blacksburg, VA. Contact J. R. Hall, (703) 961-5797.

### OCTOBER

**6** Long Island Turf and Grounds Field Day, Huntington Crescent Club, Huntington, NY. Contact New York State Turfgrass Association, Inc., 210 Cartwright Blvd., Massapequa Park, NY 11762. (516) 541-6902.

**7** 22nd Turfgrass Equipment, Supplies and Irrigation Field Day, Rutgers Stadium and Golf Course, Piscataway, NJ. Contact Dr. Henry Indyk, Soils and Crops Dept., Cook College, New Brunswick, NJ 08903, (201) 932-9453.

**17-21** 1986 Congress for Recreation and Parks, Anaheim Convention Center, Anaheim, CA. Contact National Recreation and Park Association, 3101 Park Center Drive, Alexandria, VA 22302. (703) 820-4940.



*George Toma, Head Groundskeeper for the Kansas City Chiefs and the Super Bowl. "I bring my OWN Parker Estate Master Sweepers with me."*

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*Estate Master's 8' plus swath makes quick work of Super Bowl XIX cleanup for George Toma's "Sod Squad."*

what I call the 'speed factor.' The Estate Master is the only sweeper that lets you clean a swath over 8 feet with every pass."

Which is how George Toma and his "Sod Squad" raced through halftime cleanup at Super Bowl XIX. Using only a pair of Estate Masters, they made a clean sweep in 3 minutes.

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Dolphin fans at the Orange Bowl bask in the afternoon sun while their counterparts in the North bundle up.

# ORANGE BOWL PREPARES TURF FOR SEASON'S KICKOFF

**O**n New Year's Day in much of the country, the ground is snow-covered and trees are bare. A glance outside reveals a cold, gray landscape.

But color and warmth is quickly available to anyone with a television set, simply by turning the dial to the station with the biggest traditional, New Year's Day sporting event—the Orange Bowl in Miami, FL. King Orange sits in the center of a dark, green football field. Brightly outfitted players, cheerleaders and spectators (many in short sleeves) show no signs of cold in the bright Miami sun. For a few hours, the snow-bound television viewer can imagine he too is sitting in the midst of the color and warmth of the Orange Bowl.

What the television viewer doesn't see, or even consider, is that Dale Sandin, grounds and turf manager of the Orange Bowl, and his crew have spent days get-



Profile of a soil sample shows the paint has leached more than two inches into the soil.

ting the field ready. Like a make-up artist prepares an actor or actress for the camera, Sandin and his crew prepare the Orange Bowl. It's taken them years to discover how to make the turf and markings appear flawless, with considerably less control than that available on a television or movie set.

Orange Bowl Stadium, just one of three stadiums under Sandin's care in Miami, was built more than 50 years ago specifically to host a national contest between the two top college football teams in the country. Each year, the winner of the Big Eight plays the best team from the other conferences based upon the rankings. The event is directed by a committee of distinguished Miami citizens and a full-time year-round staff. The committee rents the stadium from the city for the festivities.

The Orange Bowl has also served as the

*continued on page 16*

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Julia Kentucky bluegrass is an outstanding European introduction now produced in the United States and marketed by LESCO. Under evaluation in the United States since 1978, this variety has exhibited excellent performance — consistently ranking in the top 10% of all Kentucky bluegrasses. Julia produces a dark green turf with medium fine texture and upright growth habit.

By providing excellent

**Julia**  
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density and wear tolerance with little or no seedhead development under turf conditions. Julia meets the demands of even the most critical turfgrass manager. This new LESCO variety is perfect for those areas where a quality stand of bluegrass is desired. It is a component of the following LESCO seed blends and mixes: Quality Blue Blend, Classic Turf Mix, Premium Athletic Mix and Tuf-Turf Mix.

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## More to come...

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**George Toma, field consultant to the NFL, paints the blue star on the Dallas Cowboys' insignia before the 1979 Super Bowl held at the Orange Bowl.**

### Orange Bowl

*continued from page 14*

home field of the Miami Dolphins since 1966. The team will move before the 1987 season to Dolphin Stadium, currently under construction between Miami and Fort Lauderdale. Joe Robbe, owner of the Dolphins cited insufficient parking, concession areas and restrooms as his reasons for building his own stadium. In the past two years, Miami

has replaced nearly all the seats in the stadium and spruced it up to look younger than its 50 years.

Don't despair, says Sandin. The loss of the Dolphins will not leave the stadium vacant. The University of Miami plays its home games there. Each fall, Florida A&M hosts one of its leading competitors in the Orange Bowl Classic in the stadium. Many city high schools and leagues play their games at

the Bowl. In the fall, during one week there can be two high school games, one University of Miami game and a Dolphins game.

Tractor pulls and concerts also use the Orange Bowl's 75,000 seats during the year. Michael Jackson, Prince and Bruce Springsteen and their fans have rocked the Bowl in the past two years. Every March, more than 30,000 people flock to the Orange Bowl for the Spanish Concert, in which Latin musicians and artists play.

Despite all its use, the field has only been resodded once since 1976, when artificial turf was ripped up and replaced with Tifway bermudagrass planted in a specially-designed, subirrigated sand field. The predominantly sand rootzone gives the Orange Bowl turf the extra resilience it requires to withstand the rigors of football, soccer and special events.

The city management believes the Orange Bowl is the perfect site to launch international soccer in the U.S. Its location, its large hispanic population and its sports facilities can give the sport a boost it failed to get in other cities. Sandin has already started to widen the field for soccer by removing built-in structures and artificial turf in the bench areas. But, the field will probably never host baseball.

It is ironic, since so many major league baseball clubs have spring training facilities in Florida, that there isn't a single franchise based in the state. The Baltimore Orioles train each spring at Miami Stadium,

 An advertisement for EZGO Textron featuring a golf cart on a golf course. The cart is in the foreground, with a large EZGO logo on the seat. In the background, two people are standing near another golf cart on a green. The scene is set during sunset or sunrise, with a warm orange glow.
 

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**SOME WORKERS DON'T**

also managed by Sandin. The Stadium serves as the home of the Single A minor league Miami Marlins.

With a staff of 11, Sandin manages the Orange Bowl, the Miami Stadium and Marine Stadium. With that much turf to cover, he doesn't have time for mistakes. As grounds and turf manager, he reports to the director of public facilities.

"The first thing I had to learn ten years ago, when I left Lake Arrowhead Golf Course in Georgia to take over the Orange Bowl," Sandin reflects, "was not to get disgusted with the damage to the field after each game. Now, I expect damage and simply do my best to repair it before the next game." It was a big change for Sandin, since his education at the Stockbridge School in Massachusetts and experience as a golf course superintendent in New England and Georgia were based upon finer uses of natural turf.

Sandin has an edge over other stadium managers. He was hired to manage the new natural field when it was installed in 1976. The Orange Bowl had worn out two artificial surfaces in six years. The city was willing to give natural turf a fighting chance, so it invested in a new concept called the Prescription Athletic Turf (PAT) system.

The entire field is like a bathtub filled with medium-size sand. Only the top six to nine inches of sand are amended with peat moss and calcined clay. The primary advantage of sand, even when wet, is it will not compact like clay or silt, sealing up the surface



The turf in one end zone became a bright yellow banner for the Pittsburgh Steelers during the 1979 Super Bowl.

and harming turf growth.

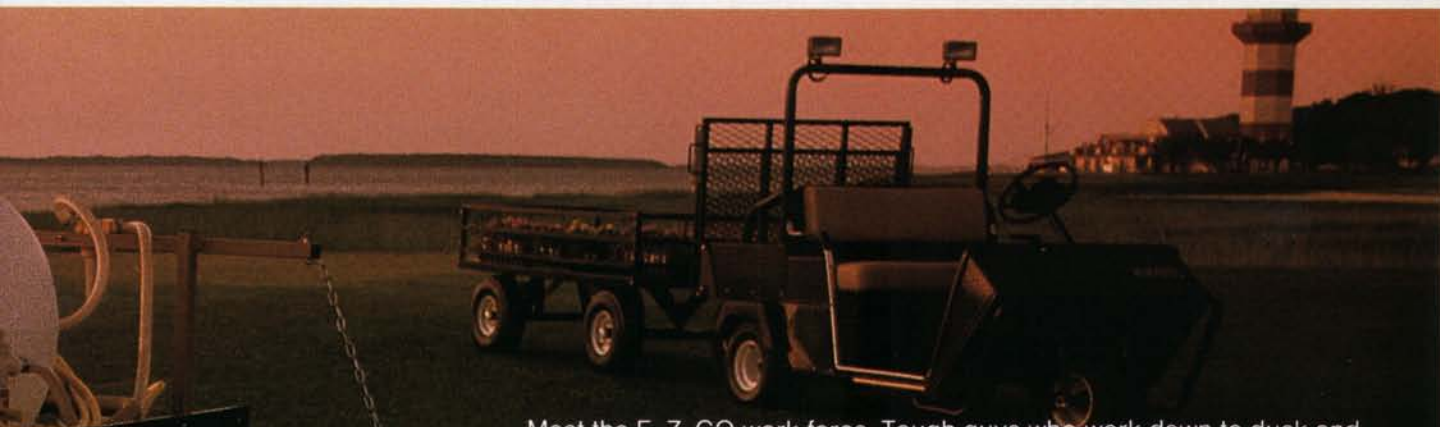
This system utilizes a closed drainage system attached to large pumps. The pumps can suck water out of the sand rootzone during heavy rains or push water into the rootzone for subirrigation during dry periods or when the field is in use. The field also has a conventional irrigation system.

"The PAT system is a tool with special uses for a stadium grounds manager," says

Sandin. "I have to manage the Orange Bowl much differently than Miami Stadium." During a heavy game schedule, he can replace surface irrigation with subirrigation. For concerts and tractor pulls, the field is covered for three days, but still, Sandin can get moisture to the field if necessary.

"If I was going to do it again, I would not have amended the top six inches with clay

*continued on page 19*



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and peat," confesses Sandin. It rained for five days before the Dolphins playoff game with the Jets in 1982. Even with the pumps on the whole time, the amended surface soil did not drain well. "That game changed the rules of the NFL... now a tarp is required for all fields," he says.

To open up the topsoil, Jerry Hutchinson, one of three sand-slitting contractors in the country, injected sand into a network of two-inch-wide trenches across the field. He also used an experimental device called a Vertigroove, invented by Tom Mascaro of Miami, which cuts and removes half-inch-wide channels of soil more than six inches deep. "The field is draining extremely well now," says a relieved Sandin.

The peculiarities of the PAT system were only part of a whole range of new experiences for Sandin as a stadium grounds manager. He knew how to maintain a healthy, dense stand of turf. What he didn't know when he arrived was how to dress turf up for the thousands of spectators and television viewers. If anything, he was concerned with the negative effect of paint on turf. Before Sandin arrived, the painting was performed by City of Miami painters. He wanted more control.

The NFL requirements on field marking are clear as to location. NFL hash marks and sidelines are different than college. Templates for teams and conference insignia



Dale Sandin examines the sand-filled slits cut into the field to restore drainage to the top six inches of amended sand on the PAT field.

have to be obtained from visiting teams. Special event designs need to be made into templates. When you have four different events in a stadium in one week considerable planning is necessary.

But first, Sandin wanted to take a closer look at the latex paints used for field marking. The paint used at the Orange Bowl was formulated by the lowest bidder. Often, paint

was applied much heavier than it needed to be. After a number of games, the paint could be found two or three inches deep in the soil. Sandin wanted control.

The first thing he did was to develop specifications for the contents of the paint. In its simplest terms, paint is pigments suspended in a vehicle. The white paint for the

continued on page 20

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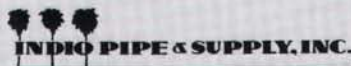
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Truckster-mounted boom sprayer is used by the Orange Bowl crew to apply fertilizers, fungicides and green dye. The sprayer fits perfectly between the five yard lines.

### Orange Bowl

*continued from page 19*

Orange Bowl contains:

#### Vinyl Acrylic Latex Paint Super White

Pigment .....	46.5%
Titanium dioxide (type III) .....	50.00%
Silica & silicates .....	33.33%
Calcium Carbonate .....	16.67%
Total Pigment .....	100.00%
Vehicle .....	53.5%
Vinyl Acrylic Resin .....	20.80%
Glycol, Water & Add. ....	29.20%
Total Vehicle .....	100.00%

For each game, the lines are checked with string stretched between points checked regularly by a surveyor. A four-inch wide template is used for the sidelines and an eight-inch wide version for the goal lines. The templates are 15-ft. long and made out of aluminum. For NFL games the sidelines are six feet wide. To get these exact, Sandin uses the sideline templates on both edges of the wide sideline and sprays in between these. A yellow photographers' line is painted around the outside of the field.

Templates for the team insignia are more difficult. The NFL logo alone is 30-ft. high. Sandin occasionally has to make templates for visiting teams. He uses an overhead projector to enlarge an insignia onto plastic draped on the wall. Holes are punched every ten inches along the lines of the design. The plastic is laid on the field, paint is sprayed through the holes and the painters then fill in the design.

"You have to be creative," says Sandin, "and apply only enough paint to just lightly coat the leaves of the turf." Too much paint not only takes longer to dry, it saturates the soil below.

A typical week of painting at the Orange Bowl might be painting all the lines for a high school game on Tuesday night. The field is then touched up for another high school game on Thursday afternoon. For a University of Miami game on Saturday the entire field is repainted, as it is once more for the Dolphins game on Sunday. "We use a lot less paint when repainting," says San-

din. "In fact, we use only half the amount of paint today than we did ten years ago, generally 60 gallons per Dolphins game. We also use more water in the paint mix."

To achieve a rich green color for the turf, both dyes and a regular program of overseeding with perennial ryegrass. Sandin can't get these formulated locally so he buys Vitalawn from Mallinckrodt and Greenzit from W.A. Cleary. Dye is frequently needed in December and during playoff games.

Since much of the football season is played after the Tifway bermudagrass has slowed its growth, overseeding is necessary. Last season 3,000 lbs. of a blend of perennial ryegrasses was used. Seeding is done almost weekly during the heaviest part of the season. "Sometimes we broadcast the seed on the field on a Monday and let the players push the seed into the soil with their cleats," describes Sandin. "We also pregerminate the seed and spread it with calcined clay to get the seedlings going in less than three days.

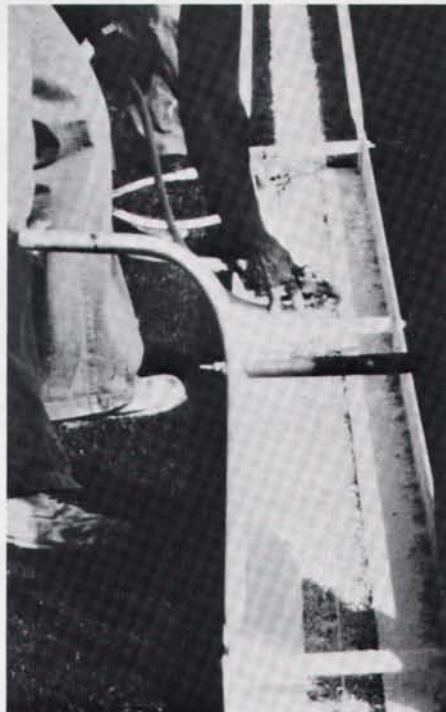
The first time during the season Sandin overseeds, 800 pounds of seed is soaked in 55-gallon drums for 48-72 hours. The water is changed every 12 hours with fresh water. Finally, the seed is spread out to dry slightly and calcined clay is added to help spread the seed over the field. This process is repeated with 250 pounds of seed two or three times during the season in worn areas of the field.

There is some evidence that dying the field after it has been overseeded can help warm the soil to speed up the growth of ryegrass. "These are seedlings and some will get torn up fairly easily," Sandin points out. "But a good portion does survive and establishes a tough and attractive turf surface."

The seedlings require fungicide treatments, but, such a dense turf has prevented any major weed problems. With the exception of a few spot applications of MSMA for crowsfoot, the field is clean. Sandin uses a 15-ft. boom sprayer for these treatments, using the five-yard lines as guides.

The Orange Bowl's PAT system forces Sandin to supplement a regularly applied 18-4-8 granular fertilizer with ammonium sulphate. The granular fertilizer is 75% slow release nitrogen.

One of the greatest feats of agronomics performed every year by Sandin's crew is getting the turf through four days of tractor pull. A week before the event, he sprays the field with a curative rate of a broad spectrum fungicide. If the tractor pull is Saturday, the field is covered on Thursday afternoon with a one-quarter-inch thick geotextile fabric. Plywood is then laid over the fabric, followed by plastic sheeting and then mountains of dirt on Friday morning. If the weather has been dry, the PAT system is used to subirrigate.



Before painting the sideline, the aluminum template is placed over a string stretched between surveyor's marks.

As the last tractor pulls off the field on Friday night, front end loaders begin removing the dirt. By noon on Sunday the natural grass is uncovered and growing once again. "We tried putting the dirt over straw the first time and wrecked the field," he says. "Now, we are very careful not to encourage lush conditions on the field by fertilizing or overirrigating. And, the events are always held in the late winter when the bermuda is virtually dormant and the football season is over. "We did play a World Cup Soccer game here after the last tractor pull with good results," said Sandin.

"When you get down to the bottom of things, that first glance of the field by a coach when he walks out of the locker room is what counts the most," Sandin advises. "If he sees one bad spot on the field, he'll start looking for others. If the field looks great he feels more professional and you are considered more professional. That's what we are all here for." ☺