





# DENISON *Gold Label* EVERGREENS: THE PERFECT "10"

## TEN VITAL FEATURES CHART THE DIFFERENCE

THE COMPETITION		FEATURES		DENISON <i>Gold Label</i> NURSERIES	
The tree in this column was purchased from a competing nursery. Our experience indicates that it is typical for the industry.	5'-6"	HEIGHT		5'-6"	The tree in this column was harvested from our own fields and shows the difference resulting from our special cultural practices.
	Good	APPEARANCE		Good	
	Yes	Transplanted as 3 year Seedling		Yes	
	No.	1	Transplanted as 3-4 Ft. Balled tree at 7-9 years of age	Yes	
	12 yrs.	2	AGE	14 yrs.	
	3.1 in.	3	CALIPER	4.2 in.	
	Adequate	4	Top Branching	Somewhat Fuller	
	Poor	5	ROOT SYSTEM	Multi-pruned & Fibrous	
	16 in.	6	BALL SIZE *	28 in.	
	92 lbs.	7	WEIGHT	176 lbs.	
	No	8	Secured in wire baskets for support during handling	Yes	
	Poor	9	Chance of ball holding together during handling	Excellent	
	Poor	10	Chance of Survival	Excellent	

\*NOTE: the size of the ball (used by many in the industry as the criteria of good quality) is almost meaningless without proper root formation.

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# Towson State Renovates Fields For Multi-Season Use



Towson State's practice field is fed periodically with slow-release Nitroform after aerification. The field is a combination of zoysiagrass and turf-type tall fescue.

By Fred V. Grau

**P**aul Thomas has given up trying to develop good sports turf at Towson State University in Maryland with the old standby, Kentucky bluegrass. He just couldn't bring it through the heat of the summer and have solid turf for football.

Instead, Grounds Supervisor Thomas combines warm season and cool season turfgrasses and backs them up with a sensible long-term program of aerifying, soil amendments, and fertilization.

With Kentucky bluegrass, Thomas had problems with crabgrass and goosegrass. The Kentucky bluegrass just couldn't compete. Hard-packed clay soil was another problem.

In June 1982, Thomas decided to make a radical change in plans. The stadium field was multiply aerified and treated with gypsum at two tons per acre. After dragging the field, Thomas broadcast common Arizona hulled bermudagrass seed at three pounds per 1,000 square feet into the Kentucky bluegrass.

Soon after the bermudagrass seed germinated, a pound of nitrogen from urea was applied to help it spread. In August, the field received four pounds of nitrogen from granular nitroform.

Turf cover was solid for the ten home games with little damage to the turf. But, everyone knew the bermuda would not survive a Maryland winter.



Grounds foreman Dave Taylor mowing practice field with Jacobsen F-10. Notice plugs from aerator.

Field (below) is aerated prior to fertilizing to help mix fertilizer into the rootzone.



The 1983 and 1984 program continued using Nitroform but Thomas overseeded with perennial ryegrass instead of common bermuda and irrigated judiciously. For two years, no one was injured on the field.

Recognizing the value of a warm season grass to take summer heat and resist weeds, Thomas considered other warm season grasses that would survive the winter. His attention turned to zoysiagrass.

With my urging and the technical guidance of USDA Turf Specialist Jack Murray, common Korean zoysia seed was

*continued on page 36*



Paul Thomas (right) works closely with his foreman Dave Taylor. Both Thomas and Taylor go to meetings with consultants.

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Invading crabgrass was wiped out with DSMA, showing the field, once Kentucky bluegrass, was primarily crabgrass. Bare spot (inset) is filling in with zoysia runners. The zoysia competes better with weeds than its predecessor bluegrass during summer heat and use.

Towson State  
*continued from page 33*

soaked in a solution of potassium hydroxide to improve germination. A practice field was seeded at two pounds per 1,000 square feet in July 1984. All vegetation on the practice field was killed prior to seeding with an herbicide.

The DSMA used to kill the crabgrass wiped out the majority of the field. The Kentucky bluegrass just could not compete with the crabgrass in the Maryland summer heat so the field quickly became all crabgrass. Bemudagrass had no problem competing in the summer, but it could not survive the Maryland winter.

Two pounds of nitrogen from Nitroform went on soon after germination. No pre-emergence weed control treatment was made for crabgrass or goosegrass that year so they did compete with the zoysia at first.

One year later, the zoysia is winning its fight with the weeds. A blend of turf-type tall fescues was seeded into the zoysia this past summer and fertilized with three pounds of nitrogen from Nitroform.

Thomas has employed similar tactics on the soccer field where a close-cut smooth surface is essential. He believes the future for sports turf at Towson State College lies in the use of the aerifier, gyp-

sum, zoysiagrass mixed with tall fescue, Nitroform fertilizer (with P and K), minimal irrigation, and close mowing on a smooth field.

Thomas is considering switching the football stadium over to zoysia if the athletic department likes the look and play of the practice field.



*Editor's Note: Fred V. Grau is executive director of the Sports Turf Research and Education Committee of the Musser Foundation. He is a former director of the United State Golf Association Green Section and the developer of Penngift Crown Vetch.*

## ROSE BOWL BLANKET PROTECTS BENCH TURF



Crew unrolls blanket on Rose Bowl field two days before the game.

When heavy foot traffic threatens valuable turf, like the bench areas at the Rose Bowl, all a sports turf manager can do is hope post-game overseeding brings the areas back before they turn into mudpits. The turf team at the Rose Bowl thought they'd try another tactic.

Cal Poly's Kent Kurtz, consultant to the Rose Bowl, had heard about a polyester blanket used to protect the Cleveland Stadium field from the fans at a Michael Jackson concert. Kurtz called up Dave Frey, field manager at Cleveland, and found out the fabric was marketed as Terracover by Warren's Turf.

The Rose Bowl tried 3,000 square feet

of the blanket in the bench areas for the big annual event. Three days after the game, the blanket was removed and the turf came through unharmed without need of overseeding.

"The advantage of the blanket," said Kurtz, "is it allows air to circulate down to the covered turf while it protects it from cleats. Unlike plywood, you can leave it down for days without the turf suffocating or overheating." Kurtz dyed the blanket green to fool television cameras.

Because the fabric is rot and sun resistant, it can be stored and reused upon need. Other facilities utilizing Terracover this year were the Orange Bowl in Miami and Dodger Stadium in Los Angeles.

## GROUP URGES PTA TO TAKE STAND ON FIELDS

The newly created National Sports Turf Research and Education Committee (NSTREC) of the Musser Foundation is doing all it can to get sports field safety on the National Parent Teachers Association list of top issues.

Eliot Roberts, secretary of NSTREC, wrote an article for PTA's most recent magazine on the state of sports turf at schools in the United States. He has discussed the importance of safe sports turf with PTA officials. NSTREC's goal is to be added to a list of topics circulated by the national PTA to all local branches. The local branches use this list for topics of local meetings with parents and teachers.

Currently the list includes drug and alcohol abuse, adolescent sexuality, seat belts, television viewing, cultural arts, and teacher appreciation. Members of NSTREC believe fewer injuries to students from poor fields is equally important.

NSTREC was developed this year to gather all available information on safe sports turf and distribute it to influential organizations or those needing assistance with sports field maintenance information.

## PARK INSTITUTE OFFERS SPORTS PROGRAM AT KNOXVILLE

The National Institute on Park and Grounds Management will again offer sports turf as one of three major educational programs during its annual meeting to be held at the Holiday Inn World's Fair, Nov. 3-7, in Knoxville, Tenn.

Sports speakers include Dr. John Street, associate professor of agronomy at Ohio State University; Dr. William Daniel, professor emeritus of turfgrass, Purdue University; Dr. Jack Hall, professor of agronomy, Virginia Polytechnic and State Institute; and Dr. Eliot Roberts of the Lawn Institute.

NIPGM Executive Director Eric Madisen says the sports turf sessions will focus on lower cost turf management under high usage, recognition of disease and pest damage and solutions, fertilization and irrigation.

In addition to the sports turf program, the conference will have sessions on school campuses and parks. For more information contact NIPGM, Box 1936, Appleton, WI 54913.

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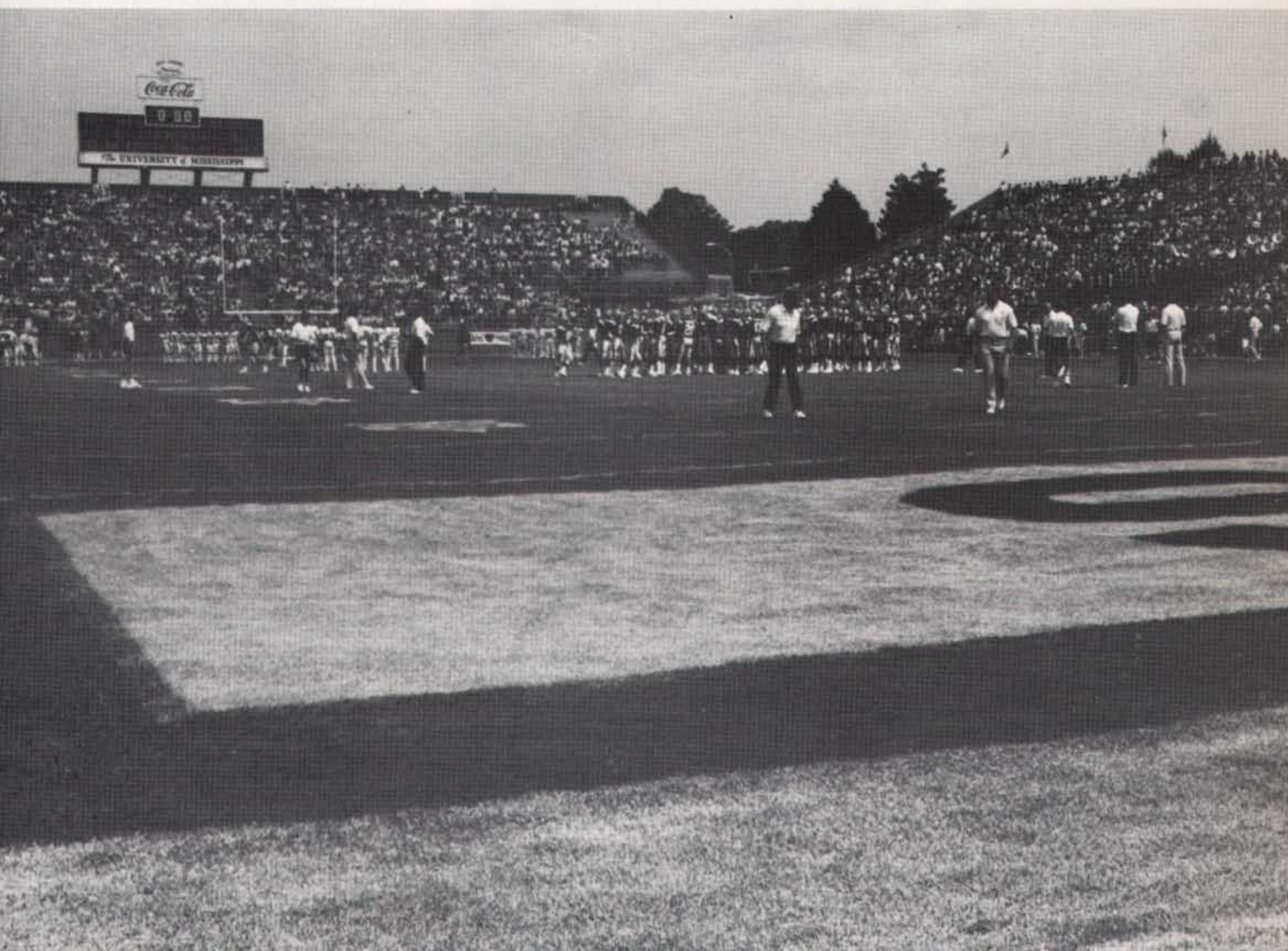
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# Taking the First Step Toward Sports Field Improvement

By William H. Daniel



The Purdue Field is a luxury for visiting teams who are used to harder surfaces. Turfgrass roots penetrate more than 18 inches deep into the sand rootzone. Despite its excellent condition, the field is aerified regularly.

**A** few tried and true techniques to improve tired sports fields might be just the motivation needed to get a field improvement program off the ground.

In fact, start with one field and use two or three of the following budget-minded improvements. Don't put off field improvements with the idea every field must be rebuilt. Even though some of the basic requirements of adequate drainage, healthy rootzone, and uniform irrigation may be less than adequate, start with these primary steps on a few fields and work your way up to safe, uniform fields.

## **Beef Up Fertilizer**

Any injured organism requires more nutrients than healthy ones. Sports turf is regularly injured while serving its purpose to reduce injuries to players. Sports turf needs extra fertilizer to replace injured leaves, torn roots, and tillers. Heavy wear areas need twice the nutrients as the rest of the field.

When seeding, apply 100-100-100 lbs. acre of nitrogen, phosphorus, and potassium to the prepared seedbed. After the seed germinates, but prior to the first mowing, apply fertilizer again at half the

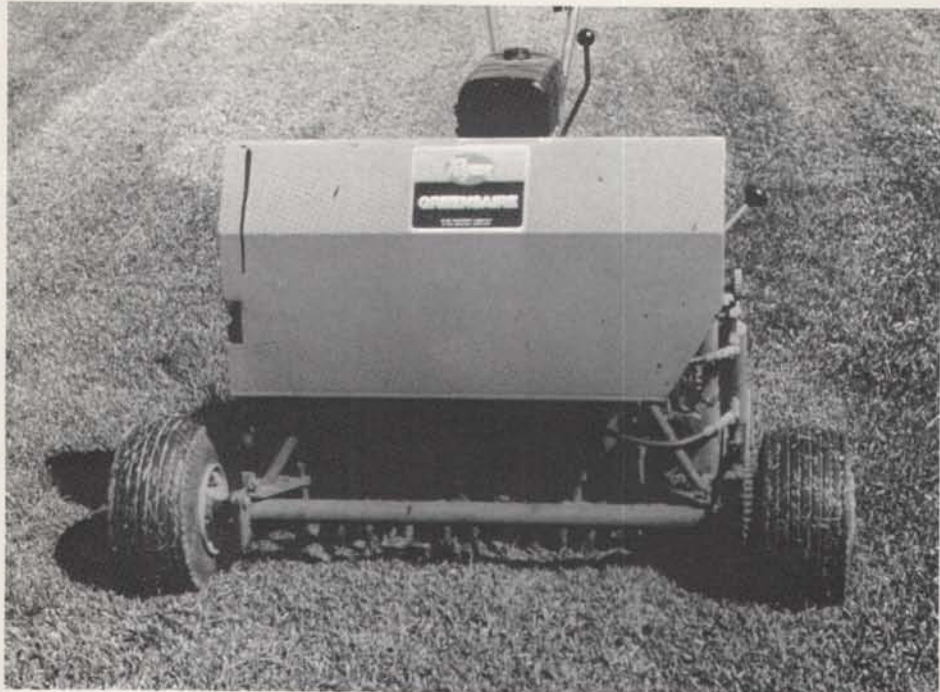
above rates to favor rapid growth and earlier use of the field.

Fertility requirements vary by the location and the turfgrass type. Three or more applications per year are recommended. Start fertilizing in late winter to encourage early spring growth. Follow this in mid-spring with an application of fertilizer and crabgrass preventer.

In midsummer, apply a third round of fertilizer including broadleaf and viney weed killer. This is the right time to apply insecticides for grubs as well.

Just prior to the start of the football sea-

*continued on page 40*



Ryan Greensaire, although designed for golf greens and slower than drum aerifiers, is used by many athletic field managers since it makes clean holes in the surface that are closer together than drum aerifiers.

**First Step**  
continued from page 39

son, repeat fertilization, and insect control if necessary. About midseason and the onset of cool weather, fertilize for a final time.

Consider contracting the services and technology of a professional lawn care company. They are equipped to provide the needed products at correct rates of

application. This is especially true for weed and insect control.

**Overseed Liberally**

The capacity of turf to rejuvenate from damage can be phenomenal under favorable conditions, but divots should be quickly repaired and seeded following games to prevent player injuries and weed encroachment.

Overseeding is strongly recommended

for perennial ryegrass and tall fescue sports turf.

During the year, overseed as early as possible, even in late winter, to give the seed time to germinate. The freeze and thaw plus rainfall favor seed-soil contact. As the soil warms the seed begins to germinate.

The use of pregerminated or presoaked seed is gaining application at the professional and college level. The seed, soaked in a special solution at a controlled temperature, germinates in tanks and is then applied to damaged areas mixed with mulch, sand, or other spreadable material.

Only seed with soil contact will germinate and survive. Machines (seed drill or aeroseeder) are helpful in overseeding since they cut a groove for the seed and roll the area for good contact. Prior to slitting or aerifying is also a good time for seeding. Seed, aerify or slit, and then irrigate or water in the seed.

**Core Aeration**

Compaction is a recurring problem on intensely used sport turf. Coring, a process which loosens the surface to a depth of roughly three inches has been vital in improving the quality of sports turf surfaces and enhancing the safety for players.

Core aerify as much as practical. Follow with a harrow or drag to break up and distribute any soil cores.

Annual intense vertical cultivation or coring is considered a minimal requirement. If done only once, the best time is late summer. Make enough passes across the field so that holes are an average of two to three inches apart. The cores will dilute the thatch, aid in smoothing the surface, and provide improved resiliency for the players.

Initially, you may want to rent an aerifier, planning the work so it can be done in one day. Once a full aerification program is implemented, however, you may find owning either a pull-behind or self-powered aerifier more convenient to fit into field schedules.

In some cities there are sports field maintenance companies that specialize in aerifying and vertical trenching.

**Sand Topdressing**

Sand topdressing is as old as the game of golf but a relatively new technology for other sports surfaces. An application of 40 tons of fine textured "rootzone" sand is commonly used for one application of sports fields in Scotland and in some sports facilities in this country.

It is estimated that more than 80 percent of all golf greens in the U. S. are currently being topsanded. The fine sand offers more stability under foot and retains more water for root uptake than the coarser particle sands.

Although sand is applied over the sur-



Natural field shows effects of 40 games. Notice patches of perennial ryegrass that have survived the season.