

Participant sports far outweighed spectator sports in value in the study. Ticket sales of \$3.1 billion for professional and college sports were dwarfed by participant sports valued at \$15.7 billion and golf at almost \$4 billion. Americans will spend more than \$15 billion in sporting goods in 1987 indicates the survey.

All sports from baseball to bowling, football to skiing and horse racing to tennis were included in the report. The first ever compilation of sports spending estimated expenses for 1985 and 1987. Stadium construction investment increased significantly during the two years, from \$146 million to \$236 million for an increase of more than 60 percent.

The magazine cooperated with nearly every sporting organization during the survey to establish figures. Wharton Econometrics Forecasting Associates compiled the data according to standards set by the U.S. Commerce Department.

NFL PLAYERS TO REQUEST INJUNCTION AGAINST OWNERS

The National Football League Players Association will ask a federal judge in Minneapolis, MN, to prevent the owners from making deals with free agents this winter unless they first reach a collective bargaining

agreement with the NFLPA. The request for the injunction is expected to be one of the players association's first moves in its antitrust suit against the owners scheduled to begin on Dec. 20, 1987, shortly after the end of the regular season.

The previous Collective Bargaining Agreement between NFLPA and the owners expired August 31 prompting an unsuccessful strike by the players. When they returned without a contract the damages were tallied. The players lost more than \$75 million in salaries and owners lost more than \$100 million in television revenue and ticket sales. Stadium operators lost more than \$2 million in concession revenue and football-related tourism fell an estimated \$50 million.

More than 300 players will become free agents on Feb. 1, 1988. If the judge grants an injunction, owners will be unable to negotiate with these valuable players under the terms of the old bargaining agreement. The NFLPA was opposed to compensation in the form of draft picks associated with free agency. An injunction would force owners to return to the bargaining table during January.

Meanwhile the NFLPA has problems of its own. More than 230 players crossed the picket lines during the strike. Some players are withholding association dues while creation of a second players association is being discussed.

NFLPA still wants owners to convert out-

door artificial turf stadiums to natural during the three-year contract that was originally discussed. "Natural turf can extend

OCEAN PINES WINS FIRST DEERE OPEN

A fivesome from Ocean Pines Golf & Country Club, Ocean City, MD, captured first place in the inaugural John Deere Pro-Superintendent Team Championship held in November at PGA National's Champion Course, Palm Beach Gardens, FL.

The tournament is the first in the industry to team up local club professionals, superintendents, club officials and distributors. The Ocean Pines team, including Hunt Crosby, Randy Dayton, Tim Stoner, Ray McHenry and Deere distributor Ray Finch, outplayed 33 other teams that made it to the finals. The tournament at PGA National capped off a series of regional tournaments held during the past year. More than 800 teams competed in the regionals.

The top ten golf professionals and teams won cash prizes and Deere golf and turf equipment for their clubs. The first time event was designed to get the various golf course managers together on a team with a distributor in a tournament that pays tribute to those who keep America's courses in condition.

Valley View[®] EDGINGS

BLACK DIAMOND[®]
BED DIVIDER

BLACK "GENERIC"
DIAMOND[®]

DANDY DIAMOND[®]
LAWN EDGING

VALLEY VIEW[®] PROFESSIONAL
LAWN EDGING

MINI DIAMOND[®]
LAWN EDGING

THRIFTY DIAMOND[®]
LAWN EDGING



BLACK DIAMOND[®]

20 YEARS OF QUALITY AND
STILL ON THE JOB...



DANDY DIAMOND[®]

THE LANDSCAPER'S CHOICE!
YEAR AFTER YEAR
THERE MUST BE A REASON!

ADDITIONAL HEAVY STEEL ANCHOR STAKES
ANGLE CONNECTOR ACCESSORIES, AND
KNURLED CONNECTORS ARE ALSO AVAILABLE.



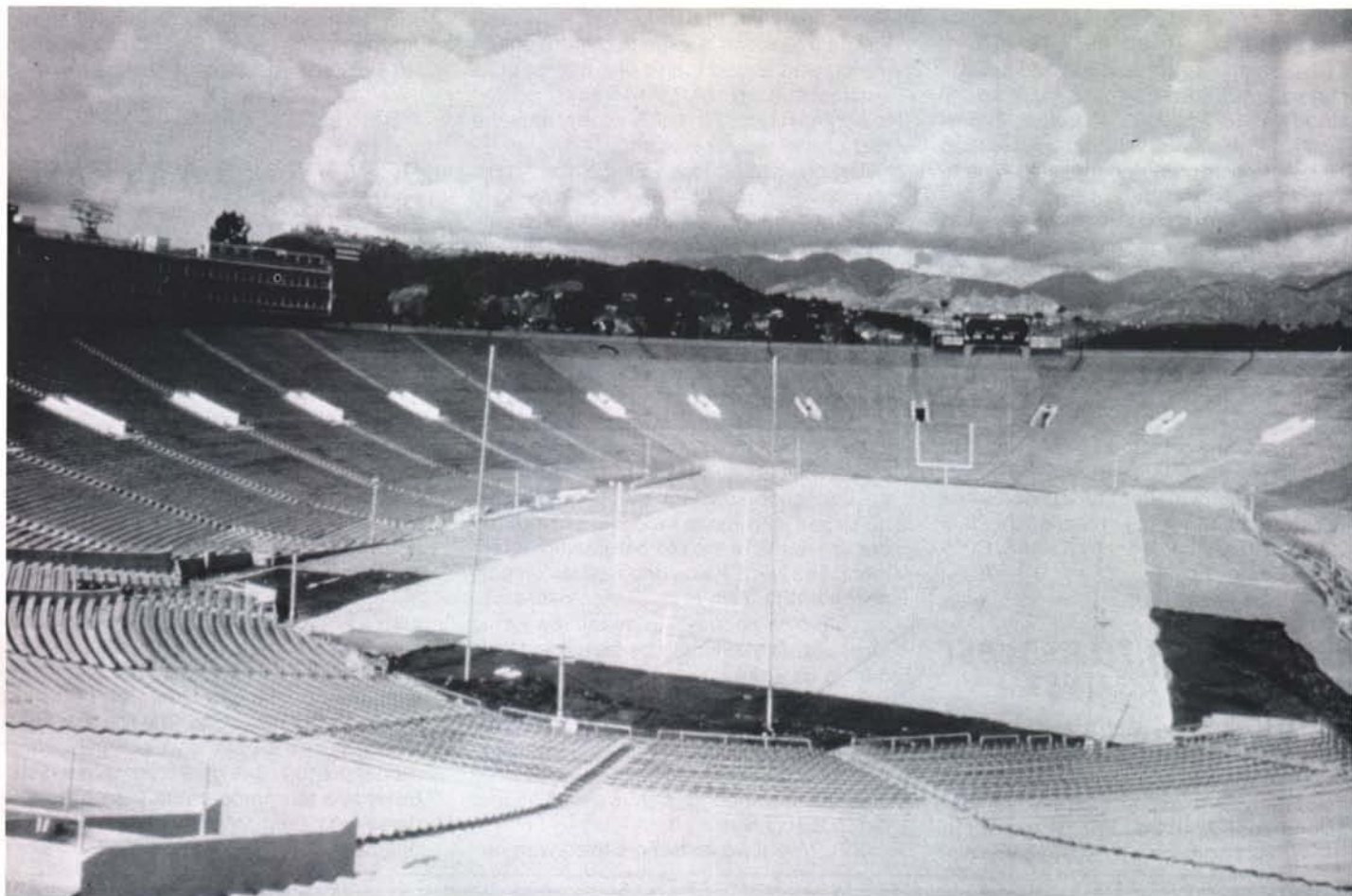
FOR YOUR NEAREST DISTRIBUTOR PHONE 1-800-323-9369

"YOUR COMPLETE EDGING SUPPLIER"

Valley View[®] Specialties Co.

13834 S. KOSTNER • CRESTWOOD, ILLINOIS 60445

312-597-0885 CALL FOR YOUR FREE CATALOG TOLL FREE 1-800-323-9369



The Rose Bowl uses a germination cover to speed up germination of overseeded ryegrass.

TEXTILES

For Turf and Landscape

Foul weather is part of outdoor sports. From the damp, frigid winds whipping across the golf links in the spring and fall to the occasional blizzard during Thanksgiving Day football games, both athletes and spectators have devised ways to protect themselves.

Golfers don heavy sweaters and wind-breakers to finish their rounds. Football, soccer and baseball players wear an extra jersey or two underneath their uniforms. Spectators bundle up with coats, blankets and heavy socks to fight off the cold as they watch their favorite team or player in action. The game must go on.

Fabrics enable both players and spectators to enjoy their favorite sports despite unfavorable conditions. Sports turf managers are beginning to realize that similar textiles can be just as important to turf and surrounding landscapes as they are to athletes and fans.

Textiles developed largely for the clothing or flooring industries can now be used for a growing number of landscape pur-

Textiles can now be used for a growing number of landscape purposes.

poses. They can keep mud and silt from plugging underground drainage systems, prevent weeds from emerging in plant beds and stabilize soil on slopes and in drainage channels. They can also keep soil temperatures up during the fall for faster germination of overseeded winter grasses or in the spring to get bermudagrass out of dormancy earlier, prevent winterkill of sensitive turfgrasses in exposed areas and shelter

turf from snow, debris, rain or traffic. New uses for textiles and membranes are being found every month in the sports turf industry. Their importance to the protection and maintenance of recreational areas is growing constantly.

"Sports turf managers themselves have really pioneered the use of geotextiles," explains Emory Hunter, manager of specialty products for Warren's Turf Nursery, Inc. "Stadium managers and golf course superintendents looking for solutions to some of their most pressing problems actually come up with new uses for fabrics and then ask us to create the right product."

Hunter tells the story of finding a way to protect one natural turf stadium field for the Michael Jackson concert three years ago. David Frey, director of facilities for the Cleveland Browns, had a game three days after the scheduled Jackson concert. Covering the field with straw and plywood for nearly a week while the concert was set up and held was too risky. He started looking for a blanket that would cushion the turf from

equipment and thousands of fans and could also stay down on the field for nearly a week. Light and air had to reach the turf while it was covered.

Frey had seen geotextiles placed under plywood ramps along the side of the field so television cameras could move up and down the field during a game. He knew they distributed the weight of the cameras over a large area and prevented soil compaction. But covering the field and geotextile with plywood for a week was too much. It would block air and light from the green turf below. With most of the season yet to go, he needed to keep the turf growing. He wanted a cover that would protect the field without plywood. Oddly enough, Hunter had been testing geotextiles for various turf and weed control uses. "That was the birth of TerraCover," reflects Hunter. The entire field was covered with the light gray blanket for more than five days without significant discoloration or damage to the turf. "If Dave hadn't called, we might not have had such an important test," reflects Hunter. "He also came up with the idea for the bench tarp, geotextile made in a 16 feet-wide by 75 feet-long piece that protects the turf in the bench area."

Since Cleveland Stadium had been a long-time sod customer of Warrens, Frey called Emory Hunter and asked if he knew of any covers that could protect the field without plywood. Oddly enough, Hunter had been testing geotextiles for various turf and weed control uses. "That was the birth of TerraCover," reflects Hunter. The entire field was covered with the light gray blanket for more than five days without significant discoloration or damage to the turf. "If Dave hadn't called, we might not have had such an important test," reflects Hunter. "He also came up with the idea for the bench tarp, geotextile made in a 16 feet-wide by 75 feet-long piece that protects the turf in the bench area."

The fabric used to protect stadiums from compaction during rock concerts is a relative of the fabrics used for plant bed weed control and filtering out silt and clay from perforated drainage pipes. But it's only one of many types of textiles used by institutional landscape managers today.

There is a group of materials loosely termed "geotextiles" since they are used for a variety of land uses. This general term really needs to be divided into three categories explains Palmer Skoglund, manager of the BASF Fibers Group.

Geotextiles are really woven or nonwoven fabrics produced in a variety of widths and weights (ounces per square yard). While they are essentially flat, the amount of fiber in them and their thickness can be changed to provide a wide range of weights. If the fibers in the geotextile are not woven together, they are bonded together by heat, chemicals, a process called needlepunching or a combination of these. Geotextiles are usually made of either polyester or polypropylene.

Two other terms you'll hear from geotextile salesmen are continuous filament or staple. Continuous filament refers to a fabric that is constructed of long fibers woven or bound together. Staple does not refer to metal clips. Staple is a term used in the textile industry to refer to short lengths of fiber that are bound together when making a fabric. For example, wool is a staple spun into yarn.

The primary advantage of geotextiles is
continued on page 24



Aerial view of golf course with geotextile warming cover on part of one green.

Sports turf managers are beginning to realize that textiles can be just as important to turf and landscapes as they are to athletes and fans.



Small covers for the skinned portion of baseball fields are affordable options to full field covers.

that air and moisture can pass through the fabric in the space around the fibers. However, the fabric can be manufactured tightly enough to stop weed seedlings from growing through it. The network of fibers also absorbs and distributes any weight placed on top of the fabric without tearing. In addition, sunlight passing through geotextiles can be controlled by the color, density and thickness of the fabric. Since these materials are fibrous, they are lighter than solid sheets made from similar materials.

Geotextiles exposed to sunlight should contain an ultraviolet light inhibitor to extend their life. When used for weed control they should be covered with three inches of mulch to block out damaging light.

Geomembranes make up a second group. These thin sheets of extruded plastic (polyethylene) are impermeable to air and water. Clear plastic membranes allow sunlight to penetrate easily while trapping warm air and moisture. At the same time they keep out cold air, rain and snow. For this reason they are often used as greenhouse covers. They can do their job too well and subject plants they cover to high heat and disease-inciting humidity. Perforations can be made in these clear membranes to allow limited exchange of air, heat and moisture.

Black or dark plastic membranes block

Turf growing in geomatrixes will withstand greater traffic without damage to roots and crowns.

out nearly all light in addition to air and moisture. These traits have drawn some landscape managers to use them as weed barriers beneath mulch in plant beds or as pond liners. Geomembranes are also used beneath specialized root zones for greens and athletic fields to control moisture levels.

The third category is referred to as geomatrixes says Skoglund. These are three-dimensional materials with large spaces between heavy filaments or walls. The strength of the components provides a structure to stabilize soil, roots or other materials. They are often used to stabilize soil on slopes, especially when plant roots grow through the material. The structure of geomatrixes can resist and distribute weight and wear

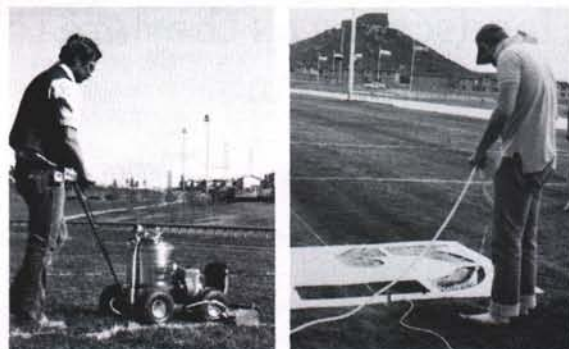
placed upon them that might otherwise compact soil or damage plants.

Turf growing in geomatrixes will withstand greater traffic without damage to roots and crowns. Slopes, entries or areas beside paths can support turf with the extra protection afforded by the geomatrix.

Sports turf managers' first exposure to geotextiles was to canvas tarps. Made from woven linen, hemp or cotton, tarps were heavy and had to be treated with oils and other materials to make them water repellent, explains Bob Curry of Covermaster. Not only were they heavy and awkward to move to cover large areas such as baseball fields, they could not be left on top of turf for more than a few hours without causing damage. It would take a crew of 15 to 20 people to move a heavy tarp into position during or before rain or snow. Due to their weight, stadium managers had to use a number of tarps to cover the field, overlapping the edges to keep water from reaching the soil.

Canvas tarps are considerably heavier when wet or frozen. Removing them was a herculean task. They also took a considerable amount of time to dry. Stored wet, they were subject to mildew, tearing and rapid degradation. To solve moisture, strength and durability problems, manufacturers starting coating the canvas with vinyl. Vinyl-coated canvas tarps are still found at many stadiums across the country. However, they re-

IS YOUR FIELD A "WINNER"?



NEWSTRIPE can supply the products to make your sports surfaces the most attractive in your conference. Our line markers and stencils are being used by major universities, school districts and soccer clubs for field maintenance.

Check these possibilities:

- Football
- Basketball
- Soccer
- Playgrounds
- LaCrosse
- Shuffleboard
- Baseball

NEWSTRIPE Inc.

P.O. Box 440881
Aurora, CO 80044

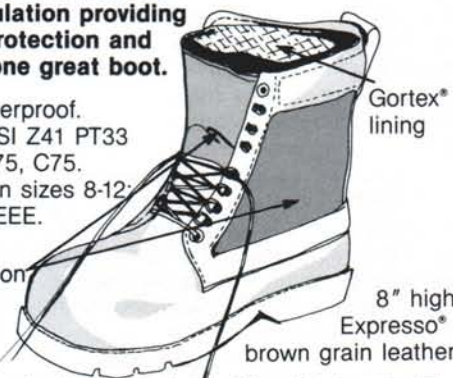
CALL
1-800-624-6706
For Details

The All Purpose Waterproof Safety Boot

Design features include steel toe and shank, oil resistant soles and full lining and insulation providing maximum protection and comfort in one great boot.

- ★ 100% Waterproof.
- ★ Meets ANSI Z41 PT33 Class M I75, C75.
- ★ Available in sizes 8-12 Widths C-EEE.

Lightweight
Cordura® nylon
side panels
and tongue



Economically priced boot that is ideal for all industries. The price of **\$119.00** (includes \$4.00 shipping and handling), makes this boot the best value in years!!

CALL TOLL-FREE

for more information.
Other sizes and widths
are available.

Central Ordering

1-800-241-6401 Out-of-State
1-800-241-3136 In Georgia
(404) 455-0907 In Atlanta



Equipment Supplier to Professionals Throughout the World

Ben Meadows Company

3589 Broad Street
Post Office Box 80549
Atlanta (Chamblee), Georgia 30366

5110B

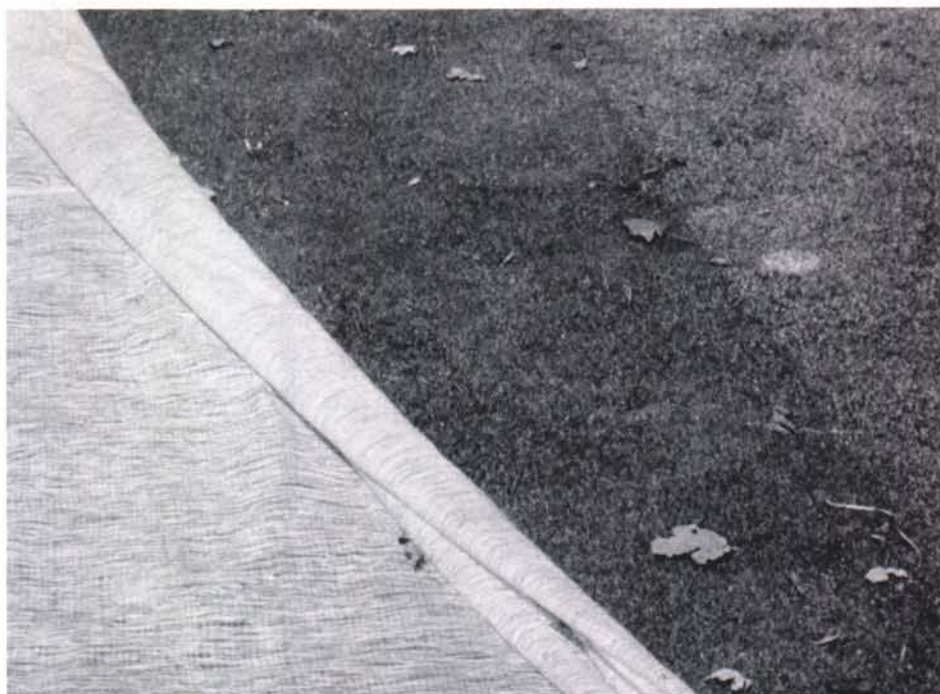
main heavy and hard to move. They are also among the most expensive tarps to purchase.

Canvas tarps were also used on golf courses, parks and campuses to protect piles of topdressing, sand and mulch. After prolonged exposure to sunlight and weather, these tarps would begin to deteriorate. Sports turf managers started to look for lighter, easier-to-handle tarps for storage purposes.

Their first attempt at a replacement for canvas was the geomembrane. Companies such as Amoco, Du Pont, Hoechst and Phillips began to explore various types of membranes and textiles for landscape and turf applications. To improve the strength and durability of polyethylene membranes the manufacturers experimented with thicker membranes and added chemicals to them to resist breakdown by ultraviolet light. The thickness of these covers is measured in terms of mils. One mil is 1/1,000 of an inch.

The membranes did an excellent job of stopping water, but they also stopped air and became brittle in cold temperatures. By adding dyes to the plastic, manufacturers would also block out light. The first commercial use of clear membranes was for greenhouse covers while dark covers were adopted for weed control in plant beds.

Again, sports turf managers started experimenting with the membranes for their own purposes. Both golf course superin-



Turf covered with geotextile greened up weeks sooner than uncovered turf.

tendents and athletic field managers began to use the tarps, modifying them to fit their needs. The air-tight covers were very useful for covering greens and other prepared seedbeds for fumigation. They experimented with the covers to create mini-greenhouses

over greens and fields to protect them from cold winter temperatures and winds.

Tony Burnett, field manager at JFK Stadium in Washington, DC, covered the bermudagrass field in the spring to wake up

continued on page 26

THE SIGN OF A SUPERIOR WEED BARRIER.

Introducing the next generation in weed barriers, featuring durability, flexibility and ease of installation.

Guardian Weed Barrier from Colorado Aggregate.

Made of strong, 100% polyester, Guardian Weed Barrier holds out even the toughest weeds *better* and *longer* than polypropylene underliners. Plus it provides

greater resistance to ultraviolet rays and excellent air and water permeability.

There's no need for scissors with Guardian Weed Barrier. It's easy to cut with a razor knife or blade, yet doesn't unravel like woven underliners. And, because of its needlepunched fiber bonding, Guardian Weed Barrier

stretches to conform to different grades.

Guardian Weed Barrier gives professional landscapers all the right signs: Longer life. Easier installation. And the high quality standards of the Colorado Aggregate Company.

For more information or to get the name of your nearest distributor, call or write us today.

**100%
POLYESTER**

**GUARDIAN
WEED BARRIER**

Colorado Aggregate Company
P.O. Box 24 • Blanca, Colorado 81123
1-800-528-2765
1-303-379-3214 (in Colorado)

The Irrigator that follows you anywhere.

Across the playground.
Polo field. Park. Or petunia patch.
It's perfect.

If you have land to irrigate, Rain For Rent has a revolutionary hard hose irrigator engineered for you—the affordable Bauer Rainboy 50T.

No pipe. No pop-ups. No permanent system.

Just a mobile, versatile, efficient and reliable unit that works on water pressure (44 psi), provides uniform, even, adjustable participation, keeps running till the work is done—and stops automatically.

It's lightweight, easy to position and



move, and non-soil compacting.

And it's available for rent or purchase.

There's only one Rainboy. And it's only at Rain For Rent. We promise you'll be impressed. Call or come by, today. We think our Rainboy will follow you home.



Toll Free Hotline, 1-800-272-RAIN
(In CA) 1-800-742-RAIN

Rain For Rent
P.O. Box 2248,
Bakersfield, CA 93303



Geomatrices can be wrapped with geotextiles to provide narrow drainage channels.

Textiles

continued from page 25

the dormant turf in time for spring exhibition baseball games. "Fields in this area are usually Kentucky bluegrass and ryegrass," explains Burnett. "When we rebuilt the field and put in a PAT system, we decided bermudagrass was better for football, so we had to make adjustments to help it during the winter. One of those adjustments was covering the field with plastic in the spring. Dr. Daniel (developer of the PAT System) suggested we punch holes in the plastic to allow air to circulate beneath the cover. This kept the field from getting too hot and reduced the chance for diseases." David Frey at Cleveland Stadium was also intrigued with the greenhouse effect of plastic covers. With the help of David Scherba, a balloon builder in Cleveland, Frey devised an air-supported greenhouse structure that covered the center of the field so he could germinate ryegrass in the fall. The structure covered just the area inside the hash marks between the 20 yard lines, the part of the field most damaged by football. "We wanted to cover more of the field but that's all we could manage the first time," explains Frey. "The temperature inside the greenhouse was ten degrees higher than the outside air. The ryegrass germinated fairly well and I was determined to try again." Frey built a larger air-supported structure this fall and pumped warm air from heaters into it. "Not only does the greenhouse warm the soil, you can work on the turf at the same time."

Superintendents in the Northeast started covering greens in the winter to reduce winterkill and accelerate greenup in the spring. But, they were also concerned about the effects of high humidity and temperatures on bentgrass diseases. To help answer some of their concerns, Dr. John Roberts at the University of New Hampshire started testing various covers. One of these covers was not a membrane, but a nonwoven fabric called Reemay from Du Pont being tested as a cover for vegetable gardens in the winter. "We got the same improvement in spring green-up and reduced winterkill on bentgrass as the membranes without some of the associated disease problems," Roberts recalls.

Roberts obtained samples of covers from various manufacturers so superintendents could test them on their greens. The results were very positive for a number of the covers and superintendents started asking where they could buy them. Roberts evaluated the covers for their benefit to the turf, and also for strength and transparency. "We were looking for a cover that could stay on the green all winter," explains Roberts, "and we found what we were looking for." Manufacturers responded to

the research results and started developing stronger and more transparent covers large enough to cover an entire green."

Some of the leading geotextiles for greens today are Typar from Reemay Inc. (formerly Du Pont), Evergreen from Hinspergers Poly Industries (HPI) and TerraShield from Warrens. These polyester geotextiles provide a high degree of transparency and strength while remaining light in weight and relatively simple to install. Also stemming from the work in New Hampshire are germination covers, light-weight geotextiles which serve to protect seed and seedlings during germination. They help moderate temperature and moisture extremes to increase germination rates of turf seed.

"One of the most important things a winter cover does for the golf course," says Peter Hinsperger at HPI, "is it keeps golfers off the greens during the winter. The cover tells the golfer the hole is closed so they won't try to play it."



Turf growing through geomatrix grids buried below the surface provide extra protection against damage in high traffic areas.

It was about this time that Frey discovered the anticompaction benefits of a geotextile for the Michael Jackson concert, actually a heavier version of the same type of geotextiles being tried in the Northeast for covering greens. This was the first use of Warren's TerraCover. Since then, Scherba has begun marketing a geotextile called Turf-Mat for concert protection. Furthermore, heavy, dark-colored versions of these geotextiles were beginning to replace membranes for weed control in plant beds. Geotextiles were rapidly gaining acceptance.

Word spread rapidly to stadium field managers and concert producers. Geotextiles are used today to protect both natural and artificial turf fields during rock concerts, mud bogs, tractor pulls, motocross and even religious events.

Since the geotextiles were lighter and stronger than the membranes, Burnett quickly switched over to HPI's Evergreen. In fact, JFK has three different types of field covers. It has a rain cover as required for all stadium fields by the National Football League. Burnett has explored new technology from Putterman & Co. with a two-sided vinyl tarp. One side of the tarp is white to reflect the sun in case the field must be covered during warm weather. The other side is black to absorb the sun's heat during the winter to melt snow or to warm the soil below.

Burnett has an Evergreen cover for two reasons. He covers the field at night during the fall to help establish the overseeded ryegrass. In the early spring he uses it again to bring the bermudagrass out of dormancy in time for exhibition baseball. In March and April, the cover stays on most of the time. "The roots of the ryegrass and the bermudagrass are almost three inches

continued on page 28

For low maintenance and safety on all projects ... **Edg-King!**



SAFE FOR ALL RUNNING TRACKS AND RECREATIONAL AREAS!

We offer 5 styles of quality edgings (round, flat or narrow top) to give professional architects and designers the choice they need and want for all types of installations, competitive pricing and immediate product availability 12 months a year. All of this is available from one dependable source! We can serve you through our network of fine Landscape & Nursery Distributors or promptly ship anywhere in just a few days (freight allowance given in areas not serviced by a distributor).

NON-BENDING STEEL ANCHORING STAKES

Our newest stake 9" deep by 1" wide angle steel was researched and well tested to eliminate all bending problems which are common during installations in heavy clay or rocky soil conditions.

Our other four top quality polyethylene and vinyl edgings are: **BLACK EDG-KNIGHT, BLACK JACK, SUPER-EDG AND EDG-QUEEN.**

FREE SAMPLES, SPECIFICATIONS, PRICING AND LITERATURE ARE ALWAYS AVAILABLE! WRITE US OR CALL COLLECT 312 833-3033

(outside Illinois)
1-800-EDGINGS



IF YOU NEED AN EDGING MATERIAL THAT WE CANNOT PROVIDE, CALL US ANYWAY AND WE WILL HELP YOU FIND IT!

Chy-Ola Sales, Inc.

54 East St. Charles Road • Villa Park, IL 60181
Phone: 312-833-3033 • *(outside Illinois)*

1-800-EDGINGS

Textiles

continued from page 27

deeper than when we didn't use the cover," claims Burnett. "We also cover portions of the field for soccer from April through July. We can speed up the recovery of both the ryegrass and the bermuda in the goal mouths."

Since JFK is a popular site for concerts Burnett also has Warren's TerraCover, a heavier cover than TerraShield. "We've had this cover down for nearly a week without problems," says Burnett. "Even folding chair legs won't punch through the cover, but sometimes they will leave dents on the field. After the event, we pull the cover and top-dress with sand to fill in the dents. Since

we have the PAT system, we can keep the field on the dry side before the concert."

Barney Barron, superintendent of park maintenance for San Francisco, also has three covers for Candlestick Park. "Protecting the field with covers has made a big difference at Candlestick," says Barron. "It never gets very warm at Candlestick. Using the germination cover has helped us get soil temperatures up when we need them up for germination or for helping the turf recover from a game."

It's important to note that geotextiles have not eliminated the need for waterproof membranes. Manufacturers have improved field covers by making them lighter, stronger, two-sided and more economical. Reinforced vinyl covers have increased the durability and tear-resistance of tarps. "A field tarp has to withstand strong winds and even abrasion from snow plow blades," explains Joan Koza, vice president of M. Putterman & Co. The company has also pioneered zipper-like seals that make the edges of adjoining tarps watertight.

"If anything, protecting artificial turf is more difficult than protecting natural turf," says Koza. "It's relatively easy to repair a cover compared to artificial turf. Rock concert covers must prevent damage by concertgoers or chairlegs.

Tarp makers are developing products that more colleges and high schools can afford. Covermaster recently introduced a cover kit for the skinned portions of baseball fields. "There is no doubt that sports turf managers at many colleges, schools and parks would like to have a tarp if they could afford it," remarks Bob Curry of Covermaster. "Since the dirt is more important than the grass in baseball, the cover kits fit a need at a very low cost."


Lightweight tarps are also growing in use, especially at spring training camps in the Sun Belt. These tarps, usually with one white or silver side, fit the needs of southern field managers who don't have to put up with snow. They are lighter and less expensive than the heavier vinyl tarps but do an equal job of protecting the field from rains. "These tarps are within the price range of a greater number of sports facilities," says Koza.

The use of geotextiles continues to grow. Two of the most widely-accepted new uses are as mud filters for drainage and as soil separators underneath cart paths, parking lots and entrances to utility buildings. The geotextiles have the ability to separate fine soil particles from water. Initially turf managers wrapped perforated drainage pipe and lined gravel in french drains with the fabric to keep mud and silt out so the drains wouldn't become plugged. Then geomatrix materials were wrapped with the fabric before being inserted upright into narrow trenches and covered with gravel. Suddenly drainage could be installed or corrected by digging a two-inch wide trench instead of a much wider one. This reduced handling of dirt and sped up the installation process.

Soil separation is an older use borrowed from the construction industry. Since the geotextiles filter out silt and mud, they can prevent these materials from infiltrating sand traps, gravel paths and lakes. These materials also help distribute weight which prevents rutting and uneven settling. The combination of soil separation and weight distribution can greatly extend the life of cart paths. One of the most recent uses for geotextiles (heavier versions) is to block tree and plant roots from extending below important turf or paved areas. By inserting the fabric filled with gravel into trenches surrounding important areas, roots can't penetrate, explains Gary Anderson of Reemay Inc. By blocking the roots from these areas, heaving and surface roots are prevented. Anderson says the geotextile barriers will not disrupt drainage as solid root barriers can.

The root-blocking ability of geotextiles has been put to use by manufacturers to replace geomembranes. Since membranes will not let air or water through, a space had to be left around plants to permit water to reach the roots. Weeds would then grow through the uncovered area around the plants. Geotextiles can cover the entire soil area around plants without affecting water and air exchange while still blocking weed growth. The list of manufacturers with weed control geotextiles and landscape fabrics grows each month.

A few golf course superintendents are lining ponds and irrigation lakes with heavy geotextiles to control aquatic weeds without chemicals. The filtering ability of the fabrics also keeps soil from entering the water. Reemay is introducing a product that is a geotextile lined with a membrane. The membrane prevents water loss through the pond bottom.

Geotextiles not only give sports turf managers a widely adaptable tool for turf and landscape maintenance, they give the turf the same defense against weather and nature that fans and athletes have always had. The results are evident on greens throughout the Northeast, on stadium fields across the country and at a growing number of university and minor league facilities. Textiles are becoming an everyday tool of sports turf managers. 

LONG LIVE Harley Rock Rakes and Pickers!

They are durable, easy to operate with low maintenance for longer life. For raking, leveling, pulverizing a seedbed, there is nothing like a Harley! Get the facts. Just write or call.



Glenmac

P.O. Box 2135 Jamestown, ND 58402
(701) 252-9300 Telex 5101001848
Toll Free in the U.S. 800 437 9779
Circle 109 on Postage Free Card

PARTAC GOLF COURSE TOP-DRESSING



AMERICA'S PREMIUM
TOP-DRESSING

HEAT TREATED

CONTROL THATCH,
PROMOTE HEALTHY TURF
& SMOOTH PLAYING SURFACES

BOTH
AVAILABLE IN
BULK OR BAGS

CALL TOLL FREE:
1-800-247-BEAM

IN N.J.
201-637-4191

PARTAC PEAT
CORPORATION
KELSEY PARK
GREAT MEADOWS, N.J.
07838



THE PROFESSIONAL'S CHOICE
... SINCE 1922

BEAM CLAY IS THE RED
BASEBALL MIX USED BY
PROFESSIONAL TEAMS ACROSS
THE U.S.A. AND CANADA.
SPECIAL MIXES FOR PITCHER'S
MOUNDS, HOMEPLATE AREAS
& WARNING TRACKS.

NFL REFEREE TUNNEY TO KEYNOTE GCSAA SHOW

Jim Tunney, who makes his living as an educator during the week and as a National Football League referee on fall weekends, will give the keynote address during the 59th International Golf Course Conference and Show at the George R. Brown Convention Center in Houston, TX, Feb. 1-8. More than 13,000 superintendents, sports turf managers and industry suppliers are expected to attend the conference this winter.

Tunney has been an educator for more than 27 years, serving as both principal and superintendent of schools in Southern California. He has also been a NFL referee for 27 seasons serving in three Super Bowls. He is also the only referee to officiate in consecutive Super Bowls. On and off the field, Tunney has been a strong proponent of playing by the rules. The gifted speaker will address the opening session on Thursday, Feb. 4, at 5:15 p.m.

On the lighter side, the family comedy team of the Smothers Brothers will entertain showgoers during the banquet Feb. 8. Tom and Dick Smothers have applied their satirical form of humor to a wide range of serious subjects, from war to politics, over 28 years.

A comprehensive assortment of seminars and educational sessions have been arranged for the week-long conference. In ad-

dition to the Golf Course Superintendents Association of America, sponsor of the conference and show, the United States Golf Association Greens Section and the Sports Turf Managers Association will be holding educational programs.

GCSAA already has commitments that will make the exhibit and show larger than the record-setting show in Phoenix in 1987. The association also hopes to break the attendance record of 12,588 set at Phoenix.

ONTARIO ASSOCIATION GETS THINGS ROLLING

The Sports Turf Association launched last year with the help of the University of Guelph, Ontario, has selected a board of directors, published its first newsletter and announced the dates of its first conference.

Michael Bladon, a member of the University staff, was elected president of the STA and Bruce Calhoun of Bannerman is vice president. Ron Dubyk is the secretary and Robert Allen is the treasurer. Directors include extension turf specialist Annette Anderson and John Watson. Dubyk quarterbacked the association's first newsletter published this fall while Calhoun has been working on a membership strategy.

Watson is working with Anderson to finalize STA's first conference, scheduled for March 9, at Hilton Harbour Castle in Toronto.

Dr. Clayton Switzer, deputy minister of agriculture will keynote the one-day conference. In addition to the University of Guelph's own Dr. James McLachlan speaking on athletic injuries, the association is importing experts from the U.S. Dr. Donald White from the University of Minnesota will speak on turfgrass varieties for athletic fields. Dr. James Watson from The Toro Company is slated to speak on emergency procedures for sports turf while Dr. John Harper from Pennsylvania State University will cover construction guidelines for athletic fields and Dr. Anthony Koski from Ohio State University explores soil fertility for sports turf.

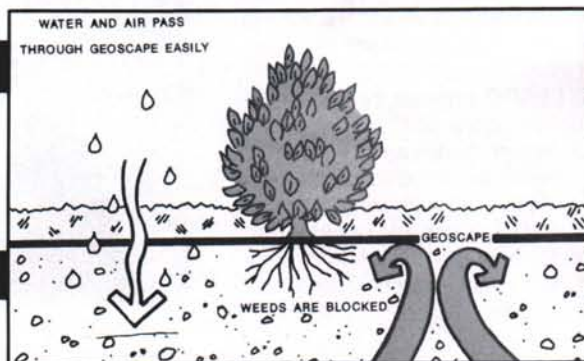
Nearly 150 sports turf managers attended an athletic turf field day at the University this summer. Bladon says the new association has received membership inquiries from municipalities and universities in eight of Canada's ten provinces. Those interested in membership should contact STA, 185 Edinburgh Road South, Guelph, Ontario, Canada, N1G 2H8.

CORRECTION

It has been brought to our attention that the language used in a September product release for Dolge Lake Dye could be construed to present it as an algacide. This is clearly not the case and would be in violation of EPA regulations to make such a claim or to use it as an algacide.

geoscape

LANDSCAPE FABRIC



Designed For Use In All Of Your Landscape Projects!

geoscape is easy to install, outlasts black plastic, and provides years of maintenance free protection from weeds. **geoscape** is a 100% nonwoven polypropylene fabric that achieves weed blockage through the close random bonding of the individual fibers.

geoscape blocks weed growth in landscape planting beds by acting as a barrier between decorative mulches and soil, while allowing water, air and nutrients to pass through.

geoscape DOES MORE THAN JUST BLOCK WEEDS:

- When applied in trench and blanket drains, **geoscape** prevents clogging through filtration of soil particles.
- **geoscape** controls erosion when placed on landscaped embankments.
- **geoscape** provides uniform drainage and support in gravel walkways, greenhouses, or any project requiring gravel.

FOR MORE INFORMATION AND A FREE SAMPLE OF **geoscape** LANDSCAPE FABRIC, PLEASE CONTACT:

innovative geotextiles corp.
p.o. box 34221 • charlotte, n.c. 28234
(704) 553-1125

LESCO CELEBRATES SILVER ANNIVERSARY

LESCO, Inc., of Rocky River, OH, a national turfgrass equipment and supply manufacturer, is currently celebrating its 25th year as a corporation. Ranked 66th by Forbes Magazine on its 1986 list of the 200 best small companies in America, the firm employs over 500 persons and operates six manufacturing facilities and 30 service centers, plus 36 "stores on wheels." It generates annual revenues of \$90 million.

The company started as a five-man local supplier of turf-maintenance equipment in Cleveland, OH. The brainchild of James I. FitzGibbon and Robert F. Burkhardt, its growth began in 1961, when Burkhardt opened Lakeshore Equipment & Supply Co. (LESCO) to market turf equipment to golf courses and cemeteries in the Cleveland area. Later that year, he joined with FitzGibbon, a neighboring merchant, to expand distribution and increase product line. The company incorporated in 1962.

A second facility was added in southern Ohio in 1967, featuring a series of service and irrigation clinics for customers. In 1974, LESCO received its first turf-protection product labels and bought a fertilizer-formulating plant in Wellington, OH. Equipment manufacturing began with a spreader in 1982. Sprayers were soon added, followed by mowers and aerators.

In 1976 the first LESCO Truck called on golf courses in Florida. A "store on wheels," it serviced its customers on a regular route basis. The firm now has 36 such trucks in 31 states, offering accessories, turf-protection products, and parts.

In 1985, LESCO opened its first drive-through service center in Ft. Lauderdale, FL, to develop business with turf managers—mainly landscapers. By the end of this month it plans 30 such centers across the country and 50 by the end of next year.

As the company looks to the future, commercial rotary mowers are scheduled for introduction in 1988.

NEW SEEDED BERMUDA TO BE RELEASED

NuMex S-1, a new seed-propagated bermudagrass variety with better summer color and more density than common bermudagrass, will soon be available commercially. The new bermuda was developed by Arden Baltensperger at New Mexico State University, La Cruces, with partial funding from the United State Golf Association and the Golf Course Superintendents Association of America. The New Mexico State University Variety Release Board decided to grant exclusive marketing rights to Farmers Marketing Corp. of Phoenix, AZ.

Nu-Mex S-1 was developed from eight superior clones selected over a ten-year period on the basis of improved turf quality and seed yield. Results in New Mexico and

several Southern and Southwestern states indicate the new bermudagrass has advantages over common bermudagrass, the primary seed-propagated bermudagrass now on the market. Farmers Marketing is now building up seed production and expects commercial quantities by 1989.

JOHNSON HEADS MARKETING FOR RAINBIRD GOLF

Pete Johnson has been appointed marketing manager for Rain Bird's Golf Division. He will create and direct marketing programs for golf irrigation products under the direction of Ed Shoemaker, vice president of the division.

The six-year veteran irrigation product manager will also direct planning of new golf products and coordinate customer service for existing products. Most recently Johnson was manager for commercial turf products for the Glendora, CA, manufacturer.

GOLD TRADE PUBLICATIONS PROMOTES SHANK



Denne Goldstein, president of Gold Trade Publications, Inc., has announced the promotion of Bruce F. Shank to executive vice president. The company publishes Landscape & Irrigation, Arbor Age, sportsTURF and Irrigation Journal and produces Arbor Expo, an exhibition serving the tree care industry.

Shank joined Gold Trade Publications in 1985 to help launch sportsTURF magazine. He was previously executive editor of the Green Group for Harcourt Brace Jovanovich Publications in Cleveland, OH. Shank studied biology at Washington University in St. Louis before earning a degree in agricultural journalism from the University of Missouri School of Journalism in 1973.

"I've always been fascinated by the turf and landscape markets in this country," says Shank, "but I didn't really appreciate their scope until I came to California to join GTP. It's been a real education, especially the irrigation industry."

Shank will continue as associate publisher of sportsTURF and Landscape & Irrigation while assuming increased responsibility for the daily operations of the company. "Our company has grown tremendously in the last few years," said Goldstein. "Bruce will increase our ability to manage our business while continuing to grow. It will allow us the opportunity to interface even more with industry personnel. This company started out as a people business and we'd like to keep it that way."

NORTHWEST PARK SCHOOL FOCUSES ON MAINTENANCE

Park maintenance philosophies and techniques are the main subjects of the National Recreation and Park Association's (NRPA) Northwest Maintenance Management School, to be held Feb. 21-26, 1988, at Fort Worden State Park in Port Townsend, WA. The school, developed for park personnel in the Northwest, provides a week-long introductory or refresher course on soils, chemicals, turf management, recreation facility design and management, and employee motivation. Students are housed in refurbished historic army barracks and Victorian houses once used as officers quarters. The park is located 50 miles northeast of Seattle, WA.

Park personnel who can return a second year for an advanced six-day course will concentrate on staff training, performance evaluation, public relations, creative park design, tree management and behavior of park users. Both first and second year students take part in a group project, an integral component of the Maintenance Management Program. College credits are awarded to students who meet all requirements by Central Washington University, Ellensburg, WA.

A three-day graduate program is being offered to park managers who have successfully completed the first two programs. It emphasizes writing effective job descriptions and performance standards and follows up with employee performance evaluation.

Registrations for all three programs are taken on a first come, first served basis. For more details contact; NRPA, Pacific Regional Office, 1600 Sacramento Inn Way, Suite 217, Sacramento, CA, 95815, (916) 646-9050.

NOR-AM OBTAINS RIGHTS TO NEW FUNGICIDE

The U.S. marketing rights to Flutolanil, a promising new fungicide developed by Nihon Nohyaku Company of Tokyo, Japan, have been acquired by Nor-Am Chemical Company. The agreement is Nor-Am's first with a Japanese chemical manufacturer.

Leo Ekins, president of Nor-Am, said the fungicide will be targeted at diseases of turf, cotton, rice and peanuts.