



I TELL YA  
I'VE TOLERATED A  
LOT OF STUFF IN MY TIME  
BUT I'M DEAD  
AGAINST THIS.

## AND THEN THEY'RE DEAD.

### OFTANOL STOPS THEM COLD.

Applications of OFTANOL, properly timed, will control existing populations of sod webworm larvae, billbug larvae, chinch bugs, and Hyperodes weevil larvae. It works.



**Moby Chemical Corporation**  
Specialty Products Group  
Box 4913, Kansas City, MO 64120

Circle No. 120 on Reader Inquiry Card

Immediately after dragging irrigation is applied, thoroughly but not to the point of puddling. The greens should then be watered three to four times lightly during daylight hours. If the weather is exceptionally dry, we have irrigated lightly at 1 a.m. By light, I mean one rotation of the sprinkler head, or just enough to keep the seed moist without overwatering the green.

The seed generally germinates within four days since temperatures are still in the low 80's. Within 24 hours of germination, we apply a preventative application of fungicide (Subdue) to thwart any outbreaks of Pythium during the next week. We are not generally subject to Pythium at this time of year. However, a little preventative application insures a good night's sleep for me and the seed.

The first mowing is made two days after germination at 3/8-in. We leave the baskets off the mower for the first two mowing. Sharp blades are important to minimize pulling the young ryegrass so mowers are lapped daily.

The greens are mowed daily at 3/8-in. for the next five days, 5/16-in. for the next five days, and 1/4-inch for the next two to three weeks. By now the plants are starting to tiller. Finally, the height is reduced 1/16-in. per week for three weeks for a final height of 5/32-in. is reached. This height will vary depending on the severity of our winter temperatures, but we can obtain a good putting surface at this height.

Light topdressing begins at the same time we lower the mowers below 1/4-in. This light topdressing is applied every three to four weeks to produce a smooth putting surface and to encourage lateral growth by the ryegrass and the slower growing Bermuda grass.

We fertilize greens at 3/4- to one-pound of nitrogen per month during January through April, then we change our program to slowly phase out the ryegrass and encourage growth of the Bermuda grass.

No overseeding program would be complete without a description of the transition from ryegrass to Bermuda. It can be gradual and hardly noticeable, to quick and disastrous. We have discovered it is best to control transition than let nature take its course and possibly lose the greens on a hot, muggy, windy weekend before a big tournament.

To control transition we start verticutting lightly in April and May and increase fertilizer to one-and-one-half-lbs. nitrogen per 1,000 square feet per month. In this manner we control when and how much ryegrass we take out. We feel more comfortable knowing the ryegrass leaves in relation to our cultural practices, instead of Mother Nature.

Finally, I would like to thank the Inverrary crew who always do that little extra when it comes time to overseed our greens. WT&T

# RELAX!



## The last thing you want to worry about is fertilizing

Naturally Organic Milorganite is the Peace of Mind Fertilizer.

Naturally organic Milorganite is the safest and easiest to use all-purpose fertilizer. It is easy to apply and does not burn because there are no salt problems as with chemical fertilizers.



### Milwaukee Metropolitan Sewerage District

735 North Water Street  
Milwaukee, WI 53202



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101	115	129	143	157	171	185	199	213	227	241	255	269	283	297	311	325
102	116	130	144	158	172	186	200	214	228	242	256	270	284	298	312	326
103	117	131	145	159	173	187	201	215	229	243	257	271	285	299	313	327
104	118	132	146	160	174	188	202	216	230	244	258	272	286	300	314	328
105	119	133	147	161	175	189	203	217	231	245	259	273	287	301	315	329
106	120	134	148	162	176	190	204	218	232	246	260	274	288	302	316	330
107	121	135	149	163	177	191	205	219	233	247	261	275	289	303	317	331
108	122	136	150	164	178	192	206	220	234	248	262	276	290	304	318	332
109	123	137	151	165	179	193	207	221	235	249	263	277	291	305	319	333
110	124	138	152	166	180	194	208	222	236	250	264	278	292	306	320	334
111	125	139	153	167	181	195	209	223	237	251	265	279	293	307	321	335
112	126	140	154	168	182	196	210	224	238	252	266	280	294	308	322	336
113	127	141	155	169	183	197	211	225	239	253	267	281	295	309	323	337
114	128	142	156	170	184	198	212	226	240	254	268	282	296	310	324	338

# WEEDS TREES & TURF

JULY 1984

This card expires

Sept. 15, 1984

MY PRIMARY BUSINESS AT THIS LOCATION IS:  
 (PLEASE CHECK ONE ONLY IN EITHER A, B OR C)

**A. LANDSCAPING/GROUND CARE AT ONE OF THE  
 FOLLOWING TYPES OF FACILITIES:**

- 0005  Golf courses  
 0010  Sport complexes  
 0015  Parks  
 0020  Rights-of-way maintenance for highways, railroads & utilities  
 0025  Schools, colleges & universities  
 0030  Industrial & office parks/plants  
 0045  Condominiums/apartments/housing developments/hotels/resorts  
 0050  Cemeteries/memorial gardens  
 0060  Military installations & prisons  
 0065  Airports  
 0070  Multiple government/municipal facilities  
 Other type of facility (please specify) \_\_\_\_\_

**B. CONTRACTORS/SERVICE COMPANIES/CONSULTANTS:**

- 0105  Landscape contractors (installation & maintenance)  
 0110  Lawn care service companies  
 0125  Landscape architects  
 0135  Extension agents/consultants for horticulture  
 Other contractor or service  
 (please specify) \_\_\_\_\_

**C. SUPPLIERS:**

- 0205  Sod growers  
 0210  Dealers, Distributors  
 Other supplier (please specify) \_\_\_\_\_

Approximately how many acres of vegetation do you maintain  
 or manage? \_\_\_\_\_

What is your title? (please specify) \_\_\_\_\_

I would like to receive (continue receiving) WEEDS TREES &  
 TURF each month: YES  NO

Your Signature: \_\_\_\_\_ Date: \_\_\_\_\_



**BUSINESS REPLY CARD**

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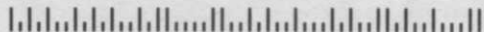
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**GET  
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# Now there's a better way to control turf insects!

Now that ORTHENE® Tree & Ornamental Spray has been cleared for use against turf insects, you've got effective insect control you can count on.

ORTHENE has been used for years to stop tough pests like gypsy moth larvae, aphids and bagworms, with no sign of resistance. It provides effective fast-acting control against armyworms, sod webworms, leafhoppers and greenbugs.

ORTHENE kills foliage-feeding insects two ways — on contact and by ingestion. And because ORTHENE works as a local systemic, you get broad-spectrum control that keeps right on working. ORTHENE is compatible with most commonly used insecticides and fungicides and is not phytotoxic to the turf.

ORTHENE insecticide can be used without protective equipment, so it's easy to apply. Its toxicity to fish, wildlife and pets is low, and once the spray dries you can re-enter the treated area immediately. That's another reason lawn care professionals and turf-grass managers look to ORTHENE for use around golf courses, parks, for commercial lawn care, playgrounds, picnic areas and other places where people and pets gather.

ORTHENE Tree and Ornamental Spray — for effective, broad-spectrum control of foliage-feeding insects.



## ORTHO

Chevron Chemical Company

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# ORTHENE®

Circle No. 103 on Reader Inquiry Card

## Wheat from chaff

Texas has one of the most advanced irrigation licensing laws of its kind in the country.

In 1973, the law, a joint effort of the Texas Turf Irrigation Association and the Texas Board of Landscape Irrigators and under the Department of Water Resources, went into effect. It deals solely with landscape irrigation, and according to Charles Putnam, president-elect of the Irrigation Association, protects the consumer and supply of potable water.

Part of the licensing procedure involves taking a test; part of the test is designing an irrigation system which is graded. The licensing board is aware of water conserving aspects and looks for them on the systems being graded.

Putnam reports that about half of the 900 who take the test a year, pass.

John Heidman, president of Irritech Corp., one of the largest irrigation consulting companies in the country and past president of the Texas Turf Irrigation Association, says half of his fees as an irrigation consultant are in compensation for suggesting a water source for his clients.

"It's important to get water that has not gone through an expensive purification process," said Heidman.

With that in mind, Heidman is working on getting a grant to document a situation he sees repeatedly in Dallas.

There is a 26-story office building in downtown Dallas, one of the hundreds of monolithic goliath's vying for

the city's water and energy supplies. It uses 100,000 gallons of water per day for its 2,600 tons of air conditioning. Evaporation takes 60,000 gallons. The other 40,000 gallons, because it has gone through the air-conditioning system, has been chemically treated and not suitable for reintegration into the city water supply.

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**And then there's the wind. It blows so hard at times, it kicks up enough dust to cause motorists to drive with their lights on in the middle of the day, just to get through the mirky brown/red shroud.**

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"The city water supply bears the brunt of getting the chemicals out of the water," says Heidman. "What we need is a system for recouping water from high rise buildings and processing it, say, at smaller sewage treatment plants to take the burden, and cost, away from the city."

## El Paso problems

El Paso, a southwest Texas city of a half million people, sits in the desert in the shadow of the Franklin Mountains and on the border of Mexico.

Two problems haunt El Paso — salt and the wind.

Eighty percent of the city's water comes from underground aquifers, the other 20 percent from the Rio Grande River. Aquifer recharge is slow because of the high demands put on them. The salinity content of the water is 1/2 that of seawater. Municipal water contains the least, 400 parts per million.

In the summer, 2.8 times more water is used than in the winter. As the water is used up, lower quality water is left. The annual precipitation rate is only seven inches.

And then there's the wind.

It blows so hard at times it kicks up enough dust to cause motorists to drive with their lights on in the middle of the day just to get through the mirky brown/red shroud. It also boosts the evaporation rate up to as much as two inches a week and erodes soil.

The city, though, if nature cooperates, is getting by. The Water Utilities Public Service Board is also trying to ensure its water supply.

Hugh Hickerson, general manager of the WUPSB, said the city is involved in litigation with New Mexico to try to get more groundwater from that state.

"They (New Mexico) have seven to 10 times the amount of good water El Paso has," Hickerson explained, "but because of a New Mexico state statute, we cannot use any."

The board is also building a \$30 million purification plant that, according to Hickerson, will get effluent to "drinking water quality." By the time the plant is completed in early 1985, the residents of El Paso will be drinking treated sewage water.

The Water Utilities Board has also instituted a program among homeowners for using low-water use, native plant materials. Currently 15,000 single family homes are using this type of plant material.

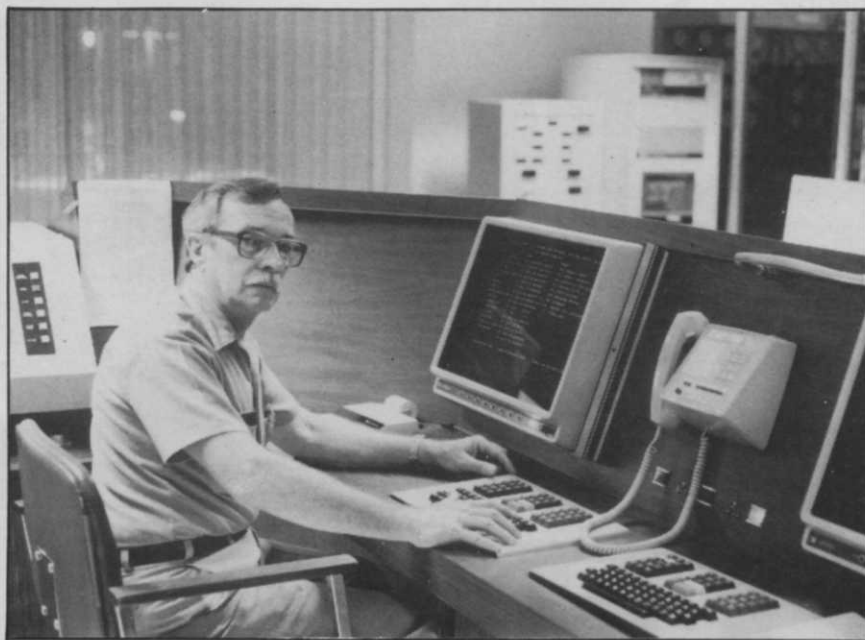
## Desalting an institution

Pat Berger has another type of problem—sodium; not on his lawn, but on the 79-year-old El Paso Country Club.

Rings of salt left from well water dot areas of the course and deposit themselves on the sides of creek beds. The 31-year-old superintendent has his hands full with the 120-acre course. He taps his foot with nervous energy against his metal desk in the maintenance office as he talks about beginning a \$1.2 million renovation program, scheduled to be completed in 1986 or '87.

## A unique situation

Having worked in Arkansas and New York, Berger characterizes the El Paso area as, "like no other place I've been.



Jim Dalby, utilities service coordinator for the Dallas-Ft. Worth airport.



# Citation II · Birdie II · Omega II CBS II · Manhattan II

*Introducing a new generation of stem rust resistant, lower maintenance, darker green, better mowing, drought and wear tolerant perennial ryegrasses.*



*These flag leaves show the genetic improvement of Turf-Seed's IIs.*

## Citation II

- High in endophyte (insect resistant)
- Attractive dark blue-green color
- Improved crown and stem rust, leaf spot and brown patch resistance
- Better heat tolerance and mowability than older ryegrasses

## Birdie II

- Improved disease resistance
- Rich blue-green color
- Better insect, leaf spot and brown patch resistance
- Highest rating for red thread resistance
- Topped turf trials in Hubbard, 1983

## Omega II

- Increased tiller density
- Darker green color
- Improved mowability over older ryegrasses
- Improved leaf spot, brown patch, stem and crown rust resistance

## CBS II

brand turf-type perennial ryegrass mixture, with advantages of all three II's. The only ryegrass blend offered that is stem rust resistant. Whichever you choose, you just can't lose!

## Manhattan II

- Finer leaved than Manhattan
- Improved mowability
- Darker green
- Highest tiller density of perennial ryegrasses
- Improved leaf spot, brown patch, stem and crown rust resistance



These Turf-Seed varieties qualify for our blue tag redemption program. Ask your distributor for details.



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What doesn't get watered here doesn't grow."

"Our temperatures can fluctuate 40 degrees between evening and morning," he says. "But sodium is our biggest problem."

There's also a heavy amount of calcium build-up effecting the rate of change of the soil's Ph factor, according to Berger. The Ph range is high (8 to 9).

Berger has a systematic plan for the renovation which includes getting the grass developed first — greens, tees and fairways. His course is predominantly bermudagrass with bentgrass greens.

Another priority is installing a new, \$650,000 irrigation system which will pump 781,000 gallons a night. His water supply is stored in four storage lakes.

"We waste no energy getting water," he said. "We pump right into the system."

Currently, Berger has a quick-coupler system with water supplied from the Rio Grande and the city water sys-

**Salt deposited** along the sides of a trench at El Paso Country Club.

## What makes a Cushman turf vehicle worth the investment:

---

Turn your crew's walking time into working time.  
It's the fastest way to increase productivity.

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If you stop to figure how much time your crew spends every week —just walking—you'd probably be shocked.

You'd also understand the economics of taking your crew off their feet and putting them into one of our tough turf vehicles.

Take the Cushman Runabout®, for instance. It carries two workers and up to a half ton of fertilizer, sand, sod or supplies.

The Runabout's 18-hp engine features a 4-stroke cycle for extra torque and longer life (a 12-hp model is also available).

For smaller needs, and budgets, consider the Cushman Turfcart™. It too can transport a pair of workers at up to 14 mph. And there's cargo space for rakes, hose, trimmers or up to 250 pounds of other supplies. The sturdy 7-hp engine can run all day on just a little gas. And a sealed-beam head-

light lets the work continue into the night.

### **A free demonstration.**

Of course the best way for you to learn about the Cushman Runabout and Turfcart is to see them in action. Right on your own grounds.

To do that, contact your Cushman dealer or call toll free **1-800-228-4444**.

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CUT4-2045



tem. The club's water allocation from the Rio Grande lasts about seven months. It is quality water, but some weed seeds do filter in. The sodium, level, however, is acceptable. In the winter, he uses well water which contains more salt. The Rio Grande supply depends on the Colorado and New Mexico snowpack melt.

"If Mother Nature is good to us, we get a bountiful supply."

Berger said his present irrigation system is more like a homeowner system. "Our new one will be solid state," he explained. "It will eliminate 90 percent of our current irrigation problems."

Another 20-acre foot lake will be built to increase storage capacity because water is not always available when you may need it. It is being built close to the pump house to be more energy efficient. Another lake will be doubled in size. Berger plans on taking out half of some large cottonwood trees planted by one of his predecessors along one of the lake's edge.

"We'll save about 250 gallons of water per tree. The golfers will still have a canopy and I'll be able to develop specimen trees and get the added water benefit."

There's not much Berger can do

about eliminating the wind.

"From mid-February to mid-May we have very windy weather. We built three greens in-house and the first day we seeded, we had 70 mph Santa Ana winds. It was terrible."

With the wind, as much as 1/32nd of the soil surface can be lost.

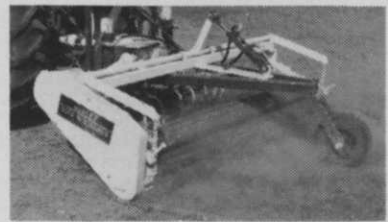
Because of the wind, Berger said having a more natural golf course to save water needed by trees and turf is impossible.

"The sand blowing would cause golfers to have to wear goggles," he claims. "It would become an unplayable situation." **WT&T**

**Next month: Part II—Thirsting for Answers...the Solutions.** The water situation can be turned around with increased research into low water use turfgrasses and ornamentals, Green Industry Association involvement and more efficient equipment from irrigation companies. Next month, WEEDS TREES & TURF will explore those areas in the second and final part of "Thirsting for Answers."

*(Editor's note: Special thanks to Ed Portmann, Portmann Communications, Inc., Irvine, CA; Cindy Martin, City of Boca Raton, FL; and Dr. Ricks Pluenneke, The Plant Pro, Ft. Worth, TX.*

## NEW ... HARLEY Double Roller Landscape POWER RAKE



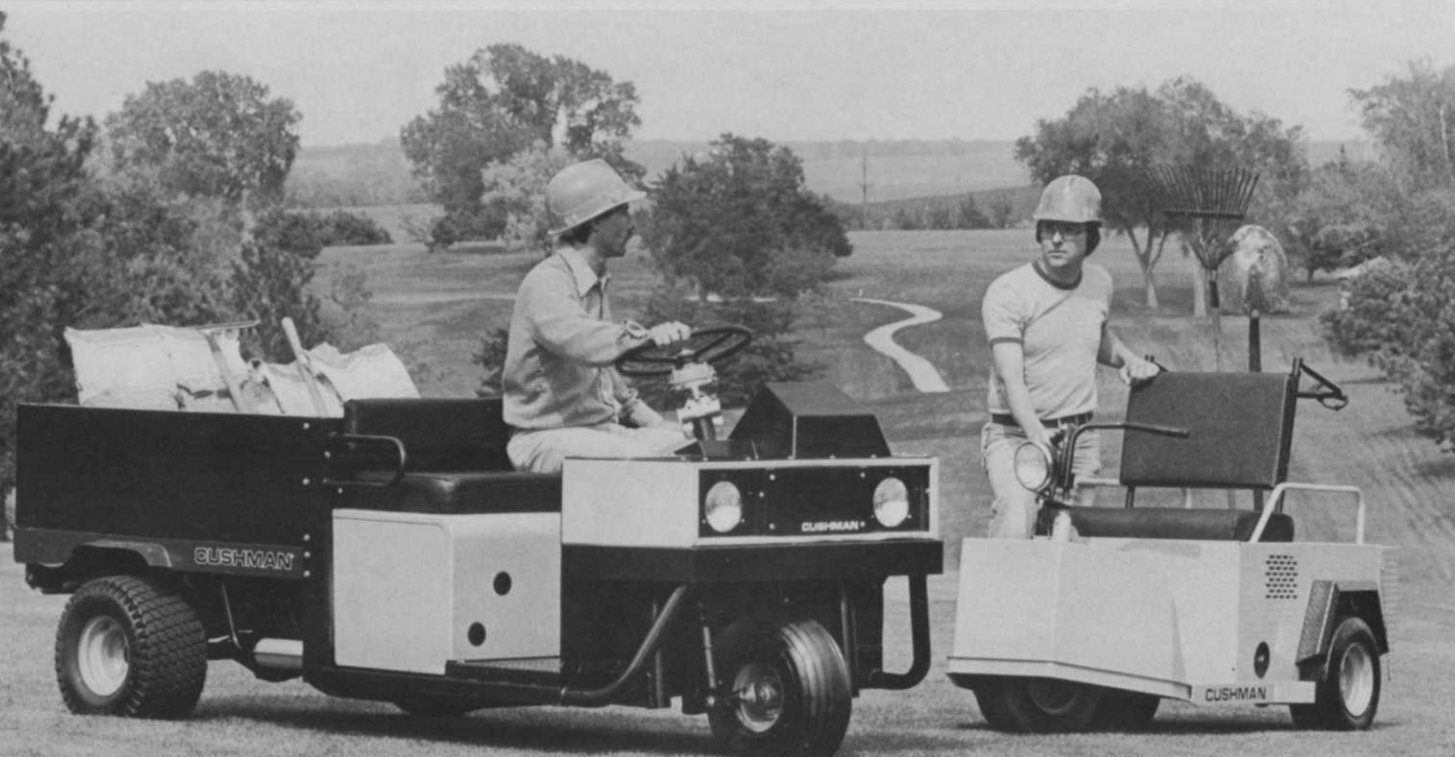
**PULVERIZES, LEVELS & RAKES** ROCK, roots and other trash. Double Roller gives deeper penetration and allows moving of several windrows into one for faster pickup. **New scarifier.** Also ask us about Harley Rock Pickers.



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# CUSHMAN

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*It works harder because it's built better.*

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JULY 1984/WEEDS TREES & TURF 59

**Palmer** is a leafy, turf-type ryegrass of medium maturity. It is capable of producing a persistent, dense, attractive, medium low growing, fine textured turf with a bright, dark green color. Palmer has shown good resistance to many races of crown rust, very good resistance to Rhizoctonia brown patch, and moderately good resistance to winter brown blight. This variety has shown moderate resistance to some species of sod webworm and has shown good winter hardiness. Palmer has exhibited improved mowing qualities, heat tolerance, and summer performance characteristics. The variety has excellent seedling vigor and good wear tolerance. Palmer originated from germplasm collected from old turfs in Maryland, New Jersey, New York, Pennsylvania and Greece.

**Pennant** is an early maturing variety currently being produced by E. F. Burlingham and Sons, Forest Grove, OR. This variety has relatively good mowing qualities and an attractive bright, moderately dark green color. It produces a medium-fine textured turf with medium-high density and a reduced rate of vertical leaf growth. Pennant has good heat and shade tolerance and moderately good cold hardiness. It appears to require somewhat less nitrogen fertilizer for good performance than most other ryegrass varieties. Pennant has good resistance to Rhizoctonia brown patch, and moderately good resistance to winter brown blight, dollar spot and some races of crown rust. This

variety also has good resistance to billbug and some species of webworm. Pennant was selected from an old lawn in College Park, MD.

**Pennfine** is an early maturing variety developed by the Pennsylvania Agricultural Experiment Station. It has been a very popular variety and since its release in 1972 has been the most widely used cultivar. It is a moderately low-growing turf-type variety with a moderately dark green color, medium fine texture and a medium density. The variety has moderately good resistance to Rhizoctonia brown patch, Typhula blight and some races of dollar spot. It is susceptible to the winter brown blight disease. Pennfine has shown good heat tolerance and medium cold hardiness. It has relatively good mowing qualities except during late spring when the turf becomes stemmy.

**Prelude** is an early maturing, leafy, turf-type ryegrass capable of producing an attractive, persistent, low growing, fine textured turf of medium high density and a bright dark green color. It has shown very good resistance to Rhizoctonia brown patch and many races of crown rust, good resistance to winter brown blight, and moderate resistance to red thread and pink patch. It has shown good winter hardiness and improved summer performance. Mowing qualities of Prelude are better than most varieties currently available. It has good tolerance to close mowing, shade and heat. Prelude has shown medium good resistance to some species of

sod webworm in New Jersey.

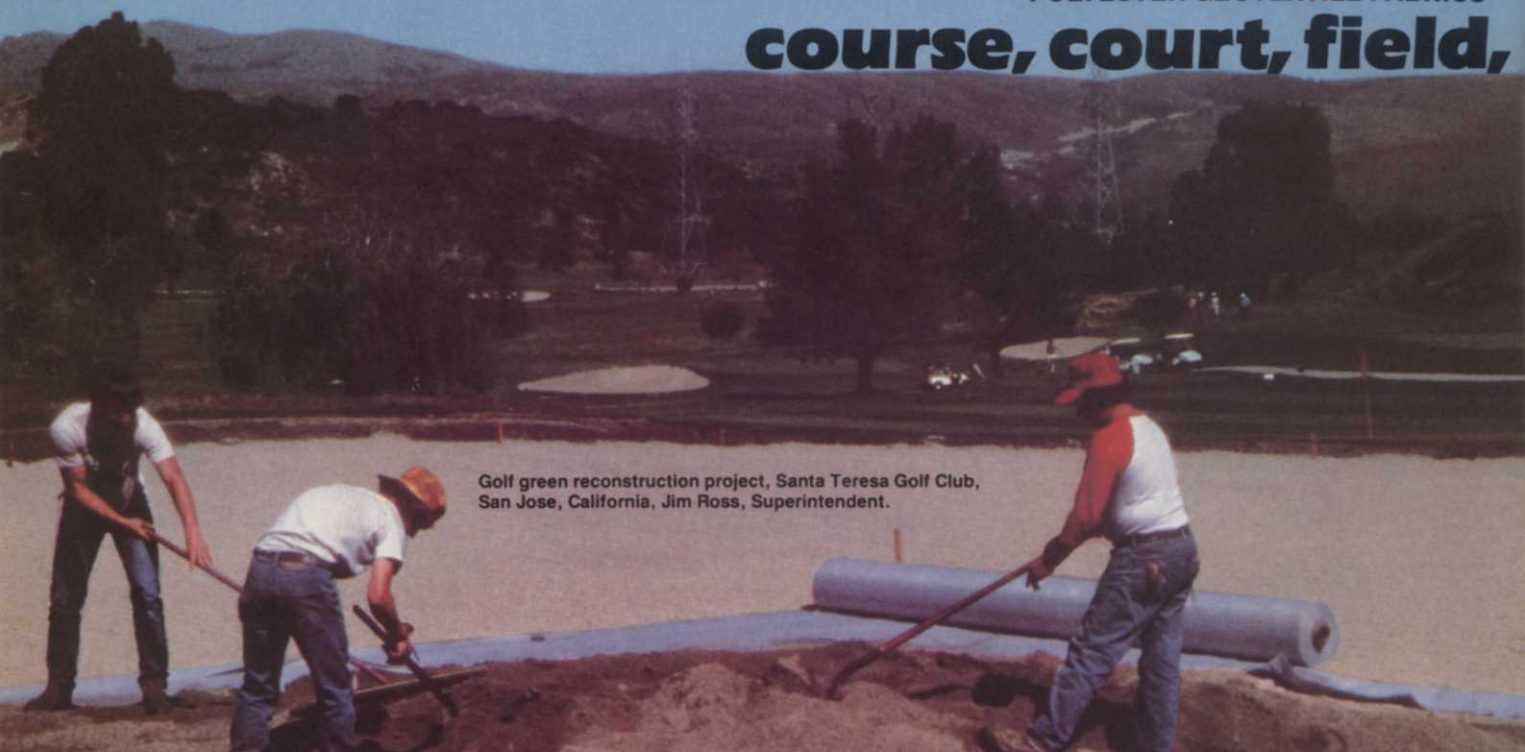
**Premier** is an early maturing, persistent, low-growing, turf-type ryegrass with an attractive bright dark green color, medium fine texture, and improved mowing qualities. It has the excellent seedling vigor, wear tolerance, and wide range of soil adaptation characteristic of the best turf-type perennial ryegrasses. This variety has good cold hardiness and improved heat tolerance. It has shown good resistance to the Rhizoctonia brown patch disease and improved resistance to winter brown blight, dollar spot, and crown rust.

**Regal** is an early maturing ryegrass developed by International Seeds Inc. of Halsey, OR. Regal is a turf-type variety with a dark green color, medium fine texture and medium density. It has medium cold hardiness and good heat tolerance. Regal has shown good resistance to dollar spot, Rhizoctonia brown patch and billbugs. It is susceptible to brown blight and crown rust. Regal mows well except during its stemmy reproductive period in late spring.

**Repell** is a leafy, turf-type perennial ryegrass capable of producing a persistent, dense, attractive, low-growing turf of a bright, dark green color. This cultivar has shown good resistance to large brown patch disease incited by *Rhizoctonia solani* Kuhn, winter leaf spot disease caused by *Drechslera* spp., and many races of crown rust. Repell shows promise of excellent performance in both full sun and in light to

## A Warren's Turf Pro Report...

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Golf green reconstruction project, Santa Teresa Golf Club,  
San Jose, California, Jim Ross, Superintendent.

Warren's TerraBond Polyester Geotextile Fabrics are ideally suited for a broad range of sports-related and landscaping applications—greens construction • sandtrap lining • sports field drainage • as under layments for the new, high-drainage artificial turfs • gravel

path lining • shore line erosion control • pond lining • access road stabilization • retaining wall filtration • riding arena and paddock stabilization • golf greens covering • weed control • and many others.