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.
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.

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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 Bermudagrass.

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

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(Naturals 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
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0045 ☐ Cemeteries/memorial gardens
0050 ☐ Military installations & prisons
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0140 ☐ Other contractor or service (please specify)

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

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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 turfgrass 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.

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Texas Turf Irrigation Association and gators and under the Department of Texas has one of the most advanced Water Resources, went into effect. It the Texas Board of Landscape Irrigation, 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 Irrigation Tech 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.

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.

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

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- Better heat tolerance and mowability than older ryegrasses

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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:

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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 headlight 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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system. 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."

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.)
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 hardness. 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. Burchingham and Sons, Forest Grove, OR. This variety has relatively good mowing qualities and an attractive bright, moderately dense, 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 turf-type varieties. Pennant has good resistance to Rhizoctonia brown patch, and moderately good resistance to winter brown bright, 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. 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 hardness and improved summer performance. Mowing quality 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 hardness 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 moderate shade.