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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: \_\_\_\_\_



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## **New Du Pont Landscape Fabric. It lets water through to give you healthier beds with less work.**

New DuPont Landscape Fabric lets water pass through, reduces wash-away of mulch while it impedes weed growth. So you get healthier, more attractive plant beds with less maintenance work and cost.

Everything you apply for bed care gets to plant roots in the amount you want, where you want it. Water, fertilizers, herbicides and pesticides seep down through this chemically inert fabric to nourish and protect every plant in your bed.

DuPont Landscape fabric is easy to put down with scissors or knife. It comes in four roll sizes from 3- to 12-feet wide.

Call 800-441-7517 for the name of the nearest distributor and more information about DuPont Landscape Fabric. Or write DuPont Company, Room G-40955, Wilmington, DE 19898.

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# ESTECH SECRET NO. 6

“Korea's leap years.

The years, 1964 to 1984. The country, Korea. And the company that helped this war-torn nation leap 100 years in agricultural technology, ESTECH.

Through our joint venture in the Yong-Nam Chemical Company, ESTECH continues to help Korea make major advances in fertilizer production and farming technologies.

Perhaps an even more important part of our venture is its sponsorship of a Korean organization already quite familiar to American children: 4H. To make sure these strides keep right on happening.

So why keep quiet when there's so much to tell? That's the secret of our success...

At ESTECH,  
we don't talk.  
We just do.”

**Estech, Inc.**

We'll share some equally revealing secrets  
about Professional & Commercial Fertilizers.  
Call Irv Stacy, National Sales Manager, Par Ex 813/533-1181

ate hard copy and transmit orders to Jacobsen.

Betker reports that since being introduced six months ago, nearly 50 percent of Jacobsen's U.S. distributors are now part of the REACT network with the remainder coming on stream according to the plan.

“With spare parts being of vital importance to turf and grounds care people, we wanted to assure rapid delivery using the best techniques modern computer technology has to offer,” Betker said.

## TURFGRASS

### **Heart attack claims U of C's Youngner**

Dr. Victor B. Youngner, professor of agronomy at the University of California, Riverside, died April 18 of a heart attack. He was 61.

Youngner was well-known in the turf industry for his work with zoysia grass. This year, another one of his zoysia's, El Toro, will be released.

A native of Nelson, MN, Youngner received his B.S. degree in horticulture, ornamentals and landscape design and his Ph.D in plant breeding and plant genetics from the University of Minnesota.

In 1955, after being a flower and vegetable breeder, he went to UCLA and began turfgrass research. Ten years later he went to the Riverside campus.

“Teaching is not one of my priorities,” Youngner told WEEDS TREES & TURF shortly before his death. “I've always been a researcher.”

One of his former students and colleagues, Dr. Kent Kurtz, a professor of horticulture, Cal Poly, Pomona, said Youngner was “a great person, extremely helpful and very patient, who thought a lot of his colleagues.”

Kurtz is currently working with 12 of Youngner's cultivars.

## EQUIPMENT

### **Deere builds millionth tractor**

John Deere completed work on the company's one millionth lawn and garden tractor on May 1 at its manufacturing plant in Horicon, WI.

The millionth tractor was an 18 hp model 318.

Production of lawn and garden tractors began at Horicon in 1963 when John Deere built 1,000 units. The first tractor was a 7 hp model 110 that's now on display at the Smithso-

# UNBEATABLE CUT, UNBEATABLE PRICE.

## INTRODUCING THE LOCKE PROFESSIONAL.

Locke, the name that revolutionized the home landscape industry with the technologically revered triplex reel mowers, is making news again!

Introducing the new Professional. The first Locke mower designed especially for large grounds where a precision cut is mandatory, like golf courses, playing fields and other fine grounds.

### THE FIRST REEL MOWER WITH A REAL DIFFERENCE.

Up until now, the only way to get a superior, high-quality cut was to buy an expensive hydraulic reel mower. The Locke Professional has changed this.

The Professional has a proven mechanical cutting system that delivers a great looking turf that is sure to meet the standards of even the most discriminating golf course superintendents.

Incredibly, the Professional delivers this unbeatable cut at an unbeatable price. With the Professional, you can save thousands of dollars versus the cost of hydraulic reel mowers.

### BUILT STRONG FROM THE INSIDE OUT.

One look at the Locke Professional and you know it was built with extraordinary quality...engineered for reliability and durability.

The Professional offers a broad range of features designed to give you maximum performance:  $\frac{3}{8}$ - $2\frac{1}{2}$  inch cutting height, up to 87 inch cutting width, grass catchers and micro-reel adjustments. Features that will help you cover more ground in less time.

If you're considering a new mower, discover the reel mower with a real difference. Discover the Locke Professional and get an unbeatable cut at an unbeatable price.



Professional Quality Reel Mowers



Contact Locke for your local authorized dealer, today,  
at (203) 333-3157, 1100 Boston Avenue, Bridgeport, CT 06610

Circle No. 252 on Reader Inquiry Card

## UPDATE

### EPA registration holdup lags

At presstime, there still is no decision from the Supreme Court on the Monsanto/EPA data compensation case. This one case, heard months ago by the Court, is slowing registration of new uses and pesticides.

Chemical companies are not satisfied with the way EPA law judges have been figuring compensation from "me-to" registrants to data originators. EPA has told the Court data submitted for registration purposes becomes the property of EPA and not the applicant. Meanwhile, registration applications based upon data developed by companies other than the applicant, are frozen and some previous "me-to" registrations are being nullified.

Chemical companies want protection for the years and millions of dollars they spend to get a chemical to market. One ray of hope is a bill by Representative Michael Glickman (R-OH) which, if passed, could add five more years of patent protection for chemicals. This will make up for patent years lost in the EPA registration process and is supported by the National Agricultural Chemicals Association.

### Groundwater causes new testing

Concern over groundwater contamination is the reason EPA asked recently for additional data on 84 pesticides, including many landscape herbicides, fungicides and insecticides.

Chemical companies without this data, may have to perform up to eight additional tests to keep their products registered.

Environmentalists are pushing EPA to fill gaps in pesticide data. EPA Assistant Administrator for Pesticides and Toxic Substances Dr. John Moore expects nearly ten percent of the pesticides needing more data will be voluntarily cancelled.

Moore said products with poor groundwater test results will face geographic restrictions and companies failing to supply the new data will find it hard to obtain registration for new uses.

### Local pesticide regs get bounced

Some local pesticide laws are being struck down in Court on the basis pesticide regulation is limited to state and Federal agencies.

The Pesticide Public Policy Foundation (3PF) has revealed laws in Brooklyn, NY, requiring application permits, and in Mendocino County, CA, banning aerial applications, were struck down by Appellate Courts.

These early rulings will set precedent for future decisions. 3PF, which keeps track of pesticide legislation nationwide, believes local agencies are too political and only state and Federal agencies are empowered to regulate pesticides. Those confronted with pesticide regulatory problems can contact 3PF by calling 1-800-GET-PPPF.

nian Institute in Washington, D.C.

It took the company 14 years to reach the half-million milestone on Jan. 12, 1977, but only seven years to build the next half million tractors to reach the one million mark this year.

Mark Rostvold, director of consumer products marketing at John



Deere, said the rapid increase in production numbers results from several trends.

"We're designing more kinds of mowing equipment today to provide greater versatility and a wider selection of features and prices. In the late 1970s we offered only one model lawn tractor for example, while today we have seven.

Raymond E. Gregg Jr., general manager of the Horicon Works, said that the factory has grown with increasing sales.

"Plant area has increased by 81 percent and average yearly employment has more than doubled over the years. The Horicon Works has become one of the most profitable factories in the John Deere system, while becoming the largest manufacturer of lawn and garden tractors in the world."

### TREES

#### Arboretum curator retires from Secrest

John E. Ford, curator of the Secrest Arboretum, Wooster, OH, retired in February.

Ford remains an active member of a number of professional organizations. These include the Society of American Foresters, American Horticulture Society, American Association of Botanical Gardens and Arboreta, Ecological Society of America, Holly Society of America, and National Audubon Society.

In 1976, Ford was one of the 200 U.S. citizens selected by the Royal Horticultural Society of England to receive a Fellowship in the Society in honor of the American Bicentennial. Those selected were eminent horticulturists, botanists or representatives of leading American horticultural institutions or organizations.

**“We’ve put them to the test:  
Sta-Rite submersibles are proven the best  
for our golf course installations.”**

EDWARD A. ETCHELLS,  
President, Golfurf, Inc.  
A Jack Nicklaus Company

“We’ve had Sta-Rite submersible turbine pumps thoroughly tested and find them to be ideal for golf course water systems,” says Etchells. “Their deep, underground installation puts an end to distracting pump noise, and their reliable, maintenance-free operation puts an end to continuing pump service programs.”

Sta-Rite, in its 50th year, has produced over 8,000,000 pumps for irrigation, industrial and household water systems, and has earned an international reputation for quality and dependable performance. Sta-Rite has the Know-How. That’s what’s made them the leader!



**S**  
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STA-RITE INDUSTRIES, INC., 293 Wright Street, Delavan, WI 53115 (414) 728-5551.





*Small beads of sweat began to collect above Pat Berger's eyebrows.*

*The sun glinted off the powdery white earth as the superintendent of the El Paso Country Club wet his index finger and touched it to the salty white Texas soil. He put the salt-covered finger to his lips and smiled and shook his head.*

*"I could scrape this stuff up and put it in my salt shaker at home," he said.*

*The water spewing out of the sprinkler head looked awfully inviting to the thirsty deliveryman. He bent down and let some of the cool liquid splash his face and roll down his throat.*

*Duane Janssen still chuckles when he tells the story of what happened next.*

*"You should've seen his face when I told him he was drinking effluent (treated sewage) water," says the Southwest Texas golf course superintendent.*

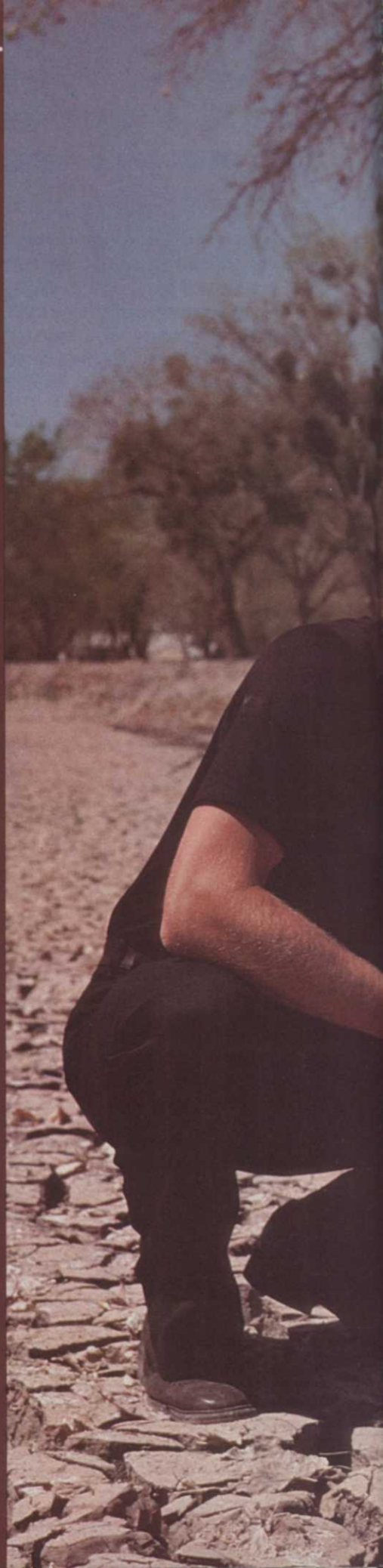
*When the unwary deliveryman found out what Janssen was watering his course with, he quickly made tracks to the nearest convenience store for a Coke.*

*How do you convince a client to spend an extra \$80,000 for straw mulch on a golf course in the name of water conservation? Golf course architect Michael Hurdzan was up against just that.*

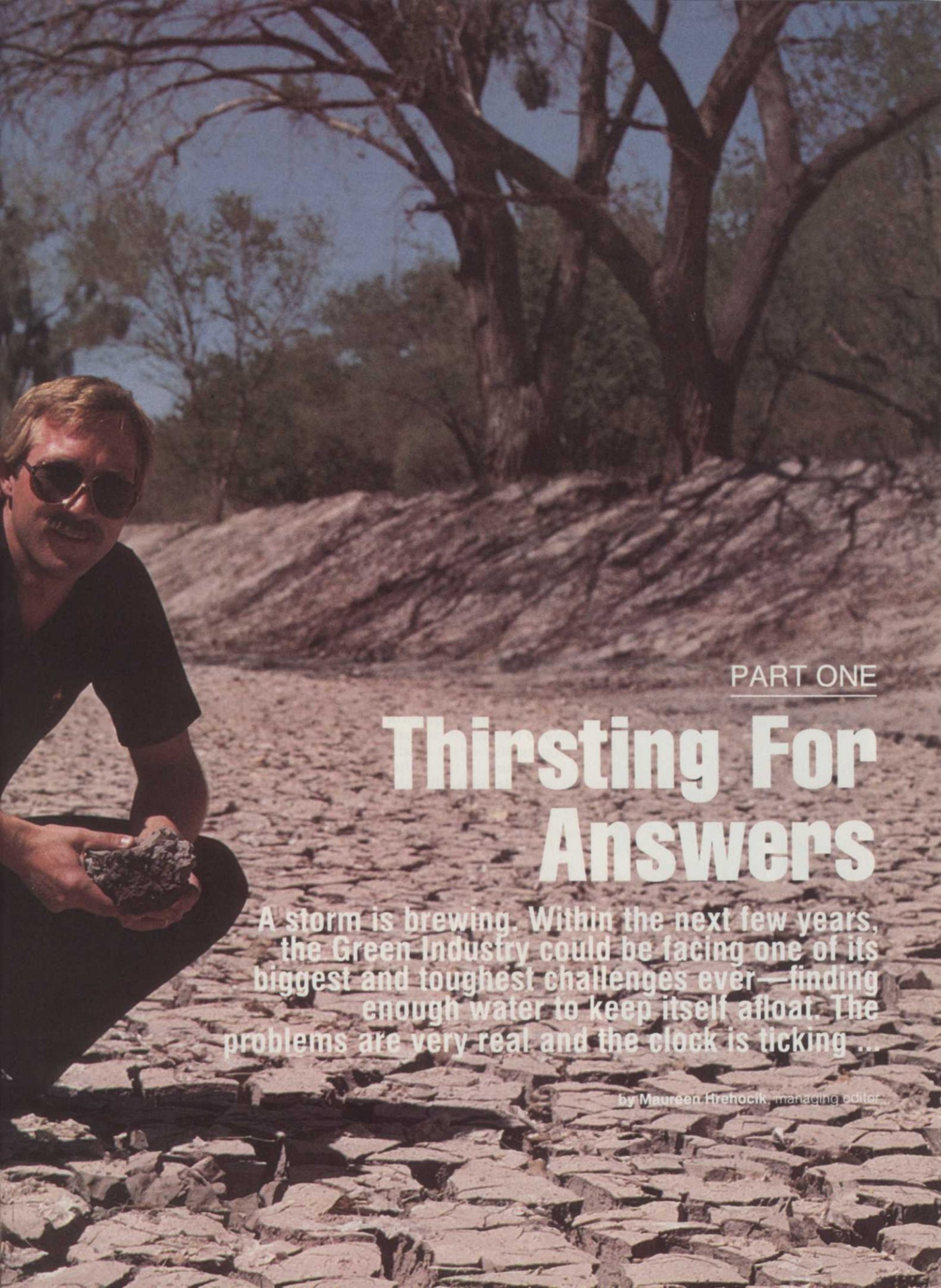
*"It's sometimes hard to explain that the benefits will be realized down the road and not necessarily initially," he explained.*

*The New England club consented, though, not only to the \$80,000 for straw mulch but also to \$60,000 to divert driveways into a central retention pond to collect rainwater. The club has also adopted other water conserving practices.*

*Pat Berger, Superintendent,  
El Paso Country Club*





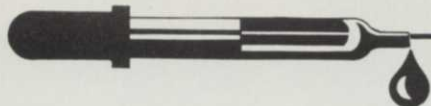


PART ONE

# Thirsting For Answers

A storm is brewing. Within the next few years, the Green Industry could be facing one of its biggest and toughest challenges ever—finding enough water to keep itself afloat. The problems are very real and the clock is ticking ...

by Maureen Hrehocik, managing editor



**S**alinity, effluent, water conserving golf course design—only three of a myriad of factors affecting a shrinking, and often-times mismanaged, resource—water.

For the multi-billion dollar Green Industry, water use, quality, quantity and conservation is the lifeblood coursing through its veins.

Golf course superintendents, landscape contractors, landscape architects, irrigation contractors and companies, seed growers, arborists, equipment manufacturers, turf associations and landscape managers are all inextricably bound together by water—and we are using it up and polluting it faster than nature can replenish and purify it.

Couple this with the ominous threat of water rates tripling, quadrupling or going even higher in the next five years and the urgency presents itself loud and clear at our doorstep.

*But are we listening?*

Slaking the thirst of urban as well as agricultural customers is becoming an increasingly important priority.

A resource that has always been available at the flick of a faucet, that has flowed with unbridled force down the nation's riverbeds and that filled the cavernous underground aquifers, is diminishing—the end result of waste, burgeoning populations and a sometimes uncooperative Mother Nature.

Aurora, Colorado, for a few years has had not only local ordinances restricting water use for lawns, but also the size of the area that can be planted in grass. Five years ago Arizona's golf courses were sucking up more than 160 million gallons of water a year.

## Enough water, but ...

The United States as a whole has adequate supplies of water. Regional and local shortages, though, are an imminent possibility.

No one can guarantee where rain will fall. No one can predict how large the snowpack will be. Nature holds all the cards and trying to predict good weather is like trying to draw to an inside straight.

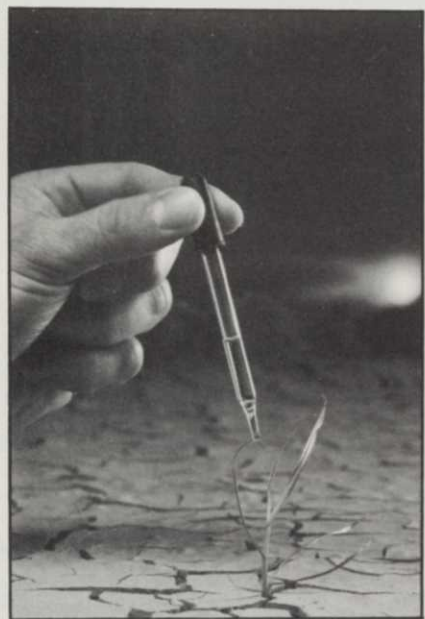
The problem, while more severe in certain areas, is by no means limited to one part of the country.

In this issue, WEEDS TREES & TURF will take a look at a few of the facets of this multi-faceted problem—salinity, use of reclaimed water, use of effluent, and golf course and landscape design in three key geographical areas where water is critical—Texas, Florida and California. (These three states alone, and Idaho, account for 25 percent of the water used nationally.)

Next month, we will look at some solutions to the water crunch through turfgrass research, concern by irrigation companies and involvement by Green Industry associations.

The overall picture, while serious, looks hopeful, mainly because of the far-sightedness of Green Industry individuals and associations. The problem, however, is by no means solved.

The greatest challenge, that of implementation and additional research, yet remains. If not met, the future of many businesses, livelihoods, recreational areas and our standard of living itself, could, literally, be slipping down the drain.



## Thirsting For Answers

**T**he flood of statistics is staggering. Human consumption of water is a drop in the bucket compared to the whopping 80 percent swallowed up by agriculture in the United States; that translates into 210 of the 450 billion gallons a day used. That 80 percent figure includes much of the water consumption needed by the Green Industry.

You've heard the figures before, but the numbers speak for themselves: It takes 3,000 gallons to irrigate a 5,000-square-foot lawn to one inch, 120 gallons to produce an egg, 300 gallons to produce a loaf of bread, 4,000 gallons to produce a pound of beef.

On the average, it takes about 1,000 gallons to produce each pound of food we eat. Even before packaging, a McDonald's Quarter Pounder takes up 1,427 gallons.

Personal activities, such as flushing the toilet, taking a bath or doing the wash accounts for about 100 gallons a day per person.

Water makes up only 1/10th of 1 percent of the earth's mass. Of that amount, less than 1/2 of 1 percent can be used for human consumption. Most of the world's water supply is locked in oceans (97 percent), polar ice caps (2.2 percent) and under-

ground water reserves too deep to tap (.3 percent).

Nationwide, we are drawing on groundwater resources at a rate of more than 30 trillion gallons every year for agricultural, industrial, municipal and domestic uses.

The Ogallala aquifer is the largest in the world, 800 miles long, 400 miles wide and is located below eight mid-western states. Its peak 650 trillion gallons of water continues to be depleted.

### Largest user

Irrigation is the largest consumptive user of water. Per day, 73 billion gallons is taken up by vegetation and transpired as vapor into the atmosphere.

The U.S. Department of the Interior reports the waste and loss of water from public and irrigation supplies is large. About 20 percent of the water withdrawn from public supplies and about 17 percent of that withdrawn for irrigation use is lost before being used, mainly through leaking pipes, mains and irrigation ditches. Altogether, such water losses in just these two categories account for an average of almost 30 billion gallons per day.

*continued on page 22*