

# DURSBAN INSECTICIDES

## For low cost insect control, use DURSBAN insecticides.

DURSBAN® brand insecticides control over a dozen major turf insect pests—including chinch bugs and sod webworms—more insect control for less money than any other turf insecticide. That's reason enough to use DURSBAN 2E or more concentrated DURSBAN M insecticides in your turf insect control program.

If you want other reasons, consider that DURSBAN insecticides give many weeks of effective insect control. And they are easy to apply.

DURSBAN insecticides mix easily with water. Just mix and spray. They are also available from selected custom formulators as a granule and as a dry fertilizer mixture.

Whether it's for broad-spectrum, effective control . . . or low cost . . . make DURSBAN insecticides part of your turf program now. Just read and follow all label directions and precautions.

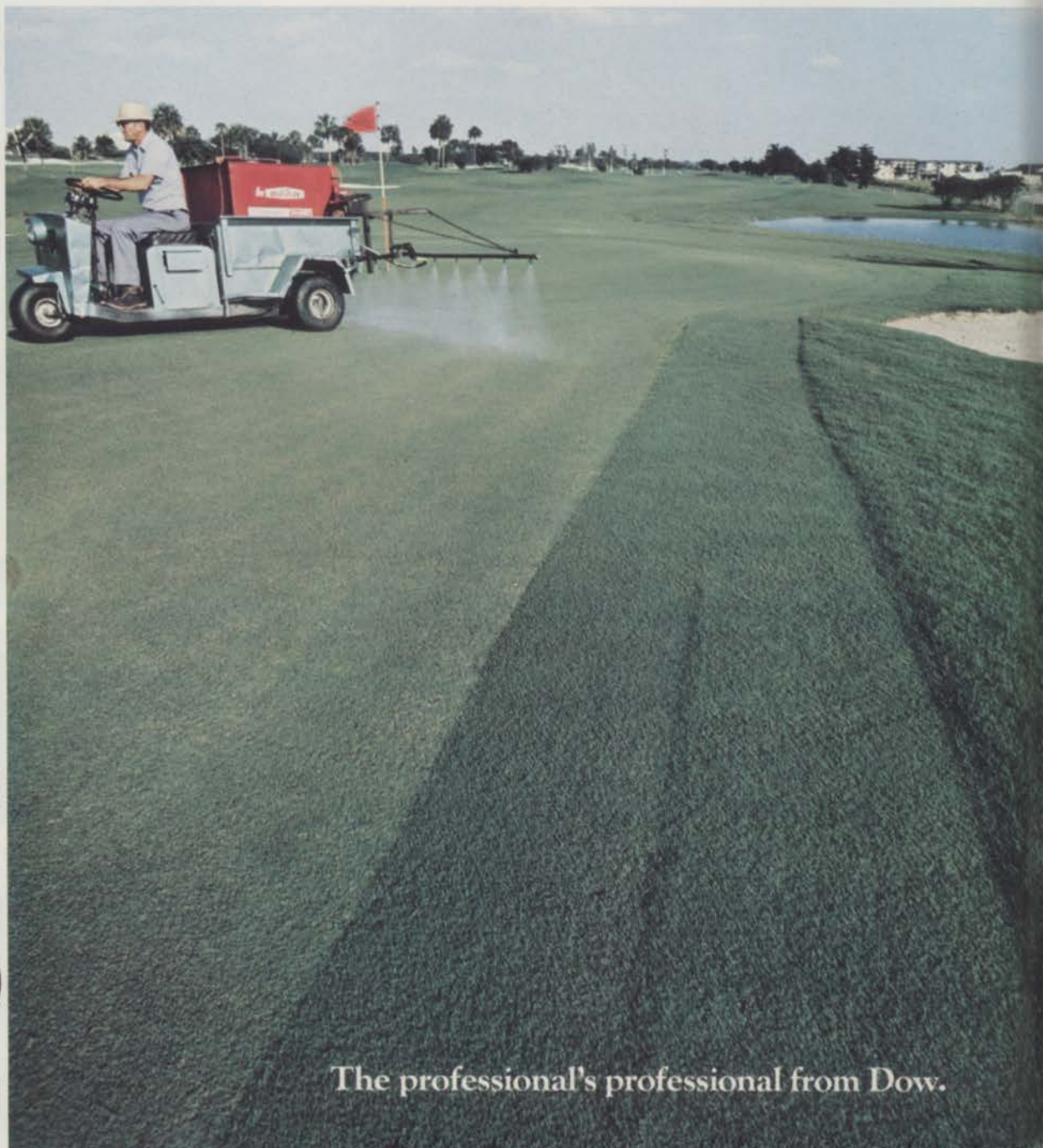
Ag-Organics Department, Midland, Michigan 48640

Circle 106 on free information card



DOW CHEMICAL U.S.A.

\*Trademark of The Dow Chemical Company



The professional's professional from Dow.

# WEEDS TREES & TURF®

July 1976, Vol. 15, No. 7

**8 Fusarium Blight Symposium** — A 14-page symposium on a problem that should be hitting turf managers just about now — Fusarium blight. The symposium includes reports from seven of the top turf people in the country.

**12 Mr. Sod Retires** — Over 200 persons from all parts of the green industry went to Maryland recently to honor Parker Shirling on his retirement.

**17 Traveling Tree Man** — A short interview with Bob Felix, executive director of the National Arborist Association. He tells of the dialogue NAA has developed with the regulating federal government.

**18 Pine Beetle Battle** — Denver suburbanites in mountain valley subdivisions are having monumental problems with the mountain pine beetle. Over \$500,000 is being spent on its control.

**22 Not A Test Tube Rattler** — Dr. John Hall, turf man from the University of Maryland, moved this month to Virginia Polytechnic Institute and State University. He discusses the role of the researcher in the practical and business side of the green industry.

**26 Dutch Elm Disease Control** — This article presents major aspects of how Dutch elm disease is handled in the National Capital Parks system in Washington D.C.

**58 Copper Toxicity on Woody Ornamentals** — To aid nurserymen and landscape contractors in identifying copper toxicity on ornamentals, T. Davis Sydnor and Larry Kuhns of Ohio State University ran a series of tests documented by color pictures showing what problems can arise.

Government News .....	4	Industry News .....	60
Products .....	48	Classifieds .....	71
People .....	52	Advertisers Index .....	71
Meeting Dates .....	54	Trimmings .....	72

**The Cover** — Parker Shirling — Mr. Sod — was honored by his peers in the green industry as over 200 persons traveled to Annapolis, Md. for the fete.

Copyright© 1976 by The Harvest Publishing Company, a subsidiary of Harcourt Brace Jovanovich, Inc. Publishers of Pest Control, Weeds Trees & Turf, Golf-dom, Pennsylvania Farmer, Ohio Farmer, Michigan Farmer, Missouri Ruralist, Kansas Farmer. Books: Scientific Guide to Pest Control. 9800 Detroit Ave., Cleveland, Ohio 44102.

Member, American Business Press,  
Business Publications Audit



Single Copy Price: \$1.00 for current and all back issues. Foreign \$1.50. Subscription Rates: WEEDS TREES AND TURF is mailed free, within the U.S. and possessions and Canada, to qualified persons engaged in the vegetation care industry and related fields in controlled circulation categories. Non-qualified subscriptions in the U.S. and Canada are \$10.00 per year; other countries, \$12.00 per year. Controlled circulation postage paid at Cleveland, Ohio 44101.

**Robert E. Earley, Jr.**  
*Managing Editor*

**Bruce F. Shank**  
*Associate Editor*

**Eloise M. Ross**  
*Editorial Assistant*

#### BUSINESS STAFF

**Hugh Chronister**  
*President and Publisher*

**Richard J. W. Foster**  
*General Manager*

**Paul Baltimore**  
*Operations Director*

**Jack Schabel**  
*Circulation Manager*

**Dr. David Harmon**  
*Research Director*

**Dorothy Lowe**  
*Classified Advertising Manager*

#### EDITORIAL AND ADVERTISING OFFICES

**Headquarters:** 9800 Detroit Ave.,  
Cleveland, Ohio 44102 (216) 651-5500,

Richard J. W. Foster, National Marketing

**East:** 757 Third Ave., New York, N.Y.  
10017 (212) 421-1350, Russell B. Bandy,  
Regional Sales Manager

**Mid-Atlantic:** 9800 Detroit Ave., Cleveland,  
Ohio 44102 (216) 651-5500, Patrick J.  
Lamb, Regional Sales Manager

**Midwest:** 333 N. Michigan Ave., Chicago,  
Ill. 60611 (312) 236-9425, Jeff Ward,  
Regional Sales Manager  
Tourisse Greenfield (312) 337-7717

**West:** Graves/Snyder/Sandford,  
4311 Wilshire Blvd., Los Angeles,  
Calif., 90010 (213) 933-8408, William  
Snyder, Regional Sales Manager

# Government News

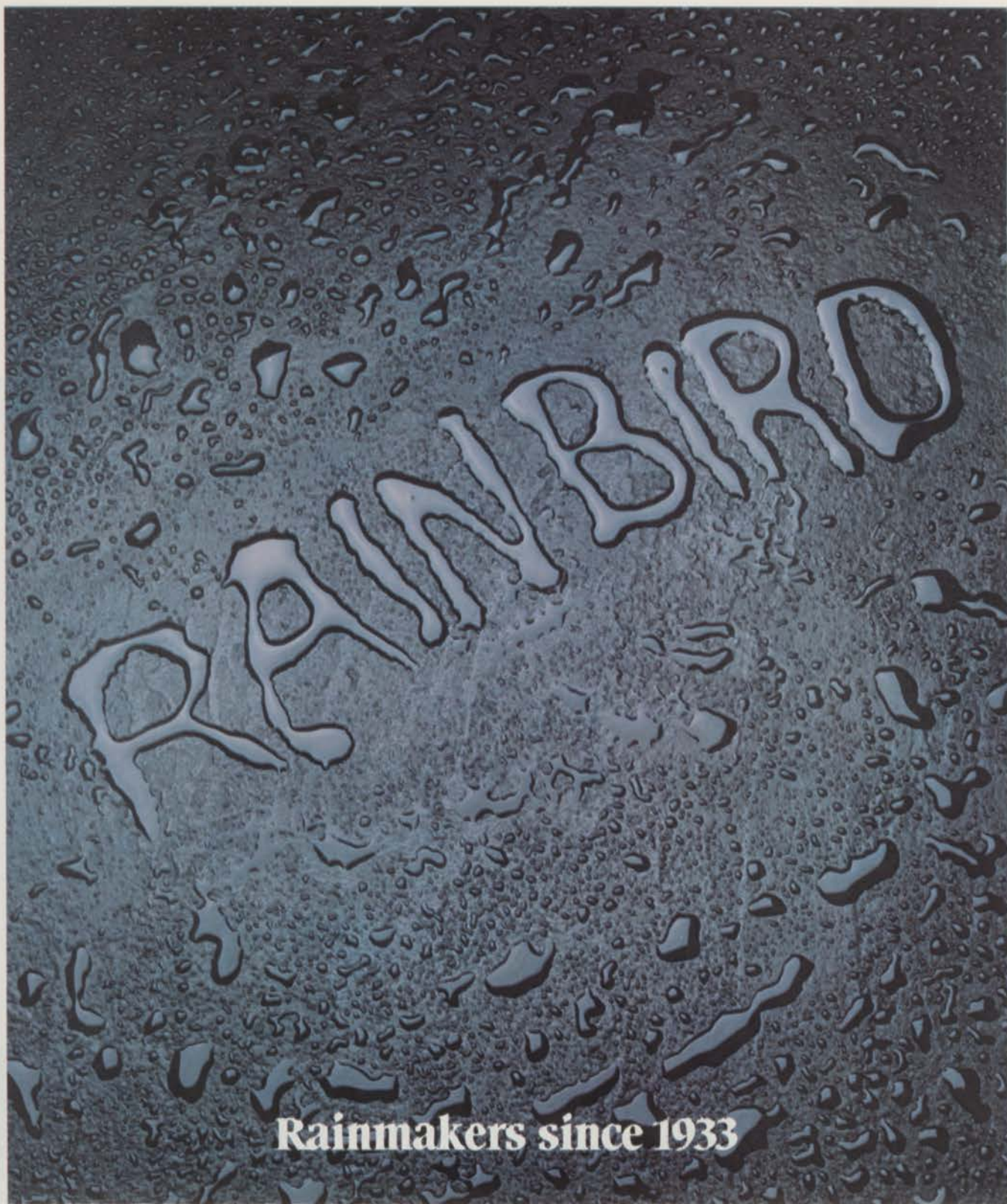
The federal Environmental Protection Agency has approved a new pesticide to treat Dutch elm disease, which is responsible for the deaths of over 400,000 trees every year. The new pesticide, produced by Du Pont Co., Wilmington, Del., is called Lignasan BLP. The company's application for registration of Lignasan was filed with the EPA March 1. Ordinarily, approval of a new pesticide takes five to six months, but EPA administrator Russell Train said, "EPA moved quickly to review this compound because of its importance." The pesticide is injected into the tree trunk just above ground level. While Lignasan is much more effective than other Dutch elm pesticides, it is not a complete cure for the disease, the EPA said. It is effective in preventing Dutch elm disease and usually cures the problem in trees less than five percent damaged.

A new insecticide that interrupts the growth process of the gypsy moth and causes its premature death is now available for use, the U. S. Department of Agriculture has announced. The department said the pesticide, Dimilin, has been registered by the Environmental Protection Agency for use against the gypsy moth, which now infests 11 Northeast states. Dimilin acts on gypsy moths in the caterpillar stage. Normally, when a caterpillar is ready to shed its skin, the body begins to produce chitin, which becomes a part of the insect's outer layer, or shell. Dimilin interferes with chitin production and causes premature death.

Opposition from business groups and the Ford Administration will kill minimum wage legislation for 1976. The gut issue that dooms the bill -- labor's demand for a formula mandating automatic hikes in the wage floor in future years. As it has taken shape so far, the bill would provide not only a minimum wage increase from the current \$2.30 an hour to \$2.75 but also a formula triggering increases tied to the Bureau of Labor Statistics' index of average hourly earnings.

The federal Environmental Protection Agency's ban on production of pesticides containing mercury for use on golf course greens and seed treatment has been moved to Nov. 30. The decision to delay the ban from June 30 (which was also a delay from earlier in the year) will allow time for courts ruling on several lawsuits filed by mercury producers challenging the EPA's decision. Mercurial pesticides have been linked to nervous-system damage.

The U. S. Tax Court was called upon to decide whether sod is "an exhaustible natural resource" on which depletion deductions can be claimed, or whether producing sod is more akin to farming. Tax law does not permit farmers to claim deductions on exhaustion of farm land. As the Internal Revenue Service saw it, sod is merely "grass to which a certain amount of topsoil adheres." But Meyers Turf Farm persuaded the court that selling sod involves losing "more than a few incidental morsels of topsoil." He said his land could only take 16 cuttings of sod before the topsoil would give out. This steady exhaustion is exactly what depletion is meant to cover, the court decided. It is not known whether the IRS will appeal the decision.



## Rainmakers since 1933

For 42 years, the expert on the green has been Rain Bird. It's the name that has come to mean the most complete line of quality equipment available, backed by the kind of reliability you've come to depend on. And to insure the maximum

return on your design, landscape and maintenance investments, we're always standing by with solid service support.

When you won't sacrifice 42 years of quality, leadership and service, call on Rain Bird. Rainmakers since 1933.

**RAIN BIRD®**  
Bringing new ideas to life.

For a full-color Rainmakers poster, write Rain Bird, 7045 N. Grand Avenue, Glendora, CA 91740

# The

# Standard.



Turf playability: it's your responsibility. When it's right, you know it. When it's wrong, everyone seems to know it. When a piece of you is on the line, you don't want to leave anything to chance. You want the dependability of proven programs and products: products that set the standard by which others are often compared — products like Acti-dione® turf fungicides. They've set an industry standard during their more than 20 years of continuous use without evidence of fungus resistance. And today, Acti-dione acceptance continues to grow. That's got to be proof of reliability. Shouldn't you, too, join the growing rank of professionals who rely on the standard, Acti-dione turf fungicides?

**TUCO**  
Division of The Upjohn Company

It's what reliable four-season spray programs are built on.



Net Weight 10 pints

No. 8-16

Active ingredients

Thiram 25.00% w/w  
2-(2,3,4-trimethyl-5-oxo-1,2,4-dioxane-6-ylthio)pyridine 75.00% w/w

3.75% w/w

25.00% w/w

75.00% w/w

**TUCO**

# Acti-dione<sup>®</sup> Thiram

**Broad spectrum  
Turf fungicide**

For Use On: Bentgrass, Bermudagrass, Bluegrass, Fescue, Ryegrass, and St. Augustinegrass

For the Prevention and Control of: Dollarspot, Fading-out, Gray Leafspot, Helminthosporium Leafspot, Large Brown Patch, Melting-Out, Pink Patch, Powdery Mildew, Rust, and Snow Mold.

**WARNING!**  
HARMFUL OR FATAL IF SWALLOWED. KEEP OUT OF REACH OF CHILDREN.  
See other warnings on back panel.

The cool, humid weather that encourages the development and growth of dollarspot, leafspot and melting-out in the spring also encourages their spread in the fall. Regular applications of Acti-dione TGF<sup>®</sup> on tees, greens, and fairways control diseases that are potential problems in autumn.

Pink and Gray Snow Mold organisms thrive under winter weather conditions. Control these diseases with Acti-dione<sup>®</sup> Thiram. Spray just before the first permanent snow cover and through the winter as thaw allows.

Fungi never have an off-season. They're active year-round. That's why it requires a Four-Season Disease Control Program to keep turf looking beautiful. Build your program around Acti-dione fungicides. They're the standard no matter what season you're in.



Stop turf-damaging insects  
with the proven insecticide —  
PROXOL<sup>®</sup> 80 SP.

Circle 129 on free information card

# Fusarium Blight

At the Illinois Turfgrass Conference last year, seven top turf people from across the country took part in a symposium on Fusarium blight. According to A. J. Turgeon of the University of Illinois, although there is still much to learn about the problem, this symposium "summarizes our current knowledge on the subject."

*Houston B. Couch is a professor in the Department of Plant Pathology and Physiology at Virginia Polytechnic Institute and State University; Herbert B. Cole, Jr. is a professor in the Department of Plant Pathology at Pennsylvania State University; R. E. Partyka is a plant pathologist for the Chem-Lawn Corp., Columbus, Ohio; A. J. Turgeon is assistant professor in the Department of Horticulture at the University of Illinois at Urbana-Champaign; J. M. Vargas, Jr. is associate professor in the Department of Botany and Plant Pathology at Michigan State University; C. Reed Funk is a professor in the Department of Soils and Crops at Rutgers University; William A. Meyer is research director for Turf-Seed, Inc., Hubbard, Ore.; and F. H. Berns is research director for Warren's Turf Nursery, Palos Park, Ill.*





---

---

## Fusarium Blight of Turfgrasses — An Overview

by Houston B. Couch

In 1959 a severe foliar blighting was observed on Merion Kentucky bluegrass in southeastern Pennsylvania. The symptom pattern did not fit that of any of the known foliar diseases of turfgrasses, and isolations from diseased leaves only yielded pathogenic organisms that were known to incite symptoms distinct from those observed for the disease in question.

During 1960 and 1961 this same disease was found on Merion Kentucky bluegrass, bentgrasses, and creeping red fescues in eastern Pennsylvania, eastern Ohio, eastern New York, New Jersey, Delaware, Maryland, and the District of Columbia. Beginning in 1960 and continuing through the following three growing seasons, plant and soil samples were collected from the geographic areas that showed the characteristic symptoms of the disease. Isolations from the diseased leaves were attempted in order to determine if pathogenic fungi were present. The soil samples were also checked for the presence of parasitic nematodes. Certain of the soil samples were found to contain parasitic nematodes of the genera *Hoploaimus*, *Xiphinema*, *Paratylenchus*, and *Tylenchorhynchus*. In some samples the populations were high enough to produce foliar stress. However, there was no consistency among the samples — neither in the frequency of occurrence of a given genus nor in populations high enough to cause foliar symptoms. Furthermore, many soil samples obtained from turfgrass that showed symptoms of the disease were free from parasitic nematodes. On the basis of this evidence, it was concluded that the disease was not caused by nematodes.

The isolations from diseased leaves consistently yielded two fungus species — *Fusarium roseum* and *Fusarium tricinctum* f. sp. *poae*. Both of these organisms were known to be turfgrass pathogens, but neither had been identified as foliar parasites. *Fusarium roseum* was known to cause a root and crown rot of turfgrasses, while *tricinctum* had been recognized for several years as the cause of "silver top," a disease of turfgrass floral tissue. Pathogenicity tests with isolates of these two fungus species were made on Merion Kentucky bluegrass, Highland bentgrass, and Pennlawn creeping red fescue. While some of the isolates were weakly pathogenic, a very high percentage of those tested incited 100 percent foliar blighting within two to five days from the time of inoculation.

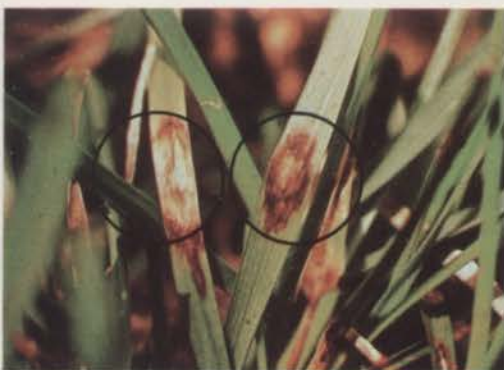
On the basis of (a) consistency of isolation from diseased turfgrass plants over a broad geographic area for several growing seasons, (b) the general lack of consistency of isolation of other microorganisms, and (c) the high degree of pathogenicity of *Fusarium roseum* and *Fusarium tricinctum*, we concluded that these two organisms were the actual incitants of the disease. With further research it was learned that the total syndrome of the disease consisted of two phases — a blighting of the

to page 34



# Why TERSAN® fungicides give you

# Total



**LEAF SPOT** (*Helminthosporium* spp.) on bluegrass.



**LEAF SPOT** on bentgrass (melting-out stage).



**RUST** (*Puccinia graminis*) on bluegrass.



**DOLLAR SPOT** (*Sclerotinia homoeocarpa*) on bentgrass.



**LARGE BROWN PATCH** (*Rhizoctonia solani*).



**FUSARIUM BLIGHT** (*Fusarium roseum* and *Fusarium tricinctum*).



**TYPHULA BLIGHT** or Gray Snow Mold (*Typhula itoana*) on a fairway.



**TYPHULA BLIGHT** or Gray Snow Mold, close-up view.



**PYTHIUM BLIGHT** or Cottony Blight (*Pythium* spp.).

**TERSAN LSR** Turf Fungicide controls Leaf Spot and Rust. It is also effective against Large Brown Patch.



**TERSAN 1991** and **TERSAN 75** effectively control Dollar Spot and Large Brown Patch. **TERSAN 1991** controls Fusarium Blight.



**TERSAN SP** provides outstanding control of both Typhula Blight and Pythium Blight.

