# Here's how easy it is to get long-lasting control of nematodes and soil insects that ruin turf

- A single spray of Nemagon<sup>®</sup> Soil Fumigant kills root-choking nematodes all season.
- A single application of dieldrin insecticide controls root-pruning insects for years.

THE FACTS that follow quickly explain the essential value of controlling soil pests with Nemagon and dieldrin; their flexibility and ease of use; why the root protection they provide far outweighs the cost of treatment.

### Nematode control with Nemagon

Nemagon works as a pre-planting application or on established turf. It fumigates the root zone to kill the nematodes (microscopic worms, not insects) that can infest soil in fantastic numbers. All damaging species are controlled and reinfestation will normally not occur for a year or more.

Without the root knots and lesions caused by nematodes, water and soil



A Nemagon spray knocks out nematodes fast, and thoroughly. Turf isn't disturbed. And nearby plants won't be injured.

nutrients can pass freely through roots. Turf can respond fully to fertilizer and irrigation. Risk of stunting, poor appearance and dead patches is eliminated. So is the risk of a reseeding or



**Protecting** a golf green with Nemagon eliminates any chance of unsuspected nematode infestation causing costly damage and disrupting play.

#### resodding.

Nemagon is easily drenched into soil following a spray application. There's no need for special equipment and grass isn't disturbed. Easy-to-follow directions are printed on every package.

## Soil insect control with dieldrin

Dieldrin controls all species of grubs, including the larvae of Japanese and June beetles. It can be used ahead of time to prevent damage from ever starting. Or you can apply dieldrin to stop an infestation when discolored turf indicates that soil insects are pruning roots and limiting the crop's access to fertilizer and water.

Dieldrin can be applied any time after soil warms up. Effectiveness usually lasts 3 to 5 years. Control is so thorough that grub-eating moles and rodents can't find food in the treated area and leave. Dieldrin can be put on in fertilizer, or in granular form. Liquid concentrates and wettable powders are available for spray use and drenching.

Full details on using dieldrin for



This root-chewing white grub can kill turf or make it look sick. So can a host of other grubs and soil insects. Dieldrin stops them all.

control of soil or surface insects are on every package label.

Nemagon and dieldrin are both available as branded products of wellknown manufacturers and sold where you normally buy insecticides, and other turf maintenance products.

For more information, write Shell Chemical Company, Agricultural Chemicals Division, 110 West 51st St., New York, New York 10020.

Follow label directions carefully when using any pesticide.



31



Scholarship worth \$400 was presented to Roy L. McClung, Jr. (right), senior agronomy major at Texas A&M University by Dr. Gene C. Nutter, past Executive Director of the Golf Course Superintendents of America. The GCSAA awards the scholarship to deserving students.

## Need for Professional Turfmen Growing, Texas T-G Meet Hears

From 10,000 to 12,000 trained men will be needed to meet manpower requirements for the U.S. turfgrass industry in the next 10 years, Dr. Gene C. Nutter told the 19th annual Texas Turfgrass Conference at Texas A&M University, State College, Dec. 7-9.

Nutter said more and more young men in agricultural schools are taking interest in turf, but not nearly enough.

Precautions for using preemergence herbicides in turf came from L. L. Stitt of Velsicol Chemical Corp. in Chicago. Stitt recommended turf managers test each chemical on a small plot to see what it will do under local conditions, and keep a record of the tests.

About 200 persons attended the conference, which is jointly sponsored by the Texas Turfgrass Assn. and Texas A&M University.



Update on turfgrass research came from this pair of experts: Dr. Wayne Huffine (left) of Okla. State, and Velsicol's Lloyd L. Stitt.

#### **Tree Root Diseases**

(from page 14)

phloem necrosis virus, are found in roots.

Bacterial crown gall, more unsightly than destructive, attacks roots. The troublesome Verticillium wilt fungus enters through roots. The shoe string root rot from Armillaria mellea is a common disease more often suspected than found. So is the Fomes annosus root rot of evergreen trees.

Pines are subject to a root and butt rot caused by *Polyporus* schweinitzii. Species of *Xylaria*, *Daedalia*, *Daldinia* and *Phytoph*thora, to name a few important genera, can kill roots and eventually entire trees.

The list of tree root diseases is long. The record of practicable control methods is sadly lacking.

The best that can be done to reduce the incidence of root diseases is to use concentrated common sense. Select the right tree for the site. Plant it carefully in well-drained soil (for most species). Provide adequate nutrients and water. Give it space to grow — in three dimensions. Use the available fungicides, nematocides, and insecticides where necessary.

Most of all—sponsor a program of tree root disease research in federal, state, and private institutions where the science of plant pathology is being pursued. Perhaps, before we expect it, a scientist will come up with a systemic root treatment that will assure healthy roots for all the shade trees of the future. Why not?

## Georgia Weed Control Society Set for Macon Feb. 24-25

Recommendations and reports from participants in the 1964 Georgia Clean Acres Weed Control Program will be of singular interest to members of the Georgia Weed Control Society when they gather in Macon, Feb. 24-25, at the Dempsey Hotel.

The reports will reveal results of the society's initial statewide project, a broad educational pro-



- Michigan Association of Nurserymen, Annual Meeting, Pantlind Hotel, Grand Rapids, Feb. 9-11.
- Aquatic Weed Control Society Annual Meeting, LaSalle Hotel, Chicago, Ill., Feb. 11-12.
- National Arborists Association Winter Meeting, Guy Lombardo's Port-O-Call Inn, Tierra Verde, Florida, Feb. 14-16.
- International Shade Tree Conference, Canadian Chapter, 16th Annual Meeting, Chateau Frontenac Hotel, Quebec City, Feb. 18-19.
- International Shade Tree Conference, Southern Chapter, Meeting, Francis Scott Key Hotel, Frederick, Md., Feb. 21-23.
- Southern Turf Grass Assn. Meeting, Peabody Hotel, Memphis, Tenn., Feb. 22-23.
- Georgia Weed Control Society Meeting, Dempsey Motor Hotel, Macon, Feb. 24-25.
- Midwest Regional Turf Foundation Meeting, Purdue University Memorial Center, Lafayette, Ind., March 1-3.
- Wisconsin Park and Recreation Society, 34th Annual Meeting, Northland Hotel, Green Bay, March 10-12.
- 35th Annual Michigan Turfgrass Conference, Kellogg Center, Michigan State University, East Lansing, March 11-12.
- Florida Turf-Grass Assn. Meeting. Sheraton Hotel and Plantation Field Laboratory, Ft. Lauderdale, May 6-7.
- Florida Nurserymen and Growers Assn. Meeting. Sheraton Hotel, Ft. Lauderdale, May 13-15.

Alabama Nurseryman's Assn. Meeting, Admiral Semmes Hotel, Mobile, June 6-8.

gram aimed at weed control primarily in agricultural production, and extended in modified form through extension organizations to include lawn, turf, industry, parks and highway weed control.

An equipment and products display by manufacturers is planned for this event. For details, write James F. Miller, Extension Agronomist—Weed Control, University of Georgia, Athens.

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## Experts at Va. Conference Dec. 8-10 List Fungicides, Insecticides for 200 Delegates

By F. H. TITLOW, Associate Extension Editor, Virginia Polytechnic Institute, Blacksburg

More than 200 manufacturers, distributors, dealers, contract applicators, and others heard pesticide experts from Virginia Polytechnic Institute and other locations list effective pesticides for turf and ornamentals during a special Virginia Pesticide Conference Dec. 8-10 in Roanoke.

Meeting at Hotel Roanoke, the assembled pesticiders were filled in on a broad-spectrum program with how-to-do-it-advice on almost every weed, turf, and tree maintenance problem.

One discussion concerned the use of fungicides on turf. VPI's Dr. A. S. Williams recommended such chemicals as Dyrene, Calo-Clor, and Tersan OM for control of snow mold, which is expected to be a problem in Virginia turf this spring.

Dr. J. O. Rowell, VPI entomology professor, said a single insecticide such as chlordane can control a variety of pests, including the larvae of May beetles and green June beetles, as well as sod webworms, armyworms, cutworms, mole crickets, and others.

Control of insect and disease pests which attack ornamentals was analyzed by VPI's Dr. R. H. Gruenhagen, who reminded delegates that it is costly to replace ornamental plantings.

In specific recommendations, Dr. Gruenhagen said Ferbam is effective against cedar-apple rust, while the antibiotic cyclohexamide is excellent for the cedar gall stage but is not as good on the apple rust stage of the malady.

"Dicamba is particularly useful for control of knotweed, whiteclover, chickweed, red sorrel, and curly dock," according to Dr. S. W. Bingham, of VPI.

"For annual grassy weeds, there is a wide selection of herbicides available," Dr. Bingham said. "Dacthal, Betasan, Zytron, and Bandane are among those used successfully in lawns prior to crabgrass emergence. DMA, PMA, AMA, and CMA are effective postemergence materials for crabgrass control; however, some temporary discoloration of desired turf occurs and lasts for 2 to 4 weeks."

This was the group's first meeting, and they formed a new Virginia Pesticide Association.

## New Antidrought Compounds for Turf Examined During New Eng. Ag. Chem. Conference Dec. 9-10

Antidrought compounds may have some significant application in the turf industry, more than 150 delegates heard during the annual New England Agricultural Chemicals Conference and Workshop, New Hampshire Highway Hotel, Concord, N.H., Dec. 9-10.

Antidrought and antifreeze compounds, potentially useful to the horticulturist, were described by Pieter Kuiper of the Connecticut Agricultural Experiment Station at New Haven as part of a program that included experts on virtually every phase of agricultural chemical research and application. R. E. Johnson, Richmond, was named president; Robert Pretlow, Franklin, is vice president; J. W. Marshall, Charlottesville, will serve as secretary; and Harvey Carpenter, Jr., Mitchell, is treasurer. Officers were installed during the banquet where well-known Dr. R. H. White-Stevens, formidable opponent to antipesticiders, spoke on the value of pesticides. He's from the agricultural research operation of American Cyanamid in Princeton, N.J.

Kuiper said most research on the antidrought compounds, such as decenylsuccinic acid, showed that when normally cold- or drought-sensitive plants were treated with the chemical, they could withstand significant stress.

Theodore R. Flanagan, Extension Weed Specialist at the University of Vermont, Burlington, told WTT that the annual conference changes its emphasis each year, but that the constant purpose is to furnish the latest information on pesticide use to those immediately in contact with the ultimate consumer, including contract applicators, representatives from industry, golf course superintendents, etc. Those interested in attending next year may write Flanagan for further details.



**Pesticide experts** gathered to discuss problems in usage peculiar to New England. Left to right are: H. D. Kerr, turf weed researcher from USDA's Beltsville, Md. complex; A. Hawkins of the Univ. of Conn., Storrs; C. C. Compton, Rutgers Univ., New Brunswick, N.J.; J. J. Jernigan, Federal Extension Service; conference co-chairman Howard; and Oscar L. Wyman, Soule Glass and Paint Co., Bangor, Me. During the meeting the New England Agricultural Chemicals Conference and the New England Herbicide Workshop, previously separate organizations, were combined. New chairman is Extension Weed Specialist Theodore R. Flanagan of the University of Vermont, Burlington. New vice chairman is Ed Cooper of Allied Chemical Corp.'s General Chemical Division; Dr. C. A. Langer of the University of New Hampshire Horticulture Department is secretary-treasurer.

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groove sicci into turf to remove thatch and excess lateral growth. Water, fertilizer, chemicals reach soil surface.

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When answering ads where box number only is given, please address as follows: Box num-ber, c/o Weeds Trees and Turf, 1900 Euclid Avenue, Cleveland, Ohio 44115. **Rates:** "Position Wanted" 5c per word, minimum \$2.00. All other classifications, 10c per word, minimum \$2.00. All classified ads must be received by Publisher the 10th of the month preceding publication date and be ac-companied by cash or money order covering full payment. full payment.

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CAN YOUR ORGANIZATION USE a reliable man with a B.S. in horticulture and 20 years' experience in turf-grass and landscape management and sales? I'm ready to go to work now! Prefer northeastern United States. Write Box 6, Weeds Trees and Turf magazine.

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TREE SPRAYING BUSINESS - Western Suffolk County, L. I., N. Y. 1960 International truck, excellent; 500gallon tank; 60 gpm piston Hardie pump; 500 ft. of <sup>1</sup>/<sub>2</sub>" and <sup>3</sup>/<sub>4</sub>" highpressure hose. Five hundred spray-ing customer contracts. Write Box 5, Weeds Trees and Turf magazine.

#### Northeastern Conference

(from page 28)

Haas); and duPont's new Tupersan.

Betasan was very effective in 1963, but was less so in 1964 when the interval between treatments and rainfall was greater, Dr. Ahrens said.

Azak at 10 and 10.5 lbs. per acre controlled crabgrass effectively in 1963 and 1964, with slight-to-moderate injury to red fescue from the 1963 treatment. Benefin and Tupersan appeared safe and very effective on the established turf in 1964. Tupersan also seems promising for use on newly seeded bluegrass.

In similar tests at the New Jersey Agricultural Experiment Station, delegates learned, turf investigators Ralph E. Engel and Richard D. Ilnicki checked an almost identical group of chemicals. Materials these New Jersey experts favor are Azak, Betasan, and Tupersan.

As usual, the fabric of the Northeastern Weed Control Conference was too varied and richly textured to report on in full on these pages. But readers can get a copy of the Proceedings, which contains all the talks, for \$4.50 from Dr. John A. Meade, secretary-treasurer, Northeast-ern Weed Control Conference, Department of Agronomy, Uni-

-Auvernisers
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versity of Maryland, College Park.

Elected to head the weed profession's organization next year was Dr. G. D. Hill, of the E. I. duPont de Nemours experiment station, who was named president. Dr. Richard Ilnicki is the new vice president. He's from the New Jersey Agricultural Experiment Station in New Brunswick.



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The Dual Action Control . . .

## for BOTH Crabgrass and Turf Disease

MCPP For weed control on bentgrass greens and fairways; bluegrass and fescues.

SPOTRETE 75% Dry Thiram Fungicide.

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METHAR Lightest concentration of DSMA-Disodium Methylarsonate for Crabgrass and Dallisgrass in both liquid and powder.

PM2, 4=D Phenyl mercury-2,4-d dichlorophenoxy-aceitate for selective weed control.

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AMA Amine Methylarsonate, liquid, for Crabgrass and Dallisgrass control.

25% GRANULAR CHLORDANE Preemergence control of Silver Crabgrass, grubs, insects.



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**Brown patch and Dollar spot (bluegrass).** Apply Velsicol<sup>®</sup> "2-1" for effective, economical prevention or cure of these and other turf diseases. New formula provides improved wettability, better stability, and less foaming action.

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Mouse-ear chickweed and Knotweed. Banvel® D 4S attacks weeds through leaves and roots, kills most species found in turf. Works in warm or cold weather!

**Plantain.** Banvel® D+2, 4-D combines the effectiveness of Banvel with reliable, versatile 2, 4-D to give you one-application control of practically every broadleaf weed found in turf. Saves timegets the job done quicker at lower costl



## Roussel to Produce, Market Turf Product Line in USA

A broad line of turf management products will soon be marketed in America by Roussel Corp., a large European pharmaceutical and agricultural chemical house with sales and production facilities in over 70 countries.

Included in the line will be turf fungicides such as Thiram 75 and PMA, a roster of liquid and powdered herbicides (both post- and preemergence), and a wetting agent, according to Gustave Hulkower, general manager of Roussel's agricultural chemical division in the United States.

Roussel's products will be available to the trade through recognized turf maintenance distributors. Those who desire more information may write to Gustave Hulkower, General Manager, Agricultural Chemical Div., Roussel Corp., 155 East 44th St., New York City, N.Y.



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applied regularly, destroys algae and microscopic organisms that cause scum, odor and bad taste in water supply systems. It helps to keep water "drinking sweet." ■ Triangle Brand Copper Sulfate also can be used to disintegrate some water weeds where they grow. They do not float downstream to clog waterways. ■ In sewage pipes and storm drains, this dependable product removes fungi and slime. It also controls root growth without harming trees. ■ Triangle Brand Copper Sulfate is economical, safe, and easy to use. Write to Phelps Dodge for information on: (1) "The Use of Copper Sulfate in the Control of Microscopic Organisms," (2) "Copper Sulfate for Root and Fungus Control in Sanitary Sewers and Storm Drains."







## -Trimmings-

Red Banks. Ed Banks may have ended up with a slightly red face when a news item last fall accused him of being unable to spell "poa annua" but he's probably glad to get some attention to the fact that the weed had invaded the greens on the Los Altos Golf Course in Albuquerque, N.M. Ed, manager of the course, submitted his financial report last November with a letter attached in which he complained that invasion of the weed had strained his work crews and caused him to have to resod many sections of his greens. But he was so wrought-up, it seems, that he misspelled the name and the papers picked it up as a "human interest" item which our clipping service later sent us. In any case, when the mistake was pointed out, Ed said, with righteous indignation, "We might not be able to spell it, but we sure can cuss it!" We're sure Ed has succinctly expressed the sentiments of our golf course and turf management readers everywhere!

Schread Moves Ahead. John C. Schread, a 35-year veteran on the entomology staff of the Connecticut Agricultural Experiment Station, has received the Connecticut Nurserymen's Association Man of the Year award. John's well known to New England turf managers as an authority on insect control in lawns and fine turf areas, and ornamentals. We join the Connecticut industrymen in doffing our hat to this hard-working entomologist who has done much to benefit the field.

Out of the Frye Plan. A contract applicator who's made tremendous strides in the general field of vegetation maintenance and control since we first met him several years ago is H. E. Frye, president of Frye Lawn and Garden Service in Raleigh, N.C. Homer was attending a convention about four years ago when he first got interested in broadening out his line of services and we had the privilege of talking to him then. Now we learn from a copy of his advertising flyer that the company has a line of contract services that includes shrubbery planting; tree and shrubbery pruning; dormant spraying, insect, disease, weed control; and fertilizing. He even includes custom mowing in his complete maintenance service, and has two college-trained men in charge of the operation.

Wandering Wolf. During the Northeastern Weed Control Conference in New York City last month, we were pleased to notice the group's new president, Dr. G. D. Hill, being congratulated by Dale E. Wolf, president-elect of the Southern Weed Conference, brother organization to the NWCC. What was more interesting was the fact that both "weed leaders" are from the E. I. duPont de Nemours Co. Dr. Hill is at the duPont Experiment Station as head of research, and Dale is sales manager for the entire duPont line of biochemicals in the Industrial and Biochemicals Department.

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Azak, as indicated by center section, must be applied before crabgrass seeds are ready to germinate. Azak then pene-trates seed at time of germination to prevent initial growth.

## FOR CRABGRASS CONTROL

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nonleaching. One application of Azak lasts through the crabgrass germination period. Of special interest to the manufacturer is its compatibility with most fertilizers and pesticides, and its low cost.

Technical information on and availability of Azak preemergence herbicide can be obtained from the nearest district office listed below, or from Agricultural Chemicals, Synthetics Department, Hercules Powder Company, Wilmington, Delaware 19899. \*HERCULES TRADEMARK



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