

# **ONLY WEEDS and TURF**

**OCTOBER  
1964**

The grass-roots magazine of vegetation maintenance and control



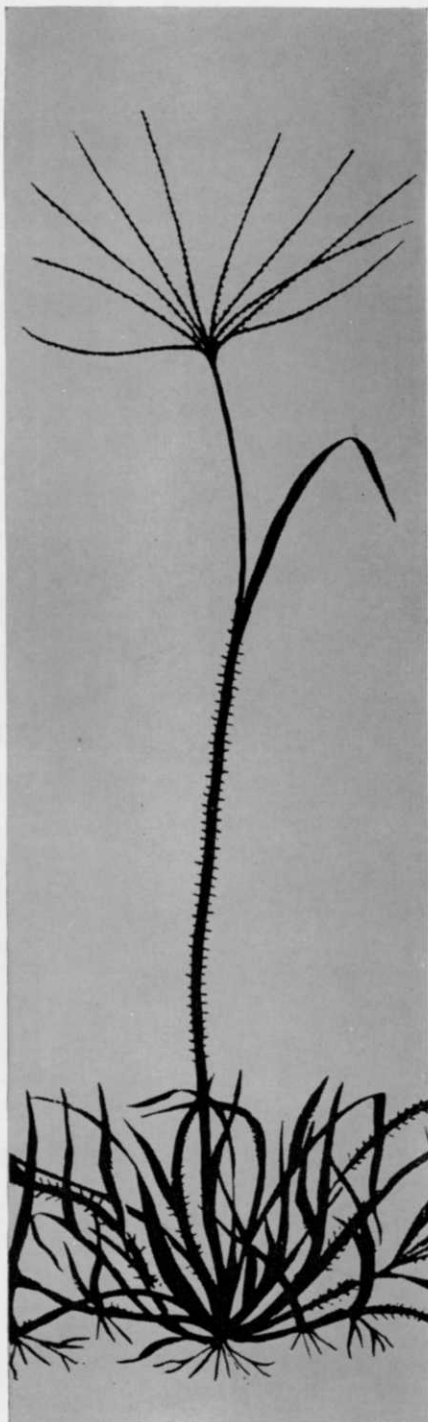
**Texan  
Builds  
Versatile  
Spray  
Rig  
page 14**

Why You Should Belong to a  
Trade Association . . . . 12  
Turf Portrait Tells about  
Wintergrass . . . . . 16

**Living with Legislation:  
Tips for Spraymen . . 10**

# What's so NEW about AZAK\*?

**Selective Pre-Emergence Herbicide for Crabgrass Control**



- One application gives full season control
- Safe for established turf
- Nonleaching
- Compatible with fertilizers and other pesticides
- Practically odorless
- Low in toxicity to warm-blooded animals
- Now available at a new low cost

\*Hercules Trademark



Azak\*, Hercules' new carbamate herbicide for pre-emergence crabgrass control, puts superior crabgrass control within the reach of every budget. Dollar for dollar there is no pre-emerge control on the market that has the many advantages Azak offers.

Be sure to include Azak in your 1965 formulations. For technical data and product availability, contact Hercules Powder Company, Wilmington, Delaware 19899, or one of our turf specialists in the district offices listed below.

SZ64-3

# —Here's solo in Action for Vegetation Maintenance!—

## for WEED CONTROL

below: the Solo Motor Scythe  
3½ Foot Cutterbar



right: New Solo Junior  
2½ H.P.—Only 15 lbs.

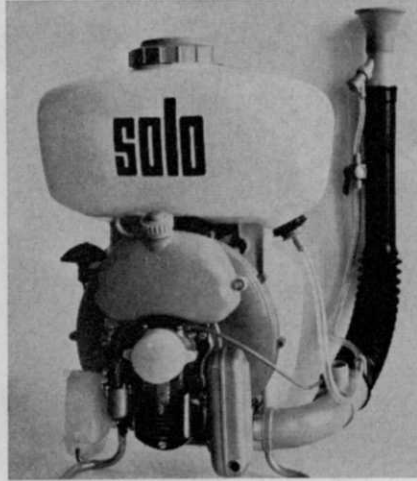


## BRUSH CONTROL

left: the Solo Mistblower  
5 H.P.—Only 27 lbs.



above: Solo Chain Saw 70-A  
5 H.P., 7 H.P. & 9½ H.P.



## TURF MANAGEMENT

## TREE CARE

# Four Good Reasons to Join the Swing to solo!

### WINTERPROOFING ORNAMENTALS?

SOLO Mistblowers are the easy answer to your winterproofing problems . . . ornamentals in the nursery, in home lawns, and in large grounds can be protected against winter damage through a SOLO Mistblower spraying program. Write for details.

(SOLO machines are also ideal for coloring Christmas trees!)

- For Contract Applicators
- Arborists, Foresters
- Railway, Highway, Utility Rights-of-way Supervisors
- Nurserymen, Golf Course Superintendents

■ Now from SOLO, manufacturers of the world's largest selling mistblowers, comes a complete line of maintenance machines for all phases of the vegetation management industry.

### ■ Dealer Inquiries Invited!

SOLO Industries, Inc.  
P. O. Box 128, Dept. 76  
Woodside, N.Y.

**MAIL  
TODAY**

Please rush me details on SOLO's proven power machines for

brush control  turf maintenance  tree care.

Name .....

Firm..... Position.....

Address .....

City..... State..... Zip Code.....

I'm interested in a dealership.

## Solo Industries, Inc.

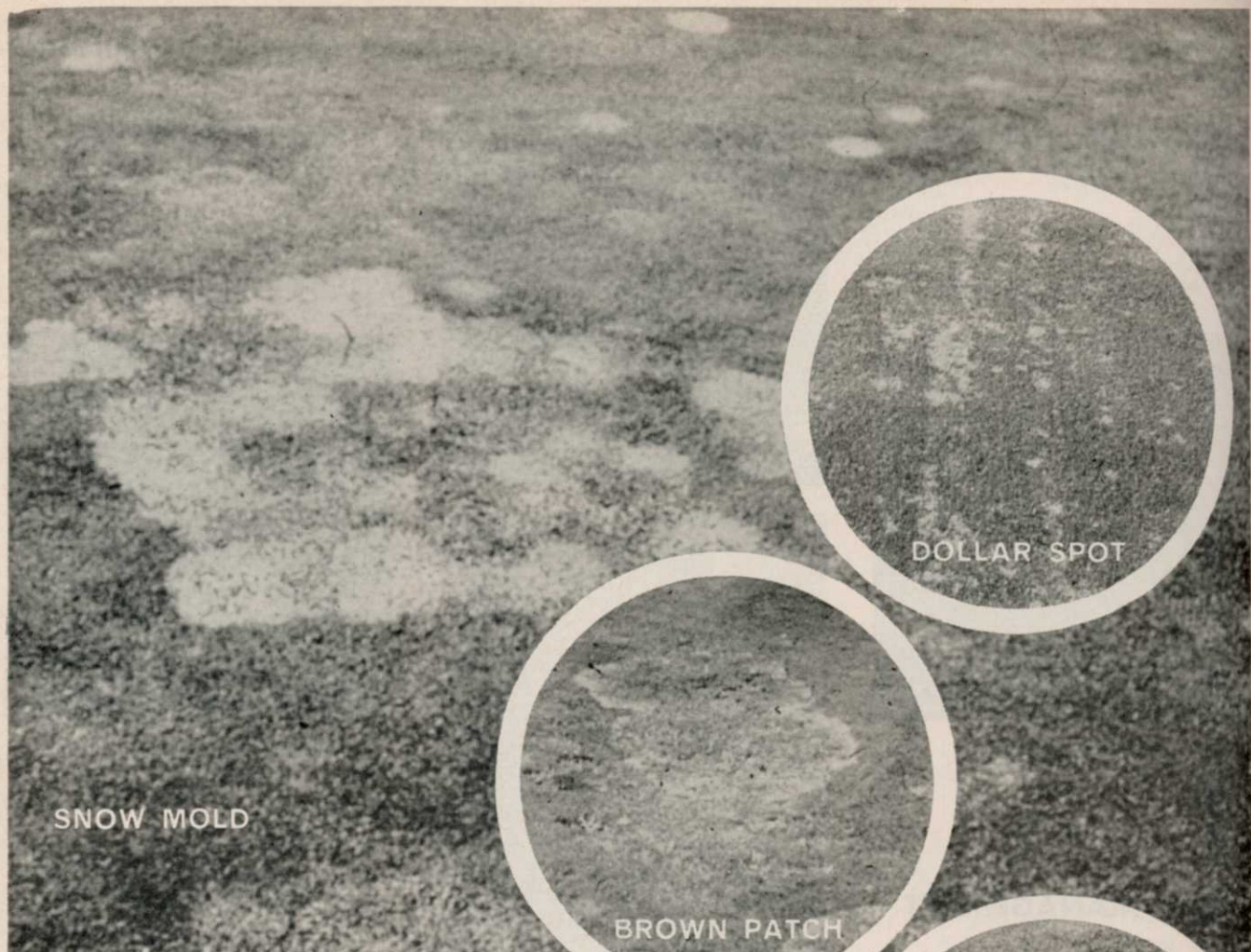
P. O. Box 128, Dept. 76

37-41 57th St.

Woodside, New York

When Writing to Advertisers Please Mention WEEDS AND TURF





SNOW MOLD

DOLLAR SPOT

BROWN PATCH



FAIRY RING

**UGLY SPOTS CAUSED BY FUNGAL DISEASE**

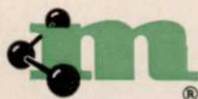
**EASY TO AVOID  
WITH THIS SPRAY**

Fungal diseases such as you see here can ruin a beautiful lawn fast. First, ugly yellow, brown or grayish spots appear. Left unchecked, these diseases destroy vital root systems and spread, killing off large areas of lawn. To prevent such costly damage, simply apply Panogen Turf Fungicide.

This hard-working chemical makes it easy—and inexpensive—only .14 to 28c per 1000 ft. to spray away the danger of fungal disease. Can be used to keep healthy lawns disease-free, or to control an outbreak of fungal disease during early stages. Highly selective; attacks only fungal diseases without injury to turf. A liquid concentrate. Simply mix with water and apply with sprayer. Order from your chemical supplier.



**PANOGEN<sup>®</sup>**  
TURF FUNGICIDE



Another Peace-of-mind product from ...

**MORTON CHEMICAL COMPANY**

A DIVISION OF MORTON SALT COMPANY

110 NORTH WACKER DRIVE, CHICAGO 6, ILLINOIS



# WEEDS and TURF

October 1964

Volume 3, No. 10

Dear  
"Pass-along"  
Reader

... by the time it reaches your desk, is your copy of *Weeds and Turf*:

battered  
bedraggled  
clipped  
dog-eared  
falling apart  
folded  
incomplete  
ink-spotted  
marked-up  
nondescript  
ripped  
rolled-up  
stained  
stapled  
torn  
wadded  
weathered  
wrinkled????

... or, worse still,  
is it just plain

## OLD?

If so, you ought to have your own personal subscription, which will cost you only \$3 for 1 year or \$5 for 2, and which will contribute immeasurably to your peace of mind.

(It will also help you do a better job of turf management, weed and brush control, and tree maintenance.)

Mail us the coupon below right away, and include your check so we can start sending *W&T* posthaste!

### WEEDS AND TURF

1900 Euclid Avenue  
Cleveland, Ohio 44115

Gentlemen: I'm sick and tired of waiting in line for my pass-along copy of *Weeds and Turf*. Here's my check. Send me my own copy each month!

Name .....

Address .....

City ..... State .....

Check enclosed

### Features:

How to Live with Legislation By N. Curtis Peterson, Jr. ....	10
Why Join a National Association of Spraymen By Larry Nipp .....	12
Texas Know-how Creates Homemade Spray Rig By Pauline Neff .....	14
Turfgrass Portraits IV: "Wintergrass" By Dr. Robert W. Schery .....	16
Dichondra Pests and Controls Outlined in Council Bulletin .....	20

### Departments:

Editorial: A Clarification .....	6
W&T Mailbox .....	8
Know Your Species: Poison Ivy .....	24
Suppliers Personnel Changes .....	26
Literature You'll Want .....	26
Meeting Dates .....	28
Classified Ads .....	32
Advertisers Index .....	32
Trimmings .....	34

**JAMES A. NELSON**  
Publisher

**CHARLES D. WEBB**  
Editor

**DAVID E. SCHNEIDER**  
Staff Biologist

**R. J. HOFFER**  
Circulation Manager

**Advertising Representatives**  
**National Headquarters**  
1900 Euclid Avenue  
Cleveland, Ohio 44115  
Phone: Area Code 216+771-4169

**New York City**  
Billingslea & Ficke  
420 Lexington Avenue  
Phone: 212+LExington 2-3667

**Chicago**  
Peck & Billingslea, Inc.  
185 North Wabash Ave., Suite 1809  
Phone: 312+DEarborn 2-0292-93

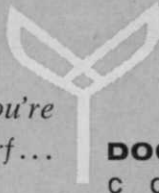
**West Coast**  
The Maurice A. Kimball Co., Inc.  
Los Angeles: 2550 Beverly Blvd.  
Phone: 213+DUNKirk 8-6178  
San Francisco: 580 Market Street  
Phone: 415+EXbrook 2-3365

WEEDS AND TURF is published monthly by Trade Magazines, Inc. Executive, editorial, and advertising offices: 1900 Euclid Ave., Cleveland, Ohio 44115. Publication office: Corner of East North St. and Cadwallader St., Fostoria, Ohio. Send all correspondence to WEEDS AND TURF, 1900 Euclid Ave., Cleveland, Ohio 44115.

**Single Copy Price:** 50 cents for current issue; all back issues 75 cents each. Foreign \$1.00.  
**Subscription Rates:** U.S. and possessions, 1 year \$3.00; 2 years \$5.00. All other foreign subscriptions, 1 year \$4.00; 2 years \$7.00. **Change of Address:** Three weeks advance notice is necessary for change of address. Both old and new address must be given. Post Office will not forward copies. Third Class postage is paid at Fostoria, Ohio.

Contents of this Issue © Trade Magazines, Inc., 1964

When You're  
Talking Turf...



**DOGGETT FISON**  
C O M P A N Y

## TURF HERBICIDES

### FISONS MCPP SELECTIVE WEED KILLER

A potassium salt formulation containing 2½ lbs. of MCPP per gallon. Made available through Fisons research in England. Developed especially for use on fine turf grasses where control of chickweed (common and mouse-ear), clover, and knotweed has heretofore been difficult to accomplish without injury to bent grasses, bluegrass, and fescues. Because of its safety features, it is slow-acting; full effects from treatments are not visible for about three weeks.

Also available — FISONS DSMA 100 AMA for crabgrass control as well as FISONS DSMA 100 for control of Dallis grass.

## TURF FUNGICIDES

### FISONS DAP-CAL

60% Mercurous Chloride, 30% Mercuric Chloride. Suspension type fungicide based on combination of mercury chlorides for positive long-lasting control of Large Brown Patch, Dollar Spot, Snow Mold.

### 75% Thiram

### FISONS TURF-TOX

Wettable powder 75% Thiram, a proven fungicide for the prevention and control of Brown Patch, Dollar Spot, Snow Mold, Fisons TURF-TOX may be safely mixed with mercury to your own specifications. Apply to prevent disease or to control it after it occurs.

### Thiram with Mercury

### FISONS TURF-TOX MC

One convenient wettable powder formulation that eliminates the need for on-the-spot mixing. Fisons TURF-TOX MC combines the widely used turf fungicides, Thiram, Mercurous Chloride and Mercuric Chloride, for the prevention and control of Dollar Spot, Brown Patch, Copper Spot, and Snow Mold.

Also available — FISONS 10% PHENYL MERCURY ACETATE. Effective for control of Bluegrass Blight, Curvularia Blight, Copper Spot, Dollar Spot, Pink Patch, Snow Mold.

## TURF FERTILIZERS

### FISONS XL TURF FERTILIZER 28-7-14

A concentrated water soluble fertilizer in the popular 4-1-2 ratio suitable for use on greens and fairways. XL Turf Fertilizer provides a better control of growth, texture and color by going to work instantly, feeding through blades and roots.

Also available — XL LIQUID FERTILIZER, 15-10-5, and STOP-WILT, an emulsifiable vinyl compound in concentrated form for preventing moisture loss.

For further information and the name of your nearest distributor, write:



**DOGGETT FISON**  
C O M P A N Y

Springfield, New Jersey

## A Clarification

Elsewhere in this issue spokesmen for regional trade groups discuss the pros and cons of a national association of weed, turf, and tree sprayers. At the Horticultural Sprayers' Association of Florida Convention in Ft. Lauderdale next month (Pier 66 Hotel, November 5-7), delegates will actually establish such an organization, it is reported.

While W&T has stood squarely behind this movement from the beginning, we feel obligated to clarify our position. *Weeds and Turf* feels that a hard-working group of applicators, functioning within the framework of a well-conceived nationwide association, can do the industry immeasurable good.

Advantages, for example, include a national voice for influencing legislation; a coast-to-coast means to improve the industry image; and the opportunity for applicators from all over the country to exchange technical know-how and business insights. A fringe benefit, of course, is the effect such a confederation might have on suppliers, who would better understand the nature and scope of the industry, and thus could cater more adequately to its specific needs.

However, this magazine does not endorse any single alliance to the exclusion of another. In addition to HSAF, societies in Portland, Oregon, and Seattle, Washington, for example, are considering national status. There are also groups in Oklahoma and Texas, and elsewhere in the Midwest. Communications among many of these assemblies were originally initiated by W&T staff members, because we seek only to better serve industry members everywhere by making them aware of the advantages inherent in a well-managed trade association. Our goal is to disseminate information about various federations which are considering national status. We hope that the several regional divisions will be surpassed, and that all industry representatives will find it possible to fuse their several organizations into a coalition which all will find acceptable.

We have devoted much space to discussions of the need for an action such as that to be undertaken next month in Ft. Lauderdale, and which was discussed last month at the Pesticide Sprayers Association of Portland (Oregon) during a joint meeting with other Northwest groups. We welcome the opportunity to tell our readers about the progress which is being made, so that each can decide for himself the course he wishes to advocate in the establishment of a single convocation which can effectively promote the weed, turf and tree maintenance industry in the US.





**Now Available!**

**Fourth Edition of**

# **HANDBOOK OF PEST CONTROL**

**by  
Arnold Mallis**

All New, the HANDBOOK OF PEST CONTROL is the latest book published on household and industrial pests and their control. Written in easy-to-understand language by a recognized authority with years of scientific and practical field experience, it is technical, yet easily followed by those with a limited knowledge of science and the chemistry of pesticides. Deals fully with rodents, insects, decay, fungi, habits, identification, and latest control methods. A complete, up-to-the-minute book, bound in sturdy maroon cloth, gold stamped.

**1148 Pages  
250 Illustrations**

**List of Contents Includes:**

Rats and Mice, Silverfish  
Springtails, Cockroaches  
Crickets, Earwigs  
Termites, Decay Fungi  
Woodboring, Bookboring Beetles  
Book Lice, Bedbugs  
Clothes Moths  
Hide and Carpet Beetles  
Ants, Bees and Wasps  
Stored Products Pests, Lice  
Fleas, Flies, Gnats, Mosquitoes  
Spiders, Mites, Ticks  
Miscellaneous Household Pests  
Pesticides  
Control Methods

**\$14.25 in U.S.A.**

**\$14.75 Canada, Mexico**

**\$15.25 elsewhere**

**(Check must accompany order)**

**TRADE MAGAZINES, INC.  
1900 Euclid Avenue  
Cleveland, Ohio 44115**

Date .....

Enclosed is our check for \$..... for a postpaid copy of "**Handbook of Pest Control.**"

PLEASE PRINT

Name .....

Company .....

Address .....

City ..... State ..... Zip Code .....

## —W & T Mailbox—

### Seeks Dodder Control

Can you tell me if there is a fungicide that will control the fungus known as dodder (also known as "golden thread," "hell bind," "strangleweed")? This orange-colored, sticky, string-like fungus attacks any and all plants and succeeds in strangling even the hardy Algerian ivy.

During the past two years I have discussed this problem with several nuserymen and a representative from the Department of Agriculture. These gentlemen have suggested a strong solution (50%-80%) of ammonium sulfate applied in a spray as the only method of chemical control. I found that such a solution only marginally affected the fungus but did kill the plant to which it had attached itself.

I would appreciate your readers' comments and advice.

C. M. Quigley

8640 Metz Place  
Los Angeles, Calif.

*Readers are invited to write directly to Mr. Quigley. Ed.*

### Father-Son Team Want More Training

My son and I want to expand our services to include aquatic weed control. We also want to obtain more information on tree spraying, etc. Could you suggest where we could receive instruction and training in these fields?

Paul Kucik

Detroit, Mich.

*The Aquatic Weed Control Society, secretary of which is Albert Lopinot, Illinois Dept. of Conservation, Litchfield, Ill., and the Hyacinth Control Society, William Dryden, secretary, P. O. Box 1711, Fort Myers, Fla., can give you information which will help you in your objective. The National Arborist Assn., can help you on the subject of tree spraying, etc. Dr. Paul E. Tilford is executive secretary and*

*may be reached at P. O. Box 426, Wooster, Ohio. Weeds and Turf has a 16-page reprint, "Applicator's Manual of Aquatic Weed Control," (\$1) which should be helpful.—Ed.*

### W&T Article Well Received

After publication of my article on roadside spraying in W&T for July (p. 8), I had a number of messages and telephone calls which indicate: first, that your magazine is being read by a great many people; and, second, that a number of people were glad to have someone express a positive opinion on our responsibility to the public when applying roadside sprays.

Fred A. Ashbaugh

Supervisor of Forestry  
West Penn Power Company  
Greensburg, Pa.

### Westerners Eye National Assn.

I believe there exists a definite need for a horticultural spraymen's association on a national scale and I would gladly help to organize such a group. We must face a few hard facts however:

1. Such an association must be progressive in action as well as in thought;
2. An organizational meeting should be held at a location and time mutually arranged by those concerned;
3. All sections of the spray industry should be represented;
4. For the good of the industry's future, this association must promote its interests and otherwise operate on the highest ethical plane.

Robert B. Cockburn

President  
Northwest Chemical  
Applicators Assn.  
1523 63rd Street  
Everett, Washington 98202

### Needs Complete Weed Book

I am a golf course greenskeeper trainee trying to learn all I can in order to be good. I'm especially interested in weeds. I would like to be able to identify all the weeds I run across on

the fairway. I may know almost all of them already.

I wonder if you have any kind of complete book showing all the weeds with their pictures for identification, and if so, if this book is for sale.

Your *Weeds and Turf* magazine is the best I ever saw.

Carl J. Foster

Baltimore, Md.

*We do not have a complete book of weeds like the one reader Foster requests, although we publish each month our weed identification box. Other than that, one of the best suggestions we have is a book called Weeds of the North Central States, published by the University of Illinois Agricultural Experiment Station. While it is a regional publication, most of the weeds discussed thrive in wide-spread areas throughout the US. It's available for \$1 from the Station in Urbana. If readers have other suggestions for Mr. Foster, we'd be happy to pass them along in this column, should we receive any such letters. Ed.*

### WT: Don't Forget the Newcomer!

We would like to see more articles directed toward the newcomers to the business. I tend to get the impression from some of your articles that everyone is an expert and that they all started out that way. All companies dealing in weed control are not large firms. Not griping, just passing along my views.

Robert R. Shaw

Oklahoma City, Okla.

*We try to achieve a balance in articles directed towards the "neophyte" and articles for the "old pro," and have published many basic articles meant as background. However we welcome these comments and will pay close attention to articles like the ones reader Shaw desires. Ed.*

*Weeds and Turf welcomes expressions of opinions from its readers. Send ideas and comments briefly as possible to Charles D. Webb, Editor, Weeds and Turf, 1900 Euclid Ave., Cleveland, Ohio 44115.*





# Suppliers:

## The Perfect Place to Advertise Your Weed, Turf, and Tree Market Products

Reserve Space Now in the

### WEEDS AND TURF 1965 Suppliers Guide

To Appear in the December '64 Issue

**1. Boldface Listings.** Suppliers using advertisements in this issue will be listed in boldface type in the directory under all categories of products the advertiser supplies. Your name stands out when readers refer to this handy directory which applicators use all year round!

**2. Reader Reply Card.** Bound into every December issue will be a Reader Reply Card. All readers have to do to get more information on advertised products is check off the advertiser's name and send the postage-paid card to us. We forward neatly typed lists of inquiries.

**3. Repeat Readership.** In the 1965 W&T Suppliers Guide, we have a complete catalog of weed, turf, and tree maintenance chemicals and equipment. Whenever readers are seeking a source of supply, this handy reference book offers them the easiest way to find it.



**Bonus for Advertisers:**

**1. Bold Face Listings**

**2. Reader Reply Card**

**3. Repeat Readership**

LISTED in the 1965 WEEDS AND TURF Suppliers Guide, readers will find all chemicals and equipment used for weed and brush control, turf management, and tree maintenance. Included are such chemicals as herbicides, insecticides for turf and trees, fungicides, and fertilizers, among others. Equipment listings include such items as power sprayers, vertical mowers, trimming and pruning tools, chippers, and many others. This is the only Suppliers Guide compiled annually for the entire vegetation maintenance and control industry in America.

Reserve Space today! Address Advertising Department

## WEEDS AND TURF

1900 Euclid Ave., Cleveland, Ohio 44115

Phone 216 + 771-4169

**CLOSING DATE  
NOVEMBER 10th**

# How TO LIVE WITH LEGISLATION

By N. CURTIS PETERSON, JR.

---

In these days of increasing attention to pesticides, personnel concerned with protecting turf and trees, and with eliminating weeds and brush, find it necessary to live with an ever-growing number of laws, some good, some bad. This article tells how to achieve more balanced legislation, how to lobby effectively, how to prevent passage of some laws and how to introduce favorable ones, and how to use existing trade groups for legal benefit. Peterson's views are particularly timely now that sprayers are considering a national organization to help them achieve uniform and fair industry laws.

---

**A**GRIBUSINESS is Florida's largest industry—exceeding the two-billion-dollar tourist trade by more than a billion dollars annually. Horticultural specialties make up a large segment of the agri-business; over \$330 million of Florida's yearly income is from this source. And Florida is not alone; all over the country, horticulture's hand can be felt on the economy. Its voice should be heard in favor of fair and equitable treatment when the general good of the vegetation maintenance and control industry is at stake.

The experiences in legislation we horticulturists have had spotlight several important points which should be considered by anyone faced with a legislative problem. Our work has been primarily with state government, but the basic principles apply at any legislative level.

Sometime ago, for example, our organization, the Florida Nurserymen and Growers Association, promoted a bill which we hoped would be added to the Florida statutes. Our efforts brought us in close contact with legislators and their ways. At no time did we pressure, demand, or coerce the lawmakers. All we asked was for them to examine the circumstances to see if our proposal was good for all concerned and especially good for the public interest. This is very important, for if you ask for special consideration at the expense of others, you become a "special interest" group. But, if you tie your needs to those of an expanding economy and rapid growth of the state, and if you can show that your plans will benefit the general public, then *your* needs can be justified.

#### **When Is Legislation Needed?**

Agri-businessmen are not only citizens deserving consideration; they are also members of an industry that provides much that is beneficial to the general public. With these facts in mind, the man who seeks to propose legislation has some criteria on which to base his demands. Certain other essentials also support proposed legislation.



1. Legislation is needed when you are subject to oppression or discrimination that is contrary to what is best for the industry or the public interest. Examples of such oppression are ordinances of municipalities which restrict the use of certain toxic pesticides to the point where the applicator cannot guarantee consumers reasonable success from his services. Legislation is then required to repeal these ordinances.

2. Legislation is needed when relief from an obvious injustice cannot be obtained either through regulation, mutual understanding, or from the courts.

3. Legislation is needed when it is desirable for an industry, a public agency, and the general public to sit together in an advisory or technical capacity to see that interests of the industry, the state, and the public are represented and protected by decisions affecting any of the three.

#### Keys to Promoting Your Bill

After you are sure a need for legislation exists, certain ideas should be remembered when you draft necessary proposals. Be specific and accurate. Name the type of infringement or suppression of rights which concerns you. For example, if your problem pertains to particular chemicals, name them specifically.

Another point to keep in mind is that any statute is always subject to interpretation by the court should a citizen or public official take exception to it. Make sure at the outset that any proposed legislation is on firm legal and constitutional grounds, and clearly expressed.

Legislation is a big field; there are some things that can be accomplished and others which are out of reach. If you cannot get everything you want in a package deal, strive for as much as possible. Be *happy* with this but not *satisfied*, and try harder next time. On the other hand sometimes "half a loaf" is *not* better than none at all. If you cannot get enough to do a rea-

sonable job, it is better to back up and start again.

The mechanics of getting a bill through the legislature can be handled in many ways. Meet the lawmakers. Do this early, before the pressures of approaching legislative sessions begin to take time away from both you and the legislators. You will be less of a nuisance lobby to the lawmakers if you avoid a last-minute appeal.

Personal contact with the legislators is an excellent way to gain support. Reasonable discussion without undue pressure will do much more good than floods of form letters and telegrams. Individual, personal letters are good, but stay away from anything that looks like group pressure or coercion.

Some legislators will show a real interest and cooperative attitude. These key interested men are good prospects to sponsor your bill, and to act as floor leaders for it. If you can gain two or three positive voices on the floor, and especially in the committees considering your legislation, half the battle is won.

After a bill is introduced and assigned to a committee, keep in contact with the clerk of that committee. Ask him to notify you when the bill comes up for consideration. Be ready to appear at the hearings prepared to testify *with full facts and data* on any portion of the legislation. All of this may appear to be useless trouble and bother, but it is how our lawmakers work and this is the only way to do business with them.

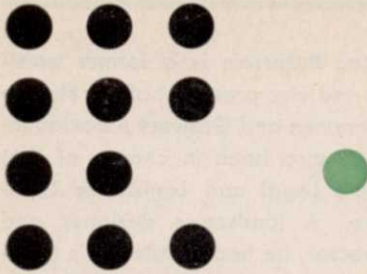
#### Stop Bad Legislation, Too

While it is important to pass *good* legislation, equal thought must be given to the defeat of bad legislation. In the flood of bills introduced every year, sometimes a potentially harmful proposal may slip through. The only solution is to catch such bills *before* they become law. Legislatures publish a daily journal of events. Get a copy from a member of the lawmaking body and study it carefully. This is the best way to be alert to bad deals in the making.

---

**Author Peterson** is a former president and vice president of the Florida Nurserymen and Growers Association; he has also been in charge of that group's Legal and Legislative Committee. A landscape designer and contractor, he heads Peterson's Nurseries in Lakeland, Florida. Although his activity has been confined primarily to the Sunshine State, remarks in this article have value for industry-men from Maine to California.

---



# WHY JOIN A NATIONAL ASSOCIATION OF SPRAYMEN?

By LARRY NIPP

---

At its annual convention in Ft. Lauderdale November 5-7, the Horticultural Spraymen's Association of Florida will attempt to establish a national association of weed, turf, and tree spraymen. This article is an examination of some advantages inherent in belonging to such a group. There are several other regional spraymen's organizations around the country, some of which have also considered a national association. *Weeds and Turf* does not support one organization to the exclusion of another, but is striving simply to present thorough news coverage of all such endeavors, in the belief that a strong national will help immeasurably to further industry interests in general. Also extremely active is the Northwest Chemical Applicators Association, which will hold its annual conference November 30 and December 1 in Yakima, Washington. A letter from the NCAA president, supporting the eventual establishment of a national, appears in this month's *W&T Mailbox* (page 8).

---



LET'S list some of the reasons why some people do not choose to join an association:

"Don't like the people in it."

"An association can do nothing for me."

"It's run by a clique."

"It will cost me money."

That about covers most reasons; so let's now take each one and analyze it.

First, no one in his right mind joins an association because he likes the people in it. This is not the purpose of such a group. However, you will be surprised how easy it is to get to like the people in a trade organization—especially when you have so much in common. An association can do much for you. Any time a group of men in the same business as you get together, you have only to keep your ears open and you are bound to learn something. You will find that your immediate competitor will not break his neck to give away his trade secrets, but men from other parts of the state or country will gladly help you with your problem. It may be that he, or they, learned the answer from *your* competitor.

#### Must Give to Receive

Let me say you must be willing to give in order to get from any association. As for the "clique," let me also say this—I have been a member of three associations in my life; I have not noticed anything which can honestly be termed a clique. The man who complains about closed circles of members is usually the same man to refuse every office in the association. He will refuse to serve on any and all committees, and at the meetings he will not voice an opinion. But, after the meeting, he will find fault with everything that took place. So-called cliques are composed of men who will do the job and take the abuse when things go wrong. You will find such groups more than willing to have new blood take over.

As for the cost of belonging, it does not cost—it pays. The cost is returned many times over. You will learn more about your

business just sitting around talking to some other member than you can learn from any book.

#### Association Adds Prestige

The first year the Horticultural Spraymen's Association of Florida held its convention the equipment show alone was worth the price of 10 years' dues, in my opinion. The question and answer panel part of the program was in itself worth more than several years' dues. Now that we in Florida are about to form a national association, the opportunities to learn will be even greater. Memory is short, but all members of the Horticultural Spraymen's Association of Florida probably remember it was through the efforts of that organization that legislation outlawing or restricting spraying in about 10 cities in Florida was defeated. It was through the efforts of that same association that it was brought to light that members were getting bad materials. Often overlooked is the fact that to belong to an association adds prestige to your company in the eyes of the public, and gains public confidence. The public knows that a company joins an association in an effort to uplift the industry.

I believe weed, turf, and tree spraymen can form the largest association of its kind in the world; and I believe this association can benefit us all in many ways. One way will be to stand up to adverse legislation, which I am sure will crop up in many states and many, many communities. Our annual conventions can feature large equipment shows such as we will have this year at the Horticultural Spraymen's Association of Florida convention in Fort Lauderdale, Florida, November 5 through 7. Also, a discussion on various types of contracts and prices at one of the sessions of our convention will do much to help the industry on a national scale. One should bear in mind that every profession and every business has its association composed of members from every branch of the profession or business.

Other benefits, such as an in-

---

**Author Nipp** is a past president of the Horticultural Spraymen's Association of Florida, and runs American Power Spraying in Ft. Lauderdale. Currently he is in charge of the HSAF program for establishing a national spraymen's trade association. Interested readers may write him at 3675 S.W. First Street, Ft. Lauderdale. Those who wish to correspond with Robert B. Cockburn, president of the Northwest Chemical Applicators Association, may write him at 1523 63rd Street, Everett, Washington 98202.

---

urance program through the association to lower our insurance costs, are possible. The many ways you can benefit from a trade group are too numerous to discuss here, but let me say that the good far outweighs the evil in any association. I hope *Weeds and Turf* readers will join us in Fort Lauderdale on November 5 to 7 at the world-famous Pier 66 Hotel and help us get started on this venture!



# Texas Know-how Creates Homemade

By PAULINE NEFF

**A** LOT of ingenuity on the part of a Dallas nurseryman has turned a used gasoline tank and a small investment into an all-purpose spraying device. Placed on a two-ton truck, it furnishes him with five different sprays or fertilizers on the job at the turn of a valve.

"Our spray truck is the most profitable piece of equipment in the business not only in the

amount of time saved by spray personnel—but because it looks professional. Its appearance brings us lots of business," said Jack Jones of Southwest Landscape Company.

Total cost was \$5,000 including the \$4,000 paid for the truck. Jones said the total cost could be cut to as low as about \$1,000 by using a secondhand truck.

"I wouldn't take three times

what I paid for it, now," Jones says.

Ten years ago Jones used trailers with individual motors for spraying. This meant he had to go back and forth each time he needed a different spray. And the motors were constantly breaking down.

Then he hit on the idea of using an old gasoline tank for a spraying device. He learned these tanks are built with from two to five compartments—and that oil companies sell the old ones at junk prices. He bought one with five compartments—one 250-gallon, two 200-gallon, one 150-gallon and one 175-gallon compartment. Then he asked a spray expert for advice on how to build a spraying device.

"He said it couldn't be done," said Jones. Undaunted, he set out to prove it could.

After paying \$100 for the used tank, he bought a two-ton truck. Next he bought a Myers Triplex pump for \$650.

"I used a pipe-fitter, a welder, a sand-blaster, a garage mechanic—and it took me 2½ months to finish it," Jones reports. "But when we got through, it worked—and I've never had any trouble with it."

The power take-off was tied onto the truck's jack-shaft by a hanger bearing. The pump was mounted at the back of the cab. Lines are tied in through a system of valves at the back of the truck.

When M. Doster brings Southwest Landscape's spray truck into a neighborhood, other calls for service follow because of the varied maintenance jobs the single rig can perform.





## Spray Rig

The pump can produce from 10 to 1000 pounds of pressure. A mechanic was used to set the rpm's on the truck motor so that the pump works efficiently while the motor idles. The mechanic marked this setting on the carburetor.

Jones uses a 300-foot hose and a Bean pistol-grip gun. With this length hose he doesn't ever have to put the truck in a customer's yard. And when he wishes to change sprays, he simply shuts off one valve and opens another.

Liquids are carried in saddle pockets located on the side of the tank. Power equipment is carried at the rear end of the tank where it can be locked.

Jones fills the compartments with water each night by running hoses into the openings located at the top of the tank. This takes about 30 minutes, though it could be much faster using a fire hydrant. The truck has another valve which may be opened to create a suction and draw up water by closing the other valves at the same time—though Jones doesn't often use this method.

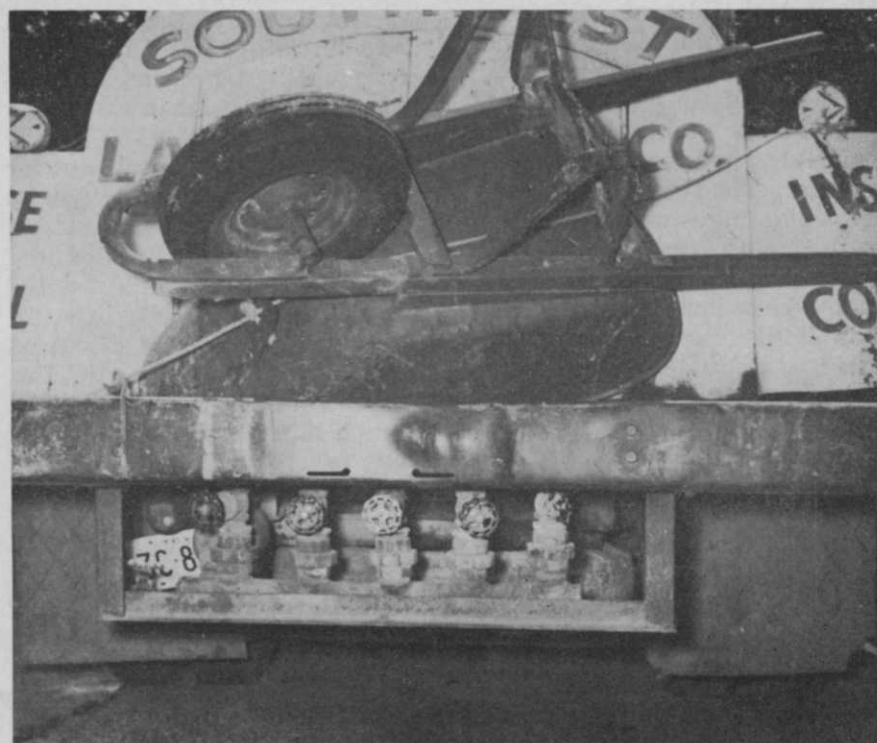
Maintenance costs have been minimal. Basically he keeps the pump oiled and the motor greased. He has the motor overhauled once every two to three years—as opposed to the once-a-month overhauls on the little motors he previously used. The

*(Continued on page 22)*



**A 300-ft. hose allows sprayman Frank Guerrero to spray entire yard without actually putting the truck on customer's lawn. Guerrero has also been trained to help with tree maintenance jobs.**

**Five valves at the back of Southwest Landscape's truck control 5 compartments in the tank. Tools are carried inside the old tank (note doors).**





---

## Turfgrass Portraits IV:

# "Wintergrass"

By DR. ROBERT W. SCHERY

Director, The Lawn Institute  
Marysville, Ohio

This is the fourth in a series of nine articles on the basic traits and maintenance procedures for common turfgrasses. Next month author Schery discusses Bermudagrass.

---

THERE'S no such thing botanically as "wintergrass."

The term is used particularly in the South, for lawngrasses interseeded into the permanent turf (usually bermuda), to provide attractive green cover during winter. Lawngrasses adapted to cool weather are chosen. Whether they be annual or perennial makes no difference, since their handling is as an annual; come spring they are expected to gradually thin, as the permanent turf revives with warmer weather. The season for wintergrass planting is usually October in the South, onset of bermuda dormancy. The wintergrass should be at its best from Christmas until March, after which there is gradual transition back to bermuda for the summer. Of course many of these same "wintergrasses" are sown in early autumn in more northerly climates to bolster thin turfs, with promise of persisting there.

Traditionally, annual ryegrass has been used to overseed southern turfs. By the pound ryegrass is inexpensive (although more seed ordinarily must be used than with types having a greater

seed count). The large seed is easily planted, sustaining vigorous seedling growth without a great deal of attention. But recently research has taken a second look at winterseeding, wondering whether other lawngrasses might not in many cases be more satisfactory than ryegrass. Such research has centered chiefly on golf turf, where the demand for excellent putting surfaces is great when the winter tourist season is at its height. The findings, of course, spill over to general turf; Mississippi State University especially has checked winterseeding for turfs maintained like a home lawn.

There has been lingering dissatisfaction with ryegrass through the years, because of its aggressiveness, and its failure to give ground gracefully in spring as the bermuda revives. Many years ryegrass is aggressive late into spring, then melts away suddenly; the bermuda has been set back by this late competition, and an ugly transition period ensues at the very height of the attractive spring season. Also, annual ryegrass grows vigorously, requiring more mowing than might other species. Its color is yellowish, contrasted to the bluish green of fine fescues and Kentucky bluegrass (the color usually preferred). And to top it off in recent years, with freezing south to the Gulf, ryegrass has often killed out. Ryegrass will by no means be abandoned, and it seems to suffer less from these faults in the Southwest than the Southeast. But for the more meticulously kept turfs, there is increasing interest in mixtures of fine-textured northern grasses such as the Kentucky bluegrasses, fine fescues, and bentgrasses discussed in previous numbers of this series, and in *Poa trivialis* (rough bluegrass).

### General Observations

Timing is important wherever and with whatever grass winterseeding is practiced. If winterseeding is carried out too soon (or autumn growth of bermuda is lingering), a new seeding may be smothered. It is especially important with superior grasses

such as fine fescues, bluegrass, and bentgrass, to initiate planting just as the permanent grass slows down for winter dormancy. Ryegrass' biggest advantage lies here, in aggressiveness that enables it to grow roughshod whether the timing is quite exact or not.

Timing continues important through the winter, since differing grasses have differing peaks of performance. The fine fescues (varieties include Chewings, Illahee, Pennlawn), and *Poa trivialis* are almost as quick to present a winter cover as is ryegrass, and are possibly not so susceptible to juvenile diseases. Kentucky bluegrass is next in the seasonal sequence, spreading to a beautiful tight turf in mid-winter. Most bentgrasses are slow, but may merit inclusion in winterseeding mixtures because of their fine performance late in winter. With this variation in seasonal performance, it's easy to understand why mixtures of grasses, rather than individual species, are increasingly recommended. Almost all mixtures of the finer grasses contain a fine fescue base for excellent color and relatively quick start.

Southern turfs are usually started from living shoots or sod. There is increasing interest in seeding lawns, as has long been customary in the North. As more bahia, zoysia, centipede, and other southern seed types become available, some of the finer "wintergrasses" well may be included to provide an "any-time-of-the-year" blend. There are definite economies, flexibility, and maintenance advantages, to being able to seed a lawn and bolster it with seed thereafter. Indeed, this would seem a splendid opportunity for professional lawn services, rounding out the slack season while providing greater winter attractiveness to an increasingly sophisticated South.

Winterseeding interest may be divided as for: 1. golf greens, and 2. general turfs (including lawns and fairways). Until recently, research has centered on the intensively managed golf green. Widespread testing, es-



pecially at state universities and experiment stations, has ensued. Max Brown's master's thesis (University of Florida) deals with winterseeding of Tifgreen bermuda, the universal golf green variety in the South. The most intensive study on general turf is probably William James Gill's (Mississippi State University) thesis, "An Evaluation Of Overseeding Procedures For Southern Lawns." Conclusions from these studies will be worth quoting in the following discussion.

### Golf Greens

The advantages and disadvantages of ryegrass, long used for winterseeding golf greens, have been mentioned. In some instances as much as 200 lbs. of ryegrass/M is used (the average is estimated 50 lbs.). Only by keeping the ryegrass "tight" is the putting surface acceptable. Even then ryegrass is said to be "slow" because of succulence. In most instances golf experts have rated the fine fescues, and later in the season Kentucky bluegrasses or bentgrasses, as superior to ryegrass for putting surfaces.

The Milwaukee Sewage Commission organized the testing of seeding mixtures (including a blend furnished by the Lawn Institute) on a wide range of golf courses. The Milwaukee people favor mixtures containing *Poa trivialis*, usually in combination with fine fescues and other fine-textured species. Probably any of the eight combinations scrutinized during the '63-'64 season would rate "tops," compared to desultory ryegrass turfs of a few years ago. The Lawn Institute blend was a combination of two fine fescues, two Kentucky bluegrasses, and Highland bentgrass. *Poa trivialis* was left out because some people object to its yellowish cast, and because the seed (imported) frequently contains winter weeds.

There have been some tests with growth retardants (maleic hydrazide, CCC, Phosphon), for inhibiting growth and perhaps inducing early dormancy in ber-



Winterseeding test plots, such as these at the University of Arizona, help turf professionals discover the best adaptable species.

mudagrass. Some injury to the bermuda has occurred, possibly due to careless application; in middle latitudes there have been reports of definite injury to U-3 bermuda. Successes have been reported, too, although it is uncertain whether the advantages obtained are sufficient to warrant special chemical treatments. Perhaps improved seeding procedures can do as much? Golf courses are accustomed to thinning turf (aerifying, vertical mowing, etc.), and have the equipment for this. Such preliminaries to winterseeding, followed by topdressing and watering, make for little difficulty in establishing wintergrass under this professional care.

### General Turf

For lawns, fairways and similar turf, the specialized equipment used on golf greens is not available, nor the intensive techniques possible. The main needs are for easy autumn establishment, and minimum attention through winter. Ryegrass is good for the former, the finer-textured species better for the latter. If ways can be found to keep winterseeding simple, inexpensive—and this knowledge

becomes widely diffused—winterseeding of southern lawns should become popular. In some sections of the South, less than 1% of the lawns are winterseeded; in other sections, as the posh suburbs around Atlanta and Phoenix, 50% of the lawns may be winterseeded. The practice might seem most appealing in the upper South, where bermudagrass is dormant nearly five months of the year.

Mississippi State University research indicates that for establishing wintergrass the permanent turf should be mowed low prior to seeding. "Low" means in the neighborhood of 1 inch, as compared to a customary height of 1½ or 2 inches. Of all procedures, including vertical thinning, topdressing, etc., low mowing proved the most important.

The same grasses, preferably in mixture, that do the job on golf greens, suffice for lawns. With proper techniques it appears possible to seed quality grasses (centering on the fine fescues) almost as readily as ryegrass, at a 5-lb./M seeding rate. Once established, these offer darker color, greater hardiness, less need for mowing, better spring transition, and so on.



# Undaunted by Dora, Delegates at Auburn Turf Course Study Soil Chemistry, Learn of Fertilizer Needs

By R. E. STEVENSON

Associate Editor, Department of Publications  
Auburn University, Auburn, Ala.

Despite threatening weather from hurricane "Dora," about 100 members of the Alabama-Northwest Florida Turfgrass Association were on hand for the fifth annual Turfgrass Short Course September 10-11 at Auburn University in Auburn, Ala. And those who attended the sessions went home with a wealth of information to use in establishing and maintaining turf.

Major principles of soil science that must be understood for proper turfgrass fertilization were covered by Dr. R. D. Rouse, Professor of Soil Chemistry at Auburn University Agricultural Experiment Station. He said soil is a complex physical, chemical, and biological system that must be clearly understood if it is to be kept in best condition for growing turfgrasses.

As explained by the soil chemist, chemical function of the soil is to supply in useable form nitrogen, phosphorus, and potassium (major elements), plus calcium, magnesium, sulfur (secondary elements), and manga-



Among those taking part in the September 10-11 Turfgrass Short Course at Auburn University were, left to right, Dr. D. G. Sturkie, Agricultural Experiment Station scientist and chairman of the program committee; James E. Moncrief, U. S. Golf Association agronomist, Athens, Ga.; George Cobb, Greenville, S. C., architect; and Association president G. E. Godwin, Birmingham Country Club.

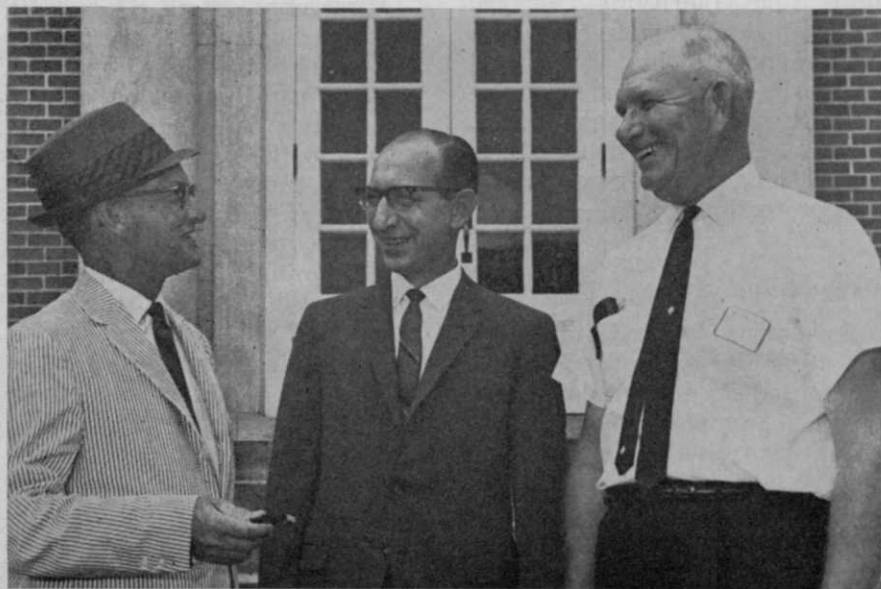
nese, iron, copper, boron, zinc, molybdenum, and chlorine (micronutrients). Although some soils have enough of these 13 elements, most turf areas in the South are deficient and must have fertilizers added. This is especially true for areas that have been prepared for special uses, like golf greens, he pointed out.

Since the fertilizer elements can be bought and applied, the next need is for soil that can hold these materials and release as needed by plants. Different soils have different holding capacities, with the clays and organic materials having greater capacity than sandy soil. This explains why some clay and organic matter is added to sand in preparing greens topsoil.

Another important factor introduced by the scientist concerns methods by which plants obtain nutrients from soils. The practical aspect of this is that all the processes by which large amounts of phosphorus and potassium are obtained require water, a porous soil, and a supply of the 13 elements in the soil. Since all 13 elements must be contained in the soil, this makes soil preparation and soil composition important.

## Soil Needs Large, Small Pores

Correct composition calls for a soil that has enough large pores to permit rapid entry and percolation of water, small pores to hold water needed by plants, and good tilth to permit easy root ramification. Rouse said



Officers were welcomed to Auburn by Dr. Ben T. Lanham, Jr., Associate Director of Auburn University Agricultural Experiment Station. These officials of the Alabama-Northwest Florida Turfgrass Association are (left to right): Association president G. E. Godwin, Birmingham, Dr. Lanham, and Mike Johnson, secretary, also from Birmingham.



these conditions are met by having the proper mixture of sand, silt, clay, and organic matter.

Chemically the soil needs a capacity to hold and supply required elements and without other elements in undesirable amounts. Fortunately, he added, good physical conditions provide the framework for good chemical properties.

From a chemical standpoint, soil preparation is highly important. The researcher stressed that at preparation is the only time to correct acidity. Lime applied after planting cannot be mixed with soil and stays near the surface where it does little good. The same thing is true of phosphorous. Most soils need this element, he stated, and it should be mixed with the subsoil to promote deep root growth.

The importance of an available supply of all essential elements as soon as grass begins to grow was brought to the group's attention by Dr. Rouse. For soils limed with dolomitic lime and getting phosphorous and potassium incorporated according to soil test, about the only need will be for nitrogen and sulfur (most soils have enough micronutrients). And, he added, sulfur will be supplied if 18-20 per cent superphosphate was used to supply phosphorous. Adequate amounts of nitrogen must be available as soon as root growth begins.

#### Nitrogen Most Important

Nitrogen is the most important element for maintenance, with potassium second. Phosphorous and sulfur needs are about half as high as for potassium. Micronutrients will seldom be needed if the soil pH is favorable and major nutrients are applied in correct amounts. Rouse said the Auburn nitrogen recommendations were sometimes thought to be too low. He explained that the suggested application of 1 lb. of N per 1,000 sq. ft. is recommended because this is about as much as can be readily taken up. Little leaching will occur even when this size application is made every 2 or 3 weeks.



Latest developments in fertilizing turfgrass was the topic of this discussion during the Sept. 10-11 Turfgrass Short Course at Auburn University. Dr. R. D. Rouse (extreme right), soils researcher of the Agricultural Experiment Station, reported results of latest research to, from left, Jim Pursell, Sylacauga; William Nordan, Abbeville; and J. Cooper Marcock, Jr., Atlanta, Ga.

Differences between solid, liquid, granular, or pulverized fertilizers are relatively unimportant, Rouse told the group. The choice should be based on equipment available, cost, and personal preference. The major difference is in ease of burning, with granular material causing less burning of dry grass than liquid or pulverized materials. To minimize burning, Rouse advises applying when soil moisture is good and grass is dry.

Choosing between high- and low-analysis fertilizers is main-

ly a personal decision. The soil chemist named two factors to consider in choosing: (1) high-analysis grades are more likely to be low in sulfur, and (2) most high-analysis materials are formulated from ammonium phosphates, which must be thoroughly mixed with soil or kept away from sprigs or seed to prevent damage to young roots.

Rouse said applying fertilizer in irrigation water is a satisfactory method, but cautioned that completely soluble materials

*(Continued on page 30)*



Talking over latest developments in turfgrass management during September 10-11 Turfgrass Short Course at Auburn University were, left to right, George C. Dickey, Jr., Woodley Country Club, Montgomery; W. T. Kennedy, Montgomery Country Club; and O. N. Andrews, Auburn Extension Service.

## Dichondra Pests and Controls Outlined in Council Bulletin

Listing of the garden pests which attack dichondra, that highly valued and lush southern California ground cover, along with chemical methods of control of the attackers, appears in an article in the July number of *California Turfgrass Culture*. Authors are R. N. Jefferson and A. S. Deal, professors of entomology at the Riverside campus of the University of California.

"Insecticides should be applied only when a pest is present in sufficient numbers to cause damage," the authors believe. Since many insects are normally found in dichondra lawns, and the effects of lack of care and insect infestations may appear similar, one should confirm the presence of insect infestations before insecticides are applied.

DDT and toxaphene will control cutworms as will Dow's carbamate insecticide, Zectran. Cutworms are 1- to 2-inch long, fat-bodied caterpillars, colored dull green, gray, brown, or black (sometimes with stripes), which feed on leaves and crown of new dichondra plants.

"Dichondra injury occurs most

often during summer and early fall months, and is most severe in warm inland areas," the authors disclose. A new lawn with maturing caterpillars can be seriously injured in 2 to 3 days.

Jefferson and Deal recommend a 1% pyrethrum solution in a gallon of water to bring caterpillars to the lawn surface where they can be counted and damage potential assessed. For new dichondra lawns, the authors suggest seeding before May or after September, so young seedlings will be spared the height of cutworm activity.

A new pest discovered in 1962 is a chrysomelid flea beetle. Adults are black and small, 1/25-inch long. They feed on upper leaf surfaces and skeletonize the leaves.

Sprays containing DDT applied at doses recommended for cutworms will control flea beetles when foliage and ground surface is thoroughly sprayed.

### New Moth Pest Uncovered

Slender spotted caterpillars which look like lawn moth larvae (only larger), have been reported damaging dichondra lawns in some southern California counties. Unlike lawn moth

larvae, lucerne moth larvae wiggle actively when disturbed.

Jefferson and Deal suggest Zectran at 3 pints to 100 gallons of water for control of this moth pest since neither DDT nor Sevin appears effective.

Dichondra is beset by vegetable weevil grubs during winter and early spring. Recovery is slow after heavy infestations because dichondra slows growth at this time, the entomologists report.

The grubs are small, green, legless larvae, 3/8-inch long. They feed on foliage at night, and hide in soil in the daytime. Infestations are usually localized because adult weevils cannot fly.

Treatment is warranted if more than an occasional grub is found feeding at night. Sprays of malathion, dieldrin or Zectran are effective controls, according to Jefferson and Deal.

Malathion should be applied at rates recommended for scale insects, dieldrin at rates for thrips and weevils, and Zectran at rates recommended for snails and slugs, to control vegetable weevil grubs.

Spider mites are tiny (1/50-inch long) sap-sucking pests. They cause a speckling of leaves. Later, as leaves dry up, the mites spin fine webs around the affected plants.

Spider mites on dichondra can be controlled with Kelthane or Dimite. At least 2 applications 2 weeks apart are necessary for control.

The common brown garden snail will take baits containing metaldehyde. Slugs do not respond to baits as well. Both pests can be controlled with repeated applications of Zectran. Areas where the pests gather should be drenched with spray.

Jefferson and Deal state that one should not apply insecticide sprays to dichondra when the lawn needs water. Fertilization and adequate watering before any insecticide application guards against injury. One should also wait until foliage is dry before spraying insecticide. Temperatures above 90°F may cause spray to injure turf.

## Mott Offers Mower-Renovator

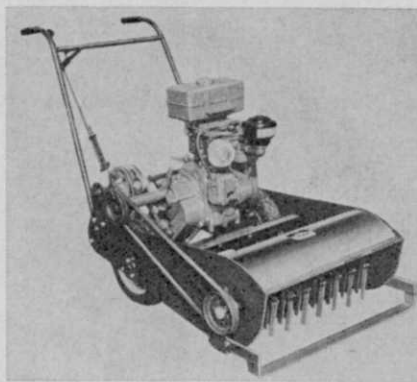
A new hammer-knife mower, with free-swinging, replaceable blades, slices through thick matted growth to provide aeration and greater soil moisture absorption, Mott Corp. says. Renovating shoe on the new device permits cutting adjustment to the ground or slightly below.

Manufactured in two models, B-9 and B-32, the machines cut swaths of 24 and 32 inches, respectively, and can also be used for mowing fine turf and weedy areas, and for leaf mulching.

Free-swinging knives fold back on contact with obstructions, and then automatically return to cutting position. Throwing of struck objects is minimized with this feature, the company says.

The machines are self-propelled, with two forward speeds and reverse. An 8 1/4-hp. engine

provides power. Optional features include solid or pneumatic tires, dual wheels, riding sulky, 12-volt starter, leaf attachment, front wheels, and discharge shields. Detailed information is available from the company at 500 Shawmut Ave., La Grange, Ill.



Free-swinging, replaceable knives make it possible for this machine to renovate or aerate lawns, mow fine turf or weedy areas, and also perform leaf mulching chores, according to Mott Corp.



## Aerify, Dethatch, Wet, Turf Areas for Dry Spot Control

Dry spots on old turf are thought to be caused by excessive thatch. Other reasons, less understood, may explain why turf will not accept water in certain spots. To test conditions of dry spot development and cultural control methods, farm advisors set up experiments on a green at the Arrowhead Country Club in San Bernadino, Calif. Results of these 1963 tests are described by F. W. Dorman, C. L. Helmstreet, and T. M. Little in the August 1964 issue of *California Agriculture*.

Testers selected a 34-year-old Seaside bentgrass green for their methods experiments. "The old green had developed severe compaction in the center and traffic areas. Four to 6 inches of the surface soil was stratified by regular top dressing with sand and accumulated thatch. Disease control was often a problem," the report discloses.

Test methods included vertical mowing to remove thatch, aerification with 1/4-inch spoons to permit water and air entry to subsod areas, and watering with a commercial wetting agent to make the water "wetter."

The green was treated in strips, some running north-south, others running east-west. Treatments were alternated, every other strip, so that the resulting squares (grid) would each have different combinations of treatment and the differences between squares could be evaluated.

Overall irrigation was adjusted so that the turf would be water-stressed and dry spots would tend to develop. As dry spots appeared they were plotted on a grid map illustrating each of the 100 squares. Hand watering of dry spots became necessary to avoid green injury.

Five vertical mowings were conducted at monthly intervals throughout the summer. Five aerifications at monthly intervals were also performed. The aerifier holes were not back-filled.

The wetting agent was applied



**Whirling cleaver action** of the heavy-duty 410 Rotary Cutter completely splinters thick brush, trees, and growth that can be bowled over by the tractor equipped with front bumper bar, McCormick International reports. Cleavers are pivot mounted and free swinging.

## Int'l. Harvester Introduces Three New Rotary Cutters

Said to be used for the first time in rotary cutters, heavy cleavers of special design, made of extra-tough alloy steel, are principal features in two of three new rotary cutters recently introduced by International Harvester Co.

The McCormick International rotary cutters are available in three-point, trailing, and fast-hitch models. Models 310 and 410 are equipped with whirling cleavers for cutting and shredding any growth from wiry grasses and stalks to heavy brush.

The third model, the 210, is an economy-priced, hitch-mounted

at 4 gallons per acre in 120 gallons of water and watered in with a very high amount of irrigation water; this was carried out only once in late summer.

Weekly treatment of a commercial fungicide could not prevent loss of some grass to *Helminthosporium* because of the water stress.

At the conclusion of the experiment, the test plots were marked off with string and each plot was labelled with a coded tag. Twenty judges, consisting of players, agronomists, and superintendents, were asked to score the appearance of each plot from 1 to 10.

Dry spots were eliminated with monthly aerifying. Scores

cutter. All machines are ruggedly built with heavy-duty housings and precision-made, enclosed, bevel-gear drives for long service, the company says.

A slotted top-link hitch point in the three-point hitch protects the units against damage. Cutters are free to float upwards to absorb shocks which would be damaging if hitched solid. Units can be locked solid during travel.

Housings are heavily constructed, to resist pounding. The rotary cutters can be furnished with either a spring-loaded, dry-disc slip-clutch, or shear bolt for protection.

Details are available from the company at 180 North Michigan Ave., Chicago 1, Ill.

on aerified plots were higher than on nonaerified plots.

Vertical mowing did not reduce the number of dry spots until late in the experiment. There was a minimum of thatch when the experiment began, and only late in the test when thatch in other plots began to develop were vertical mowing results observed. Vertically mowed plot scores were lower than those not vertically mowed because the treatment in the summer heat physically damaged the Seaside bentgrass.

Although the wetting agent treatments did prevent dry spot, overall in this one test the wetting agents were detrimental to turf appearance.

## Texan Builds Own Rig

(from page 15)

motor consumes about eight or nine gallons of gas daily.

A filtering unit on the end of the tank between the valves and the feeder lines must be cleaned out regularly. Sleeves and washers on the pump have been replaced twice in ten years. Once when an employee failed to drain the lines in the winter time, Jones had to replace the head on the pump because it froze.

### Tank Easy to Keep Up

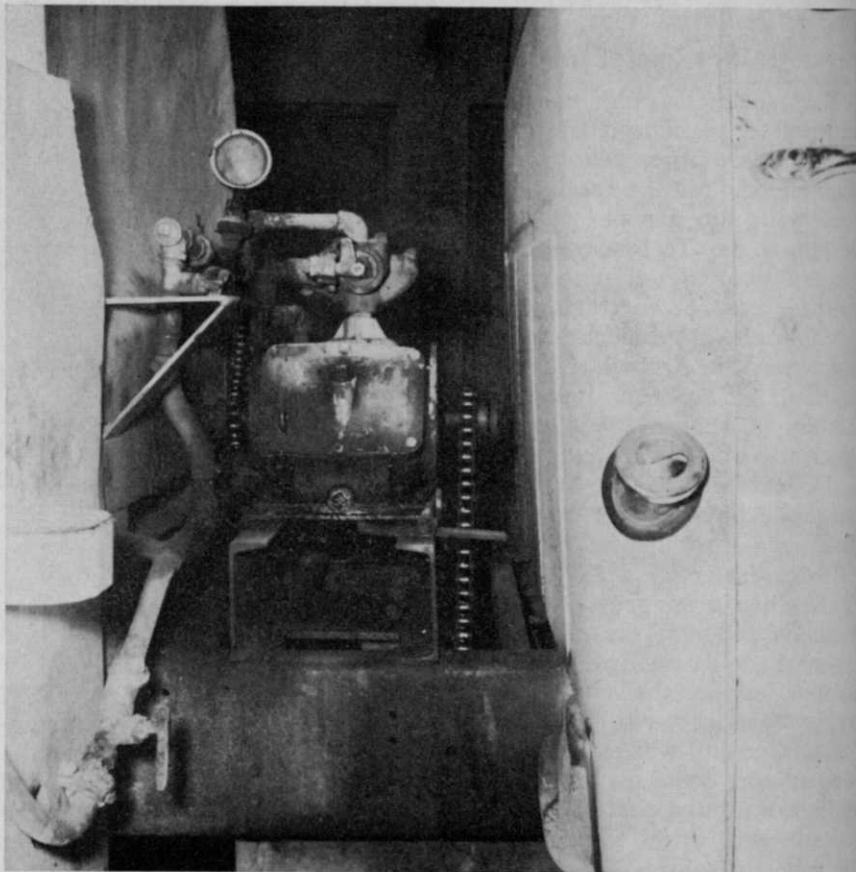
There's no maintenance on the tank interior, either. Jones has used the truck for oil sprays, dormant sprays, insecticides, and fertilizers, though he does not use it for weedkillers for fear of mixing them with other sprays. He never has to clean out the compartments or paint them.

"The tank requires no coatings. I've been using this one ten years—and it was a used tank to begin with. I've never had any trouble with it—though I did buy a new truck three years ago," said Jones.

An agitator operates off the power take-off in the number-one tank. This is used for powder insecticides. The other four tanks have no agitators. As they are used for liquids which stay in suspension, agitators are not required. Spray personnel simply mix these liquids by inserting the spray gun into the compartment. This may be done several times while the work is in progress if necessary.

Jones has found that when a compartment is almost empty, he must let the last 10 gallons run out on the street rather than use them. That is because materials from other compartments may be sucked into the hose as the tank becomes empty.

M. Doster is manager of the lawn service for Southwest Landscape. The truck provides him with a piece of equipment that can be used as an all-purpose tree and lawn service. Spray employees are trained to



Pump is located in open space between truck cab and the tank.

do tree surgery as well as spray and fertilize. Thus when a customer calls Southwest Landscape, he knows he can get the full range of lawn service done quickly and efficiently.

By using the powerful pump, Doster can provide customers with a unique service—subsurface irrigation and fertilization of trees. This is done by forcing liquid fertilizer at 400 pounds of pressure through a special fitting which may be attached to the hose. The fitting is a 1½-inch pipe with split ends which may be plunged for about a yard's depth into the ground.

Special Dallas lawn problems have been case borers in pecans, web worms, girdle beetles, cut worms, chinch bugs, and lawn fungus. Doster can and does take care of them all with one trip.

### Complete Lawn Job in One Trip

Using the spray truck he can spray an entire 100 by 200-foot lot with fertilizer in 15 minutes. He turns a valve and can spray all shrubbery, including the tall-

est trees, in another 20 to 25 minutes. Thus his crew can complete the whole job—surgery, spraying, and fertilizing—in one trip.

Sometimes Southwest Landscape has completed a job so fast that the customer doesn't believe everything has been sprayed. At times Jones has had to add a pound of lime to the spray solution to leave proof on shrubbery that he has completed the job.

In training employees to use the truck, Jones says it is important to make them "valve-conscious." Valves and compartments are both numbered so that employees won't make mistakes. Originally, Jones put a different coloring in each compartment so that employees could immediately tell the difference. Employees must be cautioned to let the last ten gallons of a mixture drain out to avoid mixing with another spray. Sometimes an employee may leave a valve half on and cause a spray burn.

Jones has used a water meter to indicate the amount of spray



consumed, but this has not been too successful except in liquid mixtures. Use of the meter with powder mixtures required frequent and time-consuming cleaning of the meter. Jones used the meter only for a year until employees learned to estimate the amount of liquid they had used.

Red lettering on the white truck advertises the full range of lawn and tree care provided by Southwest Landscape.

"The size of the truck and the signs on it attract attention of other customers in a neighborhood—and this attention has paid for our investment through added contracts," Jones says. "This truck looks like we're properly equipped to do the whole job—and using it, we are."

### Stockbridge to Help Fill Need For Greens Superintendents

Increase in construction of new golf courses and retirement of competent superintendents has created a shortage of golf course superintendents.

To meet this need the University of Massachusetts has created the Stockbridge School of Agriculture. Incorporated into the University's College of Agriculture, Stockbridge offers a highly specialized faculty, a well-rounded curriculum, on-the-job training, and practical extra-curricular activities, all contributing to the training of qualified golf course superintendents.

According to Joseph Troll, turf instructor in the plant and soil sciences department of the University, the faculty teaches at three levels—graduate, undergraduate, and Stockbridge. This permits a larger, more specialized faculty than would be the case if Stockbridge were not located on the university campus.

"Stockbridge is considered a technical school and not a vocational school," Troll says. He also notes that "because of the school's high standards and the curricula offered, credits granted may be used toward a four-year program at many universities."

### Water-Powered Valve Used in John Bean Sprinkling System

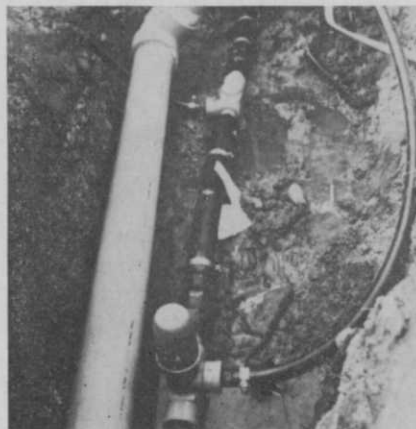
The new Sequa-Matic valve, powered by the force of water in a John Bean sprinkling system, eliminates the need for solenoid valves to control water distribution in circuit-by-circuit systems, John Bean Div., FMC Corp. says.

One electrically-operated solenoid valve and the required number of Sequa-Matic valves, make possible a simple, low-cost and completely automatic lawn and garden sprinkling system. The new valve is designed to operate with varying water pressures, Bean reports.

The Sequa-Matic installation consists of one solenoid valve, a timer, and the required number of Sequa-Matic valves. One Sequa-Matic valve serves two circuits, two serve three circuits, etc.

The timer may be set for the day or days of the week sprinkling will occur, and the length of time each separate circuit will operate. Sprinkling time for each area may be regulated according to need. The timer feeds this information to the single solenoid valve, which is opened and closed by the timer.

The solenoid valve releases the flow of water to the sprinkling system with the first Sequa-Matic valve directing water to the first circuit. After the first circuit has sprinkled the pre-selected length of time, the solenoid valve, signaled by the timer, interrupts the flow of water for a few seconds. The



Using the Sequa-Matic valve in a circuit-by-circuit sprinkling system requires the use of only one solenoid valve for the entire system, John Bean says.

first Sequa-Matic valve, reacting to the lack of water pressure, closes its sprinkling circuit, automatically opening the line to the second circuit. This process is continued until all circuits have performed.

The Sequa-Matic valve will work with all types of sprinkler heads, is adaptable to most sprinkling systems, and can be installed with either metal or plastic pipe, the company says. Complete details will be sent to those who write John Bean Div., FMC Corp., Lansing 9, Mich., or San Jose, Calif.

### Oregon Weedmen Meet Nov. 5-6

Plans are nearly complete for the annual Oregon Weed Conference, set for Nov. 5-6 at Salem's Merion Hotel. Topics on this year's agenda range all the way from aquatics to turf, from forest land weed control to cereal crop weed problems.

A record crowd is expected, according to publicity chairman Ronald L. Collins.

"Weed Control in Horticultural Crops" is on tap as a panel discussion, with Clackamas County Agent Bob Smith as moderator.

A panel on "Industrial Applications of Weed Control" will be chaired by contract applicator Earl Parker. The group discussion of forest land weed control, with Columbia County Agent Don Wolrod, will follow.

Four individual lectures on current weed science topics are planned by a quartet of Oregon State University staffers. In the lineup are: Dr. Norm Goetze (Turfweeds); Dr. Bill Furtick (General Weed Control); Dr. Arnold Appleby (Weed Control in Cereal Crops); and Dr. Carl Bond (Weed Control in Fish Ponds).

How to control weeds in Oregon's important grass seed crops will be USDA expert Orvid Lee's topic. Program will be wound up by a panel on new products from industry, with Miller Products Company's Keith Sime holding the gavel. More information is available from Collins at 1387 N.E. Arrowwood Dr., Hillsboro, Oregon 97123.

**POISON IVY**  
(*Rhus radicans*)



Poison ivy is a woody perennial; therefore it should be classed as brush rather than an herbaceous weed. Called by such names as poison creeper and three-leaved ivy, it is found in open deciduous woods, along fences and roadsides, in thickets, orchards, and on wasteland. It will be found either as a short plant on open ground or as a climbing vinelike plant. When found as a vine, aerial rootlets can be seen clasping the vertical surface.

This species is widespread throughout the eastern United States and southeastern Canada. Other very similar species are found across the continent.

Stems are slender and weak even though they are woody. Leaves consist of 3 leaflets which are a smooth, shiny green; they are often found drooping from the petiole attachment (2). Leaflets are at the most 4 inches long and somewhat pointed. Groups of 3 leaflets occur alternately on the stem with other groups of 3.

Poison ivy flowers (4) are very small and are found in clusters which are borne in the axils of the leaves. Each small green flower has 5 petals. Clusters of flowers are from 1 to 3 inches long. A white hard berry (3) is produced from each flower. Stalks of these berries may persist from year to year. Seeds, one in each berry, are grey striped and small.

Roots, which are about the same size as the stems, trail beneath the ground (1). All parts of a poison ivy plant are harmful to sensitive individuals, because of oil within the plant.

Amitrole, Amitrol-T, 2,4,5-T and silvex applied to foliage will kill the plants by translocation of herbicide. Nonvolatile ammonium sulfate is a satisfactory brush killer when there are desirable plants growing nearby which are susceptible to phenoxy herbicides.

Prepared in cooperation with Crops Research Division, Agricultural Research Service, United States Department of Agriculture, Beltsville, Maryland.

(DRAWING FROM NORTH CENTRAL REGIONAL PUBLICATION NO. 36, USDA EXTENSION SERVICE)

**Treatment of Elm Leaf Beetle  
Now Serves Two-Fold Purpose**

Treatment now for elm leaf beetles will help save elm trees and reduce the problem of beetles invading homes when cold weather arrives. This suggestion is made by Stanley Coppock, Entomologist, New Mexico State University Cooperative Extension Service.

Numerous reports of more-than-usual damage by the beetles this year have come from Albuquerque, Santa Fe, Espanola and Farmington, Coppock says. Control is best obtained in a communitywide spray program, Coppock advised, listing DDT, Sevin, toxaphene and lead arsenate as preferred insecticides.

Damage to trees is caused by the larva which is small, striped and has the appearance of a tiny alligator. Larvae feed on the underside of leaves, particularly of the elm tree. Heavy infestation causes defoliation. Continued defoliation by the insects year after year may kill the trees.

**Beacon Has New CO<sub>2</sub> System**

A new CO<sub>2</sub> pressurizing system specially designed for herbicide and insecticide dispensing equipment has been announced by Beacon Devices Div. of Conax Corp. The system eliminates the need for hand pumping.

These systems are provided in kits that consist of adjustable pressure regulator, connecting hose and fittings, cylinder bracket, safety valves for protection of both pressurizing system and dispensing tanks, and a refillable CO<sub>2</sub> cylinder available in 8-oz. to 5-lb. capacities.

The Beacon piston-type regulator assures optimum control to maximize spraying efficiency. Tanks are changeable with hand pressure.

Detailed information is available from the company by writing to John F. Bergmann, Director of Marketing, Beacon Devices Div. of Conax Corp., 2300 Walden Ave., Buffalo, N. Y. 14225.



# make a killing with TRITAC™

*Profit from this powerful new herbicide for control of bindweed, Canada thistle, Russian knapweed, hoary cress, leafy spurge*

Bindweed on May 23, 1963, just before Tritac treatment . . .



looks like this on August 14, 1963. Rate: 15 lb. (7½ gal.)/A.



You can effectively custom-treat an acre for a season or more with as little as four to eight gallons of Tritac.

Used along highways, fence rows and other noncrop land, this economical new herbicide controls certain deep-rooted perennial weeds under a wide range of climatic conditions.

When you want quick foliage top kill or want to prevent seed

formation, use Tritac-D™—the basic formula plus 2,4-D.

Both Tritac and Tritac-D are noncorrosive and low in toxicity to mammals.

Tritac, for the first time, is now available in a new granular form called Tritac-10G.

Liquid Tritac is available in cartons of six 1 gallon cans; also 5 gallon cans and 30 gallon drums;

granular Tritac is packed in 25 pound paper bags.

**Hooker sodium chlorate.** This original one-shot weed killer is available in steel drums of 50 and 100 lb. net.

**Technical help.** Our agronomists will be glad to work with you.

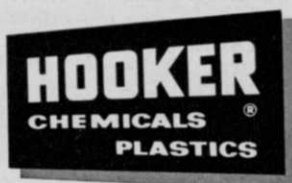
Write us, describing your problem. For technical data, please mail us the coupon.

FOR MORE INFORMATION, check here and mail with name, title and company address:

- Tritac                       Hooker sodium chlorate  
 Tritac-D  
 Tritac-10G

**HOOKER CHEMICAL CORPORATION**

610 Buffalo Avenue, Niagara Falls, New York 14302 AGRICULTURAL CHEMICALS



## Brochure Helps to Promote Roadside Spray Programs

A brochure designed to create a positive attitude on the part of those who are opposed to the use of chemicals in the control of roadside weeds was recently published by McMahan Bros., Inc.

Titled, "The Chemically Sprayed Road," the brochure contains numerous color pictures comparing roads that have or have not been subjected to a chemical weed control program. The reading material is brief, picture-associated, and easily understood by the average reader.

The brochure provides a ready answer for officials who receive complaints about the use of herbicides. It is also useful in the promotion and solicitation of roadside spraying contracts. It is said that in Connecticut the brochure was used to overcome sales resistance resulting in an increase of 1,000 miles in road spraying contracts.

Space for imprinting company, association name, or other information on the front and back covers of the brochure is provided. Interested individuals may obtain complete information by writing to McMahan Bros., Inc., Box 261, Tenafly, N. J.



New Homelite XL Brushcutter is lighter than ever, company says.

## New XL Brushcutter Bows

Homelite's new XL Brushcutter, described as a deluxe model which is easier to use, lighter, and more powerful, has just been introduced.

Harness on the new XL hangs over operator's back and shoulders for portable convenience. A new one-finger trigger allows the operator to control blade while still maintaining a grip on the handle.

Engine is the same as the one on Homelite's chainsaw. For details, write the company at Port Chester, N.Y.

## Suppliers' Personnel Changes

Amchem Products, Inc., announces appointment of Edward Suttor, Jr., to its lawn and garden products sales force. Suttor resides in Bremen, Ind., and will represent Amchem in Indiana and Michigan.

California Chemical Co. has named Stanley R. Eubanks sales manager for its new Ortho Div. branch office in Denver, Colo. Eubanks will be responsible for marketing of pesticide and fertilizer products in Wyoming, Utah, Colorado, Arizona, and parts of Montana, Idaho, Oregon, New Mexico and Nebraska. In another move, Robert L. Hoen goes from branch manager in Salt Lake City, to branch sales manager for the Southern California and Las Vegas regions of Ortho Div. He will be responsible for sales and sales personnel training.

Chipman Chemical Co. recently named William J. Nicholas as sales and service representative for the Arizona-Imperial Valley area. Nicholas will work out of Scottsdale, Ariz., under direction of Chipman's Palo Alto, Calif., district office. L. P. Van Gordon is district sales manager.

Dow Chemical Co. advises that it has named Dr. Mark G. Wiltse as head of herbicide development. He succeeds L. L. (Bud) Coulter, who is now manager of bioproducts business development. Dr. Wiltse's promotion from his assignment as project leader of industrial vegetation control was announced by Dr. Keith C. Barrons, manager, plant science research and development for Dow.

Heyden Div., Heyden Newport Chemical Corp., has appointed George Koch as manager, agricultural chemicals, according to W. C. Deakyne, Jr., vice president, marketing. Koch will be responsible for worldwide marketing and commercial development of Heyden's line of agricultural chemicals. Deakyne also informs that Woodson (Woody) Johnson is now sales representative for agricultural chemicals in the North and South Carolinas, Alabama, and Georgia area.

## Literature you'll want

Here are the latest government, university and industrial publications of interest to contract applicators. Some can be obtained free of charge, while others are nominally priced. When ordering, include title and catalog number, if any. Sources follow booklet titles.

**Planting Trees and Shrubs**, 4 pp. il., Agricultural Extension Service, University of Delaware, Newark, Del.

**Melting-Out of Bluegrass Lawns**, Bulletin BP-7-1, Agricultural Publications Office, Agricultural Experiment Station, Purdue University, Lafayette, Ind., 5¢.

**Quackgrass, Description and Controls**, Bulletin L-46, Agricultural Extension Service, University of Wyoming, Laramie, Wyo.

**Home Lawns**, Extension Bulletin 922, 32 pp. il., Agricultural Extension

Service, Cornell University, Ithaca, N. Y.

**Properties and Uses of Atrazine Herbicides**, Technical Bulletin No. 63-1, 16 pp. il., Geigy Agricultural Chemicals, P. O. Box 430, Yonkers, N. Y.

**Lawn Grasses for South Carolina**, 22 pp. il., Circular 495, Extension Service, Clemson University, Clemson, S. C.

**Lawn Insects, How To Control Them**, Supplement 1 to Circular 495, Extension Service, Clemson University, Clemson, S. C.

**Controlling Turf Grass Diseases**, Supplement 2 to Circular 495, Extension Service, Clemson University, Clemson, S. C.

**The Chinch Bug and Its Control**, Circular 223, Publications, Connecticut Agricultural Experiment Station, Box 1106, New Haven 4, Conn.

**The Pesticide Situation for 1963-64**, June 1964, 25 pp., Agricultural Stabilization and Conservation Service, U. S. Department of Agriculture, Washington, D. C. 20250.



## Native Trees Are Better Seed Source, Geneticist Reports

Reflecting upon studies resulting from a forestry improvement project which began in 1955, S. S. Pauley says that native trees tend to be better seed sources than nonnative trees.

This statement was recently made to a group of visitors at the North Central School and Experiment Station, Grand Rapids, Minn. Pauley is Professor of Forestry at the University of Minnesota.

Objective of the project, Pauley said, is to develop improved lines through selection and breeding of genetically superior wild ecotypes of native species and promising nonnative ecotypes and species.

Studies with white spruce, Scots pine, red oak, aspen, and jack pine have shown considerable genetic variability, depending upon the source of seed. Crosses of the natural hybrid between white and black spruce discovered near Cromwell, Minn., are difficult to make, but the hybrid shows promise.

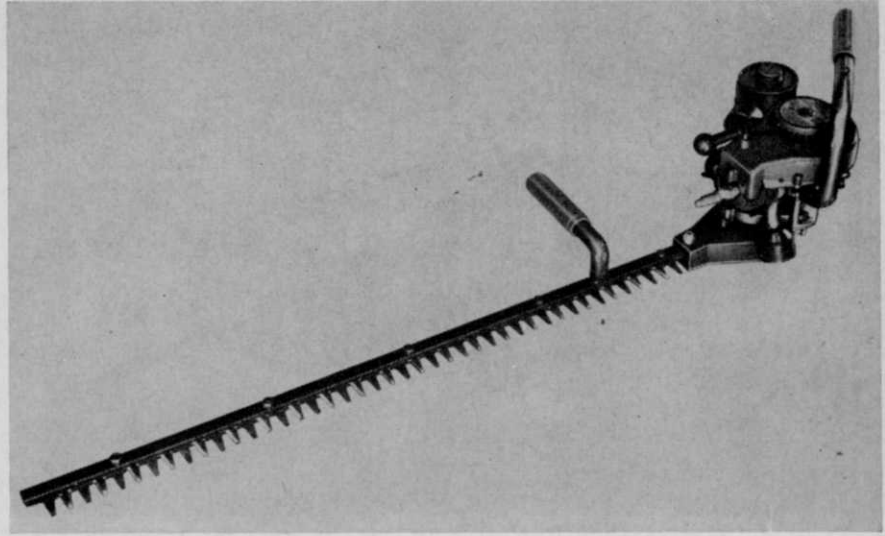
Studies of Scots pine seed sources show all seed sources to be hardy with the exception of Spanish sources. Central European seed sources show the most promise for Christmas tree plantings.

A larch species from Japan appears to be encouraging an introduction to Minnesota. However, the species shows considerable variability in hardiness, but those that are hardy may be acceptable for timber production and ornamental use.

## Poa annua Can Be Stopped

Application of the preemergence herbicide Betasan will prevent *Poa annua* from sprouting and spoiling golf greens, tees, and other turf areas, according to Betasan's producer, Stauffer Chemical Co. With this overwintering pest stopped, the desirable perennial grasses can spread and maintain a good cover throughout the fall playing season and into spring.

Betasan is also effective for



Said to weigh only 10 pounds, and run one hour on a pint of fuel, the Jupiter Trimmer-Clipper will prune trees, trim shrubs and hedge, and mow high grass and weeds. Powered with a  $\frac{3}{4}$ -hp Ohlsson & Rice engine, the machine can be used in remote areas. Complete details are available from Marine Industrial Supply Co., Dept. WT, 645 W. Anaheim St., Long Beach, Calif.

control of crabgrass and goosegrass, Stauffer claims. Applications exceeding twice the recommended rate have been made to bentgrasses, fescues, bluegrass, and other turf grasses without injury.

Betasan is available in granular or liquid form; the liquid formulation is suggested for use on greens. Ten to fifteen minutes of watering immediately after application is essential to move the herbicide down to the soil where contact with weed seed is assured. For more information write the firm at 380 Madison Ave., New York, N. Y. 10017.

## Dual Fertilizer Labels Suggested by Iowa Agronomists

Agronomists at Iowa State University are encouraging dual labeling of the phosphorus and potassium content of fertilizers.

These two nutrients are commonly expressed in the oxide form as  $P_2O_5$  and  $K_2O$ . The agronomists suggest that they also be labeled in the elemental form as P and K.

Expressing the phosphorus (P) and potassium (K) content of fertilizers in the elemental form would place these two nutrients on the same basis as nitrogen (N) and other nutrients already expressed in elemental form, J. A. Stritzel writes in a

recent issue of *Iowa Farm Science* magazine.

If you buy fertilizer with an analysis of 6-24-24, you may think you are getting a fertilizer that contains 6% nitrogen, 24% phosphorus and 24% potassium. The elemental analysis, however, is 6-10-20—6% nitrogen, 10% phosphorus, 20% potassium.

The difference between the elemental analysis and the oxide analysis is the weight of the oxygen. The oxygen weight is eliminated in the elemental analysis, which gives a more accurate proportion of each nutrient in relation to the other nutrients in the fertilizer.

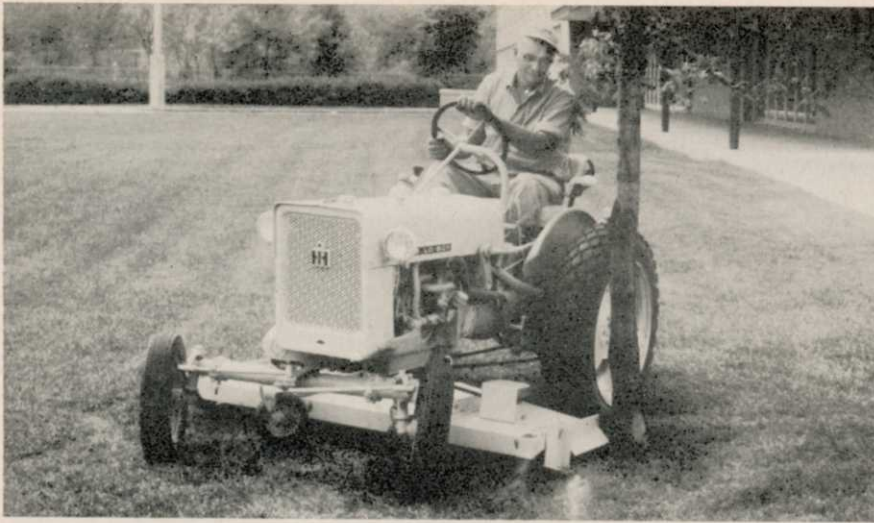
More information is contained in "Better Names for Phosphate and Potash," Reprint FS-1050, available from Publications Distribution, Morrill Hall, Iowa State University, Ames, Iowa.

## Penn State Has Soil Course

"Soil Fertility and Management," is the subject of another correspondence course offered by the Pennsylvania State University. Lessons are prepared by soil experts and include "Garden Soil Management," and "Your Flower Garden."

To learn more about soil and its care, submit name and address to Soil Fertility, Box 5000, University Park, Pa. 16802. Enrollment fee is \$2.25.





New in design and capable of performing many turf management jobs is this Cub Lo-Boy tractor. The 42-inch rotary mower will cut everything from tall weeds and brush to close-clipped turf. The 60-inch rotary is designed specially for fine turf and will mow as much as two acres per hour, International Harvester says.

### I-H Lo-Boy Cub Features Many Tools for Grounds Maintenance

Over a dozen tractor-matched tools, all of them quickly interchangeable, make it possible for the I-H Lo-Boy Cub tractor to perform scores of jobs with economy of operation and low maintenance cost, International Harvester Co. says.

The Cub is a special-sized tractor with specific advantages on many jobs. Principal feature is its size and weight, giving this machine advantages over larger equipment in getting into tight quarters with limited working area, and enabling it to traverse grounds unable to support heavier machines.

In performance and flexibility of operation, I-H says the Cub is in every sense a full-fledged tractor with big tractor features. Built-in stamina results in low maintenance cost.

Equipped with power take-off and hydraulic system, the Lo-Boy performs numerous jobs with its fast-hitch, pick-up-and-go arrangement. Available attachments for the unit are grading blade, sweeper, disk, landscape tiller rake, rotary tiller, 450-pound front end loader, back-filling blade, a 110-volt generator to supply power for electric hand tools, hole auger, and two-wheel dump trailer.

A variety of attachments are available for mowing of grasses

and weeds: a 42- and 60-inch rotary mower, 3-gang mower cutting an 82-inch swath, 5-ft. cutter bar, 48" hammer knife mower, and Pitman-type mower.

Complete information is available in a new catalog available from International Harvester Co., 180 N. Michigan Ave., Chicago 1, Ill.

### Geigy Sets Weed Clinics

Industrial and civic weed control problems will be the subject for a series of clinics to be held during October in northern and southern California. The seminars are sponsored by Geigy Agricultural Chemicals.

In the southern California sessions, Dr. Wm. Isom of the Riverside Experiment Station will discuss weed identification, and others will discuss principles of herbicide application. Dates for these meetings are Oct. 6 at King's Inn, San Diego; Oct. 7 at Disneyland Hotel, Anaheim; Oct. 8 at the Dunes in Riverside; and Oct. 9 at Santa Barbara Inn in Santa Barbara. Programs begin at 9:30 a.m.

The northern study sessions are scheduled as follows: Oct. 26 at The Royal Palms Motor Hotel in Bakersfield; Oct. 27 at Del Webb's Town House in Fresno; Oct. 28 at the Hotel El Dorado in Sacramento; and Oct. 30 at the Thunderbird Hotel in Milbrae. Starting time is 10 a.m.

## Meeting Dates



Rutgers University Turfgrass Equipment and Products Field Day, New Brunswick, N. J., Oct. 10.

Central Plains Turf Grass Foundation Meeting, Umberger Hall, Kansas State University, Manhattan, Oct. 21-23.

Washington State Weed Conference, Chinook Motel and Tower, Yakima, Nov. 2-3.

National Fertilizer Solutions Assn. Meeting, Statler-Hilton Hotel, Dallas, Texas, Nov. 3-5.

Oklahoma Turfgrass Conference, Student Union, Oklahoma State University, Stillwater, Nov. 4-6.

Oklahoma Turfgrass Association Annual Meeting, Student Union, Oklahoma State University, Stillwater, Nov. 4.

Horticultural Spraymen's Assn. of Florida Annual Convention, Pier 66 Hotel, Ft. Lauderdale, Nov. 5-6.

National Weed Committee of Canada, Eastern Section Meeting, Quebec City, Nov. 5-6.

Washington State U. Workshop—Retest for 1965 License, auditorium, Puget Sound Power & Light Co., Bellevue, Nov. 17-19.

Northwest Chemical Applicators Assn. Annual Conference, Chinook Hotel, Yakima, Wash., Nov. 30-Dec. 1.

Washington State U. Workshop—Retest for 1965 License, Chinook Hotel, Yakima, Dec. 2-4.

National Weed Committee of Canada, Western Section Meeting, Royal Alexandria Hotel, Winnipeg, Dec. 1-3.

North Central Weed Conference, Inc., Meeting, Kellogg Center, East Lansing, Mich., Dec. 14-16.

Northeastern Weed Conference, Hotel Astor, New York City, Jan. 6-8.

17th Annual California Weed Conference, Hacienda Motel, Fresno, Jan. 19-21.

Southern Weed Conference, Annual Meeting, Hotel Adolphus, Dallas, Tex., Jan. 19-21.

Southeastern Turfgrass Conference, Tifton, Ga., April 12-14.



## Northwest Applicators Meet In Yakima, Nov. 30-Dec. 1

A broad, informative program has been cast for the annual conference of the Northwest Chemical Applicators Assn., Nov. 30 and Dec. 1, in the Chinook Hotel, Yakima, Wash. The conference is open to management personnel only.

Main subjects of discussion will be taxes and bookkeeping, aimed at small service businesses; finances for the applying business and a study of when and when not to expand; and a view of what is meant by public relations, why it is necessary, and some of the mechanics of how it works.

Applicators attending the luncheon will be addressed by Joe Dwyer, director, Washington State Department of Agriculture.

An equipment display at the Yakima airport will be climaxed with an aerial exhibition.

Included in the schedule are business meetings, election of

officers, addition of a board member, and changes in the constitution.

For details write John G. Wilson, Executive Secretary, Northwest Chemical Applicators Assn., 814 Second Ave., Seattle, Wash. 98104.

## California Weed Conference Meets in Fresno, Jan. 19-21

A program of broad interest to members of the vegetation control industry is being readied for the 17th California Weed Conference meeting Jan. 19-21.

According to Dr. David Bayer, Botany Dept., University of California, Davis, the program will cover various aspects of weed control as a science, losses attributed to weeds and the cost of their control, brush control, selective weed control in crops, range weed control, and equipment.

This year's annual meeting is set for the Hacienda Motel, Fresno, Calif. For details write Dr. Bayer.

## Washington State Workshops Slated for '65 License Retest

Two workshop programs arranged by Washington State U. Extension specialists, in cooperation with the Department of Agriculture, are scheduled to be held in Bellevue and Yakima, Washington, as an aid to retest applicators for 1965 licenses.

The Bellevue workshop is scheduled for Nov. 17-19 in the auditorium of the Puget Sound Power & Light Co. Registration begins at 8 a. m. with emphasis based on treatment of ornamentals.

In Yakima the workshop will be held in Chinook Hotel, Dec. 2-4 with aerial spray and crop work as the primary subject. Examinations for 1965 licenses will be given in the afternoon of the final day of each program.

Applicators planning to attend these workshops are advised to review fundamentals of their work, since the workshops will be devoted to information directed to requirements of the new examination.

# designed for the PROFESSIONAL!

Myers DU-ALL Sprayers are specially designed for the professional applicator. Versatile enough to handle a wide range of spraying jobs. Tough enough to take the rugged, day-to-day treatment required by professionals. Economical enough to provide effective, low cost coverage for greater per-job profits.

New, Du-All sprayers are available in wheel or skid-mounted models, capacities from 2-10 GPM, tanks in 150 or 200 gallon sizes. Boom attachments optional.

Myers also makes a full line of sprayers with pump capacities from 2-50 GPM, pressures to 800 PSI, tank sizes from 12½ to 1,000 gallons. See your local Myers Sprayer Dealer for details.



**Myers** ...the finest name in power sprayers

**The F. E. Myers & Bro. Co.**  
ASHLAND, OHIO  
SUBSIDIARY OF THE MCNEIL MACHINE & ENGINEERING CO.



A tree planting ceremony (above) marked August's convention of the International Shade Tree Conference. The tree was presented by ISTC to a Houston historical society. National Arborist Assn. members also elected officers during the affair. Shown below, left to right, are: secretary, Kenneth P. Soergel; second vice president Harry A. Morrison; first vice president Edwin E. Irish; and president Winston E. Parker.



## ISTC Selects Washington for 1965 Meeting; Officers Named

Members of the International Shade Tree Conference were told during the annual convention in Houston Aug. 17-21 that the 1965 meeting will take place in Washington, D.C., August 16-20. Details of the program and the meeting site will be published in *Weeds and Turf* as the information becomes available.

As is customary, the National Arborist Association will meet jointly next year with ISTC members.

The meeting this year in Houston drew 450 delegates.

As part of the annual convention, both the International Shade Tree Conference and the National Arborist Association elect new officers. Chosen to head the ISTC in the coming 12 months is Joseph Dietrich, Park Superintendent for Greenwich, Conn. New vice president is O. J. Andersen of Trees of Houston (Texas). Dr. L. C. Chadwick remains as Secretary-Treasurer and Dr. Paul Tilford is continuing as Editor. In the National Arborist Association meeting, Winston E. Parker was elected president for the next year's period. He runs N. J. Certified Tree Expert Co. in Moorestown, N.J. First vice president is Edwin E. Irish of the Charles F. Irish Co. in Detroit, Mich. Second v-p is Harry A. Morrison, Arborist, Wilmette, Ill. Elected to the secretary's post was Kenneth P. Soergel who runs Soergel Tree Service in Gibsonia, Pa. Assisting the group in the treasurer's position will be John C. Phillips, Sohner Tree Service, San Anselmo, California.

Dr. Paul Tilford is Executive Secretary of the group, headquartered in Wooster, Ohio.

## Ala.-Fla. Turfgrass Meet

(from page 19)

must be used to prevent clogging and the system must be flushed after use to prevent corrosion.

The researcher concluded with a "plug" for soil testing. He said no attempt should be made to establish or maintain a turf without using soil test results for a guide.

The event got underway with Dr. Ben T. Lanham, Jr., Associate Director of the Agricultural Experiment Station, welcoming the group to Auburn University. Speakers at the opening session, and their topics, were: George W. Cobb, Greenville, S. C., architect, "Golf Course Design and Construction"; Bill Rocquemore, Lakeland, Ga., seed and turf dealer, "Soil Fumigation"; and Dr. Raymond L. Self, Ornamental Horticulture Field Station, Spring Hill, "Methods of Grass Planting." O. N. Andrews, Auburn

Extension Service, presided at the opening session.

"Grasses Around the World" was the topic of Dr. Glenn Burton, USDA grass authority from Tifton, Ga., at the annual banquet.

## IT-GC Set Feb. 7-12, Cleveland

The annual International Turf-Grass Conference and Show is scheduled to meet next Feb. 7-12 in the Hotel Sheraton-Cleveland, Cleveland, Ohio.

While of primary interest to golf course superintendents, the educational portions of the yearly affair are of note to all turf-grass professionals. Anyone may attend by paying the standard registration fee.

Sponsored by the Golf Course Superintendents Association of America, the show and conference draw about 1,000 delegates each year. For details, write CGSAA at P.O. Box 1385, Jacksonville Beach, Fla.



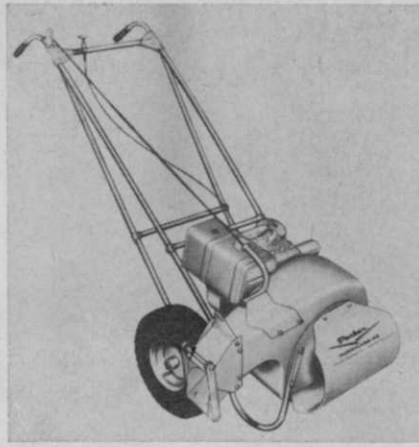
## Parker Offers Debris Blower

A high-velocity blower, said to clear lawns and other areas of grass clippings, leaves, and other debris in minutes, is the newest product of Parker Sweeper Co. It is particularly useful in areas cluttered by obstacles such as trees, shrubbery, park benches, or tombstones, Parker spokesmen maintain.

Called the Parker Hurricane-55, the machine's 6-hp engine develops an air blast in excess of 100 mph, the company says. Adjustment of the discharge chute controls direction of air column. Leaves and debris are blown from 14 to 25 feet (depending on moisture content), into windrows or a central point for gathering.

With optional hose attachment, the machine is useful to blow leaves and debris out of flower beds, ground cover and planter boxes.

Constructed of fiberglass, the Hurricane-55's light weight makes it easily maneuvered. Ex-



The Hurricane-55 eliminates hand sweeping and raking of lawn areas cluttered by trees, shrubbery and tombstones, Parker Sweeper Co. says.

tra large wheels assure maximum flotation.

For complete information, write Parker Sweeper Co., Springfield, Ohio.

## No. Central Weed Meet Set

Plans for the next annual conference of weed control experts are now being formulated,

according to G. Clare Buskirk, Secretary-Treasurer of the North Central Weed Control Conference, Inc.

Buskirk told *Weeds and Turf* that the Kellogg Center on the Michigan State University Campus in East Lansing has been selected for the affair, scheduled for December 14-16.

Current officers of the organization, other than Buskirk, include president Delbert D. Hemphill of the Department of Horticulture, University of Missouri, Columbia; and vice president John D. Furrer of the Department of Agronomy, University of Nebraska, Lincoln.

Buskirk also revealed that there is still a supply of proceedings from past conferences available to those interested. Available years are 1947 to 1949, and 1952 to 1962.

Prices vary according to year. Details about the proceedings, and the conference itself, are available from Buskirk at 4100 X St., Lincoln 3, Neb.

## Keep Your Weeds and Turf magazines

In specially designed

### Permanent Binders

Helps You Keep 24 Full Issues of *Weeds and Turf* In One Neat Package

- ▷ Keeps back numbers handy for quick reference
- ▷ Protects issues from needless damage. Holds 24 issues.
- ▷ Gives your bookshelf a neat appearance

Magazines can be inserted as they are received

**Still Just \$3.25**

Please send check or money order to

### WEEDS AND TURF

1900 Euclid Ave. Cleveland, Ohio 44115

## Changing Your Address?

If so, notify our circulation department right away to be certain the magazine reaches you at your new location. The Post Office won't forward your copies. So when you write us, make it at least three weeks in advance of your moving date, and include your old address, as well as the new one. We'll see you don't miss a single issue.

Send old and new address information to:

**WEEDS AND TURF Magazine**

Circulation Department

Room 802

1900 Euclid Avenue

Cleveland, Ohio 44115

## CLASSIFIEDS

When answering ads where box number only is given, please address as follows: Box number, c/o Weeds 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 accompanied by cash or money order covering full payment.

## MISCELLANEOUS

### TO EMPLOYERS who advertise for men!

The letters you receive in answer to your advertisements in WEEDS and TURF are submitted by each of the applicants with the hope of securing the position offered. When there are many applicants it frequently happens that the only letters acknowledged are those of promising candidates. (Others do not receive the slightest indication that their letters have even been received, much less given any consideration.) These men often become discouraged, will not respond to future advertisements and sometimes even question if they are bonafide. We can guarantee that every advertisement printed in WEEDS and TURF is duly authorized. Now won't you help keep our readers interested in this advertising by acknowledging every application received, even if you only return the letters of unsuccessful applicants to them marked, say, "Position filled, thank you"? If you don't care to reveal your identity mail them in plain envelopes. We suggest this in a spirit of helpful cooperation between employers and the men replying to Help Wanted advertisements. Put yourself in the place of the other fellow.

### Fall Is Best Time To Control Locust Borer

All varieties of locust trees are subject to attack by locust borers, and fall is the most opportune time to apply control measures, reminds Harold Gunderson, extension entomologist at Iowa State University.

Adult locust borers are beetles 3/4- to 1-inch long, with yellow chevrons on the back.

These locust borers feed on the pollen of goldenrods and a few other flowers. The adults mate and lay their eggs on the bark of locust trees.

The eggs hatch in the fall and the young larvae eat through the bark and burrow into the tree's trunk and larger branches. They will complete their development next summer and emerge as adults next fall, Gunderson explains.

Their burrowing severely weakens the locust trees and makes them susceptible to wind damage. This damage can be



A 3/4-yard loader attachment is the newest of eight quick mounting tools for Vermeer's Pow-R Ditchmaster tractor. This new loader can be mounted in a matter of minutes, the company says. The operator is seated on the front of the tractor unit for increased vision and better control. Heavy-duty 9:00x16 traction tires are driven by a 4-wheel, hydraulic, variable speed drive providing unexcelled "digging" power, it is said. Complete details are available from the company by writing Vermeer Mfg. Co., Pella, Iowa.

prevented by spraying the trunk and large limbs of all locust varieties with a 5% DDT water emulsion spray. Wet the bark and all cracks and crevices with the spray, Gunderson recommends.

Newly hatched larvae must eat through this treated bark and will be killed before they get into the tree. A single application each year will protect against these pests, according to Gunderson.

### Nutter Resigns from GCSAA

Dr. Gene C. Nutter, Executive Director of The Golf Course Superintendents Association of America (GCSAA) since 1959, has resigned his position effective April 1, 1965.

Dr. Nutter, who also serves as editor of GCSAA publications, was instrumental in the association's greatest growth period. During the past five years GCSAA membership increased from over 1300 to over 2100 members, and the International Turf-Grass Conference and Show has doubled in scope and attendance.

A successor has not yet been determined. Nutter will continue professional and business interests in the turfgrass industry.

## Advertisers

### INDEX TO ADVERTISEMENTS

The Ansul Co. ....	4th Cover
John Bean Division FMC .....	3rd Cover
Bowie Machine Works ..	Sept.
Buffalo Turbine Agricultural Equipment Co. ..	Sept.
Diamond Alkali Co. ....	Sept.
Doggett Fison Co. ....	6
Geigy Agricultural Chemicals .....	Sept.
Hercules Powder Co. ....	2nd Cover
Hooker Chemical Corp. ....	25
International Paper Co. ..	Sept.
Morton Chemical Co. ....	4
The F. E. Myers & Bro. Co. ..	29
Robert B. Peters Co., Inc.	Sept.
Rowco Manufacturing Co. ....	Sept.
Solo Industries, Inc. ....	3
Velsicol Chemical Corp. ..	Sept.

### New Cankerworm Pesticide Harmless to Birds, Animals

A new pesticide that destroys cankerworms without harm to beneficial insects, birds, animals or fish was recently announced by Stauffer Chemical Co.

Called Thuricide 90T Flowable, the new preparation is applied just as the cankerworms begin to eat large holes in newly emerging leaves in the spring.

The company reports that the new pesticide is also effective against gypsy moths, tussock moths, aspen leaf tiers and other insects which strip trees of their leaves.

Producer of Thuricide is Bioform Division of International Minerals & Chemicals Corp. The new pesticide has been field tested for a 5-year period, Stauffer says.

Details are available from Stauffer by writing to 380 Madison Ave., New York, N. Y. 10017.



.....  
Diphenyl Trichloroethane .....  
dimethyl O-p-nitrophenyl thiophosphate .....  
Aromatic Petroleum Derivative Solvent .....  
Ingredients .....

Min. Setting Point — 89° C.  
contains 3 pounds DDT per gallon.  
contains 1½ pounds Methyl Parathion per gallon.

READ ENTIRE LABEL. USE STRICTLY IN ACCORD-  
ANCE WITH LABEL CAUTIONS, WARNINGS AND  
DIRECTIONS; AND IN CONFORMITY WITH FED-  
ERAL AND STATE REGULATIONS.

USE IN WARM AREA. PROTECT FROM COL

BEFORE DISCARDING THIS CONTAINER, FILL IT WITH WATER  
ADD 3 TABLESPOONFULS CAUSTIC (ALKALINE) SUBSTANCE  
SUCH AS WASHING SODA (SODIUM CARBONATE) OR LIME  
FILL THE CONTAINER WITH WATER AND CAUSTIC TO  
OVERFLOW

## The most important 21 words in pest control

You see those 21 words—or words like them — on every pesticide container you buy. They're the whole key to pesticide performance.

It takes thousands of hours of testing to come up with label directions. Laboratory and field tests conducted by professional chemists and agricultural scientists. Tests that have to meet the most stringent standards of government agencies.

But the important thing is what happens when you use the product. Those thousands of hours of tests behind the label directions have but one purpose: to help you get the safest, most effective and economical

pest control possible. And following those directions is the only way to make sure you're getting it. That's why it's so important to read and understand the label before using any chemical product.



NATIONAL AGRICULTURAL CHEMICALS ASSOCIATION  
1145 Nineteenth Street, N.W. Washington 6, D.C.

← **Expanding** →  
**into aquatic weed control?**

**You'll find  
 our Manual helpful.**

**F**OR those who are expanding into the complex field of controlling weeds in lakes, ponds, streams, irrigation ditches, and similar areas, there's no substitute for a handy, carry-along manual of basic aquatic weed data.

Our "Applicator's Manual of Aquatic Weed Control," published originally as a series of articles in WEEDS AND TURF, is the only such publication entirely concerned with the practical aspects of aquatic work.

There are sections on species identification (amply illustrated with superb photographs), choice of chemicals for control, and a brass-tacks guide to application.

Discussions include how to compute ppm, how to figure exact amount of water that is to be treated, and how to select pumps, boats, and other tools.

If you're looking at the field of aquatic weed control; if you have a water weed problem that falls under your supervision; or if you simply want to brush up on the technology of aquatics, "Applicator's Manual of Aquatic Weed Control" is a very wise investment. You'll find some door-opening ideas in this 16-page, illustrated, annotated reprint. You may also get quantity discounts if you wish to outfit your entire crew with personal copies.

Order today, supply is limited. Prices: 1-10, \$1.00 each; 11-25, 90¢ each; 26-50, 80¢ each; 51-250, 75¢ each; 250-500, 60¢ each; 501 and over, 50¢ each. Postage paid in United States only.

<b>WEEDS AND TURF</b>	
1900 Euclid Avenue Cleveland, Ohio 44115	
Send me . . . copies of your aquatic reprint at \$. . . . . each. My check for . . . . . is enclosed.	
Name .....	.....
Address .....	.....
City .....	State .....


**All 'round Applicator.** One of our readers who fits the definition of an all 'round contract applicator as well as anyone we've come in contact with yet is Charles F. Robinson who runs the Chemical Plant Control Division of Bartlett Tree Experts in Yorktown Heights, N.Y. Charlie's calling card, which folds open to reveal a complete listing of his services, includes, among other things, crabgrass control, turf fertilization, turf insect control, fungus control, soil acidity control, weed control, soil sterilization, and even plant growth regulation. This New York applicator is singularly qualified for all these pursuits, being a graduate of the University of Massachusetts Stockbridge School of Agriculture, and having spent considerable time in the field getting actual practical know-how. Bartlett's Chemical Plant Control Division is relatively new, and we're sure manager Robinson will be off and running to good purpose!

**Keeping Greenland Green.** *Somebody sent us a clipping the other day about a group of U.S. Air Force servicemen stationed at Thule Air Base in Greenland, whose nostalgic longing for turfgrass finally got the best of them. These turf lovers flew a box of thriving sod into the base, put the miniature lawn in a flight hanger, and now religiously clip, water, and nourish it. We wonder if they've got a chinch bug problem yet?!*

**Tomorrow's Treemen.** One complaint heard from time to time among "old timers" in the International Shade Tree Conference during its convention in Houston in August was the lament that not enough young arborists were coming along to meetings to take active part in the goings-on. Said one venerable member: "I've seen the same faces here for 20 years." Well, an effective rebuttal is found in the person of such young arborists as Peter Bent of Evans Tree Service in Ardmore, Pa., whose presence at virtually every session during the Houston meeting was noticeable evidence that a fresh new crop of tree scientists is in the making. Our reporter noticed Pete, in particular, since he was busily snapping pictures with a camera much like our own, so that we had a chance to compare notes frequently during the convention. We heartily urge other rising young arborists to make every effort to get to these study sessions where the latest ideas are being exchanged, both from the podium and in talk sessions late into the evening.

**Best Dressed List.** *One busy conference-hopping turf expert who's helping southern greenskeepers and turf management professionals make the best-dressed list is James E. Jackson, agronomist with Southern Turf Nurseries in Tifton, Ga. Jim's talks on the value of top dressing have sparked many a regional turf conference in the South, we've heard. We've noticed papers on the subject in several of the regional newsletters from various turf associations.*

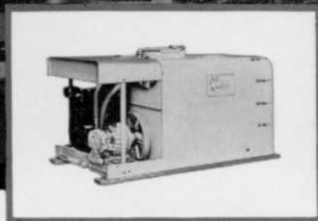


*leadership*  *engineering* pushes performance up - prices down

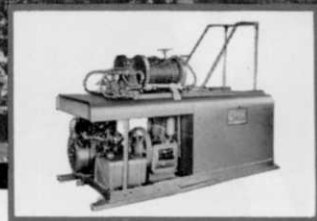
# IT PAYS TO LEARN THE 3-R's OF HIGH-PRESSURE SPRAYING



**ROYALETTE** the leader for all-purpose versatility. 5 or 10 GPM @ 400 psi. 14 separate models to meet your needs exactly.



**ROYALIER** the middle-sized "R" delivering 20 GPM @ 400 psi with new velva-flo Royalier 4-piston pump. Pick from 15 models.



**ROYAL** the "big daddy" in 25, 35 and 60 GPM capacities @ pressures to 800 psi. Proven by years and years of service. 12 models.

It pays to learn the 3-R's, because the knowledge can help you save time and money, do more profit-making jobs, and help you get your jobs done better and sooner. What jobs? Ah, there's the key! Jobs like shade tree spraying, brush and weed control, dust abatement. Close to the soil tasks like liquid fertilizing, lawn insect and turf disease control, root feeding. Clean-up jobs like sanitation spraying, mosquito and insect control. Fringe benefits like equipment cleaning, water-soluble paint spraying, many more. With John Bean High-Pressure Sprayers, you have the power to do the jobs thoroughly and quick. You have Bean-Bond corrosion-resistant tanks, ceramic pump cylinders, and many other Leadership-Engineered features to insure durability and dependability. Now, go back and add up the models. Forty-one (and we didn't even count several engine options)! That makes it as simple as ABC to look through the 3-R's and pick the one that's exactly right for you. May we help you pick?

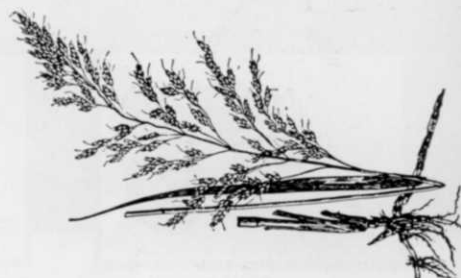
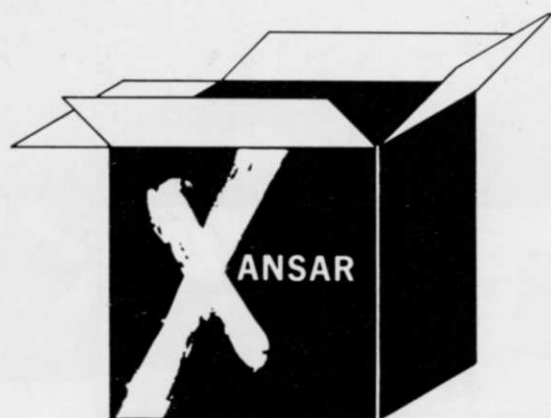
LEARN THE 3-R's. First lesson is writing for catalogs on the models that interest you most. Just clip this coupon to your letterhead and mail.

- ROYALETTE all-purpose sprayers
- ROYALIER high-pressure sprayers
- ROYAL heavy-duty, high-pressure sprayers



## JOHN BEAN DIVISION

Lansing, Mich. - Orlando, Fla. - San Jose, Calif.



## This year there are fewer weeds because of "Ansar"<sup>®</sup>

**PROGRESS REPORT:** ● In the brief span of two years "Ansar" herbicides have compiled a remarkable record in the eradication of weeds—especially Johnson Grass—in cotton and non-crop areas. ● Cotton growers have kept our plants working at top capacity night and day to meet the demand . . . and as a result we'll shortly start construction of a new multi-million pound capacity "Ansar" plant!

● A new product, "Ansar 529" (170 with a surfactant added) will simplify mixing—make the product far easier to use. ● Other "Ansar" products for control of weeds in irrigation ditches, orchards and a variety of non-crop areas will be available very soon. Today "Ansar" is the first name in herbicides . . . a product of  
**THE ANSUL COMPANY, MARINETTE, WIS.**

