

# custom applicators!

## FAMOUS ROYALETTE SERIES

Economy plus all-around versatility and complete dependability. Capacities of 5 and 10 g.p.m. at up to 400 lbs. pressure. Tank sizes: 50, 100, 150, 200 and 300 gal. Complete line of 3 g.p.m. sprayers also available.



## choose the exact model you need from 3 John BEAN SPRAYER SERIES

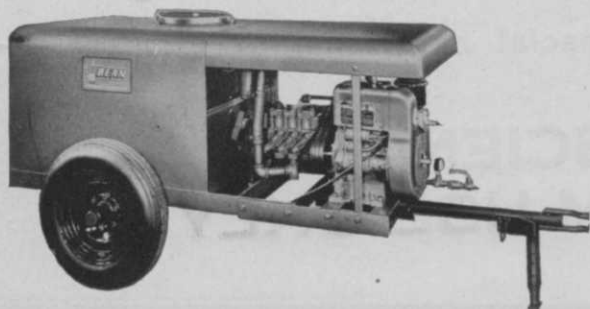
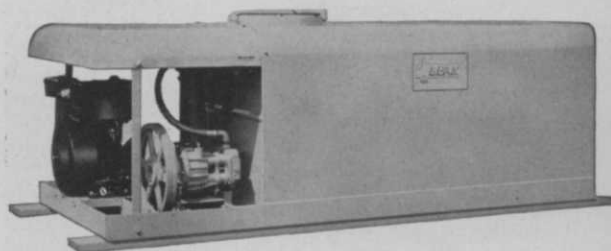
Now, John Bean offers the CA the widest selection of high pressure sprayers available with 3 complete series to choose from! Pump capacity and pressure, tank size, mounting type and sprayer accessories are a matter of choice — you select the model that fits your business requirements exactly. And, every model features long, trouble-free service with exclusive Bean Bond corrosion-resistant tanks and Sapphite pump cylinders that are so hard they resist wear from the most corrosive spray materials. See your dealer for complete details.

PROFITABLE PERFORMANCE  
FOR EVERY JOB:

- brush and weed control
- shade tree spraying
- liquid fertilizing
- mosquito and termite control
- sanitation spraying

## NEW ROYALIER SERIES

Featuring the new 4-piston Royalier pump that combines compactness plus performance that's practically pulsation-free. Capacities: 15 g.p.m. at pressures up to 400 lbs. and 20 g.p.m. up to 300 lbs. pressure. Tanks available in 200, 300, 400 and 500 gal. sizes.



## RUGGED ROYAL SERIES

For big capacity spraying. Three capacities to choose from: 25 g.p.m. at up to 700 lbs. pressure; 35 and 60 g.p.m. at pressures up to 800 lbs. Tank sizes from 200 to 1000 gal.

FOR EXTRA PROFITS, SELL John BEAN SPRAYERS  
— WRITE TODAY FOR FRANCHISE DETAILS

for special dutch elm disease  
and mosquito control data,  
plus free catalogs—check,  
clip and mail coupon attached  
to your card or letterhead



## JOHN BEAN DIVISION

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

Send me:

- |  |   |
|--|---|
| <input type="checkbox"/> Royal, Royalier and<br>Royalette Catalogs | <input type="checkbox"/> Facts on Dutch Elm Disease |
| <input type="checkbox"/> Rotomist Sprayer Catalog                  | <input type="checkbox"/> Facts on Mosquito Control  |

# WEEDS!

## a menace to everyone / profits for you

There's money in weeds, if you're on the right side of them. And that's with any of the many Du Pont weed and brush killers. They make custom weed control jobs easy and effective. Check the typical problems below; chances are you'll see at least half of them within a mile of where you're standing. ■ The answers are easy, too, because Du Pont has a product to meet almost any weed control situation you'll encounter.



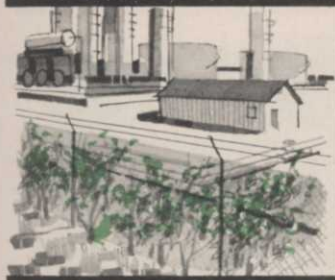
**THE PROBLEM:**  
Hard-to-kill perennials  
— Johnson grass,  
Bermuda grass, nut-  
grass and quackgrass.

**THE ANSWER:**  
Efficient, long-term control of  
grasses and weeds with HYVAR®  
isocil weed killer, an entirely  
new organic herbicide.



**THE PROBLEM:**  
Rampant weed growth  
in storage areas  
causing fire hazards  
as well as wood and  
metal deterioration.

**THE ANSWER:**  
A single application of KARMEX®  
diuron or TELVAR® monuron  
weed killers provides effective,  
low-cost control of weeds and  
grasses for a whole season.



**THE PROBLEM:**  
Deep-rooted perennial  
weeds — morning glory,  
leafy spurge, Canada  
thistle and others.

**THE ANSWER:**  
Easier control of noxious weeds  
than ever before with TRYSBEN®  
200 weed killer. Also  
controls some woody plants.



**THE PROBLEM:**  
Undesirable growth of  
brush on plant sites,  
roadsides, drainage  
ditches, rights-of-ways.

**THE ANSWER:**  
Economical control of brush with  
safe, non-volatile, AMMATE® X  
or with DYBAR® fenuron weed  
and brush killer.



Only a few examples of the type of situations that mean opportunity for you are shown above. Product descriptions are necessarily brief, too — each of these Du Pont herbicides effectively control many other kinds of weeds or brush. For complete information mail the coupon to Du Pont today.

*On all chemicals follow label instructions and warnings carefully.*

**DU PONT WEED**

Better Things for Better Living... through Chemistry

**& BRUSH KILLERS**

Du Pont—I. and B. Dept., PC-63  
Room N-2539, Wilmington 98, Delaware

Please send me more information on Du Pont weed  
and brush killers.

NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_



*You Can* double or triple  
 the amount of business you do  
 ...the amount of money you make!

ALL IT TAKES IS A SIMPLE LOW COST

**LEASE**

*Revolutionary New*

**GENERAL SPRAY LEASE-EXPANSION PLAN**

**SETS YOU UP IN A TIE-IN BUSINESS THAT'S MADE A PHENOMENAL GROWTH!**

Gives your homeowner-customers complete lawn, garden, shrub and tree care ... gives you a profitable new business line for minimum investment, maximum expansion. LEASE the amazing GENERAL SPRAY LAWN & GARDEN MACHINE—that kills crabgrass, weeds ... limes, fertilizes, seeds lawns ... destroys ants, grubs, chinch bugs and over 200 other pests the unique General Spray hydromatic way. This revolutionary machine is magnificently engineered for top efficiency ... uses the same spray techniques you are familiar with ... may even replace some of your present outmoded machinery ...

**AND LETS YOU OFFER THIS COMPLETE SERVICE TO THE HOMEOWNER FOR AS LITTLE AS \$1.75 WEEKLY.** The efficiency of the beautifully equipped brand new truck is so great ...

**YOU NET UP TO HALF YOUR GROSS.**

And here's an opportunity that's really on the grow! Our business quadrupled in '61 ... expanding swiftly with a suburban market which will represent 85% of the total population in your lifetime. GENERAL SPRAY—publically owned, the largest company of its kind in the world—let's you lease now for expansion purposes ... buy when you've proven in big dollar volume what success this can mean for you!

**GENERAL SPRAY SERVICE, INC.**

Dept. PC-7, General Spray Bldg., Katonah, N. Y.

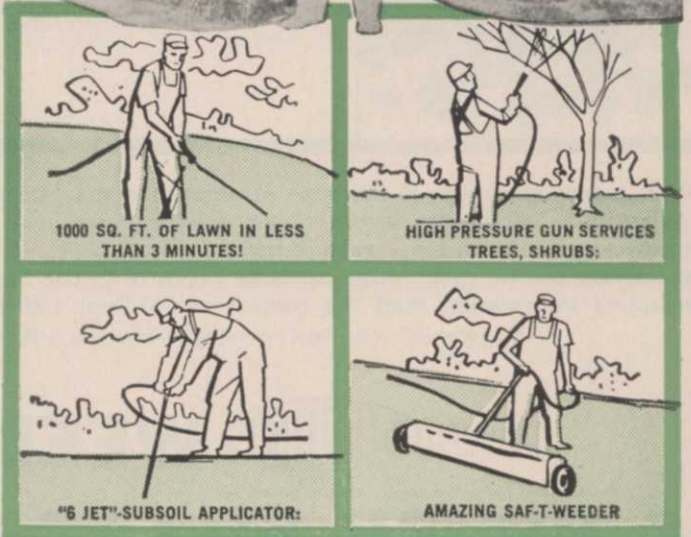
Gentlemen: Please send me full details on your lease-expansion plan, without obligation.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_

Mail coupon or call: CE 2-5144 (N.Y.C. Phone CY 5-6511)



1000 SQ. FT. OF LAWN IN LESS THAN 3 MINUTES!

HIGH PRESSURE GUN SERVICES TREES, SHRUBS:

"6 JET"-SUBSOIL APPLICATOR:

AMAZING SAFT-WEEDER



June, 1963

**What do you need to know?**

America's contract applicators of weed control and turf spraying chemicals are constantly and rapidly growing in educational level and technical proficiency.

But the goal of a "totally prepared" operator is like the horizon, which slips away even as we approach it.

This is as it should be, for knowledge, especially science, is a continuous thing. For this reason CAs should take note of the research underway in the university laboratory, in suppliers' research and development departments, and in government investigations.

But to take note is not enough. Since the contract spraying business is just now coming into its own, it is necessary that every sprayman explain his field problems to the university, the supplier, the federal extension agent.

These scientists are astute, clever men, but being human they can't be everywhere at once. So they can't be aware of all the latest problems in the practical side of the industry unless operators take the time and energy to tell researchers what the most troublesome problems are.

It is a must to establish clear definitions of what the research needs of this industry are. Until there are definitions of industry problems which spell out specific courses of action for the men in the laboratory, many of the CAs' questions will go unanswered.

Next time CAs get together to talk over their mutual problems, why not take time to jot down a few concrete suggestions for avenues of research? This list could then be sent to the state university, or to a supplier who is known to conduct helpful research projects. Or you can send them to us for forwarding.

Whichever route is chosen, CAs should not stand mute about their problems. These researchers are anxious to help, and welcome a guideline to more useful studies.

**Features**

Survey Shows Contractors Get Nearly Half of Railway Weed Control Jobs..... W-6

How to Get Nursery, Ornamental Spraying Contracts By Dr. Robert Snetsinger..... W-8

Know Your Species: Russian Knapweed..... W-16

**Departments**

Calendar..... W-14

Trimmings..... W-18

Published Monthly by  
**TRADE MAGAZINES, INC.**  
1900 Euclid Avenue  
Cleveland 15, Ohio

**JAMES A. NELSON**  
Publisher

**CHARLES D. WEBB**  
Editor

**WALLIS W. WOOD**  
Editorial Assistant

**DAVID E. SCHNEIDER**  
Staff Biologist

**R. J. HOFFER**  
Circulation Manager

**Advertising Representatives**

**National Headquarters**  
1900 Euclid Avenue  
Cleveland 15, Ohio  
Phone: Area Code: 216 + 771-4169

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

Single Copies: 35 cents

Annual Rate for  
12 Monthly Issues: \$3.00

Contents of this Issue © Trade Magazines, Inc., 1963



with NEW

**AQUATHOL PLUS**

Here's a remarkable new addition to our line of aquatic weed killers. Aquathol Plus can rid ponds and lakes of 25 different weed species. When used as directed it is...

- NOT HARMFUL TO FISH, fowl or aquatic animal life.
- EASY AND NON HAZARDOUS to apply in liquid or granular form.
- FREE OF TOXIC BUILD-UP... leaves water usable for recreation.
- EFFECTIVE AND FAST ACTING for spot or complete lake treatment.

Contact your supplier or mail coupon for helpful brochure on aquatic weed identification and control.



**PENNSALT CHEMICALS CORPORATION**

Department PC

309 Graham Bldg., Aurora, Ill.  
P. O. Box 153, Bryan, Texas  
3239 Mayfair Blvd., Fresno, Calif.  
P. O. Box 1206, Montgomery, Ala.  
2901 Taylor Way, Tacoma, Wash.

Please send me your Aquathol folder. I'm interested in treating:

Pond  Lake  Dock or Beach Area  
Approximate size of area to be treated

Name.....  
Address.....  
City..... Zone..... State.....



# Survey Shows Contractors Get Nearly Half of Railway Weed Control Jobs

**Dormant cane broadcast** is a relatively new process which makes it possible for applicators to kill undesirable growth during the winter season when vegetation is not growing. This crew is testing Diamond Alkali's Dacamine for winter treatment.

**A**MERICA'S profit-hungry railroads, whose frugal search for cost-cutting practices is legendary, are currently waging a nip-and-tuck battle between red ink and black.

Faced with ever-diminishing profits, it's small wonder that most railways are currently taking a close look at weed and brush control expenses along the nation's far-flung rights-of-way.

Weedkilling and brush control have long been a railroader's headache, even when profits were abundant. Before the advent of chemical controls, costly hand mowing took a sizable chunk out of every maintenance supervisor's budget, which had to be accounted for by whittling other services, or by settling for less-than-desirable weed and brush conditions.

Why are the railways so concerned about rampant vegetation? Obviously, safety and visibility are of prime concern. Weeds and brush obscure the engineer's view, hide lights and other warning signs, and have even been known to scuttle automatic switches.

Apart from these crucial aspects, though, are the actual expenses of maintaining track and roadbed. Good weed and brush control has been shown to be instrumental in reducing frequency of track resurfacing. Even reballasting has been less a problem in areas where effective vegetation management has been realized.

What does all this mean to the contract applicator? It means a great deal of lucrative business. *Weeds and Turf* has just completed a nationwide survey of weed control practices on American railways with over 100 miles of track. Our researchers found that a whopping 60% of these rail companies use contract applicators for some part of their vegetation control program.

More significantly, we found that of all the work actually performed (by all railways with more than 100 miles of track) 47% is contracted to professional applying firms. Some of these CAs are large, multibranch companies, such as "tree expert" corporations. Others are medium-sized opera-

tions with localized clientele. Others are small operators whose participation in track spraying may be limited to local yards and sidings.

There are even a few firms which specialize almost solely in railroads.

Why are so many railroads turning to contractors for this important facet of maintenance? There are several reasons. Commonly cited in the past were the facts that CAs can more effectively program a continuous control plan (railway crews are often tied up with other projects, or may be called from a job by dozens of unexpected emergencies). Working under yearly contracts, these applicators can be on the job when needed and can realize maximum efficiency and use of time.

CAs, too, already have specialized equipment. Sprayers, pumps, booms, wands, nozzles, drums, and the countless accoutrements a sprayman numbers among his everyday tools, are not always easy to come by in the average railroad shop.

Same is true of personnel. Com-



panies whose sole business is application of weed and brush killing chemicals have on hand skilled, capable men who devote all their working hours to a single practice.

But two additional factors are becoming increasingly important. First, our survey revealed that the average cost per mile for vegetation control by contractors is substantially lower than the cost per mile of jobs carried out by the railroad crews. Table 1 gives an analysis of these costs. Average expense per mile for contracted control work is \$59. It costs the railroads \$89 per mile to do the same thing!

These figures are based on detailed data furnished the *Weeds and Turf* research staff by 53 railroads (questionnaires were mailed to over 200 carriers).

A second, and much newer reason for turning to contractors, is the furor over use of pesticides which recently has erupted into the nation's favorite topic at town forums, legislative sessions, even cocktail parties. When the public is leary of any kind of chemical pesticide, many progressive railroaders realize it is best to hire a skilled, licensed, educated professional to handle these controversial chemicals. And of course, CAs have adequate insurance coverage which they've been able to procure because of their safety records and hard-won skill with toxic compounds.

All the above points are good sales ammunition for the CA who wants to train his guns on this enormous market and opportunity for expansion of services.

#### What Railway Jobs Entail

What does railway rights-of-way spraying involve? One service, with which CAs are of course familiar, is soil sterilization of roadbeds and areas around switches, fences, warning lights, etc. Chemicals used are essentially the same ones CAs are already stocking for their industrial plant weed control jobs and for highway work (see *W&T*, Jan. '63, p. W-10). This is a very big slice of the railroads' requirements.

Another important activity is nonselective, post-emergence weed control which attempts to kill weeds and brush alongside roadbeds. Sometimes a selective herbi-

cide is used so that objectionable growth is destroyed, but enough ground cover remains to prevent dangerous erosion and landslides.

In many sections along the miles of track, brush control is of primary concern, especially in isolated areas where encroaching plants may actually interfere with the operation of trains.

A more recent concept is dormant application, in which chemicals are applied during the "dead" season when plants are not growing. This method effects control for the coming growing season.

Some CAs may be active in only one of these techniques, while others include all services in their sales dossier.

#### What Equipment Is Needed?

Variety of vegetation control practices, obviously, determines the kind of equipment contract applicators need. For roadbed sterilization, special sprayers and booms mounted on railway cars are frequently employed. For off-track areas, these same spray rigs can be adapted to project a stream of chemical along the right-of-way with extreme accuracy. These machines are expensive, and usually are found among the larger, more diversified spray operators.

Recently the advent of the helicopter and the small, maneuverable spray plane have simplified and speeded up broadscale weed and brush control campaigns.

Standard spray rigs, such as a CA may be using on highway jobs, can be made portable, and can be mounted on flat-bed cars for specialized contracts.

In yards, sidings, and other limited areas, the back-mounted knapsack-type sprayer is frequently put to work. This gives the sprayman extreme flexibility, and is especially useful for touch-up jobs, or very small contracts.

Whatever the machine employed, it is apparent that equipment is basically the same in principle as spray applicators CAs have been using for a long time. This familiarity with equipment is another reason so many contractors are successful in railroad work.

Just how does the railway weed control market line up? Results of the *W&T* survey show that the average American railroad

**Table 1. Analysis of Railway Weed and Brush Control Practices in the United States.**

Miles of track and rights-of-way treated.....	1,463
Treatments per year.....	1+*
Percentage of total work performed by contractors.....	47%
Percentage of railways which use CAs to some degree.....	60%
Cost per mile for work done by railway crews.....	\$89/mi.
Cost per mile for work done by contractors.....	\$59/mi.
Average yearly amount spent by railways on chemicals....	\$100,000.00**
Average yearly amount spent by railways on equipment....	\$3,167.00***

\* In southern and humid states, there may be 2 to 4 treatments annually.

\*\* Does not include chemicals purchased by contract applicators.

\*\*\*Does not include equipment purchased by the contract applicator.

This report based on a survey by *Weeds and Turf* researchers, who mailed questionnaires to over 200 railroads. 53 replied.

treats 1,463 miles of track (and its adjacent right-of-way) every year. Reports ranged from a road that treats 7,500 miles yearly, to some which spray under 100 miles. Most railroads have their track treated at least once a year.

As indicated earlier, 60% of the companies which reported their practices to *W&T* use contractors to some degree. Range of use was from 10% of total program to 100%. When these figures were averaged out with other available data, it was shown that nearly half (47%) of *all* the railway weed and brush control in the United States is performed by the contract applicator.

Table 1 gives an analysis of the facts which *W&T* researchers garnered. This information will be useful to sales managers who wish to analyze the market, either with an eye to increasing a company's share, or to entering the field for the first time.

#### Move Cautiously . . .

Whatever the position of any individual weed control company, it pays to enter this market for the first time with extreme care. Large-scale jobs require costly equipment. Many operators already possess such rigs, or at best have simple adaptations to perform. However, if getting a job means buying a complete new outfit,

(Continued on page W-13)



# How to Get More Nursery, Ornamental Spraying Contracts

**T**HIS "New Frontier of Ornamental Pest Control" does *not* offer a ready-made opportunity for success to all who venture into this field. Only those operators who offer a convenient and economical service to the customer can hope for success in ornamental pest control. Custom sprayers, tree experts, and others also hope to develop this area.

A pest control operator or contract applicator *cannot* wait for emergency calls, but must seek out business opportunities if he expects to develop a program in ornamental pest control. He cannot expect to make a profit unless he has a considerable number of customers with the same problems, so that servicemen can become specialists and know what they are doing.

Perhaps the easiest way for a PCO to make a transition to ornamental pest control work is to provide this type of service for his present customers. For example, if he has a contract for roach control at a variety-store lunch counter, he might offer a monthly inspection and treatment service for the care of the potted-plant counter at this store.

About 40% of the ivy, philodendron, and other potted plants sold in variety stores are infested with two-spotted spider mites, scale insects, whiteflies, mealybugs, or aphids. These pests destroy \$30 to \$100 worth of plants per year per store and greatly reduce sales, because no one wants to buy sickly plants. Monthly inspections of the potted plants by

By **DR. ROBERT SNETSINGER**

Assistant Professor of Entomology  
The Pennsylvania State University  
University Park, Pennsylvania

servicemen trained to recognize ornamental pests would require about five minutes per visit, plus an additional ten minutes for treatments when required. This service to the store might net an additional \$2 to \$5 per call to the operator.

This type of inspection and service would also benefit many retail florists, supermarkets, and garden centers that handle plant materials but lack the knowledge, skill, and equipment to take care of their own pest control problems. Most florists with small and medium-sized greenhouses would be much better off if they would let a trained expert handle their pest control problems. They suffer 3 to 10% losses from pests each year because they fail to follow good pest control practices. A pest control operator or contract applicator with a knowledge of greenhouse crops could provide a real service to the floral industry. In fact, contracted pest control is already established in the California greenhouse industry.

## Seek Florist, Nursery Jobs

I believe the time will come when pest control specialists will handle most of the pest control work for florists, mushroom growers, nurserymen, greenskeepers, fruit growers, and other horticulturists. These industries can no longer afford amateurs because of the value of the crops concerned

and the hazards involved in the use of highly toxic pesticides.

Even the homeowner will have to face the fact that he cannot afford to endanger an investment of several thousand dollars worth of landscaping by allowing a novice to care for it. However, I think that the homeowner will offer a considerable challenge in selling the idea of contracted control. Probably the owners of apartment developments, factories, offices, etc., are more likely to see the advantages of contracted control at the beginning.

The homeowner is more likely to contact the PCO or CA "after the horse is stolen." A bagworm infestation is not usually reported until the shape of the tree is ruined or the tree is on the point of death. The operator must conduct an educational program in connection with the development of an ornamental pest control service.

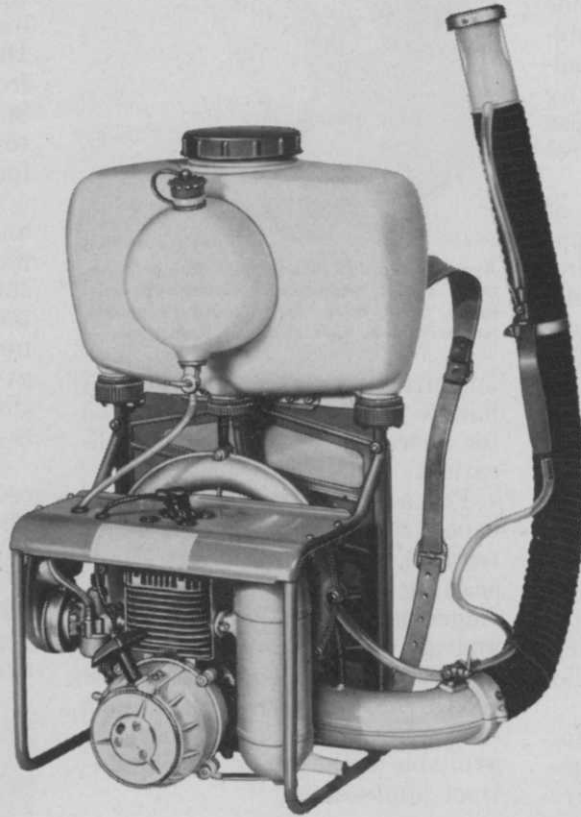
One way to approach the homeowner is to establish a clinic for house plants. For example, one day a week he could invite the ladies to bring in their "sick" house plants for treatment. On clinic day the operator could pre-mix 5-gallon pails of "dipping solutions" suitable for the control of the pests of house plants. Even though the ladies would pay a minimal charge for this service, and the spraymen could sell them prepackaged dipping solutions for future problems (these dipping solutions might be packaged in a manner similar to flower seeds, with pictures of types of damage and pests), perhaps the greatest benefit would be that clinics of this type would instill a professional status to the PCO-CA work in the eyes of the house plant owners.

However, the operator must know what he is doing before he can expect to be successful. He must know what plant he is dealing with as well as what pest is attacking it. If the serviceman does not recognize the arborvitae on which the pest is feeding, the homeowner is not likely to believe the serviceman when he says that

(Continued on page W-13)

Contract care of ornamental plants is finding ready acceptance among homeowners, and contract applicators can find lucrative sales opportunities for this service among present customers, this article advises. Furthermore, once ornamental spraying is a significant part of the CA's activities, it's natural to add contract nursery spraying to the services offered, author Snetsinger says. Many nurserymen, while experts in horticulture, are not prepared to deal with some insect pests, while spraymen are quite accustomed to dealing with such pest organisms.





*Could this be just what you need to tap the potential of the outdoor comfort market?*

Pack a Hudson 411 (Scheffacker) and you're set to tackle the new business opportunities of the outdoor comfort market.

It will help you develop a whole new area of business—insect control at estates, in parks and outdoor recreation areas for living and playing comfort.

This power mist sprayer will go anywhere you go—community recreation and picnic areas, golf driving ranges, resorts and residential areas. It's light—weighs only 28 lbs. Features finger-tip control for easy and convenient operation.

Use it to *penetrate* the foliage of dense shrubs around the home, estate or park.

It also has the *reach* you'll need for fruit trees and high shrubs.

Think what you could do in half an hour with this compact portable tool.



Adjustable 2 1/4 inch straps, light weight and ventilated and padded back rest give maximum comfort.

Or, how many different outdoor jobs it'll help you do in one day that you couldn't before because of cumbersome equipment.

It has a colorful plastic tank that holds 2 3/4 gallons of spray. There's a 3 hp, 2-cycle, air cooled engine which uses a gasoline-and-oil mixture. Efficient muffler assures quiet running.

Adjustable nozzle cap deflects air stream up, down, right or left. Or it's removable for straight-ahead discharge.

Also available is duster Model 412—adaptable for dusting, wet-dusting, as well as mist spraying. Write us for more information about the Hudson 411—or 412.

© 1963 H. D. H. Mfg. Co.

SIGN OF THE BEST BUY



H. D. HUDSON MANUFACTURING COMPANY  
589 E. Illinois St., Chicago 11, Illinois



## Turf Maintenance, Renovation Guide Available from Ryan

A compact and convenient guide to equipment for turf maintenance and renovation is now available from Ryan Landscaping Equipment Co. Brochure also features recommended procedures for professional lawn care.

Included in the Ryan line of specialized, heavy-duty turf equipment is the firm's new Motoraire, now available in two models. Operating under normal conditions, the Motoraire will core and aerate more than 10,000 sq. ft. per hour, the firm claims. Hollow tempered steel tines eject sharp, uniform soil cores, according to Ryan, and specially engineered spring-action mounting prevents tearing turf, taking all cores at right angles on 6" centers.

Controlled aeration holds water and fertilizer while promoting deeper root growth, to build thicker, healthier turf.

To complete preparations for high-quality turf, Ryan recommends following Motoraire treatment, which eliminates compaction, with the company's Ren-O-Thin, which removes thatch and thins dense turf.

Ren-O-Thin slices turf smoothly and evenly, Ryan claims, and has a positive-acting depth selector and wide variety of reel assemblies. Machine lifts out thatch at set depth and controls running stem grasses. Slicing allows air, moisture, and fertilizer to reach root systems for even, vigorous turf growth.

Center roller on the Ren-O-Thin prevents scalping, Ryan reports,



Ruggedly built, lightweight Ren-O-Thin, from Ryan Landscaping Equipment Co., has specially shaped knives to remove thatch, thin dense turf.



Ryan's Motoraire is equipped with a 3 hp., recoil starter engine, and features a roller chain, V-belt drive. Self-cleaning 1/2" hollow tempered steel tines eliminate compaction.

and machine also has a snap-out handle that mounts on either end for forward or reverse reel application.

For a more complete guide to expert turf renovation and maintenance, write to Ryan Landscaping Equipment Co., 871 Edgerton St., St. Paul 1, Minn., and ask for the firm's illustrated brochure on turf equipment. The 6-page bulletin, with specifications on each of Ryan's products, is available without cost to all contract applicators.

## Okay Thiodan for Tree Pests

Thiodan insecticide, a product of Niagara Chemical Div., FMC, has been granted U.S. Department of Agriculture registration for use in controlling aphids on shade trees and Taxus bud mites on Taxus.

New registration marks the initial use of Thiodan on shade trees, although the chemical has been registered for control of aphids, whiteflies, and cycloids on ornamentals for some time, Niagara reports.

Many other shade tree and ornamental uses for Thiodan have appeared promising in field and laboratory tests, and are expected to become commercial in the near future, according to Niagara.

Recommendations for use of Thiodan on both shade trees (for aphids) and Taxus (for Taxus bud mites) call for 0.5 lbs. actual chemical per 100 gallons of water. Either the wettable powder or emulsifiable concentrate forms can be used, the manufacturer notes.

For more information on Thiodan, write Niagara Chemical Div., FMC Corp., 100 Niagara St., Middleport, N.Y.

## Nitrogen Aids Turf Growth

"Turf demands more nitrogen than any other 'crop' because of its rugged conditions of existence," Dr. Victor Younger, turf expert from the University of California in Los Angeles, told delegates to the recent meeting of the California Fertilizer Conference.

"Grasses are subject to regular and frequent defoliation, through mowing; they have almost constant traffic, which damages plant tissue and compacts soil; and the unusual amount of water they're given washes minerals down through the soil," Dr. Younger revealed.

To combat these conditions, he recommended spring and fall application of a complete fertilizer, at 4 lbs. of nitrogen for each pound of phosphorus and potash (a 4:1:1 ratio). "During the rest of the year a simple nitrogen material may be used," Dr. Younger added.



Full-time secretary of the Southern California Turfgrass Council is Mrs. Marie Trowbridge, former secretary for the Equipment and Materials Educational Exposition.

## Calif. Council Has Secretary

"Service and educational activities of the Southern California Turfgrass Council have progressed so far that a full-time, professional secretary has become mandatory," the Council, P. O. Box 102, Mira Loma, Calif., announced recently.

New secretary, Mrs. Marie Trowbridge, will coordinate the many new services and educational projects of the Council. Mrs. Trowbridge was formerly secretary of the Equipment and Materials Educational Exposition, sponsored by the Council in association with the University of California Agricultural Extension Service.