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"Scientific Guide to Pest Control Operations" (published by Pest Control magazine) was written by and for pest controllers. Author Dr. Lee C. Truman is a successful PCO in Indianapolis, Ind., and Professor William L. Butts is in charge of the four-year pest control curriculum of Purdue's entomology department. Working with them was an editorial committee representing important phases of the pest control industry: Dr. John V. Osmun, head of Purdue's entomology department; Dr. Howard O. Deay, Purdue professor of entomology; Dr. Phillip J. Spear, technical director of the National Pest Control Association; Dr. Harry D. Pratt, in charge of insect and rodent control training for the Communicable Disease Center of the U.S. Public Health Service; George L. Hockenyos, PCO-researcher, owner of Sentinel Laboratories, Springfield, Ill.; and James A. Nelson, editor and publisher of Pest Control magazine.

By **DR. LEE C. TRUMAN** and  
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## — W & T Mailbox —

### Interested in Railway Weed Control

I am very much interested in railway weed control, as discussed in the June 1963 issue of *Weeds and Turf*. I would appreciate any information you could forward to me on who should be contacted at the railroad companies.

Gordon R. Kennedy

Kennedy's Exterminating &  
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Wood River, Ill.

*Although responsibility for weed control along rights-of-way and within railroad yards frequently*

*varies from one company to another, CAs who have written us indicate that the chief engineer, maintenance-of-way, is usually the person to see. In other cases, the purchasing department will probably be able to direct any inquires to the proper official.* Ed.

### W&T Is Valuable Guide

I am very much impressed with your publication *Weeds and Turf*. In addition to providing up-to-date developments, the information appears to be presented in an interesting, well-organized, and unbiased manner. All the issues

which I have had the opportunity to read proved to be of value to me in the turf field.

Henry W. Indyk

Extension Service  
College of Agriculture  
New Brunswick, N.J.

### W&T Fulfills Definite Need

You are to be congratulated for introducing the very worthwhile magazine, *Weeds and Turf*. This magazine will fulfill a definite need for all segments of the population who enjoy the beauty and usefulness of turf. In addition, it will be of value to those of us who devote full time to turf and weeds. The writing and reporting are informative and of the highest quality.

Evert O. Burt

Assistant Turf Technologist  
Agricultural Experiment Stations  
University of Florida  
Fort Lauderdale, Fla.

### Grateful for Extensive Coverage

We derive constant satisfaction from your magazine, and use it over and over in our everyday business.

The Miami area is becoming more weed-conscious, and several articles on weed control have appeared in recent newspapers here. We feel qualified this year to go into this phase of the business in both residential lawns and in commercial properties, and we are starting our annual contracts in both areas.

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Charlie P. Johnson

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PEST CONTROL

A SECTION OF PEST CONTROL MAGAZINE

September, 1963

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## Don't buy business!

A frequent complaint voiced by many CAs is that competitors are "ruthless price-cutters."

It is certainly a sad reality that a few weed, turf, and tree jobs are taken at absurdly low prices. Sometimes these low bids actually result from deliberate price slashing; sometimes the contractor has simply not used a pricing basis which covers all costs and profits.

Whatever the reason for price cutting, the end effect on the industry is unsettling. Prices are soft, profits inconstant, quality of work inconsistent.

"The only thing worse than a man who cuts prices is the man who meets them," one reader wrote us recently. This is a telling comment, and perhaps spells out the real ethical question. Since price-cutters exist in any business and crop up from time to time regardless of what is done to stop them, whether or not to meet reduced prices is a decision reputable companies are often forced to make.

Fortunately, the low-price firms either (a) cannot perform quality work and therefore get no more jobs, or (b) are eventually forced out of business because they end up broke.

But this does not solve the dilemma of a well-established, sound contract application firm which is occasionally forced to bid against such outfits. Otherwise astute managers, faced with this kind of competition, sometimes have to agree to "buy business" by price cutting because they feel a job is too important to lose.

Ideally, perhaps, the CA should just let the business go; but there are factors which sometimes make this infeasible.

We suggest that applicators everywhere work through their various trade associations, through chambers of commerce, and through a public education program (utilizing advertising) to remind customers that, in vegetation management especially, it's *quality* that is really important.



Section of old "haygrass" turf knocked down with cacodylic acid spray prior to reseeding. The dead grass, loosened in seedbed preparation, can remain as an effective mulch. A modern technique for upgrading turf with quality grasses such as Kentucky bluegrass, fine fescues, or even Highland bentgrass.

## Business Opportunities in Turf Reseeding

**T**ECHNOLOGICAL advance is a mark of our times. Only skillful use of specialized equipment leads to maximum service (and profit). Do pest control specialists seize all such opportunities? Perhaps some might extend their technical competence to embrace seeding, a creative facet that rounds out the professional program of turf maintenance and gives it a positive luster. Seeding could enhance year-around utilization of equipment and know-how.

Turf pest control specialists are no doubt alert to latest developments in preventive spraying. But they may not have considered how closely spraying is related to other evolving procedures with which it might be integrated.

Seeding of quality grass, for example, is a creative, positive act; it may blunt and even overshadow the distasteful negativism that

By **DR ROBERT W. SCHERY**

Director, The Lawn Institute  
Marysville, Ohio

"protection" implies. Might not a customer respond better to suggestions for making his a first-rate Kentucky bluegrass-fine fescue lawn than he does to warnings for defensive action against pests? If a lawn service organization can offer relatively effortless means for upgrading lawn quality, isn't this also an automatic entree for keeping lawns fertilized, weed-free, and bugless?

Newer developments bring us almost to the point where a hay field can be turned into a bluegrass lawn with minimum effort. And in the South, dull turfs can be winterseeded to produce an emerald cover of attractive texture. Indeed, Kentucky bluegrass, Oregon fine fescues, and Highland bentgrass are already substituting for ryegrass on the better golf

putting greens in the South; were this to become usual for the millions of acres of bermuda lawns that turn dingy each autumn, imagine the market! Yet, techniques for accomplishing this easily and economically may not be remote; and a rising level of personal income in the South may make winterseeding more acceptable.

The modern homeowner — even the groundskeeper — cannot afford to capitalize specialized machines for just occasional usage. Nor does he have the know-how to do the right thing at the right time. A lawn service, well equipped to give good grass a chance in outdistancing weeds, should find acceptance in a market as yet unexploited. The chemicals and the equipment are on hand to make this possible. New seeding fits nicely into the tapering-off season too, for autumn is the best time to seed bluegrass-fescue and Highland bentgrass lawns in the North, as well as winterseed southern turfs.

This added business must be cultivated, of course. But with good lawns increasingly a status symbol, with homeowners having more leisure time in which to be concerned about lawns, and with national tastes in turf becoming more sophisticated all the time, the trend of the times lends support. Family formations, dispos-



Well known among turf people, Dr. Schery (pictured above) is director of the Lawn Institute, a nonprofit agency devoted to advancement of fine turf. The author feels contract turf companies can find new profits in lawn re-seeding.

able income, and leisure time all seem sure to rise; relaxed suburban living amidst ample good turf is not likely to suffer inadequate demand.

#### Quick Knockdown

The usefulness of specialized chemicals is nowhere better demonstrated than for freeing a poor lawn of unwanted vegetation prior to reseeding with quality grass. Conventional soil sterilization is not an everyday answer; this process usually requires either soil cultivation or a considerable waiting period before reseeding. Methyl bromide, one of the most effective sterilants, must be contained under gas-tight tarpaulin. Vapam is drenched into cultivated soil, and may injure ornamental plantings (through the roots). Such methods tend to be too intricate for use on some landscaped grounds.

A surface knockdown of old vegetation is practical, however. Lawn Institute tests convince us that general weed killers such as dalapon, amitrol, Vapam, and Novege—or heavy dosage of calcium cyanamide—knock out unwanted annuals and most perennials. Where broadleaf weeds are a problem, 2,4-D or Silvex might be combined with such sprays as dalapon. Used at manufacturers' suggested rates, the chemicals dissipate within a few weeks (depending upon climate and soil), after which reseeding can be undertaken.

Even more convenient is cacodylic acid, a newer, quick-knock-down chemical. One half pound (of the 66% liquid) in a few gallons of water to the thousand square feet scorches back all surface vegetation within just a few days, even when temperatures are crisp with light freezing at night. The chemical seems to be immediately inactivated upon reaching soil, and presents no hazard to shrubs and trees. Dilution can be adjusted for the type of vegetation being sprayed, so that the foliage is well doused (perhaps with a wetting agent or spreader-sticker added), but little solution is lost by soaking through to the soil. For better control of weed grasses that have deep rhizomes, such as quackgrass, dalapon may be added to the cacodylic acid; but then

delay before reseeding must match dissipation time of the dalapon.

There is some advantage to surface knockdown even when the seedbed is plowed or rotary tilled. A cultivated seedbed free of living sprouts is still the surest way to procure a uniform new stand of grass on schedule. But labor costs often make cultivation prohibitive. A newer substitute is to use a thinning or "vertical mowing" device after chemical knockdown. These can be set low to fragment the old vegetation and scratch the soil surface. Used in a favorable season, such as autumn or early spring for bluegrass-fescue or Highland bentgrass, an adequate seedbed is obtained for lodgement of the relatively small seed of these quality turfgrasses. The old stubble, and any loose "straw" kicked aside in the operation, can be left as a mulch. If facilities permit, top-dressing or additional mulching encourages establishment of the new grass. Frequent watering until the stand is well rooted is even more important than when the seedbed has been cultivated.

This simplified seeding method is not a foolproof substitute for conventional planting to a well-fertilized seedbed. The chances of failure are greater, especially when watering is neglected or where no top-dressing or mulch is used to hold moisture. Nor can fertilizer be mixed deeply into the root zone. But it is an inexpensive means of reseeding or patching that could extend pest control operations with little more than



Mulching is good insurance to bring on sprout of a new seeding. Researchers at The Lawn Institute discovered that covering lawn seeding with a polyethylene tarp improved growth.

the purchase of a vertical mowing or de-thatching machine.

Indeed, a sufficiently powered thatch-remover might pay its way even without the chemical treatment. Annual de-thatching, followed by bolster seeding with quality grasses, should in time upgrade poor sods in almost any climate. The thinning sets back permanent grasses only slightly, but may mutilate and temporarily halt bulky weeds. In any event, thatch removal opens the sod sufficiently so that new seed reaches soil, rather than being wasted atop debris where it can't strike root.

#### Winterseeding

Just as autumn is excellent for planting cool-weather favorites (Kentucky bluegrass, fine fescues, and bentgrass) in the North, so is it the season for seeding these species into southern turfs as winter annuals. In the upper



A "vertical mower" can be used to scratch a receptive seedbed where old grass has received chemical knockdown spray. Note the loose, receptive surface where the machine has passed, excellent for good seed to strike root.



Newer techniques are in the offing for winter-seeding southern turfs, such as bermudagrass. Here Dr. Evert Burt, Plantation Experiment Station in Florida, checks the new seedlings from a bluegrass-fine fescue-bentgrass mixture overseeded in November. The striations are where a vertical mower had opened the now-dormant bermuda.

South, from coastal Virginia through the Piedmont, west to Memphis and Dallas, common bermudagrass is the usual lawn cover. Because it is dormant from November until perhaps April, plusher neighborhoods often seed "wintergrass" annually in October. Even in the Deep South, where the dormant season is relatively short, there is demand for attractive winterseeding, especially along the tourist routes, and for commer-

cial or recreational properties (such as motels and golf courses). With the South industrializing and achieving increased personal income, and with northern retirees so often heading south, it is reasonable to anticipate demand for more attractive outdoors with quality lawns on which to enjoy winter "outdoor living."

Traditionally, ryegrass, a large-seeded bunchgrass, has been scattered into bermuda to make winter cover of sorts. Ryegrass is quick and easy, but has a number of faults. It has certainly fallen into disfavor with experts such as golf course superintendents, who must maintain greens of high quality for winter vacationers. Ryegrass is relatively coarse, not a very deep green, subject to a number of diseases, and requires generous seeding rates (because the big seeds represent so few plants per pound). But worst of all, it is aggressive, and generally refuses to fade away gracefully in spring allowing bermuda to revive. Moreover, in the recent unusually cold winters, ryegrass has winterkilled as far south

as southeastern Texas and middle Mississippi, while comparison plantings of bluegrass remained undamaged.

One might guess that the future holds promise for finer textured northern grasses of quality, such as Kentucky bluegrass, the fine fescues (Creeping Red, Chewings, Illahee, Pennlawn, etc.), and the lawn-type bentgrasses, now that techniques and equipment are evolving that make their establishment readily possible. Some research on this is discussed in the following sections.

#### Golf Course Winterseeding

Custom applicators probably have little direct contact with the golf course market, since golf courses typically employ their own expert superintendents. Nevertheless, golf courses represent a concentration of fine turf interest, where new developments receive trial under fire. Also the glamour of success "rubs off" well on influential citizens. A summarization of winterseeding results on putting green turf may thus be instructive.

The Lawn Institute investigated

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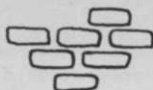
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winterseeding in the deep South during 1962-63. A great deal of ferment is evident, but little in the way of general conclusions. Over much of the South ryegrass has fallen into disfavor for the reasons earlier given, and because many golfers feel it is not the ideal putting surface. Where ryegrass has winterkilled the last two years, the question is not so much whether to plant ryegrass, as what to substitute for it. Many cool-weather species are candidates, especially the quality ones previously mentioned (fine fescues, Kentucky bluegrass, and the bentgrasses), and *Poa trivialis* (rough bluegrass). There have been successes with each. All appear to give better spring transition than does ryegrass. But a serious difficulty is slowness to become established in autumn (compared to ryegrass). In this respect, the fine fescues are not too much at a disadvantage, but bluegrasses and bentgrasses generally don't make much of a cover until the winter tourist season has begun.

Research is being undertaken to develop reliable techniques for

establishing fine turfgrasses in a putting green (while mowed  $\frac{1}{4}$ - $\frac{3}{8}$  inch). Vertical mowing and dethatching play a part. But of even greater pertinency to pest control interests may be spraying with growth retardants to induce earlier autumn dormancy in the permanent grass (keep bermuda from competing strongly with establishment of the wintergrass). Spraying of MH-30 (maleic hydrazide) or some of the other retardants prior to overseeding has given excellent results at the University of Arizona (50 cc.'s of 60% maleic hydrazide in  $\frac{1}{2}$  gallon water per hundred square feet), but erratic behavior at the University of Mississippi. The University of Florida has tried several retardants which might find a place in that relatively humid climate.

At Mississippi State University, mid-October seedings with fine fescue established as well as did ryegrass. By November 9 fine fescue ratings were the highest. It seemed to make little difference whether top-dressing was practiced before, after, or both before

and after seeding. The turfgrass research report for 1962 mentions: "Ratings for turf quality (color, density, putting quality) found Pennlawn fescue rated highest." It noted, too, that the university golf team considered this the best putting surface. Both the coach and the team rated *Poa trivialis* as a poor grass for putting quality. The report adds: "Ryegrass and *Poa trivialis* did retard bermudagrass in the spring. Pennlawn fescue did not." Other conclusions: "Tests on overseeding of golf greens have found that there are other cool-season grasses which are as desirable or more desirable than ryegrass." And: "The bentgrasses, fineleafed fescues, and some of the *Poa* species do have a place in Mississippi in their use for overseeding of golf putting greens; — bentgrasses, fescues and bluegrasses produced best results when seeded 20-30 days prior to the first killing frost."

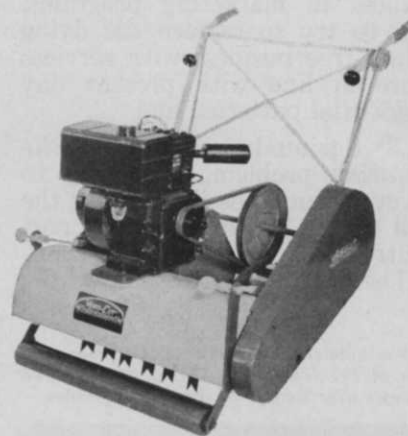
Researchers at Texas State University felt winterseeding there is best made about November 1. Quality northern grasses are much  
(Continued on page W-16)



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# Seek Replacements for Dying Markets, Treemen Urge

## At 39th International Shade Tree Conference in Toronto

A refusal to mourn the death of old markets, and a concurrent jubilation at the birth-cry of new ones, characterize the business outlook of modern America's arborist industry.

In fact, a changing concept of sales and service is just one example of the courageous attitude of tree expert companies today. Industry men at the 39th International Shade Tree Conference convention made it quite plain that the coming months will be marked by increased efforts of arborists everywhere to lay low some of the phantoms which now plague the industry.

Meeting at the Royal York Hotel in Toronto, Ontario, August 4-9, the 600-odd delegates swept through an educational program that was breathtaking in its scope. In a series of fast-paced addresses and panels the assembly:

(1) Vowed to make new strides in the efforts to achieve a "professional" status and reputation;

(2) Decided to cast no backward glances in marketing programs, and to try to replace the dying estate tree business with services more in line with present day residential patterns; and

(3) Seriously considered the pesticide problem, promising to do everything possible to take the real truth about chemical pest control to the customer himself.

These ideas were part of the

Last-minute check was typical of the thoroughness of Dr. George C. Decker, who refuted hysterics over the use of chemical pesticides.



Delegates found time to quiz visiting A. J. Mackenzie Clay of Rugby, England, who told of his experiences in large tree moving in the United Kingdom.

varied fabric of the 39th conference program, woven by a group of experts from every conceivable field of interest.

"Old-timers" vied with new blood in presenting the concept of the professional arborist; college-trained marketing authorities explained where arborists' new accounts will come from; crack scientists delivered the latest data from lab and test plot; and a world-renowned entomologist methodically and relentlessly dispelled any real fears over the proper use of chemical pesticides.

In face of this formidable series of lectures and talks, and in addition to committee meetings and business sessions, the jovial group still found time for an extensive social program that made the most of Toronto's cosmopolitan entertainment facilities.

Perhaps one of the most practical addresses was presented in the National Arborists Association section of the program, where Robert Felix of Harder Tree Service, Inc., Hempstead, Long Island, N.Y., outlined what he feels to be the challenging business opportunities for aggressive arborists.

Felix, a young man who has many years in the business, was well qualified to speak.

"There are three salient trends in today's arborist markets which must be considered," Felix said. They are:

- tendency for industry to locate in suburbia;
- advent of the "estatelette," a

home with large grounds, though smaller than the estate of yesterday; and

- increase in number of "development" homes, residences in the \$12,000-18,000 category.

Industry and institutions built in suburbia today are rather widely landscaped, Felix pointed out. These grounds must be cared for, but building maintenance personnel are unqualified to do the job.

It's obvious that every arborist should consider this a prime source of new business. Problem is to convince management of the need for professional, contract tree care around these buildings; it is necessary to sell actual management people because their building maintenance personnel will be unwilling to admit their inability to perform these outdoor tasks.

Felix said this kind of business (i.e., suburban industry and institutions) makes a hard nucleus on which to build, partly because they all pay their bills promptly.

Services offered to these installations should include spraying, feeding, and pruning, a broad-scope program which rounds out vegetation management requirements for the suburban company and its grounds.

### Estate of Yore Is Gone

Arborists have to admit, Felix said in introducing the second potential market, that the many-acred estate of yesteryear is gone with the touring car, gold bath tub, and low income tax.

Once the arborist's bread-and-