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Fall Is for Planting
Page 26

HBJ A Harcourt Brace Jovanovich Publication $2.00 Volume 7, Number 9 SEPTEMBER 1983

LAWN CARE INDUSTRY

Serving lawn maintenance and chemical lawn care professionals

BROCHURES:
The image-makers
Details on Page 10

The crystal ball

Mix 'n' match grasses

"Because of our changing society and industry, we must evaluate new concepts for turf management," says Dr. Vic Gibeault of the University of California at Riverside. "Since 1973, the costs of most things that go into the maintenance of turf increased to make this a labor-intensive type of commodity. We're all now in an economic stress period. So do we continue with the modern conveniences we have, or do we go backwards?"

Turf will play a continually larger role in the lives of the American people, Dr. Gibeault contends. He points to the urbanization of the country, the population increase, an increase in leisure time, an increase in "discretionary" money and the increasing amenity value ("stimuli which lead to feelings of comfort, pleasure or joy") as reasons for turf's boost in importance. Dr. Gibeault suggests that the time is ripe for a return to the basic principles of turf management: studying the adaptability of a grass to climate before using it.

"Where grasses are well-adapted, they require the lowest level of maintenance, the lowest amount of energy expended," he says. "If a grass is out of its area of adaptation, you can grow it; but you may have to increase cutting height, you may have to play with the nitrogen fertility regime, you might have to modify the irrigation program a little. So it's going to cost more than if you grew it in an area where it was well-

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'Customizer'

Davey hopes to be industry trend-setter

Davey Lawnscape, a division of the Davey Tree Expert Co., Kent, Ohio, has introduced an efficient new proportioning system to accurately meter pesticides or additional fertilizers into spray lines.

Officials at Davey believe that this significant new advancement could become a trend-setter for the entire chemical lawn care industry.

"This system has been in the planning stages since 1977," says Dr. Roger Funk, Davey's Vice-President of Research and Development. "It can increase specialization without an increase in production time.

"It used to be less expensive to give each customer the extra materials than to customize service, but this gives Davey a way to sell a custom-designed coat at an off-the-rack price."

The highly efficient new proportioning system has eliminated pre-mixing pesticides into the large fertilizer tank and applying materials where they may not be needed, in view of the current governmental trend toward stricter regulation of pesticide application.

The proportioner in the unit, which a patent has been applied for, does its own measuring, and also keeps all chemicals in closed containers. The system is keyed to an ounce-per-gallon ratio, no matter what the flow rate. All materials except for broadleaf herbicides are injected at the back of the hose. Broadleaf herbicides are injected at the gun, giving the applicator the ability to inject them only where needed, and instantly. Unlike the systems of some other companies, no container filled with a pressurized concentrate is carried on the applicator's person.

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Davey Lawnscape employees test their proportioning equipment in the Kent, Ohio lab. Watching the "Customizer" system in action are, from left, Kim Schaefer, John Reeves, Jody Woods and Brian Jeffers. The system being used by Davey is the only one of its kind in the country, Reeves said recently.

Next month:
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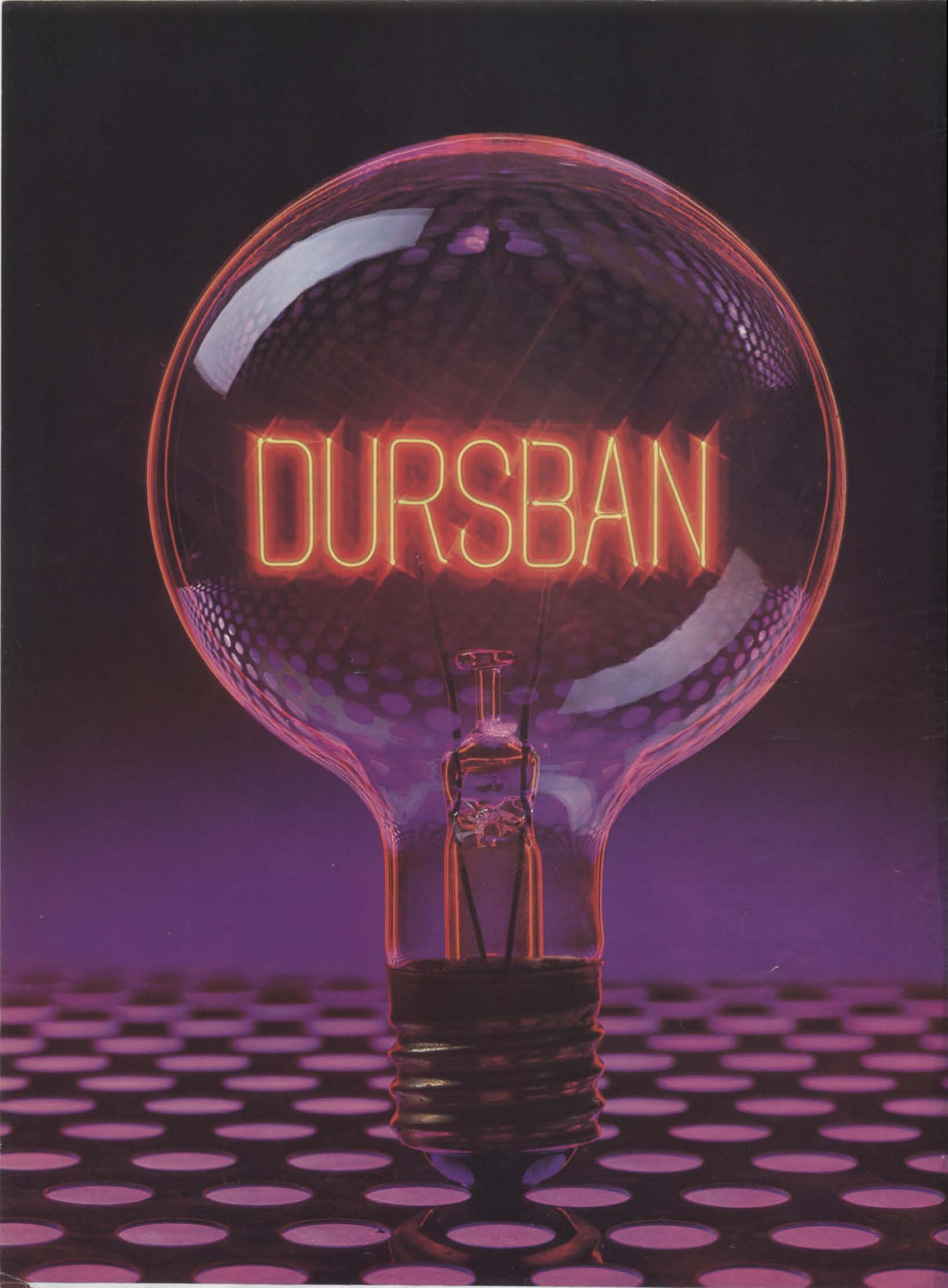
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A certain flair

If you haven't met Charles Beckwith, you should. I guess you could say that he has a certain flair.

"The anti-pesticide gang, the media and freelance writers are perfectly content to put out a lot of misinformation, as long as they get paid for it and get some publicity — never mind the facts," Beckwith told PLCAA northeast Ohio regional seminar attendees this summer. "I'm not even sure I'd know how to talk to an 'environmentalist,' because that term has been so prostituted that it's just meaningless."

What Beckwith says cannot be taken lightly. He retired last year after spending 32 years in the lawn care industry, much of it with Dow Chemical's sales department. When he makes a point, it's an important one — and he doesn't mince words.

A portion of his Ohio speech addressed the industry's current problems with "environmentalists," though Beckwith tried to explain that no problem really exists. Consider this argument:

"Gypsy moths could have been controlled in the state of Massachusetts. When they stopped the DDT spray program on the gypsy moth, it was contained within 75 square miles, which is roughly 48,000 acres. Last year, according to some of the figures I read, gypsy moths defoliated 14 million acres on the East Coast, and that thing hasn't even chomped its way into the good Appalachian hardwood of West Virginia and some of the other good forest areas.

"Last year or the year before, the Davey Tree Expert Company couldn't send enough crews and equipment east to take care of existing demands for gypsy moth spray. So I wouldn't be too critical of those environmentalists: look what they did for Davey!"

Beckwith had much more to say, and rather than comment on his observations, we'll end this column by letting him continue his narrative:

"The environmentalists have forced cancellation of sound agricultural technology and sound chemical programs with the result of a vastly expanded demand for chemical control and pesticide application — just exactly the reverse of what they wanted to do. Consider this: the best Madison Avenue advertising agency could have never thought up a program or developed a method that would sell more pesticides than the environmentalists have laid right on your laps.

"Instead of slow down the use of pesticides, they've created a demand for them. And someone's going to have a supply this demand. So as businessmen, you may as well prepare yourselves for a piece of the action, just like Davey did.

"With the exhaustive research continuing, and common sense prevailing, we're going to prove the old adage that science will triumph over superstition — and we've had one heck of a lot of superstition in this business for quite a while.

"The lawn care industry, in the past 30 years; has experienced excellent growth; in the last 10 years, explosive growth. Opportunities to diversify are just beginning to add to the most basic part of your service, professional lawn care.

"You have the best and most solid reputation of any of the professional applicators, and the reason for it is quite obvious: you've had the best appearance, you make the best impression, and have the best industry training program to cement it all together. I don't see how you can help but grow and be successful with your program in the future."

(In another part of his presentation, Beckwith gave a brief history of the pesticide applicator. Excerpts from that portion of his speech can be found on page 20).

Jerry Roche

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GET MORE FACTS

INDUSTRY NEWS

Scott lays off 170 employees

The recent layoff of 170 employees at O.M. Scott & Sons Proturf Division won't affect the availability of Proturf products, according to a company spokesman.

Scott, which manufactures a line of seeds, fertilizers, insecticides and application equipment to professional turfgrass managers, laid off about 17 percent of its Marysville (Ohio) employees, shortly after the bulk of the season's shipments were completed, according to public relations manager Paul Devine.

"We're in kind of a normal slowdown period," Devine said this summer, so the layoffs didn't affect manufacturing or distribution of Proturf products this season.

The spokesman also said the layoffs will not affect next year's supplies, noting that Scott has the ability and the manpower to meet anticipated industry demand for the 1984 season.

Devine blamed bad weather and poor economic conditions for the workforce reduction. The layoffs are part of "a permanent restructuring of the organization," he said, as company officials look toward operating in the changing economic climate of the latter part of the 1980s.

Scott, a subsidiary of International Telegraph & Telephone, provided placement seminars for the affected employees and referred them to the other 200 ITT subsidiaries, the spokesman added.

Daconil price down by 24%

The price of Daconil 2787 fungicide, which is produced by Diamond-Shamrock, has decreased 24 percent over most recent prices.

According to company spokesmen, the price decrease was effective August 1, and affected both the wettable powder and the flowable formulations.

Diamond-Shamrock representatives say they look for increased sales from the turf market, now that their product is more competitively priced.

ChemLawn breaks ground

The ChemLawn Corp. held ground-breaking ceremonies June 16th for its new $1.5 million research center, six miles from the company's corporate center just outside of Columbus, Ohio.

The new facility will be located on 109 acres and will consist of: an office/laboratory building, a research support building with greenhouse and climate control chambers, and field test plots. Research will concentrate on new fertilizer technology and weed, insect and disease controls for lawn and tree/shrub care. The center will employ 25 specialists.

Construction is due to be completed in time for an early 1984 opening.

Chevron markets new insecticide

A new synthetic pyrethroid insecticide-miticide is being developed and marketed in this country by Chevron Chemical Co. Its name is Danitol, and it was synthesized by Sumitomo Chemical Co. of Japan.

The product is being used successfully in Europe, Asia and Africa. It controls both chewing insects and mites.

Chevron has begun regulatory work.

Changes for Dow's Dursban

Dow Chemical USA has added a wettable powder insecticide to its growing line of Dursban insecticide products, Dursban 50W, a broad spectrum insecticide to control many turf and ornamental plant pests.

The product contains 50 percent chlorpyrifos and 50 percent inert materials. It has a lower phytotoxicity potential in treating turf and ornamentals.

In addition, a precautionary note against treating or allowing spray Dursban 2E and 4E insecticides to contact plants because of possible injury has been deleted. Field experience has not shown such incidental contact to be a significant problem.

to page 15

CUSHMAN INVENTS A NEW GRASS GROOMING SYSTEM

Mow cleanly, catch all the clippings and then dump them, without ever leaving your seat!

The computer designed 60" high-lift cutting deck combined with the "Grass Caddy" vacuums up clippings and litter for professional well groomed turf.

The operator can see when the big 16-bushel hopper is full. He then dumps it hydraulically into a container or pickup bed as high as 4½ feet, without ever leaving his seat. The "Grass Caddy" gives you clean and continuous service and gets you back into the mowing sequence fast. There is no separate engine or blower to maintain; one reliable Cushman-built power plant does it all.

There's no mower on the market to match it. When you want well-groomed turf fast and economically, nothing compares to the Cushman Grass-Grooming System.

For a free demonstration on your grounds, contact your Cushman Dealer or call us toll-free 1-800-228-4444.

CUSHMAN®
Front-Line™ Grass Caddy
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P.O. Box 82409
3530 Cushman
Lincoln, Nebraska 68501

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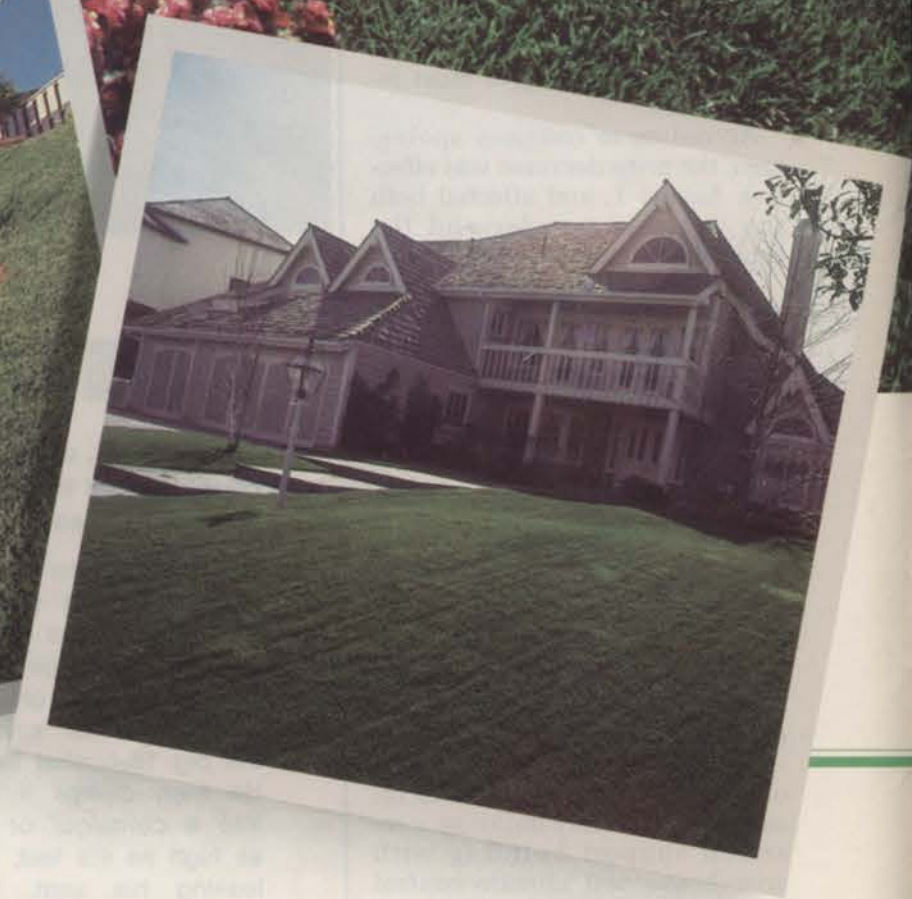

This slope was cleared with Roundup–then planted with a ground cover.

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"ROUNDUP® SAVED ME ABOUT 6 DAYS ON THIS RENOVATION."

"WITH ROUNDUP, I NOT ONLY SAVE TIME, I CAN ALSO DO A BETTER JOB. BIG JOBS OR SMALL ONES. EXTENSIVE RENOVATIONS—OR JUST AN AREA UPGRADE. THE FACT OF THE MATTER IS, I COULDN'T BE AS COMPETITIVE WITHOUT ROUNDUP."

CARL SCHIEFER
OF CARL'S LANDSCAPING, INC., LAGUNA HILLS, CALIFORNIA.

Carl Schiefer runs an award-winning landscaping business in Orange county, California. In that part of the country bermudagrass is an extremely tough perennial weed problem in lawn and shrub areas. Carl solves that problem with Roundup® herbicide.

"We spray Roundup, and 7 days later we can plant. That's because Roundup has no residual soil activity. With conventional methods, we'd have to spend days digging up the rhizomes. In some areas, that means going down at least 12 inches if you're going to do an honest job. With Roundup, we can destroy the weeds, roots and all. On this particular site, I figure I saved about 6 days with Roundup."

When you renovate a lawn or slope with Roundup you won't have to dig, disc or use a sod cutter. Just apply Roundup when the old lawn is actively growing and at the proper stage of growth. Then come back 7 or more days later to power rake, till or slice—then plant. Your customers will like Roundup too, because the work site can hold up to light foot traffic during renovation.

Roundup can help make your workforce more efficient and your bidding more competitive. When you add it all up, that's the kind of edge you need to be successful today. Just ask Carl.

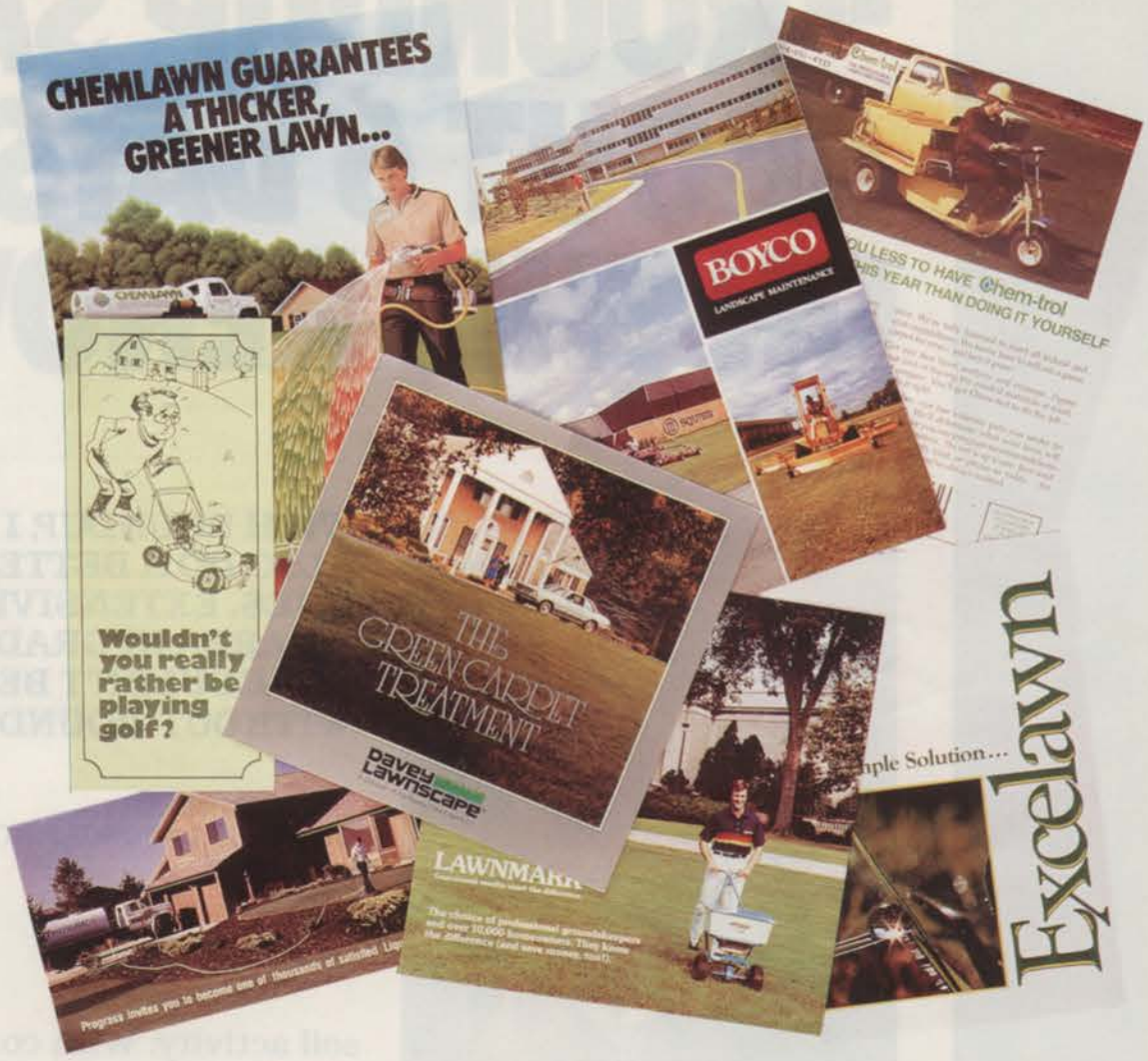
FOR MORE INFORMATION ABOUT MAKING LAWN RENOVATION MORE PROFITABLE WITH ROUNDUP, CALL 1-800-621-5800 TOLL FREE. IN ILLINOIS, CALL 1-800-972-5858.

Round up was also used for trimming and edging around new plantings, as well as follow-up maintenance.

Monsanto

Circle No. 112 on Reader Inquiry Card

Brochures:
Designing them to grab the reader



"The image of a lawn care company is translated into its brochure," says Rudd McGary of the Independent Lawncare Businessman's Association, Columbus, Ohio. "Unless there is a wide disparity in price — at least 20 percent — people will pay more for a company with a good image.

"If you don't believe it, just talk to the people at IBM, who were able to charge more because they built their company around a professional image."

In the business world — of which all lawn care professionals are a part — just as clothes make the man, brochures make the company.

If you feel your brochure is not adequately conveying the unique identity of your company . . . if it's not doing its job properly . . . you might want to take some helpful hints from a wide variety of professional marketing specialists which LAWN CARE INDUSTRY recently contacted.

McGary said that you should spend as much money as you can afford, to make your brochure as attractive as possible. "It must be visually appealing," he noted. "Something on the front page must catch the eye, must make the potential customer want to turn the page."

McGary also recommended subdividing the material, keeping sentences to an average of about nine words long and reinforcing any claims. "Iterate and reiterate," McGary commented. "Redundancy is a key to teaching."

The first step toward creating a brochure with impact is defining your market, and your position in the market. You'll want to establish something special about your company that will make it stand out in the prospective customer's mind.

"The important thing is differentiation," says John Reeves, Assistant Director of Marketing and Advertising for the Davey Tree Expert Company of Kent, Ohio. "That is: what you can offer that no one else can. If, for instance, you feel that you do it better, then you should SAY you can do it better."

Ralph Lund, Vice-President of Corporate Marketing at prestigious ChemLawn, agrees. "Tell your story as well as you can," Lund notes. "If you've got a good business going, you've got a good story. Tell it."

Davey Lawnscape, for instance, is going after an up-scale audience in its "Green Carpet Treatment" printed material. "We're trying to bring our clients up to an affordable status," says Lawnscape Marketing Director Kim Schaefer. "We want to establish Davey as the Chivas Regal of lawn care.."

ChemLawn has chosen a "ChemLawn Guarantees" theme while Excelawn picked "A Simple Solution" as its indentifying phrase. When establishing a theme, never be negative. Use only positive points about your company and about the lawn care industry in general.

"There's a tendency to exaggerate your case and to put down anybody you can," adds Lund. "That just tends to weaken the image of the industry. And I know that sounds self-serving, coming from someone at ChemLawn, but it's not. You simply don't need to take pot-shots."

Considering the immaturity of the market, you might try selling your service to the do-it-yourselfer, instead of going after competition. One major lawn care company spent thousands of dollars researching target audiences and found that more sales close to new customers than to customers who change companies. "What you want is for the whole pie to

Brochure checklist:

Preliminary work

- ☐ Check printers for prices.
- ☐ Check the Post Office for mailing restrictions.

Preparing the copy

- ☐ Define your market.
- ☐ Define your target audience.
- ☐ Tell your story.
- ☐ Keep things short and sweet.
- ☐ Be positive.
- ☐ Iterate and reiterate.

Production work

- ☐ Spend as much money as you can afford.
- ☐ Make the brochure visually appealing.
- ☐ Make sure something on the cover catches the eye.
- ☐ Put company benefits in headlines.
- ☐ Use lots of photos.
- ☐ Check your work.

get bigger — industry trends are in that direction anyway — so you don't have to worry about who gets what slice of the pie," said one marketing specialist.

Next, take a look at your finances and establish a realistic budget for this particular project. As a guideline, one company said that a good brochure will cost six or six-and-a-half cents per piece.

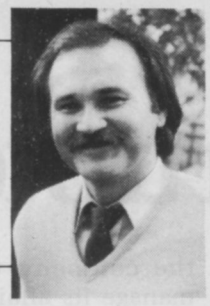
Before you arrange any photo

Rudd McGary

sessions, write any copy or take any further steps, be sure to check with a printer for pricing. There are any number of variables in the print shop which could push the price of your piece upward, if you aren't careful. Some of those variables are paper quality, size of material, related production (typesetting, folding, stapling, trimming, etc.), number of colors, number of sides to be printed, number of pieces to be printed — and on and on.

If you're enclosing a response card, you'll also want to check with the local branch of the U.S. Postal Service for any size or weight restrictions. Tell your local postmaster (or his representative) what you're doing, and he'll be more than happy to offer suggestions.

When you compose the actual material, Schaefer suggests, "Put your company's benefits in headline form, keep your copy to a


John Reeves

minimum and use more photos for a flowing pictorial."

You should also remember that the piece is NOT a salesman — it is simply an inquiry-generating device. Very few people who respond to your brochure will immediately request service. Your job in writing the copy is merely to get them interested. In some cases, a simple "Are you interested? — if so, give us a call" is all that is necessary.

If you're looking for a sure-to-work tried-and-true formula, don't. "People don't realize that we don't have some magic bag of tricks," Lund reflects, adding that ChemLawn's successful marketing package is the result of endless research.

Finally, before you take your finished product to the printer,

Ralph Lund

Kim Schaefer

you should take a good close look at it, and ask yourself if it is different enough to tickle the homeowner's fancy. If it doesn't, work on the product some more, adding color and/or photos where necessary.

Finally, remember that you need a certain level of professionalism in everything you do. So BE PROFESSIONAL.

Appeal filed

Seed law opposed

Lawn and turf seed growers are opposing a new Virginia law which is inconsistent with laws for the rest of the country, and which contains clauses members of the American Seed Trade Association claim are "unnecessary, unworkable, and costly."

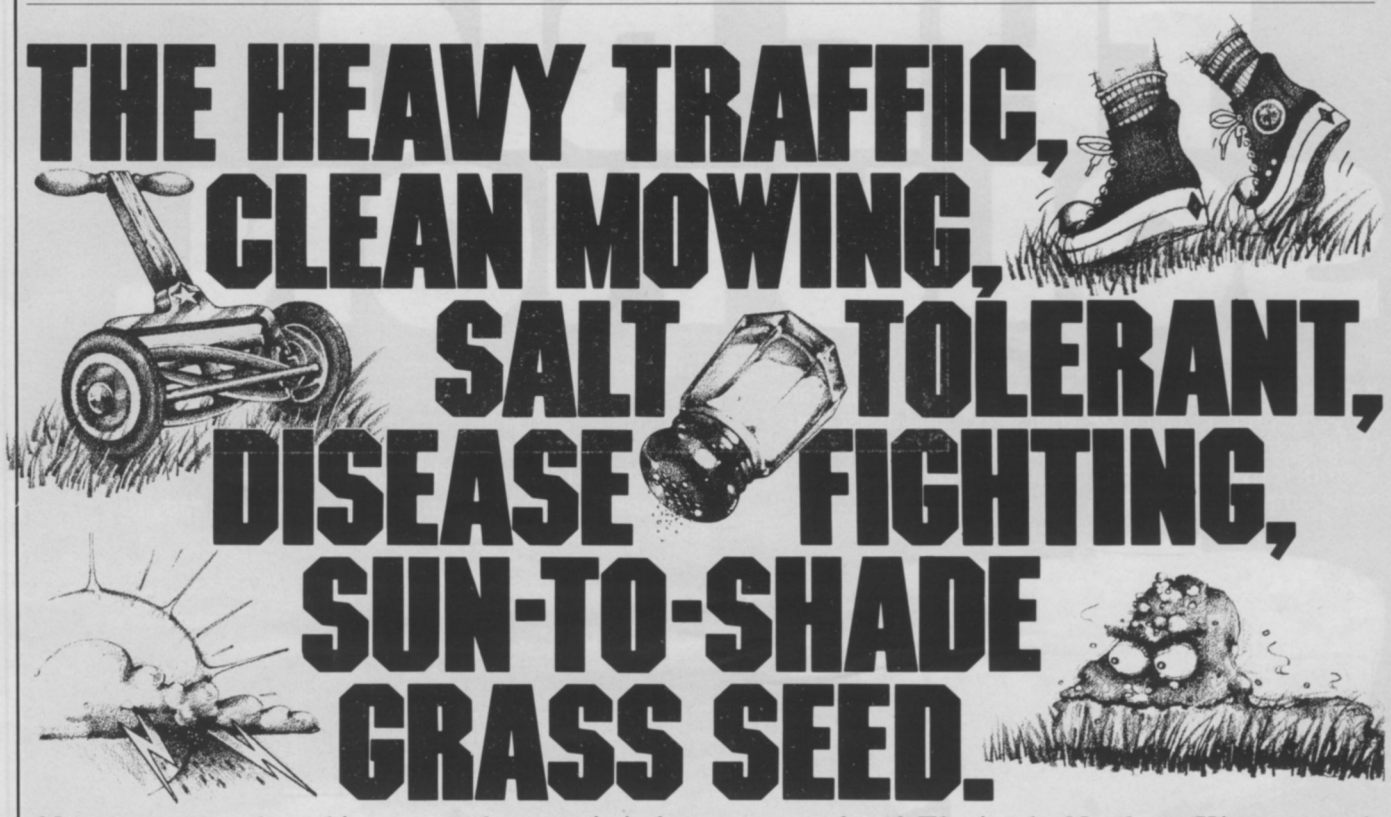
The new law would require certain seeds, generally known as crop seeds, to be labeled as "restricted noxious weed seeds" when they occur in less than five percent of certain lawn and turf seed sold in Virginia.

A public hearing was held in Richmond on Sept. 27, 1982, after which the regulations were adopted, effective Jan. 1, 1984.

Since, the ASTA Lawn Seed Division has filed an appeal in the Circuit Court of the City of Richmond for a review of the proposal.

A proposal made by New York State officials, and agreed upon by ASTA members, would require a statement following the percentage of other crop seed on the label which would say "contains undersirable crop seed" when applicable. No name and number on separate percentage of such crop seeds would thus be required, and a proposal in Massachusetts is consistent with this proposal.

NORTHRUP KING PRESENTS



No one grass seed combines every characteristic for every type of turf. That's why Northrup King research has developed a complete line of Medalist Turf Products to meet specialized professional needs.

MEDALIST TURF PRODUCT	MAJOR AREAS OF USE	SPECIAL FEATURES
Athletic Pro Mix	High maintenance athletic turf	Both are well suited for new seeding or overseeding. Fast establishing, excellent traffic tolerance, and rapid recovery. Provides good footing.
Athletic Pro II Mix	Low to moderate maintenance athletic turf.	
Boulevard Mix	Any area with high pH (roadsides, sidewalks, boulevards, beachfronts, etc.)	Contains both "Fults" *Puccinellia distans* and Dawson red fescue which thrive on high saline or alkaline soils. Performs at low to high fertility levels.
Landscape Pro Mix	School grounds, cemeteries, golf course roughs, lawns	Fast establishing. Adapts to broad range of conditions and management levels. Low to moderate fertility requirements.
Overseeder II Mix	Fairways, tees, athletic fields	Fast establishing, traffic tolerant, disease resistant, penetrates compacted soil.
Medalist North Mix	Fairways, tees, cart paths, wear areas	Long term quality in high traffic areas. Clean mowing and disease tolerant.
Premium Sod Blend	Commercial sod producers	Fast establishing, exceptional dark green color, shade tolerant, superior disease resistance.
Special Park Mix	Parks, commercial developments, lawns	Low fertility tolerance, shade tolerant, adapts to wide range of soil types.

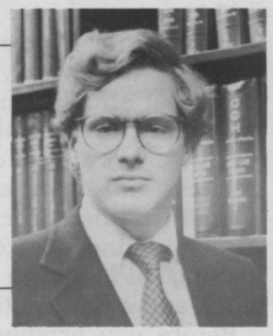
Ask your Northrup King distributor about the Medalist Turf Products for your needs. Or write Northrup King Medalist Turf Products, P.O. Box 959, Minneapolis, MN 55440.

MEDALIST TURF PRODUCTS

Circle No. 113 on Reader Inquiry Card

Lehr on labor

Chapter 11 bankruptcy



Richard I. Lehr

Richard I. Lehr is an associate member of the Sirote, Permutt, Friend, Friedman, Held & Apolinsky law firm in Birmingham, Ala. He is a regular contributor to LAWN CARE INDUSTRY, and is also one of the most popular speakers at the Professional Lawn Care Association of America's annual convention and trade show.

When may an employer in bankruptcy reject a labor agreement or employment agreement?

This is a hot topic of discussion, particularly among those employers who are having serious financial problems. Recent publicity about employers who have entered into bankruptcy and rejected labor or employment agreements has added more confusion than clarity to the situation.

Chapter 11 of the Bankruptcy Act is not a provision whereby a company enters into bankruptcy and then is liquidated. Rather, this section provides protection for a company against the claims of creditors, such that the company can reorganize and hopefully get back on its feet.

When a petition is filed for bankruptcy under Chapter 11, either a trustee is appointed or the company continues in the form of a debtor in possession. A debtor in possession simply means that the company will continue to manage its affairs, with prior approval of the bankruptcy court when it believes that rejecting an existing agreement is necessary. If the creditors object to the bankrupt company serving as a debtor in possession, the bankruptcy court may then appoint a trustee, who serves a similar function.

Generally, an executory contract (one where performance has not been completed) may be rejected in bankruptcy. For example, a labor agreement for three years may be rejected at any time prior to the expiration of that agreement, because it is still an executory contract.

The mere fact that a contract is executory does not in and of itself permit a rejection of the contract. A company in Chapter 11, either as debtor in possession or through a trustee, must first apply to the bankruptcy judge for permission to reject the contract.

In support of this application, the company must demonstrate that the executory contract is onerous and burdensome, may pose a threat to the continued existence of the company, and introduce equitable reasons such as balancing the need for keeping the company operating compared to the creditor's need for the completion of the contract.

Treat the same

It is our opinion that labor agreements, from a bankruptcy standpoint, should generally be treated the same as any other executory contract.

Thus, an employer should make a good faith effort to resolve the problem with the labor organization prior to rejecting the contract, just as he must do with any other creditor. Though the bankruptcy court may permit the contract to be rejected, there still is a duty by the employer to bargain with the labor organization over the terms and conditions of a new contract.

Chapter 11 of the Bankruptcy Act may be appealing only when the alternative is liquidation. Employers should not view Chapter 11 as an approach to disregard labor agreements or any other type of existing agreements, unless there is an overriding need for reorganization in order to survive.

Trust a factor

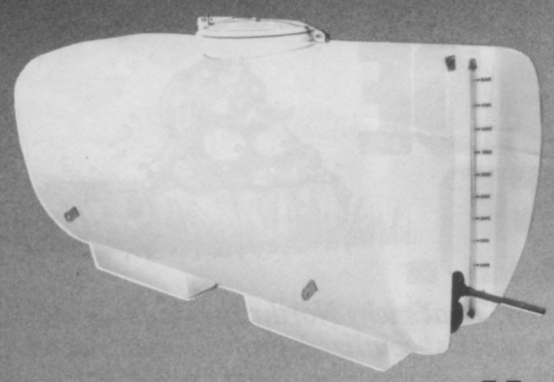
Remember: an employer that rejects a labor agreement or any other contract may not be trusted in the future by employees, a labor organization and the general business or consumer community. Unless from a business standpoint Chapter 11 is necessary, it should not be used to avoid burdensome contracts.

THE BIG SOLUTION.

Tuflex offers you four large model Tanks to solve your BIG pest control problems. The experts at Tuflex carefully research and analyze your needs and assist you in designing and engineering the right tank and pump system for your job requirements. Anything less would be a compromise solution.

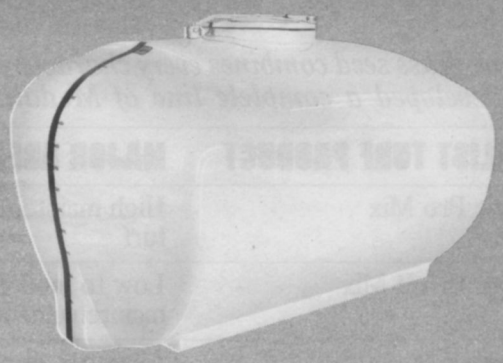
Tuflex is the only manufacturer to specialize in seamless fiberglass spray tanks built specifically for the pest control and lawn care industry. The exclusive Tuflex process allows a full five-year warranty on all hand-crafted seamless fiberglass tanks.

Our tanks from 100 gallon to 1200 gallon are ready to solve your toughest challenges.



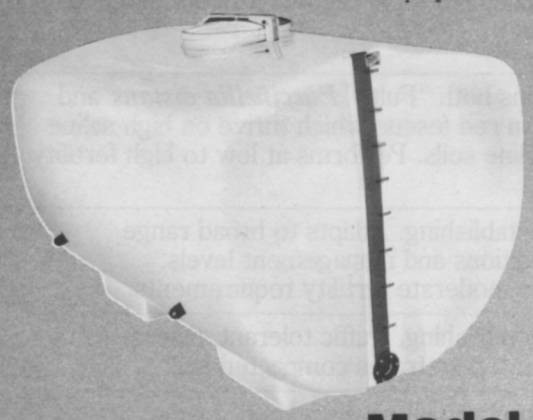
Model PC-500

Model PC-500: 545 gallon portalble use tank. 81" long, 47½" wide and 48" high. Standard equipment: 18" vented cover with posi-lock hatch hardware, baffling system, integral molded mounting base for ease in mounting, steel tie down lugs to secure tank to frame, 2" polycoated drain and calibrated sight tubes.



Model U-600

Model U-600: 580 gallon portable use tank. 75" long, 55" wide and 50" high. Standard equipment: 18" vented cover with posi-lock hatch hardware, molded runners for ease in mounting to frame, 2" polycoated drain and calibrated sight tubes.



Model PC-800

Model PC-800: 860 gallon portable use tank. 80" long, 60" wide and 58" high. Standard equipment: 18" vented cover with posi-lock hatch hardware, baffling system, integral molded mounting base for ease in mounting, steel tie down lugs to secure tank to frame, 2" polycoated drain and calibrated sight tubes.

Model PC-1200

Model PC-1200: 1175 gallon portable use tank. 108" long, 60" wide and 53" high. Standard equipment: 18" vented cover with posi-lock hatch hardware, baffling system, integral molded mounting base for ease in mounting, steel tie down lugs to secure tank to frame, 2" polycoated drain and calibrated sight tubes.

Call TOLL-FREE for economy prices and more information on our complete line of tanks.

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Available options for above Tanks:

- Exclusive double seal internal hatch (prevents hatch leakage)
- Mechanical or jet agitation systems
- Splitting or compartmentalizing
- Pump and engine canopies

Circle No. 122 on Reader Inquiry Card

← Circle No. 122 on Reader Inquiry Card

New labeling for Devrinol

New label registrations, recently approved by the Environmental Protection Agency, allow application of Stauffer Chemical Company's Devrinol 5G herbicide on established turfgrass.

Devrinol is recommended for control of crabgrass and goosegrass (split application only) in the following established turfgrass: bahia, bermudagrass, centipede, St. Augustine and fescue. The new label allows up to 80 pounds, if used in a split application, per acre.

ALCA sponsors health program

The Provident Mutual Life Insurance Co. has been chosen as the insurance carrier for the group life and health insurance program of the Associated Landscape Contractors of America. The ALCA-sponsored program is both affordable and dependable, according to Joe Carpenter, chairman of the ALCA Insurance Committee.

All ALCA members and members of state associations are entitled to participate. For further information or assistance, interested ALCA members are directed to call Plan Services Inc. at (800) 237-4271 or Jardine Insurance Brokers Inc. at (201) 744-8000. Be certain to identify yourself as calling in reference to the ALCA insurance program.

3 distributors added to list

Garfield Williamson Co. has announced the addition of three distributors of Jaguar turf-type tall fescue: Germain's Inc. of Fresno, Calif.; Mangelsdorf Seed Co. of St. Louis, Mo. and George W. Hill & Co. of Florence, Ky.

Jaguar, an attractive, leafy, turf-type tall fescue, offers uniform density and texture, dark green color and moderately low growth. Field trial data demonstrate its good heat and drought tolerance, strong resistance to disease, and adaptability to shade and various soil conditions.

Garfield Williamson began introducing Jaguar last year, and rapidly sold out its spring 1983 supplies. But ample quantities of the seed are now available.

Entries needed

Entries are being sought for the 1984 Illinois Landscape Contractors Association's awards program. They must be received by Nov. 1, 1983.

For more information, write to ILCA Awards Program, ILCA, 4A East Wilson St., Batavia, IL, 60510, or call (312) 879-5566.

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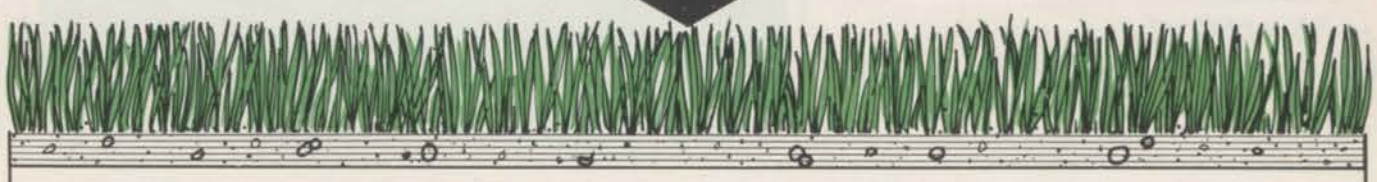
Field day

Crystal Rose of Pure Seed Testing, Inc., leads a tour group through the shade trials at the Turf-Seed Inc./Pure Seed Testing Inc. research farm during a field day June 16. More than 200 people attended and heard such speakers as Bill Rose, a major grower and president of Turf-Seed; and Don Brewer, Dr. Dave Chilcote and Tom Cook of Oregon State University.

GO FOR THE GREATNESS

Rebel Falcon

FINE LEAF TALL FESCUE BLEND



Now the best features of the hottest names in grass seed have been blended to give you, the lawncare professional, an even greater turf-type grass. REBEL/FALCON has it all.

REBEL
- dense turf-type fescue
- 30% finer than Kentucky 31
- shade tolerant
- dense growth allows closer cutting
- attractive green color
- drought and disease tolerance

FALCON
- performs well in warm climates
- improved resistance to brown patch and net bloch diseases
- improved green color
- fine texture gives uniform turf appearance
- superior drought tolerance
- strong turf-type characteristics

Now there is REBEL/FALCON BLEND for the lawncare professional, the ultimate in fine leaf tall fescue seed mixes. This is the blend you told us you wanted.

With REBEL/FALCON BLEND we have combined the genetic diversity of the top two performing tall fescues, assuring you of a more disease resistant, uniform and attractive lawn.

Demand has always exceeded supply for these two nationally popular seeds. Order now to insure delivery in time for the peak of your planting and growing seasons.

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Also distributors of centipede, bluegrasses, CLEMFINE tall fescue, sportmixes, wildflower, Marvelgreen perennial rye blends and other fine seeds for lawncare professionals, athletic field managers, golf course superintendents and homeowners.

Circle No. 119 on Reader Inquiry Card

Pesticide controversy

Industry needs 'survival posture'

By Jerry Faulring
Hydro Lawn

ED. NOTE: In last month's front-page story, Jerry Faulring of Hydro Lawn, Gaithersburg, Md., painted a dismal picture of the confrontation with "pseudo-environmentalists" over the controversial pesticide issue. This month, he details a "survival posture" for the lawn care industry.

Our industry is confronting a major problem with the potential for our destruction should we bury our heads in the sand. We must, therefore, adopt a policy that will help strengthen our position against the "pseudo-environmentalists."

No. 1 priority

A reasonable No. 1 priority might be to reduce pesticide use, an effort grounded on the premise that a restriction — not a complete prohibition — of pesticide use might occur. What better way, then, to relieve some regulatory pressure than to show that we use pesticides intelligently — that is, only when economic loss potential exists?

The industry now applies some pesticides to all lawns, regardless of whether a target pest is present, because of their relatively low cost. This, however, is analogous to doctors prescribing monthly injections of penicillin for all of us — an obviously impractical approach to health care.

Jerry Faulring

Purchase of pre-emergent compounds accounts for more than half of a typical firm's total pesticide expense, and insecticides typically account for more than 20 percent of the pesticide budget. Just to create some controversy and to challenge us, then, I suggest a 50 percent reduction in pesticide consumption, for which our customers will experience only a modest decrease in product quality. There is even an argument that product quality would increase: with the savings in pesticides, we could increase expenditures in other operational areas.

Again, just to stir some thought, consider the following financial analysis:

The chemical lawn care industry generates revenues of more than $1.5 billion annually. Roughly 18 to 20 percent of that is consumed by material cost, of which roughly one-half is devoted to pesticides. If we were to reduce pesticide consumption by 50 percent, about $75 million could go toward further research, public relations, training, etc. Everyone benefits . . . we show how intelligent we can be . . . and, just maybe, legislators might take note.

We should also be investigating alternatives to "toxic chemical pesticides."

This doesn't mean we start digging dandelions. Dormant oils and *Bacillus Thuringiensis* (B.T.) are good examples, however, of alternatives in arboriculture. New strains of milky spore disease may also be useful for white grub control, if cost and application techniques can be resolved. I do not propose that we become organic lawn keepers, but neither should we close our minds to any options.

Eliminate 2,4-D

Another alternative is to eliminate the use of 2,4-D, if possible.

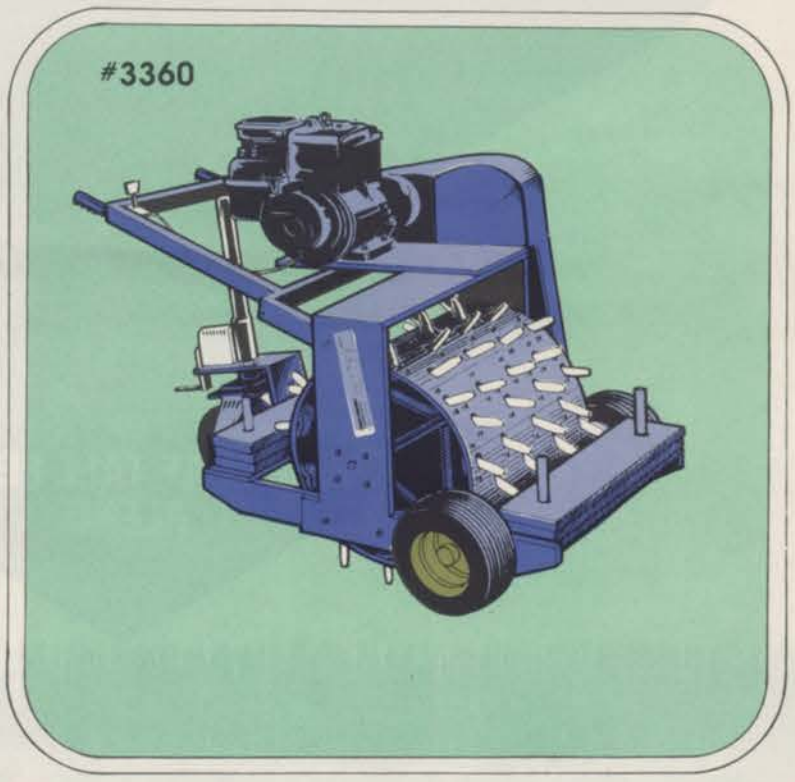
Though pseudo-environmentalists do not generally focus more effort on individual pesticides,

DEDOES INDUSTRIES INCORPORATED

the WALK BEHIND AERATOR

SPECIFICATIONS

WIDTH — Drum Model: 36" #3360
WIDTH — 2 Drum Model: 43" #4360
AERATING PATH — 1 Drum Model: 20" wide
AERATING PATH — 2 Drum Model: 25" wide
WEIGHT — 1 Drum Model: 480 lb. (w/o Weight plates)
WEIGHT — 2 Drum Model: 500 lb. (w/o Weight plates)
DRIVE Chain driven drum and transport wheel
ENGINE 5 HP Briggs and Stratten Gear Reduction
TIRES — 13 x 650 x 6
WEIGHTS — 6" x 1" x 24" 40 lbs. each



Professional Lawn Care Equipment

Dedoes, the foremost manufacturer of Turf Aerators, have now introduced their **walk-behind models.** These cost effective units are easily operated by one man. Both units are **self propelled** for complete aeration. Golf courses, lawns, estates, parks, athletic fields, and playgrounds — **Dedoes** does it all! The two **walk behind** models are of **solid steel construction,** and have the patented feature of **hinged tines** on each drum. This allows for clean removal of plugs without tearing the turf. The aerators come standard with **seven** 40 lb. steel weights to push the tines into heavy clays. As an option, each unit can be weighted with an additional five plates for maximum down pressure. Other features include the adjustable **transport wheel and jack** that lifts the tines out of the ground. The one and two drum models have a **six position handle** to accommodate different size operators. Also, with each of our aerators come years of dependable performance. **Dedoes** doesn't just **save** you money — we **make** you money. This makes **Dedoes** invaluable to the Turf Care Specialist.

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Circle No. 125 on Reader Inquiry Card

they have made an exception because of 2,4-D's relationship to Agent Orange.

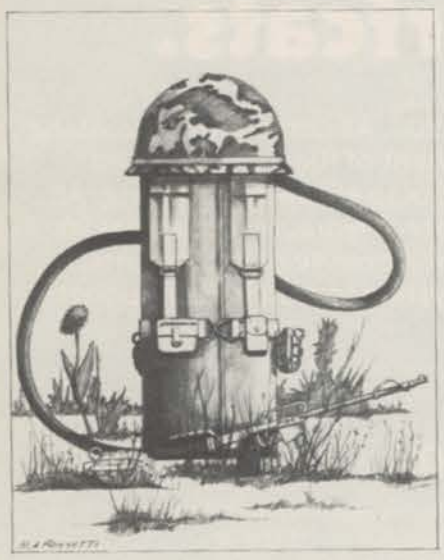
The public, because of the current Agent Orange class action suit, is becoming increasingly aware that 2,4-D is being used "around the house." The bottom line is that 2,4-D could be outlawed for urban use before the end of the year in some political subdivisions.

We could probably muddle through this year and next without 2,4-D by passing the buck for less weed control onto the government — just as we did for grubs when chlordane was suspended from turfgrass use. However, we should make this a No. 1 immediate priority because, if we could find the solution first, we could use our self-regulatory efforts as a promotional advantage.

Establish PR

The industry must also establish pro-pesticide public relations, since it serves 20 million voters whose allegiance will ultimately be needed. Even if we can't generate pro-active support from this group, we must at least have them on our side of the fence.

This type of effort is being made by the PLCAA, among other user groups. It involves com-



munications for factual, educational purposes and demonstrations of the discriminate, safe, intelligent use of pesticides to the public.

Avoid 'incidents'

We must avoid pesticide "incidents" at all costs. If we seriously damage a public water supply, for example, we will not have to worry about the first few points I have made — or anything else. The negative publicity alone could close our doors. Who, for instance, can forget how our customers reacted when the television show "20/20" wrongly accused a lawn care company of using silvex?

The intelligent and safe handling of pesticides by the industry is thus a mandate; training our staffs is no longer discretionary but a self-imposed requirement. Depending on the interpretation of the Resource Conservation and Recovery Act, such training could

'2,4-D could be outlawed for urban use before the end of the year...'

become a federally-regulated requirement of our industry.

In Maryland, those who are charged with RCRA responsibility have asked the lawn care industry to assist in writing the guidelines for training — pro-activism at its best.

The industry must also get involved in government affairs: to support the National Environmental Law Foundation, which will provide educational, proactive, local organizational and defensive services for pesticide users. Budgeting expenditures for financial support of this national group and state organizations which might follow the national entity, and for staff involvement in both groups, is a requirement for industry survival. No single user group has greater visibility than the lawn care industry. So we have the greatest potential for regulation and, therefore, the greatest obligation to become pro-pesticide activists.

These, then, are speculative cures to the pesticide problem. The more we as an industry discuss and debate the issue, the more readily a positive mentality toward its solution will be attained.

Self-imposed reduced staff exposure to pesticides and, possibly, a better product are just two opportunities. Thus, as I wrote last month, we may all be better off in the future for having to go through this.

BIG GREEN PLUS
MICRONUTRIENTS
Iron-Sulphur plus Nitrogen *

RESULTS
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1. QUICK GREEN-UP
Apply 1.5-2 ounces/1000 BIG GREEN PLUS for a beautiful green turf within hours of application. Micronutrients can be a help in solving your service problems.

2. HARDIER TURF
University experiments have shown turf applied with micronutrients such as BIG GREEN PLUS to be more resistant to disease and insects.

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Tests have shown that turf color and quality can be maintained with **higher** rates of micronutrient and **lesser** rates of nitrogen. BIG GREEN PLUS contains 15% nitrogen, 4% sulphur and 6% iron.

4. NON-STAINING (indilute state)
BIG GREEN PLUS has been shown to have non-staining properties when diluted at 3-4 ounces in 3-5 gallons of solution.

*5. AVAILABLE IN BULK
Easy transport, less waste, no handling problems, safer to use when handled in bulk.
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Circle No. 124 on Reader Inquiry Card

Greg Boykin:

'You reap what you sow'

There is more to landscape maintenance than the work itself, according to the philosophy of Greg Boykin, owner of Boyco Landscape Maintenance in Wilson, N.C.

"In this world, you reap what you sow," says Boykin, who has put people and community service at the top of his list. And it's worked: Boyco has blossomed into a $1.8 million business in 10 years. In the last four years, business has skyrocketed, with no end in sight.

"If you can keep the people who work for you gung-ho-ready-to-go, you've got a lot of your problems licked," Boykin continues in a pleasant Southern drawl. "I've got good people working for me. We're like a team with me as the coach.

"Sure, I tell them what to do. But then I have to depend on them to do it, or the business doesn't work."

Boykin is also a community leader. Every Monday morning, he is host of a radio show, answering telephone calls from area residents who question him about gardening and care of their lawns. Last fall, Boykin was honored by the local newspaper for his community involvement.

"We do a lot of volunteer work," Boykin maintains. "We get a lot of free advertisement out of keeping the high school football field, plus the team has a good field."

Key personnel

Vice presidents Bill Boykin (a younger brother) and Jim Fahling and office manager Barbara Fahling are key personnel without whom Greg could not run the business effectively. In addition, there is also an incentive program for crews, including an "Employee of the Month" and a profit-sharing plan for supervisory personnel. (Three "Employee of the Month" awards in a year net the worker $100.)

Customers are also important.

"We bend over backward for a client, but that's part of the damned job, and everyone that works for me knows it," Boykin continues. "My daddy once told me, 'Don't worry about the jobs you don't have — worry about the ones you have,' and that's worked pretty well."

Boyco's work was good enough to land quite a bit of business in the fastest-growing industrial complex in the country, "Research Triangle Park" just outside of Raleigh. He owns about half of the landscape maintenance contracts there, including the 770-acre IBM Computer Division National Headquarters. Boyco and Mattingly Associates of Charlotte own most of the major industrial accounts in North Carolina.

"There's enough business out here that people don't have to cut each other's throats," Boykin contends. Which brings him to another pet peeve: lack of professionalism in the industry.

"Bad companies are just like weeds. You get rid of one, there's another one coming up somewhere."

Boykin is a member of the Professional Lawn Care Association of America (PLCAA) and the Professional Grounds Management Society (PGMS). With the North Carolina chapter of the PGMS, Boykin has been active in starting a pesticide applicator certification program.

"Anytime you're dealing with

Greg Boykin (left) discusses award-winner with top employees

Jacobsen's versatile Turfcat II System introduces three new Jacobsen Turfcats.

Introducing the GA 180, the DW 220 and the GA 200. All come with hydrostatic drive which keeps the cutter speed independent of the ground speed. Offering single pedal forward and reverse control to eliminate clutching. All feature a two-speed transaxle and a foot operated hydraulic implement lift system for easy transport. And all give you a wide range of implements. Implements to match the job to the season. A system to match your budget.

The New GA 180

Our 18 h.p., twin-cylinder, air-cooled, gas-driven GA 180 is an easy match for your seasonal jobs. With its large 8.5 gallon tank and a separate hydraulic reservoir for cooler operation, the GA 180 is ready to go a long way and last a long time.

50" side discharge mechanical rotary
48" mechanical snow thrower
60" mechanical broom
54" plow
Grass pick-up R.O.P.S. Cab/Wiper and lights

The New DW 220

The only rotary on the market with hydraulic drive to the decks. Offering a 22 h.p. diesel engine completely ducted and screened for longer engine life. Plus hydraulic drive to the decks for less vibration and fewer alignment problems from shock or impact and easier maintenance.

60" side or rear discharge hydraulic rotaries
72" side discharge hydraulic rotary
60" hydraulic flail
48" hydraulic snow thrower
60" hydraulic broom
54" plow
R.O.P.S. Cab/Wiper and lights.

The New GA 200

Our twin cylinder, 20 h.p. gas driven air cooled workhorse. Featuring a completely ducted and screened cooling system and full pressure lubrication for longer engine life. All of the implements listed below are quickly mounted via a simple three pin system.

50" side discharge mechanical rotary
60" side and rear discharge mechanical rotaries
48" mechanical snow thrower
60" mechanical broom
54" plow
Grass pick-up, R.O.P.S. Cab/Wiper and lights.

people and human life, you've got to be careful," Boykin says. "Applying pesticides in North Carolina without a license is a $10,000 fine. And they've really cracked down on that because they've had a lot of trouble with crops being damaged.

"Our certification program gives people a measuring stick."

He considers customer education the No. 1 priority of the professional organizations.

"Being a member doesn't mean beans right now," he contends. "People have no idea what's going on in this industry, because it's so new. The maintenance contractor is considered the low man on the totem pole — as opposed to chemical lawn care, which is a big business — so it's the hardest thing in the world to sell."

"When the day comes that the homeowner recognizes that membership in the PLCAA or PGMS means something is when all this effort will pay off. But it's going to take a long time."

Names competitors

Boykin is so concerned with competent maintenance contractors getting their share of the business that he names competitors who are members of the PLCAA and PGMS in his own newspaper advertisement.

Boyco maintains 16 riding mowers — most of them Howard Price — and three tractors, plus a number of walk-behind mowers, of which the lighter Lawn Boys are the most popular. The business is growing so fast that it is moving to a new office building soon.

"I am, right now, where I want to be," Boykin reveals. "We're going to grow, but we're going to grow at our own pace. My plans are to grow as we are able to grow.

"I can see Boyco like an atom starting to split in the next five years. I've even been told that this business could be franchised. So we're not going down a one-way street; but I don't want to be on a four-lane highway, either. I want to be on a thoroughfare where I can get off if I want to."

Numerous photos of his wife and two young children adorn Boykin's office. They are happy photos reflecting the same happiness on his own face when he talks about his family or about his other "baby," the business.

Boykin was recently offered $1 million in cash by a group of local investors for Boyco. He turned them down flat.

"The thing that really sticks in the back of my mind is to have this business available for my son or daughter, if and when they want it," Boykin says. "I wouldn't trade this business for anything. I'm making a good living and I'm happy.

"I'd be crazy to sell."

DATES

Garden Industry of America Conference & Trade Show, Sept. 8-10, Lawrence Convention Center, Pittsburgh, PA. Contact: Paul A. Anderson, Box 1092, Minneapolis, MN, 55440. (612) 374-5200.

Virginia Tech Turfgrass Research Field Days, Virginia Tech, Blacksburg, VA, Sept. 27-29. Contact Dr. John R. Hall III, Agronomy Dept., VPI & SU, Blacksburg, VA, 24061-7294. (703) 961-5797.

International Bedding Plant Conference & Trade Show, Oct. 2-6, Anway Grand Plaza Hotel, Grand Rapids, MI. Contact: BPI, P.O. Box 286, Okemos, MI, 48864. (517) 349-3924.

Southern California Turfgrass/Landscape Equipment & Materials Educational Exposition, Oct. 5-6, Orange County Fairgrounds, Costa Mesa, CA. Contact: Ed. McNeill, 1000 Concha St., Altadena, CA, 91001. (213) 798-1715.

Florida Turf-Grass Association Annual Conference & Show, Oct. 9-12, Hyatt Orlando, Kissimmee, FL. Contact: FT-GA Executive Office, 1520 Edgewater Drive, Suite E, Orlando, FL, 32804. (305) 425-1581.

Professional Grounds Management Society Conference and Trade Show, Marriott Hotel, Cincinnati, OH, Oct. 15-19. Contact: PGMS, 7 Church Lane, Pikesville, MD, 21208. (301) 653-2742.

Western Irrigation Show, International Agri-Center, Tulare, CA, Oct. 18-20. Contact: International Agri-Center, P.O. Box 1475, Tulare, CA, 93275. (209) 688-1751.

New York State Turfgrass Conference and Trade Show, Rochester, NY, Nov. 1-3. Contact: Ann Reilly, 210 Cartwright Blvd., Massapequa Park, NY, 11762. (516) 541-6902.

North Central Turfgrass Exposition, Arlington Park Hilton Hotel, Arlington Heights, IL, Nov. 1-3. Contact: Dr. Thomas W. Fermanian, University of Illinois, 106D Horticulture Field Lab, 1707 S. Orchard St., Urbana, IL, 61801. (217) 333-7847.

New York State Turfgrass Conference and Trade Show, Nov. 1-3, Rochester War Memorial, Rochester, NY. Contact: Ann Reilly, 210 Cartwright Blvd., Massapequa, NY, 11762. (516) 541-6902.

Garden Industry America West, Nov. 8-9, Anaheim Convention Center, Anaheim, CA. Contact: GIA West, Box 1092, Minneapolis, MN, 55440. (612) 374-5200.

Professional Lawn Care Association of America Convention and Trade Show, Indianapolis Convention Center, Indianapolis, IN, Nov. 8-10. Contact: Jim Brooks, Executive Director, PLCAA, 1225 Johnson Ferry Rd., Suite B-220, P.O. Box 70455, Marietta, GA, 30007-0455. (404) 977-5222.

Associated Landscape Contractors of Ammerica Maintenance Conference, Denver, CO, Nov. 13-15. Contact: ALCA, 1750 Old Meadow Rd., McLean, VA, 22101. (703) 821-8611.

Ohio Turfgrass Conference and Show, Cincinnati Convention and Exposition Center, Dec. 6-8. Contact: Dr. John Street, OTF, 2021 Coffey Rd., Columbus, OH, 43210. (614) 422-2601.

Virginia Turfgrass Conference and Trade Show, Williamsburg Hilton and National Conference Center, Williamsburg, VA, Jan. 18-20, 1984. Contact: Dr. John R. Hall III, Agronomy Dept., VPI & SU, Blacksburg, VA, 24061-7294. (703) 961-5797.

← Circle No. 111 on Reader Inquiry Card

Applicator study

Pesticide exposure levels low with proper safety measures

By Dr. R.P. Freeborg, Dr. W.H. Daniel, V.J. Konopinski

An important part of professionally treating more than four million lawns in this country is the application of pesticides. With more than 4,790 trained employees making such applications, safety of the personnel themselves is a prime consideration.

The period of exposure to a specific pesticide by applicators can be six to eight weeks, with the possibility of eight to 10-hour days and work weeks of up to six days to meet the company's acreage goals. Spray volume in one day's work may amount to 1,000 gallons of water and pesticide. Applied at a rate of four gallons per 1,000 square feet, this would require treatment of approximately 5.7 acres in one day, or about 31 residential lawn sites.

A study conducted in the Department of Agronomy at Purdue University was designed to determine pesticide exposure concentrations encountered by applicators employed by lawn care companies. The methods and results of this study may be of special interest to those engaged in commercial home lawn care.

Pesticides commonly used on home lawns are of two general types: herbicides and insecticides.

Pre-emergent annual grass control is obtained through the use of the herbicides bensulide (BetaSan, PreSan, LescoSan) and DCPA (Dacthal). Broadleaf weed control is obtained through the use of herbicides 2,4-D (amine formulations), MCPP (mecoprop), dicamba (Banvel) and combinations of 2,4-D and MCPP or each of the three.

Commonly-used insecticides are diazinon, chlorpyrifos (Dursban) and trichlorfon (Dyxol, Proxol), though others may be applied when a local condition or problem warrants.

It should be noted also that, in tank mixtures, and in conjunction with the use of these pesticides, plant nutrients including nitrogen, phosphorus and potash are also applied.

The Purdue study involved tests of operator exposure conducted with the cooperation of the Highland Golf Club, Indianapolis, Inc.; Nice 'N' Green Lawn Company, Chicago; and the Indianapolis branch of the ChemLawn Corp., Columbus, Ohio.

Proper handling techniques demonstrated

Exposure studies were made to evaluate potential applicator exposure to diazinon and trichlorfon.

Diazinon is an organophosphate, and consequently has some similarity to tricholorfon and chlorpyrifos, other organophosphate insecticides. It was selected for measurement not only because it could supply data on exposure potential of organophosphates, but also because of its widespread use in the lawn care industry.

The study intended to determine both inhalation and dermal (skin) exposure.

Concentrations of pesticides encountered through inhalation were measured using a Bendix air sampling pump, which pulls a constant flow of air through a small plastic holder containing an air filter designed to collect all pesticide particles. Pesticide concentrations found on the filter are then related to the volume of air moving through the filter. The evaluation of any potential hazard is then determined by the number of micrograms per cubic meter of air.

"Threshold Limit Values for Chemical Substances and Physical Agents in the Workroom Environment with Intended Changes for 1982," adopted by the American Conference of Governmental Industrial Hygienists, contains information on levels of various pesticides considered safe for repeated daily exposure in the work environment, based on an eight-hour work day exposure.

Dermal exposure was determined by adhering absorbant pads under clothing at up to 10 locations on the body. Pads were collected immediately after completion of the work schedule, placed in sterile plastic bags 10°F. temperature prior to analysis.

The following data were collected from each of five exposure studies. Four were for diazinon and one for trichlorfon exposure, both organophosphate insecticides. All studies were under actual conditions normal for the application procedure. Data are reported so that similar pesticides may be compared, but not necessarily in chronological order.

DIAZINON EXPOSURE

Test 1

Highland Golf Club, Indianapolis, Ind., July 23, 1979

Application: 6.2 lb. ai/A with 1D Lely WR rotary spreader at setting 3, pulled by a Cushman truckster

Weather: 5:50-6:47 p.m.; temperature 86° F., R.H. 48%, wind speed 5-6 mph

Timing: 67 minutes total work time; 6 minutes total exposure time

Surgipad	Concentration (mg/100 cm²)
right wrist	6.9
left wrist	6.9

Test 2

Nice 'N' Green Lawn Care, Downers Grove, Ill., Aug. 3, 1979

Application: Diazinon AG500, liquid, 2.6 lb. ai/A with ChemLawn hand spray gun, 40 psi at the nozzle applying four gallons per minute per 1,000 sq. ft; tank of 1,000-gallon capacity contained 800 gal-

to page 38

An old pro

My, how things've changed

"Agent Orange? 2,4,5-T? Hell, we used to dip right into the tank 20 years ago and rub it on our arms to get rid of poison ivy."

Charles Beckwith, who sold chemicals to the lawn care industry before it was an industry, made that comment at the PLCAA northeast Ohio regional seminar this summer.

Beckwith, now retired, leads an active and healthy life, and has a healthy family — despite his wife having had "more exposure to 2,4,5-T than all the women in Oregon, at a time when she was pregnant."

Those stories, and others he tells from the early days of lawn care, give an indication of how things have progressed in the area of pesticide applications.

"Early in the game, we went out and monitored the applicators," Beckwith said. "These people would go out and spray morning and night, and we watched them.

"I remember one fellow had a leaky gun that dripped through his fingers. He didn't wear any gloves (too hot), wore no boots (too hot), had a leaky gun (too busy to fix it). And on finishing a lawn, he always had a cigarette while writing up the completed work bill with wet hands.

"As you can guess, this was very early in

to page 30

Charles Beckwith

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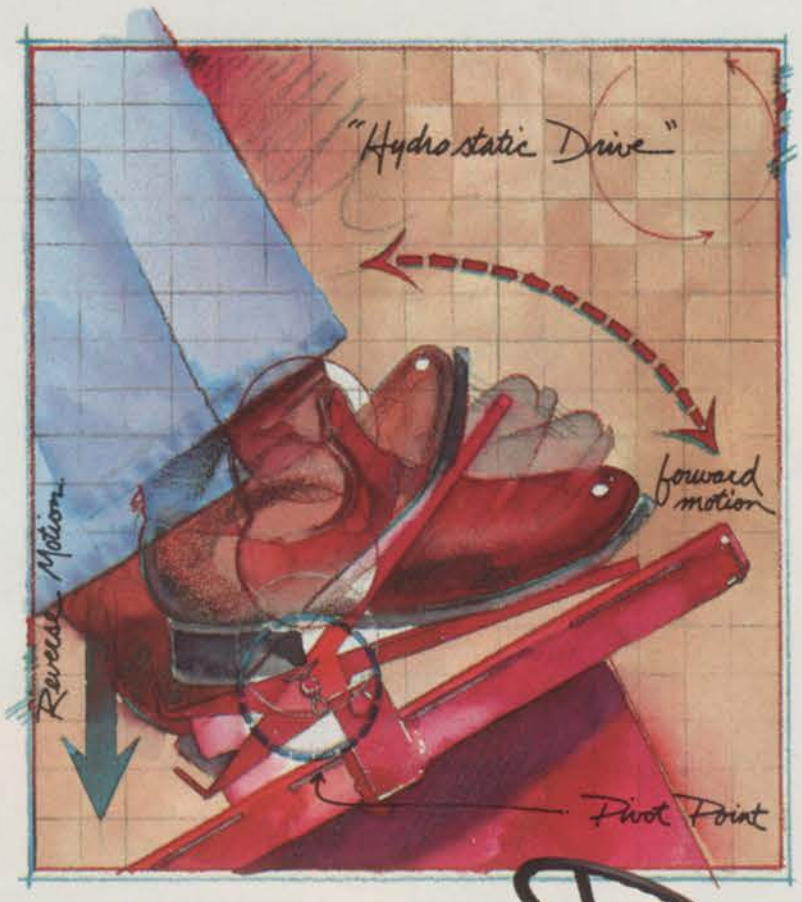

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Circle No. 107 on Reader Inquiry Card

Destructive creatures

Fire ants becoming big problem in South

A recent survey by Mississippi State University revealed that an average of $18 per household was spent in that state controlling or paying for casualty losses from fire ants.

It is no wonder, then, that chemical companies are increasing their efforts toward finding solutions which halt this expensive pest.

"Fire ants are not that hard to kill, but they are hard to contact, and contact is necessary for effective control," says Dr. Dale Pollet, extension entomologist at Louisiana State University. "Extremely wet weather is a good time to treat because the ants come out of the ground to work on the mound. The ants are harder to control in extremely hot, dry weather, or in the middle of a summer day, because they are deeper in the ground at these times."

Though weather conditions may slightly affect the levels of infestations of fire ants, most infested areas can expect a problem with the pests each year.

"Fire ants are a recurring and significant problem in most southern states," notes Dr. Don Canerday, entomologist at the University of Georgia. "In 1980, losses from damage and control costs in Georgia were slightly over $5 million. This includes medical fees from stings, equipment damage and control costs. In most years, half the households in infested areas treat for fire ants."

In the long run, weather doesn't make much difference in the populations of fire ants.

"Fire ants are very well-adapted to the weather in the South," says Dr. Ted Brook, extension pest management specialist at Mississippi State. "It takes a couple of years for a colony to get started and reproduce, but they are spreading."

Though fire ant damage may spread to structures, locating and treating the insect's mounds which are found in lawns is the most effective control method.

Control of fire ants

Three chemicals have received recent registration for use in treating fire ants.

Orthene insecticide, manufactured by Chevron Chemical Co., has received state special local need registrations in Georgia, Mississippi and Louisiana for use against the pest. Registration is also pending in Texas.

Two formulations of the compound are available: Tree & Ornamental Spray, which is registered for use in turf, lawn and non-crop areas; and 75S Soluble Powder, which is for use in range and pasture areas (Georgia excluded).

Orthene is low in toxicity to mammals. It should be applied to the insect's mounds as a drench, and to a four-foot circle around the mound as well. This is to prevent the ants from protecting the queen by moving her to the outside edges of the mound. The mound should be treated without breaking the ground or disturbing it in any way, since such disruptions also cause the ants to hide the queen. For best results, the mounds should be treated in the early morning or late afternoon when the ants are most active.

Pro-drone, manufactured by Stauffer Chemical Co., an environmentally-safe insecticide, has been registered by the Environmental Protection Agency.

Resembling the fire ant's own hormone, the insecticide eliminates these pests by disrupting their social systems. It takes several months, but only two (spring and fall) applications for the insecticide to work.

Sevin carbaryl, a product of Union Carbide Agricultural Products Company, recently received EPA registration for controlling the imported fire ant. Several formulations were granted approval for this use: Sevin XLR, Sevin SL, Sevimol 4, Sevin 50W and Sevin 80S.

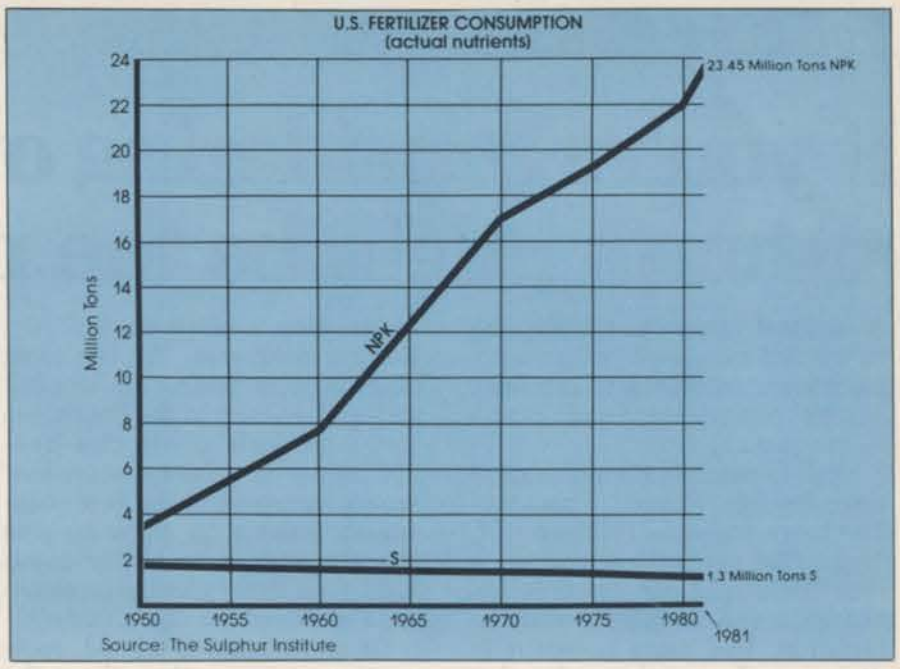
Fertilizer tip

Consider sulfur for optimum turf quality

Lawn care dealers who have not been satisfied with turf response to nitrogen fertilizer should consider adding sulfur to their plant food inventory.

Sulfur deficiencies are more likely to occur in turf today, says Dr. Sam Tisdale, soil specialist at The Sulphur Institute, a non-profit organization of sulfur producers based in Washington, D.C. He says the increased use of high-analysis NPK fertilizers, which contain little or no incidental sulfur, is primarily responsible.

According to U.S.D.A. figures, there has been a pronounced increase in the consumption of NPK coupled with a sharp decline in the use of sulfur over the last 30 years. For the U.S. as a whole, the total amount of NPK increased from less than four million tons in the 1949-50 fertilizer year to 23.45 million tons by 1980-81. In the same period, the use of S fertilizer *dropped* from 1.8 million tons to a little over one million tons. Total S as a percent of NPK plummetted from 31.8 percent to about 5 percent.



The absence of incidental sulfur in modern fertilizers is not the only reason why soils are more prone to sulfur deficiency, Tisdale says. Today there is less "free" sulfur available from the atmosphere due to pollution control regulations enacted over the last decade. From 1964 to 1979, Environmental Protection Agency measurements showed a 67 percent decrease in the levels of sulfur dioxide released into the air over urban areas. Sulfur oxide emissions from all sources were down by seven percent from 1970 and 1979.

No more sulfur

Still another reason is that most pesticides used today no longer contain sulfur.

In addition to stunting the growth of turf and adversely affecting its color, density, vitality and tolerance to pests and disease, a sulfur deficiency can greatly inhibit the turf's ability to utilize nitrogen efficiently. If a lawn is already short on sulfur when extra nitrogen is applied, the nitrogen fertilizer might actually do more harm than good.

Tisdale explains that lawn care dealers who apply nitrogen without sulfur may be widening the turf's critical nitrogen-sulfur ratio. A recent three-year research program conducted at Washington State University illustrates this point.

Both nitrogen and sulfur are involved in yielding optimum turf color. Full benefit from the addition of one nutrient is dependent on ample supply of the other. If a lawn is already short on sulfur when extra nitrogen is applied, the nitrogen fertilizer may be responsible for depressed color, research shows.

According to WSU agronomist Dr. Roy Goss, an ideal ratio of 10-1 applied N and S is recommended for optimum quality turf. For disease control, the ratio is much lower, from 1.5 to three parts applied N for each part S. Goss says when very low rates of N (three pounds or less per 1,000 square feet) are applied, the recommended ratio for applied N and S is an equal 1-1.

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If you're considering overseeding, autumn might be the perfect time

A national campaign for planting in the fall may have turfgrass applications, according to members of the American Seed Trade Association.

"Fall is nature's time to plant," notes Dr. Eliot Roberts, director of The Lawn Institute, Pleasant Hill, Tenn. "By springtime, you get a nice thick, solid turf that is resistant to weed invasion and infestation, and more resistant to disease and everything else that can harm a lawn. You get the lawn real healthy in the spring because of what you do in the fall."

Basically, lawn care businessmen should be alert to the possibility of overseeding (or even reseeding) in the fall.

"If overseeding is done in the spring or early summer," says Mike Robinson of Seed Research Inc., Albany, Ore., "there's a problem, because the homeowner is

Mike Robinson

the one who has got to keep that grass watered. But if it's one in the fall, and the fall rains come, the grass will take care of itself. There's a higher success rate for fall overseeding."

According to Harry Stalford of International Seeds, Halsey, Ore., a lot of people do a "dormant feeding" in November around Thanksgiving. Then, Stalford says, the process of freezing and thawing will help work the seed down into the soil.

"If you're using Kentucky bluegrass, perennial ryegrass or tall fescue, it'll green-up faster in the

Harry Stalford

spring." Stalford says, "and as soon as conditions are ripe for germination, the seeds will germinate — even if you don't get out onto the lawn right away."

Dr. Roberts says that the perfect time for fall overseeding or reseeding is the end of August through the end of September for sections of the country north of the transition zone, and slightly later — well into November — for warm-weather climates.

"With lawns, you have to get planting in early enough so that you have October and November to develop a good cover," Dr. Roberts continues, "so the roots don't rupture during the late fall and mid-winter. In the South, we have to wait until the bermudagrass becomes recessive so it won't compete with the cool-season grasses, in order to give them a chance to really catch hold. And that's going to be sometime in November down there."

Once the grass is started, roots continue to grow throughout the winter months when the surface of the soil is frozen. But if planting is done during the spring when crabgrass is germinating, "Mother Nature says the crabgrass is stronger and is going to win," Roberts adds.

"The seed industry is geared to serve the overseeding market in the southeast and southwest," notes Doyle Jacklin of Jacklin Seeds, Post Falls, Ida. "It accounts

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for about one-third of our industry's ryegrass production — actually it might be a little more than that."

"We've always said that one of the best times to overseed in the midwest and northeast is fall, because it's so natural," adds Jacklin. "You only need grass in the three-leaf stage, so it gives you plenty of time."

Dr. Eliot Roberts

Doyle Jacklin

To be really effective, of course, the concept of fall planting must be accepted by the homeowner.

"We sell beauty and excitement," says Jim Chiapelone of Burlingame (Cal.) Garden Center. "Look at the fashion industry: they highlight 'fall fashions.' Why shouldn't we create that same interest and excitement for our products — in the fall?"

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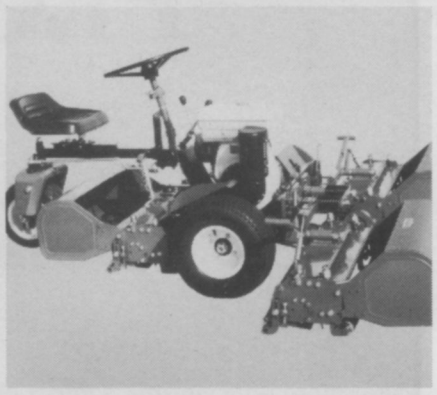
PRODUCTS

Triplex mower is introduced

Bunton Company recently announced the addition of a new Triplex Approach and Tee Mower, which is also ideally suited to situations where a finely-manicured turf is required.

The heavy-duty transmission has three forward ground speeds and one reverse, and can achieve speeds of nearly 10 mph.

Each six-blade cutting reel is individually adjusted for a cutting height range from 7-16ths to 2¾ inches. A four-cycle, 8¼-hp Robin engine is a standard feature.



Circle no. 140 on Reader Inquiry Card

Two fungicides get turf approval

Acti-dione TGF/Daconil 2787 and Acti-dione TGF/Bayleton 25WP tank mixes have received Environmental Protection Agency approval for use on turf, as a result of supplemental labeling.

The Acti-dione TGF/Daconil 2787 mix is cleared for the control of copperspot, *Curvalaria* leafspot, dollarspot, gray leafspot, *Helminthosporium* leafspot, melting out, fading out, large brown patch, red thread, rusts and powdery mildew.

The Acti-dione TGF/Bayleton 25WP is cleared for control of dollarspot, melting out, fading out, rusts, powdery mildew, leafspots, brown patch, copperspot and red thread.

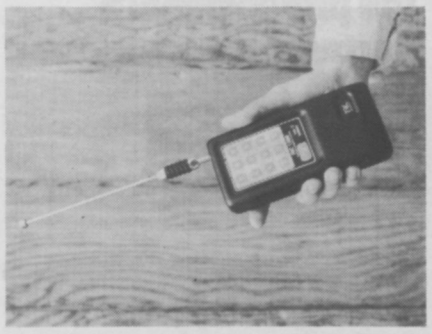
Acti-dione TGF is a product of TUCO, a division of The Upjohn Company.

Circle no. 141 on Reader Inquiry Card

Sprinkler valves need one person

Just one person is now needed to activate sprinkler valves in any location with TRC System's new remote control actuator, the RIC 1200.

This portable actuator has a digital keyboard which allows instant selection of zones desired. It



allows the operator to jump forward or backward on any selection. Easy installation is assured by a quick-disconnect connector system for all electro-mechanical and solid state connectors.

An open space signal range of up to one mile allows the RIC 1200 to be used with virtually any sprinkler system.

Circle no. 142 on Reader Inquiry Card

Brochure gives purchasing hints

"How to Buy the Right Portable Power Trimmer/Cutter" from the Hoffco Co. apprises the pros and cons of electric and gas trimmer buying.

The brochure covers trimmer/cutters for clearing brush, weeds or simply trimming grass. Hoffco published the brochure with the idea of filling a void in the marketplace concerning consumer education of portable power trimmer/cutters.

Circle no. 143 on Reader Inquiry Card

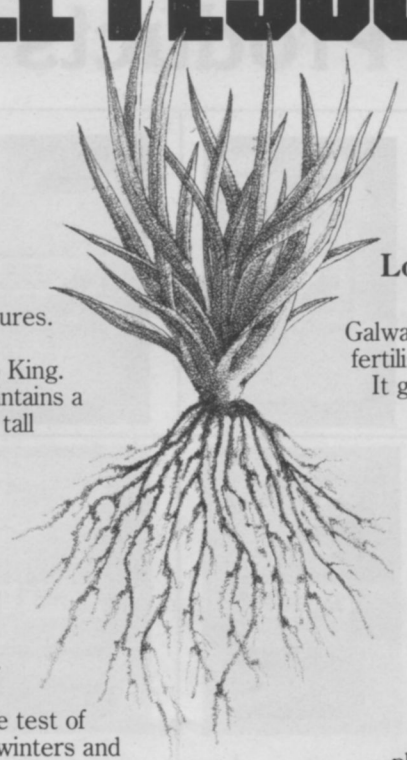
Turf insect pests 'covered'

A new management report on white grubs and three major surface-feeding turf insect pests — cutworms, sod webworms and armyworms — has been published by TUCO Agricultural Chemicals, Division of The Upjohn Co.

The report describes these pests' life cycles and suggests management practices to help keep them under control. In addition, the report summarizes university trial data concerning the company's Proxol 80 SP, an organophosphate insecticide.

Circle no. 144 on Reader Inquiry Card

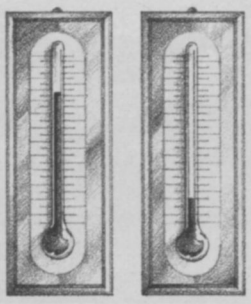
NORTHRUP KING'S GALWAY WILL CHANGE YOUR THINKING ABOUT TALL FESCUES.



Until now, most tall fescues have come up short.

They've failed under extreme temperatures. And fallen victim to disease.

But now there's Galway from Northrup King. A versatile, fine-leafed tall fescue that maintains a dense weed-free turf years after ordinary tall fescues thin out.



Improved performance against disease and extreme temperature.

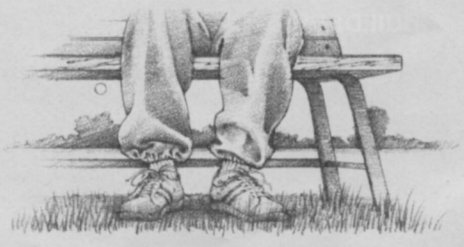
In development, Galway passed the test of fierce Minnesota winters and sweltering Midsouth summers.

It passed the test at several northern and southern universities, too, ranking among the best turf-type tall fescues available.

Tests have shown that it won't succumb to brown patch or net blotch. And that its improved shade tolerance makes it well suited for use under trees and in other low-light areas.

Low maintenance turf with a high maintenance look.

Galway requires only limited amounts of water and fertilizer to produce an attractive, dark green turf. It grows slower, which means less mowing. And its improved fine-leafed texture improves density and uniformity.



It is recommended for athletic fields, parks, playgrounds, commercial and public turf areas, boulevards, embankments and home lawns. New, fine-leafed Galway from Northrup King. It'll change your thinking. Because, in the world of tall fescues, it stands above them all.

Ask your Northrup King distributor about Galway tall fescue. Or write Northrup King Medalist Turf Products, P.O. Box 959, Minneapolis, MN 55440.

MEDALIST TURF PRODUCTS

Circle No. 115 on Reader Inquiry Card

MARKETING IDEA FILE

Finding customers

Looking up new customers to replace names dropped from last year's list is one of the most difficult problems associated with lawn care. Where to look for new customers? Freelance writer Ernest W. Fair has compiled a list of such places for LAWN CARE INDUSTRY, some obvious, some not. Here is Mr. Fair's list:

- People buying from others;
- New arrivals in town;
- People you failed to sell last year;
- New home buyers or remodelers;
- Any area or territory never worked before;
- Previously dissatisified or unhappy customers;
- Names obtained through present customers;
- Names obtained through casual contacts;
- Prospects starting new enterprises;
- Customers suddenly free of major responsibilities (freeing up new money);
- Wherever you are certain no new customers could possibly exist.

The enterprising — and successful — businessman will always find new customers, and he won't stop looking when he reaches the end of this list. Because in the fast-growing lawn care industry, there are still plenty of customers out there.

Promotional help offered to firms

"Grow with a Winner," a promotional program designed by BFC Chemicals, Inc., has been initiated to assist lawn care firms with the professional publicizing and advertising of their services and the use of Nitroform as a quality component of their fertilizer blend.

The purpose of the program is to increase consumer awareness of the value of BFC's brand of ureaform as a slow release source of nitrogen while raising the professional image of the lawn care firm.

To be eligible, a lawn care company using Nitroform needs only to place a special logo on each side of its trucks and refer to Nitroform in its advertising. In return, an allowance of $12.50 per ton will be provided on Nitroform purchases.

Circle no. 145 on Reader Inquiry Card

Edger features improved design

Excel Industries, Inc. has improved its coulter-type edger attachment for its Hustler models.

The protective fender has been redesigned for added versatility. It still covers the blade for excellent protection in either position, but when the fender is folded up it can hold up to four standard Hustler stack weights. The ad-

ditional weight provides more down pressure for use in dry, hard ground conditions and better traction.

Also new is a blade guide mechanism that improves blade angle adjustments for finer trim.

The Hustler edger is a side-mounted, self-sharpening attachment which can eliminate many expensive man-hours of hand edging. The unit is hydraulically raised and lowered, and the disc blade is reversible to permit edging from either the sidewalk or turf side of the lawn.

Circle no. 146 on Reader Inquiry Card

Soil sterilizer is fast-acting

Amrep Inc. offers a special weed killer called Repco-Kill, a fast-acting soil sterilizer which can work within two to three hours.

Depending on desired effect, Repco-Kill can be applied either diluted or undiluted. It is recommended for use in non-crop lands such as industrial sites, railroad rights-of-way, refineries, municipalities and the like.

Circle no. 147 on Reader Inquiry Card

Circle No. 118 on Reader Inquiry Card

Chevron builds research center

Officials of the Chevron Chemical Co. have revealed plans for consolidation of research and development activities of its Ortho divisions in a new $38 million agricultural chemicals research facility.

The new unit will be in Richmond, Calif., and will be composed of two buildings totaling 135,000 square feet.

Included will be a three-story structure housing chemical laboratories, biotechnical laboratories, research library, offices and lunch room. A connecting two-story building will contain administrative offices and conference facilities.

Ground is to be broken early next year. Completion is set for late 1985.

Turf-Seed has new program

Turf-Seed Inc. has introduced an "Oregon Blue Tag Awareness Program," designed to broaden the understanding of Oregon's grass seed certification program.

The Oregon Blue Tag on a bag of grass seed guarantees the user that the seed is true to variety and has passed rigorous production and purity standards.

Turf-Seed is based in Hubbard, Ore.

PGMS publishes resource book

The Professional Grounds Management Society has published its first edition of "Grounds Maintenance Management Guidelines," a 27-page soft-cover publication which attempts to establish basic minimum standards for the industry.

Covered in the book are: typical grounds management operation, specific maintenance program guidelines, maintenance inspection report, safety regulations and procedures, sample landscape maintenance agreement and a sample insurance specification.

This publication is available to PGMS members at no charge. Non-members may obtain a copy for $8. For more information, contact the PGMS national headquarters at 7 Church Lane, Suite 13, Pikesville, MD, 21208. Telephone there is (301) 653-2742.

How times have changed

from page 20

the game. But even then, his blood test didn't show he was in any trouble."

Things have not changed all that much from the work done at Purdue (see accompanying story): the results both times showed that applicators did not receive any dangerous dosages of chemicals.

"Only one guy I remember came in and said, 'I got these little spots on my glasses, and I'm wondering why,' " Beckwith said. "The spots happened to be fertilizer and not pesticides, but nevertheless it indicated that he was picking some stuff up, and he was smart enough to recognize it. The way that was corrected was by changing his application technique, because he was being a little bit sloppy."

Like drinking

Beckwith equates pesticide applicator exposure to drinking liquor: "You could probably take a sip of Jack Daniels every evening with a big cold glass of branch water, and it might not have any effect on you and you could live to 110 years old. But if you sat down and chugged a fifth of it, you'd die — and the reason you'd die is that you'd simply overwhelm your body's defenses."

He is especially proud of Dow Chemical's applicator technique brochure, which was printed when he was selling chemicals for that company.

"It can be the most important four pages that you or any of your men or gals will ever read," Beckwith told the audience, which was composed mainly of applicators. "The theme is nothing more than personal sanitation: keep your equipment in good working order, don't dive into it the way we used to.

"As long as you follow the rules of personal sanitation, you should be able to apply materials on a daily basis, year-round, during your career — and into retirement — without any adverse effects."

She came from Sweden. Made a hit as the Fylking Kentucky bluegrass beauty. Is a favorite with those who plant and care for sod, parks, golf courses, homes and recreation areas. Even costs less.
Ask anyone who makes his living in legal grass.

FYLKING
KENTUCKY BLUEGRASS
U. S. Plant Patent 2887

Another fine, quality-controlled product of Jacklin Seed Company.

Circle No. 110 on Reader Inquiry Card

Reach 12,000 readers with a LAWN CARE INDUSTRY display ad.

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Tired of rebuilding your sprayer pumps? concerned about wearing out your gun or strainer? Or, are you just fed up with constant maintenance problems?

If so, check us out. Learn about the superior features of our diaphragm pumps. Look at our heavy-duty brass gun, strainer and tank with a five year warranty.

Our entire sprayer line was designed for high performance and minimum maintenance. Write or call today!

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Sprayer Division
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216-564-2294

Circle No. 116 on Reader Inquiry Card

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- Durable, see-thru vinyl cover fits most professional quality spreaders
- Completely waterproof and spillproof
- Easy to attach — just slip it onto spreader
- Secure fit prevents spills — avoids burnout and product loss
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- Folds up for convenient storage
- Limited 1-year warranty

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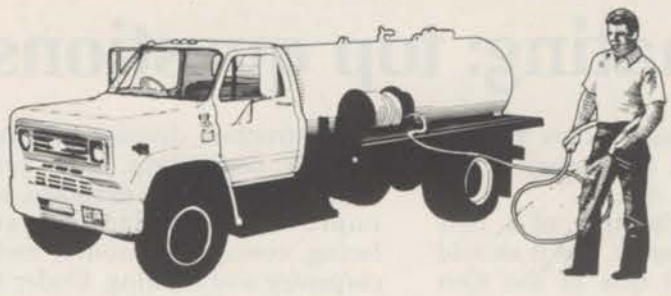
plus $2.00 shipping charge and state sales tax where applicable

Call or write: (216) 937-5517
Lawn Tech P.O. Box 149 Avon Lake, O. 44012

Circle No. 130 on Reader Inquiry Card



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The difference Clean Crop makes for you is competitive prices, quality formulations, service and delivery, and a full line of professional chemicals.
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And be sure to visit our booth at the PLCAA show November 8, 9 & 10 in Indianapolis.

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Herbicide for turf

Nobody knows weed control like lawn care professionals. And more of these pros demand Betasan herbicide than any other brand.

For good reason. Just one application stops crabgrass before it starts. Stops it without damaging your grass. And stops it all season long, in most of the U.S.

Fight crabgrass with Betasan, one application, full-season control.

Betasan®
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No. 1 against crabgrass

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No. 1 in service to the lawncare industry

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BETASAN IS A REGISTERED TRADEMARK OF STAUFFER

Circle No. 127 on Reader Inquiry Card

Landscape cost data

Estimating: top questions answered in publication

"Everything You Always Wanted to Know about Estimating — But Were Afraid to Ask."

That's not the title of a new book on the market, but it should be. The actual title of the Kerr Associates publication is "Cost Data for Landscape Construction."

The fourth annual (1983) edition has 272 pages of current prices to help designers and maintenance contractors solve the special estimating problems associated with landscape maintenance.

Construction divisions covered include demolition, site preparation, earthwork, drainage, site improvements, planting, surfacing, concrete, masonry, metal, carpentry and lighting. Under the "planting" division is a separate subdivision that addresses lawns.

Types of data

Two types of data are provided: detailed and composite. The major portion of the data consists of unit prices for detailed construction items, materials and methods. Composite costs are provided for use in developing preliminary cost estimates when exact conditions, materials and methods are not yet known.

Markup for overhead and profit included in the total cost is indicated on each table. The cost data are national averages of prices in continental U.S. metropolitan areas.

Eighteen appendices cover equipment rates, labor rates for 23 urban areas, material weights, soil expansion and compaction, hauling costs, measurement and conversion formulae, plant root spreads, board measure, and a plant name cross reference.

"Cost Data for Landscape Construction 1983" retails for $27.50 plus $1.25 for postage and handling, and is available by mail order from Kerr Associates, Inc., Suite 100, 1942 Irving Avenue South, Minneapolis, Minn., 55403.

TO READ

Turfgrass Insect and Mite Manual by Dr. David Shetlar, Dr. Paul Heller and Peter D. Irish. (63-pp., 44 color plates). This manual contains introductory information about concepts of turfgrass pest management and use of chemical, biological and cultural controls. Pests and beneficial insects found in the northeastern United States are emphasized. Insects are grouped according to attack symptoms and each pest is described, life cycles included, specific damage characteristics emphasized. Control hints are also given. Published by the Pennsylvania Turfgrass Council, 412 Blanchard St., Bellefonte, PA, 16823. Cost: $8 for PTC members; $10 for educational institutions; $12 for non-PTC members.

How to Select a Business Computer by Billie Cayote, David Campbell and Norman Sloan. (224 pp.) This loose-leaf workbook-type business book is basically intended to aid the small businessman who wants to organize his thinking before purchasing a computer. Published by Oasis Press, Oakland, CA. Cost: $29.95.

Compendium of Turfgrass Diseases by Richard W. Smiley. (136 p., 185 color plates) Chapter headings in this practical reference book are: noninfectious diseases; infectious diseases; ecology and taxonomy of pathogenic fungi in turfgrass; disease control strategy; disease diagnosis; guide to diseases and disease groups and world checklist of turf grass diseases. Published by The American Phytopathological Society, 3340 Pilot Knob Road, St. Paul, MN, 55121. Cost: $12 for APS members; $15 for non-members.

Who's Who in Landscape Contracting: directory of the Associated Landscape Contractors of America. Lists firm name, address, phone number, volume index, specialty work and principle contracts of members of ALCA. Published by ALCA, 1750 Old Meadow Road, McLean, VA, 22102. Cost: free to landscape architects, general contractors, designers and other qualified buyers and specifiers of landscape contracting; $25 to suppliers of the landscape industry.

Turf Pest Management Handbook by Mallinckrodt, Inc. An updated edition in a white plastic ring binder includes new materials on insects and wetting agents, diseases, revised cultural practices and updated recommendations from universities. Published by Mallinckrodt Inc., Specialty Agricultural Products, Specialty Chemical Division, P.O. Box 5439, St. Louis, MO, 63147. Cost: free to qualified lawn and golf professionals.

Engines, Electrical Systems, Power Trains and **Hydraulics** by John Deere. These four textbooks cover the fundamentals of service, intended to sharpen the skills of working mechanics and to develop a corps of new technicians. Though the texts are intended primarily to help upgrade the skills of John Deere dealership employees, they are also available to vocational schools. More information: write John Deere, Service Training Dept. 807, John Deere Road, Moline, IL, 61265.

Professional Grounds Management Society 1983 Membership Directory. Names of PGMS members in alphabetic order; officers; board members; branches and branch presidents; sustaining members; PGMS by-laws; certified grounds managers. Published by PGMS, 7 Church Lane, Pikesville, MD, 21208. Cost: free to PGMS members; $15 for non-members.

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American Automatic Merchandiser	11,694	Hotel & Motel Management	39,793
Beverage Industry	22,548	Housewares	12,765
Body Fashions/Intimate Apparel	10,226	Lawn Care Industry	12,662
Candy Industry	3,800	LP/Gas	15,098
Candy Marketer Quarterly	10,224	Neurology	12,917
Dairy Field	23,694	Paperboard Packaging	12,594
Dental Laboratory Review	17,292	Paper Sales	12,752
Dental Management	102,105	Pest Control	14,722
Drug & Cosmetic Industry	10,618	Professional Remodeling	38,788
Flooring	22,042	Quick Frozen Foods	21,135
Food & Drug Packaging	66,359	Roofing/Siding/Insulation	18,316
Food Management	51,498	Snack Food	9,112
Hearing Instruments	17,708	Toys Hobbies & Crafts	13,697
Home & Auto	22,519	Weeds Trees & Turf	46,082

Don't forget that classified advertising works just as effectively in locating employees as it does if you are looking for a position, have a line, machinery or a business to sell, are seeking representatives or wish to buy a specific item. Let it go to work for you!

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C

NEWSMAKERS

Turgeon at Tru-Green

One of the top experts in turf research and management has joined the Tru-Green Corp. of East Lansing, Mich., as vice-president of the company's research, development and technical services.

Dr. Al Turgeon of Texas A&M University resigned as resident director of agricultural research and extension programs for the university Aug. 1 to assume his new duties with Tru-Green.

Turgeon has a Bachelor of Science degree in grass management from Rutgers University, and he received his master's degree in grass and weed control and doctorate in grass science from Michigan State University.

A company spokesman said that Turgeon is considered one of the top experts in turf research and turf management in the nation.

Dr. Al Turgeon

Officers and board members of the Illinois Landscape Contractors Association were installed at a June meeting. President is **John Schwarz,** Addison; executive vice-president, **George Koziarz,** Glenview; vice-president, **John Hendricksen,** Wheeling; treasurer, **Kenneth Gallt,** Lombard; sergeant-at-arms, **Bill Davids,** Blue Island; and board chairman, **Chuck Carren,** Northbrook.

New two-year directors are **Bill Muehlenbeck,** Des Plaines; **Roger Lemke,** Wheeling and **Tom Trayser,** Long Grove.

Vaughn E. West has been named president of the Homelite Division of Textron, succeeding **F.W. Maddux,** who resigned. West, a native of Munhail, Pa., has been president, CEO and a board member of Stanley Works, New Britain, Conn. He is a graduate of Duquesne University.

West

Roberts

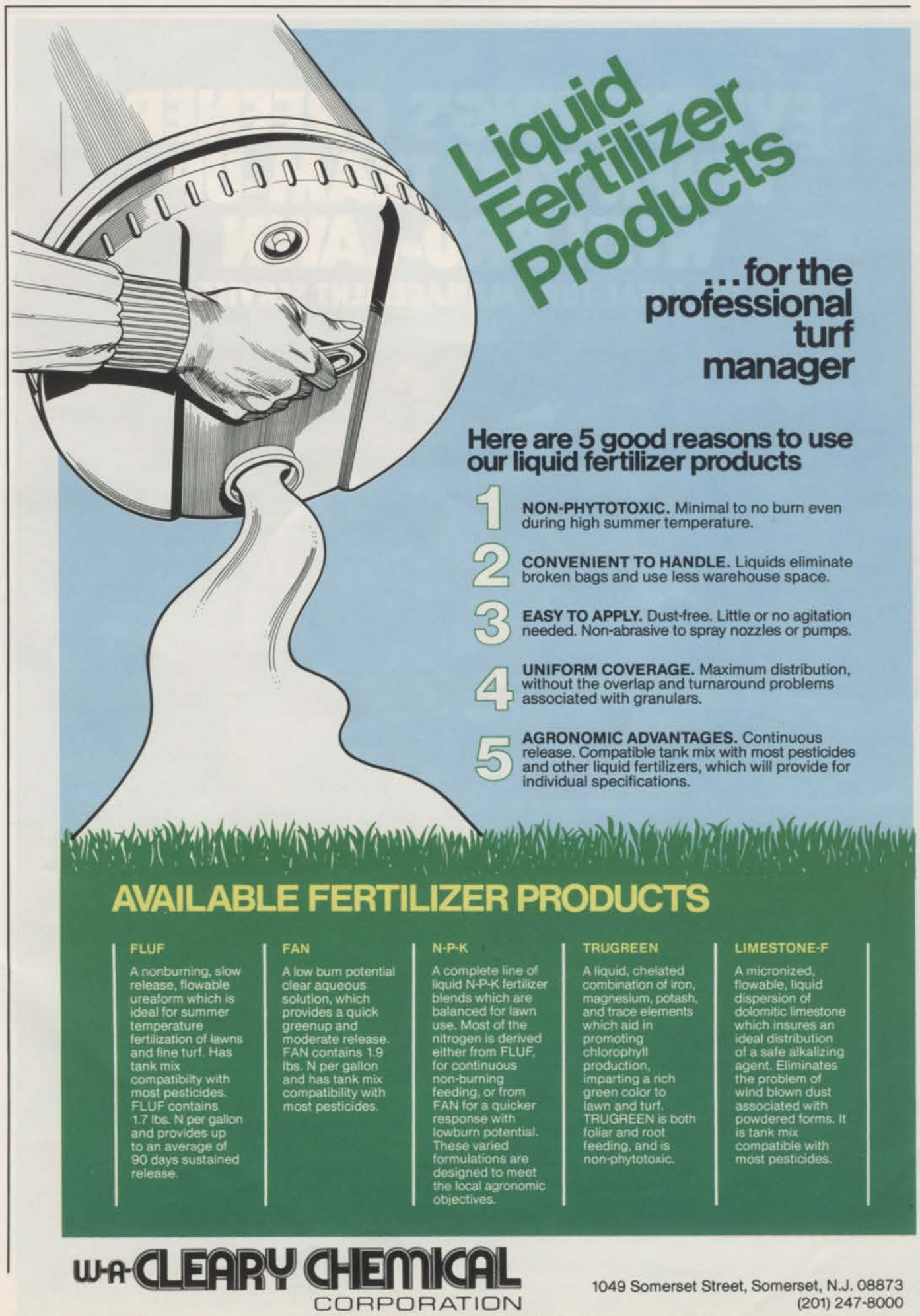
Robin Muckey of Utah State University and **Lyn Daryl Davies** of the University of Florida have been named Toro scholars and were awarded scholarships of $500 each for their student excellence in landscape architecture.

Robin Roberts is the new Manager of Membership Services for the National Fertilizer Solutions Association. Since 1981, Roberts has worked for Brayton Chemicals, an active NFSA member. He has also served as a member of the NFSA Education and Training Committee.

Simplicity Manufacturing has elected six directors: **William E. Simon** (chairman), **Ettore Barbatelli, Raymond G. Chambers, Warner C. Frazier, Julius Koppelman** and **Frank E. Walsh Jr.** Simon is chairman of Wesray Corp., a private invesment banking firm with controlling interest in Simplicity. He was U.S. Secretary of the Treasury from 1974 to 1977.

Ron Paugh, a resident of Rock Hill, S.C., has been named service administrator for Porter Brothers Inc., the nation's largest distributor of outdoor power equipment. Paugh will direct all of the service-related activities of the company.

Three J.I. Case employees have been honored: **David Berry** and **David Jordan** for 20 years of service each and **Douglas D. Korthals,** who was promoted to regional manager for the Outdoor Power Equipment Division. Berry has held various credit-related positions with Case while Jordan has spent the last 19 years as OPE service manager. Korthals holds a



Circle No. 126 on Reader Inquiry Card

MONEYWISE

Third-party claims

Studies have proven that when the economy goes into a recession, third-party claims — particularly workers' compensation claims — increase proportionately, according to an article in a recent Pennsylvania Nurserymen's Association newsletter.

There's no mystery to this cause-and-effect relationship: people are under economic pressure, and are seeking ways to make ends meet. Not all of them are honest.

There is not much the small, independent businessman can do about non-workers' comp claims, except to be a little suspicious and to cooperate fully with the insurer.

However, here are some positive steps you can take to ensure the validity of any workers' compensation claims which might cross your desk:

- Maintain the highest safety standards possible to make it more difficult to contrive phony claims;
- Carefully investigate any suspicious-looking claims, and furnish the insurer with any pertinent information; and
- Report claims promptly and properly to facilitate their expedition.

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Unlike other turf companies that act as distributors for other people's products, Pro-Lawn not only distributes a variety of products, but also manufactures much of its own fertilizer and chemicals. And Pro-Lawn produces seed to provide custom seed mixing capabilities—to your specifications. This one source service means economy and efficiency; and assures you that Pro-Lawn's high quality standards are met everyday.

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City:_____ State:_____
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Best Time to Call:_____ LC

Circle No. 200 on Reader Inquiry Card

B.A. degree from Northwestern College.

Robert H. Markus has been named vice president-controller of Jacobsen Division of Textron, Inc., according to President **John R. Dwyer, Jr.** Markus will be responsible for all financial activities of the company, including a new assembly plant in Charlotte, N.C.

Markus

Horsley

C.J. "Jack" Horsley has been named marketing manager for the Mott Corp., manufacturers of flail mowing equipment for commercial lawn care. The West Virginia State College graduate has worked for Gravely, Dixon Industries, Hahn and Bolens.

Frank M. Frederick has been appointed national sales manager of Champion Brass Manufacturing Co., a manufacturer of sprinklers and accessories. Frederick has a solid background in key management posts with some of the top consumer and industrial manufacturing companies.

Arrow Group Industries has a new national sales manager: **George J. Smith,** who was formerly national sales manager for the consumer product group at Olin Chemical Co.

J. Roger Hirl has been named president and CEO of Occidental Chemical Corp., which will shortly move its corporate headquarters from Houston, Texas to Fairfield, Conn. Hirl joins Occidental after a 23-year career with Olin. Occidental also named **Dr. Dale R. Laurance** vice-president of special projects.

Allegheny International has appointed **Jerry Zettle** president of Jackson/Cyclone, a member company of the AI Hardware group. He succeeds retiring president **Robert A. Whitehead,** who will continue as a consultant after 15 years as president. Zettle holds a bachelor's degree from Penn State University in business administration.

Bruce Oliver was elected president and general manager of Zaun Equipment at a recent annual stockholder and board meeting of the Jacksonville (FL) based outdoor power equipment distribution firm. **Ben Reemelin,** Zaun president for the last 29 years, will remain as Chairman of the Board and a member of the executive committee.

John Talbot and **Charles Dingman** have been named manufacturer's representatives for Howard Rotavator, which produces a full line of tractor-mounted rotary power tillage equipment. Talbot is handling Iowa while Dingman's territory is northwestern Missouri.

Edwin D. McGuire is president

dent of Green Scape, Inc., Baltimore, Md. The company offers both liquid and granular chemical lawn care and landscaping services.

All Seasons Lawn & Leaf of Tyler, Texas is co-owned by **Louis A. Bower** and **Donald Hitt.** The company offers both liquid and granular chemical lawn care services.

Vern Bushlack is president and **Marmie Bushlack** vice-president of Country Green, Ind., Rochester, Minn. The company offers both liquid and chemical lawn care and mowing/maintenance.

Ever Green Service Co., Divison of Eagle Grove Implement Co., Inc., Eagle Grove, Iowa, is a full-service lawn company which offers both liquid and granular chemical lawn care, mowing/maintenance and trimming and landscape services. **Kenneth Askelsen** is president.

James K. Gourley Sr. is president of Lawn Masters, Inc., Kenosha, Wisc., which offers both liquid and granular chemical lawn care services.

Kent Olsen is president of L.A. Olson, Madison, Wisc., which offers liquid chemical lawn care services and is also involved in LP-gas distribution.

MCI Agsystems is a newly-formed fertilizer manufacturer based in Donaldsonville, LA. The joint venture of Ashland Oil, Inc. and First Mississippi Corp. has as its market development manager **John H. Detrick. Roger Thomas** is vice-president.

Paul A. Jednat is owner/operator of Penn-Scape Lawn & Tree Service, Chambersburg, Pa. and **Frank J. Reynolds Jr.** is president of Reynolds Lawn Care, Inc., North Haven, Conn. Both companies offer liquid and granular chemical lawn care services, and Penn-Scape in addition offers tree care.

Samuel Willard is owner of Shearer Lawn Care, Trenton, N.J., division of Shearer Tree Surgeons. The company offers both liquid and granular chemical lawn care and complete tree and shrub care services. **William T. Turner Jr.** is manager, and **Steve Willard** and **Glen Willard** are sales representatives.

Jim Synder is proprietor of Snyder's Lawn Service, Mineral Ridge, Ohio, which offers both liquid and granular chemical lawn care services.

Raymond J. Velpel is president of Spring Green Lawn Care, Appleton, Wisc., a franchise operation of the parent company based in Plainfield, Ill. Spring Green offers both liquid and granular lawn care. **Mary L. Velpel** is secretary-treasurer.

Supreme Maintenance Service, Shelby, N.C. offers mowing/maintenance to its customers. **Bobby B. Guffey** and **William D. Ledford** are partners.

Tuff Turf, Inc., Vancouver, Wash., is a company which offers liquid chemical lawn care services. **Mike J. Perry** is president, **J. Scott Foster** vice-president/treasurer and **Pat F. Perry** vice-president/secretary.

TOOLS, TIPS, TECHNIQUES

Proper watering measures

In times of severe water shortages, many lawn care businessmen spend a lot of time explaining water use to customers, in order to avoid many turf problems. Here are some points you could outline for them on proper watering methods, taken from the Michigan State Extension Bulletin "Turf Tips for the Homeowner":

- Best time to water is during the early morning so the lawn will have water during the heat of day.
- Watering at mid-day is not harmful, but less efficient. Evaporation is often high, and wind conditions may cause uneven water distribution.
- Evening watering is also efficient, but wet conditions lasting through the night have been thought to increase disease problems.
- For best results, start watering before dormancy develops. Look for signs of wilting. A dark blue-green color and footprints that persist are signs that lawns need water.
- Avoid frequent light waterings, which can promote shallow roots. Water deep to promote an extensive root system. The result of shallow rooting is reduced soil moisture and nutrients.
- A lawn infected with *fusarium* blight may require daily watering to prevent moisture stress, but always apply enough water to wet the root zone.

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If you've ever been around people who are bragging about their "Bunton", you know how zealous they can be. The dependability... the fuel efficiency... the performance... the price... nothing but rave reviews.

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Contract numbers
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H U D OPH (CO)m-3650

Circle No. 104 on Reader Inquiry Card

Applicator exposure

from page 20

lons total volume (water, insecticide, fertilizer); Meyer centrifugal pump.

Weather: 11 a.m. to 4 p.m.; 77-84° F., R.H. 77-63%, wind speed 13-8 mph

Timing: 300 minutes total work time; 113 minutes total exposure time

Surgipad	Concentration (mg/100 cm²)
front upper	6.9
back upper	6.9
right wrist	3.9
left wrist	19.9
right ankle	6.9
left ankle	6.9

Test 3

ChemLawn Corp., Indianapolis, Ind.; Sept. 18, 1979

Application: Diazinon AG500 liquid; 5.5 lb. ai/A; ChemLawn spray gun operated at 12-15 psi at the nozzle; 4 gpm insecticide and water per 1,000 sq. ft.; John Bean piston pump; 1,200-gallon tank

Weather: 6:55 a.m. to 1:35 p.m.; 61-77° F., R.H. 93-62%, wind speed 6-9 mph

Timing: 400 minutes total work time; 106 minutes total exposure time

Cotton gauze pads	Concentration (mg/100 cm²)
front upper	12.8
front lower	12.8
back upper	12.8
back lower	12.8
Surgipads	**Concentration (mg/100 cm²)**
right wrist	5.9
left wrist	5.9
right ankle	23.7
left ankle	5.9
right thigh	29.6
left thigh	189.4

Test 4

ChemLawn Corp., Indianapolis, Ind., Sept. 28, 1979

Application: Diazinon (granular) 5% GR at 5.5 lb. ai/A; Cyclone Model B1 rotary-type fertilizer spreader

Weather: 6:51 a.m.-12:17 p.m.; 63-66° F., R.H. 87-84%, wind speed 7 mph

Timing: 326 minutes total work time; 34 minutes total exposure time

Cotton gauze pads	Concentration (mg/100 cm²)
front upper	12.8
front lower	38.3
back upper	9.2
back lower	12.8
Surgipads	**Concentration (mg/100 cm²)**
right wrist	43.4
left wrist	130.2
right ankle	17.8
left ankle	6.9
right thigh	592.0
left thigh	237.0

Test 5

ChemLawn Corp., Indianapolis, Ind., Sept. 5, 1979

Application: Dylox (trichlorfon) wettable powder at 8 lb. ai/A

Weather: 7:30 a.m. to 3:06 p.m.; 68-86° F., R.H. 93-48%, wind speed 8-10 mph

Timing: 456 minutes total work time; 161 minutes application; 24 minutes transportation-mixing

Cotton gauze pads	Concentration (mg/100 cm²)
front upper	ND
front lower	ND
back upper	ND
back lower	ND
Surgipads	**Concentration (mg/100 cm²)**
right wrist	ND
left wrist	0.35
right ankle	3.5
left ankle	2.1
right thigh	1.0
left thigh	1.4

(ND = not detectable)

Diazinon and trichlorfon (Dylox 50% WP or Proxol 80SP), both organophosphates, are two insecticides frequently used by the commercial lawn industry because of their relatively low level of acute toxicity. Recommended rates for insect control may vary. Diazinon may be applied at one to three ounces of active ingredient per 1,000 square feet; trichlorfon at two to three ounces active ingredient per 1,000 square feet.

The amount of diazinon to which operators were exposed via inhalation during the four tests was 0.010, 0.023, 0.013 and 0.021 mg/cu.m. for the total work day.

When inhalation concentrations were determined based on a work day, the total exposure concentration was less than the 0.1 mg/cu.m. maximum threshold limit value (TLV) acceptable. The Threshold Limit Value-Short Term Exposure Limit (TLV-STEL) for diazinon is reported as 0.3 mg/cu.m. Thus, based on the STEL on July 23, the exposure was less than the limit.

'The ceiling'

According to the ACGIH publication the STEL should be considered a maximal allowable concentration, or ceiling, not to be exceeded at any time during a 15-minute excursion period. The average time spent treating on any one residential site was approximately six minutes.

There appears to be no available TWA or TLV-STEL for trichlorfon. However, based on the organophosphate level as established for diazinon, the actual concentration of 0.002 mg/cu.m. was low. The concentration of 0.109 mg/cu.m. measured during tank mixing was at the 0.1 mg/cu.m. TLV value, but below the 0.3 mg/cu.m. level established for diazinon, both indicating safe exposure levels.

Dermal concentrations were determined by adhering absorbent pads to the body, and then extracting the insecticide adhering to the pads.

Front and back body pads, as well as ankle pads, generally showed only traces or very low levels of diazinon. Body pads with the greatest amount of exposure contamination were those on the wrist and on the inner thigh just below the scrotal area.

Dermal exposure concentrations above the lower detectable limit were found on Aug. 3, left wrist; and on both wrists Sept. 28, when the applictor was using his left hand to hold the spray gun.

The highest exposure levels were found on the 289 sq.cm. pads taken from the upper thigh, scrotal area. Exposure levels were: Sept. 18, 39 on right thigh, 189 on

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left thigh; Sept. 28, 592 on right thigh, 347 on left thigh.

Thigh samples were collected only on the last two dates. The application on Sept. 18 was a liquid spray; that on Sept. 28 was a dry granule applied with a rotary-type spreader. In practice, the applicator normally walks at a brisk pace and the hand-held nozzle releasing the spray is swinging from side to side in a rhythmical motion.

The applicator on Sept. 18 was left-handed, a possible reason for the variance in right-and-left exposure levels. In addition, exposure was greater for the granule than from the liquid spray.

Dermal exposure levels for trichlorfon were not detectable on the front or back of the upper body. Also, all wrist and ankle pad exposures were low. The thigh exposure levels did not reflect those high concentrations measured for diazinon.

Conclusion

It was evident in these tests that inhalation exposure levels based on total work-day time are below the TWA for organophosphates diazinon and trichlorfon. Dermal exposure levels were generally low, the exceptions being that for the wrist and thigh-scrotal area, and for the STEL for inhalation only on July 23, 1979. Frequent washing of the hands and wrists would tend to reduce the potential for build-up in the wrist area. Thigh-scrotal area concentrations, which were high on two occasions, need additional confirmation. To reduce the exposure, a non-absorptive apron or pants could shield the applicator using hand-held spray nozzles to protect this part of the body.

It was evident that — with proper precautions during tanks mix preparation and application — exposure levels were low, and therefore would appear to present no hazard to the applicator.

Literature cited

Turf manager's Handbook, 1979. W.H. Daniel, R.P. Freeborg.

TLV's Threshold Limit Values for Chemical Substance in the Workroom as Adopted by ACGIH for 1982

Freeborg

Daniel

Konopinski

Dr. Ray P. Freeborg is a research agronomist at Purdue University. Dr. William H. Daniel has been at Purdue since 1950, and is responsible for research, teaching and extension in all phases of turf use. Virgil J. Konopinski is Director of the Division of Industrial Hygiene and Radiological Health for the Indiana State Board of Health. The three were responsible for undertaking the pesticide applicator study and for writing this story.

Turfgrass mix 'n' match

from page 1

adapted."

He estimates that slightly more than $1 billion will be spent maintaining California turf in 1983, and that the national figure will be $24.7 billion. The extension environmental horticulturist cites Southern California — where he is currently researching turfgrass adaptability — as an example.

"The cost of storing water and moving water will influence all of us," Dr. Gibeault further notes. "There are also certain sections of the United States like the west and southwest where the actual availability of water may not be sufficient for all our needs, especially within the realms of economic reality.

"In 1985, Southern California will lose a significant portion of the water that is now being pumped into that area from the Colorado River. It is being diverted to the Arizona water project."

Gibeault says that well-adapted grass uses approximately 50 percent less water than less well-adapted grasses, according to his studies.

"Now is the time when we need a new perspective in turf management," he concludes. "It's certainly a large, dynamic industry composed of people with a lot of foresight. And the challenges we face in the future I'm sure will be realized, recognized and addressed by all of us."

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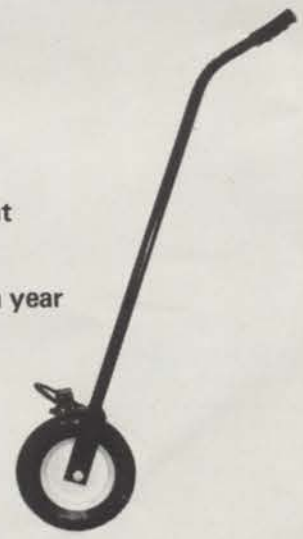

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'This system has fulfilled every parameter we set.'

— Dr. Roger Funk

from page 1

"When we set out to devise a proportioning system, we made a list of desirable parameters," Dr. Funk notes. "This system has fulfilled every parameter we set.

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The big problem, according to Dr. Funk, was devising a workable valve. Other problems included precise metering and budget constraints. All were eliminated, including the price: about $3,000 for each unit.

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"These units will pay for themselves in material savings in one year," Funk concludes.

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