

'New' chemical lauded at OTF

Though his presentation was one of the shortest of the Ohio Turfgrass Conference and Show in Columbus, Ohio, recently, Dr. Harry Niemczyk of the Ohio Agricultural Research and Development Center may have had the most important news. Niemczyk revealed a Ciba-Geigy insecticide which just passed a series of tests with flying colors.

The insecticide is CGA 12223,

which had been put on the back burner by Ciba-Geigy a few years ago, but has been resurrected recently.

Niemczyk termed CGA 12223's control of grubs "pretty darned good" and gave its control of sod webworms and chinch bugs "good marks." He further said the substance, which may hit the market as early as next fall, controlled black cutworms, bluegrass

billbugs and earthworms with excellent efficiency.

The 4EC formulation will be for professional use. It was submitted for a federal label last November.

"It's a new insecticide and the turfgrass market is No. 1 on their list with marketing material," Niemczyk said. "That's kind of a new thing for insecticides."

Complete information on the product will be available when

Ciba-Geigy releases it.

Nearly 2,000 industry professionals attended the conference, which was held in the Hyatt Regency Columbus at Ohio Center. They were treated to more than 200 commercial exhibit booths and three days of speeches by some of the most well-known names in turfgrass science.

Sessions were divided among

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LAWN CARE INDUSTRY

Serving lawn maintenance and chemical lawn care professionals



NAMES

Got a clever name? Many lawn care businesses do, and they are finding that it helps business. For more on the subject turn to an interesting article on page 22.

ECONOMY, COMPETITION

Numerous reasons cited for decline in growth

A general weakening of the economy and increased competition have been two prominent reasons for the decline in growth patterns of the lawn care industry, a decline that has affected different lawn care professionals in different ways.

LAWN CARE INDUSTRY contacted selected members of the profession recently, and a standard response came from George Meeley, general manager of Chem-Turf in Anaheim, CA.

"The typical thing we hear," Meeley said, "is, 'Well, things aren't going too well at work. I

THE HARDEST TASK OF ALL

Financing a sore spot for lawn pros, who need to seek viable alternatives

Obtaining business loans from banks is difficult in most cases, impossible in others, for lawn care businesses from coast to coast. That's a fact of life. And how to circumvent that pitfall is a major source of concern to the industry.

"The industry is extremely weak in its ability to obtain funds because there is no real knowledge of sources and methods available to secure it," says Lee Bruce, owner

of The Bruce Company, Middleton, Wisc.

Banks are sometimes skeptical about lending lawn care businesses money because of the limited season, dependence on "living things," poor professional image and comparatively low collateral potential.

How lawn care businessmen attack the financing problem was the subject of a recent survey done of selected professionals.

For instance, Richie Skelton of SaBell's, Inc., Lakewood, Col., regularly asks his clients for an advance on their contract to finance the purchase of supplies.

"We make it worth their while by then offering them a discount equal to the going interest rate," Skelton noted. SaBell's then makes the most of the advance by taking discounts for prompt payment offered by suppliers.

Taking the relationship with the supplier a step further, Jerry Bachand of Carol King Landscape Maintenance Inc. in Orlando, Fla., buys from equipment dealers who are anxious to sell their merchandise and are willing to carry contractors with smaller interest rates than the banks. Said Bachand: "We need large equip-

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Weed control examined

This is the time of year when lawn care professionals should be addressing themselves to the problems of spring, and



Dr. Freeborg

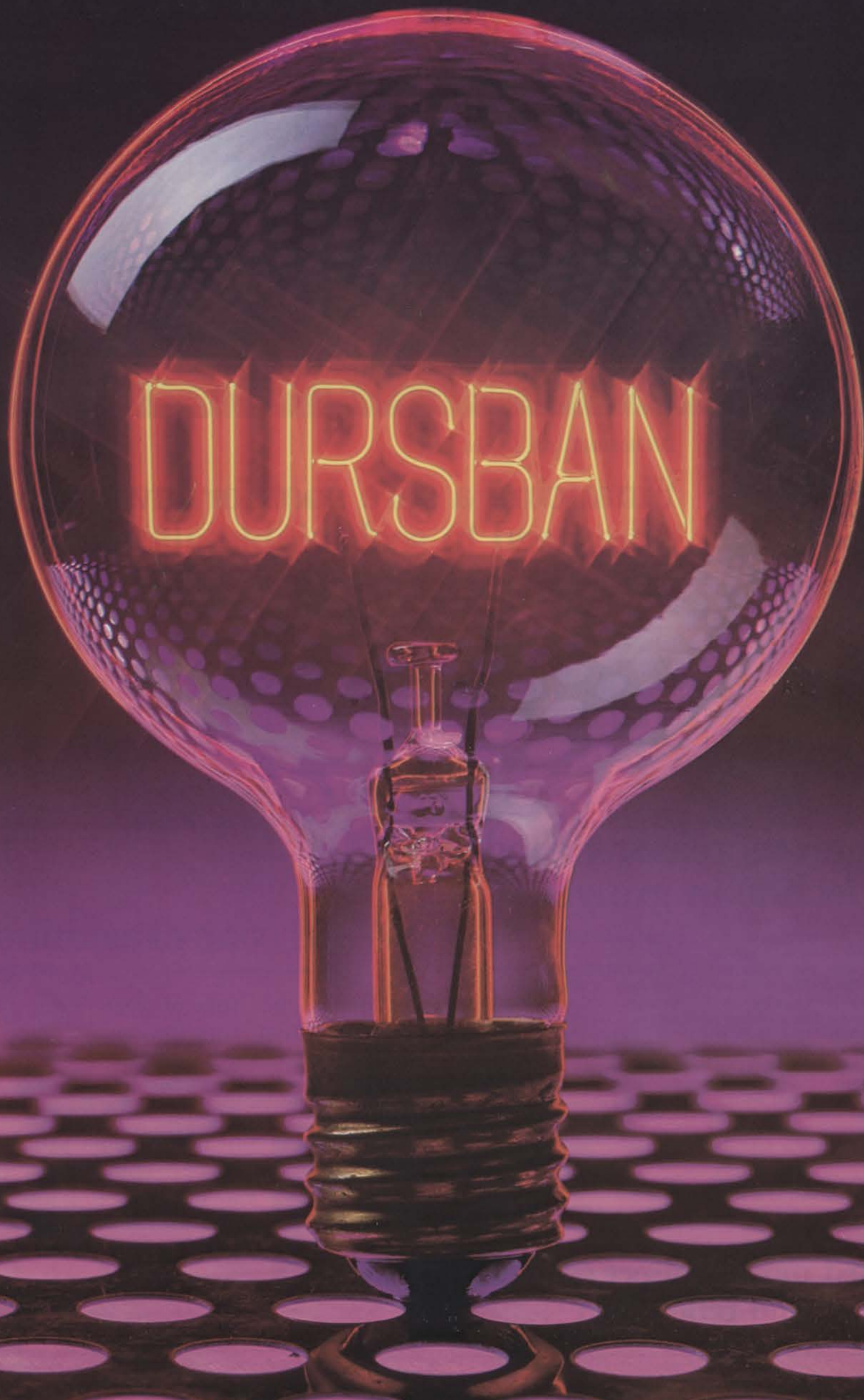


B. J. Johnson

one of the major problems is weed control. Dr. Ray Freeborg and B. J. Johnson write above weed control on pages 14 and 15.

Next month: Insect control

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UPFRONT

LCI needs YOU



"Good story," my boss said not long ago, handing back the copy for one of the stories within these pages. "We have 12,000 readers, and I'll bet 8,000 of them read this story. This is really good stuff."

He probably was not talking about how the words were actually arranged on the paper; more likely, he was referring to the subject matter itself.

The point here is not how great a writer I am; in the last 13 years, goodness knows, I've churned out some real clinkers. The point is that the reader's best interests should always be served. A further point is that no one person — no matter how judicious — can possibly know the inner workings of 12,000 minds with a wide range of interests. Especially when that one

person is fairly new to the lawn care industry.

Over the last few months, this magazine has received its share of suggestions concerning possible improvements it can make in editorial selection and presentation.

Most magazines have special "Letters" sections each month. This magazine, though, has no such department, for the simple reason that very few of you — even during the slow season — bother to sit down and write us a note offering constructive criticism and/or suggestions concerning how we can upgrade ourselves. And very few of you will even take a few moments to dial us up.

The bossman has issued a challenge to the editorial staff here. "It's time for some changes," he said recently. "We need some fresh ideas."

Granted. But changes will not be affected simply for the sake of change itself; LAWN CARE INDUSTRY is simply too well-done and too well-respected. Changes will, however, be discreet if needed.

Over the last few months, we've gotten a few suggestions. Todd Cutting of TUCO (a Division of the Upjohn Company), for example, took some time at the PLCAA convention to suggest more technical stories, released at the appropriate time of year to most aid lawn care industry professionals. That is a good one.

And Bill Rhymes of Malinckrodt dropped us a line to suggest a decrease in the dimensions of the magazine. He said that a standard magazine-size publication would be more convenient than our present tabloid-size. Implementation of that suggestion is not feasible, for the simple reason that we can get more news and immediacy into our present format. But, nonetheless, the suggestion was appreciated.

Wouldn't it be wonderful if we could start a "Letters" section in the near future? A section that would accurately reflect the genuine feeling of our readership? A section that would let our 12,000 readers know what each of the rest of us is thinking?

But implementation of that idea is in YOUR lap. We gotta get 'em to print 'em. What do YOU think?

Speaking of readable stories, there are some exceptionally interesting ones contained in this month's issue.

We've got stories on weed control in warm-weather and cool-weather climates by B. J. Johnson of the University of Georgia and Dr. Ray Freeborg of Purdue University, respectively. We've got an extremely well-done piece on company names and an accompanying light-hearted look at some possible "awards" for those colorful names.

There's an informative article on mower/tractor maintenance, along with a feature story on what lawn care professionals think are the main reasons for the recent downward trend in business.

And next month, we'll feature more of the same. We have tapped one of the industry's leading technical experts to provide an article on insect control. There's a multiple-page spread on renovating lawns, as seen through the eyes of several experts on the subject. And Don Burton of Rochester, N.Y. kindly agreed to an exclusive in-depth interview concerning the Professional Lawn Care Association of America, of which he is the new president.

Recordings of all the presentations made at the 1982 Professional Lawn Care Association of America conference are available now through Audio-Stats Educational Services.

Each audio cassette is 60 minutes long, and each sells for \$9. There is a \$1 discount on each tape over six and a \$1.50 discount on each tape over 12. The complete conference is available for \$105, a savings of \$39.

For more information, send a self-addressed, stamped envelope to Nationwide Audio-Stats Educational Services, Inc., 2639 S. La Cienega Blvd., Los Angeles, CA 90034 or telephone (213) 558-4529, requesting information on Program No. 295-82.

We'll conclude this column by looping back to the beginning and reminding you that if you've got some interesting observation, or some criticisms or suggestions, please write. And when you address your letter, don't forget our new address.

For your files, one last time then, our mailing address is now 7500 Old Oak Boulevard, Middleburg Heights, Ohio 44130. And if you've got something especially immediate and would rather telephone us, our new number is (216) 243-8100.

Until next month, keep reading

Jerry Roche

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Low-volume spraying could become popular

Have you ever considered low volume spraying? If you haven't, Thomas Jessen of Perma-Green Supreme, Inc., Merrillville, Ind., thinks you should.

Jessen says that a lawn spraying business can save up to \$10,000 the first year by using low-volume spraying and equipment he designed, which he calls an LV200 unit.

Jessen, who had booths at the recent Professional Lawn Care Association of America and Ohio Turf Foundation conference and trade shows, is a low-volume believer.

"The idea's been out a long time, it just hasn't been disseminated well," Jessen notes. "It's been sort of follow-the-leader in the lawn care industry, but we think we have an alternative to doing things the way the bigger companies do them."

Jessen uses less water in his spraying operation, cutting the cost of operating a large truck and pump system. His system uses one gallon per 1,000 square feet, applying up to one pound of nitrogen with and without slow release. (A typical company might use four pounds per 1,000.)

"We are getting superior weed control," Jessen says, "with no increase in burning. I've put down 7,000 applications in every type of weather. I've given this idea plenty of time to come back and haunt me, but it hasn't."

"As a matter of fact, I've given everybody a chance to shoot holes in this one-gallon-a-1,000 idea."

Dr. Tom Fermanian is doing research in low volume spraying at the University of Illinois. All the results he has obtained so far have been favorable, but complete test results are not yet in.

Comparisons

Cost of operating an LV2000 for one year is \$1,410.50, according to figures Jessen was using at the conferences. The annual cost of operating an International Harvester 1724 gasoline unit is \$5,243 and a like diesel unit is \$2,877.25, according to Jessen. He also adds the one-year payments on a Datsun short-bed truck which he uses, as compared to figures for GMC 6000 gas and diesel trucks. Total equipment cost for the first year using full-size machinery is \$26,567.29 for gasoline-powered units and \$33,723.11 for diesel-powered units, Jessen says.

By contrast, Jessen says it costs him \$13,351.60 to operate his LV2000 unit per year.

Big savings come in the 18 miles per gallon his truck gets with a 600-pound pumping system mounted on it. Jessen's pump operates off the truck battery, using only seven amperes. It applies at a rate of 1,500 square feet per minute, pulling from separate

tanks and accurately controlling the ratios of water, fertilizer and chemical concentrates in the spray solution. Production capacity of the corrosion-free unit is 200,000 square feet.

"I'm getting favorable reactions from customers," Jessen states, "and the applicators love the small trucks."

For more information on the process called low-volume spraying, contact Jessen at P.O. Box 8326, Merrillville, IN 46410.



Tom Jessen demonstrates low-volume spraying unit

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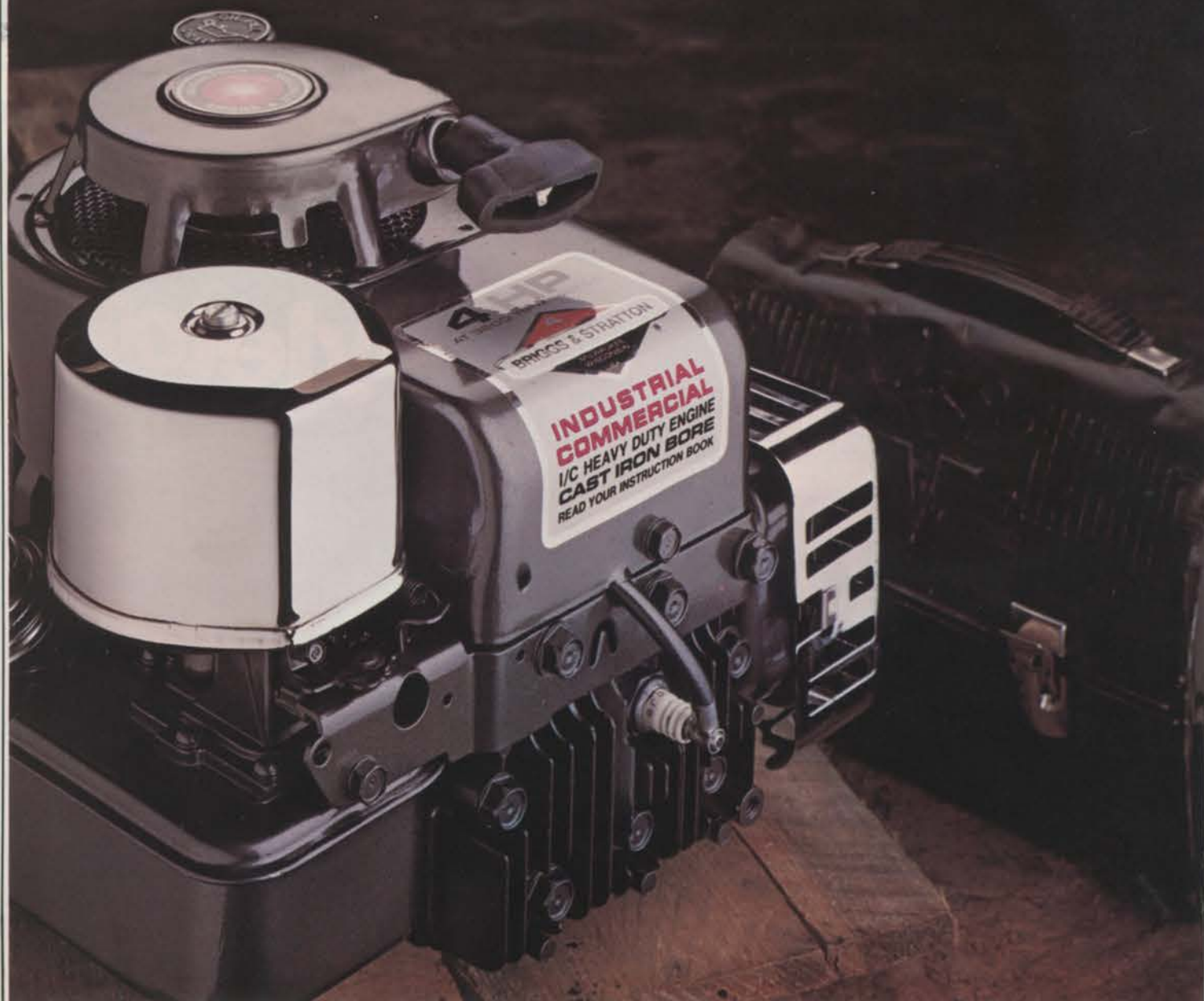
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Equipment maintenance more important than ever



Robert Krick

by Robert Krick, The Jacobsen Corporation

With the spring growing season just ahead for much of the country, this month and the next are the perfect time to mobilize equipment stored last fall. Why not just start the machines, check that all systems are functioning and move out to get the work done?

The reasons are many for bringing equipment up to top working order in advance. Contingency cushions in turf care budgets are pretty much a thing of the past. Qualified labor is more scarce. Regulations are stiffer. And backup equipment has become a

luxury.

On top of those reasons, the technology of turf equipment has been changing with greater use of hydraulics, diesel power, the development of compact but more productive single-purpose machines and the emergence of systems machines that can handle a variety of attachments to perform other chores.

The bottom line is greater dependence on fewer machines. This has to mean a reorientation in thinking about maintenance.

To us, this translates to establishing a program of preventive maintenance, beginning with putting your equipment in excellent working order now, then setting up routine procedures for keeping it that way throughout the season. There is no mystery in preventive maintenance. It simply means discovering and correcting minor faults before they develop into major problems.

Inspection and cleaning

The obvious first step in getting ready is a thorough visual inspection. But not so obvious is that equipment should be inspected before and after cleaning. The before phase is quite important as cleaning can remove tell-tale oil leaks and other signs you'll want to note for attention.

Cleaning — Nothing is quite so fast and thorough as a complete steam cleaning of all parts, though portable high-pressure washers with mixers for detergents can also do an excellent job. Take care not to focus the pressurized stream toward the carburetor, air cleaner, oil dip stick or any other area that could allow moisture to enter the engine or components.

General Inspection — With any leaks previously noted and the machine clean, look for indications of condition, proper assembly, security of connections and excessive wear. Components should not be bent or twisted, chafed or burned, broken or cracked, bare or frayed, dented or collapsed, improperly aligned or so forth. Correct assembly means parts in normal position, properly aligned and secured. The multitude of fasteners should be examined: cotter pins and locking wires, lock nuts and washers, nuts and bolts, etc., should be well secured and in good condition. Excessive wear is likely to result in failure if the item in question is not replaced.

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efficiency, some turf machines like Jacobsen's new HF-5 reel and Turfcut II DW 220 rotary models may incorporate diesel engines. These power plants provide plenty of torque at lower rpm's and reduce fuel consumption. They also are maintained differently from gas engines.

Ignition — Diesels rely on very high compression to generate heat to ignite fuel, with typical ratios ranging from 16 to 20 or more to 1. This kind of compression requires huskier engines that traditionally outlast gas equivalents. Compression ignition means no spark plugs, points, coil, condenser or other elements associated with gas engines. In this respect, diesels are

easier to maintain. However, glow plugs, used to preheat combustion chambers for cold starting, may need changing periodically, and you'll want to always remember to return the timing adjustment used for cold starts to its normal position once the engine has warmed up.

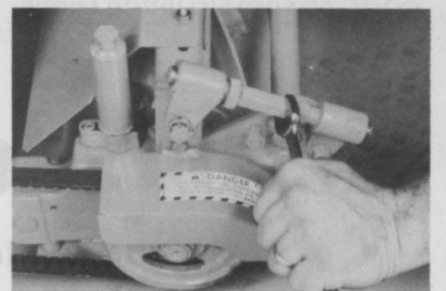
Injected Fuel — Fuel delivery is simpler, too. It's injected into the combustion chambers rather than sucked in as with gas engines with carburetors. The injector systems require little maintenance beyond occasionally draining off water that has accumulated in the reservoir for this purpose. If the machine hasn't been used for several months you'll want to drain water that may have separated from the fuel in lines and

tank.

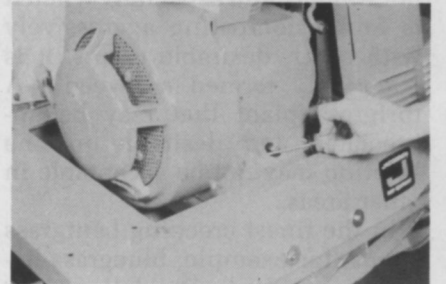
Diesel fuel waxes at about 15° F. Additives can prevent this from happening. One calls for adding one ounce to seven gallons of fuel for minus 20° F operation.

Air Filter — Clean air is important to any engine but even more so to diesels, which is why we screen and duct air to a large, industrial air cleaner on our machines. Inspect the air filter more often than the frequency recommended in your manual if you operate under particularly dusty conditions. And always replace the filter with the type specified and approved by the machine's manufacturer.

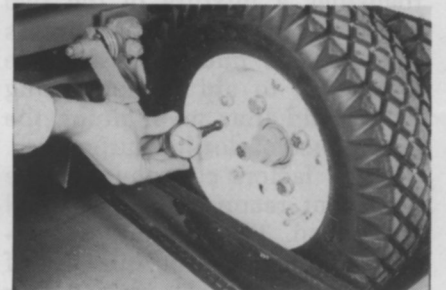
Oil & Oil Filter — We recommend that oil and oil filter be changed more frequently in our diesel engines, to maintain clean



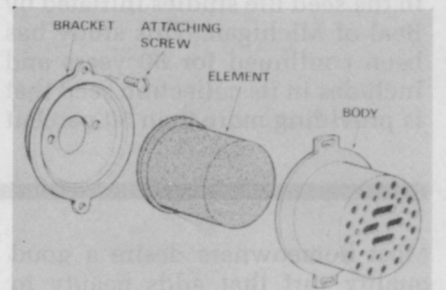
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Air filters, especially in diesel units, need attention to assure proper aspiration.

running units. In addition, diesel power may use more lubrication oil than a gas engine due to increased "blow-by" caused by the very high compression ratio. Given this, obviously oil level should be checked more frequently. The oil you stock for topping off the level needs special attention, too. The designations on the top of the can usually carry ratings of CC or CD for diesel engines.

Hydraulic system

Functions once accomplished by chains, belts, gears and drive shafts are, in many cases, now being performed by hydraulic systems. Since hydraulic systems contamination is the leading cause of component failure, preventive maintenance is the simplest and least expensive way to keep equipment using this kind of productive power.

Reservoir — This holds hydraulic fluid as well as dissipates heat, keeping the oil at an effective working temperature. Make certain its walls are always free of grass, dirt, etc., since they act as insulation. A heavy buildup can lead to fluid breakdown and precipitate failure of other system components.

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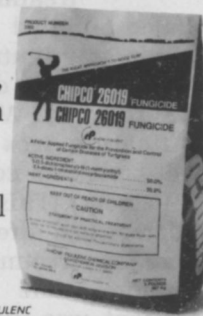
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TAKING CARE OF BUSINESS.

Herbicides help control of weeds

by Dr. Ray Freeborg, Purdue University

When a plant appears where it is not wanted, and especially when it is found competing aggressively with other, desirable plants, it is commonly termed a "weed". A turfgrass plant that may be appreciated and desirable in one location may not be acceptable in other areas.

In the finest creeping bentgrass lawns, for example, bluegrass becomes a weed. Dandelions are weeds in both. Tall fescue is a weed in a bluegrass lawn, but on roadsides a mixture of the two species is ideal. The turfgrass industry has numerous selective herbicides to aid in controlling weeds and thus maintaining the dominance of desired turfgrasses.

Many factors contribute to the persistent reappearance of weed infestation. These include diversity, adaptability and quantity of seed. Weed seeds also are noted for their length of dormancy which has been strikingly demonstrated in the seed life studies initiated by Beal of Michigan. This study has been continued for 80 years and includes in its collection seed that is providing more than 50 percent

germination. Another study indicated that as many as 10 percent of the weed seeds consumed and passed through an animal remained viable.

Weeds are most commonly spread by the very efficient process of seed transfer, thus further enhancing their advantage over the more desired plants.

Vegetative spread of weeds can be even more persistent and difficult to deal with than growth from seed. Quackgrass rhizomes, bermudagrass root stalks, and bentgrass stolons are profuse in their expansion. When the growing parts are cut or separated, vigor seems to be enhanced, and the infestation becomes more persistent.

Tubers of nutgrass, rhizomes of Canada thistle are notorious for their proliferation and extended dormancy.

Weed control

A careful analysis of the basic cultural operations should be the beginning of a contemporary approach to weed control. Turfgrasses are often grown in situa-

tions which offer limited opportunity for their survival. Infestations by weeds can be expected as turfgrass density is reduced. Potential weed encroachment can be reduced by good maintenance practices such as high mowing and turf nutrition which will aid in producing strong turfgrass and reducing injury or weakness in turf.

There are three patterns of herbicide use for weed control in cool season turfgrass.

1) Application of selective post-emergent herbicides to kill weeds already present in the turfgrass.

2) Application of selected preemergent herbicides to kill germinating weed seedlings.

3) Application of non-selective herbicides to kill all vegetation to facilitate in renovation.

In two of these three patterns, the importance of selectivity is obvious.

Broadleaf postemergents

Herbicides applied to plants after emergence are absorbed and translocated to accomplish selective kill of the target species; often

two or more chemicals are combined to provide control of numerous weeds. One example, 2,4-D MCP and dicamba is a mixture that is most commonly used in the turfgrass industry. These combine synergistically (by supportive action) to eradicate a wider range of weed species. Such a combination permits a lighter rate of application than when individual chemicals are used.

When to treat

Weeds in cool season grasses may be treated any time the weeds are growing. As weeds will germinate in the spring, summer, and early fall, selective kill in September and October will often help assure a clean lawn for the coming spring and summer. A fall weed control program combined with adequate nutrition enables the desired grasses to develop maximum density and cover during fall-winter-early spring growth period.

For best results, weed killers should be applied when air temperature is above 50°F and soil moisture is adequate for plant

Most homeowners desire a good quality turf that adds beauty to their home and surrounding area. However, we, as homeowners, generally let the turf take care of itself. When this occurs, we often wonder why the turf deteriorates and becomes infested with weeds. In order to maintain a good quality weed-free turf, several management practices must be followed, including the application of herbicides for weed control.

Crabgrass (*Digitaria sanguinalis*) and goosegrass (*Eleusine indica*) are common weeds that infest turfgrasses during the spring and summer. These weeds probably occur more than any of other weed species. Herbicides must be applied at the correct rate and at the proper time to insure maximum control of both weeds. For a herbicide to be acceptable, it must control weeds without injuring the turfgrasses.

Crabgrass Control

Single spring treatments. When preemergence herbicides are applied in early spring and control weeds only through May or June, this is referred to as short-season weed control. All preemergence herbicides in our studies controlled crabgrass effectively during this period (Table 1). Therefore, when crabgrass control is desired for only a two- to three-month period, the selection of herbicides is not a major problem provided chemicals are applied prior to crabgrass emergence.

SUMMER BERMUDAGRASS

Care must be taken in weed

by B.J. Johnson, University of Georgia

When preemergence herbicides are applied in the spring and control crabgrass effectively throughout the summer without additional treatment, this is referred to as full-season control. We found that Betasan, Ronstar, and Devrinol at 6 lb/A were the only treatments that controlled crabgrass effectively throughout the summer (Table 1). Therefore, for full-season crabgrass control it is important to select a chemical that will provide long-term control. The residual activity of Balan, Dacthal, and Devrinol at 3 lb/A was not as good as with Betasan, Ronstar, or Devrinol at 6 lb/A.

Repeated spring and summer treatments

Balan applied in March and again in May controlled 73 to 76% of the crabgrass during the summer (Table 2). When the second application was delayed until June, crabgrass control was poor (61 percent). This occurred since crabgrass had already germinated before June treatments were made. Therefore, time of the second treatment was very important in maintaining a high level of crabgrass control with Balan. The

Table 1. Influence of herbicides on crabgrass control in bermudagrass turf.

Treatments		Crabgrass control	
Herbicide	Rate lb./A	June %	August
Untreated	—	0	0
Dacthal	10	85	65
Balan	3	88	67
Betasan	10	97	86
Ronstar	3	95	90
	4	98	92
Devrinol	3	92	65
	6	98	88

Ratings based on 0 = no control and 100 = complete control made in June represents short-season control and in August represents full-season control.

control was similar whether the initial March treatment was applied at 2 or 3 lb/A when followed by the 2 lb/A in May.

Crabgrass control was improved only slightly when Balan was applied in three applications (March, May, July) when compared with control from two appli-

cations in March, May. It should be noted that crabgrass control from multiple Balan treatments was not as high as from single Betasan and Ronstar treatments in March. Therefore, to obtain the highest possible crabgrass control with herbicides, it is important to determine the response of these

Table 1. Pre-emergent annual grass controls include the following herbicides:

Name				Pounds active ingredient
Generic	Trade	Acre	1000 sq. ft.	Active compound
benefin	Balan	2	.05	N-butyl-N-ethyl-a-a trifluoro-2,6 dinitro-P-toluidine
bensulide	Betasan	12	.3	N-(beta-)-disopropyl-dithio-phosphorethyl benzene
DCPA	Dacthal	12	.3	Sulfonamide diethyl 2,3,5,6-tetra chloroterephthalate
siduron	Tupersan	12	.3	1-(2-methylcyclo-hexyl)-3-phenylurea
oxadiazon	Ronstar G	2-4	.05-.09	Oxadiazon [2-tert-butyl-4-(2,4 dichloro-5-isopropoxyphenyl)-1,3,4-oxadiazolin-5-one]

The benefin, bensulide and DCPA are not recommended for use during the spring establishment of a new seedbed. If overseeding or a new seedbed is to be established use the siduron (Tupersan) according to label directions.

growth. Care must be taken to apply herbicides when wind speed is low to minimize drifting of herbicide mist and vapors to nearby ornamentals. Application also should not be made on hot days.

No weed spraying should be attempted during drought periods when high temperature stress is evident unless the lawn is watered thoroughly several days before treatment. Desirable grasses would be damaged by herbicide application at a time of drought and high temperature stress, and resultant weed control would not be good.

Application of herbicides one day prior to mowing is recommended as ample leaf surface

favors increased plant absorption. Spraying of new lawns should be delayed until the grass has grown for more than 30 days, or enough to require two mowings. This will allow grass seedlings to become established. Most compounds require two to four weeks for evidence of a complete kill.

The formulation most widely used in turf for broadleaf, viney and woody weeds is one that contains a mixture of 2,4-D, MCPP and dicamba. The ratio of these can vary depending on the product and use intended.

There is some concern about the active life in the soil of 2,4-D, 2,4-DP and dicamba. Figures show that 2,4-D will disappear from grass land soils in about 20 days;

Table 2. Federal Insecticide, Fungicide, and Rodenticide Act Standards

Toxicity rating	Class	LD ₅₀ (mg./kg.)	Probable lethal dose for 150-lb. man
1	Extremely toxic	less than 5	A taste (less than 7 drops)
2	Very toxic	5 to 49	7 drops to 1 teaspoonful
3	Moderately toxic	50 to 499	1 teaspoonful to 1 ounce
4	Slightly toxic	500 to 4,999	1 ounce to 1 pint (1 pound)
5	Almost nontoxic	5,000 to 14,999	1 pint to 1 quart
6	Nontoxic	15,000 and above	more than 1 quart

NOTE: (LD₅₀-lethal doses to 50% of test population)

2,4-DP (dichlorprop), in about 40 days; and dicamba, in approximately 100 days. These degradation rates have been reported by J. D. Altum and J. F. Stritzke.

Annual preemergents

One of the major developments for turfgrass management has been that of preemergent herbicide for weed control application prior to emergence of the seedling. The preemergent herbicide affects germinating weed seeds, yet allows the desired grass to flourish. Correct timing of application is vital. To be effective, the chemical must be present in toxic concentrations at the soil surface when susceptible seedlings are germinating.

Warm soil and adequate moisture favor germination of annual grasses. In the spring the soil under a turfgrass cover is cooler than bare ground. The warm rainy periods in mid-spring promote crabgrass germination. This may continue until Labor Day. Crabgrass will germinate when the mean air temperature reaches 55°F for a two week period. A good dense turf cover can shade and prevent new seedlings from starting. Crabgrass seedling growth is discouraged by mowing high and maintaining a dense turf cover plus allowing the soil surface to dry before irrigation.

Approximately 15 weedy grasses including foxtail, sand burrs, goosegrass, barnyard grass, witch

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control

chemicals at locations that are different in climatical conditions.

Two applications of Devrinol at 2.0 lb/A in March and May were required for effective crabgrass control. When the second treatment was delayed until June, weed control was reduced slightly. This indicates that Devrinol did not have season-long activity on crabgrass when applied at a single 3 lb/A in March, therefore the chemical must be applied twice each year for consistent crabgrass control.

Dacthal did not control crabgrass effectively during the spring and summer regardless of whether the chemical was applied as single or repeated treatments. Therefore, care should be taken in herbicide selection to insure optimum crabgrass control.

Dates of preemergence treatments

In most instances for preemergence herbicides to be effective in controlling crabgrass, the chemicals must be applied prior to emergence of weeds. Betasan and Ronstar applied in March controlled the highest percentage of crabgrass. The control of crabgrass was reduced slightly when

Table 2. Influence of fall and combinations of fall & spring herbicide treatments on control of crabgrass.

Rate	Treatments Applied	Crabgrass control		
		Betasan	Ronstar	Devrinol
				%
X	Fall	95	51	74
X + 1/2 X	Fall & Spring	97	88	91
X + X	Fall & Spring	99	94	95
X	Spring	79	80	70

Fall treatments were applied in September and spring treatments in March and ratings based on 0 = no control and 100 = complete control were made the following August. The X rates are 10 lb/A for Betasan, 4 lb/A for Ronstar, and 3.0 lb/A for Devrinol.

treatments were applied in February, but drastically reduced when Ronstar was delayed until April and Betasan until May.

Betasan applied in April controlled 71 percent of the crabgrass. Since crabgrass had emerged, this indicates that Betasan had some postemergence activity on the small crabgrass seedlings.

Since crabgrass germinations will vary at locations with different temperatures, it is important to know the germination date for optimum treatment dates. When the mean temperature reaches 55-57°F or higher for a two-week period without any frost, crabgrass seed will usually initiate germination.

Combination of MSMA

When preemergence treatments

were delayed until April 30, combination of MSMA applied with Betasan improved crabgrass control when compared with Betasan applied alone. Combinations of MSMA with Dacthal improved crabgrass control regardless of date of treatment in March or April. These data show that (a) crabgrass has already emerged when Dacthal was applied March 11 and (b) Betasan had early postemergence activity on the weed when treated alone March 11 and April 6. It should be noted that when MSMA was tank mixed with either Dacthal or Betasan and applied as a single spray treatment, crabgrass control in two of three dates was not as good as when MSMA and preemergence were applied in separate applica-

tions. Therefore, it may not be always beneficial to tank mix the herbicides for crabgrass control.

Fall vs. spring treatments

When Betasan was applied in September for winter weed control, crabgrass was effectively controlled throughout the following summer without any additional treatment (Table 2). However, it was necessary to repeat Ronstar and Devrinol treatments the following spring for maximum control, but only at one-half rate. Therefore, when chemicals are used for both winter and summer weed control, it may be possible to eliminate or reduce the spring treatment rate when following the winter treatments of selected herbicides. When only summer weeds are present in the turf area only spring treatments should be applied.

Frequency and rate

Betasan controlled crabgrass effectively regardless of rates and frequency of treatments at Griffin in the Piedmont region. However, the results at Blairsville in the Mountain region were different.

The single 5.0 and 7.5 lb/A rates at Blairsville failed to control crabgrass as effectively as the 10.0 lb/A rate. However, repeated treatments on March 6 and April 30 with Betasan at all rates included in this study, except 2.5 + 2.5 lb/A, controlled the weeds as effectively as did the single 10 lb/A. These results show that Beta-

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Sore spot for lawn pros from page 1



"Most of us would be disheartened sharing the business."

— Jack Mattingly

ment for many of our contracts. In most cases, dealers who sell this type of equipment need to get rid of their stuff and are anxious to help finance a sale."

More common sources of investment are venture capital firms. John Sherrill of Mountain West Environments Inc. in Steamboat Springs, Col. found a group of investors headed by his CPA. "He knew our needs and wanted to get involved," said Sherrill.

Terms of their agreement stipulated that, in return for investment capital and business advice, Sherrill had to agree to incorporate his business.

"Because the bank had all our collateral, they made us incorpo-

rate; they wanted an option on one-third of our stock," he explained. For reasons unrelated to the quality of the investment, the venture capital firm never followed through on the option and Sherrill was able to pay them off in three years. An unexpected benefit of the deal was the business the firm turned his way.

When asked about the attractiveness of venture capital deals, most lawn care maintenance and landscape businessmen said they were reluctant to consider sharing ownership of their businesses.

"Let's face it, we all want to be independent businessmen," said Kenneth Stuhler of Sequoia Lawn Care, Wyckoff, N.J. Added Jack Mattingly of Mattingly Associates, Inc., Charlotte, N.C., "Most of us would be quickly disheartened

sharing the business with a partner."

Most of the businesses contacted in the survey are family owned and operated — and most plan to stay that way. For tax purposes, Gordon Whitten of Whitten's Lawn Care, Hastings, Neb., advises his colleagues to consider incorporating after achieving gross income of \$250,000. "Once you reach this limit," he said, "it is more advantageous to incorporate."

A more formal and comprehensive method of sharing ownership with employees is the Employee Stock Option Plan.

The only time that sharing ownership was considered, according to the survey, was in the case of a major expansion, or if the prospective partner was already involved in the company. Stephen Corrigan of Mountain View Lawncare in Holyoke, Massachusetts, said he would only consider partnership if he wanted to "bust loose" in the marketplace. "Otherwise, I'd take a hard look," he said.

Joe Carpenter of Landmaster Inc., Gastonia, N.C., said that he is considering selling his stock in his company to a "management type" already within it. "For tax reasons," he added, "it would have to be done over a gradual period of time. You must plan your departure."

ESOP

A more formal and comprehensive method of sharing ownership with employees which offers the added benefits of creating a cheap source of reinvestment dollars and an incentive for employees to stay with the company is the Employee Stock Option Plan (ESOP).

The mechanics of the arrangement are simply that a percentage of the profits is taken out annually under the names of the employees. This fund represents part ownership of the company. It is a way of funneling off taxable income into tax-free dollars for reinvestment, and it provides an industry notorious for employee turnover with an incentive for workers to remain with the same company for a long period.

If an employee decides to leave the company before the terms of the agreement have expired, he is forced to take a substantial reduction in stock accrued to him. His forfeiture is then divided up among the remaining employees. "The only side effect," said Stuhler, "is that down the line, employees begin to own too much of the company."

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A tax shelter scheme (more directly applicable to the nursery business than lawn care) involves attracting investors into financing the growth of plant material.

"Plant material is a cost item when being grown, and thus, is an immediate tax write-off," noted Skelton. "It provides an investor with cost against his taxable income for the duration of the growth of the plant before it is ready to be sold. This can be up to three to four years. It can delay real income for the investor to a more tax advantageous time and finances our operating costs."

Under the terms of the agreement, Skelton agrees to buy back from the investor at a previously agreed percentage of profit. The only risk to the investor is that Skelton cannot guarantee the survival of the plant.

Bruce believes that this type of tax benefit for an investor is "one of the greatest assets a company can have," but he does have some reservations.

"With this kind of information in the wrong hands, the situation could very rapidly get out of hand," said Bruce, who also expressed concern over the adverse effect on nursery commodity prices a boom in production could have.



"Plant material is an immediate tax write-off."

— Richie Skelton

Exacerbating many of the problems lawn care and landscape people have attracting investors are high interest rates. Not only is it more expensive to borrow money, but private investors find sinking their money into other areas such as the money market is a more profitable and secure alternative. Ross Jepson of Proturf Ltd., Toronto, observed that any extra capital in Canada is being put into bonds offering 19½ percent return.

Yet, the lucrative money market can also be a source of capital for the businessman. Mattingly's company invested in the money market a few years ago and is now using that money to finance operations in lean times. Mattingly advises his colleagues to strongly consider personal financing before automatically going to the bank.

"You'd be surprised how many of us would never even consider it," he said, admitting that this advice may be irrelevant now but advising continually comparing bank loan rates with money market return rates.

One option for cutting down on

costs which Stuhr has used successfully is leasing. Although leasing rates are typically higher than banker loan rates, leasing equipment or office space has the advantage of not requiring a substantial down payment.

"For a company starting out, Stuhr said, "it means that much more capital can be used for buying fertilizer and other supplies."

Stuhr added, however, that Reagan's new tax depreciation laws are making it more advantageous to buy equipment. "On most capital improvements, depreciation schedules have been accelerated," he said. "Now, instead of taking five years to get back your investment, it only takes three." (Depreciation works as a credit against taxable income.)

Stuhr also noted that his banker "knows our depreciation schedules. He's aware that I have more operating income than is apparent on my income statement, and this can be an advantage when it comes to applying for a loan."

Need collateral

Approaching bankers, especially when starting their businesses, was a difficult experience for most of those surveyed. "When I got started, bankers were absolutely not interested in me," said Jim McCurdy of Green Lawns, Belleville, Ill. "The typical excuse they used was 'I've got stockholders to answer to.'"

The prerequisite for qualifying for a loan is collateral.

"Most guys starting out don't have anything to put up against a

loan," observed Bachand. "The only way is for a guy to mortgage his home." Added Duane Nelson of Nelson's Landscape Services, Inc., in Spokane, Wash., "Banks look for well-established people with some equity." Few starting out have this collateral and, as McCurdy wryly noted, "The only guys that get the loans are those who don't need them."

Next month:

More ways to creatively finance your business, and how to deal with bankers.

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ILBA has first-ever conference

Twelve thousand businesses went bankrupt last year.

That is the way moderator Rudd McGary opened the first official Independent Lawn-care Businessman's Association Marketing and Budgeting Conference held recently in Columbus, Ohio.

The brand-new ILBA, which was organized by McGary, John Linkhart and Mike Hiller, entertained 15 of its charter members during a four-day conference which focused on how they could effectively make their individual operations successful business ventures.

Experienced pros

McGary, a former teacher at Ohio State University, has worked extensively in the lawn care industry as a consultant. Linkhart is the former vice-president for operations of Perf-A-Lawn in New Carlisle, Ohio and Hiller is vice president of Swisher et al, an advertising agency based in Columbus.

George Gummer, head of the financial consulting firm of Gummer & Associates, also took part in the program, which was designed to communicate with lawn care businessmen on an individual basis.

"You've got to know it all: marketing, budgeting, financing," advised McGary. "That's what this course is designed for. You either do it to the world, or the world does it to you."

More conferences

For information on joining the Independent Lawn-care Businessmen's Association, write McGary at P.O. Box 02246, Columbus, Ohio 43202 or telephone him at (614) 299-7700.

More such conferences are scheduled this year.

RECORD-SETTER

N.Y. Turfgrass makes history

The New York State Turfgrass Association held the largest Conference and Trade Show in its history Nov. 9-11 in Rochester, N.Y.

More than 925 people attended the show, an increase of 40 percent over last year.

Because of its success, the conference will return to Rochester Nov. 1-3 this year. Information on exhibiting at the trade show is available from Executive Director Ann Reilly at 210 Cartwright Blvd., Massapequa Park, NY 11762.



Rudd McGary (left) gives personalized help to ILBA members

White grubs used to laugh at insecticides...



FROM CENTRON

Film focuses on lawn mower safety

Centron Films, in cooperation with the Outdoor Power Equipment Institute, has produced a lawn mower safety film which deals primarily with safety in handling walk-behind power lawn mowers, although riding units are involved.

The 16mm color film runs approximately 20 minutes. OPEI members can rent the film for 10 days for \$35 (non-members, \$50)

or purchase it for \$348 (\$244 for video cassette).

To rent the film, contact Joan Lambert at OPEI, Suite 700, 1901 L Street, NW, Washington, DC 20006; (202) 296-3484. To purchase the film, contact Bill Walker, Coronet, 65 E. South Water St., Chicago, IL 60601; (312) 977-4000.

IN HERSHEY

Pa. Turfgrass show is slated

The 1983 Pennsylvania Turfgrass Conference and Trade Show will

be held at Hershey Lodge and Convention Center, Hershey, PA, from Feb. 28 to March 3.

The educational sessions are Golf Course Management and Lawn Care and Grounds Maintenance. Speakers who have accepted invitations include: Dr. Al Turgeon, Texas A&M; Dr. Martin Fletcher, FMC Corp.; Dr. Spencer Davis, Rutgers; Dr. A. J. Powell, Kentucky; Dr. David Joyner, ChemLawn; Martin Erbaugh, Lawnmark; William Buchanan, USGA and Frank DeLuccia, Finance America.

Pre-registration fee is \$45, which includes admittance to the

trade show. For more information, contact Christine E. King, Pennsylvania Turfgrass Council, 412 Blanchard St., Bellefonte, PA 16823 or phone (814) 355-8010.

REMAINS STEADY

Power equipment shows increase

Industry shipments of walk-behind power mowers, lawn tractors and riding mowers, riding garden tractors and rotary tillers showed an overall modest increase of less than one-half of one percent in fiscal year 1982, according to estimates of the Outdoor Power Equipment Institute.

Lawn tractors and riding mowers experienced a 5.5 percent increase over 1981 with 654,000 units shipped.

Walk-behind power mower shipments remained the same while riding garden tractor shipments were down 3.3 percent and tillers were down 0.8 percent.

EXPANSION

Hypro invests millions to grow

The Hypro Division of Lear Siegler has announced a \$2 million expansion program, which begins immediately.

Phase I of the program will include improvements in production and machining facilities, and retooling for new pump designs.

According to company sources, the improvements will result in higher production capacity and will make it possible for the company to meet delivery requests more efficiently.

NFSA CONVENTION

Workshops were highlight feature

Twenty-six workshops were the main attraction at the 26th Annual National Fertilizer Solutions Association (NFSA) convention and chemical-equipment exhibition in Atlanta, GA Dec. 6-9.

The workshops spotlighted the technical expertise that has been the hallmark of professional fluid fertilizer dealers: management, production-handling, agronomics and sales-marketing were among the specific topics covered.

The workshops were designed to better equip NFSA dealers with the skills required to succeed in business, and each ran twice.

Correction

In LAWN CARE INDUSTRY's "When Business is Slow" article which ran in our December, 1982 issue, we quoted Clarence Davids Jr. instead of Clarence Davids Sr.

Clarence Davids Sr. runs Clarence Davids & Sons, Inc., Blue Island, Ill., with his son Bill.

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NEWSMAKERS

J. Robert Stiffler, senior vice president of **Barker Campbell & Farley** advertising agency, will be new account supervisor for **Stauffer Chemical Co.** of Westport, CT.

Barker Campbell & Farley, which is based in Virginia Beach, VA, organized its horticultural and agricultural group in May, 1982. It will be in charge of advertising for Stauffer products such as Betasan crabgrass control, Devrinol preemergent weed control, Vapam fumigant, Imidan tree insecticide and Aspon turf insecticide.

Richard Burns has been appointed as the new sales representative for the upper midwest territory of **Mobay Chemical Corp.**, Specialty Products Corp.

Burns will be representing the group's expanding line of pesticides to the professional turf, commercial lawn care and pest control markets. His territory will cover Minnesota, Wisconsin, Iowa, Illinois, Indiana, North Dakota, South Dakota, Nebraska, northern Michigan and eastern Missouri.

Burns was most recently a research technician with the University of Illinois, from which he graduated in 1977 with a bachelor's degree in ornamental horticulture.

Steven P. Christie has been appointed district manager for the southern California sales region of **Rain Bird Sales, Inc.**, Turf Division. He is responsible for implementing turf sales and marketing programs for the region.

Prior to this, he was turf specifications manager for the same region. The Indiana University grad joined Rain Bird in 1978 as an irrigation design instructor.

The new director of strategic

planning for **BFC Chemicals Inc.** is Dr. W. Wayne Surles, who will be responsible for market research and analysis of new compounds, with subsequent determination of their commercial potential.



Moore



Phipps

Doug Moore was recently named area specifications manager for **Rain Bird Sales, Inc.** Turf Division. He will work with landscape architects and irrigation consultants in Southern California.

Moore brings more than 20 years of experience in the irrigation industry. He is a member of the California Landscape Contractors Association with residence in Riverside, Cal. He replaces Steve Christie, who was named district manager for the division's Southern California sales territory.

Mark W. Phipps has joined **Moyer & Son Inc.** of Souderton, Pa. as the sales representative for Turf Products and Services.

Phipps, a graduate of Delaware Valley College, Doylestown, Pa., had previously been employed by Chapel Valley Landscape Co. of Woodbine, Md.

John Zajac, vice president of **Garfield Williamson, Inc.**, has announced the appointment of Robert Oberschmidt as territory sales manager.

Zajac is a 20-year veteran in the seed and fertilizer business with

experience in virtually every area of the grass and fertilizer industry.

Herb Day has been appointed sales manager for **Stauffer Chemical's** new Specialty Sales Department, Agricultural Chemical Division. Joining him on the sales staff are John C. Boltin of Tampa, Fla., Jack Welch of Dayton, N.J., Dan P. Corrigan of Omaha, Neb. and Dave L. Chapman of Sherman Oaks, Cal.

Specialty products produced by Stauffer are used for control of weeds, insects and diseases in home lawns and gardens and in commercial turf, trees and ornamentals markets.

OMC Lincoln, manufacturer of the Cushman Front Line tractor-mower, recently announced the winners of a nationwide sales contest for its dealers' salesmen.

GET TOUGH

on
Fungus,
Insects,
Weeds,
Off-Color Turf
and Dry Spots

Circle No. 116 on Reader Inquiry Card

First place went to Jerry McKee of Conyers, Ga. Second place winner was Jerry Adank of Orland Park, Ill. Third place winner was John Barry of Swampscot, Ma. They received a trip to the Caribbean, a trip to Atlanta, Ga. for the annual GCSAA show and \$500 in cash, respectively.

Weather-matic, manufacturer of lawn and turf irrigation products for commercial and residential use, has named Sally L. Pritt regional sales manager.

Pritt, who has been with Weather-matic since 1980, will handle the west Texas-west Oklahoma territory.

Weather-matic has also announced geographic boundary changes for two sales territories.

to page 21

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THE WORKHORSE

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Tom Engle of Tempe, Ariz. will oversee sales for Arizona and New Mexico. Alvin G. Reich, based in LaGrange Park, Ill., will handle Missouri, Kansas, Nebraska, the Dakotas, Iowa, Minnesota, Illinois, Wisconsin, Michigan, Ohio, Indiana and Kentucky.

Joseph T. Bonadies of Notre Dame, Ind. won the first Grounds Manager of the Year award from the **Professional Grounds Management Society**. Bonadies has been grounds manager at St. Mary's College for the last 25 years. In addition, Rev. John E. Brooks, S.J., president of the College of Holy Cross, was named winner of the annual PGMS President's Award.

Russell Vandehey, senior in turf management at Oregon State University, has received a \$500 **TUCO Turf Scholarship**.

The annual scholarship, sponsored by TUCO, div. of the Upjohn Company, was presented at the recent 36th Northwest Turfgrass Conference in Yakima, Wash. It is awarded for scholastic ability, personal integrity and career interest in turfgrass management.

Vandehey is the son of Mr. and Mrs. Ellis Vandehey, 425 East Cedar St., Stayton.

Steve Helox is president of **Air Capital Lawn Service**, Wichita, Kansas. The company offers granular chemical lawn care and mowing/maintenance services. Terry Tegarden is operations manager and Mike Callahan is sales manager.

Jim Dougherty is president of **Dougherty Gardens, Inc.**, Franklinville, N.J. The company offers both liquid and granular chemical lawn care services and also operates a garden center. Sue Dougherty is secretary-treasurer.

Bill Riden has joined the **W. A. Cleary Chemical Corp.** as technical sales representative for western Pennsylvania, Ohio, Indiana and Kentucky. He will cover the golf course and professional lawn care market.

Prior to joining Cleary Chemical, Riden was a senior technical representative for the O. M. Scott Pro-Turf Division serving the golf course market. He received a B.S. in agronomy from Penn State University, where he also completed graduate work in agronomy.

Ron Webb is president and owner of **Liqui-Chem Lawn Care**, Ocean Springs, Miss., which offers liquid chemical lawn care services. Candice V. Webb is office manager.

Donald G. Ferguson is owner of **New Horizons**, Venice, Fla., a mowing/maintenance lawn care company.

John V. Stewart and Kennel W. Calvert are co-owners of **Lawn Maker, Inc.**, Lawson, Mo., which specialized in both liquid and granular chemical lawn care services.

Rood Landscape Co., Inc., Jupiter, Fla. and **Solomon Landscape Contractors**, Portland, Me., both offer liquid and granular chemical

lawn care and mowing maintenance services. Joe Baglia is maintenance superintendent and Frank Zorn vice president of Rood while Michael Solomon is president of Solomon, which also offers landscape construction.

Robert Andrews is president of **The Greenskeepers, Inc.**, Liberty, Ind. The company offers both liquid and granular chemical lawn care services. Larry Gulley is operations manager.

Terry Trout is president of **Turf Doctor, Inc.**, Walled Lake, Mich. It offers liquid chemical lawn care and mowing/maintenance services. Greg Muller is fertilizer manager.

Oscar Overstreet is a technician with **Turf Wiz**, Chesapeake, Va., which offers liquid chemical lawn care services.



This Oakland grass sculpture by landscape architect Gary Dwyer, which uses 12,000 square feet of royal fescue sod donated by Valley Crest Landscape and grown by Pacific Green/Nunes, has received widespread critical acclaim. The sculpture, outside of the Oakland Museum, is used by children for recreational purposes at Estuary Park.

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Here are 5 good reasons to use our liquid fertilizer products

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- 2 CONVENIENT TO HANDLE.** Liquids eliminate broken bags and use less warehouse space.
- 3 EASY TO APPLY.** Dust-free. Little or no agitation needed. Non-abrasive to spray nozzles or pumps.
- 4 UNIFORM COVERAGE.** Maximum distribution, without the overlap and turnaround problems associated with granulars.
- 5 AGRONOMIC ADVANTAGES.** Continuous release. Compatible tank mix with most pesticides and other liquid fertilizers, which will provide for individual specifications.

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FLUF A nonburning, slow release, flowable ureaform which is ideal for summer temperature fertilization of lawns and fine turf. Has tank mix compatibility with most pesticides. FLUF contains 1.7 lbs. N per gallon and provides up to an average of 90 days sustained release.	FAN A low burn potential clear aqueous solution, which provides a quick greenup and moderate release. FAN contains 1.9 lbs. N per gallon and has tank mix compatibility with most pesticides.	N-P-K A complete line of liquid N-P-K fertilizer blends which are balanced for lawn use. Most of the nitrogen is derived either from FLUF, for continuous non-burning feeding, or from FAN for a quicker response with lowburn potential. These varied formulations are designed to meet the local agronomic objectives.	TRUGREEN A liquid, chelated combination of iron, magnesium, potash, and trace elements which aid in promoting chlorophyll production, imparting a rich green color to lawn and turf. TRUGREEN is both foliar and root feeding, and is non-phytotoxic.	LIMESTONE-F A micronized, flowable, liquid dispersion of dolomitic limestone which insures an ideal distribution of a safe alkalinizing agent. Eliminates the problem of wind blown dust associated with powdered forms. It is tank mix compatible with most pesticides.
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W-A-CLEARY CHEMICAL CORPORATION

Names might play major role

It takes just a brief glance through a phone book or industry directory to find out that lawn care, landscape and nursery people prefer a core of professionally-sounding names for their businesses, but a few brave souls have chosen — apparently without regret — the more avant garde. Their logic: to differentiate themselves in a market notorious for poor name recognition between companies.

"In this town, there are 50 or so lawn care companies, all with similar names," says Steve Simmons of Dandy Lawn, Belton, Mo.,

a suburb of St. Louis. "When I worked for one of these companies, I noticed that most customers didn't know who they'd used in the past. With the name Dandy Lawn, whether good, bad or indifferent, they remember."

Distinctive, memorable

For these people, a distinctive and memorable name is an important means of merchandising their services. And most insist their names have been tremendously helpful.

Howard Freilich of White Plains, N.Y. wanted to come up with something different, something that clients could distinguish from the rest, so he decided on Blondie's Treehouse, Inc.

"A number of times in competing for contracts, there had been no difference between my company and the other, but we would be chosen," Freilich relates. "The customer then told us we were chosen because of our name."

Irene Ravin of Plant Parenthood in South Orange, N.J. says her business's name has helped win

accounts because it provides a comfortable entrée for her sales pitch. "Most of my work comes from personal solicitation or corporate clients," Ravin notes. "Very little is walk-in. I need an entrée that creates an informal relaxed atmosphere, and the name does it."

Acronyms

Paul Munch of AMPTJAM Landscaping, Inc., Levittown, N.Y. drew the name of his business from the initials of each of his children.

to page 23

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AS MANY
LAWNS
AND DOUBLE
YOUR
PROFITS?**

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30-0-2 Liquid Lawn Fertilizer**

Add Formolene to your liquid program and you'll have more time to treat more lawns — up to twice as many! Because of Formolene's high concentration of nitrogen and its low-burn potential, it can be applied with less water. One fill of your truck could treat more than twice as many average sized lawns as urea, urea blends or UAN solution. So you can increase your customer base — and your profits!

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"People ask us for the reason behind the name, and after they get over the fact that we have seven children, they're prepared to do business," Munch says. "It is a unique way of doing business." (Munch assured LAWN CARE INDUSTRY that there is no danger of having to change the name.)

Both Ravin and Munch say that their company names lend a personal caring, family image to their businesses, one which also pays off for Steve Simmons of Dandy Lawn and Bruce Knaub of Happy Lawn Co. in Milwaukee. Simmons was interested in shedding the large volume liquid lawn care concept for the more personal customized granular approach. Knaub chose his name to give the industry a more upbeat image.

One of the dangers of using a different name is the perception by the customer that the company is not professional. But Munch rationalizes his fear by comparing the business's current name with its old one.

"I started out 30 years ago as Paul Munch Landscape Gardener," he says. "When I incorporated, I changed the name to something more corporate sounding. Under my own name, the company sounded fly-by-night, but AMPTJAM gives the customers a sense that they are speaking to somebody in authority."

Walter Glenn of Flower Power Nursery in Franklin, Tenn. circumvented that problem by using two names. The corporate name is Lawn Services Unlimited, and both names appear on company trucks and letterheads.

The debate between using professional-sounding or commercial-sounding names is an ongoing one.

Fine line

"There is a very fine line between the two," warns Brian Spears, president of Lawn Ranger, Inc., Finksburg, Md.

One of the dangers of using obscure names is that customers might not be immediately aware of the service being advertised. Pat Hoggard of Humble, Tex. has that problem.

"It was probably a mistake to choose that name," says the owner of Black Cat Junk-Tion, Inc., "because it doesn't tell you anything. Because this part of Texas is a transient area, people don't immediately understand the history behind the name."

The store is located in a place called Black Cat Ridge on the border between "wet" and "dry" counties. It is housed in the old courthouse and jail, adjacent to the train depot.

"This place has a wild history," Hoggard notes, defending the name—especially since the business is now well-established.

The business histories of other obscurely-named companies seems to follow the same pattern. "Initially," adds Munch, "people didn't know what we were, and that hurt business. But once they got to know us, they didn't forget

us."

Robert Johnston of Lawn Ranger, Columbus, Ohio, likes the flexibility of his name. "I chose it because it doesn't tie us down to just lawn care," Johnston says.

Females contribute

Credit for suggesting many catchy company names often goes to female members of the owner's family. Green Machine, Bloomfield, Conn., was recommended by Joel Caplin's mother Rita after she had heard him talking about the company truck. Glenn came up with Flower Power "when my daughter Laura went out and put a flower decal on our truck."

The logo for Lawn Ranger is "The good guys and professional lawn care," a takeoff from the old

'Award-winning' names

DESIGNER LAWN CARE AWARD

Winner: Glamour Industries, Inc. Hollywood, Fla.
Runnersup: Plants by Grant, Inc. Raleigh, N.C.
Landscaping by Andre, Inc. Phoenix, Ariz.

INDUSTRY BUZZWORD CITATION

Winner: Techniturf, Inc. South Berlin, Mass.
Runnersup: Foliage Design Systems West Coast Tallahassee, Fla.

ODD SEEDBED-FELLOWS TROPHY

Winner: Frank's Nursery and Crafts, Inc. Detroit, Mich.
Runnersup: Martin's Pet and Garden Center Elkhart, Ind.

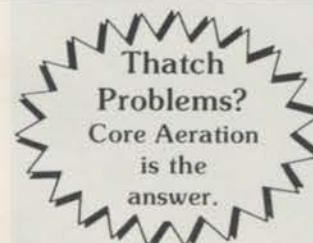
BEST SLOGAN

Winner: Specialty Spraying, Inc. Latrobe, Pa.
Runnersup: "Weeds are a pain in the grass" Detroit, Mich.
"A cut above the rest" Greenville, S.C.
Greenlawn Professionals, Inc.

BREVITY PIN

Winner: Lawns, Etc. Blue Springs, Mo.
Runnersup: Lawn Company Seagoville, Tex.

to page 35



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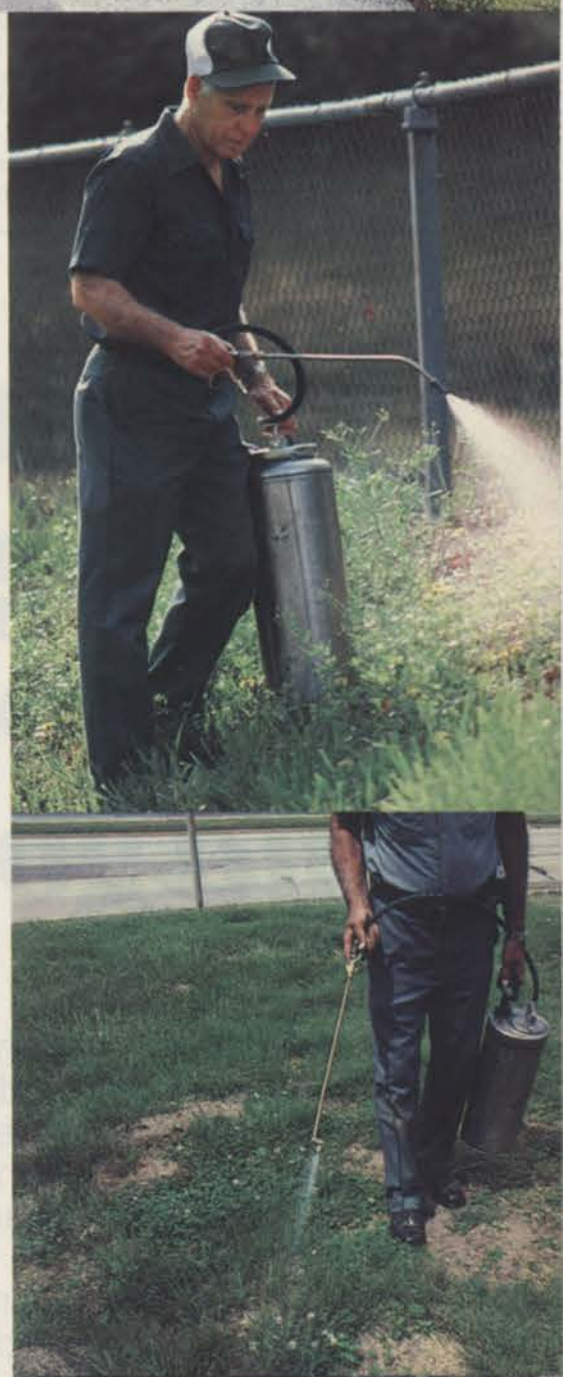
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Circle No. 122 on Reader Inquiry Card



PRODUCTS

Coated seeds are new innovation

Nutrient-coated seeds are now being sold by Warren's Turf Nursery, Inc., which calls the new development "the first major technological breakthrough in the horticulture industry in decades."

Each Warren's Turf-Kote seed is covered with a mineral coating containing basic nutrients needed by germinating grass seed. These nutrients are deposited in the soil around the seed during early watering. As the tiny feeder roots emerge from the seed, contact with

the nutrients is achieved, giving the plant a head start in its early development.

The new seed is said to improve the reliability of stand establishment, to double the seed weight, to increase velocity and reduce drift in sowing.

In addition, the coating is not as attractive to birds and rodents and evenness of seed application can be more easily monitored due to the color of the coated seed.

Warren's claims that, in most cases, Turf-Kote is less expensive.

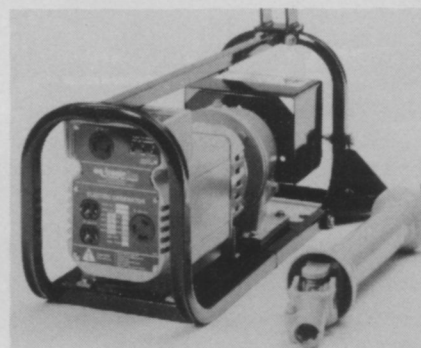
Circle no. 150 on Reader Inquiry Card

New PTO driven generator on market

Ag-Tronic Inc. has announced production of a new 7500-watt PTO driven generator for farm and suburban use. The unit is specially designed for smaller tractors with a 540 rpm and a three-point hydraulic hitch. Weighing only 160 pounds, the unit is the lightest PTO driven generator on the market today.

The new Model 517500 rotary field generator features a voltage meter which is visible from the tractor seat. It provides 7500 watts of continuing power with 9000 watts surge power for electric motor starting.

Circle no. 151 on Reader Inquiry Card



Totally natural soil conditioner released

Turfade, a totally organic soil conditioner, is Clean Crop's newest product introduction. By changing soil conditions, Turfade is beneficial to lawns in two ways.

First, it increases grass root penetration and helps the treated area plants develop more massive root systems. Second, Turfade increases the rate of water penetration into the soil, as much as 27.4 percent faster according to scientific studies.

Turfade is totally natural and works without the addition of synthetic chemical surfactants. It works equally well in topsoil and subsoil clay loam, and topsoil and subsoil sandy loam.

It is not a fertilizer, but intended for use as a supplement to good lawn fertilization. One quart covers 4,000 square feet of new and 5,000 square feet of established turf.

Circle no. 152 on Reader Inquiry Card

**This magazine gives
you good reading,
good writing
and good arithmetic.**

We present the information in our articles clearly, accurately and objectively. That's good writing. Which means good reading.

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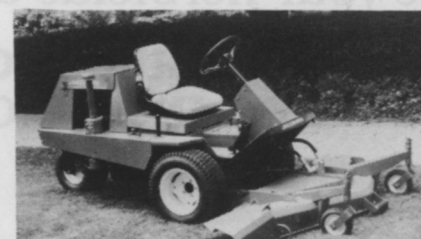
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Diesel out-front rotary mower new



Hydraulically driven cutter blades, diesel power and the ability to handle a variety of implements that extend its utility through all seasons are key features of the new mid-sized, out-front riding rotary mower introduced by Jacobsen Division of Textron Inc.

The new Turfcut II DW 220 has been engineered for mowing up to 24 acres of turf in an average working day with a 72-inch side-discharge deck. It is also available with 60-inch rear- or side-discharge decks, and with a 60-inch flail mower. All rotary decks are offset to the left for trimming.

The Turfcut II DW 220 eliminates belts, drive shaft, bearings and PTO shaft-gearbox to lighten and simplify power transmission and to make engagement of various implements easy. Its industrial grade diesel engine is a 22 hp, three-cylinder, liquid-cooled Kubota unit with Bosch injection and full-pressure lubrication.

Circle no. 153 on Reader Inquiry Card

golf course professionals, lawn service pros and grounds maintenance professionals. In addition, the trade show was preceded by two turfgrass workshops on diagnosing turfgrass problems and herbicides.

Five speeches highlighted the opening general session. Dr. A. J. Turgeon of Texas A&M University opened with "Turfgrass Pest Management," followed by Dr. Robert Miller of ChemLawn, who gave an "Update on the 2,4-D Issue."

Dr. A. J. Powell of the University of Kentucky followed with "Preemergence Herbicides—Successes and Failures." Then Dr. Roger Funk of Davey Tree gave a talk spotlighting "Liquid Fertilization of Landscape Plants." The first day's activities were concluded with Edwin L. Johnson's presentation on "The EPA and the Turfgrass Industry." Johnson is director, Office of Pesticide Programs, Environmental Protection Agency.

"The controversy swirling around 2,4-D is not unusual," Johnson began. "Pesticide regulation has always been characterized by complex and controversial issues. Because of the divergent interests at play—pesticide manufacturers, users, environmental and public interest groups, all entering in—reaching proper regulatory positions and developing sound public policies can often be a challenge."

New changes

Johnson described four ways the EPA is affecting changes to improve the regulatory process:

- 1) Involving industry more closely and frequently in the regulatory process;
- 2) Examining its approach to data requirement registration;
- 3) Finding more efficient ways to regulate; and
- 4) Streamlining internal procedures.

Johnson also said that the time for previously-registered chemicals being reviewed for new use or new formulation for a product has decreased to 75 days, and that new chemical review is 190 days or less. The latter figure is a decrease from two or three years.

"Already," Johnson continued, "we've seen a 150 percent increase in real workload over 1980, indicating a substantially larger flow of new chemicals and new products into the user's hands."

Ohio State University Extension Agronomist Dr. John R. Street was in charge of the third trade show to be held in the Ohio Center. He was very pleased with the turnout, as were 206 exhibitors and most of the record 1,964 attendees.

"We thought it was extremely successful," Street said. "It was the best we ever had with respect to both the educational program and the trade show."

"We had the exhibition area jam-packed, and had to turn down some people who wanted to exhibit. The comments from exhibitors were good, and things seemed to go very smoothly."

Get a better handle on leafspot, dollar spot and brown patch control.

Get Daconil 2787® fungicide, and you've got yourself the most effective control money can buy.

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So this season, get a better grip on disease control. Get Daconil 2787 from Diamond Shamrock. Also available in wettable powder.

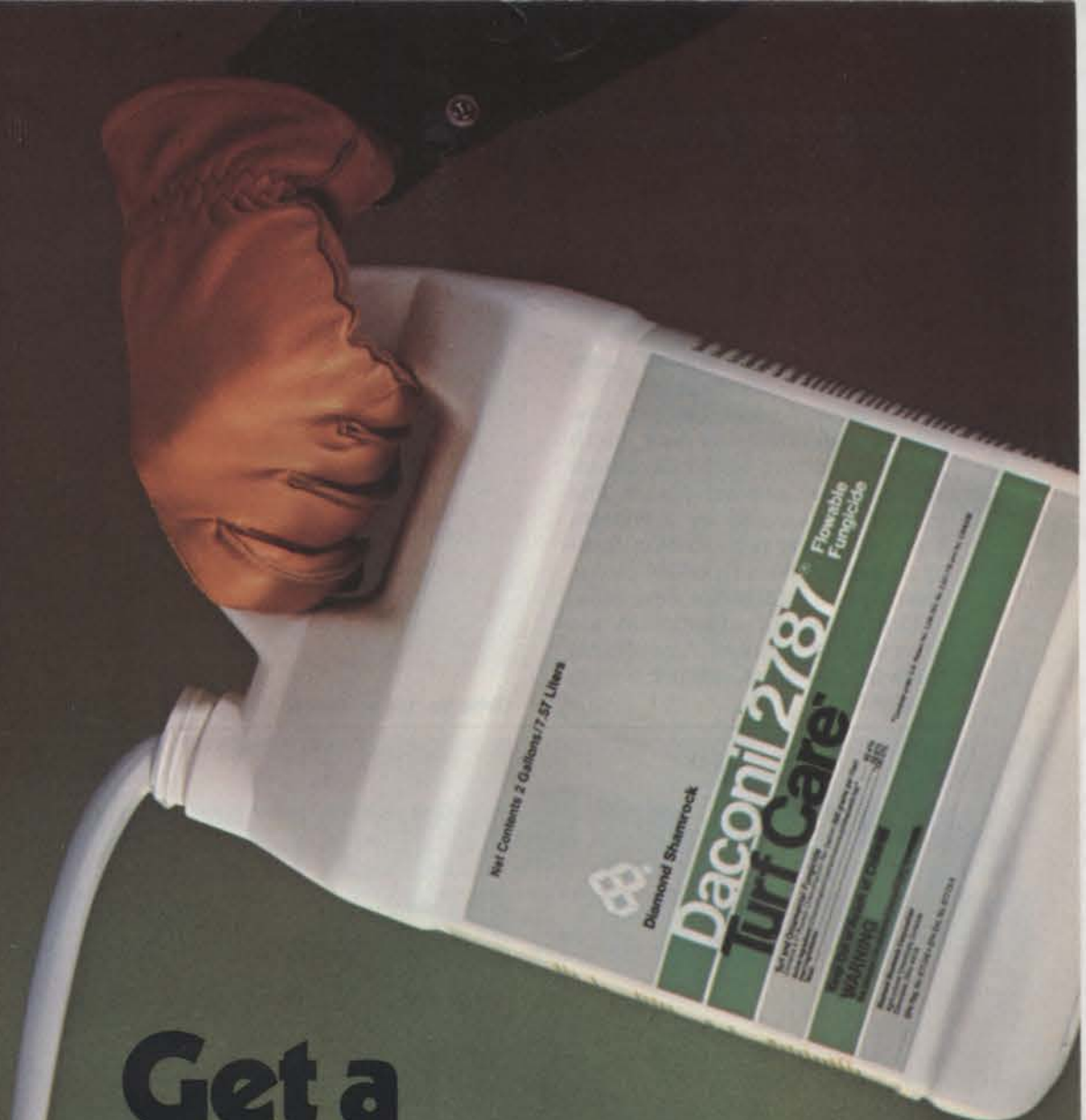


Diamond Shamrock

Agricultural Chemicals Division
Diamond Shamrock Corporation
1100 Superior Avenue
Cleveland, Ohio 44114

Always follow label directions carefully when using turf chemicals.

Circle No. 110 on Reader Inquiry Card



Kees adds mower to existing line

F. D. Kees Manufacturing Co. has announced production of a new heavy duty 21-inch rear discharge mower, specially designed for commercial use. Designated Model 211400, the unit is the latest addition to Kees' line of lawn maintenance equipment.

The 211400 combines rear discharge with minimum deck width for easy cutting and convenient access to hard-to-reach places. The mower is powered by a System Two, 4 hp Briggs & Stratton four-cycle engine with flywheel brake, mounted on a 12-gauge steel deck.

Cutting height adjustments are from 1 1/4 to 3 3/4 inches. An optional three-bushel grass catcher is also available.



Circle no. 154 on Reader Inquiry Card

Air boom control valve system new

Now available from Delavan is an air boom control valve system for custom applicators using high-volume, ground flotation sprayers.

The air valve system controls nozzle shut-off, eliminating nozzle drip. One-inch inlet and outlet ports help prevent plugging problems while handling high volumes of fertilizers and chemicals.

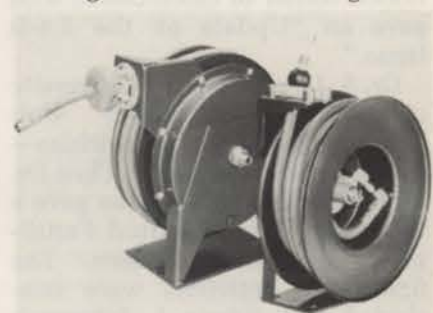
The air valve system is easily adaptable to flotation sprayers equipped with air brake systems. Air requirements for the valve are minimal. Pressure drop across the valve is less than 3/4 psi at flow rates below 20 gpm.

Circle no. 155 on Reader Inquiry Card

Hose reels are spring-powered

The Hunter Spring Division of Ametek, Inc. has recently announced the introduction of Rota-Reel spring-powered air/water hose reels.

This new line of heavy duty hose reels provides 12 different models with hose capacities from 20 feet of 1/4-inch I.D. to 35 feet of 3/8-inch I.D. All are designed for wall, floor ceiling or vehicle mounting.



Each reel is supplied with a two-foot inlet hose for connection to the air or water source and an adjustable bumper stop. The hose is rated for 3000 psi air/water service and is equipped with brass end fittings. Temperature rating of the hose is minus-40 to 200 degrees (F) for continuous service and minus-40 to 210 degrees for intermittent service.

Circle no. 156 on Reader Inquiry Card

Trenching accessory new to the market

Ditch Witch has introduced a trenching accessory for the 350SX vibratory plow.

The hydrostatic trenching attachment is designed for digging starting slots so that vibratory plowing installations can begin at specified depths. It plugs into the 350SX vehicle's hydraulic manifold, and trenches up to depths of two feet.

The 350SX is a compact lawn plow for direct burial of power and communications cable and plastic pipe without trenching.

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Weed mower ideal for difficult weeds



When weeds get out of control, the new Green Hyd-Row Weed Mower is the ideal tool to completely eliminate them. The 19-inch heavy duty blade easily mows down all weeds and heavy grass, and the unit is easily attached to any Green Hoe to use the tractor's hydraulic system.

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Lawn care professionals cite reasons for decline in business

from page 1

employment in this area than in any area throughout the country. Not only do we have steel mills running under capacity, but a lot of specialty mills. If the economy doesn't turn around, these mills will become extinct."

Rivalling Walters for this dubious distinction is Robert Pendzick, Lawn Inc., Milwaukee, WI "Milwaukee leads the country in unemployment. People are worried about the future, and the first expenses they cut are luxuries. That includes lawn care." Pendzick attributes the problem to depressed agriculture prices.

Also afflicted with single-industry dependencies are markets around Detroit. Sadly, Ken Crane from Spray-A-Lawn in Saginaw, MI believes the worst is yet to come.

Wait till spring

"General Motors employees still receive their salaries up to a year after they've been laid off. I don't expect the worst to happen until spring," Crane said. Added Walters, "We won't bear the brunt of the recession until after people pay their winter heating bills."

The effects of the recession on business have been worsened by a marked increase in the number of people entering the field over the last five years. Motivated by the promise of rapid growth, they have been left stranded. "If you compare the Yellow Pages of Milwaukee with those for Kansas City or St. Louis, you'll find that we have three times as many landscapers," Pendzick continued. "We also have more sprayers and maintenance people."

Increased competition has led to unprofessional selling tactics, or what is known throughout the

industry as "low balling." Walters explained: "We see a lot of little guys entering the field who can't identify overhead and underbid us. Then, of course, a year later they find out they made a mistake."

"We're also finding a lot of the reputable big name companies are becoming more aggressive in their tactics. They're going into high neighborhoods and offering to match or beat the price of any competitor and falsely claim, 'We have everyone else's business on the block, why not yours?'"

Low balling is also taking a new form.

"These big companies are purposely quoting inaccurate job measurements," said Walters. "I recall once when a representative for a big company arrived on a site just when a guy from a smaller company had finished estimating the job's size. To save work, the big-company rep got the figures (about 1,100 square feet). The next day the small company rep called the customer to see if he had won the job, only to find out that the contract had been awarded to his larger competitor."

"The reason: he had quoted smaller dimensions (9,000 square feet)," Walters said. "The irony is that the big guys are the ones who are pushing the association to upgrade the industry's professionalism."

The major drawback to these tactics is the perception of the industry that it conveys to potential customers. Warned Dave Buchholz of Lawn Care Inc. in Pittstown, NJ, "Business suffers because most of the customers in this area are professionals themselves. They're sensitive to this kind of selling in their own fields."

Expanding services

Many lawn care businessmen who have increased business this season attribute it to the decision to expand their range of services. But the increase has taken the form of larger accounts — not more of them — and this has presented its share of headaches. "Business has been up," noted Wendell Crocket of Crocket's Green Lawn Service in Northboro, Mass., "but so is customer attrition. We believe it is because customers are now more likely to owe us more on any particular monthly bill."

The net result for Robert Kapp of Kapp's Green Lawn in Munster, IN, has been lateness in bills and cash-flow problems. And for Buchholz, whose New Jersey location has a large proportion of high acreage accounts, a seasonal bill can run up to \$400. Said Buchholz, "We're feeling the pressure there."

Another problem with high-acreage accounts is that customers are more likely to question the service they are receiving. This leads to the more pervasive problems of customer expectations.

Observed Peter Connelly of Hydro-Lawn Spray in Salem, VA, "Our market is not very mature so people don't know the facts about the limitations of lawn care service. They think all they have to do is call us once and their problems

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are solved." The result, unfortunately, is poor conversion rates and high attrition rates.

Other than expanding their range of services to win business, many lawn care businessmen have opted for increasing their advertising and promotions. But, in light of increasing costs and tightened budgets, the record is not good.

Jim Bartley, the manager of Chemgro in Montgomery, AL, limits his advertising to February through May, "when people are ripe." He added, "You might as well forget it the rest of the time."

For Connelly, a problem with one big spring promotion is the "false sense of security that develops during the following high sales period. Our customer base was actually eroding at the time, but we didn't realize it until June."

All the lawn care businessmen contacted showed an overwhelming preference for direct mail promotion. David Sek from Monroe Tree and Landscape in Rochester, NY, switched from a local distributor sending brochures to direct mail, and the results were most cost effective. Walters also claims his business could not have done as well as it did if he had not done a mailing.

To make mailing more efficient, Buccholz spent a lot of time in the off-season studying maps to find the best possible markets. "We also found the limits of rural mailing routes, used a cross-reference directory, and fed the names into our computer."

Educate consumers

Buccholz also follows a strategy he learned at last year's PLCAA show in Louisville: "In last year's show there was a talk given on market penetration. It suggested that in order to achieve good market penetration, you have to educate the consumer. When they get two or three mailings from different companies, then they'll be stimulated into talking. So we are concentrating on getting our mailings into areas that other well-known quality companies have sent theirs, and we're finding that we're all benefiting as a result."

Connelly got best results in his advertising when he accompanied direct mail with television commercials. He added, however, that television advertising was limited to "a one-shot deal" because of its expense.

When considering advertising during tough times, Harold Vick from Green-Up, Inc., in Houston, TX has this advice: "Keep on advertising even in the face of adversity. When the recession hit, I advertised steadily and retained a good share of the market. I'm banking on the assumption that when times get better, people will come to me first."

Crane's advertising portrays his business as holding the line on prices while still providing the same quality service. "The objective," he says, "is to show the customer that we're dealing with

the recession as much as they are."

All the businesses contacted admitted they had raised their prices within the last two years, the average rise being about eight or nine percent. To placate cus-

pressed reservations about raising prices this spring. Reducing pressure in this regard is the belief that chemical suppliers are also feeling the recession and will be offering price breaks.

'The objective is to show the customer that we're dealing with the recession as much as they are.'

tomers, Paul Kampe of Lawnrite Corp. in Bohemia, NY always accompanies price increases with pre-payment discounts.

All lawn care businessmen ex-

One problem with increased competition is an increase in fly-by-night chemical companies and their usual plethora of false claims. Said Pendzick, "I test my supplies

to make sure I'm getting what it says on the bag." (See LCI November 1982 issue).

Despite bad economic news, the majority of lawn care businessmen interviewed feel all is not "doom and gloom." Peter Connelly, who has monitored the evolution of the industry, feels good about its present direction.

"Lawn care started out with two guys, a truck, a sprayer, and a rake providing customized service," Connelly remembered. "Then it moved to a volume lawn care concept with one guy spraying 25 lawns a day. But there was no flexibility in the program. Now it's going back to the split-tank custom service. I've also improved employee productivity by returning to two men per rig."

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Table 3. Toxicity of Common Herbicides Used in Lawn Care

	LD ₅₀ (mg./kg.)	Toxicity Rating Class
2,4-D	1000	4
2,4-DP	800	4
MCP	650	4
dicamba	1028	4
bensulide	770	4
benefin	10000	5
DCPA	3000	4
siduron	7500	5
dalapon	9330	5
glyphosate	4320	4

grass, love grass, and most summer annual grasses as well as hairy and smooth crabgrass may be controlled by the application of a preemergent herbicide.

Annual postemergents

The use of organic arsonates for selective control of annual grasses in cool season turf has been most successful. Grasses so controlled include crabgrass, sand burr, goosegrass, witch and barnyard grass, foxtail and yellow sedge.

There are several formulations on the market of the organic arsonates, including monosodium, disodium, and ammonium methane arsonates. These should be applied to foliage when the soil moisture and temperature is adequate to favor growth. They

will kill the plant by arsenic accumulation. A second treatment is necessary, usually in a period of five to seven days. Severe browning indicates excess use. Yellowing by the third day after the first application is the expected result. When mixed with 2,4-D at one-half its recommended rate the combination will give additional broadleaf weed control and enhance the activity of the arsonate.

Creeping weedy grasses

Creeping bentgrass is useful on golf greens, but tends to be patchy in areas of bluegrass. The fine leaves, long stems, and the thick mat of disease and drouth susceptible bentgrass can change from beautiful to ugly in one spell of adverse weather.

Often a few bentgrass seeds may be included with bluegrass seed. The patches of bentgrass begin to show within two years. Bentgrass grows well in low, wet areas and in shade, and can be an excellent lawn turf when well managed.

Nimblewill is characterized by clumps of dark bluegreen leaves during the summer. Nimblewill stems are harder and firmer than those of bentgrass. Regrowth starts at the nodes of the stems in the spring. Patches gradually spread and predominate over bluegrass in the midwest.

Bermudagrass patches occasionally occur in lawns especially in the southern part of the cool season grass zone. Hairy, stubby leaves, long, hard stems, rapid growth during the summer and aggressive spread typify bermudagrass. Following frost the tan dead leaf is obvious. Bermudagrass is very drouth and high temperature tolerant, and is hard to kill.

Zoysiagrass was so well advertised a few years ago that almost everyone planted a few plugs. Within three years dense patches developed. The stiff spreading stems and strong upright leaves tend to dominate. Zoysia spreads until checked by a barrier or dense shade. Because it is brown during the winter dormant period it may be considered undesirable.

Quackgrass has thick white underground stems which favor an aggressive spread and minimize the chance for control. It is most prevalent in farm and new urban areas. It often spreads from the balls of soil around shrubs, or from flower beds or new topsoil. The leaves are dark green and coarse. Quackgrass is a nuisance in well managed bluegrass lawns.

Controls

The non-selective herbicide Roundup (glyphosate) is most effective. Spray when the plant needs to be mowed to obtain most effective, maximum benefit from plant absorption. The areas should not be mowed for 24 hours following spray application. After the glyphosate has translocated, seed can be spread. This requires a period of approximately seven days. Seed germination will be enhanced if the area is verticut and then raked heavily to remove

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thatch. Reseeding combined with delayed verticutting offers the best possible seed-soil contact and improves possible stands of new grasses.

Roundup has the potential to kill a diverse group of grasses and weeds with one application. Glyphosate is formulated as a 41% isopropyl amine salt of glyphosate which contains 4 lbs ai/gallon. Since its introduction in 1971, consistent favorable reports on its effectiveness have been received.

Glyphosate is absorbed by the green leaf and stem surfaces of the plant and translocated throughout the plant for a complete kill of connecting plant parts.

Initial response of a plant to

glyphosate is gradual wilting and yellowing which becomes evident within four days on annuals and 10 days on perennials.

Actively growing plants with ample foliage for absorption such as turfgrasses that need mowing are most responsive to glyphosate.

Tests indicate that there is no adverse effect on glyphosate on seed. Seeds have been soaked for 48 hours in glyphosate and spread on soil without being damaged.

Non-selective weedy grass control can also be obtained with dalapon (sodium salt of dalapon-magnesium salt of dalapon). The foliage of actively growing grass should be treated when moist. Treatments should be

repeated at 7 to 10 day intervals until control is accomplished. Wait 30 days after treatment before reseeding or resodding.

The herbicides commonly applied for weed control are safe when used as directed. As can be determined from the following tables (2 and 3), they are of relatively low toxicity.

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Dr. Ray P. Freeborg is a research agronomist at Purdue University. He received his bachelor's and doctor's degrees in agronomy from Purdue, and his master's from the Henry Shaw School of Botany at Washington University in St. Louis, Missouri.

Dr. Freeborg is presently involved in research, teaching and extension at Purdue. He has co-authored the "Turf Management Handbook" with Dr. W.H. Daniel.

Dr. Freeborg has done extensive research in herbicide, growth regulation, fertilizer and fungicide evaluation on product efficacy.

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Circle No. 102 on Reader Inquiry Card

Sampling technique forces adult billbugs out of hiding

A sampling technique that forces adult bluegrass billbugs to come out of hiding can restrict the number of needless insecticides applied to turf and lawns.

This most destructive insect pest of Kentucky bluegrass in the Midwest spends its life below ground or hidden from all but careful search near the base of the plants, says U.S. Department of Agriculture entomologist Dean Kindler.

He and University of Nebraska horticulturist Edward J. Kinbacher suggest use of a pyrethrins drench for estimating adult billbug populations — and the blender extraction method for estimating egg and larval numbers.

Justifications

Use of these methods, they say, can justify situations when treatment may be justified and restrict excessive pesticide applications that might contribute to environmental pollution.

The pyrethrins drench stimulates emergence of the adult bluegrass billbugs above the thatch, so they can be collected and counted.

The Lincoln, Neb., researchers first clipped the bluegrass back to about one-half inch height in sampling areas. They prepared the drench by mixing a 1.2 percent pyrethrins and 9.6 percent piperonyl butoxide solution (0.075 ounce) with four quarts of water. Each 0.12 square yard plot received four quarts of the solu-

tion. Emerging adult billbugs were collected for 20 minutes after treatment.

The technique recovered 87 percent of the adult bluegrass billbugs from one site and 82 percent from another, Kindler says. Recovery efficiency was calculated after treated sod removed from the plots was checked in the laboratory for adult billbugs that did not emerge.

A careful visual search of comparable plots detected averages of 1.0 and 1.9 adult billbugs from the two sites, in contrast with 5.5 and

7.3 recovered by the pyrethrins drench, the researcher of the department's Science and Education Administration-Agricultural Research says.

Equally efficient

Kindler and Kinbacher found that two laboratory methods were about equally efficient for estimating numbers of bluegrass billbug eggs and larvae near the peak of the egg-laying and hatching season. But blender extraction required only about one-sixth as much time as shoot dissection. For both methods, grass plants brought from the field were trimmed back, leaving only the bottom one and one-half inches of the lower shoots.

In the blender method, plant material is covered with water in a

blender, which is run for about three second intervals three times. Blender contents are washed with a stream of water, then sieved to recover eggs and larvae. For the shoot dissection method, the plants are dissected under a stereoscopic microscope, and eggs and larvae are counted.

Bluegrass billbugs are deposited in grass shoots, from crown level to as high as about one and one-half inches, Kindler says. Larvae feed within the shoots but eventually move downward into the soil, where they feed on roots until they pupate. When adults emerge, they remain in the soil, hidden in the thatch, underneath the sod duff or on the soil surface. They occasionally wander into sidewalks and driveways on warm, sunny days.

NEW GROUP

IVMA is formed for applicators

A new organization, the Industrial Vegetation Management Association (IVMA), has been formed for herbicide applicators interested in the industrial and rights-of-way markets.

President of the IVMA is Byron Nelson of Schendel Pest Control, Great Bend, KS. Secretary is Bob Cope of Weedcope, Omaha, NB, while the treasurer is John Walters of Tree'N'Turf, Wichita, KS.

The IVMA's objectives are to resolve problems of licensing and applicator certification, to provide technical information on herbicides and control of problem weeds and to provide information on specialized spraying equipment.

A general meeting in the Kansas City area will be held, though plans have not been finalized. Membership dues are \$20 with a \$30 initiation fee. Associate membership for herbicide and equipment manufacturers will be \$30 per year.

For more information, write Nelson at 5605 W. 10th, Great Bend, KS.

Jacobsen. Out front again with new out front mowers.

The new HF-5.

Highly maneuverable, the lightweight, compact HF-5 gives you 3, 4 and 5 gang versatility, plus the power and maintenance ease of a complete hydraulic system. Engineered to cut up to 50 acres in eight hours and help trim your budget down to size.

Out Front Mowing

— Cuts ahead of the wheels to eliminate tracking.

Hydraulically Driven Reels

— Cuts wet or dry grass easily. Reels can be reversed from the operator's seat. Instant backlapping.

Hydrostatic Variable Speed Transmission

— Variable ground speed to match terrain and turf conditions. Eliminates turf damage.

Diesel Engine

— Power, economy and longer engine life.

Hydraulic Lift Mowers

— 84" to 106" to 133" cutting width all at the operator's fingertips.

The new Turf King II.

Known for its maneuverability and quality of cut, in wet grass or dry, the out front mowing Turf King II is available in both 76" and 84" cutting widths. A versatile machine designed for comfort and the economy you need from a high quality triplex mower.

Hydrostatic Drive

— Reel speed independent of ground speed. Variable forward and reverse controlled by single pedal. No clutching.

Out Front Mowing

— Cuts ahead of the wheels to eliminate tracking.

Limited Slip Differential

— Better traction on slopes and soft ground.

The new Turfcut II.

A year-round out front rotary system. Available in three engine sizes in either air-cooled gasoline or water-cooled diesel with a choice of three deck sizes and implements ranging from a flail mower to a snow blower. The rugged Turfcut II does more than maneuver, climb and trim. It lasts.

Ducted, Screened, Air-Cleaning System

— Cleaner, more efficient cooling. Longer engine life.

Hydrostatic Drive

— Cutter speed independent of ground speed. Variable forward and reverse controlled by single pedal. No clutching.

Two-Speed Transaxle

— Dual speeds. Low 0 to 4.6 mph. High 0 to 8.8 mph.

System Implements

— The Turfcut II system includes: 50", 60" and 72" rotary decks, 50" and 60" flail mowers, rotary brooms, plow, snow thrower and grass catcher.

television series. Spears even had silver bullets painted on his trucks, and installed a horn playing the William Tell Overture.

"We also considered wearing cowboy hats, but decided against it," he says. "Our lawyer advised us to steer clear of using any of this stuff in our advertisements because, a few years ago, MGM (Metro-Goldwyn-Mayer), owners of the trademark, brought Clayton Moore (the television 'Lone Ranger') to court over his use of the mask in a television commercial while the trademark was under contract to them."

Because Spears' company offers a wider variety of services, his and the other local establishment have

managed to coexist with the same name. Spears warns, however, that the law is not well-defined, and offers this advice:

(1) Incorporate and register your names as soon as possible;

(2) Be conscious of other companies possibly infringing on your business because of similar names (state agencies are not inclined to warn you in these instances, but they do prevent identical registrations); and

(3) If possible, in a situation where there are possible conflicts, respect the intentions of the other company, if benign, and recognize his rights before you consider going to court (otherwise, it's going to cost you).

Names can also lead to some pretty amusing incidents, too.

Glenn remembers a local radio disc jockey calling him and asking to speak to the "head petunia."

And how about Ravin (of Plant Parenthood), who regularly receives calls from frantic young women "who say they have to see me right away."

But the best reaction she remembers was from an executive she solicited by phone: "He left a message with his secretary to tell me he already had a family."

Chris Murray, who wrote this story and created the accompanying "awards," is a former staff writer for *LAWN CARE INDUSTRY* who now does freelance work from his home in New York City.

PRODUCTS

New diesel may answer problems

With its 42.4 hp at 3600 rpm, the new Onan L317 Diesel Engine is suitable for use in applications formerly reserved for gasoline engines because of weight and power requirements.

At 460 pounds, it is the smallest member of the L family of diesels.

Routine maintenance is simplified because serviceable components are mounted on the same side of the engine.

It is ideal for rugged applications, including mowers, and comes with a variety of options.

Circle no. 159 on Reader Inquiry Card

Manuals for pros in greens industry

Three business-boosting manuals for professionals in the greens industry are offered by Green Pro Cooperative Services. These manuals are the same ones used at their highly-acclaimed profit workshops and business seminars.

The "Turf Care Profit Manual" shows how to increase profits, get better results and professionalize your business. "Ornamentals Need Care Too" deals with profits from ornamental care, including deep root feeding and winter protection for evergreens. "Expanding into the Turf Business?" has been written expressly for those looking to get started in or expand into this highly profitable business on a more full-time basis.

The profit and ornamental manuals are available at \$69.75 each or both for \$125. The new business manual is \$49.75.

Circle no. 160 on Reader Inquiry Card

Booklet offered

A free, illustrated brochure has been released for general consumption by the Butler Manufacturing Co. of Kansas City, Mo.

Topic of the brochure is the advantage of pre-engineered buildings for turf and garden outlet construction. Benefits include leak-resistant roofs, high energy-efficiency and speed of construction.

Circle no. 161 on Reader Inquiry Card

Boot warmer comes from British firm

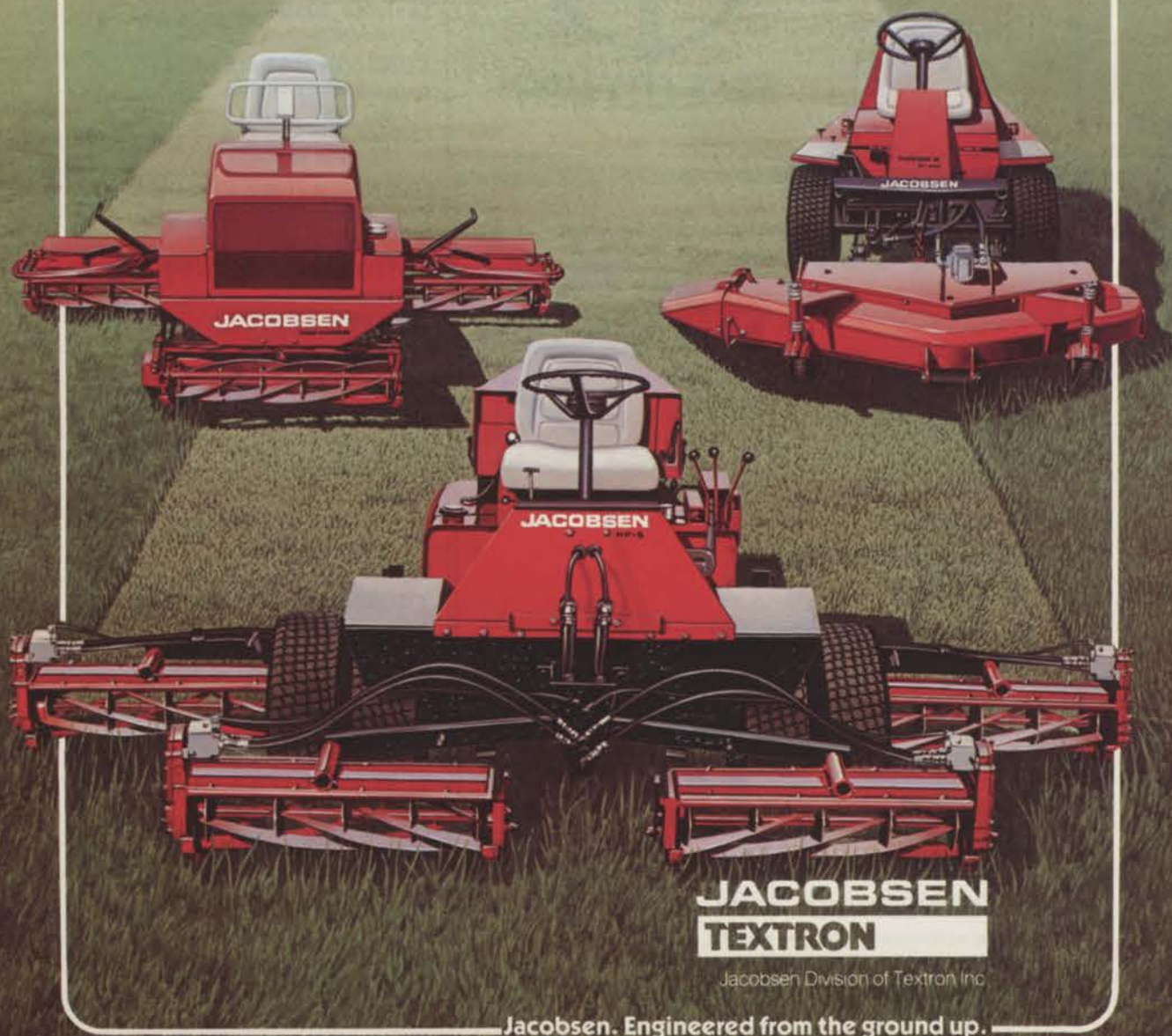
An easy-to-use boot warmer from Britain safely dries or warms boots. The Warm-N-Dry has two elements embedded in plastic warming cylinders.

With no moving parts and power consumption of five watts per boot, the heaters are said to be simple, safe and economical. They can operate continuously for 48 hours without harm, and are safe for plastic or rubber boots.

Single units are available by air mail for about \$23 from The Old-Farmhouse, but there are discounts for larger quantities.

Circle no. 162 on Reader Inquiry Card

Circle No. 112 on Reader Inquiry Card



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TEXTRON**

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AWARD-WINNING NAMES from page 23

YARDS AND YARDS OF NAMES

Winner: The Village Green Lawns Spraying Limited
 Runnersup: Lawn-A-Mat of Prince George's County
 Pine Tree Landscaping and Lawn Service

Glen Ellyn, Ill.
 Landover, Md.

Milwaukee, Wisc.

LITERARY APPRECIATION AWARD

Winner: Garden Milieu, Inc. Ann Arbor, Mich.

SCI-FI MEDAL

Winners: The Plant People ("they're everywhere")

CREEPING BUREAUCRACY CITATION

Winner: Ground Control Landscape, Inc. Winter Park, Fla.
 Runnersup: Lend-Leaf, Inc. Ft. Lauderdale, Fla.
 Corporate Jungle, Inc. Houston, Tex.

BOOKEND AWARDS

Winners: Green Lawn Louisville, Ky.
 Lawn Green Denver, Colo.

CRITTERS TROPHY

Winner: Elephant Foot the Plant Minneapolis, Minn.
 Runnersup: Ladybug Industries, Inc. Jacksonville, Fla.
 Beavers Landscaping Washington, D.C.

FLY-BY-NIGHT MEDAL

Winner: Wings Lawn Care System South Pasadena, Cal.

MATERNAL INSTINCT MEDAL

Winner: Plant Parenthood South Orange, N.J.
 Runnersup: Tender Lawn Care Grand Rapids, Mich.
 Pampered Lawns Houston, Tex.

MY SON THE . . . AWARD

Winner: Lawn Doctors Fairlawn, N.J.
 Runnersup: Lawn Medic, Inc. Bergen, N.Y.
 Turf Doctor Framingham, Mass.

DIFFICULT SURNAME AWARD

Winner: R.W. Ljungdahl Inc. Houston, Tex.
 Runnerup: (Robert) Wagenschutz Lawn Spray Plymouth, Mich.

EASY SURNAME CERTIFICATE

Winner: Lawn Kare, By George (Graham) Alexandria, Va.
 Runnersup: (Paul) Constant Lawn & Tree Service Kansas City, Mo.
 Spring (Edman) Green Lawn Care Homewood, Ill.

FUN SURNAME AWARD

Winner: AMPTJAM (see accompanying story) Levittown, N.Y.

PRO BONO HORTICULTURA DIPLOMA

Winner: Lawyers Nursery, Inc. Plains, Mont.

SECULAR SAINT OF SOD

Winner: Louis Cardinale Beautiful Lawn Parma, Ohio
 Runnersup: Covenant Gardens Atlanta, Ga.
 Guardian Lawn Care and Landscaping Akron, Ohio

Broyhill TURF BOOMS

With MICROMAX Rotary Nozzles



The Right Combination for
 A More Effective Chemical Application

Yes, I'd like more information:

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☐ Broyhill Turf Booms ☐ Broyhill Turf Sprayers

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Circle No. 103
 on Reader
 Inquiry Card

A SUCCESS

Westerners hold irrigation show

Conserving water and energy was the theme of the first Western Irrigation Show held at the International Agri-Center in Tulare, Calif., on Nov. 16-18 last year.

More than 5,000 people from around the world participated, including more than 2,600 paid attendees, a record number for an Irrigation Association-sponsored show.

More than 150 businesses had booths at the show.



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Contact: Sue Stelmack
 Pat Kelley

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 313-348-8110

LEATHERMANS, INC.

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 Other: 216-452-5704
 Contact: Ray McCartney

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 614-771-0486
 Contact: Clarence Lowe

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THORNTON-WILSON, INC.

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TOLEDO TURF EQUIPMENT

Toledo, Ohio
 419-473-2503
 Contact: Sam Ciralsky

TURF PRODUCTS, LTD.

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 312-231-8441

TURF & TREE SUPPLIES, INC.

Rockton, Illinois
 815-624-7578
 Contact: Jack Oberg



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- Powerful 11 h.p. Briggs I/C or Honda synchro-balanced engine
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 Beatrice, Nebraska 68310 Phone (402) 223-2391.

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Circle No. 113 on Reader Inquiry Card

measuring wheels

\$39⁹⁵

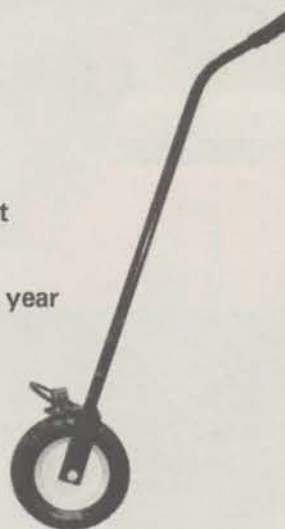
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Circle No. 129 on Reader Inquiry Card

Filter — Changing the filter as needed is essential. You simply spin off the old canister and spin on the new one. Its cost is minimal compared to replacing a valve bank due to excessive wear caused by contaminants.

Since contaminants can be introduced by ambient air during manufacture, it's a good idea to change the filter on a new machine after the first 24 hours of operation. Consult your manual thereafter for recommended change frequency.

When changing filters, using the exact replacement is critically important. A filter that mounts properly and, most of all, has the correct micron rating will insure good filtration and proper flow.

Generally, filters should be changed every 250 operational

There is no mystery to preventative maintenance. It simply means discovering and correcting minor faults before they develop into major problems.

hours. But the best advice is to follow the manual, using the manufacturer's replacement.

Hydraulic Fluid — Unlike engine oil that receives contaminants from combustion, hydraulic fluid can last a long time if kept clean and not overheated.

If you want to know what is going on inside a hydraulic system, have the used oil analyzed each time you change it. For example, traces of valve metal and contaminants increasing with

each analysis could indicate a valve problem ahead, as well as the need for more frequent filter replacement. Some oil companies provide free analysis or make a nominal charge for this service.

Hydraulic fluid can last a long time if not broken down from overheating. This in mind, a "filter buggy" can be used to clean the oil. This portable filter typically uses a 3.0 micron filter which results in oil that is cleaner than when it was new.

Quality. Proven performance. Selection. And availability. Real value, right for your needs.

Your success depends on results. Our turf care fertilizers help you "get it green" . . . year after year.

You're in a tough, demanding business. Rain, soil, sunshine . . . you have to work around them all. The last things you need are products that don't live up to their promises.

That's why The Andersons offers one of the most extensive lines of performance-proven turf care fertilizer products in the industry.

There are quality Tee Time formulations ready to help you tackle the toughest turf challenges. And, that means there's one with just the right blend of the right materials to meet your specific needs.

Don't just take our word for it.

We didn't earn the title, "the professional's partner," by just talking a good game.

For 13 years, turf fertilizer products from The Andersons have been part of the winning plan for some of the top turf care pros across the country.

Ask someone in the business whose opinion you value. Chances are, we'll come out right at the top.

We keep a steady eye on tomorrow . . . so you can succeed today.

Needs change. You face new challenges. And, we have the backup that can make the critical difference for you.

Our applied turf care research is ongoing. And, our technical product innovations can keep you that vital step ahead of your problems.

We have expert assistance available to help you analyze your needs. Just talk to your distributor, or give us a call. It's all part of how we live up to our end of the partnership.

Now, we're closer . . . to serve you better.

Our network of qualified distributors puts us where you need us.

Just check the directory on the facing page for the distributor nearest you. They're pros, ready to help you get the products you need to succeed.

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The Andersons

Lawn Fertilizer Division

P.O. Box 119

Maumee, Ohio 43537

Ohio:

800-472-3220

Outside Ohio:

800-537-3370



Circle No. 101 on Reader Inquiry Card

Pump — Remembering that flow is related to the speed of the hydraulically operated device and pressure is related to the force will make trouble shooting easier. Pumps are also subject to wear from contaminants in the oil.

Lines — Always replace each line with its exact equivalent as it is engineered for specific flow and pressure. Installing one fractionally larger or smaller changes the entire system — and changes the action so that a hydraulically powered component will operate too rapidly or slowly.

Preventative maintenance

Other areas that should also receive periodic attention to keep the machine in top condition include:

Tires — You'll want to check the pressure for each tire and adjust it to the recommended level, as well as inspect for uneven wear and damage.

Battery — Recharge, if necessary (on a wooden bench or blocks), remembering to remove the breather caps. When an appropriate gravity reading is reached, install the battery. Be sure the ignition switch is off, the cable connectors are clean, and the positive and negative cables are connected to the proper terminals. Inspect the ground for sufficient metal-to-metal contact for good current flow. To prevent corrosion, apply a light coating of petroleum jelly or chassis lubricant to both terminals, and slide the insulator cap over the positive battery terminal. Before securing the battery in place, clean the hold-down bracket and its rods.

Belts & Chains — Examine belts for wear and replace as necessary. Adjust the new or the acceptable old to the proper tension. Chains should be removed and cleaned in kerosene, then dried and coated with the recommended lubricant before replacement and adjusted to the proper tension.

Cutter Maintenance — Inspect the mowing blades and bedknives for nicks, gouges or signs of damage or uneven wear. Grind and lap the reel type mower and sharpen the rotary blades. Adjust reel units to zero contact and clearance without drag or resistance to rotation. Set bedknives close enough to the reel blades so that a paper strip placed along the mowing surface can be cleanly cut without metal-to-metal contact.

Brakes — The attention you give the brakes depends on machine age. But we recommend removing the drums, dressing them down as needed, and inspecting the shoes.

Operational Check — While operating under normal conditions, listen for rattles, knocks, squeaks, etc., that might signal trouble. Upon return, locate the source and correct the problem. And don't forget to visually inspect key areas you may have serviced to make sure there is no leakage.

Daily Attention — Spending a few minutes checking turf units after they've been brought in from a day's work will help maintain them in optimum condition.

New, from the

DYCL

Read about the remarkable 2-inch barrier that gives total control of unwanted weeds and grasses.

Here's good news for groundskeepers who want positive and precise vegetation control in tightly circumscribed areas... and want to handle the problem easily and economically for the entire season with one application, and drastically reduce labor costs.

If this fits you, Dyclomec is a chemical you're going to love.

What is Dyclomec?

It is a granular formulation of Dichlobenil herbicide especially designed to be used by turf professionals to achieve positive and precise control of weeds and grasses.

How does Dyclomec work?

Applied on the surface, the active chemical penetrates to a depth of 2 inches — no more. In this 2-inch zone it creates a barrier in which no plant cell division can occur.

Thus any vegetation such as grasses or shallow-rooted annual weeds which have their root structure within this 2-inch barrier will die because the Dyclomec interferes with the growing tips (roots and shoots).

Furthermore, as weed seeds in this

zone attempt to germinate, they are killed by the Dyclomec. In addition,



Where are you going to use Dyclomec?

- ☐ in nurseries
- ☐ around shrubs
- ☐ along fences
- ☐ around trees
- ☐ around cemetery markers
- ☐ along roadways
- ☐ you name it

seedlings developing below this zone will be killed as they penetrate the barrier. A number of perennial weeds, coming out of dormancy, run into this same dead-end.

On the other hand, plants such as woody ornamentals, shrubs, and trees are not affected by Dyclomec. To the contrary, they are benefited since competition is eliminated.

As an illustration, say you have a bed of desirable shrubs, and want to keep out the weeds and grasses all season long. Apply Dyclomec in accordance with the label and go on about your other tasks.

How long is Dyclomec effective?

Generally speaking we're talking about season-long control.

When can Dyclomec be applied?

Anytime. Ideally, we recommend the winter months and early spring, prior to the time when active plant growth occurs. If it is applied in hot weather it is important to incorporate by covering with soil or by watering it in.

How is Dyclomec applied?

Even distribution is the most important factor in Dyclomec's effectiveness. Accordingly, PBI/Gordon offers two patented applicators. The Spred-Rite® G, especially designed for Dyclomec, is a hand-carried gravity-flow model, for band widths from 2 inches to 3 feet. The Spred-Rite® C strap-on applicator is a crank-type unit offering adjustable swath widths — from 3 to 10 feet wide.

Where is Dyclomec available?

Gordon Professional turf distributors are authorized to sell Dyclomec.

GORDON'S 
PROFESSIONAL TURF PRODUCTS

 pbi/gordon
corporation 1217 WEST 12TH STREET
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• Abate-A-Weed & Insect Control
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Fremont • El Camino Supply Co.
Fresno
• Coastal Division Western Farm Services
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Los Angeles • Van Waters & Rogers
Manteca • L & A Enterprises
Oxnard • Coastal Division
Sacramento • Orchard Supply Co.
Salinas • Wilbur-Ellis Co.
San Diego • Butler's Mill, Inc.
San Gabriel • J. Harold Mitchell Co.
San Jacinto • Coastal Division
San Jose • Moyer Chemical Co.
• Northern California Fertilizer Co.
• Plant Gro Corporation
• Target Chemical Company
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Greeley • Balcom Specialty Products
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Eureka
• Professional Turf Specialty
Grandview • Landsco
• Robisons Lawn & Golf Course Supply
Kansas City
• Bartels & Shores Chemical Co.
• Champion Turf Equipment
• Pest Control Supply
• Pueblo Chemical Co.
• Standard Seed Company
• Tobin Seed
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• Outdoor Equipment Company
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• Link's Nursery, Inc.
• Mangelsdorf Seed Company
• Turf Products Company

MONTANA

Billings • Turf Aid Distributing Co.

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NEVADA

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North Las Vegas
• Las Vegas Fertilizer Co., Inc.

NEW HAMPSHIRE

Hooksett • Turf Specialty, Inc.

NEW JERSEY

Boundbrook • Loft Seed Company
• Vaughan Jacklin Seed Company
Cranbury
• Chamberlin & Barclay, Inc.

Clifton • The Terre Company
Dayton • Lebanon Chemical Corp.
Freehold • Green Hills Turf Supply
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Paramus • Pro-Lawn Products, Inc.
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Springfield • Andrew Wilson, Inc.
West Caldwell
• Rockland Chemical Company

NEW MEXICO

Albuquerque
• Albuquerque Chemical Co., Inc.
Clovis • T-E Agri Supply
Mesquite • Agricultural Products Co.
Roswell
• Roswell Seed Company, Inc.

NEW YORK

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Brewster • Herbst Bros.
Dix Hills • Island Golf & Turf
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Table 3. Frequency of herbicide treatments on crabgrass control.

Treatment		Herbicides			
Rate		Betasan	Dacthal	Balan	Ronstar
		% control			
X'77' + '78' + '79'		94	70	100	100
X'77' + '78' + 1/2X'79'		91	75	100	98
X'77' + 1/2X'78' + '79'		91	70	93	98

Herbicides were applied in March throughout the 3-year period. The X rates represent 10 lb/A for Betasan, 12.5 lb/A for Dacthal, 3.0 lb/A for Balan, and 4.0 lb/A for Ronstar. Ratings based on 0 = no control and 100 = complete control were made in August.

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san applied in split applications at low rates (3.0 lb/A in March + 2.0 lb/A approximately two months later) will usually control crabgrass effectively in Georgia. The 3.0 + 2.0 lb/A rates would reduce the chemical needs by one-half when compared with the present recommended rate of 10.0 lb/A applied as a single March treatment. For most lawn care operations, the second treatment should not be a problem since fertilizer treatments are usually applied at a similar time.

In a second frequency $\times$ rate of herbicide experiment, it was found that crabgrass was effectively controlled after three years of consecutive treatments on the same plots (Table 3). This occurred when full rates of Betasan (10.0 lb/A), Balan (3.0 lb/A), and Ronstar

(4.0 lb/A) were applied the first year and followed by one-half rates of each herbicide the following two years.

The control with Dacthal was not as good even when the chemical was applied at the full rate for three consecutive years. Neither Betasan nor Balan had very good residual crabgrass control from treatments applied for one, two, or three years and discontinued the following year. The residual activity with Ronstar was slightly better than the other herbicides.

However, in most instances it is necessary to continue herbicide treatments each year for effective weed control, but rates of treatments can be reduced usually after the initial year of treatment. When these treatment dates and frequency are considered at a different climatical location, it is suggested that the reduced rates be applied on a limited number of lawns to determine whether the reduced treatments will perform consistently.

Goosegrass control

Ronstar was the only preemergence herbicide evaluated in our studies that controlled goosegrass acceptably with a single spring treatment. Dacthal and Balan controlled the weeds slightly in early spring, but the control did not continue through the summer. In our studies, Betasan did not control goosegrass at any time. Devrinol applied at a single 3.0 lb/A rate in March did not control goosegrass; however, two applications applied in March and May resulted in excellent control. When the second Devrinol treatment was delayed until June, control was greatly reduced when compared with March + May treatments. This indicates that Devrinol had a shorter residual activity on goosegrass than Ronstar, but better than other herbicides.

Goosegrass germinates about 30 days later in the spring than crabgrass. Therefore, in the Piedmont region of Georgia, Ronstar should be applied by mid-April for effective control. In most instances goosegrass control was nearly as good when Ronstar was applied in February or March as compared with April treatments. Treatments delayed until May greatly reduced the control of goosegrass.

Bermudagrass tolerance

The growth of Tifdwarf bermudagrass in early spring was significantly delayed when treated in March with all herbicides except Betasan when compared with growth in untreated plots (Table 4). The turf growth was affected the most in April by Ronstar (72 percent), intermediate by Devrinol (49 percent), and least by Dacthal (38 percent) and by Balan (29 percent). It should be noted that the amount of retardation may not be the same each year. The retardation in growth was temporary and the turf recovered rapidly as determined by quality and stand ratings taken in May. Therefore, herbicides applied for weed control in the spring can affect early growth of bermudagrass, however,



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the quality and stand of turf was not affected during late spring, summer, or fall.

Summary

Care must be taken to select a herbicide that will control weeds without injuring the turfgrass. Some major findings in Georgia were:

1. Betasan and Ronstar controlled crabgrass throughout the summer with a single March

treatment, while it was necessary to apply Balan and Devrinol at 3.0 lb/A in March and May during the first year.

2. Ronstar was the only herbicide that controlled goosegrass effectively with a single application.

3. Optimum dates of treatment were March for crabgrass and April for goosegrass control.

4. Effective crabgrass control was obtained when Betasan, Balan, and Ronstar were applied at full rates the first year and followed by one-half rates the following two years.

5. All preemergence treatments except Betasan retarded early spring growth of bermudagrass, but turf fully recovered by May.

B. J. Johnson is a professor in agronomy and research project leader on management of herbicides for weed control in turfgrass at the Georgia Experiment Station, University of Georgia at Experiment. He received his B.S. from Berry College, Rome, Georgia and M.S. in agronomy from Texas A&M University.

He is a member of Weed Science Society of America, American Society of Agronomy, Crop Science of America, and the International Turfgrass Society. He was appointed in 1981 to the Educational Advisory Council of Golf Course Superintendents Association of America for a three-year period. Recently, he was appointed as a director of Southern Turfgrass Association for a two-year term.

DATES

Capital Area Turf & Ornamental School, Holiday Inn, Grantville, PA, Feb. 15-16. Contact: Harold E. Stewart, Dauphin County Extension Service, 75 S. Houck St., Suite 101, Harrisburg, PA 17109. (717) 652-8460.

Northeastern Pennsylvania Turf & Grounds Maintenance School, Luzerne County Community College, Nanticoke, PA, Feb. 22-23. Contact: E. V. Chadwick, Luzerne County Extension Service, Court House Annex, 5 Water St., Wilkes-Barre, PA 18792. (717) 825-1701.

Golf Course Superintendents Association of America 54th International Turfgrass Show, Georgia World Congress Center, Atlanta, GA, Feb. 22-24. Contact: Kay Nelson, 1617 St. Andrews Dr., Lawrence, KS 66044. (913) 841-2240.

Nassau-Suffolk Landscape Gardeners' Association Turf and Plant Conference, Colton Hill, Long Island, NY, Feb. 28. Contact: phone (516) 665-0698.

Associated Landscape Contractors of Massachusetts annual exposition, Glen Ellen Country Club, Millis, MA, March 9-10. Contact: Anne Brownlow, ALCM, 1357 Washington St., No. 7, West Newton, MA 02165. (617) 964-0452.

Associated Landscape Contractors of America Field Day, Richland College, Dallas, TX, March 25-27. Contact: Frank Millsap, Horticulture Dept., Richland College, 12800 Abrams Rd., Dallas, TX 75243.

Davey Tree Care-Urban Forestry training, Kent, OH, March 21-April 1. Contact: Davey Environmental Services, 117 S. Water St., Kent, OH 44240. (800) 321-7572 or (216) 673-7352.

Athletic Turf Management Seminar, March 21-22, Providence, RI. Contact: Athletic Turf, Box 1936, Appleton, WI 54913. (414) 733-2301.

Reinders Brothers Turf Conference, Equipment Show & Service Clinic, March 16-17, Waukesha, WI. Contact: Ed Devinger, Reinders Brothers Inc., 13400 Watertown Plank Rd., Elm Grove, WI 53122. (414) 786-3300.

Table 4. Tolerance of Tifdwarf bermudagrass as affected by herbicides.

Herbicide	Rate	Turf		
		Growth April % retardation	Quality May % of untreated check	Stand May
Dacthal	10	38	96	93
Betasan	10	2	89	88
Balan	3	29	93	93
Ronstar	4	72	100	10
Devrinol	3	49	99	94

Herbicides were applied in March for six consecutive years and ratings were made in April, May, and September following the final treatment after the sixth year. Turf growth ratings were based on percent retardation where 0 = no retardation and 100 = turf completely killed. Turf quality ratings were based on 0 to 100 where 0 = no discoloration and 100 = dark green in color. Turf stand ratings were based on turf ground cover where 0 = no turf and 100 = complete uniform cover.

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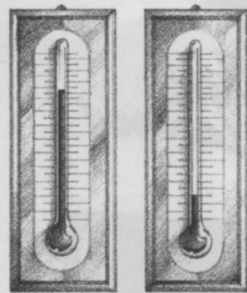
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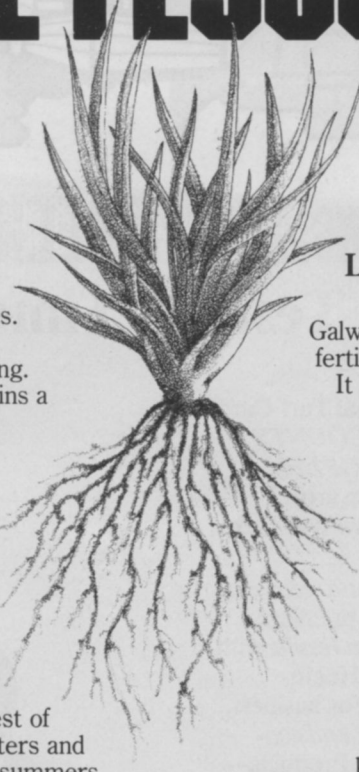


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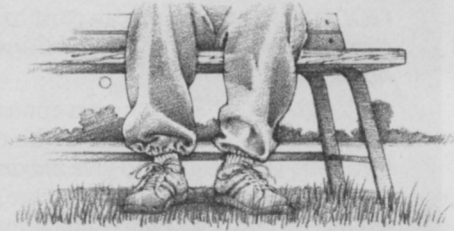
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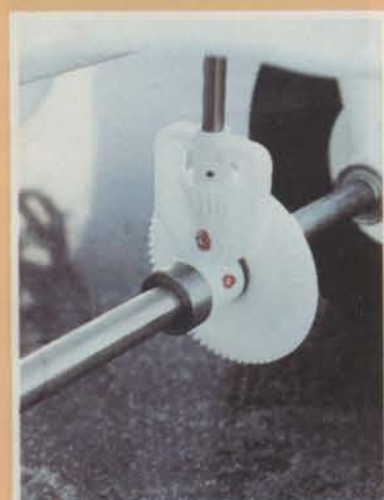


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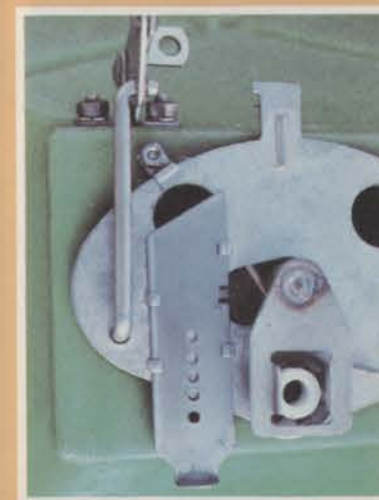
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