

1986 Man of the Year: Ron Giffen

'WISH I WERE 20 YEARS YOUNGER,' IN VIEW OF NEW OPPORTUNITIES

Ron Giffen, now one year retired from his position as vice president of LESCO, Inc.'s lawn care division, has been named 1986 Man of the Year by LAWN CARE INDUSTRY.

Giffen is the third to be awarded the honor, which was established in 1984, and is the first who is not an LCO. He succeeds Jerry Faulring, president of Hydro Lawn, Inc., Gaithersburg, MD, (1984) and the late David Duke, founder of

ChemLawn Services Corp. (1985).

Giffen was awarded for the instrumental role he played in developing the lawn care industry. "Without Ron's hard work and dedication in realizing the special needs of the LCO, the industry would not be where it is today," said Bob Earley, publisher of LAWN CARE INDUSTRY.

Giffen worked in sales for LESCO for 18 years. He was the
See **GIFFEN**, Page 26



Ronald H. Giffen

LAWN CARE INDUSTRY

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DECEMBER 1986

Robot mowers roll closer to market!

By RUSSELL HUMPHREY

Do you hear the hum of a robot lawnmower in your future?

The field of robotics continues to make great strides as available technology comes closer to making robot lawnmowers a reality.

The prohibitive cost of liability insurance in this sue-happy society is keeping robots out of action—for the time being—but the know-how for robot lawnmowers is here.

Just ask Fred J. Campbell II of Lakewood, CO: "I've got one. It did just what you wanted in a robot lawnmower. It worked as it was designed."

Campbell's 10-year-old Mowbot mower hangs on dis-

play from the ceiling of his business, Sun-bird Environmental Contractors, Inc. He said the machine still works.

The Mowbot was built by a firm from New York. Campbell can't remember the name of the outfit, but he has nothing but admiration for the

See **ROBOTS**, Page 14

Posting proposed in Duluth

By JAMES E. GUYETTE
Associate Editor

DULUTH, MINN.—A signposting law has been proposed in Duluth despite assurances from state officials and a college professor that lawn chemicals are not dangerous when used properly.

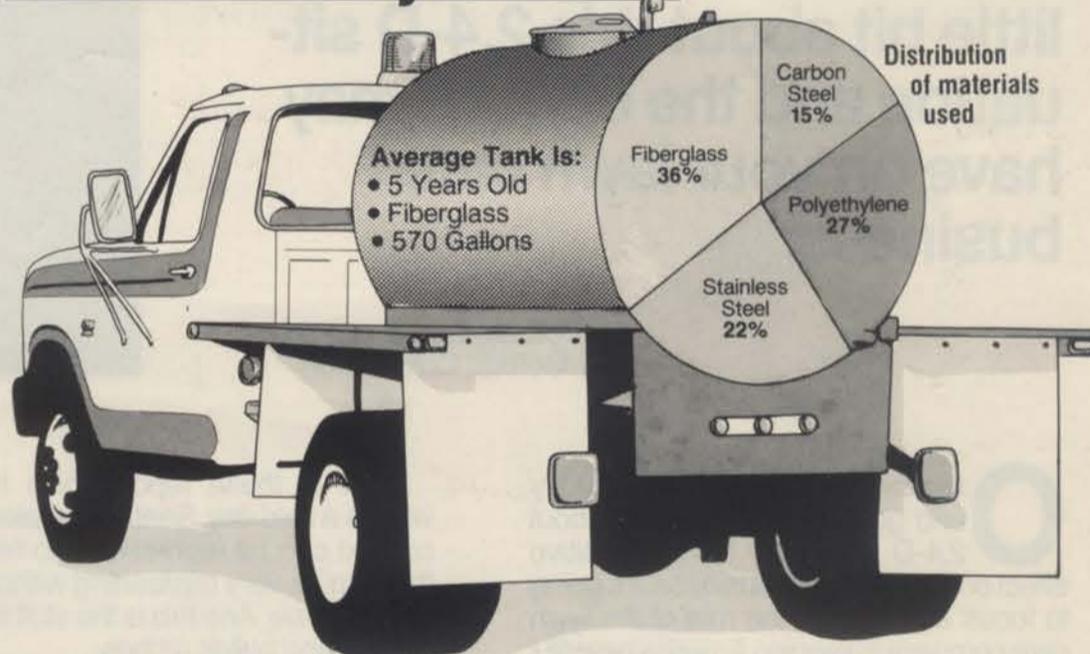
The proposed ordinance would require that LCOs pay \$25 for an annual license and post signs on just-sprayed yards.

The signs would read, "This lawn chemically treated. Keep children and pets off for 72 hours."

The ordinance had yet to be approved by the city council at this writing. "We're basically holding them at bay," said R. David Wick, owner of Guardian's Wonderlawn Systems,

See **DULUTH**, Page 26

Reader survey reveals:



Most will buy new tank in '87!

The average truck-mounted lawn spray tank is five years old, 570 gallons, and fiberglass, a LAWN CARE INDUSTRY readership survey reveals.

Never heard of a 570 gallon tank? That's the problem with averages—they're precise but not always realistic. The median-sized tank, the answer given midway through the survey, was 550 gallons. The mode, the most frequent answer, was 200 gallons.

The questionnaire was sent to 1,000 chemical lawn care companies in late September to identify their concerns about spray tanks. The mailing generated a 23 percent response, a much better than average response.

Asked to rank reliability, price, serviceability and versatility in order of importance, 72 percent of the respondents cited reliability as the most important factor. The other three factors were cited as

most important by either 11 percent or 12 percent of the respondents.

Versatility received the lowest rating the most—by 44 percent.

Serviceability was most often cited as the second most important factor—by 36 percent.

Price was most frequently

See **TANKS**, Page 13

INSIDE

DIRECTORY

1986 buyer's guide includes alphabetical listings of products, services and suppliers.

16

MEDIA

PLCAA asks industry suppliers to support its PR effort.

6

CLASSIFIED

See what's for sale, miscellaneous items.

35

NEXT MONTH

- Coverage of PLCAA convention in Baltimore.
- Coverage of ALCA-PGMS Green Team show in Milwaukee.

LATE NEWS

Industry study: 2,4-D is safe

WILMINGTON, Del.—Final results of the industry-sponsored 2,4-D testing indicate no carcinogenic effects, according to a preliminary report.

A recently-completed, two-year mouse feeding study shows no carcinogenic effects. The study was the last of 30 the task force conducted to meet U.S. Environmental Protection Agency testing requirements.

The 2,4-D Industry Task Force is a coalition of 2,4-D manufacturers formed in 1980 to gather additional 2,4-D data sought by the EPA.

A final report will be sent to the EPA this month. Independent reviews are also being conducted by two epidemiologists—one retained by the task force and one retained by EPA.

An EPA spokesman said the agency will reserve comment until the reviews are completed, which

See **2,4-D**, Page 10

A Frank Statement About the Herbicide Situation in 1987

“Will you need an herbicide in 1987 that does not contain 2,4-D? We doubt it. But if it turns out that you do, we are ready to supply you with D-Free Trimec®. Let's visit a little bit about this 2,4-D situation and the effect it may have on your lawn care business.”

Everett Mealman, president
PBI/Gordon Corporation



Over the long haul, all the publicity and gossip that's going on about 2,4-D will surely have a positive effect on the lawn care business. It's going to focus attention on the role of the lawn care company in keeping America beautiful, and such awareness is bound to be beneficial.

But as they say at the health clubs, *no pain, no gain*. So all of us who are connected with lawn care will probably experience a degree of pain, or at least inconvenience, in the process of getting the lights of truth turned on 2,4-D, before we will enjoy the *gain* that will surely result from a better informed, and more appreciative community.

At present, we are going through phase one of the process by which vital news is reported to the public by a free press in a democratic society. It's a gut wrenching experience for many who get caught up and buffeted around by the first barrage of coverage... But in spite of innocent parties getting hit by rotten eggs, our free press is by far the best in the world, and we would never suggest anything different.

The Process of a Free Press

This phase one is the first knee-jerk reaction by the press to the study by the NCI-University of Kansas epidemiology study; and the reports of the 2,4-D data submitted to the E.P.A. in response to their data call-in.

Both of these reports give headline writers a field day. Sentences taken out of context can be rephrased into headlines that can be very misleading without really being untrue. And this is the stuff that sells papers and builds ratings.

Next will come phase two in which the press will publish the response from reputable scientists who see these reports in a different light.

Phase two will deal with such items as the conclusion of Dr. Adalbert Koestner, Professor and Chairman of the Department of Pathology, Colleges of Human Medicine, Veterinary Medicine, and Osteopathic Medicine at Michigan State University. **After careful examination of the rat brain tissue slides and data, he concluded that 2,4-D is not a neurocarcinogenic agent.**

And phase two will deal with the conclusion reached by the Industry Task Force on 2,4-D Research Data study of the NCI-Kansas University epidemiology study: **“It raises an interesting hypothesis deserving of further study, but it does not constitute evidence sufficient to raise prudent concerns about 2,4-D.”**

It will also deal with the report of a prestigious Harvard epidemiologist who was retained by the E.P.A., (purchase order 6W-3948-NASA, dated September 10, 1986), to review the NCI-Kansas University study, and respond to the following questions: “What does the ‘weight of

evidence’ say about the risk of lymphoma for agricultural workers exposed to 2,4-D? Is 2,4-D a likely cause of lymphoma?”

The conclusion of this respected scientist is: **“In my opinion, the weight of evidence does not support the conclusion that there is an association between exposure to 2,4-D and Non-Hodgkins Lymphoma.”**

Characteristically, phase two is never presented in a dramatic way because it lacks the shock value to stir up emotions. The sad fact is that good news doesn't sell. Can you imagine a feature story built around the news that 97% of Americans come home sober and have pleasant evenings with their families?

The Public Makes Intelligent Decisions

But the wonderful part of it all is that the American public understands this bizarre process of the free press. They have learned to live with it, and in the end they seem to be able to make intelligent decisions.

Naturally, lawn care companies are caught up in the phase one segment of the current 2,4-D story, because they have so much at stake. They are concerned about the environmental impact of spraying 2,4-D on neighborhood lawns; the consequences of exposing themselves and their employees to 2,4-D; and, of



course, they are concerned about the financial impact all of this might have on their business.

In the main, the lawn care community is very knowledgeable. Not only about the basic facts of pesticides, but also the problems of living with a free press. Normally, lawn care operators would simply wrap their nerve ends in protective gauze and go forward, knowing full well that their customers also know the facts of life.

But this situation is different. A major lawn care company has elected to discontinue using 2,4-D, and this action causes other LCO's to ask us two questions: First of all, Do *they* know something about 2,4-D that we don't know? And secondly, how do we discuss this with our employees and our customers?

PBI/Gordon's position:

PBI/Gordon has a major interest in 2,4-D, but we are not a basic manufacturer. We buy tech material and formulate. The money a major chemical company would spend developing a molecule, we spend developing specific formulations for specific uses.

Over the years our experiments in formulation led to Classic Trimec and Super Trimec, as well as many others. But remember, we are not basic, so losing 2,4-D would not cause us to turn out the lights. Especially in view of the fact that one of the very important formulations that has come out of our research is D-Free Trimec, which we have thoroughly researched and are ready to ship.

But regardless of that, we have been deeply involved with 2,4-D for virtually all of the years it has been in existence. We are an original member of the 2,4-D Industry Task Force on 2,4-D Research Data, which has expended nearly

\$3,000,000.00 over the past three years in developing research data supporting the safety of 2,4-D.

During all of those years, we have been privy to monumental reams of data and toxicology studies dealing with 2,4-D, and we make this flat statement: **We have never seen any conclusive research that would cause us to believe that there is any reason to stop using 2,4-D in accordance with the label instructions... Period!**

So the next question that the lawn care operator has to ask is: If we use 2,4-D in our program, will we lose a significant number of customers who will insist that no 2,4-D be used on their lawns? The answer is no you won't, if you are a customer of PBI/Gordon.

If a customer says: 'Do you use 2,4-D?', your answer is: **'Yes, it is a very small component of Super Trimec which is the herbicide we recommend. It involves about one ounce per average lawn and it is biodegradable. We apply it in absolute compliance with the label registered by Federal and State Governments. Here is a copy of the label.'**

What if she still doesn't want 2,4-D used? Tell her: **'That's absolutely ok with us. We have an excellent herbicide that does not contain 2,4-D. It is called D-Free Trimec.'**

PBI/Gordon Customers Will Be Covered

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Des Moines nicknamed 'Weed City'

INDIANAPOLIS—Iowa LCOs have dubbed Des Moines "Weed City" because of conditions spawned by one-and-a-half times the normal rainfall, said Daryle Johnson of All-American Turf Beauty, Van Meter, IA.

Johnson made his comments at the recent Elanco Products Co. lawn care seminar in Indianapolis, IN.

Johnson said he used pendimethalin and Team and was pleasantly surprised with Team's results on crabgrass.

LCI



Johnson: Weeds bad in Iowa.

No consensus on acceptable weed control rate

INDIANAPOLIS—Is 90 percent weed control okay?

Some said "yes" and some said "no" during a hallway break at the recent Elanco Co. lawn care seminar, which brought 30 of the largest lawn care companies in the country to company headquarters in Indianapolis.

The C.H. Kline Co., which surveys the lawn care market, reports that 95 percent control is indeed acceptable in a lawn care situation, said Dr. Thomas Perkins of Elanco.

Dr. Thomas Watschke of Pennsylvania State University, a speaker at the seminar,



Perkins: 95 percent is okay.

said 95 percent is OK because at best only 10 to 30 percent of lawn care customers receive preemergence applications under optimum conditions during lawn care rounds in

spring and early summer.

The low rate is due to the fact that all lawns cannot be treated at optimum times because of scheduling conflicts, Watschke said.

Rick White of ServiceMaster, Downer's Grove, IL, said he does not think 95 percent is acceptable to most customers.

"This is because we have done such a good job selling weed-free lawns that customers' expectation levels are higher than they have been in the past," he said. "Five percent weeds really sticks out in an almost weed-free lawn."

Japanese equipment firm expanding

REDMOND, WASH.—A Japanese agricultural equipment firm is establishing marketing and warehousing operations in Washington state as part of a continuing expansion program.

Maruyama Mfg. Co., Tokyo, Japan, has a 91-year history in the agricultural equipment field, specializing in spraying and power devices.

Its new U.S. branch will be headquartered in Redmond, WA, which is near Seattle.

The majority of the company's sales have been in the Japanese or Far East market—where it holds the top spot in sales of spraying equipment, and the No. 3 position in the brushcutter market, according to Maruyama officials.

The Maruyama products

initially targeted for sale in the U.S. and Canadian markets are brushcutters, hedge trimmers, soil injectors, blowers, granule spreaders, power and manual backpack sprayers, mist dusters and self-propelled orchard sprayers.

The markets included are lawn and garden, agricultural, pest control, nursery and greenhouse.

LCI

MEMOS

Contrary to rumors, ChemLawn Services Corp. is not switching to smaller tanks in 1987. A ChemLawn spokesman said only the lettering on the trucks will be different. Even the logo will stay the same.

ChemLawn did introduce some smaller tankers this past season for tight, city routes, but new ones aren't being added. The company last revised its lettering as well as its logo in 1976.

30 days in jail! That's what a Los Angeles tree trimming service owner got after an employee electrocuted himself at the worksite, according to the October issue of the National Arborist Association Reporter.

The sentence was originally 90 days but shortened after the defendant, Steve Lymon, owner of H&L Tree Service, pleaded no contest to charges that he failed to train employees properly and that he allowed them to work within six feet of high voltage wires. The case was heard in Culver City Court by Judge Jarold Cherniss.

Lymon was also ordered to pay an \$850 fine and was put on probation for three years.

His partner, Robert L. Henderson, also pleaded no contest to just the first charge and was fined \$8500 and placed on probation.

The worker, Rogelio Esquer, was killed when he touched a wet palm frond caught in an electric conductor. He was trimming a 60-foot palm tree.

The New York Times erred in its story on the 2,4-D issue that appeared on Oct. 30.

The story, written by a freelancer for the newspaper's lawn and garden section, said research sponsored by the industry task force linked 2,4-D to cancer. The only cancer link was reported by the National Cancer Institute in one of its several 2,4-D studies.

The task force's research, by Hazleton Laboratories of America, Vienna, VA, concluded that 2,4-D exposure does not increase the risk of cancer.

One rat feeding study by Hazelton did find a higher incidence of brain tumors in rats. But an independent evaluation concluded that 2,4-D exposure was not the cause.

The evaluation was done by Dr. Adalbert Koestner of Michigan State University. Both Koestner's and the task force's reports are under review by the U.S. Environmental Protection Agency.

Ohio pesticide interests are working with state officials to modify a proposed sign posting law. Board members of the Ohio Pesticide Applicators for Responsible Regulation recently agreed on some changes they'd like to see in the proposed law.

OPARR's position is that a sign posting law should relieve pesticide applicators of any liability for the signs, and that the signs themselves should be simple and not verbose.

The bill, proposed by State Sen.

Lee Fisher, requires extensive information on the signs, as well as 24-hour prenotification and 48-hour postnotification.

OPARR also feels a toll-free number should be established for Ohioans who want to be notified of applications.

OPARR has been meeting with Fisher, state officials and the Ohio Sierra Club.

First Sputnik and now this: Plans are underway in the Soviet Union to market a special "space fertilizer."

The fertilizer mimics the material found in a meteorite that fell to earth in Siberia 75 years ago.

Scientists discovered that trees which survived the impact were growing at twice the regular rate and were less prone to disease.

Additional experiments with unidentified metals that simulated the content of the meteorite revealed that the material boosted the potato crop yield 50 percent. Other crops had an increased yield of 40 percent.

The "space fertilizer" is due on the market sometime in 1987.

Hoechst A.G. of West Germany, manufacturers of *Acclaim* herbicide, plans to acquire the New York-based Celanese Corp. for \$2.84 billion, the *Wall Street Journal* reported.

The two firms had combined sales of \$17.6 billion in 1985. Celanese is the nation's second largest producer of synthetic fibers.

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PLCAA enlists suppliers in the industry's PR effort

CHEMICAL COMPANIES ASKED TO SUPPLY DATA ON TOXICITY TESTING

By **ELLIOT MARAS**
Editor

ATLANTA—The Professional Lawn Care Association of America laid it flat on the table to the pesticide suppliers—“We need your help!”

Help in maintaining the lawn care industry's credibility in the face of sensationalist reporting about pesticide health risks.

And the chemical companies response was: “You've got it.”

Representatives of 21 companies attentively watched a presentation of videotaped television programs that have aired nationally in the past year. PLCAA made the presentation in Atlanta in October.

The turnout itself made Jim Brooks, PLCAA executive vice president, smile. A total of 28 companies were invited, on short notice.

The news shows PLCAA showed in the presentation—ABC's “20/20,” The CBS Evening News, the NBC “Today” show and a series by KIRO in Seattle being mar-



Media concerned: Bud Houston, (left) president of Green Garde, Gary Clayton, PLCAA technical director, and Henry Nadler (right) of PBI/Gordon Chemical Corp. chat in Atlanta.

keted nationwide—made the point. The lawn care industry needs help.

Brooks said support from industry suppliers is needed if the public relations plan the PLCAA has outlined is to come to fruition.

The facts are on the industry's side, he said, but the chemical companies need to supply them.

“We don't as an association have the data that we need to respond to these things,” said Larry Teien of the PLCAA's public relations agency, Mar-

comm, Inc. “I think we need a lot of answers. We need the help.”

Test data on chemical safety is a cornerstone of the public relations program Marcomm has outlined. Such data, PLCAA believes, will defuse the claims the environmental alarmists make about lawn pesticides, claims the consumer media is quick to put into print.

Brooks and Teien stressed the fact that the industry must take a pro-active stance with the media, not a reactive one.

PLCAA wants the chemical suppliers to provide summaries of health and environmental fate studies done on all chemical products. Such information has already been provided to the Environmental Protection Agency, but it is not readily available in a form understandable to those who are not scientists.

PLCAA is also asking for persons the companies have worked with who have expertise on product health and safety.

It is crucial that such information be disseminated to the media as soon as possible, Teien said, since news directors rely on previously published reports for future reports.

The chemical industry reps were receptive.

“Everything asked for here is available,” said J. Robert Gray, project manager for the biotechnology products department of American Cyanamid Co., Wayne, NJ. He said he will provide the necessary test data.

“We are going to cooperate to the fullest extent,” said Joe

DeLuca, marketing manager for The Andersons, Maumee, OH. He did express concern, however, about divulging anything that would be considered proprietary.

Dan Stahl, a product manager for Rhone-Poulenc, Inc., said everything PLCAA is seeking is public information since it's been submitted to the EPA.

Rob Peterson, product marketing manager for Dow Chemical Co., said most of the information the PLCAA is requesting will have to be provided by the makers of the basic compounds, not the reformulators.

“It was a tremendous meeting,” Peterson said. “I think he's (Brooks) got an excellent game plan.”

Brooks estimated \$200,000 to \$250,000 is needed, and asked suppliers to help.

If you are interested in obtaining any available or additional editorial research or reference materials published in this or previous issues, direct inquiries to Kathleen Maciuszko at (216)826-2839.

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*Trademark of the Dow Chemical Company

Next spring, lawn care will be ready

By **ELLIOT MARAS**
Editor

This year, they took us by surprise. But in the spring of 1987, we'll be ready.

The news media swept down upon us like vultures this season, plucking every possible angle of the pesticide controversy that would set the uninformed public on edge.

Starting with March's issue of *Home Mechanix*, calculating environmental alarmists baited the media to

a season full of exposes on lawn care. All because we weren't prepared.

The season is now over. And we've learned a few things about the media. Our leadership, at least, is on the right track.

The Professional Lawn Care Association of America has formed a media relations plan to defuse sensationalist bombs at both the national and local levels. PLCAA is compiling data that will refute the opposition's claims about pesticides, and forming

a bureau of individuals who can defend the industry.

The "no comment" approach to dealing with the media, PLCAA realizes, doesn't work.

Which is why it recently took the crucial step of asking chemical companies to provide toxicity data on lawn care chemicals. Data that documents the safety of pesticides does exist—it's just a matter of getting it.

And the chemical companies, by all indications, have been glad to oblige.

Toxicity data is on file with the Environmental Protection Agency for the chemicals presently in use. (The fact that the EPA is seeking additional testing doesn't mean it has disregarded that which has already been done.)

And the facts, once disseminated, will take the scare out of the lawn chemical controversy, and hence deplete its news value.

Marcomm, Inc., the PLCAA's public relations agency, has made a list of scientific people who can speak authoritatively on pesticide testing. Such persons include chemical consultant Dr. Wendell Mullison, Dr. Elizabeth Whelan, (author of *Toxic Terror*), and plant pathologist Houston Couch of Virginia Polytechnic and State University.

No longer will David Dietz, program director of the Pesticide Public Policy Foundation, be the only person defending the industry.

The plan includes providing assistance to LCOs at the local level. Information and speakers will be provided wherever needed.

One chemical company representative, apprised of the PLCAA's plan, asked how long it takes to bring LCOs at the local level "up to speed" in dealing with the media. Jim Brooks, PLCAA executive vice president, pointed to the readiness with which Buffalo LCOs organized in response to an anti-lawn care campaign in April.

LCOs have been organizing at the grass roots level from coast to coast to fight local regulations. These groups can serve as conduits for media relations materials PLCAA will be providing.

If your region has no such organization, form one now. Local media is becoming increasingly aware of the lawn care story, and there's little PLCAA can do to influence local media without help from local LCOs.

The opposition, mind you, is planning its next spring offensive. The National Coalition Against the Misuse of Pesticides, the major anti-lawn care group, is compiling a list of the major companies' branch operations. (NCAMP requested such a list from both PLCAA and myself. They were told, truthfully, that no such list is available.)

PLCAA will continue to update LCOs on its plan. Next spring, LCOs won't go undefended.

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Circle No. 111 on Reader Inquiry Card

Elliot Maras

Are changes ahead for post-emergent control?

By ELLIOT MARAS
Editor

Uncertainty about 2,4-D has forced the lawn care industry to consider life without phenoxy herbicides.

It's a prospect few within the industry want to consider. Phenoxy herbicides, those compounds containing 2,4-D, 2,4-DP and MCPP, are considered by many LCOs to be the most versatile, cost efficient and effective post-emergent herbicides available.

Many within the industry question the need to consider alternatives to phenoxy. The bulk of research presently indicates that phenoxy is safe.

ChemLawn Services Corp., however, has decided to discontinue purchase of phenoxy herbicides due to one study linking 2,4-D to higher risks of lymphatic cancer. And ChemLawn has historically been the industry's trend setter.

What will become of professional lawn care if LCOs don't use phenoxy? Will there be suitable replacements? Will post-emergent weed control continue to be a standard part of lawn care?

The questions assume that ChemLawn will not reverse its decision, pending the outcome of further research, and that the rest of the industry will fol-



Ball: Research underway.

low ChemLawn's lead. Both assumptions could be wrong.

(At the time of this writing, no other large lawn care firm had made a similar decision.)

But the questions still loom in the back of LCOs' minds. And the answers are vague.

Houston Couch, professor of plant pathology at Virginia Polytechnic and State University, Blacksburg, VA, said lawn care would definitely be more difficult without phenoxy.

"It's going to take more programming in the field," he said. The other post-emergents—dicamba, trichlopyr, chlorflurenol and bromoxynil—require more specific timing and cannot be used against as wide a spectrum of weeds.

Dicamba, the most widely used of these, is very mobile in the soil, according to Couch.



McGinn: Big changes ahead.

This means that heavy rain or irrigation could reduce its effectiveness.

Many industry observers remember a similar scare about 2,4-D several years ago. No competitive compound was developed, and the scare, fortunately, subsided.

"It (not using phenoxy) would put the weed programs for home lawns in the same category as disease control," Couch said. "It would be done, but it wouldn't be done as it is now, as part of the standard program."

Greg Richards, chemical product manager for LESCO, Inc., Rocky River, OH, said LCOs can expect one to three non-phenoxy formulations to be introduced in 1987. LESCO distributes herbicide formulations for most of the basic manufacturers.

Dow Chemical Co. will be



Couch: No substitutes.

coming out with an amine trichlopyr formulation, Richards said. The company presently markets an ester trichlopyr formulation.

Bromoxynil formulations are also being studied, Richards said. The compound is supplied by Rhone-Poulenc and Union Carbide.

Non-phenoxy formulations will cost 2 to 3 times as much as phenoxy, Richards said.

But some herbicide formulators think the end result will be a broader selection for LCOs to choose from.

"We have a major product which will probably be introduced at the end of this month (November)," said Mary Collins, spokeswoman for The Andersons, Inc., Maumee, OH.

Elanco Products Co. also has some post-emergents in the development stage, said



Richards: Products coming.

David Ball, marketing associate. He said registration is two years away.

"Because of the potential problems with phenoxy, we would be more inclined to develop new chemistry," he said.

Ball feels the economic advantage of phenoxy has kept many good products from being developed. Without phenoxy, he said, "It'll make it more economically feasible for companies to develop new products."

PBI/Gordon Corp., the largest supplier of three-way combination post-emergents to the lawn care industry, also plans to introduce some new products, though they will still be phenoxy.

Bill Brocker, sales and marketing manager, said the new products will contain MCPP instead of 2,4-D.

See **CHANGE**, Page 13



2,4-D task force questions Cancer Institute study

SALEM, ORE.—The Industry Task Force on 2,4-D has questioned some aspects of the National Cancer Institute's study on 2,4-D linking the herbicide to higher incidences of lymphatic cancer.

The questions are listed in a recent evaluation paper.

The National Cancer Institute study examined carcinogenic effects on Kansas farmers.

The task force, in its evaluation statement, noted that the study disputed a previ-

ously alleged link between 2,4-D and two other types of cancer: soft-tissue sarcoma and Hodgkin's disease. This part of the institute's study supported other scientific reviews, the task force noted.

On a more critical note, the

task force noted that the study assumed that all herbicide exposures were 2,4-D exposures. This assumption, according to the task force, was not valid.

The study's authors agreed, according to the task force, that it would have been more accurate to report the increase risk of lymphatic cancer with herbicide use, not just 2,4-D use.

The task force also noted the following:

- The information was gathered by telephone interviews, a method not considered reliable by many researchers.

- Some of the findings were inconsistent with a real-life relationship to 2,4-D use. For

examples, there was no difference reported in risk according to length of exposure, or to the different types of usage of the chemical.

- The conclusions of the study were inconsistent with three other recently-completed or ongoing studies designed to determine similar associations, one Swedish, one American and one in New Zealand.

- Similar studies by the institute in several other states did not show a similar association.

The task force further noted that the study showed there was no increased cancer risk in workers wearing protective gear. LCI



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2,4-D,

from Page 1

will be some time around June.

The results of the industry task force tests are similar to those of previous tests conducted by other researchers. They do differ from a recent study conducted by the National Cancer Institute, which found higher risks of lymphatic cancer in workers exposed to 2,4-D over a long period of time.

The EPA said any reg-

ulatory action will be based on a review of all available research.

Greg Richards, chemical products manager for LESCO, Inc., Rocky River, OH, said he expects the EPA to place 2,4-D under special review. "It looks like it'll last six months to three years," he said.

Based on the recent test results, "not only is it (2,4-D) not carcinogenic, but not oncogenic," meaning it doesn't cause tumors, said Terry Witt, a spokesman for Dow Chemical Co. LCI



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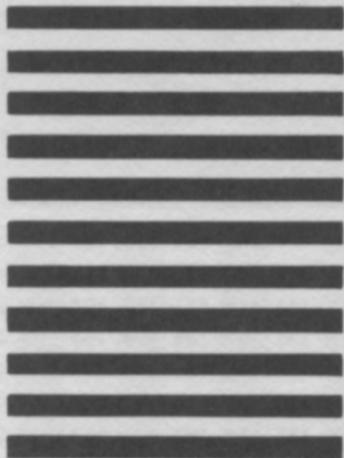
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CHANGE,

from Page 9

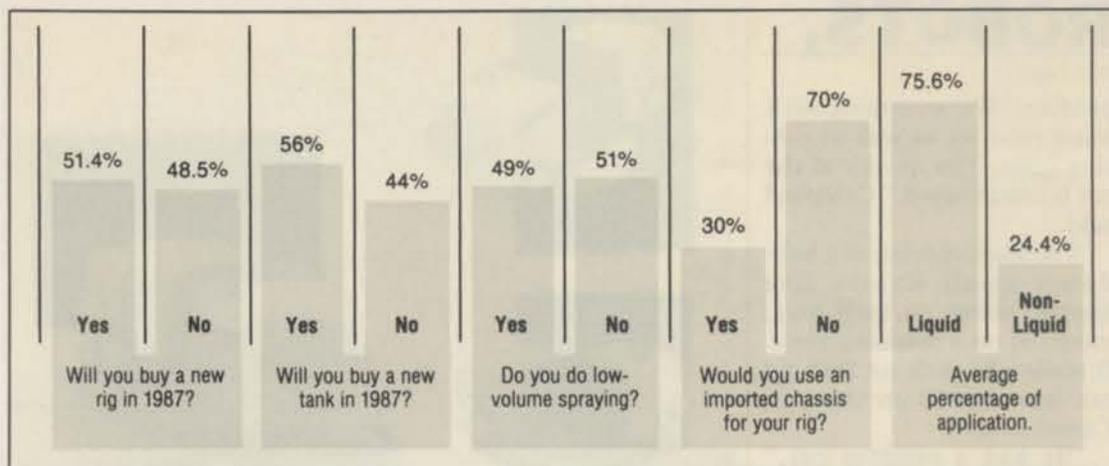
Martin McGinn, president of W.A. Cleary Chemical Corp., foresees a greater emphasis on fertilization. "You're seeing some real transitions as far as weed control goes in the lawn care industry. I think you're going to see an emphasis on quality fertilization programs with less emphasis on weed control."

Suppliers of phenoxy prod-

ucts point out that the concern is premature.

PBI/Gordon's Brocker said the market does not depend on ChemLawn as much as what the EPA decides to do. "After reviewing the data and talking to a number of people in the field, there are some questions as to whether these studies (by the National Cancer Institute on 2,4-D) will hold up," he said.

"This is really sort of a temporary setback for 2,4-D," said LESCO's Richards. LCI



And the winner is!



James E. Guyette, Associate Editor of *LAWN CARE INDUSTRY*, draws the winner of \$150 worth of spray equipment from a box of returned questionnaires as Editor Elliot Maras looks on. The winner was Shrub Turf, Inc., Watkinsville GA. It used the money towards purchases from Graham Equipment, Douglasville, GA. LCI

TANKS,

from Page 1

cited as the least important—by 33 percent, although it was cited as the second and third most important factors by 27 percent and 26 percent, respectively.

The survey revealed that customer lawns are larger than the 5,000 to 7,000 square feet previously assumed. The average-size reported was 8,300 square feet.

Mechanical agitation was more popular among the respondents than sparge line agitation, and auxiliary engine power was more popular than power take off.

More than half of the respondents said they will buy a new rig in 1987—51.4 percent.

Fifty-six percent said they will buy a new tank in 1987.

When buying a new tank, 71

percent said they will buy the same type they presently have. Those who plan to have a different type of tank said they would switch to a different material—stainless steel or fiberglass, or to a smaller size.

The most common tank materials are: fiberglass, 36 percent; polyethylene, 27 percent; stainless steel, 15 percent; and carbon steel, 15 percent.

Sixteen percent said they will add tank space to their present operations. Of these, most plan to add an additional tank while about 20 percent plan to replace their present tank with a larger one.

Forty percent said they foresee changes in the configuration of their rigs. Slightly more than half of these respondents said they will change from a piston pump to a diaphragm pump, slightly

more than half will change to smaller tanks, and as many will change to low volume tanks.

Almost half of the respondents, 49 percent, said they presently do low volume spraying. Most of those who don't said they don't intend to.

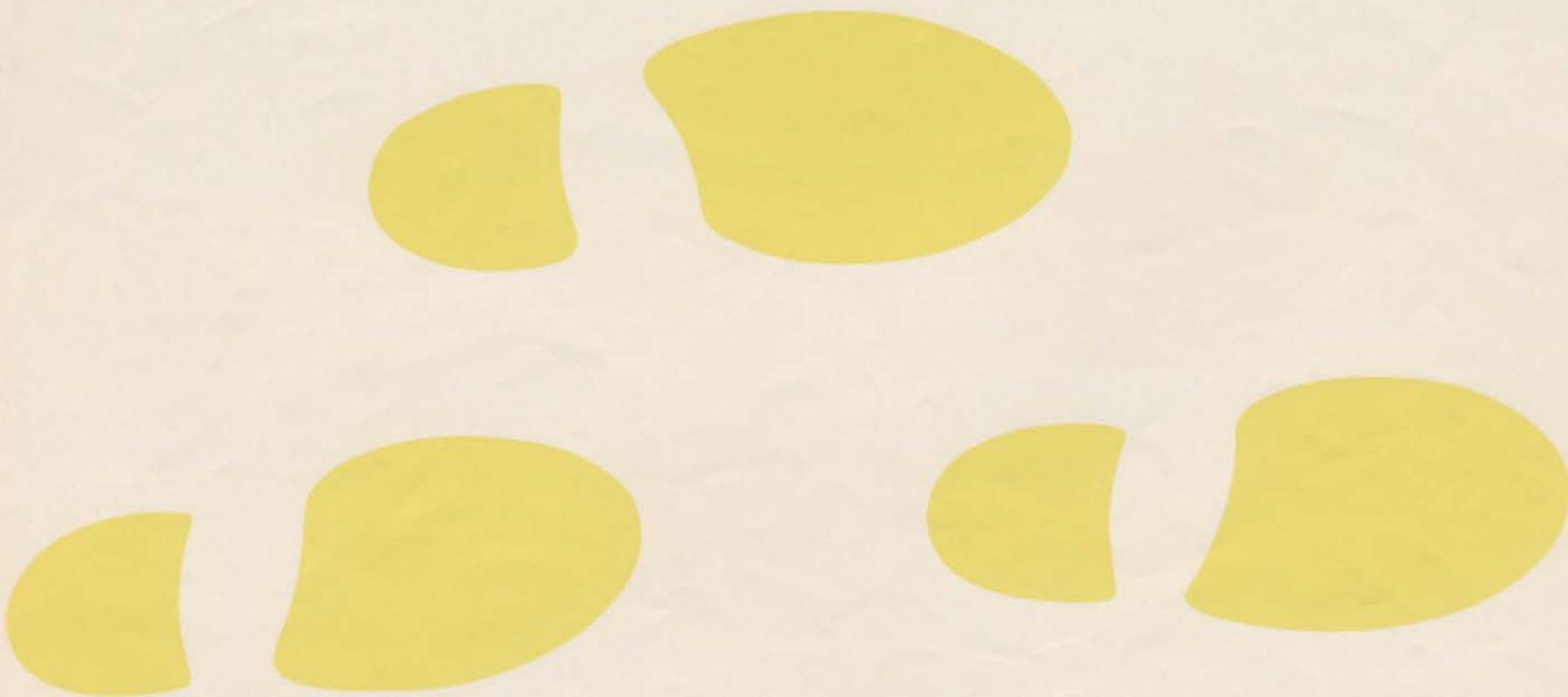
Only 24 percent said they have an injection system. About 20 percent of those who don't said they plan to get one.

Thirty-five percent said they have compartmentalized tanks. Of these, 80 percent said their tanks have two compartments.

More than 80 percent said they are confident with their tanks' abilities to withstand leaks and spills.

Only 38 percent said they prefer custom-made to standard models.

Most said they would not use an imported chassis. LCI



ROBOTS,

from Page 1

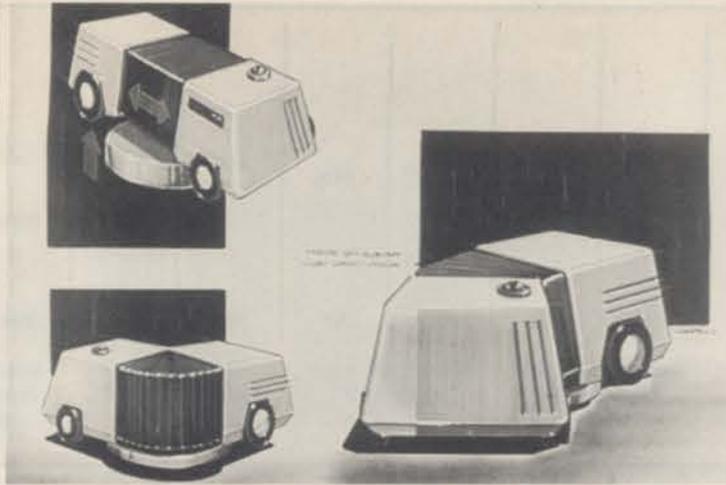
product. "Whoever designed it knew robotics as well as cutting grass. The quality of the cut is unsurpassed," Campbell said.

The blade consists of a half-dozen small Exacto-like knives, about an inch long, mounted on a spinning plate. It made a 24-inch cut that did not leave marks on the turf, Campbell said.

"It had a random cut," Campbell explained as he described how the machine would "see" the perimeter of a yard and scoot back and forth in different directions until the entire lawn was cut smooth as glass. "You didn't see where the lawnmower had done it. It gave the most beautiful cut for a lawn."

It was led to the job by use of a "leash" remote control unit. Campbell said there was no fear of the robot mower running amuck. "The safety here was unbelievable," he said as he explained how a special sensing system would stop the mower if it came into contact with any object. "You could throw a newborn baby over there and it would stop it. You could stop it with your finger—I think an aluminum can could stop it."

A decade ago Campbell tried marketing Mowbots for \$895 each. He gave up after



Future shock: Design students at the University of Cincinnati drew prototypes of robot lawnmowers.

finding only two or three buyers. "We couldn't sell 'em. I worked my (posterior) off." Nobody wanted one, he said. "People were not aware that robots were coming: 'It isn't ready for us,'" they said then.

The Mowbot hanging from Campbell's ceiling is for sale.

Mowtron's ready

The cost of liability insurance is the only thing keeping Tyrous Ward from marketing a new, improved version of his Mowtron.

"We've got it down, we're ready to make printed circuit boards and everything," said Ward, who owns a precision sheet metal fabricating firm in Alpharetta, GA.

At this point the project, some 15 years in the making, is

on hold. "We've piddled around with it the last couple of years because of the insurance situation," said Ward.

The mower is not likely to injure anybody, Ward said. "Most accidents involve the operator. If we can remove the operator from the scene there's less chance of anyone getting hurt and we're actually making a safer machine," he said.

"Basically the lawnmower would be programmed by the (operator) cranking it up and using a remote control programmer," Ward explained. Once the machine is programmed it would mow the lawn without being guided by the remote control.

"We are very confident about the technology," Ward



Hall: Funding needed.

said. "We don't know of any problems right now."

Current cost figures are unavailable "because of everything being up in the air" over the insurance question, Ward said. However, he figures that the Mowtron could possibly be sold for \$2,800 to \$3,000.

Happy about Snappy

Perhaps a future robot lawnmower could be had for \$2,000, said Dr. Ernest L. Hall, professor of robotics at the University of Cincinnati's College of Engineering.

"We now have two prototypes that we are working on," he said. The robot lawnmowers are named Snappy I and Snappy II in honor of equipment donated by the Snapper Power Equipment

Co., McDonough, GA.

"I've been in touch with Prof. Hall over the years," said Cliff Boylston, executive vice president at Snapper. "We've given him some technical advice. We're definitely interested in the project."

Other contributions have come from BEI Electronic Parts and General Motors. Hall is in the process of seeking some cash to allow additional research.

"We're hoping to get some funding for students to work on it," Hall said.

"Conceivably, I see whole fleets of robot mowers ..." said Dr. John B. Gerrish, an associate professor of agricultural engineering at Michigan State University. "Realistically, the technology will assist drivers, making mowing jobs easier, pretty fast and pretty accurate. The ones to be hurt by automatic lawnmowers, I think, will be high schoolers on a summer job," he said.

Gerrish and MSU Professor Dr. Truman C. Surbrook first introduced their robot Electrac mower in 1983. It was refined this spring by reducing the amount of microchips from 25 to two. Its dependability and functionality improved as a result. LCI

About the Author

Russell Humphrey is a freelance writer based in Edwardsburg, MI.





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Modern Welding Co., Inc.
72 Waldo St.
Newark, OH 43055

Monsanto Company
800 N. Lindberg (C3SD)
St. Louis, MO 63167

Moyer & Son, Inc.
113 E. Reliance Road
Sonderton, PA 18964

NA-CHURS Plant Food Co.
421 Leader St.
Marion, OH 43302

National Mower
700 Raymond Ave.
St. Paul, MN 55114

Nice 'N Green Plant Foods, Inc.
680 Phelps Ave.
Romeoville, IL 60441

NOR-AM Chemical Co.
3509 Silverside Road
P.O. Box 7495
Wilmington, DE 19803

Northrup King Co.
7500 Olson Memorial Highway
Minneapolis, MN 55427

Spray Products Division
Ohio Oil Equipment Co.
30 E. 4th Ave.
Columbus, OH 43201

Olathe Mfg. Co.
100 Industrial Parkway
Industrial Airport, KS 66031

Oly-Ola Sales, Inc.
54 E. Charles Road
Villa Park, IL 60181

Oregon Ryegrass Commission
P.O. Box 3366
Salem, OR 97302

Oshkosh Uniforms
112 Otter Ave.
Oshkosh, WI 54901

Pennington Seed Inc.
of Madison
P.O. Box 290
1280 Atlanta Highway
Madison, GA 30650

PBI/Gordon Corp.
1217 W. 12th
Kansas City, MO 64107

Perfco Printing Co.
85 Quick Road
New Carlisle, OH 45344

Perma Green Supreme
9310 Mississippi St.
Crown Point, IN 46307

Pickseed West, Inc.
33149 Hwy 99 E
P.O. Box 888
Tangent, OR 97389

Plant Food Chemical Co., Inc.
Hightstown-Cranbury Station
Road
Cranbury, NJ 08512

Plant Marvel Laboratories, Inc.
371 E. 16th St.
Chicago Heights, IL 60411

Power Lawnmower Parts, Inc.
1920 Lyell Ave.
P.O. Box 60860
Rochester, NY 14606

Practical Solutions, Inc.
500 Wilson Bridge Road
Worthington, OH 43085

Precision Labs, Inc.
P.O. Box 127
Northbrook, IL 60065

Precision Tank & Equipment
R.D. 2 Box 42

Athens, IL 62613

Prentiss Drug & Chemical Co., Inc.
C.B. 2000—21 Vernon St.
Floral Park, NY 11001

Pro-Lawn Products, Inc.
P.O. Box 4908
Syracuse, NY 13221

Professional Turf Mfg., USA
1801 Industrial Park Road
Normal, IL 61761

PSB Company
555 W. Goodale St.
Columbus, OH 43215

Rainbow Systems, Inc.
P.O. Box 81
Somerset, NJ 08873

Ravens Metal Products
P.O. Box 1168
Parkersburg, WV 26102

Regal Chemical Co.
P.O. Box 900
Alpharetta, GA 30201

R.G.B. Laboratories, Inc.
1531 Charlotte St.
Kansas City, MO 64108-1580

Rhone Poulenc Inc
—Chipco Group
P.O. Box 125
Monmouth Junction, NJ 08852

Ringer Corporation
9959 Valley View Road
Minneapolis, MN 55344

Riverdale Chemical Co.
220 E. 17th St.
Chicago Heights, IL 60411-3699

Roseman Mower Corp.
2300 Chestnut Ave.
Glenview, IL 60025

Salsco, Inc.
105 School House Road
Cheshire, CT 06410

Scag Power Equipment, Inc.
W226 N900 Eastmound Drive
Waukesha, WI 53186

O.M. Scott & Sons
14111 Scottslawn Road
Marysville, OH 43041

Seed Research of Oregon
644 S.W. 13th St.
Corvallis, OR 97333

Sensation Division of Gilson
Box 152
Plymouth, WI 53073

Servicemaster
Lawn care
2300 Warrendale Road
Downer's Grove, IL 60515

Shindaiwa Inc.
11975 SW Herman Road
Sherwood, OR 97140

Smithco, Inc.
11 West Ave.
Wayne, PA 19087

Snapper Power Equipment
535 Macon Road
McDonough, GA 30253

SOLO Inc.
5100 Chestnut Ave.
P.O. Box 5030
Newport News, VA 23605

Spring Green Lawn Care Corp.
11927 Spaulding School Drive
Plainfield, IL 60544

Spring Valley Turf Products
1891 Spring Valley Road
Jackson, WI 53037

Standard Tar Products Co., Inc.
2456 West Cornell Street
Milwaukee, WI 53209

Stauffer Chemical Co.
Nyala Farms Road
Westport, CT 06881

Strong Enterprises
4240 S.W. 72nd Ave.
Miami, FL 33155

Tanaka USA
22121 Crystal Creek Blvd. SE
Bothell, WA 98021

Tecumseh Products Company
900 North St.
Grafton, WI 53024

Teledyne Total Power
P.O. Box 18160
Memphis, TN 38181

Terracare Products Co., Inc.
Hwy 22 & 33, P.O. Box 506
Pardeeville, WI 53954

The Toro Company
5825 Jasmine St.
Riverside, CA 91786

The Toro Company
Commercial Products Division
8111 Lyndale Ave., S.
Bloomington, MN 55420

Traveling Blender
24450 Glenbrook
Euclid, OH 44117

Tuflex Mfg. Co.
1406 SW 8 St.
Pompano Beach, FL 33060

Turfco Mfg. Inc.
3456 N. Washington Ave.
Minneapolis, MN 55412

Turf-Seed, Inc.
P.O. Box 250—77 G St.
Hubbard, OR 97032

Tyler Enterprises, Inc.
Rt. 53 South
Elwood, IL 60421

UAP Special Products, Inc.
P.O. Box 37800
Omaha, NE 68137

Union Carbide Agricultural
Products Co.
T.W. Alexander Dr.
Research Triangle Park, NC 27709

Velotta Uniform Sales, Inc.
3587 Lee Road
Shaker Heights, OH 44120

Walker Manufacturing Co.
1839 East Harmony Road
Fort Collins, CO 80525

Warren's Turf Nursery, Inc.
7502 S. Main
Crystal Lake, IL 60014

Westheffer Company, Inc.
P.O. Box 363, 1235 N. 3rd
Lawrence, KS 66044

Yazoo Manufacturing Co., Inc.
3650 Bay St., P.O. Box 4449
Jackson, MS 39212

EQUIPMENT

Aerators

Cannon Turf Supply, Inc. (rental)
Classen Manufacturing
Earl J. Crane Inc. & Associates
Cushman-Ryan
Dedoes Industries, Inc.
Deere & Company
Feldman Engineering & Mfg. Co., Inc.
Hahn, Inc.
Ingram Kut-Mor Company
Jacobsen Division of Textron, Inc.
F.D. Kees Mfg. Company
Lawn Masters, Inc.
Lesco, Inc.
Olathe Mfg., Inc.
Roseman Mower Corporation
Salsco, Inc.
Sensation—Division of Gilson
Solo, Inc.

Spring Valley Turf Products
Terracare Products Co., Inc.
The Toro Co. Commercial Products
Division
Turfco Mfg.
Westheffer Co., Inc.

Blowers

Billy Goat Industries

Dethatchers

Bluebird International, Inc.
Bunton Company
Classen Manufacturing
Earl J. Crane Inc. & Assoc.
Cushman-Ryan
Deere & Company
Gravelly International, Inc.
Hahn, Inc.
F.D. Kees Mfg. Company
Olathe Mfg. Inc.
Sensation—Division of
Gilson
Snapper Power Equipment
Solo, Inc.
The Toro Co., Commercial
Products Div.
Turfco Mfg.

Drainage

Warren's Turf Nursery, Inc.

Edgers

Bunton Company
Earl J. Crane Inc. & Assoc.
Deere & Co.
The Green Machine
Jacobsen Division of
Textron, Inc.
Oly-Ola Sales, Inc.
Smithco, Inc.
Snapper Power Equipment
Tanaka, USA
The Toro Co., Commercial
Products Div.
Turfco Mfg.

Edging

Lesco, Inc. (Blades)

Engines

Briggs & Stratton
Bunton Company
Earl J. Crane Inc. & Assoc.
Denver Leasing and Mfg.
Graham Lawn Equipment,
Inc.
Kohler Company
Kubota Tractor Corp.
Ohio Oil Equipment Co.
Solo, Inc.
Tecumseh Products Co.
Teledyne Total Power
Tuflex Mfg. Co.
Westheffer Co., Inc.

Flow Meters

Cannon Turf Supply, Inc.
Denver Leasing & Mfg.
Green Pro Services
Hypro Division, Lear
Siegler, Inc.
Lesco, Inc.
Micro-Trak Systems
NA-CHURS Plant Food Co.
Ohio Oil Equipment Co.
Precision Tank & Equipment
Professional Turf Mfg., Inc.,
USA
Regal Chemical Co.
Spring Valley Turf Products
Strong Enterprises
Tuflex Mfg. Co.
Westheffer Co., Inc.

Hose & Reels

Aero-Motive
Argotec, Inc.
The Broyhill Co.
Cannon Turf & Supply, Inc.
Deere & Company
Denver Leasing and Mfg.
FMC Corp.
Graham Lawn Equipment,
Inc.

Green Pro Services
Clifford B. Hannay & Son,
Inc. (reels)
Lesco, Inc.
NA-CHURS Plant Food Co.
Ohio Oil Equipment Co.
Plant Food Chemical Co.,
Inc.
Precision Tank & Equipment
Professional Turf Mfg., USA
Regal Chemical Co.
Smithco, Inc.
Spring Valley Turf Products
Strong Enterprises
The Toro Co., Commercial
Products Div.
Tuflex Mfg. Co.
Westheffer Co., Inc.

Irrigation Systems and Supplies

Aero-Motive
Buckner
Earl J. Crane Inc. & Assoc.
Lesco, Inc.
The Toro Company
The Toro Co., Commercial
Products Div.

Measuring Wheels

Cannon Turf Supply, Inc.
Earl J. Crane Inc. & Assoc.
Denver Leasing and Mfg.
GNC Pump, Inc.
Graham Lawn Equipment,
Inc.
Green Pro Services
Lesco, Inc.
Ohio Oil Equipment Co.
Professional Turf Mfg., USA
Regal Chemical Co.
Spring Valley Turf Products
Tuflex Mfg. Co.
Westheffer Co., Inc.

Mist Blowers

Solo, Inc.

Mowers, Riding

Bolens Corporation
Brouwer Turf Equipment
Earl J. Crane Inc. & Assoc.
Cushman-Ryan
Deere & Company
Deutz-Allis
Excel Industries
Ford Tractor Operations
The Grasshopper Co.
Heckendorn Mfg. Co., Inc.
Ingram Kut-Mor Co.
Jacobsen Division of
Textron, Inc.
F.D. Kees Mfg. Co.
Kubota Tractor Corp.
Lesco, Inc.
Locke Mfg.
National Mower
Roseman Mower Corp.
Scag Power Equipment, Inc.
Sensation—Division of
Gilson
Smithco, Inc.
Snapper Power Equipment
The Toro Co., Commercial
Products Div.
Walker Mfg. Co.
Yazoo Mfg. Co., Inc.

Mowers, Walk-behind

Bolens Corporation
Bunton Company
Earl J. Crane Inc. & Assoc.
Deere & Company
Deutz-Allis
Ford Tractor Operations
Jacobsen Division of
Textron, Inc.
F.D. Kees Mfg. Co.
Locke Mfg.
National Mower
Scag Power Equipment, Inc.
Sensation—Division of
Gilson
Snapper Power Equipment
Solo, Inc.
The Toro Co., Commercial

Products Division
Yazoo Mfg. Co., Inc.

Pruners

Earl J. Crane Inc. & Assoc.
The Green Machine
Lesco, Inc.
Pennington Seed Inc. of
Madison

Pumps

Agrotec, Inc.
The Broyhill Co.
Cannon Turf Supply, Inc.
Earl J. Crane Inc. & Assoc.
Deere & Company
Denver Leasing & Mfg.
Encap Products Co.
GNC Pump
Graham Lawn Equipment,
Inc.
Green Pro Services
Kubota Tractor Corp.
Hypro Division, Lear
Siegler, Inc.
Lesco, Inc.
Minnesota Wanner Co.
NA-CHURS Plant Food Co.,
Inc.
Ohio Oil Equipment Co.
Plant Food Chemical Co.,
Inc.
Precision Tank & Equipment
Professional Turf Mfg. USA
Regal Chemical Co.
Shindaiwa, Inc.
Smithco, Inc.
Spring Valley Turf Products
Strong Enterprises
Tanaka USA
Tuflex Mfg. Co.
Westheffer Co., Inc.

Ramps

Classen Mfg.
Denver Leasing & Mfg.
Melcher Mfg. Co.
Salsco, Inc.
Spring Valley Turf Products

Seeders

Brouwer Turf Equipment
Cannon Turf Supply, Inc.
(rental)
Earl J. Crane Inc. & Assoc.
Cushman-Ryan
Earthway Products, Inc.
Jacobsen Division of
Textron, Inc.
Olathe Mfg., Inc.
Pennington Seed Inc. of
Madison
Salsco, Inc.
Traveling Blender

Soil Samplers

Denver Leasing & Mfg.
Graham Lawn Equipment,
Inc.
Green Pro Services
Lesco, Inc.
NA-CHURS Plant Food Co.
Pennington Seed Inc. of
Madison
Regal Chemical Co.
Spring Valley Turf Products
Vogel's Seed & Fertilizer
Westheffer Co., Inc.

Spray Trucks

Agrotec, Inc.
Cannon Turf Supply, Inc.
Cushman-Ryan
Denver Leasing and Mfg.
FMC Corp.
Graham Lawn Equipment,
Inc.
Green Pro Services
Hahn, Inc.
Minnesota Wanner Co.
Perma Green Supreme
Precision Tank and
Equipment
Professional Turf Mfg., Inc.,
USA
Smithco, Inc.
Strong Enterprises
Tuflex Mfg. Co.
Westheffer Co., Inc.

Sprayers

Agrotec, Inc.
The Broyhill Co.
Cannon Turf Supply, Inc.
Earl J. Crane Inc. & Assoc.
Cushman-Ryan
D.B. Smith & Co., Inc.
Deere & Company
Denver Leasing and Mfg.
Encap Products Co.
FMC Corp.
Graham Lawn Equipment, Inc.
The Green Machine
Green Pro Services
Green Touch Sprayers
Hahn, Inc.
Ingram Kut-Mor Co.
Jonathan Green, Inc.
Lesco, Inc.
Master Mfg. Co.
Minnesota Wanner Co.
Ohio Oil Equipment Co.
Pennington Seed Inc. of Madison
Perma Green Supreme

Plant Food Chemical Co., Inc.
Precision Tank & Equipment
Professional Turf Mfg., Inc., USA
Regal Chemical Co.
Smithco, Inc.
Solo, Inc.
Spring Valley Turf Products
Strong Enterprises
Tuflex Mfg. Co.
Vogel's Seed & Fertilizer
Warren's Turf Nursery, Inc.
Westheffer Co., Inc.

Spray Guns

Agrotec, Inc.
The Broyhill Co.
Cannon Turf Supply, Inc.
Earl J. Crane Inc. & Assoc.
Denver Leasing & Mfg.
Encap Products Co.
FMC Corp.
GNC Pump, Inc.
Graham Lawn Equipment, Inc.
Green Pro Services

Hypro Division, Lear Siegler
Lesco, Inc.
Ohio Oil Equipment Co.
Pennington Seed Inc. of Madison
Perma Green Supreme
Plant Food Chemical Co., Inc.
Professional Turf Mfg., Inc., USA
Regal Chemical Co.
Smithco, Inc.
Strong Enterprises
Spring Valley Turf Products
Tuflex Mfg. Co.
Vogel's Seed & Fertilizer
Westheffer Co., Inc.

Spreaders

Cannon Turf Supply, Inc.
Earl J. Crane Inc. & Assoc.
Cushman-Ryan
Deere & Company
Denver Leasing & Mfg.
Earthway Products, Inc.

Encap Products Co.
Hahn, Inc.
Jonathan Green, Inc.
Lesco, Inc.
Olathe Mfg., Inc.
Pennington Seed Inc. of Madison
PSB Company
Regal Chemical Co.
O.M. Scott & Sons
Spring Valley Turf Products
Traveling Blender
Vogel's Seed & Fertilizer
Warren's Turf Nursery, Inc.
Westheffer Co., Inc.

Tanks

Agrotec, Inc.
The Broyhill Co.
Denver Leasing and Mfg.
FMC Corp.
Graham Lawn Equipment, Inc.
Green Pro Services
Lesco, Inc.

Minnesota Wanner Co.
Modern Welding Co., Inc.
NA-CHURS Plant Food Co.
Ohio Oil Equipment Co.
Pennington Seed Inc. of Madison
Perma Green Supreme
Plant Food Chemical Co., Inc.
Precision Tank and Equipment
Professional Turf Mfg., Inc., USA
Smithco, Inc.
Spring Valley Turf Products
Strong Enterprises
Tuflex Mfg. Co.
Vogel's Seed & Fertilizer
Westheffer Co., Inc.

Tool Boxes

Modern Welding Co., Inc.

Tractors & Attachments

Bunton Company
Case IH
Earl J. Crane Inc. & Assoc.
Deere & Company
Deutz-Allis
Ford Tractor Operations
Gravelly International, Inc.
Hahn, Inc.
Jacobsen Division of Textron, Inc.
Kubota Tractor Corp.
Sensation—Division of Gilson
Snapper Power Equipment
Yazoo Mfg. Co., Inc.

Trailers

The Broyhill Co.
Earl J. Crane Inc. & Assoc.
Deere & Company
Ingram Kut-Mor Cor.
Lesco, Inc.
Olathe Mfg., Inc.
Smithco, Inc.
Westheffer Co., Inc.
Yazoo Mfg. Co., Inc.

Tree Feeding Needles

The Doggett Corp.

Trimmers

Bunton Company
Earl J. Crane Inc. & Assoc.
Deere & Company
The Green Machine
Jacobsen Division of Textron, Inc.
Lesco, Inc.
Shindaiwa, Inc.
Snapper Power Equipment
Tanaka USA
The Toro Co., Commercial Products Div.
Yazoo Mfg. Co., Inc.

Utility Trailers

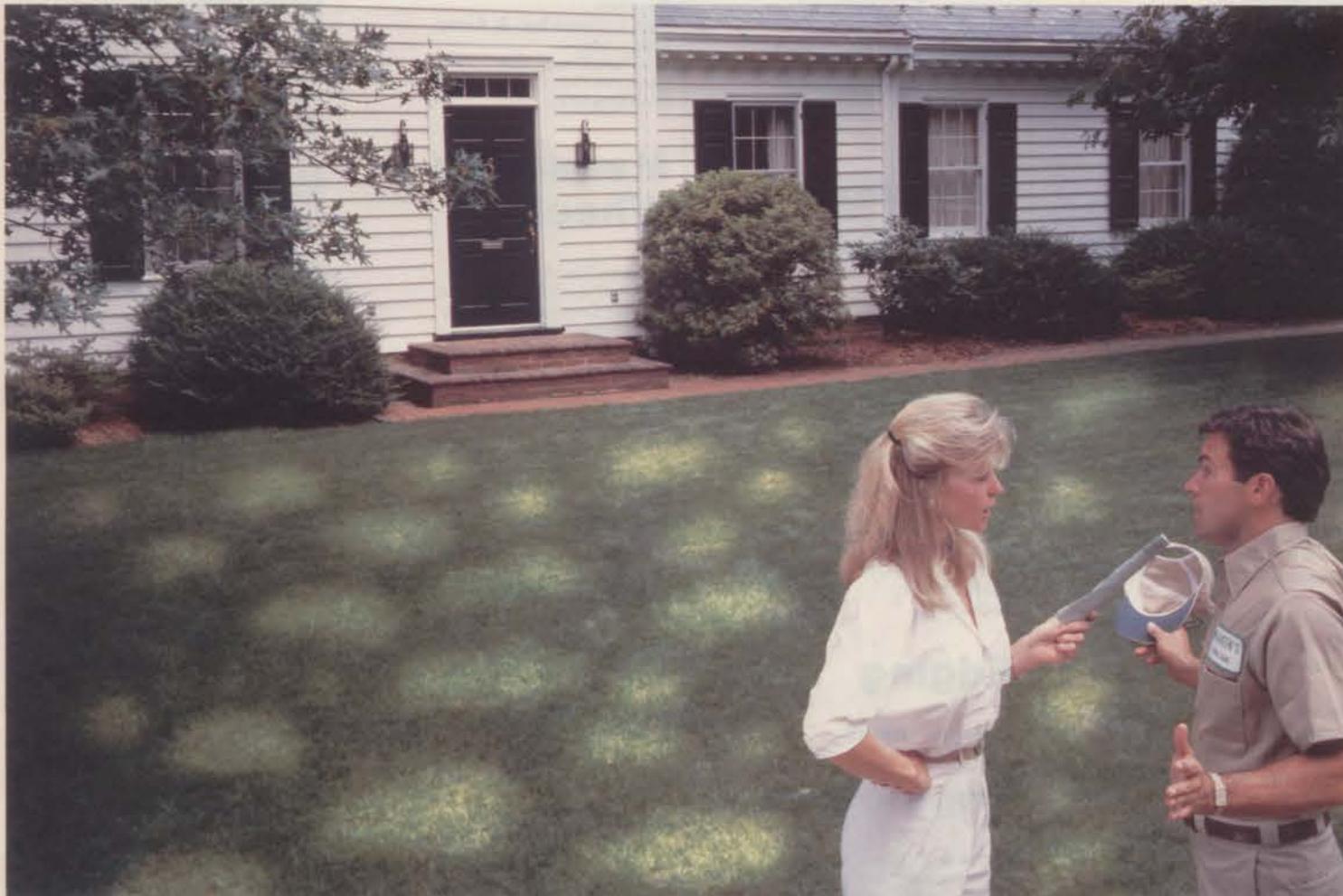
Ravens Metal Products

Vacuums

Billy Goat Industries

Verticutters

BlueBird International, Inc.
Brouwer Turf Equipment
Earl J. Crane Inc. & Assoc.
Cushman-Ryan
Hahn, Inc.
Jacobsen Division of Textron, Inc.
F.D. Kees Mfg. Co.
Olathe Mfg., Inc.
Turico Mfg.



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Lebanon
TOTAL TURF CARE
A division of Lebanon Chemical Corporation
P.O. Box 180 • Lebanon, PA 17042

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CHEMICALS

Colorants

Cannon Turf Supply, Inc.
Jonathan Green, Inc.
Lebanon Total Turf Care
Lesco, Inc.
Mallinckrodt
Milliken Chemical (Blazon)
Precision Labs, Inc.
Pro-Lawn Products, Inc.
Regal Chemical Co.

De-Icers

Great Salt Lake Minerals &
Chemicals
Howards Johnson's
Lebanon Total Turf Care
Regal Chemical Co.
Standard Tar Products Co.,
Inc.
Tyler Enterprises, Inc.

Fertilizer- Tree

Agro-Chem, Inc.
The Doggett Co.
Hawkeye Chemical Co.
J.J. Manget Co.

Fertilizer-Turf

Agro-Chem, Inc.
The Andersons
Arcadian Corporation
Cannon Turf Supply, Inc.
W.A. Cleary Corp.
The Doggett Corp.
Estech Branded Fertilizers,
Inc.
Garfield-Williamson, Inc.
Great Salt Lake Minerals
and Chemicals
Green Pro Services
Growth Products
Hawkeye Chemical Co.
Howard Johnson's
Jonathan Green, Inc.
La Roche Industries
Lebanon Total Turf Care
Lesco, Inc.
Lofts Seed, Inc.
Milwaukee Metro Sewage
Dist. (organic)
Moyer & Son
NA-CHURS Plant Food Co.
Nice 'N Green Plant Foods,
Inc.
NOR-AM Chemical Co.
Pennington Seed Inc. of
Madison
Plant Food Chemical Co.,
Inc.
Plant Marvel Laboratories,
Inc.
Pro-Lawn Products, Inc.
Regal Chemical Co.
Rhone Poulenc, Inc., Chipco
Group
Ringer Corp. (bio-organic)
O.M. Scott & Sons
Spring Valley Turf Products
UAP Special Products, Inc.
Vogel's Seed & Fertilizer
Warren's Turf, Inc.
Warren's Turf Nursery, Inc.

Fungicides- Trees

Cannon Turf Supply, Inc.
Chevron Chemical Co.
Ciba-Geigy
Drexel Chemical Co.
E.I. DuPont, Ag. Products
Dept.
Fermenta Plant Protection
Co.
Green Pro Services
Jonathan Green, Inc.
Lebanon Total Turf Care
Mallinckrodt
Mobay Corp.
NO-AM Chemical Co.
Pennington Seed Inc. of
Madison
Pro-Lawn Products, Inc.
Regal Chemical Co.
Rhone Poulenc Inc., Chipco
Group
Spring Valley Turf Products

Standard Tar Products Co.,
Inc.
Tyler Enterprises, Inc.
Vogel's Seed & Fertilizer

Fungicides- Turf

The Andersons
Cannon Turf Supply, Inc.
Chevron Chemical Co.
Ciba-Geigy
W.A. Cleary Corp.
Drexel Chemical Co.
E.I. DuPont, Ag Products
Dept.
Elanco Products Co.
Fermenta Plant Protection
Co.
Green Pro Services
Howard Johnson's
Jonathan Green, Inc.
Kincaid Enterprises, Inc.
Lebanon Total Turf Care
Lesco, Inc.

Lofts Seed, Inc.
Mallinckrodt
Mobay Corp.
NO-AM Chemical Co.
Pennington Seed Inc. of
Madison
PBI/Gordon Corp.
Pro-Lawn Products, Inc.
Regal Chemical Co.
Rhone Poulenc Inc., Chipco
Group
Ringer Corp. (bio-organic)
O.M. Scott & Sons
Spring Valley Turf Products
Stauffer Chemical Co.
Tyler Enterprises, Inc.
UAP Special Products, Inc.
Vogel's Seed & Fertilizer

Growth Regulators

Cannon Turf Supply, Inc.
Chevron Chemical Co.
Drexel Chemical Co.
Elanco Products Co.
Jonathan Green, Inc.

Lebanon Total Turf Care
Lesco, Inc.
Monsanto Co.
Pennington Seed Inc. of
Madison
PBI/Gordon Corp.
Pro-Lawn Products, Inc.
O.M. Scott & Sons
Spring Valley Turf Products
Tyler Enterprises, Inc.
UAP Special Products, Inc.
Union Carbide, Ag. Products
Co., Inc.
Vogel's Seed & Fertilizer

Herbicides, Non-selective

Cannon Turf Supply, Inc.
Chevron Chemical Co.
Ciba-Geigy
Elanco Products Co.
Green Pro Services
Jonathan Green, Inc.
La Roche Industries
Lebanon Total Turf Care
Lesco, Inc.

Lofts Seed, Inc.
Monsanto Company
Pennington Seed Inc. of
Madison
Plant Food Chemical Co.,
Inc.
Prentiss Drug & Chemical
Co., Inc.
Pro-Lawn Products, Inc.
Regal Chemical Co.
Rhone Poulenc Inc., Chipco
Group
Riverdale Chemical Co.
Spring Valley Turf Products
Tyler Enterprises, Inc.
UAP Special Products, Inc.
Vogel's Seed & Fertilizer

Herbicides, Post- emergent, selective

PROVEN IN '86!

The most effective spurge and oxalis control is also the most effective crabgrass and foxtail control.



Active Ingredient: Pendimethalin

LESCO PRE-M™ 60DG Herbicide captured a major share of the liquid turfgrass preemergent market its first year. The reason why is simple. The sprayable pendimethalin herbicide gives the lawn care operator everything he wants... and more.

More than just control of crabgrass and foxtail and other weedy grasses...it also takes care of tough broadleaves like germinating oxalis and spurge. Broader spectrum control means satisfied customers — fewer callbacks.

And control isn't the only thing PRE-M has to offer...there's also the convenience. The

economical, easy-to-use water dispersible granule formulation also means less bulk. At 2.5 pounds of PRE-M per acre, a 900-pound pallet of material treats 360 acres. Registered for use on the majority of northern and southern turfgrasses, LESCO PRE-M is spray tank compatible with most fertilizers and pesticides.

There's no reason to settle for just crabgrass control when LESCO PRE-M 60DG Herbicide offers so much more. Book your spring order today!

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NATIONWIDE

(800) 362-7413
IN OHIO

LESCO

LESCO, Inc., 20005 Lake Road, Rocky River, Ohio 44116 (216) 333-9250
Circle No. 119 on Reader Inquiry Card

The Andersons
BSAF Corporation
American Cyanamid
Cannon Turf Supply, Inc.
Chevron Chemical Co.
Dow Chemical USA
Drexel Chemical Co.
E.I. DuPont, Ag. Products Dept.
Fermenta Plant Protection Co.
Green Pro Services
Hoechst-Roussel Agri-Vet Co.
Howard Johnson's
Jonathan Green, Inc.
La Roche Industries
Lebanon Total Turf Care
Lesco, Inc.
Lofts Seed, Inc.
Mallinckrodt
Mobay Corp.
NO-AM Chemical Co.
Pennington Seed Inc. of Madison
Plant Food Chemical Co., Inc.
Prentiss Drug & Chemical Co., Inc.
Pro-Lawn Products, Inc.
Regal Chemical Co.
Rhone Poulenc Inc., Chipco Group
Riverdale Chemical Co.
O.M. Scott & Sons
Spring Valley Turf Products
Tyler Enterprises, Inc.
UAP Special Products, Inc.
Union Carbide Ag. Products Co., Inc.
Vogel's Seed & Fertilizer

Herbicides, Pre-emergent

American Cyanamid
The Andersons
Cannon Turf Supply, Inc.
Chevron Chemical Co.
Ciba-Geigy
Drexel Chemical Co.
E.I. DuPont, Ag. Products Dept.
Elanco Products Co.
Fermenta Plant Protection Co.
Green Pro Services
Howard Johnson's
Jonathan Green, Inc.
La Roche Industries
Lebanon Total Turf Care
Lesco, Inc.
Lofts Seeds, Inc.
Mallinckrodt
Mobay Corp.
NOR-AM Chemical Co.
Pennington Seed Inc. of Madison
Plant Food Chemical Co., Inc.
Pro-Lawn Products, Inc.
Regal Chemical Co.
Rhone Poulenc Inc., Chipco Group
O.M. Scott & Sons
Spring Valley Turf Products
Stauffer Chemical Co.
Tyler Enterprises, Inc.
Vogel's Seed & Fertilizer

Insecticides, Tree

Cannon Turf Supply, Inc.
Chevron Chemical Co.
Ciba-Geigy
Dow Chemical, USA
Drexel Chemical Co.
Green Pro Services
Jonathan Green, Inc.
Kincaid Enterprises, Inc.
Lebanon Total Turf Care
Mallinckrodt
Mobay Corp.
NO-AM Chemical Co.
Pennington Seed Inc. of Madison
Prentiss Drug & Chemical Co., Inc.
Pro-Lawn Products, Inc.
Regal Chemical Co.
Spring Valley Turf Products
Stauffer Chemical Co.
Tyler Enterprises, Inc.
UAP Special Products, Inc.
Union Carbide Ag. Products Co., Inc.
Vogel's Seed & Fertilizer

Insecticides, Turf

The Andersons
Cannon Turf Supply Co.
Chevron Chemical Co.
Ciba-Geigy
Dow Chemical USA
Drexel Chemical Co.
Green Pro Services
Howard Johnson's
La Roche Industries
Lebanon Total Turf Care
Lesco, Inc.
Lofts Seeds, Inc.
Mallinckrodt
Mobay Corp.
NOR-AM Chemical Co.
Pennington Seed Inc. of Madison
Plant Food Chemical Co., Inc.
Prentiss Drug & Chemical Co., Inc.
Pro-Lawn Products, Inc.
Regal Chemical Co.
Rhone Poulenc Inc., Chipco Group
O.M. Scott & Sons
Spring Valley Turf Products
Stauffer Chemical Co.

Tyler Enterprises, Inc.
UAP Special Products, Inc.
Union Carbide Ag. Products Co., Inc.
Vogel's Seed & Fertilizer

Iron

Cannon Turf Supply, Inc.
Ciba-Geigy
W.A. Cleary Corp.
Garfield-Williamson, Inc.
Green Pro Services
Howard Johnson's (w/ turf fertilizer)
Jonathan Green, Inc.
Lebanon Total Turf Care
Lesco, Inc.
Mallinckrodt
NA-CHURS Plant Food Co.
PBI/Gordon Corp.
Pennington Seed Inc. of Madison
Plant Food Co., Inc.
Precision Labs, Inc.
Pro-Lawn Products, Inc.

Regal Chemical Co.
R.G.B. Laboratories, Inc.
Rhone Poulenc Inc., Chipco Group
O.M. Scott & Sons
Spring Valley Turf Products
Tyler Enterprises, Inc.
UAP Special Products, Inc.
Vogel's Seed & Fertilizer

Maintenance Chemicals

Precision Labs, Inc.

Organic Turf Chemicals

Agro-Chem, Inc.
Cannon Turf Supply, Inc.
Garfield-Williamson, Inc.

Green Pro Services
Jonathan Green, Inc.
Lebanon Total Turf Care
Pennington Seed Inc. of Madison
PBI/Gordon Corp.
Plant Food Chemical Co., Inc.
Regal Chemical Co.
Ringer Corporation
Spring Valley Turf Products
Vogel's Seed & Fertilizer

Soil Amendments

Agro-Chem, Inc.
American Pelletizing
Garfield-Williamson, Inc.
Great Salt Lake Minerals and Chemicals
Green Pro Services
Int'l Minerals & Chemical Corp.
Jonathan Green, Inc.



NO CRABGRASS. NO KIDDING.

This coming season Fermenta Plant Protection is going to make sure you beat crabgrass.

And here's how. We will guarantee the performance of Dacthal W-75 and Dacthal Flowable Herbicide for full-season preemergence control of crabgrass in turf. This guarantee applies to the geographical areas indicated on the map.

The guarantee: In the event that crabgrass problems do develop, you will be provided Daconate® 6 postemergence herbicide FREE OF CHARGE to control escaped crabgrass.

All you have to do as a lawn care professional is apply Dacthal properly.

If you are located in the brown area on the map, north of I-80 (excluding Nebraska and Iowa), make

one full application of Dacthal at 10.5 lbs. a.i./A in the spring prior to weed seed germination.

South of I-80 and the entire states of Nebraska and Iowa (blue area), Dacthal must be applied on



■ 1 Full Application ■ Split Applications

Lebanon Total Turf Care
Pennington Seed Inc.
of Madison
Plant Food Chemical Co.,
Inc.
Pro-Lawn Products, Inc.
Regal Chemical Co.
Spring Valley Turf Products
UAP Special Products, Inc.

Soil Conditioners

Agro-Chem, Inc.
Cannon Turf Supply, Inc.
Garfield-Williamson, Inc.
Great Salt Lake Minerals &
Chemicals
Green Pro Services
Jonathan Green, Inc.
Lebanon Total Turf Care
Lesco, Inc.
Pennington Seed Inc.
of Madison
Plant Food Chemical Co.,

Inc.
Precision Labs, Inc.
Prentiss Drug & Chemical
Co., Inc.
Pro-Lawn Products, Inc.
Regal Chemical Co.
Spring Valley Turf Products
Tyler Enterprises, Inc.
UAP Special Products, Inc.
Vogel's Seed & Fertilizer

Wetting Agents

Cannon Turf Supply, Inc.
Drexel Chemical Co.
E.I. DuPont, Ag. Products
Dept.
Green Pro Services
Jonathon Green, Inc.
Lebanon Total Turf Care
Lesco, Inc.
Mallinckrodt
Plant Food Chemical Co.,
Inc.

Precision Labs, Inc.
Pro-Lawn Products, Inc.
Regal Chemical Co.
Spring Valley Turf Products
Tyler Enterprises, Inc.
UAP Special Products, Inc.
Vogel's Seed & Fertilizer

GRASS SEED

Adelphi Kentucky Bluegrass
E.F. Burlingham & Sons
Cannon Turf Supply, Inc.
Garfield-Williamson, Inc.
Howard Johnson's
Enterprises, Inc.
International Seeds, Inc.
Jacklin Seed Company
Jonathan Green, Inc.
Lesco, Inc.
Lofts Seed, Inc.
Northrup King Co.
Oregon Ryegrass
Commission
Pennington Seed Inc.
of Madison
Pickseed West, Inc.

Plant Food Chemical Co.,
Inc.
Pro-Lawn Products, Inc.
Regal Chemical Co.
Ringer Corporation
O.M. Scott & Sons
Seed Research of Oregon
Turf-Seed, Inc.
Tyler Enterprises, Inc.
Warren's Turf, Inc.
Warren's Turf Nursery, Inc.

SUPPLIES

Brochures

Green Pro Services
Lesco, Inc.
Perfco Printing Co.
Spring Valley Turf Products

Decals

Kinduell Screen Products,
Inc.
Lesco, Inc.
Pennington Seed Inc. of
Madison

Spreader Covers

Jonathan Green, Inc.
Lawn Tech
Lesco, Inc.

Software, Computer

Distribution Mgmt. Systems,
Inc.
Emerald Green
Practical Solutions, Inc.
Rainbow Systems, Inc.

Uniforms

Oshkosh Uniforms
Velotta Uniform Sales, Inc.

SERVICES

Franchise Opportunities

Lawn Doctor, Inc.
Servicemaster Lawncare
Spring Green Lawn Care
Corp.

Replacement Parts & Accessories

Power Lawnmower Parts,
Inc.

Soil & Tissue Labs for Nutrient Analysis

NA-CHURS Plant Food Co.

Soil Testing Products

Engineered Systems &
Designs LCI

Precision will buy assets of Great Northern

VIRGINIA, ILL.— Precision Tank & Equipment of Virginia, IL will purchase the equipment operations of Great Northern Equipment Co., Springfield, IL.

Precision plans to manufacture and service the complete line of Great Northern Equipment, said Vern Ames, president of Precision. The acquired operations were to be moved to Precision's facility in Athens, IL.

Precision will maintain six of Great Northern's key personnel, including Don Wallner and Floyd Pettit. LCI

ONLY DACTHAL GUARANTEES IT.

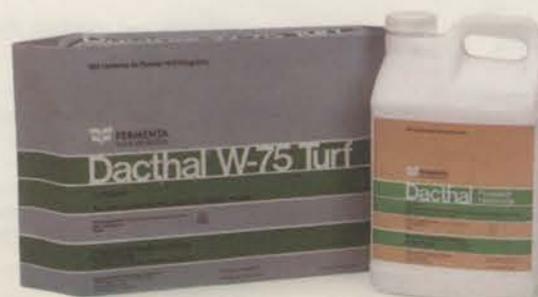
a split application program. Make the first Dacthal application at 10.5 lbs. a.i./A in the spring prior to weed seed germination. Make the second Dacthal application at 5¼ lbs. a.i./A, 45 to 60 days later.

Naturally, applications must be made by professional applicators.

So this season, don't kid around with crabgrass. Make your preemergence herbicide Dacthal W-75 or Dacthal Flowable and get guaranteed crabgrass control.

For more information about the Dacthal Crabgrass Guarantee, contact your Dacthal Sales Representative or the Dacthal Distributor nearest you.

Fermenta Plant Protection Company,
7528 Auburn Road, P.O. Box 348, Painesville,
Ohio 44077.



Always follow label directions carefully when using turf chemicals.

Circle No. 106 on Reader Inquiry Card

Pricing lawn care should be a scientific process

PAST PERFORMANCE, ECONOMIC VARIABLES AND FIXED COSTS ARE CRUCIAL KEYS

Pricing in the green industries historically has been a result of checking what the competitors are charging and pricing according to the current market practices. In many cases, the industry leader's prices in a given market are the ones which are used by other companies as a sounding board.

If you have been setting your prices in this manner, the resulting profitability will be very unpredictable.

Now is the time to consider the method of pricing to use in making your business more profitable in 1987, or to make sure that you maintain your profitability level of 1986. We will look at two different methods to determine price.

Method 1—historical performance

First, look at the financial performance of your company for 1985 and 1986. Using the net revenue for each year for

your chemical lawn care sales, calculate the percentage of chemical costs that were incurred for the year against the revenue. Do this for the past two years. (Estimate the current year if necessary.)

Step 1. Calculate the following for 1985 and 1986: Chemical costs divided by net lawn care revenue. This gives the percentage chemical costs are of sales.

For example, \$160,688 in chemical costs divided by

\$832,582 net lawn care revenue makes chemical costs 19.3 percent of revenue.

Step 2. Calculate the average revenue per account received during the course of the year. Divide net lawn care revenue by the total number of customers. This gives you the average revenue per customer.

For example, revenue of \$832,582 divided by 4,382 customers gives you \$190 revenue per customer.

Step 3. Determine the

total chemical component costs that were incurred during 1986. This should be expressed in cost per thousand square feet. Let's assume this to be \$6.50.

Step 4. Now estimate the total chemical costs that you expect to incur in 1987. This should also be expressed in cost per thousand square feet. Let's assume this to be \$7.15.

Step 5. Estimate the chemical cost percentage increase that you expect to incur in 1987. If you divide the cost per thousand square feet you expect to incur in 1987 by the cost incurred in 1986, you can determine the percentage increase.

Dividing the anticipated 1987 cost (\$7.15) by the 1986 cost (\$6.50), you get 1.092. Now subtract 1.00, and you get the percentage increase—9.2 percent.

Step 6. Calculate the price increase necessary to recover only the cost of chemicals in 1987.

If revenue per customer is \$190 and chemical cost is 19.3 percent, the chemical cost in dollars is \$36.67. The anticipated chemical increase is 9.2 percent, meaning the chemical cost increase would be \$3.37 (36.67 times 9.2 percent) per customer. The total new chemical cost would be \$40.04.

A price increase to recover only the increased cost of chemicals would be \$3.37 for a customer with an average revenue of \$190.

Step 7. Calculate the increase if the cost of chemicals was to remain constant with 1986 levels.

Chemical costs in 1986 are \$36.67 and revenue per customer is \$190. Chemical costs will increase 9.2 percent to \$40.04 in 1987. Since they are 19.3 percent of the revenue, the new revenue per customer becomes \$208.74.

Thus, you need to raise customer prices 9.8 percent (208.74 divided by 190.00 minus 1.00) if you expect to maintain the same chemical cost percentage in 1987 that you had in 1986.

Method 2—Weighted variable and fixed cost method

Step 1. Identify the variable and fixed costs estimated to be incurred for 1986 or your current fiscal year.

They might be: revenue—\$832,582 (100 percent); variable—\$441,268 (53 percent); fixed costs—\$308,056 (27 percent); profit—\$83,248 (10 percent).

Step 2. Compare the new cost estimates for 1987 for each component cost in the variable and fixed costs categories. It is fair to assume that the variable expenses will in-

BEFORE WE DEVELOPED THESE PROBLEM-SOLVING TURFGRASS MIXTURES, WE MARCHED THROUGH ACRES AND ACRES OF PROBLEMS.

Nobody knows the troubles we've seen.

Our Northrup King turf specialists and researchers have hoofed through salt problems, soil compaction, disease, starved turf, baked turf, cleated-to-shreds turf, and dormant winter turf—all depressing sights. But it was a road well worth our travels.

The result is a complete line of Medalist® turfgrass formulas that meet the demands of the professional turf manager.

If you've been staring down at a turf problem, look up your solution here. And if you think it's a turf problem we haven't seen, just let us know.

Our business is putting your problems behind us.



MEDALIST TURF PRODUCT	MAJOR AREAS OF USE	SPECIAL FEATURES
Athletic Pro and Athletic Pro II	For athletic turf.	Well suited for new seeding or overseeding. Fast establishing, traffic tolerant, rapid recovery. Both provide good footing.
Boulevard Mix	Any area with high pH (roadsides, sidewalks, boulevards, alkaline soils, etc.).	Contains 'Fults' and Dawson red fescue for beautiful salt-tolerant turf. Performs at low to high fertility levels.
Landscape Pro Mix	School grounds, cemeteries, golf course roughs, home lawns.	Establishes fast. Adapts to broad range of conditions and management levels. Low to moderate fertility needs.
Overseeder II Mix	Fairways, tees, athletic fields.	Rapid germination and establishment. Withstands heavy traffic and resists diseases. Penetrates compacted soils.
Medalist North Mix	Fairways, tees, cart paths, wear areas.	Quality turf for high traffic areas. Clean mowing and disease resistant.
Premium Sod Blend	Commercial sod production.	Exceptional dark green color. Tolerates light shade. Superior disease resistance. Rapid sod producer.
Renovator Pro Mix	Problem solver for heavy traffic areas (athletic fields, golf tees, and fairways).	Penetrates compacted soils and combats <i>Poa annua</i> . Adaptable to most geographic regions.
Medalist Brand Overseeding Products	Winter overseeding of dormant bermudagrass.	Establishes rapidly and evenly. Tolerates traffic while providing a superior putting surface. Smooth spring transition.

Ask your Northrup King distributor about Medalist Turf Products to solve your turf problems. Or write Northrup King Medalist Turf Products, P.O. Box 959, Minneapolis, MN 55440.



McGary

Wandtke

About the Authors

Rudd McGary and Ed Wandtke are senior consultants with All Green Management Associates, Inc., based in Columbus, OH.

crease each year at a rate faster than the fixed costs.

The following may be a typical result: old variable—\$441,268; new variable—\$482,155; old fixed costs—\$308,056; new fixed costs—\$331,873. These are determined by examining each account that comprises the variable and fixed costs for the operation.

Step 3. Assuming that you wish to maintain the same profit percentage in 1987 that was earned in 1986, the new revenue to be received for the delivery of the services in 1987 needs to be priced.

Add the new variable (\$482,155) to the new fixed costs (\$331,873) and divide this sum by the percentage of net revenue that is *not* profit, which in this case is 90 percent. This gives us a quotient of \$904,448.

Step 4. Knowing the absolute increase in variable and fixed costs for the following year, you will be able to calculate the increase needed to pass on to your customers in order to maintain a constant profit margin.

Calculate the increase percentage as follows: New net revenue (\$904,448) divided by old net revenue (\$832,582) and from this quotient (1.086) subtract 1.00. The difference is 8.6.

Based on an analysis of the variable and fixed costs for 1987, an 8.6 percent increase in prices for your customers is indicated if you intend to continue to maintain the profit level of the prior year.

Summary

Having the two described methods for your 1987 pricing, it is important to do a market evaluation of your price. The customers don't care a great deal about your profit margin, nor do your competitors.

Don't let simple calculation be the single guide in determining your price increases.

You should be aware of the variables that go into a professional pricing system. LCI

Locke is sold

BRIDGEPORT, CONN.—Locke Manufacturing, Inc., the Bridgeport, CT.-based manufacturer of professional lawn care equipment, has been sold to Thomas A. Hermann of Easton, CT. LCI

PLCAA, ALCA endorse Landscape Expo

NORWALK, CONN.—Three major trade associations have thrown their support behind the Landscape Exposition to be held March 3-5 at the O'Hare Exposition Center, Rosemont, IL.

They are: the Professional Lawn Care Association of America, the Associated Landscape Contractors of America and the Illinois Landscape Contractors Association.

The 1987 Expo was previously endorsed by the Professional Grounds Management Society. The three new en-

dorsements bring the expo's total professional endorsements to five.

"With the show so near at hand, ILCA members can take advantage of the great educational opportunities this show offers through exhibits, demonstrations and a comprehensive seminar program," said Lucille Little, executive director of ILCA.

The expo will feature more than 250 manufacturers of landscape equipment, chemicals, supplies and accessories. The conference program will cover more than 30 topics.

"The Landscape Exposition is an opportunity for professionals to get the information they need to stay competitive in today's market," said Terry Peters, executive director of ALCA, which has 1,000 members.

This is the second consecutive year ALCA has endorsed the expo. "We think the Landscape Exposition is an excellent forum where landscape professionals can see new equipment, participate in extensive management and technical sessions and meet colleagues," he said.

PLCAA also endorsed the exposition last year, noted Doug Moody, PLCAA assistant executive director. PLCAA has 775 lawn care member firms and 65 associate firms that manufacture and supply lawn care products.

The expo is sponsored by WEEDS, TREES & TURF and LAWN CARE INDUSTRY magazines, and is produced by HBJ Expositions and Conferences. For information, contact Dawn Pratt at 50 Washington St., P.O. Box 5555, Norwalk, CT 06854. LCI

From the Source.

The advertisement features a collection of lawn care products from UAP. In the background, there are several large bags: one labeled 'PENDIMETHALIN', another 'TURCAM 2.5G INSECTICIDE', and a third 'DACTHAL 75% WDG'. In the foreground, there are several smaller containers: a white jug labeled 'MEC AMINE-D', a blue jug labeled 'DIAZINON AG500', a white jug labeled 'DPD ESTER', a blue jug labeled 'IRON 18%', and a black jug labeled 'BETASAN 4-E'. At the bottom of the advertisement, the UAP logo is prominently displayed in a blue oval, followed by the slogan 'THE SOURCE' in large, bold, blue letters. Below the logo and slogan, there is a list of regional offices with their phone numbers.

Omaha, NE 800-228-0096	No. Kansas City, MO 816-842-8211	Cordell, OK 405-354-2001	Madison, WI 608-241-9479	Columbus, OH 614-274-9424	Greely, CO 303-351-7110	Frederick, MD 301-845-6817
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UAP THE SOURCE

Omaha, NE 800-228-0096 No. Kansas City, MO 816-842-8211 Cordell, OK 405-354-2001 Madison, WI 608-241-9479 Columbus, OH 614-274-9424 Greely, CO 303-351-7110 Frederick, MD 301-845-6817

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Circle No. 152 on Reader Inquiry Card

Consider the benefits brushcutters, trimmers offer

A GUIDE TO STANDARD SPECIFICATIONS FOR THE HEAVY AND LIGHT DUTY UNITS

By Ken Andersen

Lawnmowers are the staple piece of power equipment in keeping lawns sleek and manageable. But additional equipment, such as trimmers and brushcutters, shouldn't be overlooked.

Trimmers and brushcutters have the capabilities to cut grass, light and heavy weeds, brush, and saplings that border sidewalks, stepping stones, patios, etc.

When looking for a trimmer or brushcutter, certain specifications and features should be considered in addition to your individual needs.

Ease of starting and simplicity of operation and maneuverability are important. The grouping controls—the throttle and on/off switch—should be located together on the operation rod so that the trimmer is easy to start and control.

First-time buyers might

want to have a tap-and-feed trimmer head for additional ease of operation. The tap-and-feed head with an automatic cut-off knife allows the trimmer to operate at its most efficient RPM range by maintaining proper line length.

A manual head may overextend the line and labor the engine. This might result in the cutting head turning slower than designed, so the grass is torn rather than cut. And tearing of the grass causes it to

turn brown at the edges.

If users are familiar with a flex-shaft trimmer and manage areas larger than three-quarters of an acre, the most appropriate trimmer/brushcutter would be a straight-shaft unit that is equipped with a safety shoulder harness with a quick release.

This accessory protects the user in slippery environments, for example, and over long-term use.

Consider safety

The safety harness houses a pin that the user can pull for quick release that would allow the product to fall to the ground without falling on the user—if needed for immediate shut-down.

Most straight-shaft units have optional handlebars and are also blade capable. Blade safety is one of the most important aspects of which to take note when looking for a new trimmer/brushcutter.

Most quality blade capable trimmer/brushcutter manufacturers equip the units with a polycarbonate shield for monofilament trimming and a steel shield for steel blade usage, as well as the aforementioned safety harness.

Buyers should recognize that steel blades are not for all users. For many applications, attachment blades that are injection molded from high-impact plastics are recommended for the light-duty tasks.

These attachments allow for maximum cutting along cement, walkways, rocks and fences and they effectively remove grass, heavy weeds, undergrowth and light brush. These blades should not be used for cutting saplings; in this case, steel blades are recommended.

Heavy or light duty?

Heavy-duty units have somewhat different specifications than light-duty units. Durability, fuel capacity, weight, blade capability, ease of operation and anti-vibration capability are key factors to consider.

A commercial/heavy-duty product is usually a 25-cubic-centimeter unit or larger. This indicates that the trimmer will have a straight shaft, commercial-grade engine supported by a crank shaft with ball bearings and connecting rod support by caged needle bearing; these features assist in the longevity and durability of the trimmer/brushcutter and will let the unit take more abuse in the field.

Users should purchase units that have a recommended durability level of more than 20 hours. Because turfgrass managers are more efficient with less downtime, they should also consider the capacity of the fuel tank as an important factor. The weight of the product is also important to the decision-making process. A quality 25-cubic-centimeter unit should weigh in the range of twelve to thirteen pounds.

Other features

When steel blades are used, purchase a unit with handlebars, since they provide bet-

HOW ROUNDUP® HERBICIDE HELPS YOU GET MORE PROFIT OUT OF ...SITE PREPARATION



With one treatment of Roundup® herbicide you can get broad-spectrum control of just about every variety of grass, broadleaf weed and brush you're likely to come across. Just spray the area to be planted, wait 3 days for annuals and 7 or more days for brush—and plant. It's as easy—and can be as profitable—as that.

...LAWN RENOVATION



This is a great way to use Roundup to expand your business. With Roundup, you'll be able to renovate any lawn in 1/12th the time it would take you to do the job mechanically. Just spray; wait 7 days; slice, seed and water well. Fall is the best time for lawn renovations.

...TRIMMING AND EDGING



Hand-weeding and string trimming are a waste of time. With Roundup, you'll get longer-lasting results—and do the job more easily and quickly. And remember, no matter where you use Roundup—around patios, steps, gravel driveways, fencelines, tree rings—you, and your customers, can feel confident because Roundup is biodegradable, odorless and practically non-toxic to wildlife, pets and

people. When you put Roundup to work for you, you'll be helping to make your entire operation more professional—more profitable.

Monsanto

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About the Author

Ken Andersen is vice president of product services for Echo, Inc., Chicago, IL.

ter use control for proper and safe applications.

Most quality units also have an anti-vibration feature. Anyone utilizing a trimmer for four to six hours of actual operation a day must have this feature, for user comfort, as well as increased productivity.

Another needed feature for both light and heavy users is the spark arrestor muffler (SAM) screen. This keeps sparks from leaving the muffler and catching fire to dry grass, etc. In many states, SAMs are mandatory.

Buyers should always purchase from manufacturers' authorized service dealers who

will explain operational and safety measures.

They should also find out maintenance techniques and proper gasoline and oil requirements from the dealer, and about site maintenance for parts like starter mechanisms, spark plugs, filters and spark/arrestor muffler screens.

End-of-the-season maintenance and engine tune-ups will provide optimum productivity.

Authorized service dealers should be able to perform all major engine work that is necessary for the product. The dealers should be used when repairs are needed. **LCI**

Dow sponsors free seminars

MIDLAND, MICH.—One-day seminars on turf management will be presented free to LCOs by Dow Chemical Co. in Missouri and Illinois this month.

The sessions will include customer attraction, marketing tools and materials selection.

Sessions will be Dec. 16, Rolling Meadows, IL; Dec. 17, St. Louis, MO; and Dec. 18, Kansas City, MO.

Topics to be covered are: customer attraction and retention, marketing tools, alternative uses of employees, materials selection and usage, and manpower for 1987 and beyond.

Speakers include Ed Wandtke and Rudd McGary, senior consultants with All-Green Management Associates, Columbus, OH, and Dow representatives George Gossett, Barry Brown, Stan Howell, Eunice Hall, Jack Watkins, Jeff Poole and Dave Maurer.

Registration information is available from local Dow representatives. **LCI**

Prograss will have new uses

WILMINGTON, DEL.—Prograss Turf Herbicide has been approved by the Environmental Protection Agency for control of *Poa Annua* in Kentucky bluegrass on golf courses and other commercially maintained areas.

A trademark of the NOR-AM Chemical Co., the herbicide has been registered for years for the control of annual grasses and broadleaf weeds in established perennial ryegrass and overseeded bermudagrass turf.

The new registration allows application on Kentucky bluegrass established more than eight weeks.

For optimum control of *Poa Annua*, the company recommends application at two quarts per acre in 20 to 60 gallons of water. Three applications are recommended at 21-day intervals, according to a company release. **LCI**

Error corrected

PAINESVILLE, OH—Dacthal preemergence herbicide is *not* subject to photodecomposition and volatilization (gaseous loss). October's **LAWN CARE INDUSTRY** incorrectly reported that it is.

The article also erred in saying preemergents should be applied in soil temperatures of 50 degrees Fahrenheit. Brady Surrena, regional turf specialist for Fermenta Plant Protection Co., said preemergents should be applied *before* soil temperature reaches 50 degrees Fahrenheit.

Surrena said fertilizer applications should be heavy in the fall and, in the spring, approximately a quarter the fall application rate. **LCI**

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614-274-9424

Greely, CO
303-351-7110

Frederick, MD
301-845-6817

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THE SOURCE

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DULUTH,

from Page 1

Division of Guardian Pest-Control, Inc., Duluth. Wick is arranging to have an impartial chemical expert discuss the issue with the city council.

Councilman Michael Paymar introduced the legislation. He is running for mayor.

"This is something that will bring him notoriety whether he wins (the ordinance fight) or not," said Pat R. Hanson of Davey Lawn Service, Duluth.

"He's getting some mileage on this one," said Neill Atkins, a councilman who opposes the

measure. "It's a political ploy—trying to strike fear into the hearts of citizens," he said.

Paymar could not be reached for comment.

The controversy began when a low-income housing group became alarmed after a housing project was treated and residents there were not warned.

An account of the event in a local newspaper coincided with the 20/20 report this summer.

The article included quotes from state officials who said the herbicide used, Trimec, is not harmful when applied correctly. Authorities from the Minnesota Pollution Control

Agency, the State Department of Agriculture and a university professor all downplayed any possible risk from the spraying.

However, members of the Central Hillside Council, an advocacy group for residents of the housing project, began pushing for a ban on the use of herbicides and pesticides by the three lawn care companies headquartered in Duluth.

They issued a four-page newsletter with a cartoon on the cover that portrays the grim reaper spraying a lawn. The newsletter lists 48 diseases and ailments ranging from "alienation" to cancer said to be caused by 2,4-D. LCI

GIFFEN,

from Page 1

first to establish a territory outside of Ohio for the now-national company.

The lawn care industry was an indiscernible part of the lawn chemicals market when Jim FitzGibbon, president of Lakeshore Equipment & Supply Co. (LESCO) of Cleveland, called Giffen into his office in 1974. FitzGibbon informed him he'd be heading up the company's new lawn care division.

"I said, 'what in the heck is lawn care?'" Giffen mused. Little did he know he'd play a key role in developing a billion-dollar industry, a growth that LESCO itself would share a major part of.

There were only a handful of lawn care companies on the east coast providing the standard weed and feed program. FitzGibbon had already established a working relationship with ChemLawn, and was convinced that lawn care was on the verge of coming into fruition.

"Jim had the foresight to see what was coming in the lawn care industry," Giffen said.

Giffen took on the task of contacting every association that dealt with lawn chemicals and buying membership lists. He came up with a list of prospective lawn care companies and hit the road.

Lakeshore, which became LESCO, Inc. when it went public two years ago, was the first formulator of herbicides and liquid fertilizers to market to LCOs specifically. "We always had competition, but not too many (chemical suppliers) were nationally competitive (in lawn care)," Giffen said.

Among the 100 or so LCOs Giffen visited in the fall of 1974 were Tru Green Corp., Hydro Lawn, Inc., Ever-Green Lawns Corp. and Lawn King, Inc. He sold them pre-emergence herbicides, post-emergence herbicides, insecticides and fertilizers.

Sales to the lawn care industry were an insignificant part of LESCO's business at first, but that changed fast. The company now has six salesmen concentrating on lawn care, which accounts for 40 to 45 percent of the company's sales.

"The industry was growing at such a rapid rate that even though competition (eventually) came in, the volume was increasing so rapidly that we kept our market share," Giffen said.

Giffen's forecast for the industry? Very positive. "I wish I were 20 years younger" to take advantage of the opportunities out there, he said.

Giffen was a founding member of the Professional Lawn Care Association of America. He, Faulring and Earley came up with the idea for the association. LCI



Landscape Exposition

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MARCH 3-5, 1987

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NEW PRODUCTS

Waffle-like drainpipe saves time and money

Warren's TerraFlow Drainage System provides up to 10 times more drainage per lineal foot than flexible drainpipe--and it costs 60 percent less to install, according to the manufacturer, the Seed and Special Products Division of Warren's Turf Nursery, Inc., Suisun City, CA.

The TerraFlow System consists of a 1 1/2-inch thick waffle-like high density polyethylene core wrapped with a non-woven polyester fabric.

Installation requires only a 2-inch wide trench instead of the 12-inch wide trench usually needed for conventional drainage systems, according to the company. The trench can be backfilled with the onsite soil, eliminating the need to haul out dirt and haul in sand and gravel.

LCI

Circle No. 200 on service card.

**LCOs can clean up with used sweepers**

Do you want to really clean up in this world?

LCOs can sweep the competition off its feet—and make extra money—by using reconditioned sweepers to offer ad-

ditional services, according to the Tennant Co., Minneapolis, MN.

The Tennant machines can be used to clean and maintain parking lots, access roads, sidewalks and other hard outdoor surfaces.

Walk-behind and rider models are available.

Some rider models can be fitted with snow blades and brooms for winter income possibilities.

The units come with a 90-day warranty on all components except normal wear items.

LCI

Circle No. 203 on service card.

**Lifter for lawnmowers makes repairs easier**

Lifting a lawnmower onto a workbench is an awkward job. The repairs themselves are

often difficult because work has to be done on both sides of the deck and along the sides.

The Jiffy Lift can make lawnmower repairs easier, according to Chris-Nell Products, Largo, FL.

The mower is clamped into the lift in such a way that it is suspended in space without any obstructions to get in the way of the work to be done, the company said.

The working level is adjustable from the floor to five feet high.

Different sizes and models are available.

LCI

Circle No. 204 on service card.

Mauget® takes the 'nots' out of tree care.

**Harness for barrels is uplifting experience**

A simple tool for lifting barrels from the top is being marketed by Free Enterprise Systems, Inc., Rapid City, SD.

By utilizing the Bold Eagle Barrel Harness, any 55 gallon or smaller barrel, with a lip around the top, can be lifted vertically and suspended with a chain hook or other hook.

Fork lifts, loaders and booms now can transport barrels by using a chain, or cable, with a hook and the Bold Eagle Barrel Harness. The harness, which costs \$39.95, has a rated capacity of 840 pounds. It weighs two pounds.

LCI

Circle No. 201 on service card.

Scott fluid product liquidating fungus

Fluid Fungicide II is the newest addition to the product line of the O.M. Scott and Sons Co., Marysville, OH, it was announced.

The product is recommended for use on bentgrass, Kentucky bluegrass, annual bluegrass, perennial ryegrass, bermudagrass or mixtures and seedings, according to the company.

LCI

Circle No. 202 on service card.

You've used the 'nots' before. Not now...not this year...not me...not profitable...not registered.

This year, why not bring your 'nots' to a Mauget Micro-Injection seminar. Learn how to solve the knotty problems for your customers. Topics include nutrition, insect and disease control, and application techniques.



Choose a location nearest you. Registration: 9 a.m. Seminar begins: 9:30 a.m. Open to all arborists, city foresters, lawn care firms, landscape architects and contractors, golf superintendents and grounds managers. Let Mauget untie the 'nots' in your tree care problems.

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Ramada Inn-West
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January 19
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(Florida Only) For Details

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Circle No. 113 on Reader Inquiry Card

NEW PRODUCTS

Broadleaf herbicide introduced by Dow

Turflon II Amine, a new broadleaf weed herbicide, is now available for commercial use from the Dow Chemical Co. The broadcast herbicide is designed to control a wide spectrum of weeds.

It will eliminate both easy and hard-to-kill broadleaf weeds in the second round application, Dow said.

The product, which was granted EPA registration this summer and marketed in October, contains triclopyr and 2-4D. Triclopyr is the first new broadleaf herbicide chemistry to be introduced to the turf industry in 16 years, the company said.

Turflon II Amine can save LCOs money by reducing expensive, labor-intensive callbacks, and cancellations, Dow said. **LCI**

Circle No. 205 on service card.



Five-year warranty offered on sprayer

Solo Incorporated, Newport News, VA, is offering a five-year warranty for the plastic tank on its 455EKV portable manual sprayer.

The sprayer can be used inside or outside for professional pest control, weed control or a sanitation job.

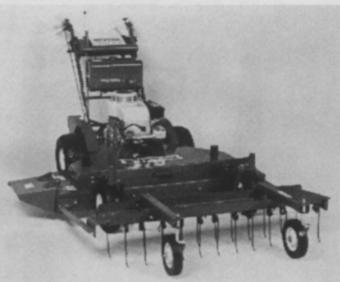
A single pump-up (about 70 psi) is sufficient to spray the entire contents when filled to the recommended operating capacity of 1.5 gallons. The suggested retail price is \$34.95.

It weighs four pounds and has a total tank capacity of 2.5 gallons. A carrying strap and safety valve are included. Solo also offers an inflation valve that makes it possible to hook up the sprayer to an air compressor. **LCI**

Circle No. 206 on service card.

Thatchers available for Bunton mowers

Thatchers now are available for use on walk-behind commercial mowers made by the Bunton Co., Louisville, KY.



Built with heavy gauge steel and a double row of spring steel tines, Bunton thatchers are attached to the mowers with quick connect/disconnect levers. This allows the thatcher to be removed for mowing in tight places and then quickly reattached with minimal lost time.

The working height of the tines is set when the thatcher is attached to the mower and it does not have to be reset each time it is used. The thatcher also can be used to prepare new ground or an established lawn for seeding.

A variety of grass catchers are available. Thatching of most lawns can be done during regular mowing. **LCI**

Circle No. 207 on service card.

Wheelie sprayer works sans-motor

The WS-490 Greens Wheelie, manufactured by Wheel Spray Corp., Delafield, WI, is a liquid



chemical sprayer with a ground-driven pumping system.

The new model features larger tires for easier pushing and a thick-wall 10 gallon tank with a wide-mouth lid for easier filling and cleaning.

The Wheelie is used to apply liquid fertilizers, herbicides, fungicides, insecticides and growth regulators.

The twin wheel pumps spray a fan of solution six feet wide--with an overlap at the center--at the rate of 1,000 square feet per gallon. **LCI**

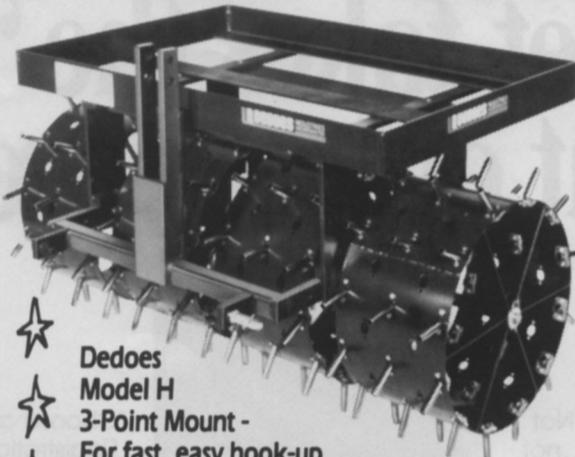
Circle No. 208 on service card.

Applications aided with small particles

The O.M. Scott and Sons Co., Marysville, OH, is introducing ProTurf High Density Hi-Maintenance Turf Fertilizer, which offers a small particle size to give good distribution at rates less than .9 pound of nitrogen per 1,000 square feet.

Circle No. 209 on service card. **LCI**

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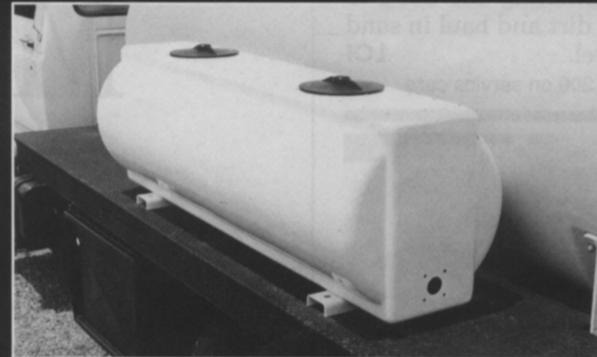
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15-5-5 + TEAM	—	1.0	7,350
10-5-5 + GYPSUM + TEAM	—	0.5	10,000
MILORGANITE PRO + TEAM	5% WIN	1.0	10,000

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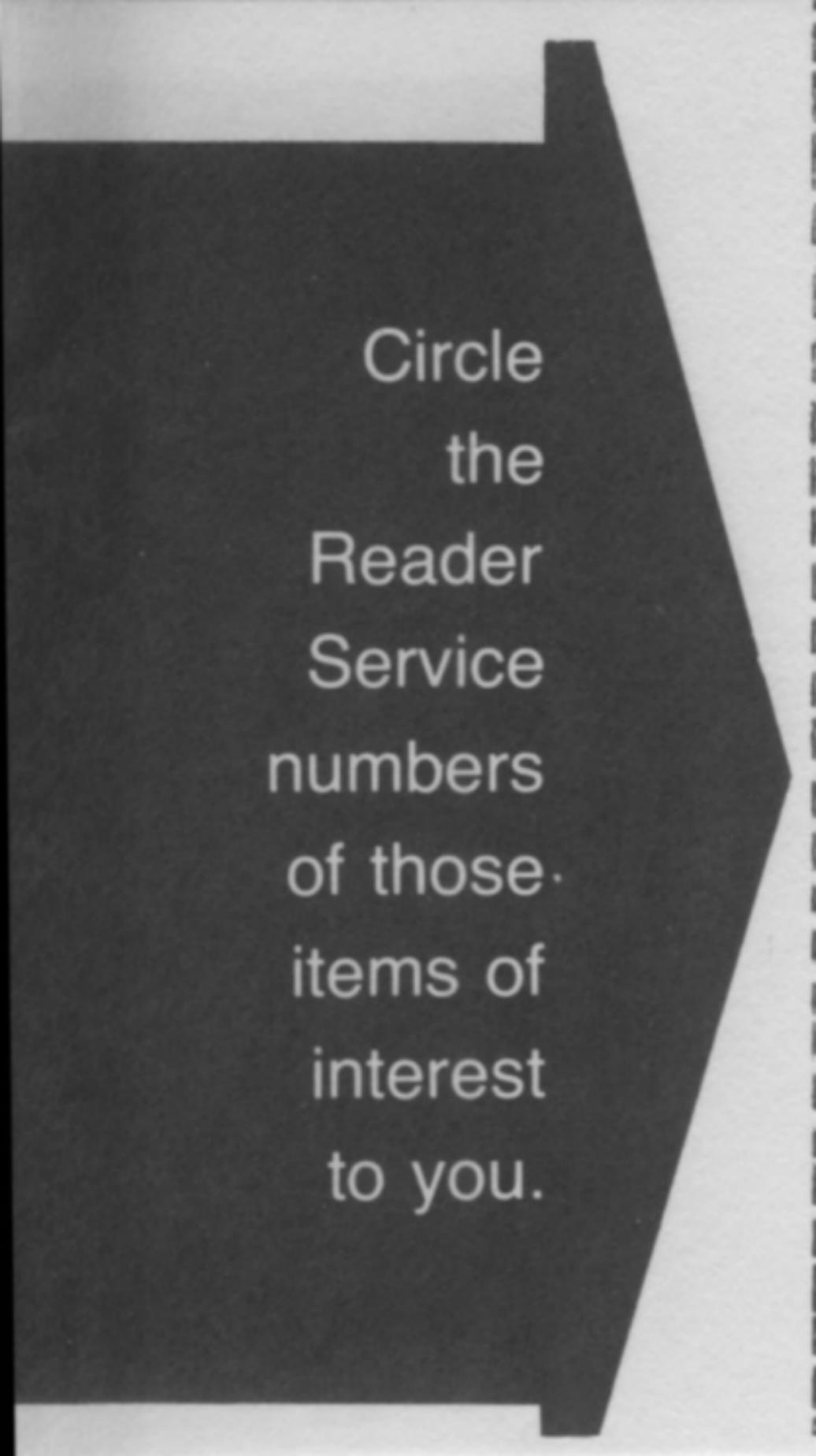
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MEETING DATES

DEC.

■ **North Central Turfgrass Exposition**
Dec. 9-11, O'Hare Exposition Center, Rosemont, IL. Contact: Illinois Turfgrass Association, Suite 1717, Chicago, IL 60611; (312) 644-0828.

■ **Southern Nevada Desert Turfgrass Conference**,
Dec. 12-13, Palace Station Hotel/Casino, Las Vegas, NV. Contact: Bob Morris, Cooperative Extension Service, 953 E. Sahara, Suite 207, ST&P Bldg., Las Vegas, NV 89104; (702) 731-3130.

■ **17th Annual Georgia Turfgrass Conference**,
Dec. 15-16, University of Georgia Center for Continuing Education, Athens, GA. Contact: Gilbert Landry, Jr., Cooperative Extension Service, 2400 College Station Road, Athens, GA 30605; (404) 542-5350.

JAN.

■ **21st Annual Conference of Tennessee Turfgrass Association**,
Jan. 5-7, Music City Rodeway Inn, Nashville, TN. Contact: Donnie Callis, University of Tennessee Institute of Agriculture, P.O. Box 1071, Knoxville, TN 37901; (800) 342-1016.

■ **25th Annual North Carolina Turfgrass Conference and Exhibit**,
Jan. 7-9, Winston-Salem, NC. Contact: A.H. Bruneau, Box 7620, North Carolina State University, Raleigh, NC 27695; (919) 737-2326.

■ **Mid-America Horticultural Trade Show**,
Jan. 9-11, Hyatt Regency Chicago. Contact: Mid-Am Trade Show, 4300-L Lincoln Ave., Chicago, IL 60008; (312) 359-8160.

■ **Eastern PA Turf Conference and Trade Show**,
Jan. 13-15, Valley Forge Convention and Exhibit Center, King of Prussia, PA. Contact: Thomas L. Watschke, Department of Agronomy, 16 Tyson Bldg., University Park, PA 16802; (814) 863-1613.

■ **North Central Turf Grass Association Conference and Trade Show**,
Jan. 12-14, Fargo, ND Holiday Inn. Contact: Ed Evernham, North Central Turf Grass Association, c/o

Tessman Seed & Chemical NW, Box 5031, Fargo, ND 58102.

■ **Associated Landscape Contractors of America 1987 Convention**,
Jan. 18-22, Hyatt Regency, San Antonio, TX. Contact: ALCA, 405 N. Washington St., Falls Church, VA 22046; (703) 241-4004.

■ **Professional Turf and Landscape Conference**,
Jan. 27, Yonkers Raceway, Yonkers, NY. Contact: Professional Turf and

Landscape Conference, 475 Central Ave., White Plains, NY 10606; (914) 693-3792.

Feb.

■ **University of Illinois Cooperative Extension Service horticulturist seminar**,
Feb. 24-25, Heritage House Restaurant, Peoria, IL. Contact: Peoria County Extension Service, 1716 North University St., Peoria, IL 61604; (309) 686-6033.

March

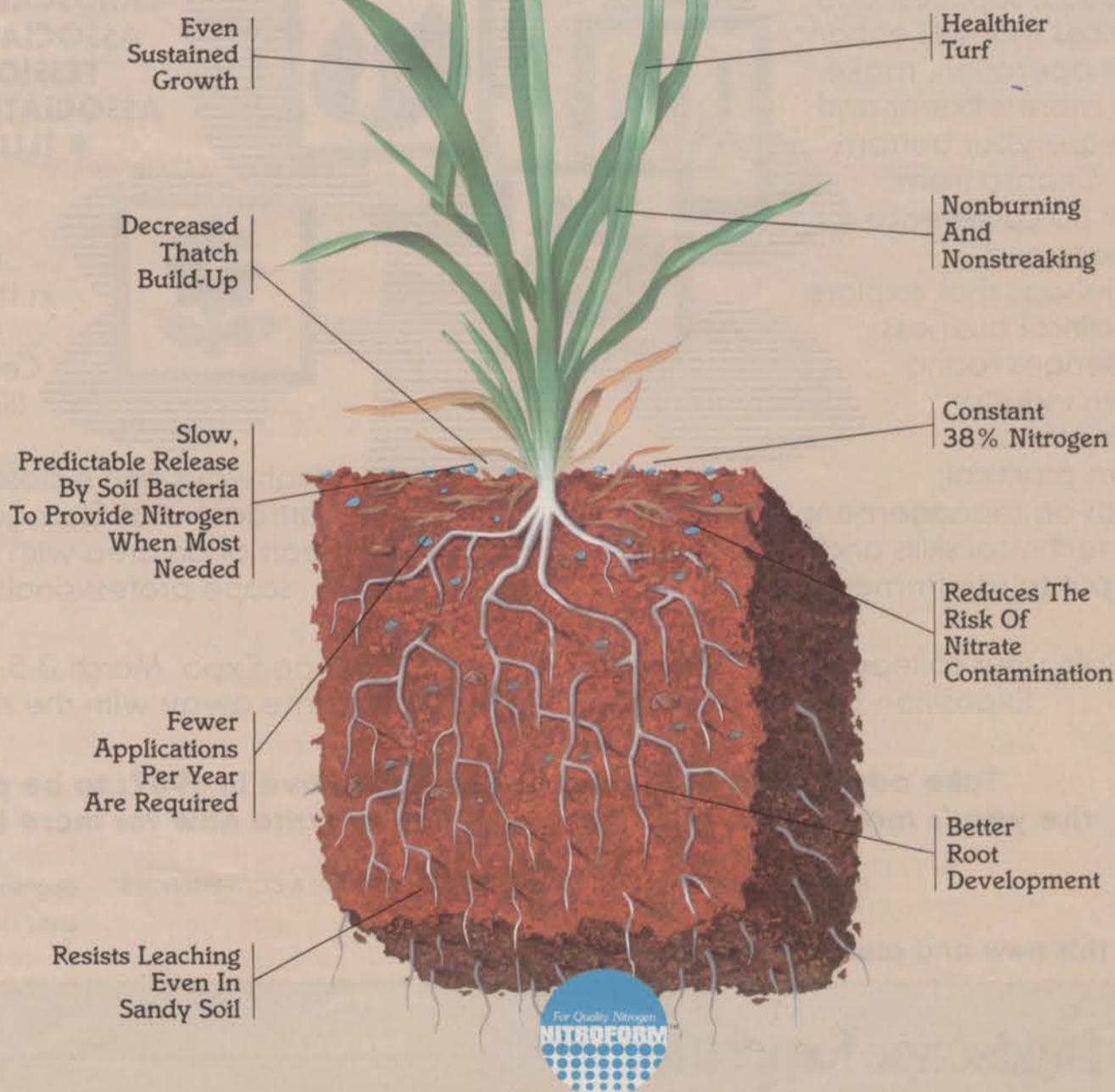
■ **Nassau/Suffolk Landscape Gardeners Association 19th Annual Professional Turf and Plant Conference**,
March 11, Nassau Veterans Memorial Coliseum, Uniondale, Long Island, New York. Contact: NSLGA, 59 Orinoco Dr., Brightwaters, NY 11718; (516) 666-2250.

■ **University of Tennessee Three Day Turf Winter Short Course**,

March 9-11, Ellington Plant Sciences Building Auditorium, Agricultural Campus, University of Tennessee, Knoxville, TN. Contact: Tom Samples, Agricultural Extension Service, University of Tennessee, P.O. Box 1071, Knoxville, TN 37901-1071.

If you are interested in obtaining any available or additional editorial research or reference materials published in this or previous issues, direct inquiries to Kathleen Maciuszko at (216) 826-2839.

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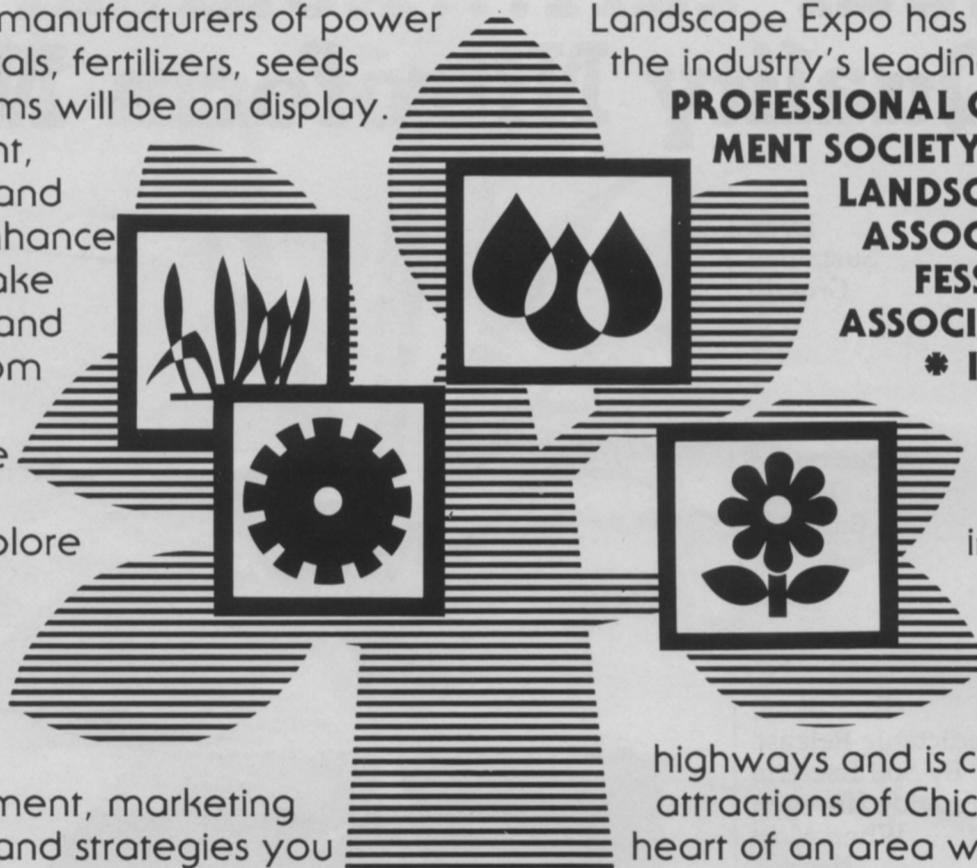
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THE LAST WORD



Interest grows in lawn care and reporting

By **JAMES E. GUYETTE**
Associate Editor

Hi there. My name is Jim. I'm the new guy.

I thought I'd write a little bit about myself as a way of introduction. Actually, I'm just a human bean—just like anyone else. My hobbies include rooting for the Browns and Indians, fishing, watching live music and yard saling (in season). My dog's name is Daisy and my favorite color is plaid. So there you have it,

thank you very much for reading and have a nice day.

What? Oh. I've just been told that I have a few more picas of space to fill, so here goes:

After graduating from Charles F. Brush High School in 1973, I went to college—Ohio University among the green hills of Athens in Southeastern Ohio.

Amid that beautiful setting I received a degree in journalism (minor in sociology).

For several years after

graduation I worked at a twice-weekly Athens newspaper. While there I did investigative reporting on several topics, including environmental issues and other assorted matters related to the rural and college atmosphere.

Later I moved back up north and went to work for a daily newspaper in Lake County, just outside of Cleveland. There I covered all sorts of different topics, including environmental issues, a local nuclear power

plant, Lake Erie biology and erosion control and other science-like assignments, local governments, police beat news and various features, such as jello wrestling and the county fair.

I later went to work as editor of two weekly community newspapers in the Cleveland area. While there I contributed sports columns on the Indians (*Tribetalk*) and Browns (*Brownsbeat*).

My background in landscape management stems from when I was working for myself as a freelancer and consultant. To supplement my income and satisfy a desire to work outside and ride around in a truck all day while looking at pretty girls, I did tree work (I was the ground guy) with a buddy of mine—and I went to work for Gaffney Landscaping in South Euclid.

Richard Gaffney, president of the full-service firm, was gracious enough to put me on his "special projects" crew, which meant I got to toil alongside him as we pruned and trimmed shrubs and bushes, diagnosed lawn problems, tore up turf, put down sod, worked on beds, busted up sidewalks, laid railroad ties, cut grass and tinkered with the assorted machines. Plus there was much conversation about the best methods for running a landscape management business.

Suffice to say, Richie taught me a lot.

However, I would be remiss if I overlooked the contributions of his brother Frank, who taught me the value of taking a few extra seconds to please the customers—from putting away the trash cans on trash day to making sure all the sticks and grass cuttings were cleared away to perfection.

Let's not forget Terry Pollard, who showed me the way to move *fast* and get done with the day's work.

And then there's Dale Kratzert, who knew where to buy the cheapest 2-liter bottles of pop in town. Dale also had the ice situation down pat. By making his large cubes in margarine trays and busting them up with an ice pick, they would stay solid all day long.

Anyway, the time I have spent in both fields has given me a unique perspective of both worlds. And that varied background, along with a free exchange of ideas and concepts, hopefully can enable me to better inform the readers of *LAWN CARE INDUSTRY*.

LCI

James E. Guyette

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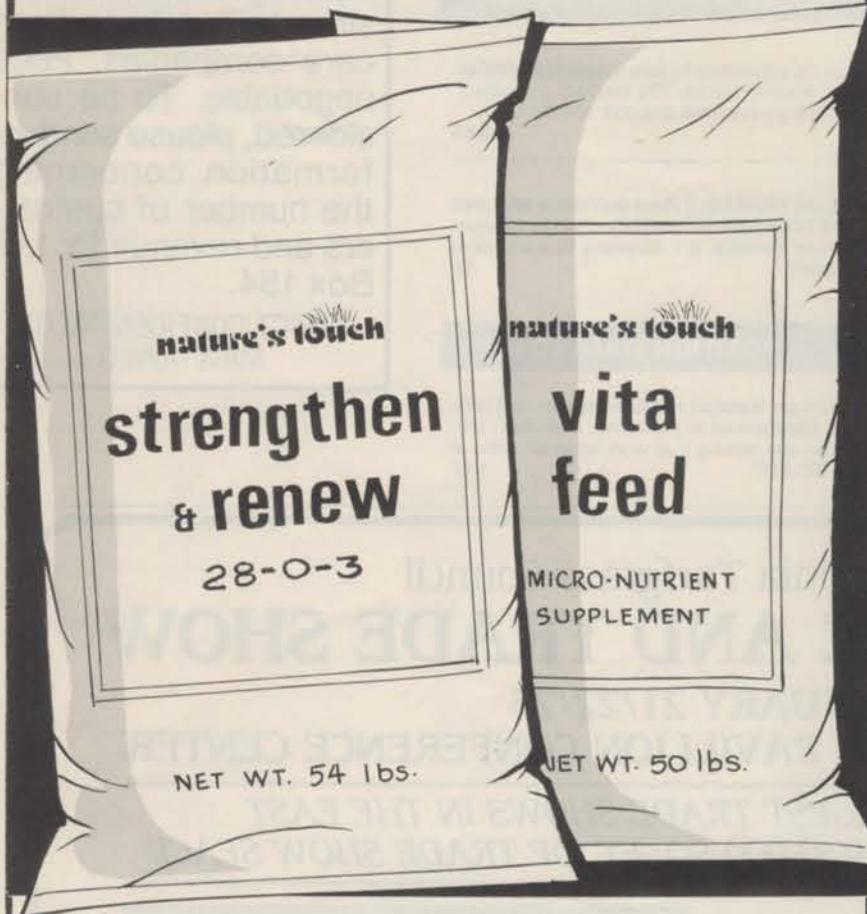
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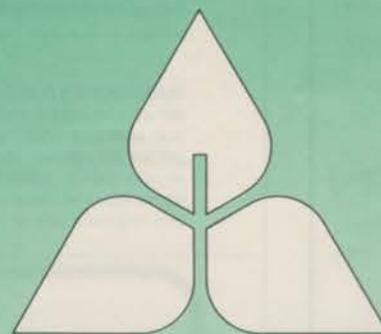
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Lawn care company expanding into Dallas market is looking for a Branch Manager. College degree or hort. background and proven track record in southern turf markets is necessary, as is good customer service skills. A competitive compensation package is offered. Interested parties may reply to Lawn Care, P.O. Box 2257, LeGrange, IL 60525. Please include work and salary history and phone number where you may be contacted. We will set-up a convenient time to meet with you and discuss our future. 1/87

MANAGEMENT: Ever-Green Lawns Corporation, a division of the multi-national Hawley Group, Ltd. interested in discussing management opportunities with lawn care professionals looking for a change. Please respond in writing only to Richard D. Niemann, Corporate Recruiting Manager, Ever-Green Lawns Corporation, 1390 Charlestown Industrial Drive, St. Charles, MO 63303. TF

Major New England lawn care company seeking individuals to develop **Tree and Shrub** care program and business. Must have on road technical and equipment experience as well as management potential. Send resume to: LCI Box 172. 12/86

Branch Manager - Virginia Beach. Expanding Lawn and Tree & Shrub company seeking aggressive, take charge and responsible individual with minimum 2 yrs experience as manager. Candidate must be completely knowledgeable in all facets of lawn care, branch operations and employee/customer relations. Competitive salary and benefits and growth potential. Send resume to Brian Leach, P.O. Box 9814, Norfolk, VA 23505. 12/86

COMMERCIAL LAWN TREE AND SHRUB CARE BRANCH MANAGER NEEDED. Largest commercial company in Washington D.C. area expanding its application division. Looking for person experienced in management of lawn and ornamental applications. Experience in both not a must, but desired. Full benefits, salary, profit sharing, etc. Please send resume to LCI Box 174. 1/87

MANAGEMENT: Mid-Atlantic multi-branch established lawn care firm seeks branch manager. Position available 1-1-87 for aggressive, qualified applicant with proven record of success. Experience in operations, administration, field and office a must. Send full resume, salary, benefits and incentive requirements to LCI Box 168. 12/86

Sales and Service person needed in Virginia Beach area. Only experienced, licensed applicators with excellent customer service skills will be considered. Send resume and references to: Lawn Medic of Tidewater, P.O. Box 1786, Chesapeake, VA 23320. TF

MANAGEMENT POSITIONS A professional lawn and tree care service is seeking aggressive and self motivated individuals to fill positions created by expanding market area. Excellent communication skills a must. Previous management experience required. Related education preferred. Must be willing to relocate to CO, NM, AR, CA, OR, TX, or WA. Send resume and references to: Nitro-Green Corp., 375 E. Horsetooth, Shores #4, Suite 102, Fort Collins, CO 80525. 12/86

LANDSCAPE ARCHITECT: Long-established, quality landscape and maintenance company is looking for an innovative and aggressive individual with the ability to design and run projects. Excellent growth potential for a professional with a minimum of 2 years experience and the desire to achieve. Send resume, design samples, and approximate starting salary requirements to: Kapp's Landscaping, 4124 Clubview Drive, Fort Wayne, Indiana 46804. 12/86

DIRECTOR OF LANDSCAPE MAINTENANCE: Large Midwestern landscape contractor working with Fortune 500 clients seeking aggressive manager with experience in all aspects of commercial landscape maintenance. Excellent supervisory skills and ability to communicate with clients is required. This is a year round position with excellent benefits. Salary commensurate with experience. Send resume to Vidosh Bros. Inc., Attn: Personnel Dept., 36199 Mound Road, Sterling Heights, MI 48310-4798. 1/87

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Lawn Care Business for sale. Western, North Carolina. 3 spray trucks. 330 contract customers. \$144,000 gross in 1986. \$53,000. 704-891-5125. 12/86

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Lawn Care Manager needs company—will relocate. Experienced in marketing, cash flow, production and making it all work together. John at 208-362-3227. 1/87

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WANTED TO ACQUIRE

Lawn care companies in eastern half of U.S. being sought by national corporation. Complete buy out or stay and grow with us. If interested, please call me directly:

Paul Anderegg
Vice President/Marketing
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National company seeking expansion desires to purchase lawn care companies. Price negotiable. To be considered, please send information concerning the number of customers and revenue to: LCI Box 154.

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Dr. Richard White	Associate Professor of Turf Physiology Rutgers University
Dr. Leon Lucas	Extension Turf Pathologist North Carolina State University
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Other speakers include professors from Virginia Tech including:
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Dr. Richard Schmidt Dr. Dave Chalmers and Others

NEW PRODUCTS/ADVERTISERS

NO.	ADVERTISER	PAGE
101	Agro-Chem, Inc.	35
	American Cyanamid (Regional)	32-33
102	Dedoes Industries	28
105	Distribution Management	28
103	Dow Agricultural	5
104	Dow Agricultural	7
106	Fermenta Plant Protection	20-21
107	Fermenta Plant Protection	37
108	Graham Lawn Equipment	37
109	Growth Products	36
110	Hannay Reels	37
111	Hypro	8
112	Jacobsen/Textron	34
113	J. J. Mauget Company	27
114	Lebanon Chemical	18
115	Lesco Inc.	40
116	Lesco Inc.	19
117	Modern Welding	28
118	Monsanto Moyer & Son (Regional)	26
119	Nor-Am Chemical Co.	31
120	Northrup King	22
121	PBI Gordon Corp.	2-3
131	PBI Gordon Corp.	38-39
122	Perma Green Supreme Inc.	10
123	Precision Tank & Equipment	6
124	Prentiss Drug Chemical Co.	6
125	Pro Show '87	35
126	Spring Valley Turf Products	28
127	Stauffer Chemical Co.	9-10, 13-15
152	UAP Special Products	23
129	UAP Special Products	25
130	Virginia Turfgrass	36

NEW PRODUCTS

200	Warren's Turf Nursery, Inc.	27
201	Free Enterprise Systems	27
202	O. M. Scott & Sons Co.,	27
203	Tennant Co.,	27
204	Chris-Neil Products	27
205	Dow Chemical Co.,	28
206	Solo Incorporated	28
207	Bunton Co.,	28
208	Wheel Spray Corp.,	28
209	O. M. Scott & Sons Co.,	28

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Massachusetts posting rule studied

BOSTON—The Professional Lawn Care Association of America is considering legal action in response to a sign posting regulation in Massachusetts that requires LCOs to post warning signs for pesticide applications. The regulation does not include anyone besides commercial applicators.

The status of the regulation, issued by the Massachusetts Department of Food and Agriculture on Oct. 15, was unclear at the time of this writing.

"There are some other de-

tails to be worked out," said Ian Oppenheim, executive director of the Massachusetts Rational Approach to Pesticides Alliance.

The state agencies involved are still researching various aspects of the proposal, Oppenheim said. The size of signs and the text of warnings to customers have yet to be determined, he said.

Paul L. Harder of Prescription Turf Services, Inc., Middleton, MA, said he is under the impression that the signs will have to be a foot square and posted at "every conspic-

uous entry" to a customer's property—meaning that several signs will be required for each yard.

James Wilkinson, newly-elected president of PLCAA, told attendees at the 7th An-

nual PLCAA Convention in Baltimore that the association's legal counsel, Richard Lehr, is examining the regulation. He said PLCAA may decide to challenge the regulation in court. **LCI**

Ciba-Geigy seeks diazinon hearing

GREENSBORO, N.C.—Ciba-Geigy Corp., the largest supplier of the insecticide diazinon, has requested a hearing to review the Environmental Protection Agency's proposed cancellation of di-

azinin for use on golf courses and sod farms.

The EPA, in response to the request, will arrange a hearing with an administrative law judge, who will make a recommendation. **LCI**

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Lawn care companies that have been quietly testing Ferromec for several years have proven that it is not only an effective tool for getting new customers, but also in holding their present customers in the face of some pretty tough competition.

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In any event, the discovery of Ferromec can help a lawn care operator measurably increase his overall efficiency, and so we urge you to take a minute right now to understand why iron is such an

elusive nutrient, and how the Trimec® people have managed to harness it for you.

Ferrous Iron is Very Fragile.

As you know, the basic problem of supplying iron to turfgrass is its fragility in the Ferrous ++ State. Only Ferrous iron can be utilized by a plant and, *ironically*, almost as soon as Ferrous Sulphate is applied it turns to the non-usable Ferric +++ State. Once oxidized, the reversal with organic matter acting as a reducing agent is so slow there is a question if it would ever occur.



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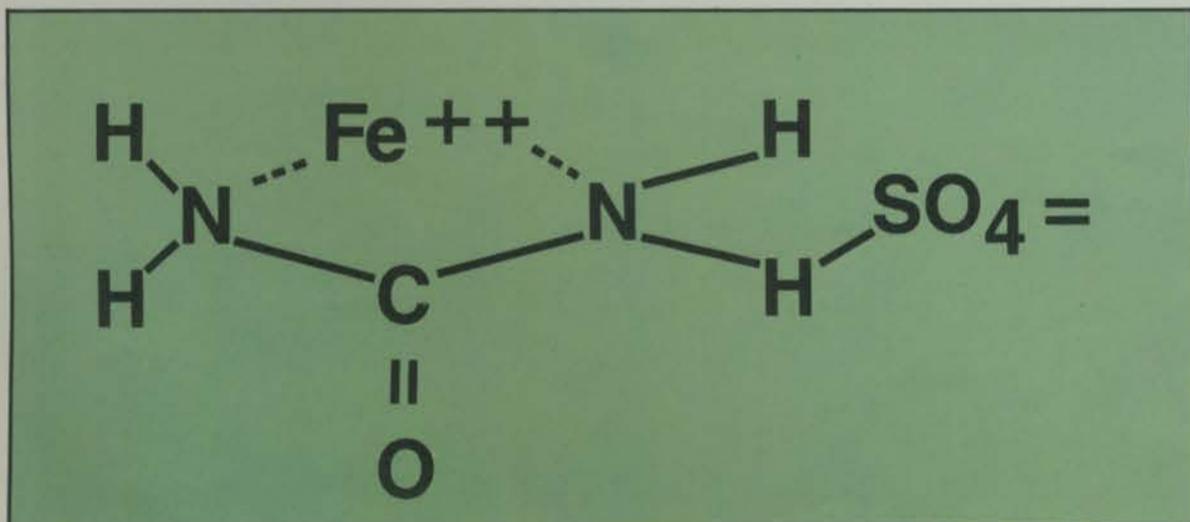
Ferromec Works Right Now!

At PBI/Gordon we have a patented process of bonding a Ferrous iron molecule to a molecule of urea, which stabilizes the iron in a Ferrous state. Notice the diagram on the opposite page of the Urea/Ferrous sulphate molecule which is called Ferromec.

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This is the molecular structure of Ferromec. Note that ferrous sulphate is bonded to a urea molecule and will remain stable. Ferromec utilizes a

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Neal
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Choose your spreader.

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