

Greenbug aphid to be studied on Ohio lawns

Stepped-up efforts are planned this year to learn more about a tiny insect that has been causing increasing levels of damage to home lawns in Ohio and other states — the greenbug aphid.

Dr. Harry Niemczyk, professor of turfgrass entomology at Ohio Agricultural Research and Development Center (OARDC), Wooster, spoke on the topic to almost 500 business persons attending lawn care sessions at the recent Ohio Turfgrass Conference, and he will be heading up the study.

It will focus on gathering data on the biology, ecology and control of the greenbug. Dr. L. R.

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MIDWEST

15 lawn care speakers at March Purdue conference

Fifteen lawn care speakers will headline the three-day Midwest Turf Conference March 12-14 at Purdue University, West Lafayette, Ind.

The lawn care session will begin at 9 a.m. on March 13 and run through 5 p.m.

First up on the program is Joe Bredeson, Swift Agricultural Chemicals Corp., Winter Haven, Fla., speaking on "Professional Lawn Care: An Awakening Giant."

Dennis Keefe and Charles McKeown and three other speakers will discuss the topic of getting into the lawn care business. Bob Earley, editor of *LAWN CARE INDUSTRY* will give an overview of the industry. Jerry Faulring, owner of Hydro Lawn, Gaithersburg, Md., will talk on "10 Years of Providing Services."

Dr. Donald Pfeleiderer, of Lebanon Chemical Co., Lebanon, Ind., will discuss "Fertilizer and Tissue Testing." Jeff Lefton, ChemLawn Corp. re-

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Professionalism dominates Maryland lawn talks

The lawn care industry has a closetful of skeletons. They are disappearing, but very slowly.

These are and other comments on professionalism in the lawn care industry raised a few eyebrows and got the audience buzzing during and after a talk by Jerry Faulring at last month's Maryland Turfgrass '79 in Baltimore. Faulring is president of Gaithersburg, Md.-based Hydro Lawn.

Speaking before more than 150 lawn care businessmen, Faulring said:

"Our image is one of the most important considerations for our industry as we move into the next decade. For sure, grass seed, fertilizer, pesticides and

the like are crucial to our cumulative success as an industry. However, the proper positioning of the industry regarding professionalism can have much further reaching implications to us all than how we make home lawns green and weed-free today."

He listed "habits of some industry members" that have caused a negative market perception of the industry as a whole, including: buying an account by mis-measuring; utilization of products of questionable value; unrealistic pricing of services; discouraging remarks about a competitor; promising what can't be delivered.

Faulring suggested ways of in-

jecting professionalism into the lawn care industry, thereby improving the consumer's perception of the industry:

- **Build market confidence.** This is done by providing healthy and attractive customer lawns; selecting staff members who will represent the industry well; training that staff to be experts; selecting staff members who professionally represent the company through attractive appearance in dress and personal hygiene; and keeping equipment clean.

- **Be realistic.** "Don't promise miracles for short-term gain at the expense of long-term success," he said. "I can't remember many potential customers who would not buy my service simply because I told them it would take two or more years to bring their lawns into good condition."

- **State your policies up front.** "Don't surprise your customers with hidden costs," Faulring said. "Tell him exactly what he can expect you to do when one of the known potential problems comes up."

- **Provide follow-up service.** "Staff and equip your operation to be very responsive to the routine needs of your customers and their lawns," he said.

- **Train your staff.** "The education of your staff is an ex-

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LAWN CARE INDUSTRY

Serving lawn maintenance and chemical lawn care professionals.

FEBRUARY 1979 • VOL. 3, NO. 2 • A Harvest Publication

LCI SURVEY

Yellow Pages, newspaper, direct mail are most common lawn care advertising

Lawn care businessmen ranked Yellow Pages, direct mail and newspaper advertising as their top-ranked forms of advertising in a recent survey conducted by *LAWN CARE INDUSTRY*.

In the same survey, the average yearly amount spent for

advertising was \$5,900, although two-thirds of the answers were \$3,000 or less.

When asked in the survey if they advertised their lawn care service to the homeowner, 75.8 percent said "yes," and 23.5 percent said "no." Mowing/maintenance companies were asked the same question, and 68 percent said "yes," and 29 percent said "no." Some of the respondents did not answer.

Of the total number of companies that answered, 22.8 percent said that Yellow Pages was their top-ranked advertising medium. Percentages for other top-ranked advertising mediums were: Direct mail, 18.5 percent; newspaper, 17.7 percent; door hangers, 11.2 percent; phone solicitations, 5.2 percent; door-to-door solicitations, 3.0 percent; television, 1.3 percent; radio, 0.4 percent; and home and garden show display, 0.4 percent.

When asked their second-ranked form of advertising, 19.0 percent of the respondents listed newspaper, and 18.1 percent listed Yellow Pages. Other mediums and percentages included: door hangers and direct mail, 6.9 percent; door-to-door solicitations, 6.0 percent; radio, 3.4 percent; phone solicitations, 3.0 percent; and home and garden show displays, 2.2 percent.

When asked their third-

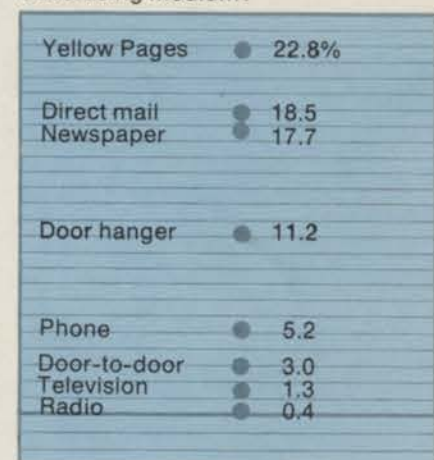
ranked form of advertising, 11.2 percent of the respondents listed Yellow Pages, and 10.8 percent listed newspaper. Other mediums and percentages included: door-to-door solicitations, 6.5 percent; door hangers and direct mail, 5.6 percent; and home and garden show displays, 5.2 percent.

The range of total answers on the yearly ad budget question in the survey was from \$1,000 to \$105,000.

Do you advertise?



What is your major advertising medium?



QUICK STARTS

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For a complete market study of the lawn care industry in Houston, see *MARKETPLACE*, page 17. This is part of a continuing series of indepth looks at regions of the country where the lawn care business thrives. The study includes a profile of the city, potential lawn care customers, lawn care companies that operate there and how they go about getting and keeping customers.

gional agronomist based in Indianapolis, will discuss "Applying Technology for Insects and Diseases."

Thomas Perkins of Elanco Products Co., Indianapolis, will discuss "Supplying Technical Information Today." Robert Person, Finn Equipment Co., Cincinnati, Ohio, will discuss "Hydroseeding and Hydrofertilizing." Ed Jordan, Monsanto Agricultural Products Co., St.

Louis, will discuss "Roundup Potential and Practices." Dr. Ray Freeborg, Purdue University, will provide an update on pre-emergent herbicides. Steve Derick and John Latting, Professional Turf Specialties, Normal, Ill. will discuss lawn care equipment.

For further information, contact: Dr. William Daniel, Department of Agronomy, Room 2-443 Lilly Hall, Purdue University, West Lafayette, Ind. 47907, 317-749-2891.

PROFESSIONALISM from page 1

pensive, continuing and very essential part of being a professional," he said.

• **Educate your customers.** "I know this seems pretty obvious," he said, "but what might not appear obvious is that you must budget a portion of your expenses to this effort."

• **Upgrade advertising.** "Whether or not a consumer buys our services is irrelevant, because our advertising will help develop influential attitudes toward our industry," he said.

• **Research.** "Testing of new ideas and materials at least a year or two before you try them on customer lawns is essential," he said.

Other lawn care speakers included J. Martin Erbaugh, president of Erbaugh Corp. and its lawn care company, LawnMark, Peninsula, Ohio, and Bob Earley, editor of LAWN CARE INDUSTRY. Erbaugh spoke on marketing and Earley on adver-

tising techniques. These talks and Faulring's further comments will be published in upcoming issues of LAWN CARE INDUSTRY.

Turfgrass '79 was held at the Baltimore Hilton, Jan. 8-10. There were more than 450 attendees and 42 exhibitors in 53 booths.



Hydro Lawn's Faulring told Maryland lawn care businessmen that mis-measuring, unrealistic pricing, disparaging remarks about competitors and promising what can't be delivered have hurt the lawn care industry as a whole.

NEW PESTICIDES

Hercules, Boots discuss joint chemical venture

Hercules, Inc., Wilmington, Del., and Boots Co., Ltd of Nottingham, England have agreed in principle to formation of a joint venture to manufacture and sell agricultural and turf chemicals in North America.

A Hercules spokesman told LAWN CARE INDUSTRY the agreement could broaden the company's base for turf products in the United States and Canada. Hercules is a major supplier of fertilizer to the lawn care industry. The Boots-Hercules venture would most likely involve turf pesticides manufacturing and marketing.

The Hercules spokesman said

that the company already has plans for marketing or turf pesticides to the turf industry — and especially the lawn care industry — by the end of the year. These plans were already in progress before the talks began on the Boots-Hercules venture.

The new firm, to be named Boots-Hercules Agrochemicals Co., would combine more than 30 years of experience of Hercules in producing and marketing pesticides for turf and agricultural markets, with Boots's extensive agrichemical research and development program.

Formation of the joint venture will facilitate the expansion of Boots's products in North America, adding new products to Hercules' established line of agrichemicals. The agreement is subject to detailed legal agreements.

MEMOS

Minimum wage: Last month the minimum wage rose from \$2.65 to \$2.90 an hour. Also, the new Social Security rate is 6.13 percent to be paid on earnings up to \$22,900.

White House small business conference: President Carter has called for a special White House conference on small business in January of 1980 in Washington. In preparation for the conference, the federal Small Business Administration is sponsoring 12 regional conferences and 45 open forums throughout the country. One lawn care businessman who has been asked to participate is Tony Giordano, president of Lawn Doctor, lawn care franchising operation based in Matawan, N.J.

Direct mail self-regulation: Self-regulation is survival, members of the Direct Mail Marketing Association (DMMA) were told at its recent annual meeting in Washington, D.C. Robert F. DeLay, DMMA president said that "the Washington scene is littered with corpses of industries that have been regulated to death as a result of their short-sighted approach to problems. Don't let it happen to this one."

Congress could demand a self-regulatory accounting next year, he said, and state governments are increasingly taking up the privacy issue and considering restrictions on mailing list availability and use. During the meeting, the subject of telephone marketing proved to be a hot topic. The interest in telephone marketing is due to a growing perception by marketers that it is a medium that lends itself to measure and control perhaps more suitably than others. Both direct mail and telephone solicitation are important tools lawn care businessmen use across the country to reach potential lawn care customers.

John Bean in with both feet? The constant complaint among lawn care businessmen has been: "There are no companies manufacturing equipment for our industry." This state of affairs is changing, and another major company looking to the lawn care industry with dollar signs in its eyes perhaps is the Agricultural Machinery Division of FMC Corp., Jonesboro, Ark. They have been working with Sears Lawn & Leaf, Chicago and other lawn care companies across the country for the last few years, attempting to determine what size unit they should manufacture for the lawn care industry. The company manufactures John Bean spray equipment.

Nine-digit zip code: The United States Postal Service plans to go to a nine-digit zip code within the next few years. It is supposed to reduce significantly costs of processing mail, as well as provide more accuracy.

Experimental fungicides: The federal Environmental Protection Agency has issued an experimental permit to Rhone-Poulec, Inc. (formerly Rhodia, Inc.), Monmouth Junction, N.J., for a new fungicide to evaluate it for control of dollar spot, brown patch, leaf spot and melting out on turfgrass in Florida, Georgia, Hawaii, Illinois, Maryland, Massachusetts, Michigan, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, Texas, Virginia and Wisconsin. Also, a number of midwestern lawn care businessmen have told LAWN CARE INDUSTRY they have gotten "good results" in tests with EL 222, a fungicide to control *Fusarium* blight under experimental permit to Elanco Products Co., Indianapolis.

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NEWSMAKERS

Mel Lucas, president of the **New York State Turfgrass Association**, has announced the appointment of Ann Reilly as executive secretary of that professional organization.

The Association also recently honored Robert O'Knefski with a Certificate of Merit for many years of outstanding contributions to the turfgrass industry. The award was made at the banquet at the 32nd annual conference of the Association held in Albany, N.Y. late last year. O'Knefski is a cooperative extension agent for **Nassau County** on Long Island in New York.

Gene Probasco has been appointed general manager of the **LESCO Product Division of Lakeshore Equipment & Supply Co.**, Elyria, Ohio. His responsibilities include executive supervision and coordination of merchandising and promotion for LESCO product sales.

Richard Hurley, vice president of agronomy research for **Lofts Pedigreed Seed, Inc.**, Bound Brook, N.J. has announced the appointment of Marie Pompei as research assistant.

Rain Bird Sprinkler Mfg. Corp., Glendora, Calif., recently announced the creation of two new positions for its turf market. Ken Mills has been promoted to the position of turf products development manager. Carlyle "Cozz" Regele has been promoted to turf products technical manager.

David B. Thomas has been named executive vice president and chief operating officer of **L.R. Nelson Corp.**, Peoria, Ill., manufacturer of lawn sprinkler systems.

Rich Records has been named manager of the San Jose branch office of **Target Chemical Co.**, Ferritos, Calif., president Ted Zeller announced.

Dave Davis has been promoted to manager of the training department for **Rain Bird Sprinkler Mfg. Corp.**, Glendora, Calif.

James O. Whitehead has been appointed to sales manager for **3M Co.'s Agrichemicals Project**. In this assignment, he will be responsible for developing and meeting sales forecasts as well as adding and training sales representatives for the St. Paul, Minn.-based company.

The **Toro Co.**, Minneapolis, has appointed Richard Hargarten a vice president and director of the company's physical distribution and administration for the Outdoor Power Equipment Group.

Union Carbide Corp.'s Agricultural Products Division, Jacksonville, Fla. has announced the appointments of John H. Kirch as vice president and general manager of herbicides and growth regulators; Robert W. Lichtman as vice president and general manager of specialty business and new ventures; John R. McWhirter as vice president and general manager of insecticides and intermediates business; and Francis A. Pastor as vice president of domestic sales, marketing and product development.

Diamond Shamrock Corp.'s Agricultural Chemicals Division, Cleveland, has appointed Dr. Gary L. Eilrich manager of commercial development and George N. Chism, Jr., business manager for herbicides.

Jim Nelli has been appointed staff product manager for agricultural and specialty gypsum products in the Chemicals Division of **United States Gypsum Co.**, Chicago. The announcement was made by M.C. Stockbrand, marketing manager of gypsum products.

David D. Eckert, director of marketing for the **Outdoor Power Equipment Division, FMC Corp.**, Port Washington, Wis., has announced the addition of Edward D. Winkler as market research manager.

Richard J. Dittoe has been appointed manager of marketing for turf products for the **Jacobsen Div. of Textron, Inc.**, Racine, Wis. According to Howard McPherson, turf products vice president and general manager, Dittoe will be responsible for service, advertising, market research, product development, North American sales, plus short- and long-range planning.



Dittoe



Hanlon

William R. Hanlon has been appointed vice president of agricultural/horticultural products for the **W.R. Grace & Co. Construction Products Div.**, Cambridge, Mass.

Also, Dean D. Ossanna has been named manager of the company's Urban Suburban product line. And Franklin J. Pratt has been named manager of sales training for the company.

Nancy Schnedler has been named director of the **Bluebird Action Center for Bluebird International**, Englewood, Colo., according to company president Doug Zehrung. The Center was created to provide instant service to Bluebird customers who might need information on products, parts, shipments, literature on the company's turf and other equipment.

Also, **Porter Equipment Co.**, Denver, has been appointed a distributor of the complete line of Bluebird lawn combers in the Rocky Mountain area. Tom Porter is president of the distributor. Other officers include: Bob Rodger, executive vice president and general manager; and Doug Porter, vice president of marketing.

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STH79-2

Nault, aphid specialist at OARDC, will be co-investigator in the study.

"The goal of the study is to learn more about the greenbug and to develop effective and economical methods of controlling damage," Dr. Niemczyk told LAWN CARE INDUSTRY recently. Information on the insecticides tested in the study could lead to the granting of a state or national label for the use of materials not presently registered for greenbug control. Funds to help support the project are invited from the lawn care and turfgrass industry.

The greenbug is not a new insect pest, Dr. Niemczyk said. It's been a problem in a number of grassy crops including barley, wheat, oats, and sorghum. Perennial bluegrass is also a host, but in the past the aphid has rarely caused serious damage in turfgrass. The recent losses may indicate a new association between the greenbug and turfgrass.

Various "biotypes" of the greenbug have developed which attack specific grass hosts. Speculation is that a new bluegrass adapted biotype of the greenbug has evolved in Ohio and other midwestern and eastern states.

The greenbug damages grasses in several ways. With piercing-sucking mouthparts it feeds on phloem sap. Large num-

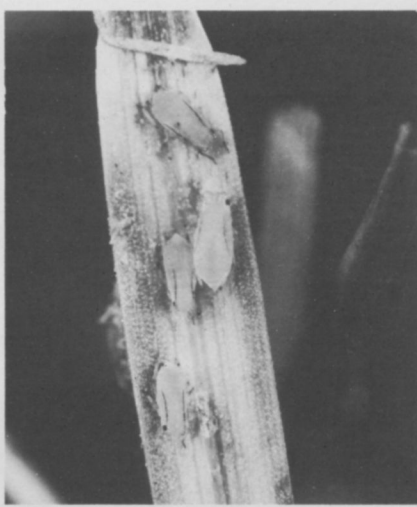
bers of the insects seriously weaken plants. In addition, the greenbug secretes a salivary phytotoxin which is injected into the plant, resulting in yellow and orange spots on the foliage. There is the possibility the toxin may also move within the plant and weaken the root systems, he said.

The possible involvement of the greenbug in the transmission of virus diseases will be studied. The aphid is known to be a vector (carrier) of three isolates of the barley yellow dwarf virus. There may be implications for bluegrass in the virus vector picture.

Greenbug damage first appears in late June and continues through September. In some cases, sections of lawns have been damaged so severely that turf had to be replaced. Some degree of control has been achieved with liquid sprays of some organophosphates but as many as three or four followup applications were needed to keep damage under control.

The new research effort will attempt to establish whether or not there actually has developed a bluegrass-specific greenbug biotype and if so, determine whether or not it overwinters in bluegrass and if certain management practices affect overall populations, he said.

Varieties of bluegrass will be screened to see if any exist with resistance or tolerance to the greenbug.



Close-up of greenbug aphid on a grass blade. An Ohio study to begin this year will gather data on the biology, ecology and control of the turf insect.

Infested turfgrasses will be indexed for barley yellow dwarf virus and other possible greenbug transmitted viruses to determine the possible involvement of virus diseases and their impact on bluegrass.

Greenbug populations will be carefully screened to determine whether or not the insect has developed resistance to various organophosphate insecticides, a problem already occurring with this pest in certain other crops.

Finally, various insecticides will be tested to determine their effectiveness in controlling the greenbug. Optimum rates, times of application, and volume of carrier will be determined. Tests will be conducted on home lawns where greenbug populations have reached damaging levels, Dr. Niemczyk said.

TEXAS STUDY

Homeowners water too often, researcher says

As much as 10 to 20 percent of the original investment in a house, on the average, is re-invested in landscaping the lawn. With a \$60,000 house — the national average cost of homes today — this means a \$6,000 to \$7,000 investment off the top.

Homeowners wanting to protect this investment spend hundreds of millions of dollars annually in watering costs, according to Dr. R. C. Smith of the plant and soil sciences faculty at Texas Tech University, Lubbock.

"One of the most common problems with people watering their lawns is that they tend to water too often and too much," Dr. Smith says, and there are quite a few lawn care businessmen in Texas and across the country who would agree with him.

Smith, just beginning research on the economic impact of landscape irrigation, has collected some staggering initial figures.

For the month of July 1978 more than two billion gallons of water were used in Lubbock. Previous studies had indicated that at least half, or about one billion gallons, went for landscape watering.

At a low average of about \$.40 per 1,000 gallons usage that would mean about a \$400,000 cost for landscape watering in the month of July alone, Smith said.

July is the month of greatest water usage, he explained, but in determining conservation methods and least water requirements during drought the worst month is the one upon which the study must be based.

The extremely large water usage for aesthetic purposes is the basis for Smith's research.

"Most people aren't aware of the amounts of water and money expended for landscape watering," Smith said. "We're going to try to bring our results to the public's attention and publicize possible methods of conservation and more efficient use of water."

Smith will be specifically comparing automatic irrigation systems with manual watering.

"It has been proved that automatic water sprinklers use water more effectively and efficiently than watering manually — and the automatic systems are more economical."

He has received funding from the Texas Turf Irrigation Association to disseminate this information to the public and to determine the best watering schedules for the most common turf types in Texas.

Once specific economics of landscape watering are determined, Smith plans to study minimum water survivability of lawn grasses and effects of fertilizer on turf watering requirements. He said it appears that fertilization actually causes lawns to require less watering.

For further information, Dr. Smith's address is: Plant Soil Service Department, Texas Tech University, Lubbock, TX 79409.

MONEYWISE

The 'curse' of the industry

Lawn service companies do not yet have the best reputations at banks, says George Miranda of American Lawn-service, North Hills, Pa., in suburban Philadelphia.

We carry the 'curse' of the industry," he says, referring to the reputation many past fly-by-night lawn care and landscape operations have left with the banking community across the country.

Miranda's financing problems may be similar to those faced by many lawn care businessmen across the country. He has finally boosted up his company's gross — almost \$400,000 annually — to the point where the banks will at least talk to him, but not for the kind of financing that he needs.

"You are constantly playing with dollars when you are underfinanced," he told LAWN CARE INDUSTRY recently. "We don't need any money at all to stay in business at the level we are at now, but we need at least \$100,000 to do any kind of expansion." One of the areas they would spend additional dollars, if they had them, would be to do a substantial mailing of at least one-half million direct mail pieces, probably at a cost of close to \$50,000.

"Advertising, of course, is a roll of the dice, but you at least have to have the bucks to back you up," he said. "But we have the records to show that if we do so much advertising, that we are going to get so much business. It's very predictable."

"But we need the financing, this is one of the big things that stops the entrepreneur. The banker will only go what he can see tangibly. It is necessary to divert and convert what you have into the business."

The company hopes to open up two new branches next year, without public financing; that is at least two years down the road.

"My financial people tell me that if we can push our gross to about \$750,000 a year, then we might be able to go to stock financing," Miranda said. "But to go public you have to have a good track record, you have to have a prospectus and projections, and you have to be able to offer an investor a good return-on-investment (ROI)."

"But as for right now, personal financing is the only course open to us now," he says. "It's the 'curse' of the industry at this point."

PESTICIDES

Shell Chemical Co. stops making DBCP

Shell Chemical Co., Houston, is no longer manufacturing the pesticide DBCP (dibromochloropropane) in the United States and has no plans to import it, according to Rich Hansen, senior public affairs representative for the company.

J.S. Oostermeyer, general manager of Shell's agribusiness operations, said: "We believe DBCP is a good product that can be made in the U.S. even under the strict controls set by the Occupational Safety and Health Administration, but it will have to be made by a specialized producer, not someone like Shell that primarily makes large volume chemicals."

Shell marketed the product under the trade name Nemagon. Dow Chemical Co., Midland, Mich., which sold DBCP under the name Fumazone, also discontinued making and importing the chemical about 18 months ago, according to W.C. Huck, a spokesman for the company's Agricultural Products Department.

Research revealed that excessive exposure to DBCP vapors damages the kidneys, testes, liver and other tissues and also causes sterility in human males.

OSHA set the maximum employee exposure standard at one part per billion during any one-hour period.

Effects of mowing on turf

by Dr. William E. Knoop, Area Turfgrass Specialist
Texas Agricultural Extension Service, Dallas

For lawn care companies involved in providing total maintenance for residential and commercial/industrial customers, perhaps the single most important cultural practice they perform is that of mowing.

A large percentage of a lawn company's total budget is directly associated with labor and equipment requirements of its mowing operation.

When we consider the possible effects that mowing may have on the turfgrass plant, we should remember that we are taking a plant that is designed by nature to grow and mature at a height far in excess of the mowing height we impose on it. We do that for the plant to fit our customer's intended use. Mowing in a sense is not natural. Mowing tends to upset the natural growth patterns in the plant.

We all know "it's not nice to fool with Mother Nature," but we are fooling with Mother Nature when we mow any lawn. In order to fool successfully with Mother Nature — and that is exactly what we must do in order to provide a quality lawn — we should understand a little bit about how the turfgrass plant operates.

The first, or at least the most apparent effect of mowing, is the reduction of the plant's leaf surface area. The leaf system has the function of manufacturing and supplying the plant with carbohydrates. Carbohydrates to the plant are analogous to the food we eat. During the active growing months (spring and fall for the cool season grasses and in the summer for warm season grasses), carbohydrate production is high and the plant is able to store food reserves. During periods of stress or dormancy, the plant must draw on these reserves in order to survive. Mowing at heights lower than optimum during periods favorable for carbohydrate storage for the specific turfgrass species may seriously impair the plant's ability to develop adequate food reserves for stress or dormancy periods. The resulting death of the plant may falsely be contributed to "heat or cold injury" when in fact the food reserves were not high enough to carry it through that period.

When part of the plant's leaves are removed by mowing, it reacts by increasing the leaf growth in order to re-establish its former leaf surface area. This flush of leaf growth requires carbohydrates and may reduce the supply of carbohydrates available to the root system. In the "peck order" of the plant, the leaf system has priority over roots, rhizomes or stolons for carbohydrates. This demand for carbohydrates by the leaves after cutting may in fact result in the reduction of root growth. The larger the amount of percentage of leaf tissue removed the longer the period root growth may be reduced. This is one reason why it is strongly recommended that no more than one-third of the

leaf surface be removed at any one mowing.

Just as the amount of leaf surface removed has an effect on root growth, so does the cutting height. There is a direct relationship between cutting height and the total volume of root system. The turfgrass plant, just like all other plants, develops a balance between its top parts and its root system. A certain size of root system is needed to support a certain volume of top growth and vice versa. If either the top parts or the root system is reduced, the plant will react by reducing the other.

Think about transplanting a tree. The top is pruned to compensate for the root system that is lost in the digging operation. When we mow the turfgrass plant we are reducing its top parts. The plant no longer needs the same quantity of root system so the plant in order to achieve balance reduces its root system. The more we reduce its top growth (i.e., the lower the cutting height) the shallower the root system may become. A shallow root system may seriously impair the plant's ability to withstand stress, especially drought stress.

There is another important function of the leaf system. That is the function of insulation. The growing points or crowns of most turfgrass plants are at or near the surface of the soil and are very high in the chemical activities that control the growth processes. These areas of the plant are very temperature sensitive. The upper optimum temperature range for cool season turfgrasses is about 75° F. and for warm season turfgrass about 85° F.

When the temperature of the growing point goes above these temperatures, the growth process begins to slow down. If

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The marking system is mounted on a turf utility vehicle, as is the spray boom system Sears uses for commercial/industrial jobs. Sears utilizes foam markers manufactured by Richway Products, Inc., Janesville, Iowa. At least one other marking unit on available to the lawn care businessman is manufactured by Fox Valley Marking Systems, Inc., Cary, Ill.

the temperature of the growing point gets too high for a long enough period, especially with cool season grass, the plant goes into what we call summer dormancy. The leaf surface insulates the growing point from high temperatures. As we reduce the leaf surface area we reduce the amount of insulation available for the growing point. The lower the cutting height is reduced from the optimum assigned to the particular variety, the more susceptible the plant may become to high-temperature injury.

Most of the turfgrasses are subjected to some degree of wear, particularly in a home lawn situation. The leaf surface area protects the growing point of the plant from the direct mechanical injury associated with traffic. As the leaf surface is reduced, the overall wearability of the turf is reduced. Lawns cut at low heights are subject to high wear damage and tend to gradually thin out.

Mowing practices may have an effect on the incidence of disease. Many times an increase in disease problems with turf maintained at below optimum cutting heights has been observed. This may be associated with the

weaker type of turf plant that results from extremely low cutting heights.

Just at the proper selection of height-of-cut is important, so is the frequency at which the turf is cut. Ideally the frequency between mowings should be as long as possible to allow the plant to recover from the last cutting. Leaf growth rate and the intended use of the turf will, to a large degree, dictate the mowing frequency. Considering the desirability of not removing more than one-third of the leaf surface at any one mowing, the application of nitrogen at high rates, as is the case with many lawn care companies, may force an increase in the frequency of mowing. This is especially true when the high rates of nitrogen are supplied in a soluble form.

If, because of high growth rates, the frequency of mowing becomes too frequent, consideration should be given to adjusting both nitrogen rate and source. The slower-releasing nitrogen materials do not tend to produce the lush growth associated with the soluble sources and should result in a longer period between mowings.

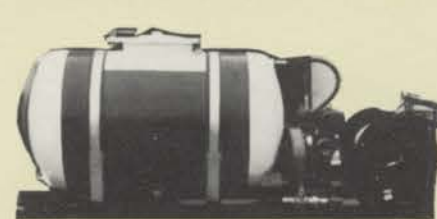
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MEETING DATES

ProTurf Seminar, Hyatt Regency O'Hare, Rosemont, Ill., Feb. 8. Contact: O.M. Scott & Sons, Marysville, Ohio, 800-543-0006.

ProTurf Seminar, Hilton Inn North, North High Street, Worthington, Ohio, Feb. 12. Contact: O. M. Scott & Sons, 800-543-0006.

Penn State 50th Anniversary Turfgrass Conference, Sheraton Penn State Inn, State College, Pa., Feb. 13-16. Contact: Dr. Joseph M. Duich, 21 Tyson Building, Penn State University, University Park, Pa. 16802.

Greens Lawns 11th Annual Lawn Spraying Seminars, Hilton Airport Inn, St. Louis, Mo., Feb. 14. Contact: Jim McCurdy, Green Lawns, Inc., 633 W. Monroe St., Belleville, Ill. 62221, 618-234-2141.

Illinois Landscape Contractors Seminar, Indian Lakes Country Club, Bloomington, Ill., Feb. 14-16. Contact: Carole Rachesky, 665 Forest, Glen Ellyn, Ill. 60137, 312-858-8356.

Capital Area Turf School, Hershey Motor Lodge, Convention Center, Hershey, Pa., Feb. 20-21. Contact: Harold E. Stewart, 75 S. Houcks Rd., Suite 101, Harrisburg, Pa. 17109.

ProTurf Seminar, Holiday Inn 9009 East Arapahoe Rd., Denver, Colo., Feb. 20. Contact: O. M. Scott & Sons, 800-543-0006.

ProTurf Seminar, Hilton Airport Plaza Inn, 8001-112th St., N.W., Kansas City, Mo., Feb. 21. Contact: O. M. Scott & Sons, 800-543-0006.

ProTurf Seminar, Holiday Inn, I-279 at St. Charles Rock Road, St. Louis, Mo., Feb. 22. Contact: O. M. Scott & Sons, 800-543-0006.

American Sod Producers Association Midwinter Conference, Doubletree Inn-Mall, Scottsdale, Ariz., Feb. 25-27. Contact: Bob Garey, ASPA, Association Building, 9th and Minnesota, Hastings, Neb. 68901, 402-463-5691.

Northeastern Pennsylvania Turf School, Master Host Motel, Wilkes-Barre, Pa.,

Feb. 27-28. Contact: Cy Chadwick, Court House Annex, 5 Water St., Wilkes-Barre, Pa. 18702.

30th Annual Canadian Turf Show, Chateau Halifax, Halifax, Nova Scotia, March 4-7. Contact: Canadian Golf Course Superintendents Association, 698 Weston, Rd., Suite 32, Toronto, Ontario M6N 3Re, 416-767-2550.

Reinders Turf Conference, includes irrigation seminars, equipment show and service clinic, Elm Grove, Wis., March 6-8. Contact: Ed Devinger, Reinders Brothers, Inc., 13400 Watertown Plank Rd., Elm Grove, Wis. 53122, 414-786-3300.

Midwest Turf Conference, Purdue University, West Lafayette, Ind., March 12-14. Contact: Dr. William H. Daniel, Department of Agronomy, 2-443 Lilly Hall, West Lafayette, Ind. 47907, 317-749-2891.

Northcentral Pennsylvania Turf School, Smethport Country Club, Smethport, Pa., March 20. Contact: Clarence E. Craver, Court House, Smethport, Pa. 16749.

Symposium on Turfgrass Diseases, sponsored by Ohio State University, Ohio Agricultural Research and Development Center, ChemLawn Corp., University Holiday Inn, Columbus, Ohio, May 15-17. Contact: Dr. P. O. Larsen, 2865 E. Orange Rd., Galena, Ohio 43021, 614-422-6987.

EDUCATION

Turf insect, disease slide sets available

Two slide sets — one of turf diseases and the other of turf insects — are now available from the New York State Turfgrass Association.

Either slide set is available at \$20 for New York residents and \$25 for out-of-state residents. Send checks made payable to the Association to Ann Reilly, executive secretary, 210 Cartwright Blvd., Massapequa Park, N.Y. 11762.

PREEMERGENTS

Rhone-Poulenc announces new Ronstar granule size

Rhone-Poulenc Inc. Agricultural Div., Monmouth Junction, N.J. announces that its turf and ornamental preemergent herbicide — Chipco Ronstar G — is now being manufactured in an improved larger granule size.

According to the company, the new granules will make application more precise and will minimize dust.

Used for control of many annual grasses and broadleaf weeds in established perennial bluegrass, bermudagrass, perennial ryegrass and St. Augustinegrass, Chipco Ronstar G is recommended for preemergent control of germinating crabgrass, *Poa annua*, goosegrass, Florida pulley, oxalis, stinging nettle, carpetgrass and pigweed.

The herbicide is available as a two percent granular formulation in 50-pound bags.

The company also said the herbicide may now be applied in the late summer or early fall for preemergent control of *Poa annua*. In turf applications, the rate for Chipco Ronstar G for control of *Poa annua* is four pounds active ingredient/acre or 200 pounds per acre formulated.

MULCHING MOWERS

FMC/Bolens, Jacobsen settle out of court

FMC Corp., Port Washington, Wis., manufacturers of Bolens lawn and garden equipment, and Jacobsen Div. of Textron, Inc., Racine, Wis. have reached an out-of-court settlement in regard to a patent infringement suit initiated by FMC against Jacobsen more than a year ago.

The suit was for damages, and to enjoin Jacobsen from infringing a U.S. patent which relates to a rotary lawn mower marketed by FMC under the Bolens Mulching Mower trademark.

In the terms of the settlement, FMC granted a license agreement to Jacobsen — for an undisclosed amount — covering the life of the Bolens patent.

Richard C. Pedersen, Jacobsen vice president, said: "There was no agreement as to whether we did or did not infringe on the patent. The parties just agreed to settle the issue."

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Lawn weeds and their control

by Dr. Al Turgeon

A weed is any plant growing where it is not wanted. When it occurs as part of a turfgrass community, its definition can be expanded to: an undesirable plant because of its disruptive effect on the aesthetic appearance, stabilizing capacity, or overall utility of a turf.

A particular plant species may be a weed in some turfgrass communities or a desirable turfgrass in others. Examples of "potential" weeds include tall fescue, creeping bentgrass and bermudagrass.

Specific weeds are often good indicators of unfavorable environmental conditions for turfgrasses. Large infestations of knotweed frequently occur where severe soil compaction limits turfgrass growth. Ground ivy often invade under trees where insufficient sunlight results in the decline of Kentucky bluegrass and other shade-intolerant turfgrasses. The presence of red sorrel is usually indicative of acid soil conditions.

Weed incidence in turf reflects both environmental conditions, and growth characteristics of the turfgrass genotypes comprising the plant community. These two dimensions of a plant ecosystem are highly interactive. Where a particular turfgrass is marginally adapted, successful culture is dependent upon careful programming of fertilization, pesticide application, and other cultural variables to sustain the turf and avoid large infestations of weeds. In contrast, an especially well-adapted turfgrass requires less precise care.

Usually, the commercial lawn care operator has little control over genotypic and edaphic (soil) conditions at the lawn site; he must work with the turf as it exists, or refuse to take it on unless the lawn owner agrees to undertake measures to correct basic problems.

Basic lawn problems

A lawn is a complex system of densely growing plants in intimate association with a continually changing environment. While climate and soil are the principal environmental components influencing natural plant communities, lawns are also affected by an array of cultural practices, and the manner in which the lawn is used by the lawn owner and others. Culture and use are parts of the biotic turfgrass environment. The turfgrass community and all components of its environment are referred to collectively as the turfgrass ecosystem.

Lawn problems arise when the turfgrass community is not well adapted to its environment, or when some environmental factor evolves or is changed in such a way that it adversely affects turfgrass. An example of a major environmental change is the development of a substantial thatch layer in turf. At the time

of establishment, the young turfgrass community has its roots distributed in the existing soil. With a net accumulation of organic debris at the soil surface, thatch can develop with a resultant distribution of at least part of the root system in the thatch layer.

Thatchy turf is more disease-prone, and less tolerant of heat, cold, and drought stresses — conditions often associated with weed invasion. Where thatch exists, pesticides may be less effective or more phytotoxic than where it has been controlled. Whenever the turfgrass community loses sufficient competitive vigor to resist weed invasion, weed species adapted to prevailing conditions often in-

vade. Other adverse environmental conditions include: soil compaction; low or high soil pH; poor drainage; restricted air flow; excessive heat, cold, drought, and shade; and toxic residues in the soil.

Adverse cultural influences include: excessive rates of nitrogen and other nutrients, close mowing, unfavorable irrigation practices, improper use of pesticides, selection of poorly adapted turfgrasses, and poor site preparation and planting technique during lawn establishment.

The principal cultural variables controlled by commercial lawn care operators are: fertilization and herbicide, in-

secticide and possibly fungicide application. Some operators also perform cultivation operations for reducing thatch and mitigating the effects of soil compaction. Others include lawn establishment as part of their operations. For those operators involved only in chemical application, consideration should be given to working closely with landscapers to implement corrective measures on highly problem-prone lawns.

Fertilization

Fertilizer materials, especially nitrogen, are essential for sustaining turfgrass growth. A fertilization program should be conducted to ensure that essential plant nutrients are not limiting for a particular turfgrass. Of equal importance is the necessity to avoid excessive applications of nutrients, particularly nitrogen. Experiences in



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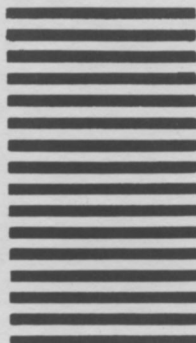
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Lawn Weeds and Their Control was written by Dr. Al Turgeon, associate professor of turfgrass science at the University of Illinois.

His article kicks off a LAWN CARE INDUSTRY special section on weed identification and control. On pages 34 and 35, Dr. Turgeon has provided line drawings of 32 common lawn weeds and background information on each.

Also, on page 14 begins a story on Greenlon, Inc., Cincinnati, Ohio, the company's weed control program, and other aspects of its business. Beginning on page 16 is a story on how a revised weed spray program has extended the lawn care season of Jerry Hutchinson, president of Turf Specialists, Inc., Holbrook, N.Y. In that story, the weed control program of Paul Kampe, president of Lawnrite Corp., Bohemia, N.Y. is also mentioned.

Beginning on page 29, the weed control program and other aspects of John Galignani's Lawn Doctor operation in Islip, N.Y. is explained. This special weed control section is concluded with a description of a number of herbicide manufacturers and their products they have available to the lawn care businessman, beginning on page 30.

the Midwest have shown that high rates of soluble nitrogen applied to Kentucky bluegrass in spring are often associated with severe incidences of *Helminthosporium* melting-out, stripe smut, and *Fusarium* blight diseases.

Depending upon the season of these disease occurrences, heavy infestation by crabgrass, quackgrass, annual bluegrass, and a variety of broadleaf weeds and other grasses is a typical aftermath. Thus, the dark-green, lush growth resulting from liberal use of nitrogen, while aesthetically appealing, can be a prelude to numerous disease and subsequent weed problems. Slowly available forms of nitrogen, including ureaformaldehyde (UF), IBDU, and sulfur-coated urea (SCU), provide less-dramatic initial responses than do soluble forms; however, season-long turfgrass quality and growth may be more favorable where these materials constitute a substantial portion of the total nitro-

gen applied to the turf.

Much confusion still exists over what constitutes optimum levels of phosphorus (P) and potassium (K) in lawn fertilization programs. A generally accepted guide is to apply P at 10 percent and K at 50 percent of total applied nitrogen. Where soil testing is practical, results may be helpful in programming P and K applications, as well as applications of lime for reducing excessive soil acidity. Commercial preparations of micronutrients are sometimes offered as cures for lawn nutritional problems. Certainly, where a specific nutrient is limiting plant growth, its application can result in dramatic responses; however, medium- to fine-textured soils at near-neutral pH's usually contain sufficient concentrations of micronutrients to satisfy turfgrass requirements.

Pesticides for controlling diseases and injurious insects and other animal pests are important in a weed-control program since any disruption of an otherwise dense, turfgrass cover caused by pest activity in turf results in potential weed-infestation sites.

Thus, pest problems should be controlled at an early stage of development or, if possible, prevented. Usually, pest control methods which can be employed by commercial lawn care operators center around the use of pesticides. Of course, proper application of pesticides is necessary for both pest control and prevention of pesticide-induced turfgrass injury. Information provided on the pesticide label and from local agricultural extension offices should be reviewed prior to incorporating specific pesticides into a lawn-care program. As a further safety measure, it is wise to acquire direct experience with any new pesticide, or other chemical, on small plots before acceptance for general use.

Herbicides

Lawn weed control may be defined as any practice designed to either: prevent weed emergence in turf, or effect a shift away from undesirable vegetation and toward desired turfgrasses.

Although herbicides are important tools for controlling lawn weeds, repeated occurrence of weeds may reflect underlying problems which are not correctable with herbicides. Nevertheless, the proper use of herbicides can successfully convert a heavily weed-infested turf into one which is weed free.

Herbicides vary in chemical structure and method of use; however, nearly all modern herbicides are organic chemicals which break down in the soil or in the plant within several weeks or months. Their breakdown products, called metabolites, are usually smaller organic or inorganic chemicals that, in many cases, are similar to chemicals which naturally occur in biological systems. Herbicides are usually placed into categories reflecting timing of application, site of application, type of action, and selectivity.

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Professionalism, products spark Cincinnati company's fast growth

Even measured by the rapid growth of the lawn care industry, the success of Greenlon, Inc. is notable:

When Richard D. Steinau, owner, and Robert J. Blank, technical supervisor, took over operation of the 1½-year-old Cincinnati firm in early 1974, it had just two trucks and about 900 customers. Today Greenlon has 13 trucks, three supervisory vehicles, 7,500 customers within a 30-mile radius, and annual sales nearing \$1 million.

Professionalism has been the key to this growth — professionalism at all levels of the business, ranging from an alert management supported by a

small, in-house computer; to good marketing; careful, continuing attention to customer relations; thoroughly trained operating personnel; clean, well-maintained equipment; and use of only top-quality, dependable chemicals.

"We provide generalized lawn care for commercial, industrial, and residential property owners who want above-average results for minimum cost," said the 31-year-old Steinau. "Thus, we are not a custom service. We apply fertilizer, herbicides and insecticides as we think they are needed."

"In this type of operation, we think a couple of points are im-



Richard D. Steinau (seated), owner, and Robert J. Blank, technical supervisor, of Greenlon, Inc., Cincinnati, Ohio, agree that most lawn care complaints occur because customers don't water properly. So as soon as the weather turns dry, Greenlon hands out inexpensive plastic glasses marked off as rain gauges, accompanied by the instruction sheet held by Blank.



Greenlon has 13 trucks and operators and three supervisory vehicles which serve 7500 customers within a 30-mile radius. Here, Operator Michael R. Meagher fills his truck with fertilizer and water in the evening. . . .



... then the following morning he adds weed killer and insecticides, in this case Dow's Formula 40 and Kuron for the widest spectrum of broadleaf weed control, and Dursban 4E Insecticide for equally broad control of insects. One year Greenlon switched to a premixed product. "It was cheaper, but we got burnt," said Steinau. "We ended up using twice the rates and still didn't get good control."



Checking a problem area in a new customer's lawn are Blank (left) and Field Supervisor Terry Bradford. A supervisor responds to every customer call within two days, and Blank and the supervisors constantly spot check lawns, too.

portant: you can't let down — while you can only maintain a yard to a certain level, you must maintain it to that level, because the customer soon forgets how bad it looked before you took it over.

"Also, rapid followup on customer calls and questions is essential," continued Steinau, who was with Ace Exterminating, run by his father, Bert, before acquiring Greenlon. "We send one of our three supervisors out on every customer call within two days. If the supervisor finds a problem he can't handle on the spot, he contacts whichever of the 13 operators originally sprayed the lawn. Also Bob Blank and the supervisors constantly spot-check lawns."

"We always try to be fair in giving resprays — for example, if it rains right after application, we'll respray the last several customers, and always let them know we have done it. If a customer still calls about rain, we usually ask him to wait seven to 10 days, then if the weeds

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Revised spray, seed schedules can stretch lawn care season

One problem that northern lawn care businessmen face annually is what to do during winter. They are swamped with a heavy flow of customers in spring, but demand of course dwindles to zero in winter and many businessmen are forced to take on other seasonal services — such as snow plowing and selling firewood. Others repair equipment, catch up on the bookwork and take vacations. Still, others lay off employees or close down completely.

Turf Specialists, Inc., Holbrook, N.Y. has discovered an efficient way to shorten its slow season and to alleviate the intense demand in spring by revising its seed and herbicide application schedules.

The company has been in business since 1969 and now tends to 4,000 acres of turf a year within a 50-mile radius (east and west) of their central Long Island headquarters. Its services include insect control, selective weed control, total weed control and fertilizer applications. And while their accounts vary from municipalities, to schools, to athletic fields, to golf courses and to industrial properties, almost all have one thing in common: crabgrass.

"We use Betasan on any lawn that has crabgrass," says Turf Specialists president, Jerry Hutchinson, who has a bachelor's degree in agriculture from Michigan State University. Betasan is manufactured by

Stauffer Chemical Co., Westport, Conn.

"Crabgrass normally germinates in this area during the first week of May, but it can germinate earlier in some seasons. If atmospheric temperatures get into the 80's during the first week of April, crabgrass can germinate in mid-April. At the other end of the extreme, some crabgrass germinates in late July and early August."

Hutchinson uses an unsprayed, warm, sunny spot on his own lawn to gauge crabgrass germination in spring.

"If you apply the herbicide too late — after most of the crabgrass germinates — you will not get good control," Hutchinson adds. "You have to monitor crabgrass germination closely. There have been some seasons when I have been caught off guard."

Travel time to service Turf Specialists' wide territory, coupled with heavy spring rains and soggy turfs, makes spraying



Jerry Hutchinson, president of Turf Specialists, Inc., Holbrook, N.Y. has lessened his spring rush period by revising his spray schedule.

4,000 acres early enough for crabgrass control virtually impossible — even with four E-Z-Go trucksters, marketed from the Minneapolis company, and two large spray rigs.

Pleased with results from previous experiments with dormant herbicide applications, Turf Specialists treated 300 acres of front lawns in last year between November 15 and December 1 to get a jump on the crabgrass and this spring's blitz of anxious customers.

"It's usually too wet to spray all that acreage in spring," Hutchinson says. "By using dormant applications in late fall, it actually extends our season. We used to apply herbicides only in the spring, but now we can spray from November 15th until December 1st on a dormant basis."

"The Betasan label calls for a minimum 7½-pound rate of active ingredient per acre, but we use 10 pounds," he said.

All of the herbicide should stay in the top one-half inch of soil over winter, but if any does leach, the 10-pound rate gives us a 25 percent buffer. We expect to get about 98 percent crabgrass control this spring from the dormant applied herbicide."

Hutchinson says the remaining acreage with crabgrass will be sprayed with the herbicide around the first week of April, adding that his crew will be under less pressure this season since 300 acres are already treated. If the program is successful, Hutchinson says more acreage will be dormant sprayed next fall.

Turf Specialists also has experimented with spring herbicide applications on dormant seeded ryegrasses.

"We've done some dormant overseeding of various improved ryegrasses," Hutchinson says. "We cut the seed into the soil about three-quarters of an inch deep with a Rogers seeder followed by a drag mat. The following spring we apply Betasan with a four-ounce rate of Banvel-D when the emerging rye is at the two-leaf stage," he said. Banvel-D is manufactured by Velsicol Chemical Co., Chicago.

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Houston is in a boom, with no bust in sight. The city is increasingly being built on petroleum-related industries and services.

Acknowledged as the "golden buckle" of the Sun Belt, Houston has captured over 200 corporations from other cities in the past eight years. It continues to lead the nation in housing starts, while its cost of living is one of the lowest in the country. Its population is currently almost 2.4 million, and is expected to grow 10.9 percent to 2.64 million by 1982, according to the Marketing Economics Institute. Its population figures ranks it 11th among major cities, and its rate of population growth is higher than any of the top 20 cities.

All of this growth has not missed the attention of Houston's lawn care industry. There are presently more than 90 companies listed under the "Lawn Maintenance" section of the Houston Yellow Pages. There is a predominance of landscape maintenance companies to service the building boom of office and condominium complexes. Also, ChemLawn opened its first branch in the early 1970's with the standard liquid spray program, but changed in the mid-1970's to a dry, five-round program. And more companies — including some notables that have traditionally been strictly involved in landscape maintenance — are now moving into the residential market heretofore dominated by ChemLawn's two substantial branches and companies like Pampered Lawns.

Most residential and commercial/industrial lawns are St. Augustinegrass, although bermudagrass hydroseeding is becoming more popular. The main cultural problems are chinch bugs and brown patch.

John Cummings, president of Sun Group Services, says that 1,000 persons a week are relocating to the Houston area, and adds that "if a lawn care business cannot make it in Houston, it can't make it anywhere."

Dan Meyers, branch manager of one of ChemLawn Corp.'s branches, feels Houston has the potential to be one of that companies "biggest markets in the future."

A number of Houston lawn care businessmen give their thoughts on their business and the Houston market in the following pages. A partial listing of some other Houston lawn care companies would include: Ihrig-Yoder Landscape, Inc., Houston Landscape Systems, Southscapes, Landscape Management, Inc., Lawns by Northwest, Evergreen Lawn & Tree, Growth Systems, Inc., Accent Lawns, Perm-A-Lawn, Inc., Dun-Rite Lawn Maintenance, Lawns, Unlimited, Texlawn, Trimlawn, and Timberline Lawn Clinic.

For an inside look at how eleven Houston lawn care businessmen view the Houston lawn care market and their place in it, read on.



Houston

"When one of our customers yells 'jump' we ask 'how high?'" is the way Charles Racusin, 32, of **Environmental Landscape Services, Inc.**, Houston describes his customer-handling approach. It sounds a little boastful, but after spending a little time with him, and also talking to some of his competition, one gets the idea that it's true.

"We deliver what we say we are going to," he told LAWN CARE INDUSTRY. "Our attitude is that we are going to provide a first-class job. We are human, and if we make a mistake, we are going to eat it, even if we have to lose money. We stand behind our jobs, but we don't bid jobs that we don't think we can provide our level of services on either."

The company began in 1972 providing grounds maintenance for commercial institutions. Last year the company put two crews on the road handling sprinkler repairs, a market that Racusin says is "hot." He plans on going to four crews this year if the demand keeps up.

Jay Finegold is Racusin's technical man, and Gordon Creaser, a former Lawn Doctor franchisee in the Washington, D.C. area, was recently hired to head up what will be the company's newest division this lawn care season — a chemical lawn care company called **Environmental Lawn Care**.

"We have been talking and planning chemical lawn care for awhile and we feel confident," Racusin said. "We are spending a lot of money to get it going, and we are going to be offering a first-class dry product. ChemLawn does an excellent job, but I don't think anybody's product is going to dominate the market. Our service will be comparable, but we feel that because

we are a smaller local company, that we have an opportunity to provide a more personalized service. Our service will probably cost more, but we feel that in the long run, our customers are going to be getting what they are paying for."

Racusin says that the Environmental Lawn Care marketing strategy is going to be direct — "we are not going to babysit or pamper the marketplace." It will be basically a dry-application program, with some spray applications also. He says the company is going to be enacting a little bit different promotional approach, and that he plans on having 2,000 customers on the books by the end of his first year.

At present, the company has almost 200 maintenance accounts on the books, all the way from a "hot dog stand" to large, industrial developments. His accounts range from a low of \$100 a month to \$7,500 a month, although he has had accounts as large as \$15,000 a month. A little less than half of his accounts are on a monthly contract and billing. His gross is in the vicinity of \$1 million dollars annually.

"We don't deal with condominiums or apartments," he said. "They aren't dependable accounts, you have to deal with too many people that you have to please. The budgets are low to start out with, but they want first-class service at third-class rates."

The company does not do big-acreage mowing, but does get involved with rights-of-way work along freeways. They do work on trees up to about a six-inch caliper.

During peak times of the season, the company has about 40 employees out on jobs. They

use 72-inch Hustler mowers manufactured by Excel Industries, Hesston, Kan. They also use 52-inch Groundsmasters manufactured by Toro Co., Minneapolis, and quite a bit of equipment manufactured by the Jacobsen Div. of Textron, Racine, Wis. especially hand mowers, which he buys at "100 a pop." He also uses hand mowers manufactured by Flymo Products Co., Woodbridge, N.J.

Other equipment he uses includes backpack blowers manufactured by Echo Div., Kioritz Corp. of America, Northbrook, Ill., and trimmers manufactured just down the road from his offices at Weed Eater, Inc.

Racusin's advertising consists of Yellow Pages, direct mail, personal canvassing and outdoor advertising. Small billboards run him anywhere from \$400 to \$1,000 a month.

His company also recently became a dealer Turf-Vac Corp., Signal Hill, Calif.

The development of **The Spencer Co.**, Houston, over the past 20 years might be typical of the growth of some of the larger, more professional companies involved in lawn maintenance across the country.

Company president Len Spencer started the company in 1959 and was largely involved in outdoor maintenance. His customer list grew, and so did demands for landscaping installation jobs, so he went into design and installation. From the start, he was always involved in chemical application. In the early 1970's, he began to give a hard look to the coming indoor tropical plant surge, and began a

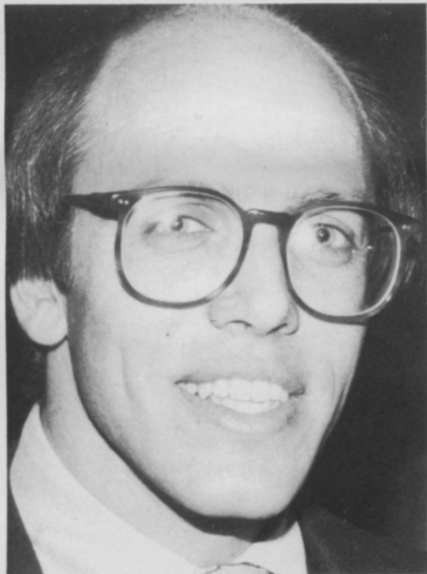


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service for indoor tropical plant leasing, which has become very successful.

At present, the company has four divisions: its outdoor maintenance division, which handles about 95 percent commercial/industrial and apartments and condominiums; a landscape division, which handles both design and build, and will also work from a plan prepared by another landscape architect; the indoor division, which handles leasing and maintenance of plants, and also handles wholesale sales; and finally, its chemical division, which does industrial herbicide and insect control, and also is developing a residential chemical lawn care program.

The work breaks down to about 50 percent inside and 50 percent outside work. Of the outside work, about 70 percent is maintenance, 20 percent landscaping, and 10 percent chemical lawn care. The company has met its goals of 35 percent growth the last three years, to bring it to its present \$2 million annual gross.



Jay Finegold, Environmental Landscape Services, Inc., Houston: "We're expanding our landscape maintenance business into chemical lawn care for the residential market because we feel the Houston area has great potential."

Spencer counts about 500 customers on its books, and during peak times of the season, has about 100 employees. As with most lawn care businessmen across the country, he says personnel and labor problems are one of his prime concerns. And he is helping to do something about it.

He has been involved with the federal Department of Labor and Houston Community College in a pilot apprentice program for eight green industry trades. The first courses began last month, and involve 144 classroom hours and at least 2,000 hours working for companies in the field.

"The apprentices will learn to handle equipment, and all other aspects of the business," Spencer told LAWN CARE INDUSTRY. "We are aiming at coming up

The Astrodome consists of the Astrodome, Astrohall, Astroarena, Astroworld and the Astro Village Hotel Complex, covering approximately one square mile.

with careers in the green industry for these apprentices, and we are also hoping to increase the professionalism level for the industry. It is up to companies like us to put something back into the industry because we owe so much to it."

The chemical lawn care program Spencer is developing for the Houston area will "be at a little higher level" than what now exists, he said.

"We are going at a program that is going to build up the customer's lawn over the long haul," he said. "We are not using the price approach, and we hope to be able to show a real difference for the better in the lawns we maintain."

His company will be offering a series of programs to the homeowner — "custom programs tailored to what that particular lawn needs," he said. "We will offer care of trees, whatever the customer needs. There will be no 'as needed' clauses in our programs, no guessing, we will do it all." He says his program will probably charge \$200 to the typical homeowner, as opposed to a typical \$125 program.

Spencer said that most of the lawns in the Houston area are still St. Augustinegrass, although the growth of hydromulching is bringing in more bermudagrass lawns. For chinch bug problems, he uses Diazinon, manufactured by Ciba-Geigy Corp., Greensboro, N.C. For white grubs, he uses Dursban, manufactured by Dow Chemical Co., Midland, Mich. Control of brown patch in the fall is handled either by Terraclor, manufactured by Olin Corp., Little Rock, Ark. or Dithane, manufactured by Rohm & Haas Co., Philadelphia. For control of chickweed, knotweed and clover, he uses Balan, manufactured by Elanco Products Co., Indianapolis.

For much of his dry application work, he uses units manufactured by Cyclone Seeder Co., Urbana, Ind. For spray work on trees and elsewhere, he is building his own units.

For mowing, he has almost 20 60-inch units manufactured by both Yazoo Mfg. Co., Jackson, Miss., and Howard Price Turf Equipment Co., Chesterfield, Mo. He also is experimenting with units manufactured by Dienes Corp. For hand mowing, he utilizes self-propelled Lawn-Boy units, manufactured by Gale Products, Galesburg, Ill. He has four full-time mechanics.

Spencer feels that the lawn care industry is getting more sophisticated, and more importantly, more professional.

"We are getting beyond the point where we are looked at as 'yard men,'" he said. "Companies have to raise their costs, so that they can afford to pay

good people that are going to stay with them. I think the future of the industry in Houston is good, we can look for a steady growth pattern, nothing phenomenal, and professionalism will be important in this growth."

Dependability of service and open communication with one's clients are the two primary features of running a successful lawn care business, according to Dwane and Dean McNabb, co-owners of **Pampered Lawns Inc.**, of Houston.

"We just picked up a new \$40,000 account because there was a lack of communication between a customer and a



Len Spencer, Spencer Co., Houston: "There are no 'as needed' clauses in our chemical lawn care programs, no guessing, we do it all."

company," Dwane, 43, said. "The main complaint we hear from new customers is that their previous lawn care service didn't do the things they said they were going to do. The key is to find out the customers' needs and then fulfill those needs."

Dean, 62, added, "We try to be honest with our customers. We tell them we're not infallible and that we can make mistakes, but when we do something wrong we encourage them to call and let us know. We try to keep the lines of communication open."

Evidently the brothers have kept the lines of communication open often enough since 1967, when they formed the company, to develop about 100 accounts. They gross about \$1 million per year with an annual growth rate of 10 to 15 percent.

Pampered Lawns provides a number of services for commercial properties including weekly maintenance, fertilization, and insect treatments. "Anything that needs to be done to a lawn, we do it. We provide total lawn care," Dwane said.

He added that there has been a growing demand by Houston businesses for the quality maintenance services lawn care companies can provide. "The lawn care industry is developing more and more rapidly as companies find they can't do the work themselves," he said.

One of the consequences of the growing demand for lawn care service is the rapid development of new and often ill-equipped lawn care companies. "There are a few companies which have been in business several years who are confident they can provide good service,

but each year there are 20 or so new companies which just muddy up the waters and then go out of business," Dwane said. "These small companies have the best intentions when they start out, but eventually they overextend themselves and are unable to do satisfactory work."

Obviously the Houston market is far from being saturated, but both brothers refuse to exploit the market. "It would be very easy for us to go out and double our business, but the work wouldn't get done the way it should be done," Dwane said.

About 60 percent of Pampered Lawn's business is based on servicing apartments and townhouses and about 40 percent comes from servicing industrial plants and office buildings. The brothers have also secured contracts from development firms in the Houston area. They provide maintenance services for entryways, medians, and other land the firms develop.

All the company's services are based strictly on annual contracts with reduced services during the winter months. "We've found that to get maximum utilization of our workers we must require annual contracts. It's much easier to establish work schedules when you have annual contracts," Dwane said.

Pampered Lawns does little advertising and depends on referrals for new clients. "Most of our business comes from people who have seen our work, liked it, and called us," Dwane said. "We've tried direct mail advertising and ads in the Yellow Pages, but they have not been effective."

Both brothers said one of the major problems their company has encountered is finding a durable push mower for commercial use. They currently use about 50 mowers from a number of different manufacturers. "You name it and we've tried it," Dwane said, "but none of them give us a good performance on a consistent basis. The motors are just not designed to hold up to commercial use."

He said they have tried to extend the engine life of the mowers by changing filters every day and the oil each week, but it hasn't helped. "We use each of them less than 20 hours per week, but after about 150 hours of use they break down. We're forced to replace the mowers every two to three months and it's very expensive," Dwane said.

Other equipment used by the company includes six Howard and six Yazoo Riding Mowers, both with a 60-inch cutting width, six 35- to 45-horsepower Massey-Ferguson and Ford tractors.

A second problem the company encountered has been controlling their costs. In an attempt to secure a better knowledge of their costs the company recently purchased a new computer which will provide them with a finer breakdown of operational costs.

Both brothers predict a "tremendous amount of growth" in the Houston lawn care market in the future. "And as long as we provide quality services we will have all of the new business we want to take on," Dwane said

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HOUSTON from page 18

ChemLawn Corp., based in Columbus, Ohio, opened up the Houston market in 1972. Dan Meyers, 40, who started with the company in Troy in 1969, was the first branch manager. This past year, the company split into two branches — one in the north part of town and one in the west. Jon Custer is coming down from the Minneapolis branch to handle the west branch.

Meyers, after a stint working in ChemLawn's home office in the marketing department, is again manager of the north branch.

"The Houston area is a great growing market," Meyers told **LAWN CARE INDUSTRY**. "It is a good place to work, the people are sincere and not snobbish. I think it is one of the fastest growing markets, and has the potential to be one of ChemLawn's biggest cities. Of course there is going to be a lot more competition, but the future looks great."

Like many other cities in the ChemLawn network, the Houston program calls for five applications, from mid-February to Thanksgiving. Unlike the ChemLawn program in most other cities, the Houston program is basically a dry program, because of problems with burn using a spray program in hot climates. ChemLawn switched to a dry program in 1975, after opening the market with the typical spray program.

The first application includes fertilizer and weed control; the second and third a fertilizer and insecticide; the fourth and fifth, fertilizer and a fungicide. Iron is also included in many of the applications.

Meyers says that "99.9 percent" of the lawns he cares for are St. Augustinegrass. Because of the expected brown patch problems, ChemLawn includes a fungicide in its basic program.

There are also some problems with the virus St. Augustine Decline — appropriately referred to in turf literature as SAD — and Meyers says that just about all of the lawns that experience SAD usually have to be replaced. Sometimes if the customer fertilizes heavily in the infected place, enough new growth might help the problem, but it will probably never get as green as the rest of the lawn.

Meyers said that the average size lawn is about 6,000 square feet in the Houston area. The ChemLawn minimum is \$20.50 per application for 4,000 square feet, and the price goes up about \$2.25 per 1,000 square feet after that. The company also has a substantial business with football fields, schools, banks and other such areas in Houston.

The Houston-area lawn care market is a "sleeping giant," ac-

A nightview of the ever-changing skyline of Houston surrounded by freeways that will take you through or around the city. Most of the downtown buildings are less than 15 years old.

cording to Richard B. Boyd, owner of **Ford's Chem Service, Inc.**, in Pasadena, Texas, just outside of Houston. "For years we've all walked through the money and never bothered to pick it up. The market is wide open right now."

Ford purchased Chem Service in 1959 and currently grosses about \$750,000 annually. The company provides a number of services other than lawn care, including general pest control, retail and wholesale chemical sales, and termite control. About one-half of Chem Service's business is based on chemical sales while about \$50,000 of the company's annual gross comes from its 150 lawn care clients.

Although lawn care is not the main focus of the company, Boyd still provides complete chemical lawn care services. "First we do a chemical analysis of the soil to

"Homeowners and business in Houston are tired of companies that put bids in and accept jobs that they can't service they have been burned too many times"

Owen Walker, Walker Industries, Houston

determine its needs," he said. "Some soils need more nitrogen or contain more potash than others. This should be determined before a feeding program is set up. A lot of companies don't do this, but they really should."

After the soil is analyzed Chem Service develops a feeding program. "We try to treat the lawns every 60 days the year round," he said. "It's easy to burn the lawns by applying too much fertilizer so we put a consistent application on six times a year to prevent this." Boyd said he used Nutrex fertilizer last year, but was not satisfied and is currently shopping for a new brand.

The company also provides three insecticide treatments and two fungicide treatments per year. Insecticides he uses in his program include Dursban and Diazinon.

Boyd said he uses the Yellow Pages and direct mail to advertise, but most of his customers come from word-of-mouth advertising. "We've been here a long time so a lot of people know about us." He added that he also secures business from companies who purchase his chemicals, but then provide inferior lawn care service. "Their customers here about us and often decide to give us a call," he said.

Boyd said he would go into the lawn care business more heavily if the labor situation were better in the Houston area. "It's very difficult to find good people you can train," he said. "It's also hard to find good people to mow lawns here because you can't pay them as much as

the plants do (\$6-\$7 per hour) or you would have to charge too much for your services."

However, Boyd said he would like to expand his lawn care services if he could find enough good help and keep the quality of his service high. Boyd, like the owners of many lawn care companies in the Houston area would like to be the one to wake the "sleeping giant."

Owen Walker, 54, owner of **Walker Industries**, Houston runs big business.

During peak times of the summer, he has 200 employees at any given time, about 125 of which work with him year-round. He has eight horticulture graduates as area supervisors and 20 crews with foreman on the road at 7:00 a.m. each morning, six days a week.

He has been in business 11 years, has had growth of about 25 percent each year, and now his business is well past the million-dollar mark.

He says his business has grown because he stresses training, preventive maintenance and quality.

"Sometimes," he says, "the

lawn care industry reminds me of the old boy who comes along and gets jobs whitewashing barns or fences and everything is just fine. But then a rain comes along and washes everything off, but he's long gone by then.

"A lot of people in this industry don't stand behind their work, and homeowners and businesses down here are getting tired of that kind of operator," he said. "They are tired of people putting in bids and accepting jobs that they can't service. They are beginning to demand insurance certificates and guarantees." Walker said that his company carries a \$3 million umbrella insurance policy.

"Businesses check your references down here," he said. "They have been burned too many times by guys that come in and talk their way into a job that starts up in January or February when things are relatively easy. But then when it gets into weekly work and a little bit of rain hits and they have to let people go because they can't afford to pay them, they can't handle their maintenance jobs. We have enough backup to make the rainy pay days when these other companies can't, and we back-up and guarantee our jobs."

Walker said that about 60 percent of his million-dollar-plus gross is maintenance, about 25 percent is landscape design and installation, and about 15 percent is irrigation installation. The irrigation work is the fastest growing part of his business, most of it residential.

Walker estimates that probably 50 percent of the new homes being built in the Houston

area have automatic irrigation systems installed. He has five four-man crews and five trucks working year-round on irrigation installation, and says that executives of Toro's Irrigation Div. in Riverside, Calif. estimated that the irrigation business grew 170 percent last year in the city of Houston alone. In addition to Toro systems, he also uses irrigation equipment and systems manufactured by the Weather Matic Div. of Telsco Industries, Dallas, and by Moody Sprinkler Co., Santa Ana, Calif.

Why the move to more automatic irrigation?

"People have the money now and they are spending it to landscape their new homes properly," Walker says. "Also, there are so many people moving here, and so many new homes being built, that the water pressure gets very low at times. To get the proper amount of water on their lawns and landscapes, they need to water at 2:00 a.m. or 3:00 a.m. in the morning, and that is why they want automatic systems."

He also said that in Houston, there is a service charge based on water consumption. Water that goes back into the ground and to the water table is taxed at a much cheaper rate than water that goes into the sewers. The automatic systems have a separate meter to measure this usage.

Walker says he has a two-month waiting list of people that want his company to install irrigation systems.

He said he provides total maintenance to his accounts, which are almost completely commercial/industrial. He has some residential accounts on the books, but only on lots of about two acres or more. He charges his accounts on a monthly basis to keep his cash flow up during the slower winter months, although there is about a 40-week growing season in the Houston area. Some of his bigger accounts are Houston Light & Power, Southwest Bell, Coca-Cola and Ingersoll-Rand.

For his large mowing work, he has about 30 tractors manufactured by Ford Tractor Operations, Troy, Mich., diesels that go all the way from 45 to 60 horsepower. Many of his mower decks on these tractors are manufactured by Servis Equipment Co., Dallas.

For other mowing work, he utilizes 12 Groundmasters with mowing widths between 60 and 74 inches manufactured by Toro Co., Minneapolis. He also has five Hustler units, manufactured by Excel Industries, Hesston, Kan., and a number of units manufactured by Yazoo Mfg. Co., Jackson, Miss. He also will be trying units this year manufactured by Howard Price Turf Equipment, Inc., Chesterfield, Mo., because they are gear-driven, a fact he says makes for easier maintenance.

For close work, he says he buys mowers "by the hundreds" manufactured by Toro, Jacobsen Mfg. Co., Racine, Wis., and Law-Boy, Galesburg, Ill. He likes two-cycle mowers, because they are easier on gas and last longer, because "if they are on straight



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HOUSTON (from page 20)

gas, a guy trying to make good production will run them wide open all day and burn them out too quickly."

For his fertilization and pesticide needs, he buys about 50 tons of combination granular products manufactured by O. M. Scott & Sons, Marysville, Ohio. He says the Scott prices are high compared to some prices on the market, but that he gets "10 times the coverage" than what he gets with some other products. About 85 percent of his lawns are St. Augustinegrass and the rest bermudagrass. Chinch bugs and brown patch are his biggest cultural problems.

Although he does no advertising he is listed in the Yellow Pages, and calls it "dollar for dollar the best money I spend." For his multiple listings, he spends about \$800 a month.

"Supervision is the key to this business," he says. His area supervisors rate every job after it

is done, because "this old man doesn't like being embarrassed. Labor today is sometimes kind of like handling horses. Although I've got good people, some others in the industry complain that their labor knows what they can get away with, and they will go to the limit if you don't draw the line. I run a tight ship, I am here six days a week from 7:00 a.m. until 7:00 p.m. We are constantly working to motivate our people. We have reviews after 30 days and again after 90 days to help us evaluate their work, and to let them know how they are doing."

John Cummings, 29, is president of **Sun Group Services, Inc.**, Houston. His company will gross \$1.5 million this year, and about 60 percent of his total work is landscape maintenance, the rest installation. About 80 percent of his total work is commercial/industrial. During peak times of the season, he has about 50 employees on the payroll, about half

of these work year-round.

After spending a little bit of time talking with Cummings, a listener comes up with about five main themes:

- "We don't like to bid installation jobs, and we especially don't like to bid maintenance jobs to somebody else's specs,

- "We bill in advance," he said. "I bill on the 25th of the month for the maintenance work we are going to do next month. There is enough work in Houston that we can find the people that are willing to do it this way. When we first take a maintenance account on, we might bill

"I bill on the 25th of the month for the maintenance work we are going to do next month we can find the people that are willing to do it this way"

John Cummings, Sun Group Services, Inc., Houston

because we do a lot more," he told **LAWN CARE INDUSTRY**. "On installation jobs, we like to do our own planning. When you are bidding installation work, it just comes down to the guy who has the sharpest pencil. And we're not in the pencil-sharpening business.

them in arrears for one or two months, but then we put them on advance billing. Of our \$1.5 million gross this year, I'll only have to charge off maybe \$4,000. And I hate charge-offs.

- "The thing that kills you in this business is downtime," he said. "Plants don't have any downtime, and you can't afford any either. If a crew knows they are going to need four hand mowers to get them through their working day, they take five on the job.

- "Preventive maintenance of equipment is another key to this business," he said. "Our newest truck on the road is a 1976 model, our oldest that goes out every day is a 1968 model. I'm holding my own with the 1976, because I am still making payments on it. But the 1968 is a moneymaker, and it will be making money for me for three more years. And it's because we take care of our equipment.

- "Companies in the lawn care industry have to be smart enough to charge what they are worth," he said. "When we do bid, and come in with the low bid, we start to worry. Also, a lot of companies go in on a new job and charge \$5,000 for an initial clean-up. When they do this, they are asking the customer to pay for their education to know how much they should be charging for that job on a monthly basis. We don't do gorilla clean-ups, we fit it into our monthly charge."

Cummings has been in business five years, and calls Sun Group one of the "quiet" companies in Houston, relying mostly on referrals and word-of-mouth for most his business. Although the advertising he does do is not that traditional.

He advertises in the *Houston Business Journal*, which reaches developers and realty management companies. A parallel to this might be advertisement in city or regional magazines in metropolitan areas. Also, the direct mail that he does is not the "shotgun" approach that he utilized when he first got in the business. Most of the letters that go out now are personalized letters tailored to the potential customer and his needs after a bit of research.

As with most lawn care businessmen across the country, labor is a factor Cummings has to deal with. He starts laborers out at \$3.25 an hour, but gives them the training to allow them to move up the ladder if they are so inclined. "Up the ladder" can be to the point where some of his foremen are earning in the vicin-

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ity of \$22,000 a year.

"All our people start out at the bottom of the ladder, so that they can learn all aspects of our business from the bottom up," he said. "They all start out at the bottom, but some of them move up the ladder faster." He said that it takes about one year or 1½ years for a man to move up to the point where he is ready to run his own crew.

He has about 60 commercial/industrial jobs on the books that bring in anywhere from \$500 to \$7,200 a month in billings.

He said that he tries to keep a good mix of customers. "We don't put all of our eggs in the apartment basket, or in the condominium or office building basket," he said. "We use condominiums for stability. We know that if we do good work, they are not going to roll over on us. This is because you are dealing with a homeowner association that usually has one voice."

That is the kind of situation Cummings likes the best — dealing with just one person. He said that on some of the larger condominium jobs, there is often interference from some of the individual homeowners.

When Sun Group installs a landscape job, a 90-day maintenance contract is built into the price. This is to help guarantee that the installation is cared for properly, at least in the beginning. He said many companies have 35 percent "attrition," or plant deaths on landscape plantings, and that his company is unhappy if there is more than four or five percent attrition of the work that he does.

Cummings said that he likes to have all of his jobs no more than about eight miles away from his office. Because of the way Houston is spread out, this has necessitated having three different buildings in the southwestern, northwestern and north central parts of the city. He also recently purchased a fourth small building in the northeastern section of Houston. He has worked it out so that his crews don't usually have to get on any freeways — which are usually bumper-to-bumper traffic — and says that it is because he doesn't like to pay for "two guys getting paid for riding in a truck 45 minutes across town."

For his large mowing work, Cummings utilizes hydrostatic-drive, zero-turning-radius "Grasshopper" units manufactured with a 42-inch swath, manufactured by Mordridge Mfg. Co., Moundridge, Kan. He likes them because they are light and easy to transport in trailers. He also likes them because they can get a good cut at 10 miles per hour.

His units have 12-horsepower, four-cycle Kohler engines, and he says his men dump the soil every day. "We spend more on oil," he says, "But we spend a lot less on engines in the long run. He also sharpens and balances the blades on the units every day. In the off-season, the engines go back to the Kohler Co., plant in Kohler, Wis. to be overhauled."

For close mowing, he utilizes 35 commercial Lawn-Boy mowers manufactured by Gale Products in Galesburg, Ill. He still has

some of the original units he bought 2½ years ago, although some of them have rebuilt gas tanks and new engines.

"We keep them clean, and we can see when a bolt is breaking loose, or if there is some other problem," he said. "We figure that the two-cycle Lawn-Boys are good for about 1,400 hours, but they will go longer than that if you use fresh fuel and fresh oil."

He uses clippers manufactured by Corona Clipper Co., Corona, Calif.

More than 90 percent of the lawns he cares for are St. Augustinegrass, the rest are bermudagrass. His biggest problems are chinch bugs and brown patch. He uses Diazinon, manufactured by Ciba-Geigy Corp., Greensboro, N.C. to control the chinch bugs, and Terraclor, manufactured by Olin Corp., Little Rock, Ark. for control of brown patch. Under his new landscape plantings he uses Agriform tablets, manufactured by Sierra Chemical Co.,

Milpitas, Calif.

When Cummings costs jobs, he figures he has to get in the vicinity of between \$100 and \$125 a day for each laborer on a crew. In some cases last year he went to four 10-hour days for his laborers and crews, to help cut down on overtime (he pays time-and-a-half for overtime) and to beat traffic in the morning and then again at night. The foremen worked a fifth day in the shop on maintenance of equipment.

He sees only growth for the future of his company and for the industry as a whole in the Houston area. He says he expects to be doing a \$5 million yearly gross five years from now, split 50-50 between maintenance and installation. He also plans on a retail nursery in Houston, and landscape branches in Dallas and San Antonio, with all paperwork handled out of a central Houston office with a \$35,000 computer that he is contemplating purchasing.

Satisfying the customer is the name of the game for Don J. Bunnell, 44, president of **Chemical Applicators**, Pearland, outside of Houston. Even if it means doing more than the customer even thinks is necessary.

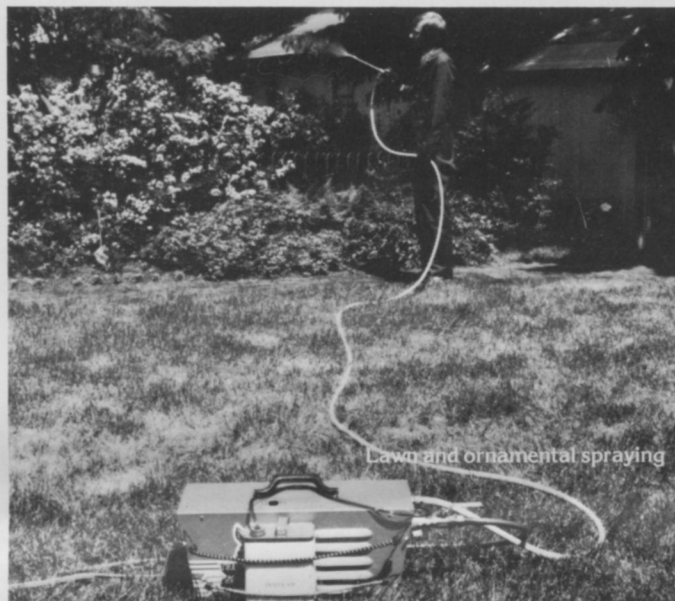
"Many times we go back on a job to do touch-up work if we think it is needed," he told **LAWN CARE INDUSTRY**, "and the customer ask us why we are there. When you rely on referrals for your new business, you have to make sure the job is done right."

His industrial weed control business is 13 years old, and he has grown about 15 percent a year to bring him to his present annual gross of just under \$1.5 million. He has about 35 employees during peak periods of the year, with outlets in Beaumont, Bay City and the Houston area.

Most of his work is done at refinery sites, chemical plants, oil well sites, tank batteries, pipe

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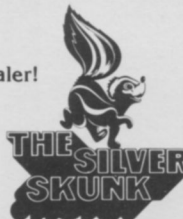


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HOUSTON from page 25

yards, small manufacturing plants, along pipeline rights-of-way and along power company rights-of-way.

He has 30 spray rigs outfitted with fiberglass tanks anywhere from 300 to 600 gallons.

"The fiberglass tanks require less maintenance, in fact, just about no maintenance," he said. "Once in awhile you might get a crack or a hole in one of them, but that is the only problem. I've got tanks I have been using for eight years with no problems. There is no corrosion and no sandblasting necessary."

He uses 10- and 20-gallon-per-minute John Bean pumps manufactured by FMC Agricultural Machinery Div., Jonesboro, Ark. He also uses 11-horsepower motors manufactured by Tele-dyne-Wisconsin Motor, Milwaukee.

Bunnell has almost 700 industrial weed control accounts in the Houston area, to Brownsville to San Antonio and in other parts of the state. He says there are seven or eight other companies in the area doing industrial weed control. Competitors say he is by far the largest company involved strictly in industrial weed control, probably doing as much volume as the other companies combined.

His basic program calls for three or four visits to each site during the year, depending on the requirements of the account. He charges anywhere from \$175

to \$250 an acre, again depending on the needs of the account. He has two jobs that bring in more than \$100,000 a year, and some as small as \$50 a spray.

Johnsongrass and nutgrass are his biggest problem weeds, and he uses Hyvar for control, manufactured by Du Pont Co., Wilmington, Del. He uses almost 40,000 pounds of Hyvar in the course of a year.

"The fiberglass tanks require less maintenance . . . I've got tanks I've been using for eight years with no problems . . ."

Don Bunnell, Chemical Applicators, Pearland

For Harold R. Zick and James H. Eckhardt, co-owners of **Green Up Chem Lawn Care**, entry into the Houston lawn care market proved to be relatively easy.

"Houston is a pretty wide open market," Zick said, "and we didn't have much trouble getting started. I was really surprised there weren't more lawn care companies in the area." Both Zick, 27, and Eckhardt, 34, have degrees in agronomy.

The two-year-old company provides chemical lawn care services including insect and disease control. Chem Lawn Care's program consists of a series of five applications of "balanced fertilizer" per year, along with

one fungicide and two insecticide treatments.

Company equipment includes two pickup trucks, three Cyclone spreaders, and one 150-gallon spray rig which Zick built himself. The company also employs one additional worker.

About 95 percent of Chem Lawn Care's \$95,000 annual business comes from the residential market. "We primarily go for the homeowner because they are

few serious lawn care problems in the Houston area. "Chinch bugs are a fairly common pest, but with the kind of program we use we don't have a lot of problems with them. Only new customers, whose lawns are already infested with them, present a problem.

"Brown patch is by far our worst problem, but our fungicide program in the fall usually solves the problem," Zick added.

Because Chem Lawn Care is a relatively small company, they are better able to provide to their customers, a more personal service, an important ingredient to their success, Zick said.

"We not only try to put out a good product, but we also try to get back to our customers within a day after they contact us about something. We don't just put on an application of fertilizer and disappear," he said. "Hopefully, our customers just have to call us once."

He explained the company's billing procedure. "We simply do an application and leave the bill and a self-addressed stamped envelope at the customer's home. Up to now we haven't had any problems with the procedure."

If Chem Lawn Care's growth rate in the past two years is any indication, the future of the Houston lawn care market appears bright. "I really don't see the Houston market getting competitive for several years yet. There will still be room for growth even if several new companies come in this year," Zick said.

John H. Schrum, owner of **John's Landscaping** said the key to his modest business success is to keep the customers happy and

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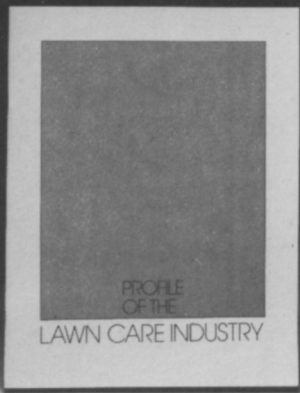
easier to sell," Zick said. "Most of the people we come across in the commercial lawn care field want complete lawn care service like mowing and edging, but we don't do that."

Zick described 1977 as the company's "testing year. We got just enough customers (120) to go out and experiment with chemicals and fertilizers. Then in 1978 we went out full force with advertising and increased the number of our customers to 860."

Zick said the company has had more success with direct mail advertising than with newspaper inserts or hand-delivered ads. "We received about a one percent return on direct mail adds in 1977 and no more than a one-half percent return on newspaper and hand-delivered ads in 1978. This year we plan to return to direct mail advertising," he said.

According to Zick, there are

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Timmons

Before a landscape maintenance executive can estimate a job or submit a bid, he must be fully aware of his firm's capabilities and standards of excellence, says Frank Timmons, president of Ladybug Industries, Inc., Jacksonville, Fla.

Speaking at Hort-I-Scope, a University of Florida short course held late last year, Timmons also said that his firm only offers its clients full maintenance contracts to protect itself and insure that all phases of maintenance are performed correctly and professionally. The course was also sponsored by the Florida Nurserymen and Growers Association.

Bruce Saar of Ladybug also appeared on the program with Timmons. Saar said that all aspects of a maintenance job are considered before it is bid. Among the maintenance considerations are: Size of mowing areas, amount and type of edging, clearance of clippings and leaves, pruning, weed and pest control, and prevailing labor costs in the area.

Saar recommends maintaining clear lines of communication between the client and maintenance contracting firm to avoid disputes. All Ladybug foremen are issued job contracts so they know their crews' responsibilities and obligations for each client.

A landscape maintenance firm must know the capabilities of its labor and equipment, hire people with leadership potential and be able to confidently delegate responsibility if it is to be a successful professional operation, Timmons said. His talk was summarized in a recent issue of *American Nurseryman*.



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Learn how you can help nature improve your lawn & your own professional image.

GREEN MAGIC SYSTEM

If you are looking for a positive approach to turfgrass management that will produce better results than any other method available, one that will build your image as an authority on a truly professional basis, then you will want to consider the GREEN MAGIC SYSTEM.

There are available a vast number of fertilizers, weed killers, pesticides and other types of chemicals designed for general application but very few of these take into consideration local soil and environmental conditions.

Because of the wide use of these products, and due to the fact that they are manufactured for mass consumption on a national basis, the general public believes that these products are the "cure-all" and therefore, the only method of obtaining desired results. But, the opposite has become more and more evident. Instead of grasses and ornamentals becoming more beautiful and stronger, they are becoming weaker and more susceptible to stress conditions, wear and tear, insects, disease, etc.

Over 30 years of extensive research has been expended by Agro Chem in developing a system to overcome such problems. As we investigated man's synthetic approach to improving the health and vigor of turf grasses and ornamentals, it has become evident that natural methods were far superior and that man's artificial approaches just create more problems.

The GREEN MAGIC SYSTEM has been developed through these years of extensive research. It is a system that actually works with nature, her rhythm and her many natural complexities; one that encourages plants to grow naturally stronger and more resistant to unfavorable environmental and soil conditions and other adversities.

Rather than trying to create a product to offset an adverse condition, which has been the standard method of developing products and processes to help grow plants healthfully, Agro Chem has directed its research & development towards finding out how plants, especially turf grasses, have been able to sustain themselves and continue to grow for millions of years without the aid of man. With every step of research new discoveries were made, unlocking the secrets of nature and resulting in a complete system that actually encourages plants to grow naturally. This means that they become hardier, sturdier, deeper green in color, have deeper, stronger root systems and become healthier than ever before possible. When the plant becomes stronger, it is more capable of resisting insect and disease attacks, adverse weather and other unfavorable conditions that are common to the life of all living organisms.

THE DEVELOPMENT OF GREEN MAGIC AS A COMPLETE SYSTEM INVOLVED THE FOLLOWING CONSIDERATIONS:

1. PROVIDING A COMPLETE NUTRITIONAL DIET IN THE PROPER CHEMICAL & PHYSICAL FORMS FOR THE PLANTS DESIRED.

Each species of plant requires certain conditions for ideal growth. If these conditions are met, the plant will grow luxuriantly. Conversely, when these conditions are not met, plants will slow down in their growth, weaken, and eventually be replaced by other, less desirable plants that are more adaptable to a change in environmental conditions. This process is called "The Evolutionary Process"; where one plant will replace another plant as conditions change in a local soil or geographical area.

Nutrient availability is one of the most important of these conditions and Agro Chem has determined exactly the nutritional requirements of the various turfgrasses to provide optimum vigor and growth. Nutritional requirements encompass a complex system that involves not only the primary nutrients (nitrogen, phosphorous, potash), but the secondary and micro nutrients (calcium, magnesium, sulfur, iron, manganese, copper, zinc, boron and many others), all contained in a natural form that can be absorbed by plants without weakening or damaging the plant, soil or micro organisms life within the soil.

Strange as it may seem, most of the ingredients supplied to the soil artificially, by man, are in a form that is often quite toxic to the plant, soil and micro organism life, as well as being unnatural. Our research studies have shown us that many ingredients used to stimulate plant growth are applied to the soil without any consideration or knowledge of what the plant requires and how this whole nutritional system works in nature and without any regard to the entire natural cycle that makes nature work so well.

Research has shown that nature is not so ready to accept these synthetic, unnatural applications. Even though there may be initial positive signs in growth response, many detrimental things happen with repeated applications. Thus, a natural system must take all this into consideration in order to get a natural growth response.

2. IMPROVING THE SOIL

In the turf grass field, the soil has been taken for granted and not much concern has been shown for its improvement or what soil conditions are best for growing turf grass. Agro Chem's extended research has shown that the soil is one of the most critical components of this natural system and it must be handled very carefully because the condition of the soil determines the quality and depth of the root system and the over-all health and beauty of desirable turf grasses.

It has long been known, especially in the farming communities, that continual application of chemical fertilizers and pesticides to the soil reduces the productivity of the soil by killing soil microbes and destroying soil aggregates which causes many problems such as: Excessive amounts of unnatural erosion run-off and pollution of the underground water tables, streams, ponds and other natural water holding areas.

The soil, instead of becoming more productive and building up its organic matter residues and its micro organism activities, becomes drastically depleted of its organic matter content and often times becomes stratified, with layers of sand, silt and clay making the soil more compact and less penetrable by air, water and nutrients. The soil becomes less suitable for the growth of desirable plants and encourages their roots to grow toward the surface instead of deeper into the soil.

3. THE IMPORTANCE OF SOIL ORGANISMS

Soil organisms are responsible for natural decomposition of dead organic matter and development of the essential organic matter and humus within the soil. A highly organic soil is a very productive soil which is capable of supporting optimum plant growth. Soil organisms include bacteria, fungi, and virus organisms, plus many other living creatures within the soil. These contribute to the soil complex and are responsible for the natural relationships between plants and soils.

The application of various types of fertilizers, herbicides and pesticides has an immediate impact on the life within the soil. From continual use or

misuse of such products, the soil can be changed from a desirable to an undesirable condition which diminishes the health and vigor of the desirable plants.

If these beneficial soil organisms are missing, they are replaced under the GREEN MAGIC SYSTEM. Such continual chemical applications destroy the beneficial microbes that play a major role in bringing nitrogen into the soil and making the complete chain of nutritional elements available for plant consumption. These micro organisms are responsible for the decomposition of plant litter (mat & thatch in lawns) and when the microbes are destroyed, mat & thatch does not decompose, but instead, accumulates at the soil surface, restricting the penetration of air, water and nutrients, which therefore restrict the penetration of roots into the soil. This situation encourages these roots to grow on the surface — creating additional mat & thatch accumulation.

Mat & thatch is unnatural and undesirable because it holds moisture (like a sponge) on the surface of the soil. Sunlight warms it and creates a condition of high humidity and high temperature which is ideal for the invasion of pathogenic disease, insects and other unfavorable occurrences.

Considerable research was undertaken to look into the pathogenic organisms and insects that primarily invade turf grasses. Insects, fungus and viral disease are constantly associated with turf grasses in nature; only when man interferes, using his artificial methods, do these pathogens commonly get out of control where attacks reach epidemic proportions. Once the growth characteristics and life cycles of such pathogenic organisms were understood, there was a much better chance of providing a natural control program without the use of extensive amounts of fungicides and pesticides. THE GREEN MAGIC SYSTEM is a natural control program and therefore, helps destroy such pestulance problems.

4. ATMOSPHERIC CONDITIONS

Because plants respire or breathe just as animals do, considerations must be given towards the quality of the air and what it contains in the form of gases and other elements which could be regarded as pollutants. Air quality plays a vital role in the plant environment. This relationship has been studied and the knowledge gained by Agro Chem has been applied in the development of the GREEN MAGIC SYSTEM.

5. SOIL TESTING

"You don't know what you don't know". One of the prime reasons for the gradual weakening of the grass and the destruction of the soil is the misapplication of fertilizers and chemicals which creates toxic conditions and most often, imbalances of all the nutrients and other vital complex soil components.

Elimination of the "guessing" technique of applying plant nutrients and replacing it with the application of precise nutrients and soil building additives, formulated to soil test requirements — produces positive grass growth responses and helps nature rebuild the soil effectively, properly and inexpensively.

Our 30 year research program dedicated to studying natural soil conditions, has resulted in the development of the Agro Chem Soil Analysis, the most complete and practical soil test available. This test has become an integral part of the GREEN MAGIC SYSTEM.

6. SPECIAL MANUFACTURING FACILITIES

Since Agro Chem does not produce specific products that are to be consumed on a national basis, our dynamic success has been due to producing positive results whenever our system has been used. These positive results are due primarily to the fact that we take into consideration the total requirements of the turf grasses and the supporting soil. But, in order to provide positive results all the time, we have had to develop our own specialized manufacturing plant.

The facilities of Agro Chem are unique in the fact that we are able to custom-manufacture for each individual customer. Under normal conditions, this would be most costly, but because of our computerized operation, we can prescription formulate very inexpensively since labor is at the bare minimum and there is no storage of finished products. Only raw materials are stored in the plant and by simply pushing buttons on a computer, any formulation can be compounded, packaged and shipped, immediately. This computerized functioning of the plant helps make the GREEN MAGIC SYSTEM so unique and successful.

7. TRAINING

In order for our dealers to have the ability to completely satisfy their customers, they require special training in the total GREEN MAGIC SYSTEM. Because our system is based on the complex interactions of nature and how our unique formulations work with Mother Nature, when applied at the correct rates and at the proper times, it is of added importance to have all of these facts to obtain positive results on a repeatable, authoritative, professional basis.

Because commercially available products do not have the same characteristics or behavior reactions of the GREEN MAGIC SYSTEM, it is also most important to learn the characteristics of these unique formulations and when, where and how to use them so that results are always the same.

Our unique training system provides the information needed in a very simple, logical way so that everyone can thoroughly understand the GREEN MAGIC concept and be able to apply it in the operation of their own business, immediately and profitably. In addition to this technical information, we also personally help each dealer set-up an efficient marketing system and business operation based on his individual situation.

SUMMARY

As can readily be seen, the GREEN MAGIC SYSTEM is complex and very unique. It is highly successful due to the consideration given each condition. In order to be totally successful in the system, one must have the basic knowledge of how nature works in growing the various plants on this earth. The benefits of the GREEN MAGIC SYSTEM are many and include the following:

DEEPER GREEN COLOR — SLOWER LEAF GROWTH — GREATER DENSITY — UPRIGHT LEAF GROWTH — DEEPER, STRONGER ROOTS — STRONGER, MORE AGGRESSIVE RHIZOME ACTIVITY — LESS WATERING & CUTTING — LESS SUSCEPTIBILITY TO DISEASE & INSECTS — FEWER WEEDS — LESS RE-SODDING & RE-SEEDING — LESS COST — MORE FRIABLE & PRODUCTIVE SOIL — BETTER WATER & NUTRIENT RETENTION — LESS EROSION & POLLUTION — MORE ORGANIC MATTER DECOMPOSITION (REDUCES MAT & THATCH) — HAPPY CUSTOMERS — YOUR IMAGE AS A TRUE PROFESSIONAL, CAPABLE OF OBTAINING POSITIVE RESULTS.

Seeing is believing and the positive results will readily reflect your ability. Your professional workmanship creates greater desire for others to have the results you can provide with the GREEN MAGIC SYSTEM.

DEALERSHIP AND PROFESSIONAL USAGE:

Dealerships are now being offered to individuals and companies desiring to sell these GREEN MAGIC SYSTEM Products and/or apply such products as a professional application service.

Because of the uniqueness of this natural system it is of utmost importance for the dealer and user to know and understand the natural and complete system along with having the ability to diagnose problems and recommend a solution (cure) with prevention procedures that will allow nature to work effectively. Therefore, the training is provided FREE OF CHARGE with the purchase of the initial dealer product package. (A slight leasing charge for individual usage.)

Our dealer history shows that because the dealers are successful, they always desire more knowledge; therefore, advanced training is available on a continuing basis, FREE OF CHARGE to active Agro Chem dealers.

Because of varying requirements of potential dealers, a number of dealer packages are available — one to suit each and every potential dealer.

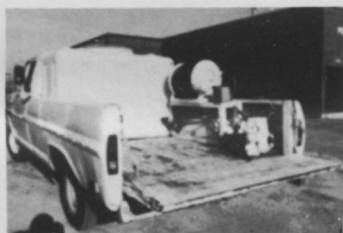
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AGRO CHEM'S Professional spray unit for the small, applicator, and — it is expandable for the larger area.

The basic unit includes (as pictured)



- 1—Rectangular 300 gallon holding tank — 110 lbs. w/4" fill cap & man way
- 1—250' light weight pressure hose
- 1—Electric hose reel
- 1—Gas engine & special Pump
- 1—Lawn gun with assorted nozzels
- 1—Pressure regulator and bi-pass unit
- 1 each—Suction & Bi-pass hose
- 1—Root feeder



This basic spray rig is designed to fit in a pick-up truck, the tank situated between the rear wheel well and cab of truck. The motor, pump and hose reel on the right side leaving the remainder of the truck bed for other equipment and supplies.



Van pictured shows the basic spray unit in the van, leaving the entire rear area for storage of products.

As you will see, these sprayer units have been designed with a great deal of thought, research, and years of experience. They are designed and built by professionals, for professionals. For more details, either call or write Mr. Joseph.

This basic 300 gallon unit can be expanded to whatever size spray rig desired by simply adding more tanks — eliminates purchasing new equipment as business expands.

Pictured:

16' Flat bed truck carrying 5 — 300 gal. tanks + 1500 gals.

2 — 500' hose reels & ability to apply as many as 5 different products or any combination required.



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HOUSTON *from page 26*

to maintain a profit ratio of 30 percent. To accomplish this, Schrum decided to keep his business small and focus on the commercial/industrial lawn care market, rather than the fast-growing residential market.

"Currently there is a great need for the commercial lawn care industry in Houston," Schrum said, "and I don't find residential lawn care to be worthwhile. There just isn't enough profit in the residential market to warrant entering it at this particular time."

Schrum, 53, started his business in 1972 and it has grown steadily. He currently grosses about \$80,000 per year and employs two full-time workers and a total of six workers during the summer season. He pays supervisors \$5 per hour and others \$3.75 to \$4 per hour.

His equipment includes a riding mower, manufactured by

Yazoo Mfg. Co., Jackson, Miss. with a 48-inch mowing width, four McClain edgers, several Weed-Eaters, and four Lawn-Boy Mowers.

Schrum's commercial clients constitute about 85 percent of his business while an additional 15 percent are industrial-based. All accounts are based on yearly contracts. His commercial business consists of servicing eight Houston condominiums and townhouses. "The key to servicing these clients involves keeping in close contact with the on-site managers of the condominiums," he said. "That way you only have to answer to one person."

His business is relatively small compared to others in the area and Schrum likes it that way. "The lawn care market in Houston is excellent and I could be much bigger if I wanted to be," he said. "But the overall quality and efficiency of our

work is high and I think it would slip if I were to expand too rapidly."

Schrum said the two most frequent lawn care problems he encounters are brown patch and chinch bugs. "St. Augustinegrass is particularly sensitive to chinch bugs and brown patch. To fight brown patch I advise by customers not to water their lawns too much and I try to keep the grass as healthy as possible." He uses Diazinon, manufactured by Ciba-Geigy Corp., Greensboro, N.C., to combat chinch bugs. "However, I wouldn't consider

utilize the work force at the Coastal Exterminating Co., in La Porte, Texas, according to Pat N. May, president of the company.

"I started providing limited lawn care service to my pest control customers about four or five years ago," May, 41, said. "It served as kind of a filler to keep my men busy when there were no pest control appointments."

May explained servicing pest control clients is by appointment only, whereas appointments are not necessary in the lawn care industry. "We can provide lawn care services any time

"The manufacturers should put more emphasis on the commercial lawn care market . . . much of the equipment available can't stand up to commercial use . . ."

John Schrum, John's Landscaping, Houston

either problem very serious," he added.

Although the future of the lawn care business appears bright, Schrum is somewhat disappointed in the industry. "The inability of our industry to mechanize more fully makes most of the work manual. It's very difficult to find people who are willing to do back-breaking work in the extreme heat of Houston and I just don't see how we are going to escape this problem in the future," he said.

A second major problem concerns the manufacturers of lawn care equipment. "Manufacturers should put more emphasis on the commercial lawn care market," according to Schrum. "Most of their emphasis is currently on manufacturing equipment for the residential market and because of this I must use equipment which is not designed to stand up to heavy commercial use."

However, even with these problems Schrum is confident the lawn care industry will continue to thrive in Houston.

Providing lawn care services has merely been a way to better

there is a hole in our calendar. It really is a very good filler," he said.

Coastal Exterminating provides basic chemical lawn services to its 50-75 customers, constituting about five percent of the company's total business. "When I first got started I just serviced my pest control customers, but then I started to get more customers than I could handle and I had to cut back," May said. "I really don't have the equipment to get real big."

The company's equipment includes six pickup trucks and several spray units with Belton pumps. May employs seven full-time workers and estimates the company uses about 1,000 pounds of granular fertilizer per year.

"I don't have any definite plans to expand into the lawn care market, but it really does have great potential," May said. "There is definitely a demand for all different kinds of lawn care companies in La Porte. La Porte is an upper-middle class community about 15 minutes from Houston. "I would imagine the lawn care market is as good here as it is anywhere."

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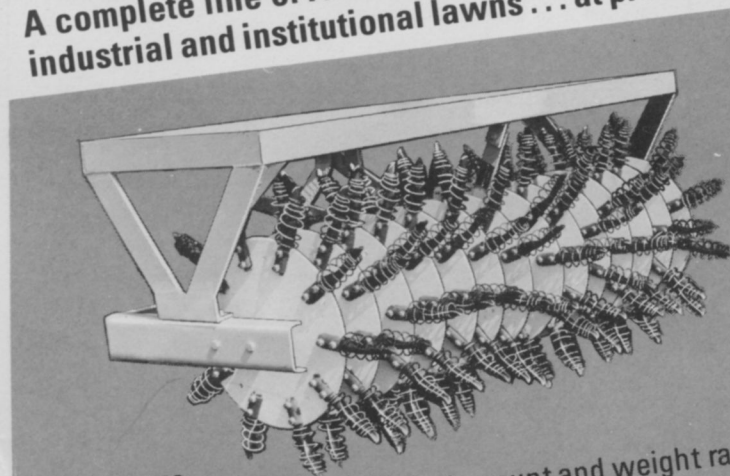
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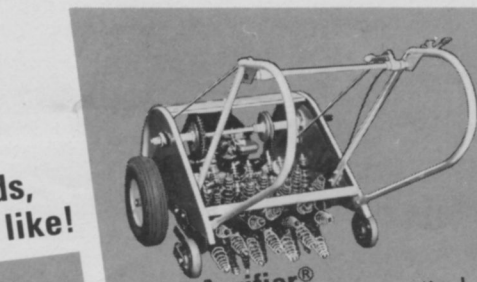
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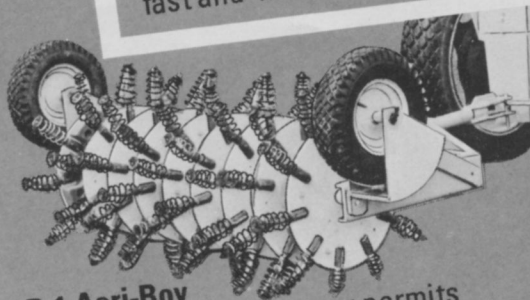
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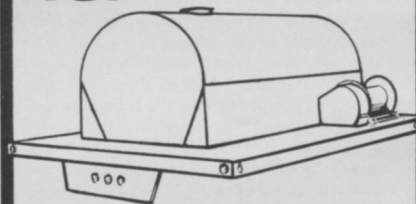
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\$12,000 to \$400,000 in seven years

The Lawn Doctor franchise network, headquartered in Matawan, N.J., currently boasts 210 active franchises in 27 states, and according to company president Anthony Giordano, 40 more contracts will have been signed by mid-spring.

One of the most successful operations — going from a \$12,000 annual gross to almost \$400,000 in seven years — belongs to John Gallignani, owner-manager of Lawn Doctor of Islip, on New York's Long Island.

"Before I started up my franchise seven years ago, I was a New York City fireman. Getting into my own business was a chance I couldn't pass up," he said. "I'm making good money and find real joy in providing a service in my community, plus offering my employees good jobs with pleasant surroundings."

When it comes to running a successful lawn care business, Gallignani has some definite ideas about hard work, chemical selection, promotion, service and staffing.

Hard work. He believes that one of the keys to his success is his willingness to work hard.

"Dorothy (his wife) and I worked out of our home the first year and only grossed \$12,000," he said. "But in just seven years our business has zoomed to \$368,000 last year, and we predict a volume of \$600,000 this year."

At 7 a.m. sharp, John is at his place of business to see his 10 technicians off for their day of work. They work in pairs making service calls from March 10th to mid-December. The technicians visit each customer's home five times per year — early spring, spring, summer, fall and late fall. John offers a full range of controls for insects, weeds, and diseases, plus lawn feeding services — as determined by soil tests made periodically by the servicemen.

John owns five service vans which are used to transport the chemicals and application equipment. The application equipment is designed and manufactured by Lawn Doctor for its franchisees. John recalls that the type of tractor/combine application equipment he used five years ago is now obsolete. "It used to take two technicians a day to service 12 lawns. Today with the new Lawn Doctor application equipment, two men can service 50 lawns per day." The new granular-application equipment is smaller and lighter, and does not aerate lawns.

"The equipment enabled us to become very competitive. It was just five years ago that I charged \$250 per year for servicing the average 4,000-square-foot lawn. Today it costs the same customer \$80 per year. The key was in the labor cost savings," he points out.

Chemical selection. "One of the advantages in operating through a good franchise system is that it does a lot of testing on chemicals to find out which ones are the best for their intended purpose. We have monthly

meetings plus constant contact with the main office.

He uses a variety of chemicals in his operation. For insects he uses Dursban manufactured by Dow Chemical Co., Midland, Mich. This product offers broad spectrum control of turf insects including ants, brown dog ticks, chiggers, chinch bugs, grasshoppers and white grubs (Japanese beetle larvae only). For weeds, he uses Trimec, manufactured by PBI/Gordon Corp., Kansas City, Kan.; 2,4-D plus Silvex, and Betasan, manufactured by Stauffer Chemical Co., Westport, Conn.

One new product which John has found to be a welcome addition to his regular chemical line

is Roundup herbicide, manufactured by Monsanto, St. Louis. Roundup, unlike his other herbicides, is classified as nonselective. It is sprayed on the leaves of actively growing weeds and moves by a process called "translocation" throughout the stems and root system destroying both above and below-ground plant tissue. Roundup will not volatilize to injure adjoining desirable vegetation, will not leach and has no residual soil activity.

"Roundup seems particularly effective on a variety of tough perennial weeds and is also great as a lawn renovation tool," he said. "Because it isn't a soil sterilant, I find that I can spray

to page 32



Gallignani's fleet (above) and him with one of his technicians, Frank Giordano.

How Roundup® helped Jim Siegfried renovate this fairway in days, without closing it for one minute.



Take a good look at this good-looking fairway.

Last fall, Jim Siegfried found a way to clean it up, without tearing it up — at the height of his club's busy season. With Roundup® herbicide by Monsanto.

Jim is the Greens Superintendent at Losantiville Country Club, Cincinnati, where bermudagrass had become a serious problem on the 18th fairway. To control it, Jim applied Roundup once — while the weeds were still actively growing — right at the start of the Labor Day weekend.

"That's really 'prime time' here," Jim told us. "But after we applied Roundup, we kept the fairway in play the whole weekend, and after. The members played right over it, with no problem."

Since Roundup has no residual soil activity, and won't wash or leach out of treated areas to injure desirable plants, Jim simply took normal precautions against spray drift — and didn't worry about damaging desirable vegetation along the fairway.

Even better, he was able to re-seed right into the dying bermudagrass only 7 days after applying Roundup — without loss of playing time or inconvenience to the membership.

Reinfestation won't be a big problem for Jim, either. He knows that Roundup destroyed the rhizomes of the treated weeds, helping prevent their regrowth.

Jim thinks he'll use Roundup again this year — and apparently some club members hope so, too. "As soon as they saw how good this fairway looks, some of the members started asking when I'm going to do the same for #10, where we have some more bermuda. I'll probably tackle that with Roundup this fall."

If controlling many tough emerged weeds and grasses is a problem for you, see your local Monsanto representative or chemical dealer soon for your supply of Roundup.

Roundup. It worked for Jim Siegfried. It can work for you.

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There's never been a herbicide like this before.

ALWAYS READ AND FOLLOW THE LABEL DIRECTIONS FOR ROUNDUP.

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800 North Lindbergh Blvd., C3NF St. Louis, Mo. 63166 (314) 694-1000 R1-01D

WEED CONTROL

Herbicides for the lawn care industry

Preemergence control of crabgrass and other weeds, and post-emergent control of broadleaf and grassy weeds is a big part of any lawn care businessman's program for his customer lawns.

The following is a partial listing of herbicides available to the lawn care businessman, with information provided by manufacturers and distributors.

Accompanying stories in this issue outline products available from Rhone-Poulenc, Inc., Monmouth Junction, N.J.; Stauffer Chemical Co., Westport, Conn.; Dow Chemical Co., Midland, Mich.; and Monsanto Agricultural Products Co., St. Louis.

Other herbicide manufacturers and some major distributors include: Elanco Products Co., Indianapolis; Du Pont Co., Wilmington, Del.; Chemagro

Agricultural Div. of Mobay Chemical Corp., Kansas City, Mo.; Rohm & Haas Co., Philadelphia; Hopkins Agricultural Chemical Co., Madison, Wis.; Velsicol Chemical Corp., Chicago; PBI/Gordon Corp., Kansas City, Kan.; Mallinckrodt, Inc., St. Louis; BASF Wyandotte Corp., Parsippany, N.J.; W.A. Cleary Corp., Somerset, N.J.; Kalo Labs, Inc., Kansas City, Mo.; B.G. Pratt Div., Gabriel, Ltd., Paterson, N.J.; Crown Chemicals, St. Louis; and Southern Mill Creek Products, Inc., Tampa, Fla.

Diamond Shamrock Corp.

Dacthal W-75, a standard ingredient in weed control programs for many of the nation's lawn care firms, again heads the Cleveland-based company's list of herbicides.

During this year, the company will also be putting emphasis on a group of phenoxy herbicides for turf that include: MCPP+ 2,4-D Amine and MCPP-K-4. The company's herbicide line for this year also includes Amine 4-D and Dacamine 4-D for control of broadleaf weeds.

However, Diamond Shamrock again expects Dacthal to be its pace-setter in the lawn care industry. The herbicide won label clearance nearly 20 years ago and was one of the first pre-emergence herbicides to gain widespread acceptance for lawns and other turf uses.

Today, it is used to control annual grasses including annual bluegrass — or *Poa annua* — crabgrass, goosegrass, barnyardgrass and foxtail. It also controls broadleaves such as prostrate spurge, lambsquarters, purslane and common chickweed.

Depending on the growth characteristics of specific weeds and the intensity of the weed pressure, Dacthal is applied in early spring, prior to initial germination; again in late spring to insure adequate control winter weeds germinating in the fall.

Amchem Products, Inc.

Many lawn care professionals include the Ambler, Pa.-based company's Weedone products in customer programs. By scheduling the proper materials during the appropriate season, existing weeds can be eliminated and lawn quality improved, or unwanted vegetation can be controlled before it competes strongly with turfgrasses.

For early spring treatment, Weedone Preemergent Crabgrass Control with Dacthal is recommended by the company to kill crabgrass and other summer annuals as they germinate.

Summer crabgrass spray programs are more critical. Growth is slow; lawn grasses may be under stress from drought or great heat, and maturing crabgrass becomes harder to control. At this time, for lawns where pre-emergence treatment has been omit-

ted, Weedone Crabgrass Killer with calar provides an effective post-emergent treatment. It also controls dallisgrass and foxtail, the company said.

Super D Weedone is a wide-spectrum broadleaf weed killer containing 2,4-D amine and dicamba. An alternative, 3-D Weedone, contains silvex in addition to 2,4-D and dicamba. This ester formulation works faster than amine ones and is particularly effective on tough-to-kill weeds such as knotweed and cinquefoil, and on winter annuals such as chickweed and henbit as well as the more common dandelion and plantains. Many lawn care businessmen rely on 3-D Weedone for their general purpose treatments or on "callbacks" for broadleaves, the company said.

Applications can be made throughout the season when weeds are growing actively. Treatment in summer — except when excessive heat or drought check growth — is generally more effective than in spring. For winter annual weeds such as garlic and chickweed, treatment should be in late winter or early spring.

For full-season control of weeds and grasses, particularly in renovation programs, there is a combination of amitrole and simazine: X-All in quart-size containers or as liquid Amizine in bulk sizes for treating larger areas.

**O.M. Scott & Sons
ProTurf division**

Ed Dotson, manager of commercial sales for the ProTurf division of O.M. Scott & Sons, Marysville, Ohio — the division that handles sales to lawn care businessmen across the country — said that the division has available for professional use a complete line of pre-emergence and post-emergent weed control products.

All ProTurf herbicides come in a dry-applied granular form. If applied at normal rate, one bag will cover 11,000 square feet or 22,000 square feet, depending on the particular product used.

ProTurf's herbicide product line includes ProTurf Fertilizer with Weedgrass Preventer — it provides a nitrogen/potassium fertilization with selective pre-emergence control of crabgrass, foxtail, goosegrass and *Poa annua* along with four annual broadleaf weeds. ProTurf Weedgrass Preventer is also available without fertilizer. The active ingredient in both products is bensulide.

ProTurf Fertilizer Plus Dicot Weed Control II will provide a complete feeding while selectively controlling dandelions and 40 other actively growing dicot weeds.

"This product is particularly suited for the company without liquid systems," Dotson said. Due to the simplicity of application, labor and equipment costs are maintained to a minimum. The active ingredients in this product are 2,4-D and MCPP.

Dotson said the company believes that healthy turf with good density is important in any

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preventive maintenance program whether treating for monocots or dicots. "We consider weed control as only part of your program," he said. "Many weed and disease problems can be reduced when you maintain a uniform level of lawn quality."

TUCO Division The Upjohn Co.

Enide 50W is a selective pre-emergence herbicide recommended for use on bermudagrass lawns. Fall applications control annual bluegrass — *Poa annua* — while spring applications are required for control of crabgrass. The Kalamazoo, Mich.-based company recommends that early spring applications be made while bermudagrass is dormant. Recommended rates are eight pounds of the product per acre or three ounces per 1,000 square feet.

Chevron Chemical Co.

Although the San Francisco-based company's Ortho Diquat Weed Killer should not be used directly on lawns, it keeps surrounding areas clean and weed free, the company said.

Many lawn care businessmen provide weed control services in fence lines, walkways, driveways and other landscaped areas, particularly for their industrial accounts. The herbicide has no residual properties, so a controlled, directed spray can knock unsightly weeds and brush close to other plants without endangering the rootzone of the desirable plants.

Ciba-Geigy Corp.

Spectrum 33 Plus Lawn Weed Killer, from Ciba-Geigy Corp., Greensboro, N.C. will kill 33 troublesome common lawn weeds, including poison ivy and poison oak, chickweed, clover, dandelion, plantains, ragweed and other broadleaves.

For best results, spring and fall treatments are recommended. The product is effective in the following lawn grasses: bluegrass, fescue, zoysiagrass, bermudagrass, bentgrass, St. Augustinegrass and centipedegrass.

Research Products Co.

Research Products Co., Dallas, and Aero Mist, Inc., Marietta, Ga., join together in introducing Repco-Kill, a new non-selective, diesel-oil-based weed killer and ground sterilant.

The product contains 2,4-D, bromacil, phenols and penetrants. It knocks down weeds within six to eight hours on a warm, sunny day.

Rockland Chemical Co., Inc.

Rockland Chemical Co., Inc., a supplier to the lawn care industry, offers a number of weed control products, according to company president John Wittpenn.

Rockland Professional Lawn Weed Killer "B" is a combination of 2,4-D and silvex, used

at the rate of two ounces per gallon of water to cover 1,000 square feet. The company also sells Amine 2,4-D, and will this year be introducing a combination of MCPP and 2,4-D.

Rockland Professional Lawn Weed Killer D is a dry combination of 2,4-D and silvex, applied at a rate of two pounds per 1,000 square feet. Wittpenn said the levels of 2,4-D and silvex are higher in this formulation than most other dry herbicides currently on the market.

For a nonselective weed and grass control killer, the company sells Rockland Weed & Grass Killer "B". This is a combination of Pramitol and 2,4-D.

Lakeshore Equipment and Supply Co.

Lakeshore Equipment and Supply Co., Elyria, Ohio, a supplier to the lawn care industry, offers the following herbicide

formulations for the lawn care businessman:

A-4D Herbicide — a 2,4-D amine post-emergent herbicide which offers control of 63 common broadleaf weeds.

Lakeshore 5% Dacthal — a granular, selective clay-base pre-emergence herbicide for control of annual grasses and broadleaf weeds such as crabgrass, *Poa annua*, carpetweed, yellow foxtail, common chickweed and purslane.

LESCO Dicamba +2,4-D — a broadleaf herbicide to be applied as a foliar spray for control of chicory, clover, dandelions, docks, dog fennel, English daisy, chickweed, poison ivy, poison oak, ragweed, jimsonweed, purslane and other broadleaves.

Lescobor — a non-selective weed and grass killer with a borate-chlorate combination providing quick knockdown and season-long control of perennial

grasses such as johnsongrass, quackgrass, bermudagrass and dallisgrass. May be applied with a spreader or mixed with water and sprayed.

Lescopar — a broad-spectrum, post-emergent herbicide in a stable, aqueous two-pound MCPP and one-pound 2,4-D formulation that kills many types of broadleaf weeds on bluegrass, bentgrass, bermudagrass and fescue lawns.

Lescopex — a 2.5-pound MCPP selective post-emergent clover and chickweed killer.

Lescosan 12.5-G — a granular, selective preemergence herbicide for control of crabgrass, annual bluegrass and other annuals in lawns.

Lescosan 4-E — an emulsifiable liquid selective preemergence herbicide for control of crabgrass, annual bluegrass and other annuals.

LESCO Non-Selective Herbicide — for general post-emer-

(to page 32)



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\$400,000 from page 29

Roundup on a weedy lawn, destroy the weeds as well as the grass, and go into thatch and reseed just 10 days later after the herbicide has been absorbed by weeds and translocated to the underground root system.

"The main value in this program for revamping a lawn is that my customer doesn't have to go to the expense of tearing up the existing lawn with tillage equipment. And the results have been great" he adds.



Gallignani and office manager Denise Giordano.

"I used it on eight lawns this past year and met with great success. I plan to use a lot more of it this year where our customers have a real weed problem that can no longer be controlled by normal herbicide applications," he adds.

This past year John applied 120 gallons of Trimec, 82 gallons of 2,4-D plus silvex, 120 gallons of Batesan, the post-emergent herbicide Trex-sun, marketed by Mallinckrodt, Inc., St. Louis, plus 30,000 pounds of Dursban. In all, he applied chemicals on 16 million square feet of lawn. The cost of this service to the customers runs around two to three cents per square foot depending on the condition of the lawn. The treatment of Roundup is priced depending on conditions and number of square feet.

Promotion. "We get advertising in newspapers, plus television spots from the Lawn Doctor system. This sure helps our business, it gets us a good company image. When we are trying to sell a customer, they've already heard of us," he said.

Most sales are started by 10 telephone solicitors who work for John. The girls spend three hours each evening, plus all day Saturday calling prospective customers. They generally average three leads per hour or about 180 to 200 leads per week with this method.

He sends sales persons to the homes to make presentations, with an average of 80 percent of the demonstrations resulting in signed contracts for a year.

To make the offer more attractive, the customer can pay in seven monthly installments. According to Gallignani, "The installment program is important. Most people who utilize our services are of the working class — the middle class. We don't do estates for the simple reason that they already have full-time gardeners."

Service. If there is one factor which is of the utmost importance in this industry it is "Service with a capital S," he said. Timing is everything. "Our technicians must visit 2,900

customers every four weeks. If they don't get the chemicals or the fertilizer spread in time, we run the risk that the customer won't have the beautiful lush green lawn we assured him. Of course they must do their part by mowing and watering the lawn as needed." Eighty per cent of his customers renew their contracts each year.

Staffing. In order to keep his service technicians on the staff during the winter months, he has them rebuilding equipment, including painting the vans. This is done in the 4,000-square-foot shop which is attached to his three-room office. He has a top-flight office manager, Denis Gerodano, who handles everything from accounts receivable to correspondence with the customers.

His technicians are well-groomed and are outfitted with uniforms to help improve the company's image.

John sees great things in the

future for his business. This year he intends to take a crack at the commercial customer. "There are a lot of businesses in the area with 50,000 to 60,000 square feet of lawn which could use our services. I know they are spending more money to maintain their lawns than they need to and are not getting the results we could offer. I see a big potential with them," he predicts.

"We will push for their business in the winter months when it's hard to sell the homeowner on lawn care. Business folks are different; they are always interested in saving money", he said.

HERBICIDES from page 31

gent weed control and lawn renovation.

LESCO MSMA — a high-concentrate liquid herbicide for selective post-emergent weed control of dallisgrass, bahia-

grass, crabgrass, wood sorrel, sandbur, nutsedge and chickweed.

Bonide Chemical Co.

Bonide Chemical Co., Yorkville, N.Y., offers four weed control products for the lawn care businessman:

Turf & Ornamental Herbicide 75% WP — this Dacthal-based product controls veronica, *Poa annua*, crabgrass and other lawn weeds.

Lawn Weed Killer — improved amine form of 2,4-D and silvex. Kills dandelions, plantains, buckhorn, thistle, chickweed, black medic and other broad-leaves.

Chickweed and Clover Killer — a special formula herbicide for control of chickweed, dandelion, broadleaved plantain, white clover and other weeds.

Crabgrass and Weed Killer — a selective weed killer.



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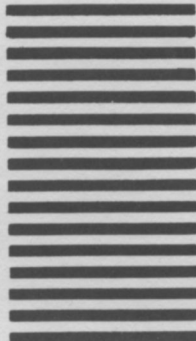
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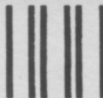
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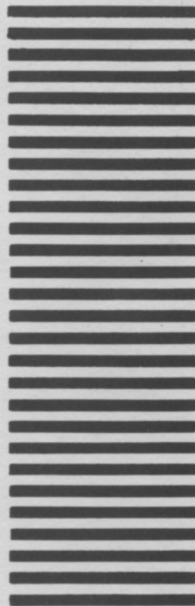
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aren't dying, to call us back, because if a phenoxy, for instance, is on a weed for just three to four hours before rain, it'll still do the job."

Both Steinau and Blank agreed, however, that most complaints occur because the customers don't water properly. To help combat this, as soon as the weather turns dry, Greenlon hands out inexpensive plastic glasses marked off as rain gauges, accompanied by instruction sheets.

"If the customer's lawn doesn't look good, he won't be happy, even if it's his fault," said Blank, who spent nine years as a golf course superintendent before joining Greenlon.

"In fact, in this business, if you can take three steps forward and just one step back, you're ahead. We find it's normal to get customers in the spring, lose them in the heat of summer, then

get them back in the fall. We didn't know this the first year, though and kind of panicked during the summer."

Other than that panic, their first year with Greenlon went well. On Blank's advice that "we're going to have enough problems without using inferior chemicals," the firm utilized name brand products like Dow's Formula 40 and Kuron herbicides for the widest spectrum of broad-leaf weed control, and Dursban 4E insecticide to control an equally wide range of insects. Results were consistently good.

"But the second year we switched to a premixed product," said Steinau. "It was cheaper, but we got burned. We ended up using twice the rates and still didn't get good control. As a result, we had to hit almost every customer twice as often that second year and it really hurt us."

"Saving money on chemicals was one of the most expensive

experiences we've had," he continued. "We couldn't wait until we ran out of the stuff."

"Like any other lawn care company we need products that are 'all season' — that will provide the broadest control in hot or cold weather," explained Blank.

Greenlon treats each lawn four or five times a year, as follows:

- March-April, apply a heavy rate of liquid N-P-K, plus Formula 40, Kuron, dicamba and Lescosan 4-E, marketed by Lakeshore Equipment & Supply Co., for control of dandelions, crabgrass, foxtail, barnyard grass, etc.

- May-June, apply a medium application of N-P-K, plus Formula 40 and Kuron to maintain control of dandelions and other broadleaf weeds; and Dursban 4E especially to control sod webworms, chinch bugs and billbugs.

- July-August, again, medium

fertilization with N-P-K, plus Formula 40, a lighter application of Kuron, dicamba, and Dursban to prevent late season damage from sod webworms and chinch bugs.

- September-October, heavy fertilization with N-P-K, plus Formula 40 and Kuron to control late season germination of broadleaf weeds. Fertilization for the year totals about four to six pounds actual N per 1000 square feet.

- November-December, this is a special application recommended to customers with problem soils or new lawns, and includes a dry fertilizer with slow release nitrogen plus higher rates of phosphorus and potassium to thicken cell structure, strengthen grass overall, and increase disease resistance without promoting growth. This application also tends to prevent snow mold and causes faster green-up in the spring.

"Throughout the season we mix each chemical separately, in specific dumping order to avoid problems," said Blank. "For example, we mix fertilizer and water the night before the trucks go out, then weed killer and insecticides the following morning. We maintain good agitation to keep Formula 40, an amine, and Kuron, an ester, in solution."

For the past three years, the company has conducted a program of periodic blood tests — a "cholinesterase monitoring program" — required because Dursban is an organophosphate. The program has revealed no problems. When working with drums of the product, all employees use approved protective devices, including gloves, aprons, goggles and boots. And even in the field, where the product is used in much lower concentration, operators wear boots, gloves and long trousers.

Greenlon's computer, a Sperry Univac BC/8, analyzes chemical usage versus the square footage sprayed to pinpoint any tendency toward over-application or under-application by operators. The system also handles truck routing, inventory, invoicing, accounts receivable, accounts payable, general ledger, and financial reports.

While good chemicals and their proper usage unquestionably loom large in good customer relations, so do competent employees, and every Greenlon operator undergoes extensive training, including three to four weeks in the classroom and on-the-job, with daily tests.

"Each operator must be able to answer customer questions thoroughly and accurately," said Steinau. "A good explanation from the operator reduces customer call-ins and often saves sending somebody out."

"Also, the operator has to properly fill out a 13-part customer lawn analysis survey which lists types of grasses, weeds, diseases, and insects, condition of turf, thatch depth, soil types and so forth," he explained. "We keep this on file so if a customer phones in, we can pull his survey and discuss things knowledgeably."

The survey form is just one

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Weed identification



Crabgrasses are late-germinating annuals that reproduce by seed. The seedheads appear as several finger-like projections at the terminals of the seed stalks. The spreading growth of crabgrass tends to crowd out desirable grasses in the lawn. Like other summer annuals, crabgrass is killed by the first frost, leaving unsightly dead patches in the turf.



Goosegrass or silver crabgrass is similar to crabgrass except that the center of the plant is a silvery color and the seedheads are zipper-like in appearance.



Yellow foxtail is identified by the presence of long hairs on the upper surface of the leaf blade near the base and by the yellow cylindrical seedheads.



Annual bluegrass is frequently observed in dense patches of light green color.



Fall panicum is a late-germinating annual grass with short, purplish sheaths. The seedhead is an open and spreading panicle.



Nimblewill forms patches resembling bentgrass.



Bermudagrass is a serious weed in bluegrass lawns because of its vigorous and dense growth, although it is commonly grown in the South.



Bentgrass is a perennial grass that spreads by above-ground stems called stolons. It forms puffy, dense patches that may completely take over the lawn. Provided it receives close, frequent mowing and meticulous care, bentgrass will make a very attractive lawn; otherwise, it is regarded as a serious lawn weed.



Tall fescue is a coarse-textured perennial grass growing in unsightly clumps in the lawn. In pure stands, however, it may be an acceptable turf because of its good wear resistance and low maintenance requirement.



Quackgrass is a perennial grass that spreads by underground stems called rhizomes. It may be identified in the lawn by its dull green color and its rapid foliar growth.



Nutsedge is a perennial sedge that reproduces by seed, rhizomes and small, hard tubers called nutlets. It is identified by its triangular stems and yellow-green color. The nutlets may persist in the soil for several years, insuring regeneration of the plants.



Plantains are perennials that reproduce by seed. The leaves form a basal rosette with finger-like flower stalks protruding upward.



Buckhorn is a perennial with lance-like leaves and bullet-like seeds on long, slender stems.



Dandelion is a perennial that reproduces by parachute-like seeds.



Chicory has a taproot that is large and fleshy. A rosette of leaves resembling dandelion leaves form at the base. Bright blue flowers are borne on rigid stalks that resist mowing.

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Thistles are perennials or biennials with spiny and serrated leaves. A rosette-type of growth typically occurs under mowing. The numerous and sharp spines make these weeds particularly objectionable in turf.



Red sorrel or sheep sorrel is a clump-type weed with arrow-shaped leaves. It often appears on acid soils low in fertility.



Ground ivy or creeping charlie is a creeping perennial that forms in dense patches in turf. Its bright green leaves are round with scalloped edges. Its flowers are bluish-purple and the stems are four-sided. It grows well in shady areas where soils are poorly drained.



Curled dock is a perennial that reproduces by seed. It has a fleshy taproot and large, smooth leaves that are crinkled on the edges.



Henbit is an annual that reproduces by seed. The leaves resemble those of ground ivy but occur opposite along the stem.



Roundleaved mallow is an annual or biennial that reproduces by seed. It has a long taproot and round leaves with five distinct lobes. Its white flowers first appear in late spring and bloom continuously through the season.



Yarrow is a fern-like perennial weed that spreads by rhizomes. Under close mowing it forms a dense mat and is quite wear-resistant and drought-tolerant.



Yellow woodsorrel is a pale green annual or perennial that reproduces by seed. It has heart-shaped leaves, and its flowers are yellow with five petals.



Mouse-ear chickweed is a perennial that reproduces mainly by seed but also by creeping stems. It is identified by its small, fuzzy, dark green leaves and dense growth habit.



Common chickweed is a creeping winter annual with small, pale green leaves. Its hairy stems branch and take root, enabling the plant to spread over large areas and completely crowd out turfgrasses. White star-like flowers appear during cool seasons.



White clover is a creeping perennial that competes aggressively with established turfgrasses, especially under moist conditions and low soil fertility. It is identified by its three short-stalked leaflets and globular, white flowers.



Black medic or yellow trefoil is an annual, biennial, or perennial that closely resembles white clover. It is distinguished by its yellow flowers and the arrangement of its leaflets on the stem: the middle leaflet is borne of a short petiole while the lateral leaflets are close to the stem.



Prostrate spurge is a low-growing annual that generally appears in mid-season. The small leaves are opposite and frequently have a red blotch in the center. The stem oozes a milky sap when broken.



Knotweed is a low-growing annual that first appears in early spring. Its appearance is variable, depending upon the stage of maturity. Young plants have long, slender dark leaves that occur alternately along the knotty stem. Mature plants have smaller, dull green leaves and inconspicuous white flowers. It grows well on heavily trafficked, compacted soils.



Purslane is a fleshy annual weed with smooth reddish stems. It may be particularly troublesome with new lawn seedlings.



Carpetweed is an annual with smooth, tongue-like leaves. Stems branch in all directions, forming flat, circular mats of growth.



Wild onion and wild garlic are perennial weeds with slender, cylindrical leaves. Wild garlic leaves are hollow; those of wild onion are not.

WEED CONTROL from page 13

Timing of application

Some herbicides are applied prior to the emergence of target weed species (preemergence herbicides); once the target weeds have emerged, these herbicides are usually ineffective for controlling them. The specific date at which a preemergence herbicide should be applied thus depends upon the period in which weed germination takes place.

In Illinois, crabgrass typically germinates during May and June; therefore, a preemergence herbicide should be applied by late April in order to ensure control. As one proceeds south, crabgrass germination usually occurs earlier during the growing season, requiring earlier application of the herbicide. Post-emergence herbicides are applied after emergence of the weed; applying them before anticipated or actual emergence usually will not result in control.

Most annual grasses can be controlled with either pre-emergence or postemergence herbicides; however, pre-emergence herbicides are

usually preferred because they are often effective with a single application and they are less likely to injure the turfgrass. Broadleaf weeds and perennial grasses are usually treated with postemergence herbicides.

Site of application

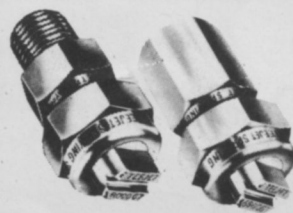
Herbicides are applied to the foliage where they are absorbed, or to the soil underlying the grass shoots where they are absorbed by roots or immature organs of germinating seeds. Post-emergence herbicides are usually foliar-applied, while pre-emergence herbicides are soil-applied. This distinction is of practical importance since a foliar-applied herbicide which is washed off of the foliage by irrigation or rainfall shortly after application may not be effective. Conversely, a soil-applied herbicide which is retained on the foliage for an extended period may break down before reaching the soil (or thatch) where it must be to be effective.

Postemergence herbicides are of two types: contact and systemic. Contact herbicides control those portions of the

to page 36

SPRAYING SYSTEMS CO.

TeeJet® SPRAY NOZZLES AND ACCESSORIES



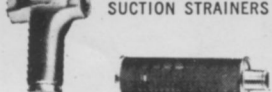
SPRAY BOOM CONTROL VALVES



PRESSURE RELIEF VALVES

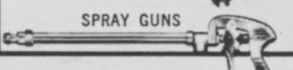


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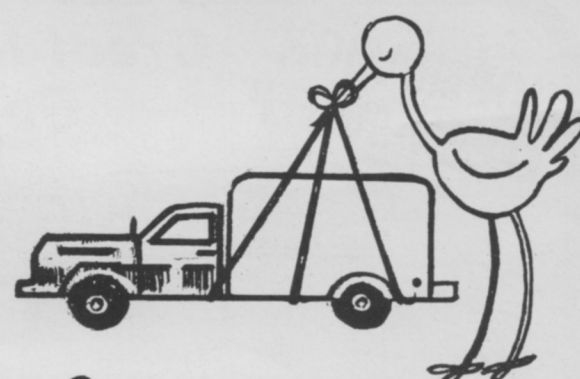
tapered edge, even and wide angle flat spray... hollow and full cone... disc type hollow and full cone... and flow regulators. The most complete line for spraying herbicides, insecticides, fungicides, liquid fertilizers and foam solutions. All materials. For complete information write for Catalog 36... and for foam spraying ask for Data Sheets 13602 and 13626.

SPRAYING SYSTEMS CO.

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Liqui-Matic, the new concept. It performs like the biggest tank truck, but its GVW is 10000 pounds. Lawn treatment load is 25000 square feet. Tree feeding load is 1000 caliper inches. **Liqui-System's** patented metering gong signals each 2½ gallons unit pumped. Power washes. Injects 2 optional pumped streams. All fiberglass whips corrosion. Furnished complete with truck, hose, tools, \$16900.00. Call (512) 575-5882. A few available for Spring delivery.

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applicator . . .**

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Or Call Collect 216-323-7544

If you're a lawn applicator and you're not using LESCO 36 Sulfur Coated Urea in your program, it's costing you money, it's costing you performance, and maybe it's costing you customers.

LESCO 36 Sulfur Coated Urea is a giant leap for turf management. This controlled release nitrogen source delivers a guaranteed minimum of 36% nitrogen and 12% sulfur. Between 10 to 20% of the nitrogen is available within the first 7 to 10 days, with the remainder available over a period of several months. This means quick greening, sustained feeding and reduced application costs. And because you buy from Lakeshore, you buy from the manufacturer. And that means quality and savings.

If you are a truckload buyer, take advantage of our toll-free information service and call Barb today. She'll have our representative contact you immediately. Those east of the Mississippi can reach her by dialing 1-800-321-5951. (In Ohio, dial 1-800-362-7413.) If you're west of the Mississippi, call Barb collect at 216-323-7544.

Take that small step and call today. We'll be glad to tell you about LESCO 36 and our other fine LESCO Products, such as LESCOSAN (Betasan*), the liquid pre-emergence crabgrass control that outsells all the competition. Our LESCO Quality Products and Friendly Service are always as close as your phone.

*(Betasan—Registered TM of Stauffer Chemical Company.)

LESCO PRODUCTS

Division of Lakeshore Equipment & Supply Co.
300 S. ABBE ROAD, ELYRIA, OHIO 44035

A FAMILY OF FINE PRODUCTS—Lescosan 12.5G—Lescorene—Lesco 4—Lescobor—Lescopar—Lescopex—Lesco Non-Selective Herbicide
Lesco MSMA—Lesco Thiram 75W—Lescozyme—Lakeshore Chinch Bug & Sod Webworm Control

EXTEND SEASON from page 16

"Last spring, we applied Betasan on three football fields that had been dormant seeded the previous fall, and the rye grass did not show any injury whatsoever," he said. "It worked out very well. The Betasan controlled all the crabgrass and the Banvel-D took care of the knotweed which was already in the two-leaf stage. This year, I will apply Betasan in April on all my football fields. It doesn't seem to affect the foliar part of the plant, and as long as it has germinated and is growing, it doesn't seem to make any difference."

Hutchinson says he prefers liquid Betasan for crabgrass control because of its physical properties.

"It is very compatible with my overall operation," Hutchinson says. "If you let it set over night in a tank, some of it may settle, but a light agitation will put it back in suspension. If you allow some herbicides made from wettable powders to sit over night, they can settle to the bottom and form a hard crust. Then you have to take a shovel and scrape down the tank to mix it up. I have done some lab tests mixing Betasan with liquid fertilizers, as well as with Banvel-D and 2,4-D, and I have not noted any adverse effects."

Another Long Island lawn care businessman in nearby Bohemia, Paul Kampe of Lawnrite Corp., also uses Betasan for crabgrass control. But unlike Hutchinson, 95 percent of Kampe's accounts are residential.

Lawnrite serves several thousand homes a year, plus a smattering of commercial jobs that usually stem from residential contracts. Kampe says Lawnrite has not experimented with any of the new seed and herbicide application schedules like Hutchinson, but he says dormant herbicide applications are definitely something to consider for the future.

"The idea of dormant herbicide applications has a lot of merit," Kampe says. "Dormant

applications would actually extend our year by four to six weeks."

"Most homeowners think about lawn care in the spring, not the fall," Kampe says. "So before we can offer dormant herbicide applications to them, we have to change their buying habits. Homeowners must understand and be made aware of dormant herbicide applications, but one lawn care dealer cannot do the job alone. Promoting dormant herbicide applications to homeowners must be a national effort by both lawn care businessman and the chemical companies."

Betasan is available to lawn care businessmen under the following private labels: Best Betasan 4E and 12.5G (West Coast), Betamec-4 and Lescosan 4E and 12.5G.

GREENLON from page 33

part of an effective package of colorful promotional material Greenlon provides. The packet does a good job of explaining to the customer or potential customer why lawn care service is necessary, how to sign up for it, when to water, when to mow, and so forth.

Greenlon also offers a landscape/maintenance service, including complete landscape layouts, plantings and maintenance programs. The firm's business continues to thrive and Steinau is negotiating for a site for a 14,000-16,000-square-foot building which will be specially designed for Greenlon.

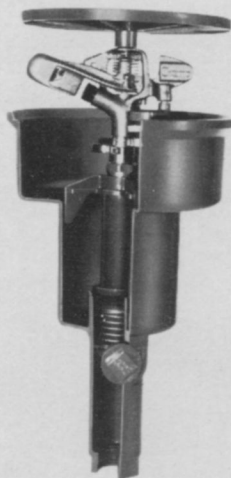
But, while the future looks favorable for the company and the industry as a whole, Blank voiced concern about the small segment of "schlock" operators in the field.

"I'd like to see the time when everyone in this business is a professional," he declared, "who knows exactly which chemicals he is using and uses them right. But a few folks are experimenting with their customers' lawns and getting people sore at the industry as a whole."

PRODUCTS

Impulse pop-up sprinkler featured in free catalog

For the lawn care businessman involved in sprinkler installation on residential or commercial/ industrial lawns, Champion Brass Mfg. Co. offers

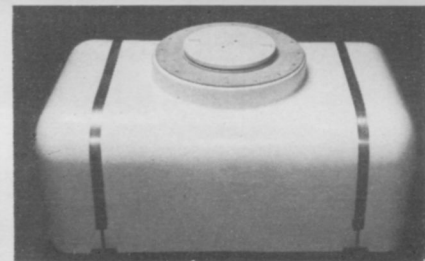


a new impulse pop-up sprinkler featured in its just-released 1979 catalog. Free copies of the catalog are available. The case is Cycloc plastic with both a 3/4-inch side and bottom inlet on the featured No. 6178. Features include: a stainless steel pop-down spring for positive retract action; self-flushing stem; strainer; and a wiper seal which clears debris from the stem while operating up and-down.

Circle 222 on free information card

Fiberglass spray tank for supervisor pickup

You've got your larger spray tank truck units handling the bulk of your business every day,



but you need a tank to mount in the back of your supervisor's pickup for complaint calls and spot jobs. With that in mind, Raven Industries announces availability of a new, 100-gallon pesticide tank. Construction if of corrosion-resistant fiberglass, and dimensions are 30 inches wide by 47 inches long by 24 inches high. The tank has a sloped bottom for complete drainage from a side outlet, and comes standard with a nylon fitting plus and an easy-fill 10-inch nylon fillwell and splash-guard cover. A steel skid assembly with bands and T-bolts is available, and flow-thru baffles in the tank are optional.

Circle 221 on free information card

Liquid, not suspension slow-release fertilizers

One of the busiest booths at recent turf trade shows was Ashland's Chemical Co.'s, where the company's Slo-Release fertilizers were introduced. Here is the reason why, quoting from some of the free, detailed literature available from Ashland:

"As a custom applicator of lawn care products, you know

Ashland Chemicals

Ashland's Slo-Release

LIQUID CONTROLLED-RELEASE FERTILIZERS

As a custom applicator of lawn care products you know the importance of the nitrogen source serving as the basis of your formulation. Historically, nitrogen products have suffered from two major drawbacks: the inability to supply an adequate amount of nitrogen without burning and without the uneconomical application of large amounts of water; and the gradual dissolution times for granular or dry materials that don't completely release nitrogen during a growing season.

Slo-Release

Gives Predictable and Dependable Performance

Ashland Chemical's Slo-Release liquid controlled-release fertilizer product line was developed to help the custom applicator overcome these problems. Three years of Slo-Release product experience coupled with Ashland Chemical's extensive experience in resin technology have provided the industry with a high quality product line designed specifically for turf. Fertilizer performance that you can predict and depend on, especially in hot mid-summer months, is important to you, and that's what a Slo-Release formulation delivers.

Slo-Release

Apply Any Time During Growing Season

Slo-Release liquid formulations can be applied any time during the season without fear of turf burn and with the assurance that your customer is getting an adequate amount of nitrogen to do the job.

the importance of the nitrogen source serving as the basis of your formulation," one of the brochures begins. "Historically, nitrogen products have suffered from two major drawbacks: The inability to supply an adequate amount of nitrogen without burning and without the uneconomical application of large amounts of water; and the gradual dissolution times for granular or dry materials that don't completely release nitrogen during a growing season."

The brochure continues: "Ashland Chemical Co.'s Slo-Release liquid controlled-release fertilizer product line was developed to help the custom applicator overcome these problems. Three years of Slo-Release product experience coupled with Ashland's extensive experience in resin technology have provided the industry with a high-quality product line designed specifically for turf. Fertilizer performance that you can predict and depend on, especially in the hot, mid-summer months, is important to you, and that's what a Slo-Release formulation delivers."

Circle 224 on free information card

Free from Hypro

Sprayer Pump Handbook

Hypro sprayer pump handbook

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8 pages of helpful information to help you select and use your pumps better. Hookup diagrams for piston, roller and centrifugal pumps. Graphs of pump outputs, flow through spray nozzles. Data on pump and sprayer component selection plus much more. Send for your free copy now.

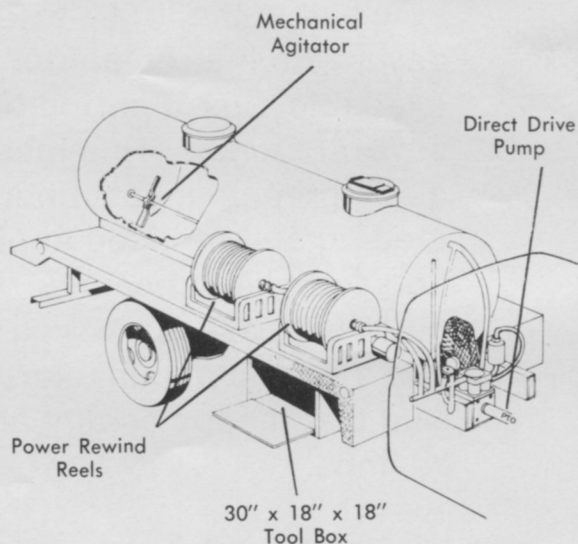
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Circle 142 on free information card

72-inch riding mower

Heckendorn Mfg. Co., Inc., has announced product modifications for its 72-inch riding mower. Improvements include increased cutting power with a bigger, electric-start engine; larger spindles; easily replaceable drive sprocket; and a redesigned instrument panel that places all control within easy reach of the operator. Gear steering is optional. Other features in-



clude front-wheel steering, zero-turning radius, hinged side-mount units that follow ground contours and allow drive wheels to remain on stable ground.

Circle 201 on free information card

Push-powered pesticide applicator

The WS-470 Pro-Wheelie, from Wheel Spray Co., Inc. is similar to pesticide applicators utilized by some major lawn care companies across the country.



Some companies apply dry fertilizers and insecticides, and use equipment such as this to apply liquid herbicides and fungicides. No water hoses, cords, batteries or gasoline are required. The five-gallon container and the ground-driven pumping system are made of corrosive-resistant materials. Applications are adjustable from 800 square feet per gallon to 1,200 square feet per gallon. Coverage is relatively unchanged by the speed at which the sprayer is pushed. The faster it is pushed, the faster it pumps. It will deliver a 72-inch fan of solution.

Circle 208 on free information card

Dump bed trailer

The all-aluminum dump bed trailer from OME, Inc. is more practical than a second truck, the company said. The tailgate hinges at the top and bottom for

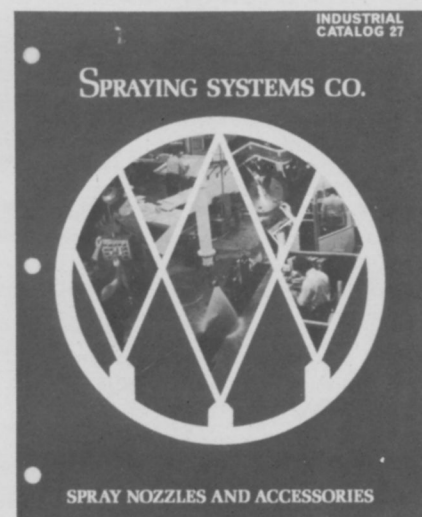


your choice of loading and dumping. It is designed for off-highway use.

Circle 205 on free information card

Spray equipment catalog

Spraying Systems Co. has made available its newest catalog on spray nozzles and acces-



sories for lawn care and other spraying operations. The 88-page catalog contains information on hollow cone nozzles, full cone nozzles, flat spray nozzles, atomizing fine spray nozzles, air atomizing nozzles, special purpose nozzles, accessories and applications and publications information.

Circle 206 on free information card

Zero turning radius

Dixon Industries, Inc. has published a four-color brochure on its ZTR mowers, which offer

DIXON ZTR MOWERS
SureThing Mowability



"zero turning radius." The ZTR pivot point is midway between the two drive wheels. One wheel moves forward and the other backward at the same time, turning the whole mower in its own tracks.

Circle 203 on free information card

Turf fertilizer

Pro-Lawn Products, Inc. has published a free four-page catalog outlining its line of turf fertilizers for professional use.

MARKETING IDEA FILE

Print your own identification book

Don Ridgway, president of Spra-Gro, Inc., Bedford, Ohio took away a number of his competition's customers this year for one simple reason — he had visible proof to show the home owners what their problems actually were.

"We got a number of calls from people who had what turned out to be disease problems on their lawns, but their lawn care company was not able to diagnose the problem for them," he said. He took the calls and took his identification book of disease problems, published by Du Pont Co., Wilmington, Del. out on the call.

"As soon as I could show to the person exactly what their problem was and what we were going to do for it, it was an easy sell," Ridgway said. This year his company plans on printing 1,000 booklets with four-color disease identification pictures, included along with their regular company information and costs.

"This way, it will tell the customer how to handle any problems himself on a preventive basis — which they don't usually want to pay us for but is still a service to them — or pay us to handle it on the preventive basis or after the problem occurs."

Information is given on the company's "Blue Chip" 10-5-5 turf fertilizer with 100 percent organic nitrogen; Lawn and Fairway 10-6-4; Turf & Tree 10-6-4; Pro Lawn 5-10-5; Pro-Lawn Plus, a 22-6-8 with 50 percent slow-

How to make your lawn and garden grow with the professional line of plant food products

The Pro-Lawn Family



release nitrogen; and its combinations with broadleaf herbicides, crabgrass herbicides and insecticides.

Circle 209 on free information card

Suction sweeper

Billy Goat Industries has introduced its new "Little Billy" suction sweeper for leaf and debris cleanup. It features a



three-horsepower engine and is small enough to be maneuverable in tight areas. It has a 20-inch-wide intake snout and weighs under 60 pounds. It features a heavy-duty bag with three-bushel capacity.

Circle 210 on free information card

Measuring Wheel

Heavy Duty Measuring Wheel

Welded Construction

Wide Wheel-1 3/4"

Cushioned Handle Grip

Metal Housed Veeder-Root Counter

Easy Reset

Counter Guard

Used by one of the Largest Lawn Care Companies in the U.S.A. -

Great for Measuring Roads, Parking Lots, and Driveways . . .

Custom Colors Available on Request (Lots of 25 or more Only)

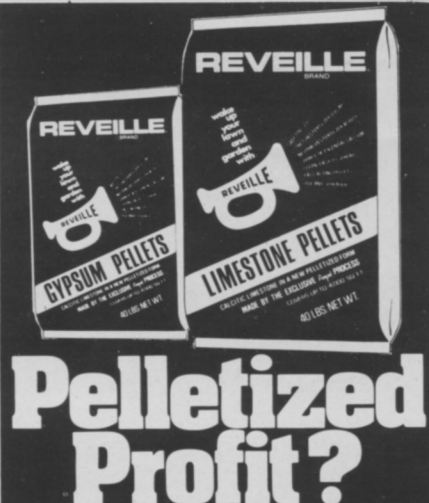
Shipping F.O.B. Columbus

Quantity Discounts Available

For More Information Call or Write:

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1117 Broadview Ave.
Columbus, Ohio 43212
614/ 486-9068

Circle 114 on free information card

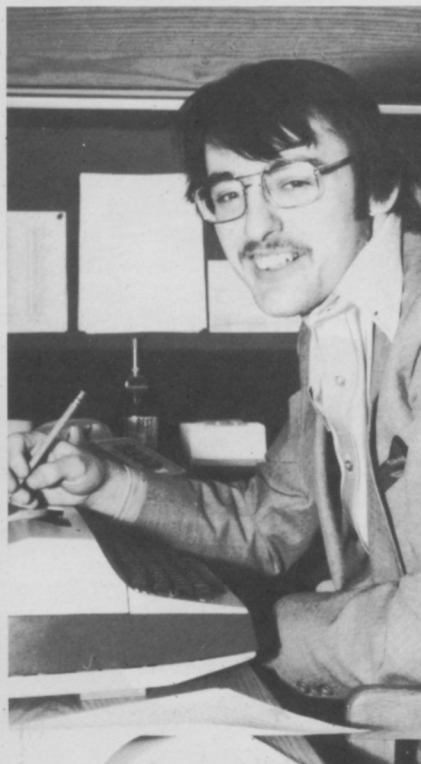


Now, big limestone & gypsum profits in a virtually dust-free pellet form. ■ Opens up a whole new market segment for your lawn care business . . . without the mess of dusty, uncontrolled spreader applications. ■ Economical, yet highly profitable. ■ Works with any type spreader, including broadcast. ■ Lets you increase customer service plus decrease your fertilizer costs. ■ Ideal for slack periods because REVEILLE can be applied practically year 'round. Available in bag or bulk, both REVEILLE Limestone and Gypsum fit perfectly into liquid or dry lawn care operations.

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Circle 140 on free information card

BEHIND THIS ISSUE



Lots of good news this month. First, the issue you are holding in your hand is the largest LAWN CARE INDUSTRY to date. All in all, it carries the advertising of 36 different companies that are trying to reach you. We of course feel good about it, but you should too. It is a reflection on the growth and strength of the lawn care industry as a whole. The manufacturers more and more are beginning to realize that you are out there, and they are designing products to fit your needs.

Secondly, we have a new person on the staff of LAWN CARE INDUSTRY. He's the fellow on the right, and his name is Dan Moreland. He interviewed many of the Houston lawn care businessmen featured in MARKETPLACE, beginning on page 17. And he's going to be meeting many of you in the coming months, in his travels reporting on the lawn care industry for us.

Bob Gourley

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CLASSIFIED

When answering ads where box number only is given, please address as follows: Box number, c/o LAWN CARE INDUSTRY, Dorothy Lowe, Box 6951 Cleveland, Ohio 44101. Rates: 35¢ a word for line ads, 65¢ a word for display ads. Box numbers add \$1 for mailing. All classified ads must be received by the publisher before the 10th of the month preceding publication and be accompanied by cash or money order covering full payment. Mail ad copy to Dorothy Lowe, LAWN CARE INDUSTRY, Box 6951, Cleveland, Ohio 44101.

motions, excellent fringes. Year round, no layoff jobs. The Spencer Company, P.O. Box 16113, Houston, Texas 77002. Call Len Spencer (713) 691-3991.

LIQUID LAWN CARE company is seeking an individual to head up our service department. Requirements for this position are a degree in agronomy, horticulture, or agriculture or past turf experience. Salary open. Send resume to Excelawn Corp., Box 20564, Indianapolis, Ind. 46220.

FOR SALE

UPDATING FLEET AND EQUIPMENT: 5 Lawn-A-Mat units (tractors, combines, trailers) good condition, \$2,500.00 per unit. Also, 2-1972 Ford pick-ups, under 50,000 miles. Call: 414 552-8911. Jim Gourley.

LAWN SPRAYER — New generation automatic sprayer. Cuts spraying time by 75%. Sprays insecticides, herbicides, fungicides. Under \$250.00. Free information. Yard Mate, P.O. Box 917, Arvada, Co. 80001.

WANTED TO BUY

LANDSCAPE EQUIPMENT: Jacobsen power seeder, aerator, York rakes, pulverizers, trailers, loaders, sprayers, etc. Must be reasonable. Send description to: Kurt, 968 Mentor Avenue, Painesville, OH 44077.

USED EQUIPMENT

UPDATING FLEET. must sell 1974, 1975, 1976 1300 gallon tankers. G.M.'s with electric reels and new pumps, excellent condition from \$9,500.00. New 1200 gallon steel tank, painted, \$450.00. New 300 gallon tank with agitation shaft, manway, pulleys on skid, not complete, \$450.00. 300 gallon fiberglass sprayer, skid mtd., 8 horsepower, mechanical agitation, centrifical pump (can spray I.B.D.U.), electric reel with 300 ft. of hoses, \$1,200.00. Hand rewind hoe reel, like new. \$60.00. Phone 216 255-3131.

1976 CHEVY C-150 lawn spray truck, excellent condition, 1,200 gallon steel tank mounted on 14 foot platform. 2 Hanney electric hose reels with 500 feet of hose on each. Bean 20-20 pump mechanical and jet agitation. \$11,500. Call or write Rusin Landscaping, Inc., 340 North Drive, Lorain, Ohio 44053. Phone 216 233-8217.

LAWN SPRAY TANKER. 1—1977 excellent condition 1500 gallon Loadstar International, completely equipped with hose reels and 300 ft. of delivery hose. Phone 313 549-1912.

EXCEL HUSTLERS with mower, 8 to choose from, will deliver. 313 329-2675.

MISCELLANEOUS

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 Tankers — 1500 gal., P.T.O., Auto Rewind ... \$115.00 Day
 1 Ton — 750 gal., P.T.O., Auto Rewind ... \$ 75.00 Day
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 WRITE NOW TO: GREEN THUMB LEASING CORP.
 9325 Harriet Ave. S., Bloomington, MN 55420

BUSINESS OPPORTUNITY

CLEVELAND, OHIO OPPORTUNITY. One of Ohio's largest and progressive nursery organizations is establishing a lawn fertilization business in the Cleveland area. We are looking for a person to manager the whole program. If you have 3 to 5 years experience in residential lawn fertilization and management, call us immediately. All replies will be strictly confidential. Horton Nursery Sales Co., 216 331-6267, Mrs. Hebing.

HELP WANTED

MANAGER and applicator position open at new chemical lawn care division of established landscape maintenance company in fast-growing Houston, Texas. Tremendous opportunity for those having experience with national or regional lawn care companies, knowledge of St. Augustine lawns and marketing capabilities. The right people will have unlimited advancement potential. Send complete resume including education, experience and salary history to: Environmental, 7544 Harwin, Houston, Texas 77036 or call collect 713-784-1750.

OUR EXPANDING OPERATION enables us to offer several excellent opportunities for highly qualified experienced individuals in the following areas: 1) Landscape Design/Sales: Responsibilities include; negotiating with architects, developers and contractors to secure landscape construction contracts; estimating and bidding; site-design; scheduling and supervision of 3 to 5 crews; and complete coordination of landscape construction projects. Successful applicant will have a Bachelors Degree in Landscape Architecture and 1 to 2 years experience or the equivalent in experience. — 2) Landscape Foremen: responsibilities include: proper installation of plant material and landscape features including grading; correct use and care of equipment; and supervision of crews. Successful applicants will have 1 to 3 years of experience in the landscaping industry with at least 1 year in a supervisory capacity and knowledge of reading blueprints. — 3) Landscape Maintenance Foremen: responsibilities include: proper care and maintenance of plant material (i.e. fertilizing procedures, spraying, mowing, pruning and cultivation); correct use and care of equipment; and supervision of crews. Successful applicants will have 1 to 3 years of experience in landscape maintenance with at least 1 year in a supervisory capacity. These are year-round positions with excellent starting salaries and full company benefits. If you feel you are qualified for one or more of these positions described above, and you are an ambitious, self-motivated, knowledgeable individual who enjoys a challenge and one who takes pride in his work, then you are what we are looking for. Please contact our office immediately. Bob's Green Thumb Landscaping Co., Inc., Rae Ann Borst, Secretary, RR 1, Box 131, Mundelein, Illinois 60060. (312) 634-9300.

POSITIONS OPEN NOW. Leading horticultural services company in Houston, Texas (established, 1959). Major expansion program requires experienced working crew supervisors and assistants in Landscape Maintenance Division (leading to superintendent positions). Chemical Division (industrial weed control and chemical lawn maintenance) and Landscape Division — experienced all levels. All divisions, including Indoor (plant leasing & greenhouse) offer career opportunities for untrained, but willing to learn. Apprentice program, pro-



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The leaner your budget, the less you can afford errors, accidents, or wasted time—and the more you need turf products that keep performing over a wide range of circumstances, with minimal demands on your crew and equipment.

We developed ProTurf products specifically for turf professionals with tight budgets and tough objectives. People who know that an inexpensive fertilizer that burns a fairway isn't very economical, that a fungicide only an expert can apply is no bargain, that "cheap" seed full of weeds and chaff can cost a heck of a lot in the long run.

What we're talking about is value. Not the price you pay up front, but the cost when all the bills are in.

Value doesn't just happen ... it has to be designed in. That's why at Scotts, we



really do believe in research. We don't sell products unless they've been researched and tested all over the country. Frankly,

we can't afford not to—because you can't afford to buy a product that becomes part of the problem, instead of part of the solution.

There's a lot to tell about the value in ProTurf products. And right now is an excellent time to find out. During Scotts' Lawn Service/Landscaper Sale—now through March 31—you can get special discounts on our entire product line . . . and take until midsummer to pay. For details, call your Tech Rep toll-free at 800/543-0006. (In Ohio: 513/644-2900, collect.)



Professional Turf Division
Marysville, Ohio 43040



When they bag more,

When there's no compromise in performance, they're worth even more.

Introducing Toro Front Runner rotaries.

They're self-contained vacuum grass collecting systems designed specifically to bag and carry heavy loads without penalizing performance.

Result? They stop, start, steer and maneuver as well loaded as many mowers with add-on bag systems do empty.

Since they're designed for big grass loads, strain on engines, transmissions and other components is cut way down. Which cuts way down on

repairs and down time.

What's more, Front Runners offer the largest grass collection capacities available. The GMT (left) handles up to 20 bushels and mows 48" or 60" wide.

The Turf Truck, with hydraulic dump system, handles up to 50 bushels and mows 60" wide. Benefit: More mowing between grass dumpings.

Or, for wide mowing without bagging, choose the giant 80" batwing deck on either unit. Outer wings follow contour of ground to eliminate scalping.

To make your GMT worth even more, choose a snow plow, snow blower or sprayer.

Increase the worth of your Turf Truck with all season cab.

Toro Red Wagon Service is one more reason your Toro is worth more. Every Red Wagon mobile van comes with a trained pro and the equipment and parts he needs to perform most maintenance on the spot.

Call 800-328-2858 toll-free for the name of your nearest Toro distributor and a demonstration.



they're worth more.



Even fully loaded, Front Runners maneuver as well as most riding mowers, thanks to "bend in the middle" articulated steering.



Wide track design, long wheel base and flotation tires provide excellent stability, even when capacity loads are carried.



Worth more.

Circle 112 on free information card

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Baron Outsell Merion by more than 10 to 1!

No Wonder:
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Merion production figures taken from "Seed Crops" published by U.S. Dept. of Agriculture, Crop Reporting Board, Washington, D.C.
Baron production figures supplied by Barenbrug Holland and Lofts Pedigreed Seeds, Inc.