ASSOCIATIONS

Denver landscaper named ALCA president

Wallace H. SaBell, president of SaBell's, Inc., Denver, Colo., was recently installed as the 18th president of the Associated Landscape Contractors of America (ALCA), during ceremonies at the group's annual meeting in San Diego, Calif.

Also installed as officers for 1980 were Allen Keesen, Allen Keesen Landscape, Denver, Colo., president-elect; Ritchie B. Skelton, Duncan Landscape Associates, Vienna, Ohio, vice-president; Ray Gustin III, Gustin Gardens, Gaithersburg, Md., vice-president; David R. Pinkus, North Haven Gardens, Dallas, Texas, treasurer; and J. Landon Reeve IV, Chapel Valley Nursery Co., Woodbine, Md., secretary.

ALCA's 1979 president, Bill Thornton, of Thornton Landscape, Cincinnati, Ohio, auomatically moves to the position of immediate past president.

PESTS

Nematodes are hidden cause of many turf and plant failures

Nematodes are very common and widespread and occur in large numbers on many different plants, including turf, according to Dr. Norman L. McCoy, area plant pathologist for the Texas Agricultural Extension Service, based in Dallas.

"Nematodes are sometimes called eelworms, and this expression, better than any other, describes their shape," Dr. McCoy told LAWN CARE INDUSTRY. Most of the species found associated with roots are too small to be seen when plants are examined in the field, either with the naked eye or the aid of a hand lens.

Worm-like organisms frequently observed on such occasions are likely to be relatives of the common earthworm and not nematodes. Nematodes are not as small as many people imagine, he said. They are difficult to see because most of them are slender and translucent. The average length of the kinds that occur in turf is probably about one millimeter.

The life cycle of most of the plant parasitic nematodes is simple and direct, Dr. McCoy said. Females lay eggs that hatch into young, called larvae, and these larvae are much like adults in apperance and structure. During their growth and development,

to page 10

FRIENDS OF THE EARTH PETITION

Proposed EPA regulation would prohibit pesticide spraying without written permission of neighbors

A proposed regulation by the federal Environmental Protection Agency (EPA) would prohibit spraying of pesticides without written permission of persons living or owning property within 250 feet of the sprayed area's boundaries.

A second part of the proposed regulation would require the permission of residents and property owners within 1,000 feet of the sprayed area's boundaries when application was done with fine droplet misting equipment.

The proposed regulation is based upon a petition submitted by the environmental group Friends of the Earth. Notification appeared in the U.S. government's Federal Register earlier this year, asking for comments from interested parties — including the lawn care industry as a whole — no later than April 17, 1980.

The Professional Lawn Care Association of America (PLCAA) early last month suggested a letter-writing campaign by members of the industry, and also contacted the EPA directly on behalf of the industry, according to PLCAA executive director Glenn W. Bostrom.

The largest part of the proposed regulations dealt with aerial application of pesticides. Also due to possible spray drift, the proposal would prohibit aerial pesticide applications without written permission of residents and property owners within 1,000 feet of the sprayed area's boundaries.

According to Bostrom, the suggested letter PLCAA recommended its members send to the EPA read:

"We note that the Friends of the Earth are requesting that pesticide applicators using ground spray equipment be required to have written permission allowing for possible spray drift from residents or property owners within 250 feet of the sprayed area's boundaries. In the case of mist-blow sprayers or aerial applications (FAA Docket No. 19488) they are seeking a 1,000-foot buffer.

"Implied but not stated in thei request is that they are seeking 'zero' tolerance for drift, eithe

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LAWN CARE INDUSTRY
Serving lawn maintenance and chemical lawn care professionals.
MAY 1980 • VOL. 4, No. 5 • A Harvest Publication

QUICK STARTS

For a report on "Educating Homeowners," see INSIDE THE IN- ies of indepth looks at the lawn care busi- his feature have been

LCI SURVEY

Average lawn business has about 500 accounts

The average lawn care company in 1978 serviced 478 accounts, according to a recent survey by LAWN CARE INDUSTRY. This projects to a total of almost 4.5 million customers serviced in 1978 by readers of the magazine, according to market research manager Clarence Arnold.

The question asked on the survey was: "Approximately how many accounts did your business serve in 1978 with mowing, turf maintenance, ornamental maintenance or turf spraying services?" Answers would reflect total number of customers of both chemical lawn care and mowing/maintenance companies, and also the large number of companies in the industry that handle both.

According to Arnold, 89 percent of these accounts are under a contract which calls for more than one visit. Also, 91 percent of these accounts are residential. These figures imply that 7.1 percent of single-family, owner-occupied homes are served by the readers of LAWN CARE INDUSTRY, based on the federal government's *Current Housing Reports*, published by the Bureau of Census.

The survey was conducted in July and August of last year. Results are based on a 47.4 percent return of the original 500 contacts responding, according to Arnold.

Although the question was not asked in the most recent survey, based on the magazine's 1978 survey of its readership, chemical lawn care companies said they had an average of 937 accounts on the books in 1977, and mowing/maintenance companies said they had an average of 170 accounts.

Approximately how many accounts did your business serve in 1978 with mowing, turf maintenance, ornamental maintenance or turf spraying services?

Average:	Projection to LCI readership:
478 accounts	4.5 million accounts

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MEMOS

Homeowners to stay at home, spend money on lawns: A recent survey conducted for O.M. Scott & Sons, Marysville, Ohio said that 30 percent of homeowners say they will spend more of their time at home this year. The survey was conducted by Home Testing Institute.

When all respondents were asked which activities they would be spending more time on this year, the following three were cited by more than a third of the people: Interior decoration or home improvement; exterior painting or refurbishing; and lawn care and gardening.

Tops among the activities cited by those intending to spend more time around their houses were lawn care and gardening — mentioned by two-thirds of the family heads, and over half of them plan to spend more money this year on their lawns.

When asked, "Do you think improvements to your lawn will add dollar value to your home or make no difference?" three-fifths thought that such improvements would increase the cash value of their homes. An earlier independent survey among realtors tended to confirm homeowners' views on the subject. In the realtors' view, an attractive lawn with flowers, shrubs and trees would add about six percent to the market value of a house — a handsome $4,500 on a $75,000 home — and would speed up its sale.

Outdoor advertising grows: Outdoor advertising, a medium being discovered by lawn care companies across the company in growing numbers, is regaining popularity, growing 10 percent a year since 1969. McCann-Erickson, Inc., an ad agency, estimates 1979 spending on billboards at $535 million, up 15 percent from 1978, but still only one percent of total U.S. ad outlays.

Barefoot pumps dry over liquid: In a full-page ad in at least one midwestern daily newspaper, Barefoot Grass Lawn Service, Worthington, Ohio recently stated "11 reasons why you should consider trading your liquid lawn service for Barefoot Grass dry lawn service."

The 11 reasons trumpeted dry over liquid in headlines with explanatory copy and some pictures. The headlines were: "Barefoot dry works at the grassroots to grow your grass thicker." "Barefoot dry tailors the treatment individually. With most wets, it's one for all and all for one." "Barefoot dry works overtime. Most wets leave early." "Barefoot dry weedkillers are precise. Wets blanket everything, need it or not." "Barefoot dry insecticide sticks around when wet breaks down." "Barefoot dry stimulates healthy growth. Wet drives grass wild." "Barefoot dry won't give your lawn ugly, brown sunburn." "Barefoot dry works low. Wet stays high — and gets mowed away." "Barefoot dry prevents disease. Wet offers a stopgap." "Great Scotts. It's Barefoot dry." "The Barefoot guarantee." The reference to "Great Scotts" said that Barefoot uses Scotts fertilizer.

Letters: We get some nice letters here at LAWN CARE INDUSTRY, and we'd like to share some of them with you. William Vogel, manager of Vogel's Spring Valley Turf Care Products, Jackson, Wis., writes:

"I would like to take this opportunity to commend you on the good job you are doing to inform an unify the turf care industry through the informative and thought-provoking articles in your magazine. While attending the Illinois Turf Conference, I had the pleasure of meeting you at your booth.

"Three years ago here at Vogel's Seed & Fertilizer, Inc., we started a new division called Vogel's Spring Valley Turf Care Products. We handle fertilizers (both liquid and dry), chemicals, seed and liquid equipment.

"Recently we sponsored our first (and hopefully annual) 'Milwaukee Turf Day'. We have representatives from Allied Chemical, Ashland Chemical, Monsanto and Snyder Industries tank manufacturers talk about their products, and a talk on turf disease. Despite an eight-inch snowfall the day of the meeting, we had a fine turnout.

"I thought I'd drop you this line to let you know that the Milwaukee turf care market, although young compared to some others, is alive and trying out its new legs. Again keep up the good work. I especially enjoy articles on comparing fertilizer and chemicals and statistics on purchases."

And Bill Lyons of Canal Fulton, Ohio writes:

"I congratulate you for publishing the article by C.R. Staib and Dr. J.T. Hays of Hercules for writing the splendid article 'Fertilizer Basics' (LAWN CARE INDUSTRY, February, 1980). I do hope they plan to publish this in a small booklet form. It will be just as good for the unborn future turf managers as all in the field today. As inflation goes, so goes the price of all fertilizers; so the last paragraph would have to be done on a chart basis to be flexible to future costs."

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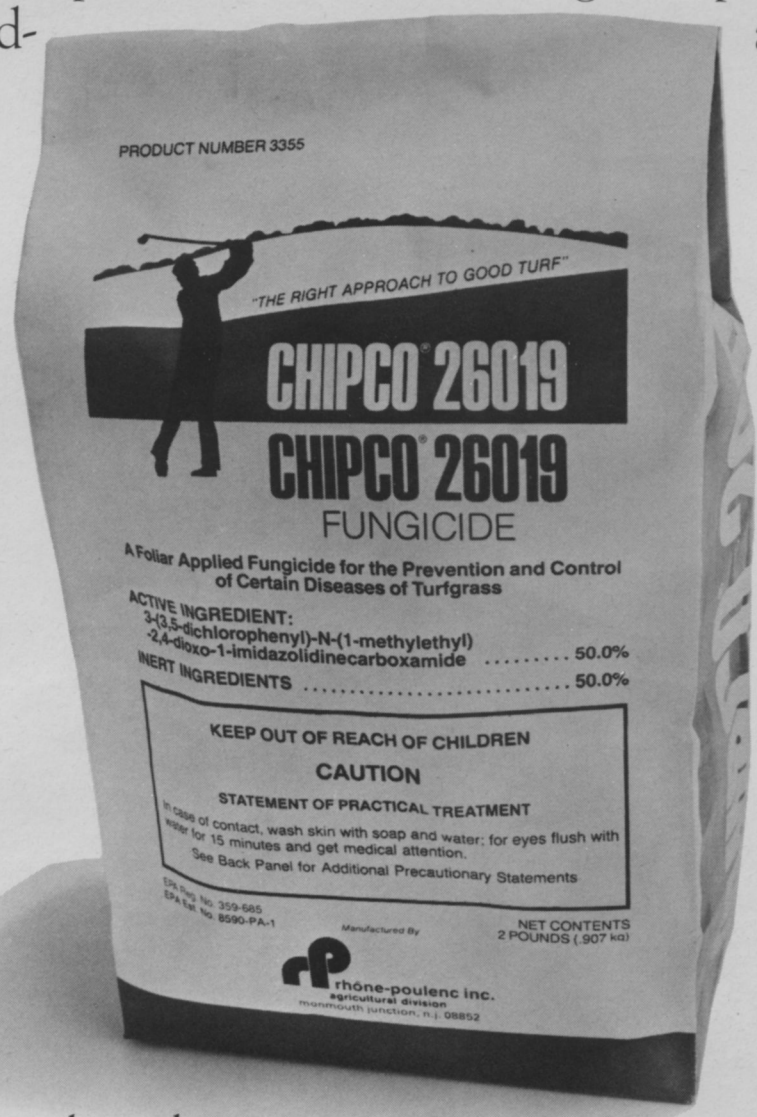

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TOOLS, TIPS & TECHNIQUES

Research new products on home lawns

Philip Catron, regional agronomist for ChemLawn Corp., Westminster, Md., suggests that lawn care operators test products on home plots before incorporating them into their regular program. And the best way to determine the relative effectiveness of a product in a particular region of the country is to test it on a customer's lawn.

"University research is excellent," he said, "but it's not home care research. Get the permission of a customer and give him a free application for a year if he lets you use his lawn as a test lawn to see how a product reacts."

Catron, speaking at the Pennsylvania Turfgrass Conference in Hershey, Pa., said before incorporating a product into a lawn care program operators should secure as much information about that product as possible.

HERBICIDES

Controlling broadleaf weeds

When it comes to controlling broadleaf and viney weeds, herbicides are the answer, according to Dr. William H. Daniel of Purdue University. Here are some of his tips.

Always use the lightest possible rate of application for herbicides. Don't overuse the chemicals just because the turf can tolerate higher amounts.

Timing. Treat lawns any time weeds are growing. For many lawns, however, mid-fall is the best time to kill weeds, clover, etc. Since weeds germinate in the spring, summer and early fall, selective kill in September and October will assure a clean lawn for your customer next spring. This also favors desirable grasses, as they can fill in for maximum turf cover next year. The poorest time to treat is late spring, because it opens up the turf to crabgrass, new weeds, etc., thus repeating the weed cycle. Fall treatments also minimize potential damage to tomato plants, gardens and shrubs.

For best results, use herbicides when temperatures are above 50 degrees F. and soil moisture is adequate for plant growth. Avoid windy or hot days, which favor droplet drift and vapor movement. There should be ample leaf surface present, as when the turf needs mowing. This encourages better uptake of the chemical. It takes about two to four weeks for a complete weed kill. Delay spraying of new lawns until they have been mowed twice — more than 30 days of growth, allowing grass seedlings to become tolerant of the chemical.

Application. For liquids and wettable powders, dilute with ample water, about one to three gallons for each 1,000 square feet. Apply at a low pressure, perhaps 20 pounds per square inch.

Dry, granular chemicals permit use of a spreader and dual weed-and-feed programs.

For controlling broadleaf weeds, use herbicides when temperatures are above 50 degrees Fahrenheit and soil moisture is adequate for proper plant growth. Avoid windy or or hot days.

Generally, you'll need to use more chemical in the dry form, and this form depends upon dew or leaf dampness to dissolve and distribute the herbicide.

Often, for convenience, several chemicals are formulated together to assure control of numerous weeds. Further, synergistic chemicals acting together permit a lighter application.

Most used. The most widely used chemicals include the following:

2,4-D will kill most broadleaf tap rooted weeds including dandelions, buckhorn, plantain, bull thistle, shepherd's purse, yellow rocket and curled dock. Standard usage is one pound active ingredient per acre.

MCPP works best on viney weeds including clover, chickweed, oxeye daisy. It augments 2,4-D very well, and is often blended about equal parts with 2,4-D. Standard usage is about one pound active ingredient per acre.

Dicamba is excellent for knotweed, chickweed, wild onion, yarrow, red sorrel, speedwell, clover, ground ivy and henbit. Its standard usage is light — only one-quarter active ingredient per acre.

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NEWSMAKERS

Easy Lawn Corp. has announced the relocation of company headquarters to 910 Main St. in Piqua, Ohio. The announcement was made by company president John Cruse. The move consolidated the company's former offices in both Kettering and Piqua, Ohio. Easy Lawn home offices serve Miami and surrounding counties in addition to serving other territories throughout Ohio with its four branch offices.

Established in 1976, Easy Lawn began its operations with nine employes. The company has since expanded its facilities and personnel to include more than 42 employes. Twenty-two of these employes are from the Miami County area. The company has branch offices in Cincinnati, Cleveland, Columbus and Akron/Canton.

Cruse

Kirby

Keith Kirby was recently named a contractor development representative for the **Rain Bird Sprinkler Mfg. Corp.** Glendora, Calif. In his new capacity, Kirby will work closely with residential irrigation contractors in 11 western states. His duties will involve the development and implementation of local contractor product, promotional and incentive programs, and the establishment of a direct line of communication betwen contractors and the manufacturer.

John Purdue is owner of **Beauty Lawn,** Sylvania, Ohio.

Stephen E. Schlaudt is manager of **Tru Green Corp.,** Wyoming, Mich. The company is headquarted in East Lansing, Mich.

John L. Papp is owner of **Lawn-Spray Co.,** Califon, N.J.

E.P. White is owner of **Sta-Green Lawn Spray,** Clinton, Tenn.

Gary Gordon is owner of **City Pest Control Co.,** Rome, Ga. The company offers mowing/maintenance and liquid and granular chemical application.

Paul Bergman is president of **Centra Chemical Services, Inc.,** Hastings, Neb. Dennis Faith is secretary-treasurer and Bill Jeter is lawn service manager. The company distributes turf supplies in addition to running a lawn care business.

Rick Johnson is owner of **Johnson Estate Lawns,** Sioux Falls, S.D. The company offers both chemical lawn care and mowing/maintenance services.

Richard Tice is owner of **T & L Lawn Service,** Chesire, Conn. The company offers complete grounds maintenance.

Frank E. Schumacher is president of **Turf Tron, Inc.,** Baltimore, Md. The company offers both liquid and granular chemical lawn care.

H. Dwight MacDonald is president of **Southwest Maintenance and Landscape,** Houston. The company offers landscape contracting, landscape maintenance and liquid and granular chemical application.

Robert A. Kinmonth is owner of **Joliet Lawn Service,** Joliet, Ill. The company offers mowing/maintenance and both liquid and granular chemical lawn care.

Don McElrath is owner of **Don's Landscaping & Grading,** Asheville, N.C. The company offers mowing/maintenance and both liquid and granular chemical lawn care.

Officers of the recently formed **Ontario Association of Turf Sprayers,** in Canada are: Des F. Rice, **The Weed Man,** Mississauga, president; Ross Jepson, **Proturf, Ltd.,** Toronto, vice president; and Bob Wilton, **Clintair, Ltd.,** Toronto, secretary-treasurer. For further information, contact the association at: 1564 Mississauga Rd., N., Mississauga, Ontario, L5H 2K2.

Rice

Watson

Bruce Watson has been named specifications market manager for the **Rain Bird Sprinkler Mfg. Corp.,** Glendora, Calif.

John P. Tobin, Jr. is president of **Tobin Lawn & Landscape, Inc.,** Grandview, Mo. The company offers both liquid and granular chemical application and seeding, aerating and verticutting.

Tomas F. Jessen is president of **Perma-Green Supreme, Inc.,** Merrillville, Ind. The company offers mowing/maintenance services and liquid chemical lawn care.

Robert E. Ottley is president of **One Step Lawnscape, Inc.,** Rochester, N.Y. The company offers liquid chemical lawn care and landscape construction.

William P. Michaelson is president of **Lawn Medic of the Bay, Inc.,** Pittsford, N.Y. The company offers both liquid and granular chemical lawn care.

Thomas Gilley is president of **Green Thumb Custom Lawn Service, Inc.,** Cincinnati, Ohio. Ronald Koch is vice president

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COST CUTTINGS

Wasting energy: A way of life in America

Remember when you were a kid and your mother told you to turn off *all* the lights in your room before going out to play? And you proceeded to leave the house with the radio blaring and enough lights on in your bedroom to safely land a wide-bodied jet on a foggy evening. Sure you do.

From the time most Americans were tall enough to reach a light switch, wasting energy was a way of life. However, that is all changing now as $2 a gallon gasoline becomes a reality and the cost of all forms of energy continue to soar.

Nowhere is the trend towards energy conservation more apparent than in the "big business" community where conservation programs have become the rule rather than the exception.

Lawn care businessmen can learn from the programs instituted by "big business" and in the process save money. According to the February issue of *Inc.*, magazine, a "well-planned" energy conservation program can reduce total energy consumption by 20 percent. Among the magazine's "common sense" suggestions for reducing energy consumption as we enter the sticky summer months are:

- Use natural ventilation, not air conditioning, whenever possible. If you must use air conditioning, set summer temperatures at 78 degrees.
- Reduce interior lighting and other sources of heat whenever possible to limit the air conditioning you need.
- Use indoor drapes, shades, and blinds, especially on south and west windows, and keep them in good condition. They can reduce heat gain as much as 50 percent during summer months.

Regarding the reduction of lighting costs, *Inc.*, suggests:

- Turn off fluorescent lights when leaving a room for more than 15 minutes, incandescent lights if you leave for only three minutes.
- Evaluate the need for after-hours lighting, both indoors and out. Keep in mind that consumers are becoming more aware of energy scarcity and rising costs, and they may disapprove of excessive energy use.
- Remove unneeded lamps or bulbs from existing fixtures where light levels are excessive.
- Reduce bulb wattage wherever possible.
- Replace standard fluorescent and incandescent lights with high-efficiency fluorescent lights. Incandescent light bulbs are notoriously inefficient.

NEWSMAKERS *from page 6*

and Donald A. Koch is secretary/treasurer of the company, which offers granular chemical lawn care.

George Carlson is manager and Ken Stuhr is president of **Sequoia Lawn Care,** Wyckoff, N.J. It is a division of **Sequoia Tree Service,** which has been in operation since 1965. The company offers both liquid and granular chemical lawn care.

Joe Pierce is president and Frank McGrady is treasurer of **Pro Green, Inc.,** New Castle, Ind. The company offers both liquid and granular chemical lawn care and landscape contruction and mowing/maintenance.

Jim Marosy is president of **National Turf Service,** Upper Marlboro, Md. The company offers granular chemical lawn care.

Thomas Brunner is president **Personal Lawn Care, Inc.,** in Rocky River, Ohio, and Bob Thuenner is president of the company in Maryland. The company offers both liquid and granular chemical lawn care and mowing/maintenance services.

G. Michael Brown is president of **L & M Lawncare of Canton,** Ohio. John Doerschuk is manager and Glenn Brown, Jr. is service director. The company offers both liquid and granular chemical lawn care and mowing/maintenance services. It is a franchise operation. The franchise is based in Cleveland.

Gary Kitchel is president of **E-Z Lawn Corp.,** Richmond, Ind. The company offers liquid chemical lawn care.

David W. Young is president and Barbara R. MacCoy is vice president of **Lawns, Inc.,** Severna Park, Md. The company offers both liquid and granular chemical lawn care and mowing/maintenance services.

George W. Graham is owner of **Lawn Kare by George,** Alexandria, Va. He is a former Lawn King franchisee. His company offers both liquid and granular chemical lawn care, and seeding and aeration.

Staff toxicologist joins CLC Labs

Melinda Guzman-Harty, a former toxicologist for Procter & Gamble in Cincinnati, has been hired as manager of the clinical and toxicology department at CLC Labs, a division of ChemLawn Corp., Columbus, Ohio.

Guzman-Harty, who was born and raised in the Philippines, received her undergraduate degree in chemistry from the University of the Philippines. In 1970, she completed advanced studies in chemistry at Ohio State University and then worked at the University of Michigan's Department of Medicinal Chemistry on cancer and contraceptive research.

Two years later, she worked as an assistant editor at Chemical Abstracts Service in Columbus, Ohio, and then in 1974, decided to finish her doctorate of philosophy in medical pharmacology at Ohio State, studying the effcts of tranquilizers on the nervous system.

After joining P & G, she worked primarily in the analysis and safety evaluation of different chemical formulations that are either applied to the mouth, skin or scalp but may be accidentally ingested or inhaled. She also provided safety data to an interacted with the regulatory groups prior to submission of any product for human testing.

According to Jeff McKenney, general manager of CLC Labs, she will have multiple responsibilities which include the supervision of the lab's extensive cholinesterase monitoring programs. These programs, initiated by CLC Labs for the safety of ChemLawn's employes who handle organophosphate insecticides, have continued to grow and expand due to the increased concern by other professional lawn care companies about their employes' welfare.

Also, Guzman-Hardy's experience includes chromatography, used extensively by CLC Labs for the analysis of pesticide formulations and residues. In relation to this, McKenney said, and due to the increasing demand to establish the margin of safety of different chemicals in the environment, she will be involved with evaluating the impact of new pesticide and herbicide formulations on the health of ChemLawn employes and customers as well as the customers' pets. She will regularly attend meetings and discuss current research with toxocologists, chemists, physicians, veterinarians and with ChemLawn regional agronomists.

Since beginning her job with CLC in December, she has already taken major steps to answer many of the lawn care industry's questions involving materials, pesticides, safety and the environment.—*by Alice Wagner*

Management Report

Lawn Care

A Digest of Valuable Management Information from TUCO, Division of The Upjohn Company

Lawn Insect, Disease Management Requires Knowledge and Experience

Just a few years ago, most home lawns received little more attention than a systematic mowing. Unlike golf course superintendents, whose jobs depend on efficient and effective turf care, homeowners were relatively unfamiliar with lawn-destroying pests. But that situation has changed. There is steadily increasing interest in improved home lawn care.

Homeowners have become interested in cultivating healthy lawns for aesthetic reasons—to keep their yard as attractive as the rest of their residential property. Good looking lawns also provide economic benefits. One recent study found that general lawn condition can change a home's value by as much as 3½ to 4%!

To keep yards in top shape, lawn care people must be able to recognize damaged areas in the lawn and associate the damage to the disease or insect causing the problem. This can be difficult, since insect damage is often similar to damage caused by disease or other factors.

Some Problem Insects

Sod webworms, cutworms, armyworms and white grubs are among the many pests that have the ability to turn a beautiful lawn into troubled turf. To deal with these pests, the lawn care specialist must be able to recognize the insects, identify the damage they cause, know life cycles and seasonal development patterns, and know how and when to control them.

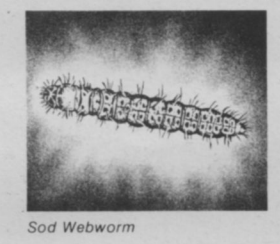
Sod webworms, cutworms and armyworms are the larval stages of various moths. These insects go through four stages of development—egg, larva, pupa and moth. Current insecticide applications are only effective on the larvae and the moth.

For best results, plan insecticide applications for the larval stage, usually about two weeks after peak moth flight.

Sod Webworms

The sod webworm has a short, thick body, usually spotted and coarsely haired, and ranges from 1/4 to 3/4 of an inch long. The larvae start feeding on grass as soon as they hatch, building burrows close to the soil surface.

Webworms can restrict water movement into the soil by reinforcing their tunnels with chewed pieces of grass and soil. They cut off grass at the soil line, chew freely on new growth and eliminate chances for grass to grow back. Damage is indicated by irregular brown spots on the lawn. Silky webs often appear in areas inhabited by the larvae.



Sod Webworm

Webworm moths can be identified by their pale brown or greyish brown color and their quick, jerky movements as they fly randomly over a lawn.

Cutworms

There are many cutworm species affecting various plants, but several species make grass their major target.

Cutworm

The glassy cutworm, which is strictly subterranean, has a greenish-white body and reddish head. As its name implies, the worm has a "glassy" appearance.

1

Tuco publishes lawn care management report

A new management report on lawn care, including suggestions on control of insect and fungi pests, has been published by TUCO Agricultural Chemicals, Division of The Upjohn Company.

The report offers information on insect and fungi control and ways to identify these pests. It also includes management suggestions for lawn care operators on maintaining proper soil pH levels for healthy lawns and the need to control thatch buildup in order to get maximum benefit from insecticides.

Other features entitled, "Acti-dione Gives Year-Round Fungus Control" and "Proxol 80SP Effective Against Lawn Insects" are also included in the publication. Proxol and Act-dione are produced by Tuco Agricultural Chemicals. The four-page pamphlet also contains a number of photographs accompanying the various articles.

To obtain a copy of the report write: "Lawn Care Report," The Upjohn Company, 9823-190-1, Kalamazoo, MI 49001.

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FORMOLENE nitrogen fertilizer is a clear water solution of synthetic non-protein organic nitrogen, based on methylol-ureas and urea, ready for easy blending with other nutrients. Because of uptake efficiency through foliage and root systems, FORMOLENE fertilizer provides the economy you need with the color response and healthy turf your customers like to see. And it can be used on any kind of turf as part of your year-round lawn care spray program.

In spring, FORMOLENE nitrogen fertilizer quickly greens turf, but without that burst of growth that leads to disease and excessive mowing schedules.

During the hot, dry summer, FORMOLENE nitrogen won't burn when used as directed, but delivers steady growth with adequate watering while retaining healthy turf color.

For fall lawn care programs, you can count on FORMOLENE fertilizer to help strengthen root formation and support winter carryover of nitrogen for a healthy growth start the following spring.

FORMOLENE fertilizer has a 30-0-2 analysis and blends easily with other solution nutrients and most turf herbicides, insecticides and fungicides. It can be used at rates as high as 2 lb per 1,000 sq. ft., per application, without burning. And rates of less than 1 lb per 1,000 sq. ft. can yield excellent results, providing an edge in economy and efficiency over many nitrogen sources.

This easy-to-handle nitrogen fertilizer is available from Ashland in 20-ton tank truck loads. Smaller quantities, and complete N-P-K blend concentrates based on FORMOLENE, are available from authorized dealers.

In short, FORMOLENE fertilizer provides the ideal basis for putting nitrogen on your customers' lawns with a minimum of aggravation. We'll be glad to tell you more. Write Ashland Chemical Company, Chemical Systems Division, Box 2219, Columbus, Ohio 43216. Or call one of our FORMOLENE experts at (614) 889-3490 or 889-4655.

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NEMATODES from page 1

larvae undergo a series of four molts and the periods of growth between molts are called larval stages. Some nematodes, like the root-knot, undergo the first molt before hatching, while the larva is still within the eggshell.

Feeding. Some nematodes feed on stems and leaves but a much larger number feed in or on the roots and other structures that grow below ground. All plant parasitic nematodes have a stylet, a spear-like structure used for piercing and extracting cell contents. Free-living nematodes are those that are beneficial, they feed on microorganisms in the soil and do not have stylets. Plant nematodes begin their feeding operation by injecting through the stylet into the plant a secretion, sometimes called saliva, that contains, presumably, a digestive enzyme.

For some species of nematodes such as the root-knot, this secretion has a special function of modifying the plant's cells, causing them to form tissue on which the nematode can feed. In other words, it stimulates the formation of nurse cells or galls without which the parasite would die of starvation. This secretion by the stubby-root nematode when feeding on the root tips, suppresses the cell division of the roots and prevents root elongation.

Stunted growth. The presence of nematodes are most obviously recognized by stunted growth, an off-color and turf thinning-out, Dr. McCoy said. If root-knot nematodes are present, one may examine the root system and find small knots occuring on the roots with a very limited root system. Soil can also be examined by a state or federal laboratory to determine the presence of nematodes. Information regarding soil sampling for nematode detection may be obtained from a local extension agent.

"Controlling nematodes with heat is one of the oldest methods used for killing nematodes," Dr. McCoy said. "Heat has been used in two ways, heat treatment of the soil, in which small quantities of soil can be heated enough to kill nematodes by spreading soil in thin layers and placing it in conventional ovens or a microwave oven. When treated in larger quantities, compost soil or potting soil can be put in sacks and placed in a chamber or autoclave and subjected to about 15 pounds of live steam for 30 minutes or longer. The exact time depends on the bulk of the soil.

Hot water treatment is a method for killing nematodes in plant structures by submerging them for a short period in hot water. This method has been used very extensively and successfully for controlling the stem nematode in narcissus and certain other bulbous plants. Hot water treatment is best-adapted to denematizing bulbs, corms, tubers and fleshy roots while they are in a dormant condition. This treatment may also be used for some kinds of infected nursery stock, but fiberous-rooted plants are less tolerant and for this reason the method has met with less favorable success among growers.

Many of our nematode pests can be controlled by depriving them of plants on which to feed. Plants that have been damaged by root-infecting nematodes of any kind should not be allowed to stand in the landscape for a long time after their beauty has disappeared. They should be destroyed immediately, preferably by exposing the roots to the drying action of the wind and sun. Keeping soil tilled and exposing it to hot sun during the summer will also lower nematode populations.

Chemical control of nematodes can also be used in certain situations. Methyl bromide is a soil fumigant that can be used in flower beds, seeding beds, soil flats, vegetable gardens and potting soil. Vapam and Nemacur are liquid nematicides that can be used on certain plants.

Symbol of Good Practice

PLCAA™

PROFESSIONAL LAWN CARE ASSOCIATION OF AMERICA

Truck decals available from PLCAA

Durable truck decals displaying the Professional Lawn Care Association of America's (PLCAA) motto, "professionalism and good business practices," are now available from the association.

Made of polyester-coated plastic, the decals are easy to apply and resist chemical sprays. Cost of the decals are $1 each for orders of 25 or less and 90 cents each for orders of 26 or more. For further information contact PLCAA, 435 N. Michigan Avenue, Suite 1717, Chicago, IL 60611.

The PLCAA was formed in the summer of 1979 to promote the lawn care industry, sponsor lawn care, related research and promote professionalism within the industry.

ALCA

Landscape maintenance projects win Environmental Improvement Awards

The Associated Landscape Contractors of America have recognized some 64 landscape projects — including 13 landscape maintenance projects — with the prestigious ALCA Environmental Improvement Award. Presentation was made to contractors and clients at the recent ALCA Annual Meeting in San Diego.

Among the awards were 11 Grand Awards, 17 Merit Awards and 33 Awards of Distinction. In addition to the three regular award classifications, the judges presented three special "Judge's" Awards, recognizing projects which had exceptional merit beyond the strict horticultural aspects of the work.

Judges for the program were: Lew Hammer, McSherry & Associates and a past-president of ALCA; Robert Woerner, president of the American Society of Landscape Architects; Ian Crown, Mahoney's Rocky Ledge Nursery, representing the Massachusetts Horticultire Society; and Robert Callaway of Mississippi State University.

Notable among the winning projects this year were three projects from abroad — two in the United Kingdom and one in Saudi Arabia.

Winning landscape maintenance projects and companies were:

Grand Award winners: Frank Timmons, Ladybug Industries, Jacksonville, Fla., Royal Palm Plaza; Raymond J. McMullen, Ray's Landscaping & Nursery, Inc., Walled Lake, Mich., Federal Mogul World Headquarters; and Ed Sinnott, Clearwater Landscaping Co., Inc., Sun Valley, Idaho, Ellchorn Village.

Clarence Davids, Sr. (left), of Clarence Davids & Sons, Blue Island, Ill., and Frank Timmons, of Ladybug Industries, Jacksonville, Fla., were two of more than 50 recent winners of ALCA's Environmental Emprovement Awards.

Merit Award winners: Ross Flood, Tierra Vista, Inc., Tulsa, Okla., Metropolitan Insurance Company Building; Clarence Davids, Sr., Clarence Davids & Sons, Inc., Blue Island, Ill., two awards, Bristol Court Apartments and Orland Square Shopping Center; Chris des Garennes, Theodore Brickman Co., Trevose, Pa., AT & T Long Lines Headquarters; Donald O. Synnestvedt, Theodore Brickman Co., Long Grove, Ill., Acco Work Headquarters; and Chuck Ferdig, Keesen Enterprises, Inc., Englewood, Colo., Stoney Brook Homeowner's Association.

Award of Distinction winners: Synnestvedt, Ancient Tree; Thomas L. Oyler, Oyler Brothers Co., Orlando, Fla., Winter Park Telephone Co.; Mark A. Avon, Avon Landscape Corp., Alexandria, Va., Watergate at Landmark; and Owen H. Walker, Walker Industries, Inc., Houston, West Memorial Park.

NO BUILD-UP

How persistent are herbicides in soils

Evidence is lacking to support claims heard from time-to-time that the potential build-up or persistence of herbicides in the soil can contaminate our environment.

Except in the case of overuse or gross misapplication, the degradation processes mentioned below will break herbicides down into safe or non-toxic compounds, according to Ronald L. Ritter, Maryland extension weed control specialist.

Biological decomposition involves the detoxification of herbicides by plants and soil microorganisms. Plants and microorganisms can absorb herbicides. They can store herbicides or give them off in their original form. Usually they are changed, with the breakdown products being used by the plant or organism or being discharged back into the soil solution.

Chemical decomposition involves a variety of of chemical reactions that change the herbicide. Normally, the decomposition products are non-toxic substances that are further degraded to components that are already present in soils and plants.

Act D (Decomposition) involves the breakdown of herbicides by sunlight. Whenever a herbicide is applied to the soil surface or to plant foliage it is subject to decomposition by sunlight.

A number of transfer processes are important to the fate of herbicides in the environment, Ritter wrote in a recent University of Maryland newsletter, *The Agronomist*.

Herbicides can be absorbed and exudated by plants and animals. Thus herbicides can either penetrate through tissues into an organism (known as absorption) or be discharged from inside an organism to the outside environment (known as exudation).

Herbicides that are applied to the soil surface may become - dissolved or suspended in rain water resulting in surface run-off during periods of heavy rainfall. Severe run-off can also carry soil particles that have herbicides adsorbed on them.

SEED

Renovating lawns through overseeding

by Larry Vetter, Northrup King Co., Minneapolis

Over the past few years, the lawn care industry has had many improved turf varieties available to it. This, coupled with rapidly advancing technology, has given us the opportunity to provide top-quality turf in a wide range of situations and geographic areas.

Healthy grass plants have the ability to increase in density and produce good lawns. However, when management practices, soil or weather conditions are unsatisfactory or grasses being used are poorly adapted for your situation, lawns will not be top quality.

The first thing to do when faced with such a situation, and unfortunately it is a step that is very easily overlooked, is to determine why renovation is necessary. In other words, why did the turf thin out, and do whatever is necessary to correct that problem or problems. In other words, what caused the problem in the first place?

Seed-to-soil contact is absolutely essential for proper seed establishment and germination. Therefore, excessive thatch should be removed before overseeding.

A good checklist to go through in determing what these problems might be is:

Compaction. Even the best turf varieties will not maintain vigorous growth if the soil is so compacted that there is not proper water movement or air spaces in the soil. If this is determined to be a problem, some means of relieving the compaction are necessary before spending your customer's money on renovation. Normally, this is best accomplished mechanically with the specific method being determined by the degree of compaction that exists in the soil.

Lack of light or poor air circulation. These two problems many times will go hand-in-hand and generally would be the result of severe tree competition with the turf area. To correct this problem, trees may have to be removed or at least a general thinning of the existing trees must be made. There are some varieties on the market today that will do well under more heavily shaded conditions, but, in general, grass plants need adequate light and good air circulation to provide a quality turf.

Lack of water or poor quality water. To correct this problem, it may be necessary to install a more adequate irrigation system or instruct the customer on proper methods, frequencies and amounts of watering necessary for their lawn. In more severe cases, it might be necessary to find an alternative water supply. However, whichever one of these water problems is determined to be the cause of the inferior turf, you should keep in mind that certain varieties on the market will provide improved quality with less amounts of water than others, and certain species will do better with different pH ranges.

Excessive thatch. This can be a severe problem on older lawns that have not been properly maintained in the past. If the amount of thatch is restricting water infiltration, it will probably be adversely affecting other factors which are necessary to have a quality lawn, and, consequently must be removed.

Improper pH. Most grass plants do best under slightly acid conditions. However, there is a fair degree of variation within the tolerance of the different species. Consequently, if this is determined to be a major problem, it should be corrected or the varieties should be selected that will thrive under the existing pH range. For example, "Fults" *Puccinellia distans* is a new release by Northrup King that thrives in high pH conditions and, consequently, has a definite role to play where high pH soils or water are a problem.

Poor drainage. This, in many instances, is the key to turfgrass management. Without proper drainage, there really is very little that can be done to improve turf quality. All grass needs air available to it in the root zone, and without that, quality turf cannot be maintained.

Poor nutrition. This is very unlikely to be the case in the situation a lawn care businessman faces, but I include this point to remind the lawn care businessman that certain grasses will do better at different nutrient levels. In other words, some grasses need more fertilizer than others, and vice-versa. With the improved varieties that are now available on the market, you can make a choice of what to plant by determining what the level of nutrition will be in the maintenance program for that turf.

Weed infestation. Most experts will agree that weeds are not the cause of a bad lawn, but they are, instead, the result of a bad lawn.

A general rule of thumb concerning renovation is if 50 percent or more of the soil is bare or covered with weeds, it is best to start over. Conversely, if 50 percent or more is covered by healthy turfgrass, chances are that total renovation will not be necessary and a good lawn can be provided by overseeding the poor areas.

Consequently, if there is a severe weed infestation, chances are that one or more of the potential problems in this checklist are causing the weed problem. A certain amount of herbicide weed control in most turf areas is necessary from time to time, so we can't totally disregard the need for attention to weed problems. However, keep in mind that if severe weed problems exist, there are probably other problems that are causing this one.

Improper mowing. Most of the older varieties that exist in established lawns do not do well under mowing of less than one-and-one-half inches. Also, mowing too infrequently, thus causing severe shock to the grass plant when it is mowed, will eventually cause severe problems. A good rule of thumb to follow is to mow frequently enough so that no more than one-third of the leaf area of the plant is removed at any one mowing. The variety composition of the turf stand will dictate what the proper mowing height should be.

Unadapted grasses. We are all aware of the climatic adaptation of the various turfgrasses, meaning warm-season versus cool-season, but keep in mind that the adaptability also varies with pH, desired mowing height, amount of shade, nutrient levels, water availability, etc. With the newer improved varieties that are available to you, you can make some very positive choices when seeding that will result in quality conditions in a wide variety of situations.

After you have determined what problems exist and have taken steps to correct those problems, the next decision would be whether to overseed into the existing turf or start over from scratch. Here again, a general rule of thumb can apply, and that is, if 50 percent or more of the soil is bare or covered with weeds, it is best to start over. Conversely, if 50 percent or more is a good turfgrass stand, chances are that total renovation will not be necessary and a good lawn can be provided by overseeding the poor areas.

The best time for seeding naturally varies depending upon your particular geographic area. However, in general, late summer to early fall is the ideal time for seed establishment. Dormant seeding is another option that is available to you, and this involves planting the seed immediately before the soil freezes so that no germination will occur during that season but will take place as soon as conditions are proper in the spring.

A successful spring seeding can also be accomplished, but this should be timed so that the soil is dry enough in the spring to avoid undue compaction problems when working the soil, and also to provide a satisfactory seedbed. Actually, seed can be established anytime during the growing season, it is just more difficult at certain times than others.

Regardless of the degree of renovation that is necessary for the lawn, there are certain steps that need to be followed in order to provide a satisfactory turf for your customer:

- Correcting existing problems. This refers to the items discussed earlier.
- Remove thatch. If this was determined to be a problem, keep in mind that one of the absolute essentials in seed establishment is good seed-to-soil contact. Proper germination and establishment cannot take place unless the seed is actually in contact with the soil. This is best done mechanically if a large area is involved and can be easily accomplished with a hand rake for small areas in the lawn.
- Mow the exitsing grass as short as possible and remove the clippings from the lawn. This will reduce competition from the existing grass plants, allow light to contact the soil, and give the new seedlings a much better chance of becoming successfully established.
- Loosen the soil surface. Again, on a larger area, this is most efficiently done mechanically. However, it can be done by hand if only relatively small spots are involved. A mechanical rake set to cut grooves one-quarter inch into the soil will enhance the environment for germination tremendously. It might also be beneficial to apply a starter fertilizer at this time.
- Distribute seed uniformly. Obviously, if there are some spots or strips that are missed, the resulting turf stand will not be satisfactory to your customer.
- Cover the seed lightly. This can be accomplished by a light raking, a topdressing, or by running a mechanical rake at right angles to the direction of the original grooves that were made in seedbed preparation. Of course, if you are using one of the mechanical seeders, this step is not necessary because the machine has already done this for you. Whatever the method that you use, this will better in-

to page 14

sure seed-to-soil contact, which is absolutely essential to the seed establishment.

- Organic mulch. This can be very beneficial in insuring a good turf stand. However, in many areas of the country, it is very difficult to get a satisfactory mulch that will not further compound your problems. One of the primary things that you need to be aware of, if you are planning on using a mulch, is that this can be an excellent source of weed seeds. Consequently, it is critical to know the source of the mulch that is to be used and the quality of it.
- Roll lightly if necessary. If the surface is extremely loose or you question whether you have good seed-to-soil contact, a light rolling would be beneficial to firm the surface of the soil and/or establish effective seed-to-soil contact.
- Keep seed moist. Once a seed has begun the germination process, it is critical that it is not allowed to dry out. This does not mean, however, that heavy waterings are necessary since this can cause severe erosion problems, among other things. Small amounts of water or light waterings frequently throughout the day are the ideal situation for the germination process. Remember to water on the basis of the slowest germinating species being used.
- Continue short mowing. If you have overseeded into an existing turf, keep the established grass cut very short in order to eliminate competition with new seedlings.
- Normal maintenance after two or three mowings. Once the new seedlings have matured to the point where they have been mowed two or three times, normal management should begin. This involves, among other things, less frequent waterings in larger amounts per time, selecting the proper mowing height, and establishing your nutrient management level. At this point, you are now into fairly normal management and your programs should be adjusted accordingly.

Before selecting a particular variety of seed for overseeding a number of factors must be considered including: What geographic area of the country will the seed be used and what type of soil will it be planted on? How will the turf be used and maintained once it is established? These are questions which must be answered to successfully establish a healthy turfgrass stand.

We have been discussing management and establishment techniques, but in order to get the maximum benefit and thus have the happiest customer as the result of your efforts, a primary consideration must be what type of seed to use. *The first consideration* and the most obvious one, of course, is where is it? This means, the geographic area of the country where the seed is to be planted, and what type of soil it will be planted on.

There is the obvious warm-season versus cool-season turfgrasses that we mentioned earlier, but there also is a consideration that certain types of grasses will do better on different types of soils. Different grasses also react differently to different disease organisms, different insect problems, and different watering practices.

The second consideration that is extremely important is how will the turf be used once it is established? There is a very wide variation in the tolerance of traffic, for example, between the different turf species. If the lawn is going to be the neighborhood playground, you would definitely not want to use the fine fescues and some of the common bluegrasses. In a situation where traffic is a prime consideration, you should rely heavily on the new improved ryegrasses and some of the more traffic-tolerant improved bluegrasses. On the other hand, if the homeowner is going to maintain his lawn as a showplace that is to be looked at and admired, other varieties and species would then be appropriate.

A third consideration and possibly the most variable, is how will it be maintained once it is established. Will the lawn be mowed regularly? Will it be watered sparingly or heavily? Will it be fertilized with several pounds of nitrogen per year or with only one application at best? Does the homeowner want a certain mowing height? All of these things and others will be factors in your decision of what kind of seed to plant. As was mentioned earlier, with the number of improved varieties that are available on the market today, many of which have certain strong points inherent to them, formulations can be made to insure a happy customer under a very wide range of conditions.

You'll notice the word "formulations" was used and this was not accidental. In almost no instance is it recommended to

LAWN CARE INDUSTRY

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Check one box in each category

1 Check one that best describes your business:
Lawn care service business involved primarily with fertilization, weed and insect control:
10 ☐ Liquid 11 ☐ Dry 12 ☐ Both
13 ☐ Primarily mowing/maintenance service
14 ☐ Landscape Contractor/Lawn Service Co.
15 ☐ Pest Control/Lawn Service Co.
16 ☐ Nursery or Garden Center/Lawn Service Co.
Grounds Care Manager for:
17 ☐ Private or public estate
18 ☐ School, College, University, Hospital, Industrial Park or similar facility
19 ☐ Government grounds; such as parks, around municipal buildings, or military facility
24 ☐ Cemetery or memorial gardens
25 ☐ Dealer or Distributor
26 Other _____

2 Check one which best describes your buying responsibility:
21 ☐ Purchase
22 ☐ Specify or recommend purchase

3 If your business sells its services to home-owners, commercial or industrial accounts please answer the following:

3A/ Estimated gross annual receipts from lawn service operations in current year:
31 ☐ Up to $50,000
32 ☐ $50,000 to $150,000
33 ☐ $150,000 to $500,000
34 ☐ $500,000 to $750,000
35 ☐ $750,000 to $1,000,000
36 Other _____

3B/ Approximate # accounts serving in current calendar year:
37 ☐ Up to 100
38 ☐ 100 to 500
39 ☐ 500 to 2,500
40 ☐ 2,500 to 5,000
41 ☐ 5,000 to 10,000
42 Other _____

3C/ Is your business:
43 ☐ Independent
44 ☐ Franchise
45 ☐ Chain Affiliated

4 If you are a grounds care manager (not selling lawn care services) estimate the following:
51 # acres you're responsible for_____ acres
Annual expenditures for:
52 Chemicals $ _____
53 Fertilizers $ _____
54 Equipment $ _____
55 Irrigation $ _____
56 Plant Matter $_____

91 First Initial | Middle Initial | Last Name
92 Your Title
93 Company Name
94 Mail To:
95 City | State | Zip Code

96 Phone: Area Code ☐☐☐ No.: ☐☐☐☐☐☐☐

97 Signature: _____ Date_____

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98 ☐ Business
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5 **For more information** about products displayed in this issue, print the reader service number in the spaces provided below and block out A, B, C, or D for specific information needed.
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plant a single variety when establishing a turfgrass population. Mixtures of the different species, meaning fescues, bluegrasses and ryegrasses, or blends of varieties within a species, meaning several bluegrasses or several ryegrasses put together with their specific strengths in mind, is your best assurance of not only successful establishment, but a happy customer for many years to come.

There have been many papers written on this particular subject, and almost without exception the recommendation will be to use more than one variety for turfgrass establishment. Climate, shade, watering practices, water quality, fertility levels, mowing practices, disease considerations, etc., all pose much less of a threat to the quality of the turfgrass area when the turf population consists of more than one variety and/or species.

Is it worth it? Will it pay? These are questions that only you can answer for your individual lawn care business. However, successful businessare built on quality workmanship and satisfied, happy customers. With this in mind, I think we can plainly see when looking at the items that were discussed earlier, that the chances of both success and fairure, when renovating, can be numerous. Consequently, by taking advantage of renovation opportunities and doing it properly, you have increased your chances of having that happy, satisfied customer who is allimportant to a successful, profitable lawn care business.

COMPANIES

Encap Products buys Ball Pow-r Products

Encap Products Company, Mt. Prospect, Ill., recently acquired Ball Pow-r Products, division of Geo. Ball Pacific, Inc., according to an announcement by Walter A. Houston, Encap president.

Houston said the acquisition means that Encap Products' Green Garde label will go on Ball Pow-r Products' complete line of Arimitsu agricultural equipment, which includes hoses, pumps, power blowers, dusters and sprayers for the horticultural and pest control markets. He added that a sales office and warehouse will be maintained in the San Francisco area.

Jim David, who was general manager of Ball Pow-r Products. has joined Encap and will be responsible for the company's western sales operation.

MARKETING IDEA FILE

Phone marketing could be curbed

A bill that could partially curb the use of the telephone for soliciting lawn care customers has been introduced into the House of Representatives.

If approved, the bill would make unsolicited commercial telephone calls illegal and punishable by a fine of up to $1,000 and/or imprisonment. The prohibition would apply only to commercial calls made to persons who had previously indicated that they did not wish to receive such calls.

The bill defines a commercial call as any business call not made by political organizations, non-profit organizations, public opinion polling services or electronic media rating services.

Under the proposed legislation, people who do not wish to receive unsolicited commercial telephone calls would so notify the telephone company, which would then pass their names along to businesses.

The Federal Communications Commission would regulate these name removal procedures, as well as set a rate structure under which businesses would pay for the costs involved in obtainning these names.

MARKETING

Boots Hercules launches Nitroform promotion

Boots Hercules Agrochemicals Co. has launched a new identity program to increase awareness of its Nitroform fertilizer.

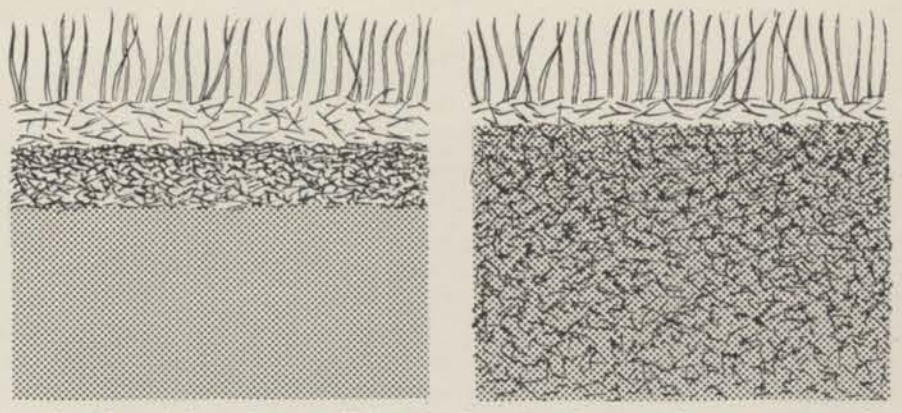
Bob Staib, product manager, told LAWN CARE INDUSTRY: "This program is aimed especially at fertilizer formulators and blender-mixers serving the turf and horticultural market. It provides a way for them to reduce bag costs and promote Boots."

Boots Hercules will pay resellers a fertilizer bag allowance for using the Nitroform logo on the front of the bag. This allowance ranges from $.015 to $.06, depending on the net weight and percentage of nitrogen derived from Nitroform.

For more details, write: C. Robert Staib, Boots Hercules Agrochemicals Co., Concord Plaza, 3411 Silverside Rd., Box 7489, Wilmington, DE 19803.

Earthworm activity in turf aids in thatch decomposition

by Dr. Keith Karnok, assistant professor, Ohio State University



Thatch on left is from well fertilized turf with no earthworms. On right, thatch is diluted and decomposed by earthworm casts.

Thatch continues to be a perplexing problem to turfgrass managers. However, during the past several years research has aided in our understanding of the causes and control of turfgrass thatch. For example, low soil pH, elevated mowing height, poorly drained soils and excessive use of certain pesticides are all factors which may encourage excessive thatch accumulation. Likewise, research has also documented the effectiveness of various thatch controlling methods such as mechanical dethatching, coring, aerification, topdressing and liming.

Although significant progress has been made in the above areas, many other factors related to the causes and control of thatch have been virtually unexplored. One such factor of particular significance is the influence of earthworms on thatch degradation. Although a few popular articles in recent years have eluded to the importance of an active earthworm population, very little research has been conducted with this small animal in a turfgrass ecosystem.

However, there is sufficient evidence that suggests turf areas with little or no earthworm activity will accumulate thatch at a faster rate than areas with active populations. This is illustrated by research which has shown drastic reductions in earthworm populations or activity following the use of certain pesticides with a subsequent increase in thatch accumulation. It appears relatively certain that there is a relationship between earthworm activity and thatch.

How do earthworms aid in thatch decomposition or slow down its rate of accumulation? In addition to pesticides, what other factors affect earthworms? What can a turf manager do to insure an active earthworm population? These questions can best be answered by reviewing the biology of this soil inhabiting animal.

Earthworms are invertebrate animals which form an important group of annelids, or segmented worms which live in the soil. They range in size from a fraction of an inch to the giant earthworms of Australia or Brazil which have been found to be more than 11 feet long and weighing up to one pound. There are about 1,800 species of earthworms distributed throughout the world. The most common worms found in North America belong to the family *Lumbricidae*, which include the common nightcrawler or *Lumbricus terrestris*. It is important to realize that different species of worms behave differently. For instance, only a few species have permanent burrows and produce casts.

Earthworms derive their nutrition from many forms of organic matter including dead or decomposing plant material, living protozoa, nematodes, bacteria, fungi or other microorganisms, and decomposing remains of large and small animals. One of the major factors which affect the distribution and population of earthworms in the soil, is the availability of organic matter as a food source. Generally, if there is little organic matter in the soil, the earthworm population will be small.

Effect of earthworms on soil. Earthworms have long been known to improve both the chemical and physical properties of soils. For example, the fragmented organic matter in soil is consumed by millions of bacteria and various enzymes. These elements or nutrients are then released from the worm to the soil for plant use.

Some studies have shown that when earthworms were present, significant increases of available nitrogen, phosphorous, potassium, calcium, magnesium and molybdenum were found in the soil. The physical properties of soils are also improved by earthworm activity. The improvement in soil structure is through the activity of ingesting soil and the partial breakdown of organic matter in the gut. These two fractions are then mixed together and excreted. In addition, the burrowing of the worm through the soil brings the deeper sub-soil to the surface as well as well as the movement of

topsoil and surface organic matter to a lower depth. The result is a well granulated, soil-organic matter mix with improved aeration and water holding capacity. It has been shown that soils with earthworms drain from four to 10 times faster than soils without earthworms.

Earthworms have long been known to be critical in the decomposition of plant organic matter. Most research has been conducted in conjunction with traditional agricultural farming systems. For example, in apple orchards earthworms have been shown to remove up to 90 percent of the fallen leaves from the soil surface during the fall and winter months. In orchards with little or no earthworm activity, a thick organic mat develops at the soil surface. Field experiments in permanent pastures have shown similar results. Very little work has been done on their effects on turfgrass communities.

A recent study shows that lawns with one-half inch or more of thatch average less than five earthworms per square yard, whereas lawns with little or no thatch average more than 33 worms per square yard. A correlation obviously exists between thatch accumulation and earthwrom populations.

However, as already mentioned, it has been well documented that a correlation exists between thatch accumulation and earthworm populations. For example, a recent study conducted on 30 home lawns in Columbus, Ohio, showed that lawns with one-half-inch or more of thatch averaged less than five earthworms per square yard, whereas lawns with little or no thatch averaged more than 33 worms per square yard.

Earthworms act on organic matter deposited on the soil surface in a number of ways. They ingest bits of partially decomposed roots, stems and leaves from the surface and that which is mixed with the soil. The ingested material is then fragmented in the earthworm's gizzard. Approximately 18 to 36 hours after ingestion the earthworm excretes the further decomposed organic matter in the form of casts on the soil surface and at various soil depths.

Research has shown that earthworm casts may contain more fungi, actinomycetes and cellulose decomposing bacteria than the surrounding soil. Worm casts also contain enzymes such as proteases, anylases, lyases, cellulases and chitinases which continue to break down orgainc matter. The effects of surface deposited casts can be of particular importance in organic matter decomposition. It has been estimated that 7.5 to 16.1 tons per acre of casts can be deposited annually. This is equivalent to a soil layer 3/16 inch deep spread over the entire area, or in other words, a naturally occurring annual topdressing.

Therefore, earthworms can potentially aid in the decomposition or control of thatch in three ways:

- Direct ingestion of small pieces of organic matter.
- Incorporation of microorganisms and enzyme-rich casts into the thatch layer.
- The removal of loose leaves and stems from the soil surface to deeper soil depths.

Management practices. What can the turfgrass manager do to insure maximum earthworm populations and activity? Earthworms and the environment in which they live are quite complex. However, there are several management practices or precautions which can affect earthworm populations.

Earthworms can be a tremendous asset to the turfgrass manager. Their influence on the physical and chemical properties of soil have a definite affect on the health and vigor of turf.

1.) **Discriminate use of pesticides**: This is one of the most crucial aspects of avoiding total elimination of earthworms from a given turf site. Several pesticides have been shown to be toxic to earthworms. (See table 1 and 2 on pages 18 and 28.) Past or present use of these materials can be the major factor responsible for none or limited numbers of earthworms being present in the turf environment. However, pesticides do not necessarily have to act directly on the worm for the actiity to be decreased. It has been suggested that pesticides sprayed on the surface of organic matter can change the palatability of that material to the point that it will be rejected by the earthworm. It should be emphasized that timing, rate, method and frequency of application will also determine the overall effect of a particular pesticide on earthworm activity.

2.) **Soil and thatch pH**: Most earthworms can be found in soils with pH's ranging from 5.2 to 9.0. However, most species prefer soil with a pH of about 7.0. To insure maximum earthworm activity, low pH soils and thatch should be limed sufficiently to bring pH into the neutral range.

3.) **Soil moisture**: Since earthworms are composed of 75 to 90 percent water, it is important to

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THATCH *from page 17*

keep soil moisture at an adequate level. Although earthworms can survive drought conditions, their activity decreases. Under prolonged drought, earthworm populations will decrease dramatically and it may take up to two years of favorable conditions for the area to repopulate. As a rule, soil moisture content between 15 and 30 percent is most conducive for maximum earthworm activity. Conversely, earthworms will migrate from a water saturated soil. In general, they prefer a well aerated medium to fine textured loam soil. In most cases, few if any will be found in soils high in sand content.

4.) **Compacted soils**: The beneficial burrowing of earthworms and their surface activity can be significantly reduced by a hard, compacted soil. Human and vehicular traffic should be directed away from wet and poorly drained soils which are more prone to compaction. It may also be necessary to core the turf area to relieve the compacted condition and improve aeration.

5.) **Seasonal activity**: Earthworm activity is at a maximum during the spring and autumn months and may be completely absent at other times of the year. This activity closely parallels soil and air temperatures. Earthworms are most active when soil temperatures are between 60 and 70 degrees Farenheit. Usually they burrow down in the soil below the frost or heat line. Earthworm activity drops off dramatically during the hot, dry summer months. Activity can be encouraged through these stress periods by keeping the soil cool and moist. This can be accomplished by providing adequate irrigation and in some cases a mulch.

Earthworms can be a tremendous asset to the turfgrass manager. Their influence on the physical and chemical properties of soil, along with their ability to decompose organic matter can have a definite beneficial affect on the health and vigor of turfs.

Drawbacks to earthworm activity. There are some potential drawbacks to an active earthworm population in a turf area.

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Table 1. Pesticides that have shown no adverse effects on earthworms.

COMMON NAME	SOME COMMON TRADE NAMES
Benefine (14)	Balan, Balfin, Benelan, Carpider
Bensulide (14)	Betasan, Betamec 4, Halts, Exporsan, Lescosan, Pre far, Pre-san
Dalapon (1)	Dowpon, Ded-Weed
DCPA (14)	Dacthal, Dac 893, Fatal, Rid
Linuron (1)	Proturf Selective Poa Annua Control
Diazinon (3)	Spectracide, Lawn Insect Control
Maleic Hydrazide (11)	Chemform, De-Cut, Retard, Slo-Gro, Super Sprout Stop
Paraquat (1)	Gramoxone, Weedol
Siduron (14)	Tupersan
2, 4-D (4)	Chipco Turf Herbicide D, Dacamine, Weed-B-Gon, Weed-Rhap, Weedar

Biological dethatching products: How effective are they?

During the last several years a variety of biological dethatching products have been marketed throughout the country. The products have consisted of a number of ingredients including enzymes, plant hormones, yeast organisms and soil microbes. In addition to increasing the decomposition rate of thatch, statements have been made about the beneficial aspects of these materials on turf such as improved color, increased shoot density, deeper and more extensive rooting, decreased disease activity and improved soil structure. Although many of these products differ in their composition and proposed mode of action, they all claim to be a fast, easy and relatively economical means of controlling thatch and improving turfgrass quality.

Unfortunately, as desirable as these materials appear to be, extensive university testing across the country has yet to find any beneficial effects of these materials on thatch decomposition or turfgrass quality. When one considers the complexities of a turfgrass ecosystem, it is not surprising that these products have failed to perform as claimed.

For example, research has shown that contrary to popular belief, the thatch medium is rich in soil microorganisms. In fact, thatch will often contain a greater number of microbes than the underlying soil. Even the use of most common turfgrass pesticides have only a minimal effect on thatch and soil microbes. Usually microorganism populations are reduced for only a short time, this is followed by a subsequent increase in number to the original level. Therefore, the theory of introducing microbes into a "sterile environment" as thatch is believed to be, is in most cases, incorrect.

It is also unlikely that the introduction of microbes would increase the number of that decomposing microorganisms to the point that the rate of thatch decomposition would be improved. This is true because:
(1) the number of alien organisms that could be introduced would be small in comparison to what is already present in the thatch and soil.
(2) alien microorganisms would not survive any appreciable length of time following introduction due to competition with and antagonism by the other naturally occurring microbes in the thatch and soil.

In addition, certain microorganisms cannot adapt to the environmental extremes found under field conditions. For example, the yeast organism *Saccharomyes cerevisiae* which is the active ingredient in some biological dethatching products, is not at all adapted to hostile environments such as those found in thatch and soil. In the case of this particular organism, even if it was able to survive under natural conditions, it's effectiveness in promoting thatch degradation would be limited since it is capable of utilizing only short chain or simple sugar molecules as a carbon source and not

to page 29

WIPE OUT GRUB PROBLEMS WITH PROXOL®

Grubs are of increasing concern. Many entomologists agree infestations are on the rise. Grubs can and will attack customer turf and reduce the benefits of your lawn care program. Your profits and reputation are on the line.

Protect your reputation, and customer turf, with a grub control program using Proxol 80SP insecticide. Long used by golf course superintendents, whose requirements are often very demanding, Proxol has recently become available to the lawn care industry.

Proxol has a proven performance record for controlling grubs...and other common lawn pests: sod webworm, cutworm, and armyworm. Fast acting Proxol stops pests before damage starts. It controls grubs on contact. Unlike other insecticides that have been shown to tie-up in thatch, Proxol penetrates thatch readily and works effectively at the site of larval activity.

You'll like the way Proxol fits into your lawn care program. It's highly soluble in water, easily applied with conventional ground equipment, and can be tank mixed with other non-alkaline pesticides. Low effective rates offer economy. And Proxol won't persist in the environment.

Proxol helps you protect your customer's investment in your quality lawn care program. And protects your reputation, too.

Acti-dione®: Programed turf disease care is prevention of damage...not a cure. Acti-dione is a proven broad spectrum fungicide to help you stop turf disease problems before they start. We'll be glad to send more information.

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MONEYWISE

It could make good sense to borrow

Lawn care companies might want to look at high interest rates as just another overhead item, especially if it makes good sense to borrow. If the cost of money is less than the rate the company can lift its prices, it can make sense to borrow to expand sales regardless of interest rates.

For example, a lawn care company that pays 15 percent interest on a sum equal to two month's sales is really increasing product costs by only 2.5 percent. If the company can boost prices even modestly, the cost of the money is minor when the loan is for a short period. Gross dollar profits will go up despite the high cost of money. If the loan is only for a few months, the cost is minimal, according to *Small Business Report*. To get more information about the magazine, contact: 497 Lighthouse Ave., Monterey, CA 93940.

FLORIDA

Audio visual library features turf insects

An audio visual library featuring educational information about nematodes, ornamental insects, turf insects, and turfgrass diseases is available to members of the Florida Turfgrass Association. The slides are available in sets only.

The nematode slide set discusses nematode anatomy, affected grasses, above and below ground symptoms, and possible chemical controls. Chemical controls are broken down and discussed in terms of pre-plant fumigants, fumigants for established turf, and non-fumigants for established turf. Equipment for various means of application is also discussed as is proper use of these chemicals.

Sucking insects, mites, chewing insects, leaf miners, and boring insects are featured in the ornamental insect section. Within each group, detailed information is discussed with regard to the life cycle of the insects, susceptible hosts, time of year of major infestations, and typical plant symptoms. General insecticide application information for ornamental insects is also discussed.

Life cycle, host susceptibility, symptoms of injury, and causal agent determination are discussed in the turf insect section. Insects featured include chinch bugs, sod webworms, armyworms, mole crickets, white grubs, ground pearls, and Bermudagrass mites. Special attention is also directed towards methods of determining the insect involved in an area of injured turf.

The final slide set discusses turf diseases. Of the more than 100 diseases that attack turfgrasses, there are 12 which are considered serious in terms of damage caused and frequency of appearance. Among them, dollar spot, pythium, and fairy ring are grouped together as diseases that most frequently affect turf plantings in distinct areas and patches. Leaf spot diseases, rust diseases, and slime molds are classified as diseases that affect the entire plantings.

For further information about the audio visual programs contact the Florida Turfgrass Association, 1520 Edgewater Drive, Suite E, Orlando, FL 32804, or call 305-425-1581.

SURVEY

Landscapers average 4.2% annual profit

The average U.S. landscape contractor does an annual volume of $784,700 with a profit of 4.24 percent, according to a study recently published by the Associated Landscape Contractors of America (ALCA). The study, the *1979 ALCA Operating Cost Ratio Study*, is based on a survey taken by the association of the landscape contracting industry throughout the U.S. during 1979.

The survey encompasses financial statistics associated with both the association's Income Statement and the Balance Sheet. The Balance Sheet data, for example, reveals that the typical firm has assets of slightly more than $518,000 including fixed assets of $171,000. The typical firm also has liabilities of $321,000 and capital of $197,000.

The 40-page study is based on a survey taken among the landscape industry, the ALCA membership and others and was compiled from a total of 126 completed survey forms. The industry composites (average/median data) is presented for the total industry, seven geographic regions, and for four size categories.

The study is being distributed to all firms who participated in the survey. It is also available for purchase from the ALCA office, for $10 to ALCA member firms, and $25 to non-members. To order send a check to ALCA Publications, 1750 Old Meadow Road, McLean, VA 22102.

Disease management will be the next growth area in the lawn care industry.

The above statement is true, but if lawn care operators diagnose turf diseases according to the photos which appeared in the April issue of LAWN CARE INDUSTRY (page 28), they will undoubtedly lose more customers than they retain.

Unfortunately, the captions which appeared under the 11 photos of various turf diseases were in the wrong positions. LAWN CARE INDUSTRY apologizes for the error. Below are the photos which appeared in the April issue, along with the correct captions. The accompanying chart spells out when the most troublesome diseases are likely to appear on home lawns.

Leaf spot, *Bipolaris sorokiniana*, appears most often during the cool, moist weather of spring and fall, but it can also develop throughout the summer. It is characterized by brown or tan spots on the turfgrass' leaves and stems. As the disease spreads, it produces large brown patches of of dead turf.

Turfgrass infected by brown patch, *Rhizoctonia solani*, is at first purplish-green in color, but turns to light brown as the disease develops. This disease is prevalent from July through September.

Dollar spot, *Sclerotinia homocarpa*, generally occurs in the spring and fall, but also can appear throughout the summer. It is characterized by brown or bleached patches and leaf spots with hourglass-shaped lesions.

Stripe smut, *Ustilago striformis*, is easily recognized by the black, sooty spores which appear on the turf plant. It is most prevalent during cool periods from September through October and April through July.

Red thread, *Cortecium fuciforme*, is identified by the red, threadlike structures which appear on the grass leaves. It is most likely to occur in the early spring or late fall.

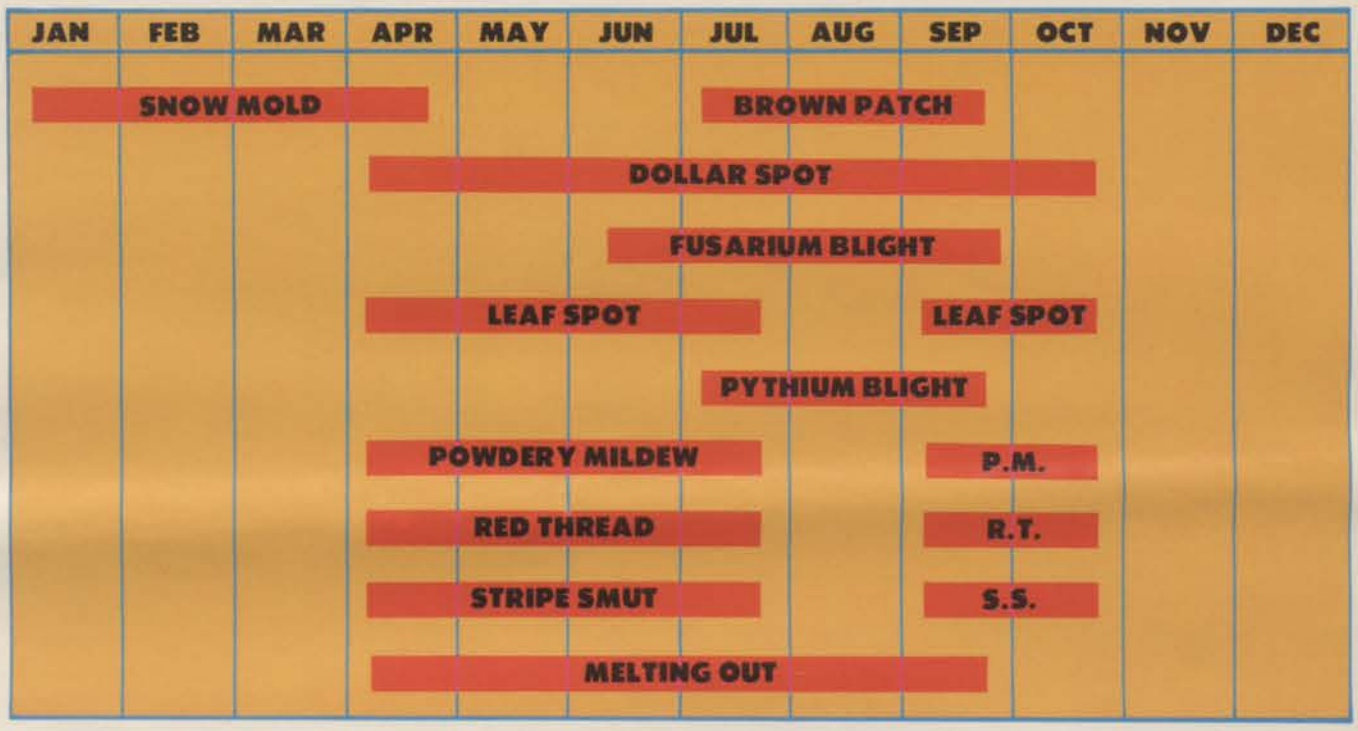
Pythium blight, *Pythium aphanidermatum*, generally begins as a dark, greasy area on water-soaked areas of turf. It is also characterized by fluffy whtie mycelium in the early morning. Pythium blight occurs in the summer from July through August.

Predictably, snow molds occur between October and April, throughout the winter months. However, snow cover need not be present for some types of snow mold to develop on home lawns.

Powdery mildew, *Erysiphe graminis*, occurs during cool temperatures in the spring and fall. It is characterized by a grayish color coating which appears on the upper leaf surface in a powdery form. This disease is common shaded areas.

Fusarium blight, *Fusarium spp., is most often characterized by a circular area of reddish brown grass with green grass in the center. This is called the "frog eye" symptom. Fusarium blight appears on home lawns from July through August.*

Melting out, like leaf spot, also appears in the spring and fall of the year.



Fusarium blight

Cold temperature brown patch

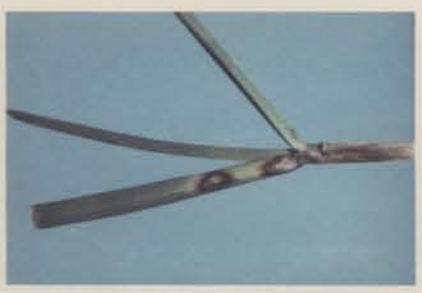
Grey leaf spot foliar symptoms

Spring dead spot

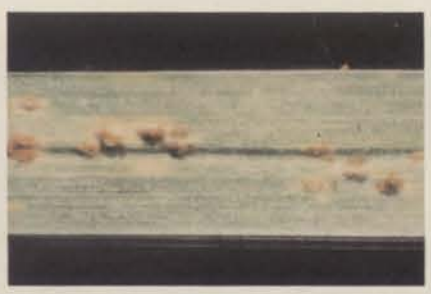
Stripe smut

Powdery mildew

Helminthosporium melting-out



Melting out lesion



Rust

Stripe smut spores

Fusarium blight frog-eye symptom

by Dan Moreland, assistant editor

Customer education: Do the benefits justify the cost?

Lawn care businessmen depend on customers to properly care for the lawns in between service calls. Therefore, it's in the businessman's best interest to educate his clients in lawn care basics.

It is generally agreed that in order to succeed in the lawn care industry proper employe training is essential. Therefore, most lawn care companies conduct educational programs for their technicians, whether it be a one-week accelerated training course or eight hours of "hands-on" field work. Yet, many lawn care businessmen neglect to educate the single most important individual associated with their company, the client.

In virtually no other industry is the owner of a business more dependent upon his client for the ultimate success or failure of his program than in the lawn care industry. The customer who purchases a rug cleaning service does not criticize the cleaners for a poor job if his children dirty the carpet soon after the cleaner leaves the premises. Yet, the same customer will blame his yellow lawn on a lawn care operator even if *he* is the individual directly responsible for the problem. (i.e. The customer scalped the turf with a dull mower blade or failed to water the lawn properly.)

Gordon Ober, general manager of Davey Lawnscape, Kent, Ohio, describes lawn care as a three-way partnership whereby nature, the homeowner, and the lawn care businessman determine the success or failure of a lawn care program. "Neither the homeowner or lawn care businessman can do anything about nature," he said, "so we better make sure that at least two-thirds of the partnership is working together." And that is why customer education is so essential!

A lawn care operator can offer the best program, the best employes, and the best application techniques, but if he doesn't take the time to properly educate his customers, there is a good possibility that all of his efforts will go for naught. And the result is often a displeased client and an equally disenchanted lawn care businessman. So it is more than merely to the lawn care businessman's benefit to educate his customers, it is his professional responsibility to include education as a part of his overall package.

Jerry Faulring, president of Hydro Lawn, Gaithersburg, Md., views education as a way of reducing the animosity which can often develop between customers and lawn care companies. "Providing educational materials to the customer gives them a little more insight into all the variables that go into taking care of a lawn," he said.

"It also helps them understand that some of these things really are not under our realm of control. Some of it's up to God."

There are a number of instructional materials currently being used throughout the lawn care industry including:

• Direct mail advertising: Direct mail advertising generally serves to introduce a lawn care company to potential clients. Its primary function is to increase sales rather than educate the client. Therefore, any educational information it does provide is negligible.

Direct mail ads can appear in many different forms including mailing cards, letters, circulars, brochures, catalogues, and self-mailers. The types most often used in in the lawn care industry are brochures and door hangers.

Direct mail brochures are generally very basic in content. They usually contain a photo of a healthy, green lawn and a clean-cut technician, along with a short description of the services provided and a price listing. Some also contain a short synopsis of technical information. The cost per unit of direct mail literature is three to five cents per unit for color.

• Informational data sheets: Data sheets are the most inexpensive form of educational material currently being used in the lawn care industry. They usually consist of one page of editorial material dealing with basic lawn care information. (mowing, watering, etc.) Graphics and photographs are kept to a minimum to reduce production costs.

Davey Lawnscape, like most large lawn care companies, provide data sheets for their sales representatives and field technicians, who leave the literature with homeowners.

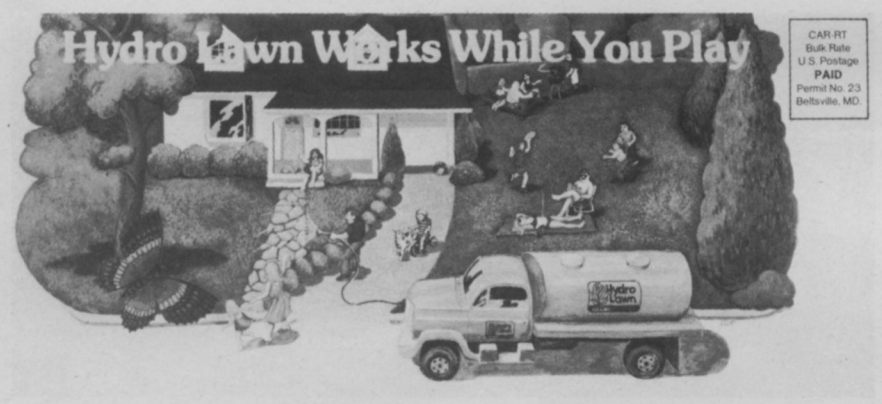
"We try to supplement the information provided by our technician with an application sheet," Ober said. "After the technician puts the application down, he'll leave the customer a sheet giving them tips on watering and mowing, along with other timely information."

Regarding cost, Ober said, the data sheets generally cost about ½ cent per unit. "If you're just doing one sheet with no pictures," he said, "you're talking a bulk rate of about ½ cent per sheet. Now if you have nice pictures in black and white or color, then they can run up to a nickel a piece."

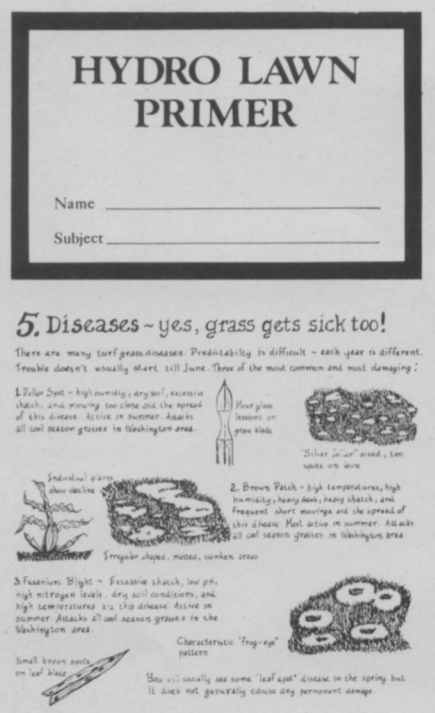
Ober added that one of the primary advantages of the data sheets are they prevent minor problems from developing into major lawn care problems.

"Say, for example, that you have a customer who is scalping his lawn and he is wondering why his lawn doesn't green up after you spray it," he said. "By giving him a (data) sheet and getting him to raise his mower,you will improve the quality of his lawn. It's not a real noticeable thing, but it helps improve the quality of your program."

Further, data sheets serve to reduce service calls by answer-



The primary function of direct mail advertising is to increase sales rather than educate the customer in the basics of lawn care. And although direct mail ads do increase the customer's knowledge about a particular company, their overall educational benefits are negligible.


HYDRO LAWN PRIMER

Name _____

Subject _____

5. Diseases ~ yes, grass gets sick too!

There are many turf grass diseases. Predictability is difficult ~ each year is different. Trouble doesn't usually start till June. Three of the most common and most damaging:

1. Dollar Spot ~ high humidity, dry soil, excessive thatch, and mowing too close did the spread of this disease. Active in summer. Attacks all cool season grasses in Washington area.

Sour glass lessons on grass blade

Silver "dollar" sized, tan spots on turf

Individual plants show decline

2. Brown Patch ~ high temperatures, high humidity, heavy dews, heavy thatch, and frequent short mowings and the spread of this disease. Most active in summer. Attacks all cool season grasses in Washington area.

Irregular shaped, matted, sunken areas

3. Fusarium Blight ~ Excessive thatch, low ph, high nitrogen levels, dry soil conditions, and high temperatures are this disease. Active in summer. Attacks all cool season grasses in the Washington area.

Characteristic "frog-eye" patterns

Small brown spots on leaf blade

You will usually see some "leaf spot" disease in the spring but it does not generally cause any permanent damage.

Although it has been recently discontinued, Hydro Lawn introduced a lawn care primer to educate customers about turf care. The 12-page primer cost about 30 cents to publish.


Thatch is a matted layer of dead, partly decayed grass stems, roots and leaves tightly woven to the living grass plants and located just above the soil level. Most domestic turfgrasses fill in bare spots with as many as 1,000 to 3,000 lateral stems per square foot. Their various parts live from 40 days to over 2 years. This dead matter forms thatch. Grass clippings are 90% water and normally do not contribute to thatch if the lawn is cut often enough.

Thatch is normally disposed of by decomposition, earthworms and insects and a well balanced lawn may only have to be de-thatched every four years or so. When a thatch build-up of over ½" occurs, it must be removed mechanically, preferably in the fall. Lawn maintenance companies will perform this service or a power rake can be acquired at most garden shops and many rental stores.

REMOVING THATCH

PILE OF THATCH

If you suspect Thatch is affecting your lawn . . . Call Us.

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SEARS LAWN & LEAF

Fact sheets, like the one shown above, are generally more expensive to produce than informational data sheets because of increased production costs. Cost is usually five to seven cents per unit.

LAWN CARE INDUSTRY

Just fill in card...(all items must be completed before inquiries can be processed).
Check one box in each category

1 Check one that best describes your business: Lawn care service business involved primarily with fertilization, weed and insect control:
10 ☐ Liquid 11 ☐ Dry 12 ☐ Both
13 ☐ Primarily mowing/maintenance service
14 ☐ Landscape Contractor/Lawn Service Co.
15 ☐ Pest Control/Lawn Service Co.
16 ☐ Nursery or Garden Center/Lawn Service Co.

Grounds Care Manager for:
17 ☐ Private or public estate
18 ☐ School, College, University, Hospital, Industrial Park or similar facility
19 ☐ Government grounds; such as parks, around municipal buildings, or military facility
24 ☐ Cemetery or memorial gardens
25 ☐ Dealer or Distributor
26 Other _____

2 Check one which best describes your buying responsibility:
21 ☐ Purchase
22 ☐ Specify or recommend purchase

3 If your business sells its services to home-owners, commercial or industrial accounts please answer the following:

3A/ Estimated gross annual receipts from lawn service operations in current year:
31 ☐ Up to $50,000
32 ☐ $50,000 to $150,000
33 ☐ $150,000 to $500,000
34 ☐ $500,000 to $750,000
35 ☐ $750,000 to $1,000,000
36 Other _____

3B/ Approximate # accounts serving in current calendar year:
37 ☐ Up to 100
38 ☐ 100 to 500
39 ☐ 500 to 2,500
40 ☐ 2,500 to 5,000
41 ☐ 5,000 to 10,000
42 Other _____

3C/ Is your business:
43 ☐ Independent
44 ☐ Franchise
45 ☐ Chain Affiliated

4 If you are a grounds care manager (not selling lawn care services) estimate the following:
51 # acres you're responsible for_____ acres

Annual expenditures for:
52 Chemicals $ _____
53 Fertilizers $ _____
54 Equipment $ _____
55 Irrigation $ _____
56 Plant Matter $ _____

91 First Initial | Middle Initial | Last Name
92 Your Title
93 Company Name
94 Mail To:
95 City | State | Zip Code
96 Phone: Area Code ☐☐☐ No.: ☐☐☐☐☐☐☐

Address shown is:
98 ☐ Business
99 ☐ Home

97 Signature: _____ Date_____

Do you wish to receive/continue receiving Lawn Care Industry? ☐ Yes ☐ No

5 **For more information** about products displayed in this issue, print the reader service number in the spaces provided below and block out A, B, C, or D for specific information needed.
61 [a] Need Catalog literature
62 [b] Need more price Info
63 [c] Interest in Purchasing
64 [d] Have specific problem—have salesman call.

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INSIDE THE INDUSTRY

ing many of the simple questions often asked by new clients. "If you're forced to visit a customer every time he has a question, you're increasing costs," Ober said, "but if you can answer those questions without a visit from a service rep, you're saving money."

• Fact sheets: Lawn care companies have also developed fact sheets to help the homeowner cope with more serious lawn care problems like disease and insect encroachment.

Fact sheets are generally more extravagant than data sheets and, not surprisingly, more expensive to produce. Typically, they consist of editorial material, along with four-color photographs of the problem in question. They also contain a brief description of the problem, how it is identified, and how it is going to be treated by the lawn care professional. Cost is five to seven cents per unit.

• Newsletters: Some of the better established lawn care companies also provide newsletters to their customers on a regular basis. The newsletter format allows for a more in-depth study of various lawn care problems, but is generally too expensive to produce for small to medium-sized lawn care companies. Cost is 20 to 30 cents per unit.

"By providing a newsletter you're trying to get the customers you already have to feel a closeness with your company," Ober said, "so they don't go shopping for somebody else. You can do this by stressing the special consulting services you provide and by showing your customers pictures of your laboratories and technical people."

• Telephone spots: Some companies have even gone so far as to prepare weekly lawn care tips on a recording device which customers can listen to merely by dialing a special phone number. These lawn care "hotlines" serve as a quick reference tool for many clients. Further, because the phone service is a novelty item, many customers remember the tips longer and make it a practice to call the lawn care company every week.

Prior to selecting any of the aforementioned educational tools to enlighten customers about proper lawn care, it is necessary to be aware of the metamorphisis of today's lawn care client.

"When we started out in 1973 we were dealing with a different type of client," Faulring said. "They were generally older people, living in more mature neighborhoods who had a 'do-it-yourself' background.

"Then there was a transition period in 1975-76 when we began serving a much younger client. They were more scrutinizing and wanted to know specifics about everything we did.

"But now that volume lawn care is established," he added, "the customer is not so concerned about results and price. They like to have this background information, but it might not be as valuable to them as it was five years ago."

Ober, like Faulring, is well aware of the changes in consumer attitudes during the past decade. "I think people are definitely more knowledgeable about lawn care," he said. "You can see it in the way they shop for a service and their knowledge of different programs.

"But you could probably argue the other side of the coin too; that because people used to take care of their lawns themselves, they were more involved, and therefore knew more about it.

"I guess you could be torn both ways," he added, "but I think that as the customer becomes less interested in doing it himself, it becomes that much more important for us to let them know just exactly what we are doing. So I think this (educational material) is important."

Besides its obvious advantages as an educational tool, Faulring also views printed material as beneficial to promotion. "Those printed items are the biggest sales tool we can develop," he said. "We would like to interview each customer, but time and scheduling doesn't permit us to do that.

"We may get 20 leads, but only be able to contact five people when we visit their homes. We can usually sell those five contacts, but what about the 15 we don't see? In those cases, the literature we leave at the home will do a big part of the selling for us."

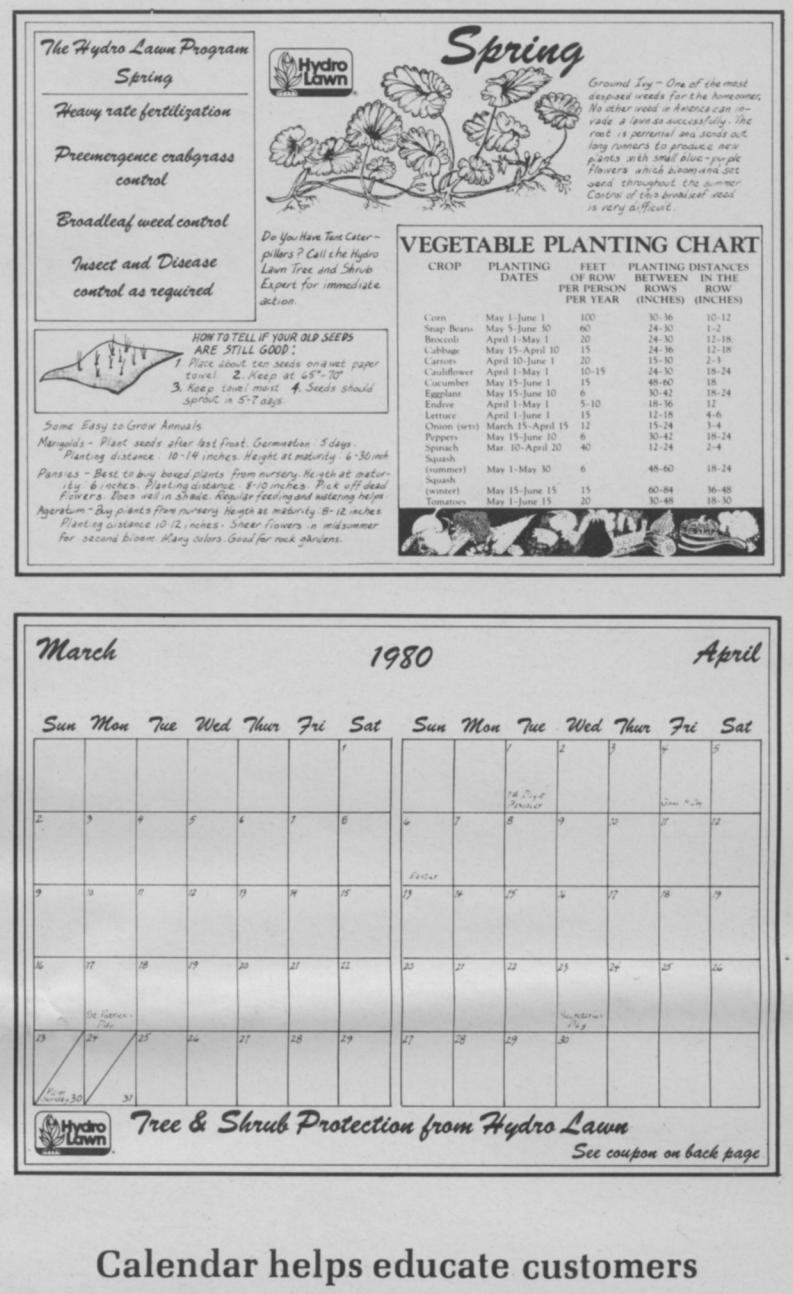
Ober also stressed the importance of customer-technician contact when the field personnel visit the home lawns. "Too often technicians visit a job site, spray the lawn and leave the site unnoticed."

But educational material serves to keep the lines of communication open between a company and a homeowner throughout the year. Further, it answers many of the customer's questions, thereby reducing service calls and bothersome phone calls.

"It's almost like the squeaky wheel situation," he said. "You only hear about it when it's not doing the job for you."

In short, printed material serves as both a sales tool and an educational aid. Is it effective in both these roles? Perhaps, but it is difficult to be sure because no hard data is available on the subject.

However, Hydro Lawn's Faulring is convinced of the merits of educating the homeowner through printed means. "It's just like when you go out to buy a new car," he said. "You like to take the brochure home and thoroughly read it. Maybe you don't learn that much about the quality of the vehicle, but it gives you the opportunity to have something in your hand that you can read while you're not sitting in front of the salesman."



Calendar helps educate customers

Hydro Lawn, Gaithersburg, Md., recently introduced a lawn and garden calendar to help its customers gain a better understanding of lawn care. The 24-page calendar is broken down into two-month segments (March-April, May-June, etc.) to coincide with Hydro Lawn's treatment periods.

The top of the calendar features a short description of the company's lawn service for that particular two-month period and also contains a number of illustrated lawn/garden tips. The calendar cost about 37 cents per unit to publish, according to Jerry Faulring, Hydro Lawn president.

"The cost of publishing the calendar is not directly justifiable," he said. "You can't say that it saves some customers from cancelling or it creates new customers, but it does serve as communication link between the company and the customer. And that is absolutely essential to maintain a good rapport with the customer."

The calendar replaced the now discontinued "Hydro Lawn Primer" (see photo, page 22), which the company offered to all its customers in 1979. Faulring said the company was pleased with the response to the primer, but the calendar is much more visible.

"The information in the primer was good, but what often happened was it just got filed," he said. "Whereas, we hope the customer posts the calendar so the information for each treatment period is more readily available."

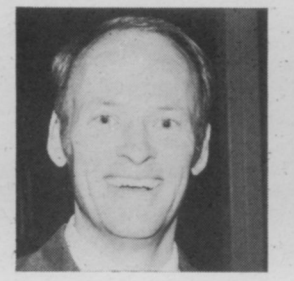
Faulring said the calendar also serves as a form of company promotion. "If a customer has it (calendar) stuck to the refrigerator and a friend or neighbor comes in, they'll see it." Not surprisingly, the company logo is subtly displayed in a corner of the calendar.

Hydro Lawn printed about 18,000 calendars this year at a cost of about $6,600. "We just introduced the calendar this spring so we haven't had a lot of feedback," he added. "We've had some favorable comments, but we really haven't had enough feedback to know if it's being used to the extent that we hope it will be."

Eight good reasons to join the Professional Lawn Care Association of America.

1.

"An annual national lawn care convention for the professional exchange of new ideas and operating know-how, and a chance to meet with suppliers."
Rick White, Village Green Lawn Spraying, West Chicago, Ill.

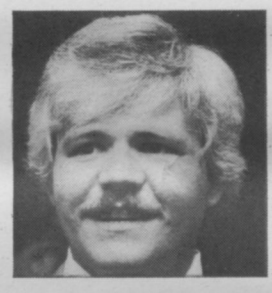


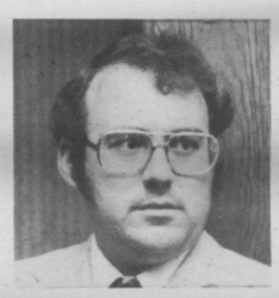
2.

"Consumer education . . . informing potential customers of the advantages of lawn care and the importance of putting the proper care of lawns into the hands of dedicated, trained, skilled professionals."
Tom Brune, Atwood Lawn Spray, Sterling Heights, Mich.

3.

"Conferences, clinics and workshops aimed at continuing management education for today's business climate and conditions relating to the lawn care industry."
Jim Kelly, Keystone Lawn Spray, Wayne, Pa.



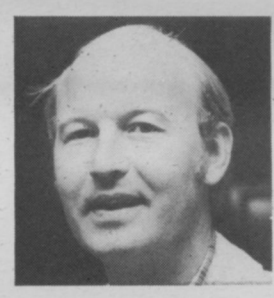


4.

"Government relations . . . PLCAA, as a spokesman for the entire industry, can present our interests with greater force and effectiveness than can an individual company. Government legislation is going to affect our industry more and more, and we have to make our needs known."
Ronnie Zwiebel, Chem-Care Lawn Service, Birmingham, Ala.

5.

"Specially designed training programs for sales, service and supervisory employes of member firms to teach the fundamentals of business, customer relations, lawn care technology and the importance of economics to business success."
Gordon Ober, Davey Lawnscape Service, Kent, Ohio



6.

"Establishment of acceptable technical, ethical and safety standards to guide existing lawn care businesses and newcomers to the industry."
Dr. Paul Schnare, Atkins Lawn Care, Columbia, Mo.

7.

"Association funding for the specific research and development we need for the lawn care industry."
Frank Stevens, Pro-Lawn-Plus, Baltimore, Md.

8.

"Surveys to enable each PLCAA member company to compare its performance against the average performance of all member companies and to compare business performance factors, such as sales volume, profit, investment and growth."
Marty Erbaugh, Lawnmark Associates, Peninsula, Ohio

These are only some of the things the lawn care industry as a whole can accomplish through the Professional Lawn Care Association of America. Ours is a young industry, we need to be recognized as professionals and the experts we are. We need to get the word out about the lawn care industry to potential customers, suppliers to the industry and to government at the local, state and federal level. We can't do it alone. We need the support of the entire lawn care industry if we are to realize our goals.

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MATERIAL HANDLING

Solution fertilizer can be the solution to problems

by Bob Doberneck, Ashland Chemical Co., Columbus, Ohio

Many firms in the liquid lawn care industry have numerous materials handling problems associated with buying dry products in bags for making solutions in the spray truck. Some of these problems can be solved by buying liquid fertilizer solutions.

Some dry handling problems are:

- Storage problems include the facts that it must be kept dry, under a roof and unbroken.
- Time and/or equipment is needed for unloading a delivery truck.
- Loading the spray truck requires time, effort, accuracy and bag handling. This can cause morale problems.

Solution fertilizers can solve problems:

- Tank and fill station can be outside.
- No labor or fork lift needed to unload.
- The job of filling spray trucks becomes a matter of pushing buttons and watching the meter. This system is easy to operate and also very accurate.

The job of filling spray trucks becomes a matter of pushing buttons and watching the meter when using liquid materials.

Solution fertilizer can be purchased from several chemical companies, including Ashland Chemical Co., and Allied Chemical Corp., Houston. It also can be purchased from numerous local or regional liquid fertilizer dealers. Caution must be used in selecting a liquid fertilizer dealer because many liquid fertilizer materials used in agriculture are not suitable for turf.

The choice of a storage tank must be coordinated with the channel of supply through which orders will be placed. The most common-size tank is 6,000 gallons. A tank of this size permits the ordering in truckload quantities (4,000 gallons) before the tank is completely empty. This insures no shortage of fertilizer and permits scheduling a mutually convenient delivery.

Most suppliers of liquid fertilizer on a national or regional basis ship only truckload quantities. Local dealers may deliver or encourage customer pickup of smaller quantities; 1,000 gallons is approximately five tons. As a general rule, the storage tank should be at least 1.5 times the delivery volume. Therefore, if you plan to receive 1,000 gallon deliveries, your tank should be 1,500 gallons. In most cases, the tank can be outside, using no expensive warehouse space.

There are great differences in the efficiency with which different companies receive fertilizer deliveries. Some companies keep their applicators in to unload by hand a truckload of bags; the loss time can easily amount to half a day for five applicators if the delivery is late.

With a liquid system, the transport driver could put the fertilizer in your tank and your secretary can sign the papers. This requires no labor or equipment. When equipped with a good meter, the liquid fill system is extremely accurate and easy to operate.

All these factors can contribute to a more efficient, more accurate and more productive lawn care business.

The dealers listed below are currently supplying solution fertilizer for the lawn care industry:

Flo Lizer, P.O. Box 237, Kingston, OH 45644; Morral Chemical Co., P.O. Box 26, Morral, OH 43337; Keller Heartt, 2478 Wisconsin Ave., Downers Grove, IL 60515; Gildersleeve Fertilizer Co., 114 Shinner St., Box 195, Hudson, IL 61748; Old Fox Chemical, Inc., P.O. Box 2287, Hazardville Station, 249 Shaker Rd., Enfield, CT 06082; Producers Fertilizer Co., 17205 148th St., Spring Lake, MI 49456.

Also: Great Plains Associates, P.O. Box 3588, 123 Marmont St., Niles, MI 49102; Sparrow's Farm Service, P.O. Box 228, Shelbyville, KY 40065; Moyer & Son, 113 East Reliance Rd., Souderton, PA 18964; Vogel Seed & Fertilizer, 1891 Spring Valley, Jackson, WI 53037; Liquid Ag Systems, Inc., 1010 N.W. 15th, Pompano Beach, FL 33060; and Centra Chemical Services, Inc., 1400 E. 27th, Kearney, NE 68847.

EXPANSION PLANNED

Lakeshore sales up 40% last year

Dan Dunstan, treasurer of Lakeshore Equipment & Supply Co., Elyria, Ohio recently announced that the company's sales were up 40 percent last year.

He attributed this rise in sales to general sales increases throughout all divisions of the company, to inflation, to geographic expansion and to new product development.

Projected sales increases for this year are expected to be 40 to 45 percent higher than in 1979, he said.

James I. FitzGibbon also recently announced that present plans call for construction of a new building at the company's Wellington, Ohio site. The existing fertilizer plant in Wellington will also be remodeled.

Understanding the pros and cons of perennial ryegrasses

by John Hall III
Extension Specialist,
VPI&SU, Blacksburg, Virginia

During the past five years there has been a tremendous increase in the use of improved perennial ryegrasses. Breeding programs at Rutgers and Pennsylvania State University have produced new medium textured perennial ryegrasses which have significantly expanded the capability of professional turfgrass managers. However, it is extremely important that the lawn care operator be aware of this turfgrass' capabilities and limitations.

Some of the strengths of the perennial ryegrasses are they exhibit good traffic bearing characteristics, germinate and establish quickly, have the ability to withstand low mowing heights, and they blend well with Kentucky bluegrass. Further, perennial ryegrasses grow four to five weeks longer in the fall and green-up four to five weeks earlier in the spring as compared to Kentucky bluegrasses. This can be either an advantage or a disadvantage. In situations where the exteded growing season is needed, it certainly is an advantage to have this extra growing period. However, in situations where this simply means eight to ten more mowings a year, it is an added cost.

Perennial ryegrasses germinate quickly, blend well with Kentucky bluegrass, withstand low mowing heights and exhibit good traffic-bearing characteristics.

The improved perennial ryegrasses have also exhibited good short term drought color. During 20 to 40 day periods with limited water availability, they have maintained good green color in situations where Kentucky bluegrass has gone dormant. It is likely that they have less ability to withstand long term drought than Kentucky bluegrass.

The vigor of the improved perennial ryegrasses has been an extreme advantage to the lawn maintenance industry in that it has made possible the successful overseeding of semi-thatchy areas. In the past, the limited seedling vigor of Kentucky bluegrass made it difficult, if not impossible, to successfully introduce new turf varieties into lawns where thatch depth exceeded one quarter of an inch.

Perennial ryegrasses have also been excellent for overseeding bermudagrass on home lawns. Their quick germination and desirable texture and color have provided excellent winter quality, and their ability to persist into the summer provides a smoother transition back to bermudagrass than has been possible with annual ryegrass.

Some weaknesses, as observed in Virginia, include disease susceptibility, non-uniform upright growth habit, lack of mowing quality, slow lateral growth habit and a lack of seedling winter-hardiness.

The perennial ryegrasses appear to be extremely susceptible to *Pythium spp.* and *Rhizoctonia solani* activity during hot weather. Unpublished data by Virginia Tech's Dr. H.B. Couch indicates there is a range of varietal resistance to these organisms. As a group of grasses, the traditional perennial ryegrasses appear to exhibit less resistance to these hot weather diseases in the field than the improved varieties.

The ryegrasses are also susceptible to *Helminthosporium sativum* and *Corticium fuciforme* (Red thread. Disease susceptibility is currently the major drawback in the use of the improved perennial ryegrasses.

Another disadvantage is in early spring and late fall the ryegrasses exhibit rapid and relatively upright leaf elongation rates which necessitate more mowing in bluegrass-ryegrass mixtures, than in straight bluegrass stands. Mowing quality is also considered poor on the perennial ryegrasses. Citation and Diplomat have shown the best season-long mowing quality. However, the majority of the commercially available perennial ryegrasses do exhibit poor mowing quality at one time or another during the year.

In view of the fact that perennial ryegrasses are exhibiting extreme summer disease susceptibility in transition-zone climates, it is of major concern that they have shown a tendency to be extremely aggressive in certain situations when mixed with Kentucky bluegrass. The degree of aggressiveness is, of course, dependent on several factors including what variety of ryegrass is mixed with what variety of bluegrass.

However, in studies seeded at Virginia Tech in April of 1972 containing 87.5 percent Merion Kentucky bluegrass and 12.5 percent Manhattan perennial ryegrass (bluegrass: ryegrass seed ration of 69 to 1), the ryegrass made up 58 percent of the ground cover by April of 1977. This does not appear to be a serious problem where ryegrass is not exposed to hot weather disease. However, this could be a serious problem in areas where high

temperatures and excessive moisture and humidity are present. This aggressiveness would significantly increase the probability of losing the ryegrass-dominated turf to summer disease.

Perennial ryegrasses also do not exhibit good long-term shade tolerance. However, their extremely fast germination and establishment rate does allow development of a turf in heavily shaded areas which will last 100 to 150 days. This certainly is an advantage over what we have been able to do with the existing slow-establishing Kentucky bluegrass.

In summary, as one considers using the perennial ryegrasses in a turfgrass management program, it is important to be aware of their strengths and weaknesses. Their disease susceptibility is a serious concern and is more serious in areas where hot weather disease activity is extreme. In areas where summer disease pressure is heavy, the perennial ryegrasses are going to be extremely limited in their ability to provide quality turfgrass over an entire growing season. At this point in time, the improved perennial ryegrasses are not, in my opinion, capable of providing the level of season-long quality we associate with a good Kentucky bluegrass mixture.

The perennial ryegrasses should be used primarily as a support or specialty grass in areas where summer disease potential is high. In these areas, they should be utilized with the realization that they will require a fungicide program and may require annual reseeding to thicken the turf.

When one compares Kentucky bluegrasses as a group of grasses with perennial ryegrasses as a group of grasses (Table 1), it is obvious that the perennial ryegrasses have provided us with improvements in establishment rate, spring green-up, low mowing tolerance, short term drought color and better root-soil bond. They have also made a significant contribution to our ability to produce quality turf in the climatic transition zone. Hopefully, the breeding programs underway at several universities and companies will provide us with stronger perennial ryegrasses to use in our attempts to produce quality turf.

Table 1. A generalized comparison of the characteristics of the improved Kentucky bluegrasses and the improved perennial ryegrasses.

Characteristic	Kentucky bluegrass	Perennial Ryegrass
Establishment rate	poor	excellent
Heat tolerance	fair	poor
Spring green-up	fair	good
Shade tolerance	fair-poor	fair-poor
Disease resistance	fair	poor
Thatch buildup potential	good	?
Mowing quality	good	poor
Short term drought color	poor	good
Long term drought survival	good	fair
Root to soil bond	fair	good

References
1) Funk, C. R. 1978 Proceedings of the 18th Annual Illinois Turfgrass Conference. University of Illinois.

DISEASE

Powdery mildew attacks plants, turf

Powdery mildew, a fungal disease that attacks turfgrass and a wide variety of ornamental plants from April through July, is easily identified by a white powder on plant leaves.

"Affected leaves are often distorted and fail to develop properly," explained Dr. Wendell Horne, plant pathologist with the Texas Agricultural Extension Service, Texas A&M University System. "If not controlled the fungus may cause leaves to turn yellow and drop, thus weakening plants that fail to fruit or flower properly."

Powdery mildew thrives in cool, dry conditions as opposed to warm, moist conditions for most leaf-spotting fungi. It also seems to develop most rapidly in areas of poor air movement.

"Roses and crape myrtles are commonly affected plants," Horne said. "Depending on weather conditions, they may escape damage one year and be affected seriously the next."

The plant pathologist suggests that lawn maintenance professionals check plants closely for powdery mildew and to take control measures if necessary. Fungicides that prevent powdery mildew include Benlate, Actidione PM, Karathane, Phaltan and sulfur. Use sulfur only during cooler parts of the growing season since it may cause leaf bronzing when temperatures are high. Two to three applications of fungicide may be required to control the fungus.

Powdery mildew that attacks euonymous is the most difficult to control, Horne added. Gardens with this problem may want to replace euonymous with plants resistant to the disease. Wax leaf ligustrum, for example, might be acceptable.

"The key to controlling powdery mildew is to recognize it early and to apply a fungicide before serious damage is done," Horne said. "This will help to insure an attractive landscape."

Pesticides that are toxic to or reduce the activity of earthworms.

COMMON NAME	RELATIVE LEVEL OF TOXICITY OR REDUCED ACTIVITY	SOME COMMON TRADE NAMES
Atrazine (4)	Slight	Aatrex, Bonus S, Vectal
Anilazine (6)	Moderate-High	Dyrene
Bandane (14)	High	No Longer Manufactured for Agricultural Use
Benomyl (6,12)	High	Proturf Fertilizer+DSB fungicide, Tersan 1991
Calcium Arsenate (14)	High	No Longer Manufactured for Agricultural Use
Carbaryl (8,13)	Moderate	Dicarban, Septene, Sevin
Chlordane (9)	High	No longer labeled for turfgrass use
Chlorothalonil (6)	Moderate-High	Daconil 2787, Proturf 101V Broad Spectrum Fungicide
Chlorpyrifos (12)	Slight	Dowco 179, Dursban, Kwit, Western Lawn Insect Control
Fensulfothion (13)	Slight-Moderate	Sasanit
Iprodione (6)	Moderate	Chipco 26019
Mancozeb (6)	Moderate-High	Fore
Metham (2)	High	Vapam
Methyl Bromide (2)	High	Brom-O-Gas, Dowfume MC-2 Profume
PCNB (6)	Moderate	Lawn Disease Preventor, Proturf FF, II, Terraculor 75, Turfcide
Thiophanate-methyl (6)	Moderate	Fungo 50, Proturf Systemic Fungicide

[1]Timing, rate, frequency and method of application are important in the overall effect of the pesticide on earthworm activity.

THATCH *from page 18*

For instance, burrowing of the large earthworms in the spring can disrupt a pre-emergent herbicide barrier and bring buried weed seeds to the soil surface where they may germinate. Also, following a heavy rain or irrigation, earthworms may leave their burrows and move onto sidewalks and driveways where they are stepped on or run over by human and vehicular traffic. This is often times objectionable. Earthworms are not a panacea for all lawn problems including thatch development, but just one of the many important components of the turfgrass environment.

In summary, there is much to be learned about earthworm behavior under various turf communities and different management programs. The possibility of introducing earthworms to a turfgrass site is conceivable. This practice has been successfully accomplished in orchards and pastures. However, before a turf manager attempts this, it would be wise to ascertain the factors responsible for their absence or decreased activity. If a problem such as improper pH, poor drainage, or use of a certain pesticide is not resolved, the introduction of worms into the soil will serve little purpose.

Furthermore, even if these problems are resolved but a pesticide with a long residual such as chlordane, bandane or calcium arsenate is present in the soil, it may be years before their residues decrease to a level where worms can be introduced.

Finally, not all species of earthworms will produce the same effect on all soils and plants. The fact remains that no one species of earthworm is responsible for all the beneficial contributions mentioned above, but a combination of several different species typically found under natural field conditions.

UP 15 PERCENT

Fertilizer use ahead of last year's levels

In most respects the pace during February for U.S. fertilizer producers was much like that of previous months during the current fertilizer year, according to a report released last month by The Fertilizer Institute.

"Production continued to run ahead of last year's level for the July-February period with an eight percent increase, while domestic disappearance showed an increase of 15 percent," said Edwin M. Wheeler, president of the Institute. "Among the basic materials," he added, "anhydrous ammonia production continued to increase its lead this year over the past fertilizer year."

Fertilizer production continued to run ahead of last year's level for the July-February period, with an eight percent increase.

Increases in domestic disapperance for the July-February period were applicable to each of the nitrogen, phosphate and potash groups, he said. Potash products led other nutrient groups in terms of percentage, with an increase of 23 percent over a year ago for the eight-month period. Nitrogen product disappearance increased 15 percent and that of phosphates, 10 percent.

Referring to export/import trade during the July-February period, Wheeler said that imports increased 22 percent, led by muriate of potash and ammonia. Exports, however, decreased six percent during the period with largest decreased occuring with phosphates. February ending inventories for nearly all products were well below last year's levels, he said.

3m expands distribution of its plant growth regulator

Embark brand plant growth regulator, developed by 3M and released for limited distribution in 1978, will be available in a larger number of regional areas this year, according to the manufacturers.

The growth regulator can be applied to a variety of popular turf species including Kentucky bluegrass, tall fescue, common bermudagrass and several native California grasses and broadleaves. It reduces lawn mowing by temporarily inhibiting the growth of these plants for up to eight weeks. It also suppresses seedhead formation.

Because Embark plant growth regulator results in less frequent mowing and trimming activities, it can cut mowing costs, allow reallocation of labor and materials and help reduce mowing accidents and equipment damage. Further, proper spring application can extend suppression until normal turf growth slow-up in mid-summer.

Applicaton of the growth regulator is made to healthy, actively growing grass with standard spraying equipment and calibrated nozzles that can apply 15 to 150 gallons of finished spray per acre. Distributors of the product are located primarily in the northern half of the United States. However, 3M will also sell directly to interested consumers in other parts of the country.

Biological dethatching agents: Fact versus fiction

from page 18

complex natural compounds such as cellulose, hemicellulose and lignin which are the chemical components of thatch.

As with the introduction of microorganisms, the use of plant hormones to stimulate existing thatch and soil microbes is unlikely to result in increased thatch decomposition. Research has shown that plant hormones may be inhibitory to some microorganisms and stimulating to others. Likewise, the application of various thatch degrading enzymes is also unlikely to result in any significant thatch breakdown since the enzymes themselves would serve as a carbon source for many microorganisms found in the thatch and soil.

Turfgrass species and/or cultivars, management practices, the underlying soil and climatic conditions all can have a profound affect on the nature of thatch. In terms of using any one of the currently available dethatching products, the lawn care professional would be wise to request unbiased, fully replicated and scientifically conducted research results to support the manufacturer's claims.

EPA *from page 1*

volatile or spray mist, on persons or property adjacent to pesticide application sites. The proposals completely ignore the precautions stated in the label and maintain that the EPA is not enforcing these restrictions. Lawn care operators, nurserymen and other agricultural users do abide by these precautions.

"The proposal would mean that anyone with less than 1.4 acres would have to obtain permission from adjacent property owners prior to applying any pesticides. As you can readily see, this would deny the homeowner the use of any pesticide. These regulations proposed by the Friends of the Earth would drastically change property rights.

"We urge you to give this viewpoint serious consideration."

Many members of the lawn care industry and the PLCAA did indeed send letters to the EPA before the deadline last month. The PLCAA also suggested that members contact their congressmen, and supplied addresses.

In the Federal Register, it was pointed out that the although the notice sets forth the petitions made by the Friends of the Earth, the publication of the petition does not represent any agency position on the merits of the petitions. The notice does not propose any amendment of current rules or any change in policy or procedures. After consideration of available data and comments received in response to this notice, the EPA will consult and determine whether it should proceed to initiate rulemaking or other proceedings based on the petition.

For further information directly from the EPA, contact: Ms. Jean Frane, Registration Division, Office of Pesticide Programs, EPA, 401 M St., S.W., Washington, DC 20460, 202-426-2510.

For further information about PLCAA's stand on the proposed legislation, contact: Glenn W. Bostrom, executive director, PLCAA, 435 N. Michigan Ave., Suite 1717, Chicago, IL 60611, 312-644-0828.

MEETING DATES

International Franchise Association 13th Annual Legal Symposium, Capital Hilton Hotel, Washington, D.C., May 6-7. Contact: IFA, 1025 Connecticut Avenue N.W., Suite 1005, Washington,D.C. 20036, 202659-0790.

Turfgrass Research Field Day, Texas A&M University, College Station, TX, May 21. Contact: Dr. Richard Duble or Dr. James Beard, Department of Soil & Crop Sciences, Texas A&M University, College Station, TX 77843.

Residential Landscape Design Course I, Milwaukee, WI, June 18-20. Contact: John Shaw, executive director, ALCA, 1750 Old Meadow Road, McLean, VA 22101, 703-893-5440.

Metropolitan Tree Improvement Alliance, Rutgers University, New Brunswick, NJ, June 18-20. Contact: Dr. David F. Karnosky, Cary Arboretum, Box AB, Millbrook, NY 12545, 914-677-5343.

Residential Landscape Design Course I, Tucson, AZ, June 23-25. Contact: John Shaw, executive director, ALCA, 1750 Old Meadow Road, McLean, VA 22101, 703-893-5440.

1980 Tax Seminar, Hyatt Regency O'Hare, Chicago, IL, June 24-25. Contact: International Franchise Association, 1025 Connecticut Avenue, N.W., Suite 1005, Washington, D.C. 20036, 202-659-0790.

Residential Landscape Design Course II, Phoenix, AZ, June 26-28. Contact: John Shaw, executive director, ALCA, 1750 Old Meadow Road, McLean, VA 22101, 703-893-5440.

1980 Rutgers Turfgrass Research Day, New Brunswick, NJ, August 6. Contact: Raplph E. Engel, P.O. Box 201, New Brunswick, NJ 08903, 201-932-9427.

Residential Landscape Design Course I, Seattle, WA, Aug. 7-9. Contact: John Shaw, executive director, ALCA, 1750 Old Meadow Road, McLean, VA 22101, 703-821-8611.

Iowa State University Turfgrass Field Day, Horticulture Research Station, Ames, IA, Aug. 12. Contact: A.E. Cott,extension horticulturist, Department of Horticulture, Iowa State University, Ames, IA 50011, 515294-1870.

Lawn, Garden Outdoor Living, Division of National Hardware Store, McCormick Place, Chicago, IL, Aug. 13-16. Contact: National Hardware Show, Charles Snitow, 331 Madison Ave., New York, NY 10017, 212-682-4802.

Tan-Misslark Trade Show, Astro Hall, Houston, TX, Aug. 16-19. Contact: Bill Fullingim, Tesas Association of Nurserymen, 512 E. Riverside Drive, Austin, TX 78704, 512-444-7489.

Rhode Island Turfgrass Field Day, Turf Research Farm, University of Rhode Island, Kingston, RI, Aug. 20. Contact: Professor C.R. Skogley, Plant and Soil Science Department, University of Rhode Island, Kingston, RI 02881, 401-792-2570.

Western Regional Grounds Maintenance and Equipment Show, Bear Creek Park, Colorado Springs, Aug. 26. Contact: Frank Cosgrove, regional director, National Recreation and Park Association, 3500 Ridge Road, P.O. Box 6900, Colorado Springs, CO 80934.

6th Annual Garden Industry of America Conference & Trade Show, Convention Center, Baltimore, Md., Sept. 12-14, 1980.

Contact: GIA Conference & Trade Show, Box 1092, Minneapolis, Minn. 55440, 612-374-5200.

National Lawn & Garden Distributors Association Annual Convention, Century Plaza Hotel, Los Angeles, Calif., Sept. 16-19. Contact: Nancy S. Irving, executive director NLGDA, 1900 Arch St., Philadelphia, Pa. 19103.

International Franchise Association Tax Seminar, Hyatt Regency O'Hare, Chicago, Ill., Sept. 22-24. Contact: IFA, 1025 Connecticut Avenue, N.W., Suite 1005, Washington, D.C. 20036, 202-659-0790.

Northwest Turfgrass Annual Conference, Sunriver Lodge, Sunriver, OR, Sept. 22-25. Contact: Dr. Roy Goss, executive secretary, Northwest Turfgrass Association, Western Washington Research and Extension Center, Puyallup, WA 98371, 206-593-8513.

Central Plains Turfgrass Foundation, Kansas State University Turf Conference, KSU Union, Manhattan, KS, Sept. 30 -Oct. 2. Contact: R.N. Carrow, secretary/treasurer, Horticulture Department, Waters Hall, Kansas State University, Manhattan, KS 66506, 913-532-6170.

Kentucky Turfgrass Conference & Field Day, Eastern Kentucky University, Richmond, KY, Oct. 7-9. Contact: Kenneth B. Rue, president, Kentucky Turfgrass Council, 3110 Brownsboro Road, Louisville, KY 40206, 502-893-7137.

Franchise Management Workshop, Beverly Hills Hotel, Beverly Hills, Calif., Oct. 8-9. Contact: International Franchise Association, 1025 Connecticut Avenue, N.W., Suite 1005, Washington, D.C. 20036, 202-659-0790.

Symposium on Turfgrass Insects, Holiday Inn, Columbus, Ohio, October 14-15. Contact: Dr. B.G. Joyner, Plant Diagnostic Labs, ChemLawn Corp., 6969 Worthington-Galena Road, Suite L, Worthington, Ohio 43085, 614-885-9588.

Southwest Turfgrass Association Conference, New Mexico State University, Las Cruces, NM, Oct. 16-17. Contact: Arden A. Baltensperger, secretary-treasurer, Southwest Turfgrass Association, New Mexico State University, P.O. Box 3-Q, Las Cruces, NM 88003.

Second National Irrigation Symposium, Nebraska Center for Continuing Education, University of Nebraska, Lincoln, NE, Oct. 20-23. Contact: Dr. Dale Heermann or Dr. Del Fangmeier, Department of Soils, Water, and Engineering, University of Arizona, Tuscon, AZ 85721, 602-626-1412.

Franchise Management Workshop, Continental Plaza, Chicago, Ill., Oct. 22-23. Contact: International Franchise Association, 1025 Connecticut Avenue, N.W., Suite 1005, Washington, D.C. 20036, 202-659-0790.

Franchise Management Workshop, Old Town Holiday Inn, Alexandria, Va., Nov. 5-6. Contact: International Franchise Association, 1025 Connecticut Avenue, N.W., Suite 1005, Washington, D.C. 20036, 202-659-0790.

Missouri Lawn and Turf Conference, University of Missouri, Columbia, MO, Nov. 5-7. Contact: Dr. John H. Dunn, professor of horticulture, 1-43 Agriculture Building, Columbia, MO 65211, 314-882-7838.

Southern Turfgrass Conference, Birmingham Hyatt House, Birmingham, AL, Nov. 9-12. Contact: Dr. Euel Coats, executive secretary, Southern Turfgrass Association, Drawer CP, Mississippi State, MS 39762, 601-325-3138.

First Professional Lawn Care Association of America Convention, "Lawn Care Business Management in the 1980's," Nov. 12-14, Commonwealth Convention Center, Louisville, Ky. Contact: Glenn Bostrom, PLCAA, Suite 1717, 435 N. Michigan Avenue, Chicago, Ill. 60611, 312-644-0828.

EARNINGS LOWER

BASF Wyandotte 1979 sales increase

BASF Wyandotte Corp., Parsippany, N.J., an American member of the BASF group, has reported 1979 sales of $1.1 billion and net earnings after taxes of $9.7 million.

Edwin L. Stenzel, president, said that compared to 1978, sales increased 28 percent, reflecting growth in the company's overall business, particularly in agricultural chemicals, including the turf herbicide Basagran.

Net earnings were 12 percent lower than in 1978 due in part to start-up costs for new plants, one-time shut-down costs, and accelerated depreciation on obsolete facilities.

HERBICIDES

Second application sometimes needed for control of crabgrass

Crabgrass germinates from April to mid-summer, making a residual action over the entire period a must. If other weeds, such as goosegrass, are present, then the herbicide needs to remain active even longer.

Herbicides available on the market today differ in length of control. Herbicides for control of crabgrass include Tupersan, marketed by Du Pont Co., Wilmington, Del.; Balan, marketed by Elanco Products Co., Indianapolis; Dacthal, marketed by Diamond Shamrock Corp., Cleveland; and Betasan, marketed by Stauffer Chemical Co., Westport, Conn. Betasan is available also under other trade names.

According to Dr. Ralph Engle, turfgrass specialist at Rutgers University, one of the top performers in controlling crabgrass over a period of years is bensulide (Betasan).

"Sometimes a second preemerge application is made midway in the germination season in an attempt to better cover late germination of crabgrass or other weeds, but this does not control crabgrass that escaped the first application," Dr. Engel said. "The effectiveness of a second treatment depends on time of application and the amount of subsequent germination. However, bensulide has far less need of a second application than some other products due to its long residual action."

Although bensulide remains active longer, if reseeding becomes necessary, it can be successfully inactivated by charcoal, Dr. Engel said. Because of a shorter residual, some herbicides, such as Tupersan, are often used when reseeding is necessary, according to other experts.

Generally, low-analysis granular forms of preemergence herbicides are considered more effective than more concentrated preparations. However, with bensulide, preparations of seven percent and 12.5 percent appear to give nearly as good crabgrass control as the bulkier, less concentrated forms. Of herbicides available for use in water, bensulide is an effective spray treatment, being almost as effective in a spray as in its granular form. he said.

"Proper timing of the treatment is essential for good results," Dr. Engel said. "Generally, most preemergemce herbicides are applied just prior to crabgrass germination because earlier application shortens the effective period of activity. It is difficult to time preemergence application by presence or lack of crabgrass seedlings, but timing the treatment with spring flowering of forsythia bloom may be a helpful guide. Since bensulide has comparative long-term effectiveness, its date of application is often more flexible."

Actor, state official receive Daisy awards

Academy Award winning actor Cliff Robertson (second from right) and California Secretary of State March Fong Eu (far right) were honored for their contributions to the California environment and the state's landscape industry with Daisy Awards presented by the California Landscape Contractors Association (CLCA). With the two award winners are CLCA president Don Napolitano and his wife Nancy.

Robertson, a native of California, was cited for his interest in preserving the California coastline and beaches. Eu was acclaimed for lending her prestige to the beautification of California.

PRODUCTS

Walk-behind mower operates in four modes

Allis-Chalmers' all-in-one walk-behind lawn mower can operate as a rear-bagging, side-discharge, mulching or leafbagging mower. The mower's three-bushel, zippered bag is bracketed and lifts on and off easily.

Powered by a 3.5 horsepower Briggs & Stratton engine, the mower is available in either self-propelled or push models and features a 21-inch cast aluminum mower deck and staggered wheels to minimize scalping. Power propelled models feature a two-speed, belt-drive system to adjust walking speed while maintaining maximum engine speed for efficient cutting.

Write 202 on free information card

Turf box buries valves in irrigation systems

An economy turf box for burying small valves and controls in residential and commercial irrigation systems is available from Ametek's Plymouth Products Division. The round turf box

is molded from a Superflexon plastic compound that is normally unaffected by moisture, corrosion, or temperature changes. It measures six-and-a-half-inches in diameter and has a depth of nine inches.

Write 205 on free information card

Turf booklet describes lawn feeding program

A free turf care booklet outlining a year-round granular lawn care feeding program is available from The Andersons Lawn Fertilizer Division. The seven-page easy-to-understand booklet spells out a four-stage feeding program complete with application rates, recommended products, and square footage covered. The pamphlet also contains brief "remarks" describing each stage of the four-part feeding program. Round 1 of the feeding program states, "In the lawn care industry the accepted major nutrient ratio is a 4-1-2 ratio with total nitrogen per season equalling between 3.5-4.0 pounds per 1,000 square feet. In addition to fertilization the customer is also interested in preventing or controlling troublesome turfgrass pests at the time of year they are prevalent or easiest to control. The first application in any lawn care program should be a combination of fertilizer plus grassy weed control herbicide.

Write 203 on free information card

Turf-Quaker aerates dry, compacted turf

Turf-Quaker slices a 60-inch swath through dry, compacted turf and opens the soil to air, nutrients, and water. HA-TQ, the newest member of the Turf-Quaker line, is manufactured by Howard Rotovator Company and is designed for three-point linkage tractors in the 25 to 60 PTO horsepower range.

Write 211 on free information card

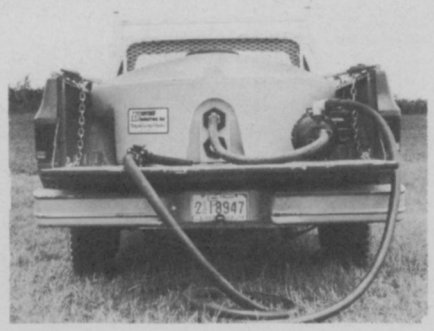
Lay-flat vinyl discharge hose in 300-foot lengths

A lay-flat vinyl plastic discharge hose is offered by Hosenose, a division of Amtrex International. Available in 300-foot lengths, the hose is weather proof and reinforced with woven vinyl. Oil and gasoline resistant hose, PVC suction hose and polyester braided vinyl tubing are also available from the California-based company.

Write 212 on free information card

Low-profile utility tank fits in pick-up trucks

A 300-gallon utility transport tank designed especially for pick-up trucks is now being manufactured by Snyder Industries. The tank fits securely over the rear wheelwells of most



pickups typically used by lawn care operators and features a low-profile design which increases rear visibility while lowering the center of gravity for increased stability. Further, the tank is made with Snyder's high density, crosslinked, polyolefin material which resists cracking, corrosion and chemicals. The seamless, one piece unit has a translucent green tinting and ultra-violet inhibitor which helps protect the tank and its contents from the sun's damaging rays.

It also features a domed bottom and syphon pickup tube for more complete drainage, along with dual recessed and reinforced outlets which provide for gravity or pump-assisted drainage.

Write 209 on free information card

Slow-release nutrients feed tree, plant roots

Controlled release packets, by Unique Fertilizer Inc., provide nutrients for up to eight years when placed near the roots of a plant or tree. The sealed polyethylene bag, containing a water soluble fertilizer of at least 16-8-16 analysis, slowly releases nutrients through micropore holes. Originally developed by soil scientists at the University of Wisconsin, the packets release only the amount of fertilizer needed during the season.

Write 206 on free information card

Tree stump treatment

Tree stump herbicide treatment is possible with Dow's Tordon, a ready-to-use formulation packaged in a convenient squeeze trigger applicator bottle. Tordon RTU is the only product in the line of Tordon herbicides that is not a restricted use pesticide and can be used by persons without special licensing. One gallon will treat from 300 to 800 stumps, depending on their size.

Write 208 on free information card

Mower cuts grass on slopes up to 40 degrees

Slope Master, by Kut-Kwick, cuts slopes up to 40 degrees due to its low center of gravity. Powered by a 23-horsepower gasoline

engine, the unit has dual tractor wheels for added traction and stability. The mower cuts a 60-inch swath and up to three acres of grass per hour.

Write 204 on free information card

Ford diesel tractors

Diesel tractors from 13 to 30 horsepower are now available from Ford Tractor Operations. All five models are available with two- and four-wheel drive. The 30-horsepower Ford 1900 tractor features a three-cylinder diesel engine and 26.5 PTO

horsepower. The other four models feature two-cylinder diesels with 13-, 16-, 20-, and 25-horsepower engines. Ten and 12-speed transmissions offer a choice of working speeds. The entire comes series equipped with three-point hitches that match most implements made for a Category I hitch. Lift capacity is from 880 to 3,800 pounds.

Write 207 on free information card

BEHIND THIS ISSUE

We have this month, as the saying goes, some good news and some bad news. First the bad news, and boy, is it a wowser.

Last month we ran a feature on turf disease identification and control by Dr. Joe Vargas of Michigan State University ("Disease Management Will Be the Next Growth Area in the Lawn Care Industry", page 28). Along with the excellent copy, Dr. Vargas put together a quick-reference turf disease guide for our readers, and provided top-notch photos for identification of some troublesome lawn diseases.

But somewhere between when we last saw the page that carried the identification photos and when it went to the printer, the gremlins that plague all trade magazine editors somehow switched around just about all of the identifying captions. We have re-run the photos with the correct captions on page 21 of this issue, and thank all of you who noticed the colossal goof for calling us.

Now the good news. In the April 7 issue of *Advertising Age*, the bible of the advertising industry, the lawn care industry received some substantial recognition right on page three. In a story titled "Green Grass Field Growing," associate editor Jennifer Alter zeroed in on the increasingly intense competition among major companies in the chemical lawn care industry. She quoted Toro president Jack Cantu (whose company last year acquired Barefoot Grass Lawn Service), Lawn Doctor president Tony Giordano, and Lawn-A-Mat's Stan Weber, in addition to myself.

She used examples of Barefoot's literature and also that of ChemLawn Corp. to illustrate the piece. Some facts from the story: ChemLawn mails out 10 million personalized self-mailers a year; Barefoot expects a 50 percent sales increase this year, with marketing concentrated in the Midwest (they expect sales of $30 million to $50 million by 1985); and Giordano is looking for sales of $23 million this year from his 270 dealers.

Alter pegged the industry at $200 million, quoting me, but I feel the market is closer to $900 million. However, it was an excellent article. If you didn't see it, drop me a line, and I'll send you a copy.

Rob Earley

CLASSIFIED

When answering ads where box number only is given, please address as follows: Box number, % 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.

POSITION WANTED

LANDSCAPE, NURSERY, golf course, park, etc. Career in management. Salary commensurate with my experience derived from ten years self-employed in professional landscape maintenance, installations, and snow plowing. Will manage your current establishment or create a new division. P.O. Box 9114, Cleveland, Ohio 44137.

MISCELLANEOUS

KELWAY SOIL pH TESTER, used by professionals everywhere. Direct reading, longlasting, portable, lightweight, no power source. Model HB-2 reads moisture too. Available through local distributors or contact Kel Instruments Co., Inc., Dept. L, P.O. Box 1869, Clifton, N.J. 07015. 201 471-3954.

KNOW pH INSTANTLY. Patented electronic tester, portable, handheld. For soil, liquids, etc. $22 postpaid. Details free. A & H Marketing, Dept. L6, 8325 Dru Ave., SE, Albuquerque, NM 87108. Phone 505 266-4821.

BUSINESS OPPORTUNITIES

TURFGRASS MANAGEMENT: Obtain the expertise to start and/or manage a lawn care business. For information contact: The Institute of Applied Agriculture, University of Maryland, College Park, MD 20742. 301 454-3938.

USED EQUIPMENT

NOTICE TO LAWN-A-MAT DEALERS: Tractors, trailers & combines for sale. Very good condition—Make an offer. Jerry Amstutz, 918 N. Main St., Orrville, OH 44557. 216 682-8866.

FOR SALE: 1978 Ford 350 completely equipped, steel tank, pump, Hannay electric reel, hose, etc. Complete unit, excellent condition, ready for immediate use. Phone 301 694-6006.

LELY TURF SHAPER, $4,200.00. Rogers seeder, 3 point hitch, $2,-300.00, minimal use, excellent condition. R2, Box 235, Danville, Indiana 46122. 317 745-6226.

HELP WANTED

HORTICULTURIST WANTED: Prefer someone who has worked with a major company in tree and lawn spray programs. Top pay. Contact Quality Tree & Pest Control, Inc., 3002 Manzano, NE, Albuquerque, New Mexico 87110. Phone 505 881-9118.

WANTED TO BUY

WANTED TO PURCHASE, granular lawn care companies in Midwest and South serving primarily residential accounts, present management may stay, principals only, confidential replys to Box 18, Lawn Care, Box 6951, Cleveland, Ohio 44101.

ADVERTISERS

For the turf you care for: proven protection against nine damaging diseases from America's leading fungicide for turf. Now a 500 gram per liter flowable formulation.

Daconil 2787 is the broad-spectrum fungicide that helps you fight such problems as dollar spot, gray leaf spot, large brown patch and red thread. Easy to handle with great flowability. Disperses quickly in the spray tank. Effective even in hot weather. Daconil 2787 also provides effective disease control on a number of ornamentals. Now in a new 500 g/l formulation.

Diamond Shamrock gives you all the help you need for weed problems, too.

Dacthal® is the preemergence herbicide that controls more than 20 weeds and unwanted grasses. Stops early and late germinating weeds without affecting healthy, growing turf grasses. Tough weeds like crabgrass and Poa annua can't stand up to Dacthal.

Dacamine® gives postemergence control of over 70 broadleaf weeds including dandelion, annual chickweed, knotweed and Canada thistle. Kills 'em right down to the roots so they won't come back.

Daconate® gives the postemergence herbicide that knocks out nutsedge, chickweed, wood sorrel, sandbur and other grassy weeds. It's a ready-to-use liquid herbicide with a built-in surfactant for uniform wetting.

For beautiful turf and ornamentals, count on the big four from Diamond Shamrock to make your job easier.

Diamond Shamrock

The resourceful company.

See your turf chemicals supplier, or contact the Diamond Shamrock Agricultural Chemicals Division sales office nearest you: Three Commerce Park Square, 23200 Chagrin Blvd., Beachwood, OH 44112 • 1760 The Exchange, Suite 100, Atlanta, GA 30339 • 5333 Westheimer, Suite 850, Houston, TX 77002 • Commerce Plaza Bldg., 2015 Spring Rd., Oakbrook, IL 60521 • 617 Veterans Blvd., Redwood City, CA 94063.

Write 119 on free information card

Daconil 2787®

"baron KENTUCKY BLUEGRASS is the most 'customer-proof' grass seed I can buy"

Alan Maged

Alan Maged,
Lawn-A-Mat dealer, Garden City Park, Long Island, New York. . .
one of the largest independent lawn care dealers, servicing over 2000 lawns.

"I make sure Baron is in every pound of grass seed we use. Last year it amounted to 80,000 pounds of Lofts special lawn seed mixtures. If all goes well, I'll order even more this year.

"Why do I insist on Baron? Because my customers expect me to compensate for everything, from the weather to their own mistakes. Some homeowners may let their lawn grow to six or eight inches, then cut it to three-quarters of an inch! Or they'll forget to water their grass during a drought, or use their lawn for a baseball field. With all that abuse, they still expect a good lawn.

"I need a 'customer-proof' grass seed mixture. So I specify Baron, Yorktown and other top quality Lofts grasses in my special mixture. I get a lush, green color, an excellent root system and the best resistance to leaf spot I've ever seen. Guess that's why I get better than 85% renewals every year.

"One last thing, I really depend on my suppliers for delivery and service. I've dealt with the Lofts people for 15 years and they haven't failed me yet. That's very important to me."

Lofts Pedigreed Seed, Inc.
Bound Brook, N.J. 08805/(201) 356-8700

Write 103 on free information card