

DROUGHT
Hot, dry weather
ravages Texas lawns

"It's just burning up here. We haven't had enough rain to get your tongue wet."

That's how Robert Vestal, owner of Lawn Doctor of Lewisville, Tex. describes the near 50 days of intense heat and drought that continues to ravage the state of Texas, leaving in its wake devastated farm crops and dried up lawns.

"Lawns are really starting to go downhill now," says Dr. William Knoop, area turfgrass specialist with the Texas Agricultural Extension Service. "It's been such a long haul that things are really looking bad. We can judge it by the number of calls, and I've had a tremendous amount of calls in the past two weeks."

Most of these calls are the result of a sharp increase in the number of diseases and insects that are attacking the turf, prompted by the hot, dry weather. Hot weather insects such as bermudagrass mites and chinch bugs are taking their toll, along with rampant weed growth.

"We've had a lot more bermudagrass mites this year than we've seen before; these are typically hot, dry weather insects."

Vestal however, says he feels that the mites were already a big problem before the drought started. "We anticipated a bad mite problem in this area, but it's funny that some parts of the area have got a really bad problem, and some don't have any at all."

"We've also had a lot of weeds this year," says Knoop. "Anytime the turf is weakened from things like heat or dryness, you're going to have more weeds coming in. It's also harder to control weeds under these high temperatures and low humidity."

If the drought has brought any blessings, Knoop adds, one is that the area has seen a decrease in the number of grubs this year.

"The white grub situation has not nearly been as bad as we anticipated and we attribute that to the dry condition, so if there's been any good done, that's it."

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RECESSION-PROOF?

Lawn businessmen optimistic despite the sagging economy

Lawn Care businessmen are a pretty optimistic bunch. Faced with gas prices that are rising out of sight, soaring costs for chemicals and equipment, and laborers who clamor for pay raises to help them keep up with the high cost of living, most lawn care companies are feeling the pinch.

This industry, however, is almost unique in that it not only continues to weather the crunch, but actually seems to be prospering at a time when the auto and steel industries have been forced to resort to tremendous layoffs and cutbacks which have led to a national unemployment rate of 7.8 percent.

Although, in many cases, gross

receipts have not met the expected 17 percent increase lawn care operators predicted in the 1980 LCI Reader Profile and Purchase Study, the industry has experienced some growth during the last year.

"The recession has not affected my business," says Rich Blakley, president of Blakley Fertilizer Co., Springfield, Ill. "In fact, we have had a growth in business. Our accounts receivable are stable compared to last year and we can see that our fall applications will maintain what they should have from the beginning."

"As far as getting customers we're as busy as we can be," says Glenda Eaton, a representative

of Clark & Morrell Landscaping, Lithonia, Ga. "We have as much business as we could possibly handle."

Although lawn care businessmen say they are having relatively little trouble attracting new customers, the increases in the number of new accounts is being offset to some extent by the high costs operators are paying for chemicals and equipment.

"Overall, I think business is better than last year but profits are down," says William Shearman, president of Chem-Troll Lawn Service, Inc., Florida, N.Y. "It's a general tightening all the way around, with the increase in gas, chemicals, the whole bit. You have to be sharper in all areas."

Gary Kitchel, president of E-Z Lawn Corp., Richmond, Ind., agrees. "We had the best spring we've ever had in terms of volume of customers, but all my costs are up. And even with the increase in volume that I'm getting as far as the number of customers, with the increase in chemical costs and maintenance costs, my margin of profit is down."

"My gross sales last year amounted to about \$160,000," Kitchel continues. "The way things are going this year, I anticipate a gross of approximately

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LAWN CARE INDUSTRY

Serving lawn maintenance and chemical lawn care professionals.

SEPTEMBER 1980 • VOL. 4, NO. 9 • A Harvest Publication

LIQUID EXPENDITURE HIGHER Nine of 10 lawn businessmen apply dry fertilizer; four of 10 liquid

Almost 90 percent of the readers of LAWN CARE INDUSTRY bought dry-applied fertilizer in 1979, spending an average of \$8,331, according to a recent survey conducted by the magazine.

The actual percentage of readers was 88.4 percent. More than 35 percent (35.8) purchased liquid-applied fertilizer during the same period, spending an

average of \$9,438. The readership projection for total dry-applied fertilizer expenditures is \$71 million. For liquid-applied fertilizers, it is \$33 million. Experts in the industry estimate that the larger companies are predominantly liquid-based.

In the same survey, it was found that 82.1 percent of the readers purchased herbicides in 1979. Average purchase was \$2,447 for a readership projection of

\$19 million.

For insecticides, 77.4 of the magazine's readers purchased an average of \$3,158, for an readership projection of \$24 million.

According to LAWN CARE INDUSTRY market research manager Clarence Arnold, the results of the survey are based upon a 53.6 percent return on 500 questionnaires mailed to readers of the magazine. The survey was completed in June.

To receive a copy of the survey, contact: Bob Earley, editor/associate publisher, LAWN CARE INDUSTRY, 9800 Detroit Ave., Cleveland, OH 44102, or call 216-651-5500.

Source: 1980 LCI survey

1979 supply purchases

Product	% sample purchasing	average per purchaser	projection to LCI readership
Liquid-applied fertilizer	35.8%	\$9,438	\$33,000,000
Dry-applied fertilizer	88.4	8,331	71,000,000
Herbicide	82.1	2,447	19,000,000
Insecticide	77.4	3,158	24,000,000
Fungicide	63.2	1,191	7,300,000
Grass Seed	78.4	2,799	21,000,000

QUICK STARTS

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ISOFENPHOS

New larvacide could control beetle grubs

Testing the effect of Japanese beetle larvae in the greenhouse, Thyril L. Ladd, leader of the U.S. Department of Agriculture's Japanese Beetle Research Laboratory, at the Ohio Agricultural Research and Development Center in Wooster, learned that two larvae in a six-inch pot of Kentucky bluegrass will reduce growth nearly 50 percent by eating away the roots.

When he limited the water supply the damage was much worse. Apparently the stress caused by loss of roots in addition to a limited water supply added up to much less plant growth, or even the death of the plant.

"Just one larva in a pot, equal to five larvae per square foot of soil under field conditions, reduced bluegrass yields as much as 30 percent. The research suggests that yield reductions up to 50 percent could occur without visible indications of turf damage or death," he added.

"Turf damage is often not apparent unless 100 or more larvae are present in 10 square feet of soil or unless other stress, such as heat or lack of moisture, com-

pounds the problem," he said. "Populations of 40 to 80 grubs per square foot are not unusual."

Ladd says an experimental larvacide, isofenphos, has controlled beetle grubs in experiments conducted on turf. Both spray and granular treatments were made at two pounds per acre rates during four years of tests on 11 beetle-infested areas in Pennsylvania, Ohio and West Virginia. Grub counts were effective made on treated and untreated plots.

Both turf application treatments were effective whether applied in the spring or fall. Granules applied on the surface, even when there was no rain for two or three weeks, killed 97 to 100 percent of the beetle larvae 40 days after rainfall. Populations did not begin to rise again for 200 or more days after application.

Isofenphos is a more effective soil insecticide for control of Japanese beetle larvae than any currently registered pesticide, according to Kenneth O. Lawrence, former Science and Education Administration research entomologist who did the study at the Wooster laboratory.

Isofenphos has not yet been registered for use on turf.

MEMOS

The "white truck" brigade? The lawn care industry came under criticism recently from Dick Morey, publisher of *Landscape & Turf*. We quote from his editorial in his July/August issue, titled "Opportunists":

"... what we are saying is that 'lawn care' per se probably cannot exist as an independent business in most areas of the country simply because it is not a 12-month activity.

"While I'm on this subject of 'lawn care' and the nature of this 'new' service that has developed the past few years after Davey and ChemLawn came along with the idea, I can't help but mention something that's been on my mind since spring. The proliferation of the 'white truck' brigade in the Milwaukee, Wis. area. Coming to my home in Elm Grove were no less than a dozen offers to make my lawn the 'greenest' in my neighborhood. ChemLawn, Davey, The Greenskeeper, Green Magic, Ever Green Lawns, Happy Lawn Service, Super Lawn ... and the Yellow Pages has more.

"Sure, we have all read of the accomplishments of ChemLawn in dollar volume (maybe not necessarily profit) and recognize that Davey is certainly a well-established firm in the tree business. But I have to question whether the 'spray-on' business is here to stay and, as Ben Warren, Warren Turf Nurseries, points out ... how does anyone know whether more than a 'watering' job is being done by some of the operators in the business? At least three of these Milwaukee area 'services' have their 'training depots' in industrial areas close to our headquarters. I hardly get the image of 'trained agronomist' when I see the young people attracted by constant 'help wanted' ads run in the local papers. Are these the folks that are going to make my lawn a magic carpet of green? The whole business takes on a 'carnival' atmosphere."

We received a number of calls and letters about this editorial, but perhaps Ronnie Zwiebel, president of Chem-Care Lawn Service of Alabama, Birmingham, said it best in a letter he sent to Morey. We also sent us a copy, and we quote:

"... perhaps I'm confused but I thought our industry was here to beautify America. Rusty, beat up trucks seem to be the standard rather than the exception in the landscape industry. Isn't it refreshing to see someone or some group, or segment as you call us, of an industry that refuses to accept the fact that because we are in the 'Green Industry,' we are limited to driving junk?

"It annoyed me that you criticized the help turnover rate of lawn care people. Have you not seen the same thing in the landscape industry? The only difference, at least in my areas, is we prefer to think we hire from a more select group and must, from time to time, advertise to approach these people. Plus, the expansion of lawn care requires people. Our growth in Birmingham so far for 1980 has been almost 37 percent. Of the people working for us last August, 69 percent of them are still with us. Additionally, we have created three new positions. You are damn right we have to advertise for help.

"Your comments on 'trained agronomists' was also an obvious sign of being misinformed. My people receive about 60 to 80 hours of formal training including classroom time and 'on the lawn' observation prior to being allowed to spray their first lawn by themselves. Additionally, we have about 40 hours per year of in-house training sessions for all of our applicators and managers with participation from the state university, local trade school instructors and chemical company representatives.

"I realize there are a few 'fly by night' lawn care companies, and I also know there are some companies that do not have the quality programs for training. Davey, ChemLawn and even small companies such as mine have, but through the Professional Lawn Care Association of America we hope to, and have made some progress at, upgrading the quality of the industry in the short time we have been formed.

"My last point questions your evaluation of the profitability of the lawn care industry. Since one of the primary companies you attacked was ChemLawn, I shall use their financial statement — a matter of public record.

"You infer that the lawn care business cannot survive 'because it is not a 12-month activity.' ChemLawn had a 5.5 percent profit in 1979, 5.1 percent profit in 1978, and a 4.5 percent profit in 1977. My company, which isn't a matter of public record, was in these same general areas also. I somehow feel these figures speak for themselves."

New home sales. A 16 percent jump in new home sales in June indicated the beleaguered housing industry is climbing out of its slump, but industry economists are fretting that the recovery might soon stall.

The Commerce Department said that the sales pace for new, single-family homes rose in June to a seasonally adjusted annual rate of 535,000 units from May's revised 461,000.

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MEETING DATES

Ohio Turf and Landscape Day, Ohio Agricultural Research and Development Center, Wooster, Ohio, September 9. Contact: Dr. Dave Nielsen, OARDC, Wooster, Ohio 44691, 216-264-1021.

Northern Michigan Turfgrass Field Day, Michigan State University, Traverse City Golf and Country Club, Traverse City, Mich., Sept. 9. Contact: Thomas M. Smith, 323 Agricultural Hall, M.S.U., East Lansing, MI 48824, 517-353-4417.

Illinois Turfgrass Research Field Day, Ornamental Horticulture Research Center, University of Illinois, Urbana, Ill., Sept. 10. Contact: Dr. David Wehner, Room 10 Horticulture Field Lab, University of Illinois, Urbana, IL 61801.

1980 Interior Landscape Conference & Trade Show, Fairmont Hotel, Denver, Colo., Sept. 10-13. Contact: Associated Landscape Contractors of America Interior Landscape Division, 1750 Old Meadow Road, McLean, VA 22102, 703-821-8611.

6th Annual Garden Industry of America Conference & Trade Show, Baltimore

Convention Center, Baltimore, Md., September 12-14. Contact: GIA Conference & Trade Show, Box 1092, Minneapolis, MN 55440, 612-374-5200.

VPI & SU Turfgrass Research Field Days, Turfgrass Research Center, Blacksburg, Va., Sept. 16-17. Contact: John R. Hall, extension specialist, VPI & SU, 426 Smyth Hall, Blacksburg, VA 24061, 703-961-5797.

National Lawn & Garden Distributors Association Annual Convention, Century Plaza Hotel, Los Angeles, Calif., September 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., September 22-24. Contact: IFA, 1025 Connecticut Ave., N.W., Suite 1005, Washington, D.C., 20036, 202-659-0790.

Northwest Turfgrass Annual Conference, Sunriver Lodge, Sunriver, Ore., September 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, Kan., September 30-October 2. Contact: R.N. Carrow, secretary/treasurer, Horticulture Department, Waters Hall, Kansas State University, Manhattan, KS 66506, 913-532-6170.

IPAA Annual Convention, Sea-Tac Motor Inn, Seattle, Wash., Oct. 1-3. Contact: Bill Harlen, International Pesticide Applicators Association, P.O. Box 681, Kirkland, WA 98033.

16th Annual Turfgrass Equipment, Irrigation and Supplies Field Day, Rutgers stadium and golf course, Piscataway, N.J., Oct. 7. Contact: Dr. Henry W. Indyk, executive director, Soils & Crops Department, P.O. Box 231, Cook College, New Brunswick, NJ 08903, 201-932-9453.

Kentucky Turfgrass Conference & Field Day, Eastern Kentucky University, Richmond, Ky., October 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., October 8-9. Contact: International Franchise Association, 1025 Connecticut Ave., N.W., Suite 1005, Washington, D.C. 20036, 202-659-0790.

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

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

Florida Turfgrass 28th Annual Conference & Show, University of Florida, Alachua County Fairgrounds and Hilton Hotel, Gainesville, Fla., Oct. 19-22. Contact: FT-GA Executive Office, 1520 Edgewater Drive, Suite E, Orlando, FL 32804, 305-425-1581.

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

Green Industry Seminar & Trade Show, Turf and Ornamental Programs, Michigan State Fair Grounds, Detroit, Mich., Oct. 21-22. Contact: Gregory Patcham, Michigan State University, Cooperative Extension Service, North Office Building, 1200 N. Telegraph, Pontiac, MI 48053, 313-858-0887.

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

Atlantic Seedmen's Association Convention, with the meeting of the Lawn Seed Division of the American Seed Trade Association, Mills House Hotel, Charleston, S.C., Oct. 29-31. Contact: Margaret Herbst, executive secretary, Atlantic Seedmen's Association, 230 Park Avenue, New York, NY 10017.

68th Annual Grounds Management Conference & Trade Show, sponsored by the Professional Grounds Management Society, Plaza Hilton Inn, Kansas City, Mo., Nov. 2-6. Contact: PGMS, 7 Church Lane, Pikesville, MD 21208, 301-653-2742.

Design/Build Symposium, Hyatt Regency Hotel, Atlanta, Ga., Nov. 4-7. Contact: Associated Landscape Contractors of America, 1750 Old Meadow Road, McLean, VA 22102, 703-821-8611.

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

Missouri Lawn and Turf Conference, University of Missouri, Columbia, Mo., November 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, Ala., November 9-12. Contact: Dr. Euel Coats, executive secretary, Southern Turfgrass Association, Drawer CP, Mississippi State University, MS 39762, 601-325-3138.

National Institute on Park and Grounds Management 10th Annual Educational Conference, Sheraton Twin Towers, Orlando, Fla., Nov. 9-13. Contact: National Institute, Box 1936, Appleton, WI 54913, 414-733-2301.

VPI & SU Golf Course Budgets Minicourse, Dulles Airport, Washington, D.C., Nov. 10-12. Contact: John R. Hall, extension specialist, VPI & SU, 426 Smyth Hall, Blacksburg, VA 24061, 703-961-5797.

National Lawn Care Business Conference, Sheraton Twin Towers, Orlando, Fla., November 10-13. Contact: Erik Madisen, Jr., Box 1936, Appleton, WI 54913, 414-733-2301.

New York State Turfgrass Association Conference & Trade Show, Rochester War Memorial and Genesee Plaza Holiday Inn, Rochester, N.Y., Nov. 11-13. Contact: Ann Reilly, executive secretary, NYSTA, 210 Cartwright Blvd., Massapequa Park, NY 11762, 516-541-9034 or 6902.

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

VPI & SU Turfgrass Insect Minicourse, Dulles Airport, Washington, D.C., Nov. 12-14. Contact: John R. Hall, extension specialist, VPI & SU, 426 Smyth Hall, Blacksburg, VA 24061, 703-961-5797.

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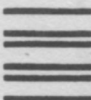
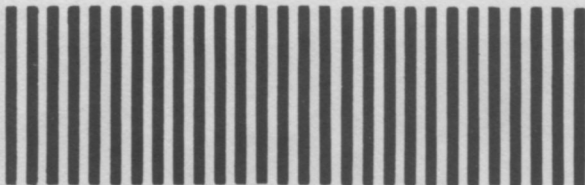
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DROUGHT *(from page 3)*

This situation could change however, if cloudy skies and rain come into the forecast, and lawn care operators are doing what they can to guard against this.

"If it starts to rain and the ground gets soft," says Vestal, "they could be more active, but we've already treated most of our lawns on a preventative basis."

Lawn care operators feel however, that it is the homeowners themselves who are to blame for many of the increased disease problems, mainly because they are not following the proper watering practices.

"All the disease problems that I'm seeing—more in St. Augustine than bermuda—can pretty much be related to overwatering. Especially people with irrigation systems; they seem to want to run those things every night, and that results in a disease situation."

Tommy Isbell, owner of A-Perm-O-Green Lawn, in Dallas, agrees that the homeowners are to blame for much of this year's disease problem.

"We're seeing a lot of leaf spot fungus because people are watering at night. During the heat of the day, they don't want to get out there. Surprisingly, we've had more of a fungus problem this year than we would have in a wet year."

In other areas, water shortages combined with increasingly high water bills are discouraging homeowners from watering as much as they need to.

"They complain about how much they're spending for water," says Vestal, "but when you go out to check their lawns and you can't even get a moisture probe in the ground, there's no way they can stand there and say, 'I've been watering that spot.'"

"We don't go in and browbeat them, 'Hey you turkey, you're not

watering your lawn.' We'll tell them, 'Your watering is not adequate,' or 'The grass is not doing too well in these spots of your yard and you need to figure out why.' Then we try to counsel them on what type of sprinkler will do the best job and how to measure it; if nothing else, how long to water."

One factor that compounds the problem in these watershort areas is the danger of chemical burn.

"In certain areas of town, we've adapted our formula," says Isbell. "In the areas where it is against the law to water, we're going ahead with just an insecticide, and in fact, in some areas we've even gone along behind with a truck and sprayed water because we can get plenty here."

For the most part, lawn care businessmen say that homeowners are fairly understanding about the weather situation. Of course, there are still those who blame the lawn care company

for the disease and insect problems they are experiencing this year.

"The biggest problem for the lawn care industry is educating the public," says Knoop. "The idea that the public has is that just because they contract with ChemLawn, Lawn Doctor, or whomever, that the company has a magic wand that can keep the lawn green all the time."

"I get case after case where, almost literally, just one blade of grass dies in that lawn and they want to sue somebody. I have all the sympathy in the world for lawn care companies."

— Kathleen A. Milgate

FALLOUT**Volcanic ash will not harm Northwest soils**

Volcanic ash deposits could create a few isolated salinity problems in drier areas of the Pacific Northwest, but should produce long-term benefits on land in humid areas, said Assistant Secretary of Agriculture for Natural Resources and Environment M. Rupert Cutler.

A preliminary study of ash samples from eastern Washington following the eruption of Mount St. Helens revealed no higher concentrations of most potentially toxic elements than in ordinary soils, Cutler said.

U.S. Department of Agriculture's national soil survey laboratory found the ash samples contained less lead and cadmium than most soils, and only small amounts of fluorides, he said.

"We were afraid that sulfur in the deposits might produce strong acids," Cutler said, "but the laboratory found that the ash had little elemental sulfur. Instead, it contained gypsum, or calcium sulfate, possibly produced by sulfur reacting with volcanic glass."

Cutler said gypsum is harmless to soils and turf, and that subsequent wetting of the ash will complete the conversion to gypsum.

The laboratory measured the equivalent of 700 pounds of gypsum per acre per inch of volcanic ash in eastern Washington.

Salts equivalent to common table salt have been measured in concentrations as high as 500 pounds per acre per inch of ash, Cutler said. The initial flush of water moving through the salty ash could contain more salts than any of the irrigation water in the region, but the amount of salts is small and should be quickly removed by normal rainfall, he said.

"If the higher salt content is widespread," he said, "it could temporarily increase the salinity in small reservoirs and also could change the taste of water from shallow wells while the salts are flushing through the system."

USDA and other federal and state agencies will continue studies in the ash-affected region to discover the presence of any substances potentially hazardous to agriculture and water quality, Cutler said.

At last...A fescue that's green enough to match bluegrass, Jamestown Chewings Fescue

Researchers have long looked for a fine-leaved fescue that has the color and adaptability of modern bluegrasses and that will look well in a seed mixture. Jamestown, a low-growing new variety of chewings fescue, developed at the University of Rhode Island, is the answer for nearly every turf condition required. Jamestown has good disease resistance, shade tolerance, the darkest green color of any fescue on the market and wide adaptation. Jamestown has been thoroughly researched by universities and independent research groups throughout the United States and Canada. But, most importantly, the low growth and brilliant color are the outstanding virtues landscapers, contractors, sodmen and golf course superintendents count on. Jamestown can be used for practically any turf condition.

**GENERAL LANDSCAPE...**

For home lawn use, institutional, parks... university studies from Winnipeg, Canada to Maryland have consistently rated Jamestown number one in overall quality for the past five years. Jamestown broadens the adaptation of bluegrasses because of shade tolerance and lower fertility requirements.

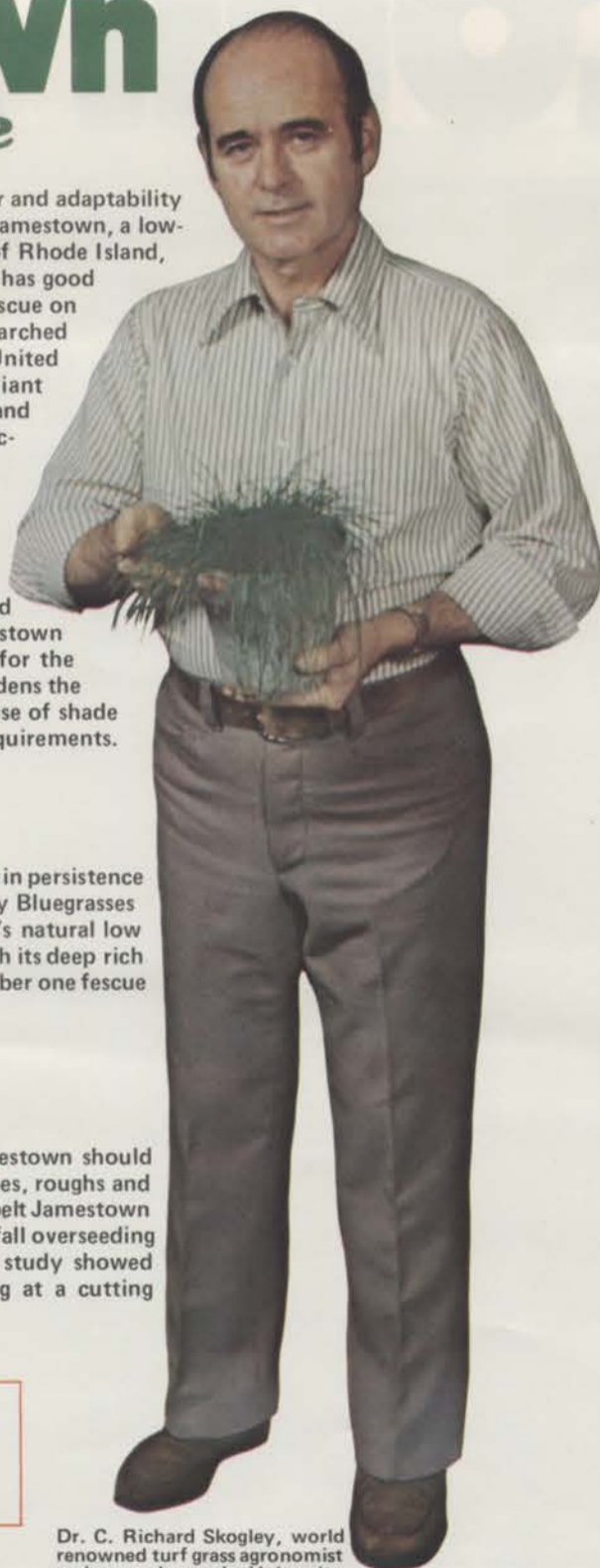
**SOD FARMS...**

Jamestown is ideally compatible in persistence and color to the new Kentucky Bluegrasses such as Baron and Majestic. Its natural low and dense growth combined with its deep rich color makes Jamestown the number one fescue for use in the sod industry.

**GOLF COURSES...**

In the temperate climates Jamestown should be used for seed mixtures on tees, roughs and fairways. While in the Bermuda belt Jamestown is the best fine leaved fescue for fall overseeding greens. A Clemson University study showed that Jamestown is outstanding at a cutting height as low as 1/8 inch.

Remember... Jamestown is particularly useful where turf conditions are less than perfect. It does very well in non-irrigated and somewhat infertile soils where the turf may be subject to adverse conditions on low maintenance budgets.



Dr. C. Richard Skogley, world renowned turf grass agronomist and researcher at the University of Rhode Island.



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Identification, control of lawn insect problems

It is important to consider the following factors in order to properly treat an insect problem, according to Jeff Lefton, regional agronomist for ChemLawn Corp. based in Indianapolis:

- Identify the insect.
- Establish the life cycle.
- Determine the damaging stage.
- Determine the controllable stage.

Speaking at the Midwest Turf Conference earlier this year, Lefton explained the factors for several common lawn insects.

Winter grain mite. Recently a few lawns have shown damage as large areas of turf remain brown after the early spring green-up. Individual grass blades have a streaked appearance due to the feeding habit of the mite. The mite itself is olive black with eight red legs.

The mite overwinters as eggs which hatch in October. The new

A large number of starlings or blackbirds is an indicator of potential sod webworm activity.

mites apparently feed throughout late fall and winter whenever the temperature permits. Beginning in March, the mites lay bright orange eggs in the thatch and soil. By late April the egg-laying mites die and no further mites are seen until the following October.

Aphid or greenbug. Aphid or greenbug damage on lawns is an increasing problem. The damaged areas usually show a distinct orange-brown coloration. Many times the damaged area first appears under trees. However, lawn damage can appear in the full sun areas as well. The greenbug is a sucking insect damaging the plant by injecting a toxin into the plant and sucking plant juices from the phloem. The greenbug is green and pear-shaped, about one-eighth-inch long. Lawn damage can be apparent from late spring to late fall depending on temperatures.

Chinch bug. When temperatures warm to 70 or 75 degrees F., chinch bugs emerge from hibernation and begin extracting plant juices from the grass plants. During hot, dry weather gradual yellowing of the turf resembling drought could be due to chinch bug. The adult chinch bug is about one-eighth inch long, black with white wings. The wings have two black triangles in the middle of the outer edge of each wing on the adults. The younger chinch bugs are red with white bands across the back. In general, it takes 20 or more chinch bugs per square foot to cause a problem. With warm, moist weather, the chinch bug is

naturally controlled by a fungus, *Beauveria*, sp.

Sod webworm. Brown areas that appear in the turf during hot, dry weather could be due to sod webworms. These worm-like larvae are brownish to grayish black, having several black spots on their caterpillar bodies. The larvae hide during the day in silken tunnels. They feed at night or during cloudy, rainy weather. To find the sod webworms look at the edge of the dead areas. A large number of starlings or blackbirds is an indicator of potential sod webworm activity. Thatch favors the presence of sod webworms.

Billbug. The bluegrass billbug overwinters as an adult. In early

April, the adults emerge from hibernation and become active. They lay eggs in the stem of the grass plant in late April and mid-May. Upon emerging from the egg, the larvae feed within the stem moving down to the crown area. The larvae are white with a reddish brown head and hump-back bodies measuring one-half to three-quarters inch long. The larvae are legless. The larvae exit the grass plant and begin chewing on the root system. This damage will show in July. It can be confused with the disease dollar spot without close observation. The larvae pupate and adults emerge for the fall season.

Grubs. The main grub problems in the central part of Indiana are due to the northern masked chafer and Japanese beetle grubs. The overwintering stage of these beetles is the older grub stage. The grub is "c" shaped with a grayish white

body and brown head. The grub has six legs. After becoming active in the spring the grub will pupate. From mid-June to mid-July the adult emerges and begins depositing eggs across the lawns. With the young grubs chewing on the roots, severe damage can show up in a lawn between mid-August and mid-September.

Lefton says that when selecting an insecticide to reduce the intensity of a lawn insect problem, consider the following factors:

- Identify the target pest.
- Establish a list of potential insecticides based on university recommendations.
- Consider the toxicity, hazard potential, precautionary measures and safety equipment needs of each insecticide.
- In addition, consider the phytotoxicity, compatibility, available formulations and the residual of each insecticide.

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Dave Portz
Grounds Superintendent
Brookside Country Club
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Broadleaf weed control in turfgrass renovation

Turfgrass renovation, or the improvement of an existing lawn area through overseeding, presents unique problems to the lawn care businessman, among which is the selective control of many broadleaved weeds.

According to University of Maryland extension turf specialist Dr. Thomas R. Turner, in many situations, heavy use in the spring and fall precludes overseeding work until late spring. This can cause a major problem where there is also a need for weed control. Label directions for the commonly used selective broadleaved weed chemicals (2,4-D, MCPP and dicamba) generally recommend a three to six week waiting period before reseeding as these herbicides can cause seedling injury.

Bromoxynil, although safe to

The lawn care businessman faces a dilemma. Should he delay reseeding until the summer months so that broadleaved weeds can be controlled, or should reseeding occur during the more favorable late spring period and weed control follow at a later date?

use in seedling turf, controls a limited spectrum of weeds, and will not control many of the weeds, such as knotweed, commonly found in areas needing renovation work. If the normal waiting period for reseeding after the use of 2,4-D, MCPP and/or dicamba is followed, then reseeding often has to occur during a period undesirable for turfgrass establishment, the summer months.

The lawn care businessman could thus be left in a dilemma. Should reseeding be delayed until the summer months so that broadleaved weeds can be controlled, or should reseeding occur during the more favorable late spring period and broadleaved weed control follow at a later date? In the former case, the seedlings may fail due to hot, dry weather and the surviving new turf will have had less time to mature before the heavy fall use period.

In the latter case, however, the advantage of an earlier seeding (and thus more mature turf entering the fall) may be negated by a poorer stand resulting from weed competition.

Research conducted at Rhode Island University showed that there is a potential solution to the problem of selective broadleaved weed control during late spring turfgrass renovation. The recommendations for delayed reseeding of areas treated with 2,4-D, MCPP and/or dicamba

were based on the formerly standard practice of broadcast setting, in which most of the seed remains near the soil surface.

In recent years, renovation reseeding has commonly been done with a slicer/seeder (such as a Jacobsen seeder). Since most of the seed is deposited below the soil surface using this method, the researchers at Rhode Island theorized that herbicides might in these situations be safely applied just before or after reseeding. Several studies were conducted to test their idea.

In one of these tests, the effect of herbicides applied before and at seeding with a Jacobsen seeder on a lawn containing

knotweed and a small amount of grass was studied. In a second test, the effect of herbicides on Kentucky bluegrass seedlings made with a Jacobsen seeder was determined for applications two weeks before seeding, at seeding, and three weeks after seeding.

Results from the first study showed that when groove seeding was used, there was little difference in the subsequent turfgrass stand whether herbicides were applied 17 days prior to seeding or on the day of seeding. When herbicides were applied an acceptable turf stand was achieved, ranging from 62 to 72 percent grass cover. However, when no herbicides were applied, the turf was unacceptable, with about 80 percent knotweed and only 12 percent grass cover. Results from the second study also showed that herbicides could be safely applied at or two weeks prior to the time of groove seeding; however, some reduc-

tion in the stand occurred when herbicides were applied three weeks after seeding.

The researchers concluded that it appears completely safe to apply the standard broadleaved weed herbicides prior to or just after turfgrass renovation seeding when a slicer/seeder such as the Jacobsen seeder is used.

The results from the Rhode Island studies should have an important beneficial effect in turfgrass renovation. The dilemma created when broadleaved weed control was needed where broadcast seeding was to occur can now be avoided. Using the slicer/seeder enables the lawn care businessman to avoid having to delay reseeding after herbicide applications. Thus, several weeks for turfgrass establishment can be gained, with a better a more mature turf going into the fall use period resulting.



TOOLS, TIPS & TECHNIQUES

All about liability insurance

Last year, when new state pesticide regulations in Massachusetts made liability insurance a requirement to get an applicator's license or commercial certification, it opened up a can of worms in that state. Some applicators have never had insurance in the past, others have but are discovering that they were not insured for many types of problems that they assumed were part of their coverage. The Department of Entomology at the University of Massachusetts offers the following advice to pesticide applicators:

- There are two types of possible coverage, general liability and "pesticide or herbicide applicator coverage." General liability is what most people have had in the past. This covers you for only "sudden or accidental discharge" problems. For example, if a hose breaks and sprays someone in the eyes and blinds them you would be covered. You would not be covered for "contamination" type claims such as chlordane residues in a private well following a termite treatment or if someone contracts a disease and claims it had resulted from exposure to an otherwise normal treatment you

hand made. To get such "full" coverage you must ask that the "pesticide or herbicide applicator" clause be added to your general liability coverage.

- Presently state pesticide regulations in Massachusetts do not require this clause, general liability will do. However, the regulations are likely to be changed soon to make such coverage a requirement. It costs a little more, but it is much better coverage.

- Your local agent may not be well-informed on this topic. Do not let him confuse you with assurances that general liability is enough to cover "contamination" claims. It isn't.

- Present regulations in that state call for certain dollar amounts per person, per occurrence and per aggregate. Insurance companies don't write on a per person basis, so this must be ignored, although the rules are expected to be changed. You may have a policy written on a per occurrence basis (no aggregate limit) or per occurrence with a lid value for per aggregate. The second is cheaper and meets the state requirements. It is also less coverage. If claims exceed the per aggregate lid you would be stuck for the extra claims yourself.

- If the "bodily" and "property" parts of your coverage are combined they must be equal to the sum of the two values cited separately in the state regulations, not just the higher. These sums would be \$300,000 for licensed applicators and \$600,000 for certified commercial applicators.

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St. Lawrence parish has a lot of grass to mow (over 12 acres), but not a lot of money to spend on mowing equipment.

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TURF

Fall lawns susceptible to brown patch disease

Brown patch, one of the most prevalent lawn diseases in the South, can be especially severe in the fall on St. Augustine grass.

The disease-causing fungus attacks almost all species of grasses, but is more serious on bentgrass, bluegrass, centipede and St. Augustine grasses. Dr. Walter Walla, plant pathologist with the Texas Agricultural Extension Service, said.

"Turf is very susceptible to brown patch after an excessive application of nitrogen fertilizer, because a lush growth is readily attacked," he said.

Prolonged wet periods and late evening watering also contribute to the development of the disease. Walla points out that a buildup of grass and plant debris (thatch) in the root and crown area further creates a favorable environment for the brown patch fungi.

Walla said prevention is the best method of controlling the disease. This includes using grasses adapted to the area and practicing recommended watering, fertilization and mowing procedures. Steps should be taken to avoid thatch buildup, and fall nitrogen fertilization should be limited if brown patch has been a problem in the past.

ACQUISITIONS

Diamond Shamrock buys Fallek Chemical

Diamond Shamrock Corp., Dallas, has acquired Fallek Chemical Corp. through an exchange of more than 2.5 million shares of Diamond Shamrock common valued at about \$70.7 million.

In acquiring Fallek, a privately held, New York-based chemical trading and manufacturing concern, Diamond Shamrock said it will receive "substantial" liquid assets, a manufacturing business and the remaining 50 percent of a herbicide company, Fallek Lankro Corp., of which Diamond Shamrock already owns 50 percent.

Toro's sales up, but earnings are down

The Toro Co., Minneapolis, Minn., recently reported net earnings of \$47,000 on record sales of \$112,534,000 for the third quarter ending April 30, 1980.

Per share earnings were \$.01 compared with \$.77 reported in the third quarter a year ago. Third quarter sales the previous year were \$100.1 million, and net earnings were \$4.4 million.

The company reported a pre-tax loss of \$1.7 million in the earnings from international markets combined with earnings from the Toro Credit Co., resulted in \$47,000 of net earnings.

Toro Chairman David T. McLaughlin said the earnings decline, which followed a 5.6 percent earnings drop in the second quarter, reflects "the im-

fact of a relatively snowless winter across much of the United States, historically high short-term interest rates, inflationary material cost pressures and a cautious retail market.

"We believe that Toro is well situated with its strong market position to continue its earning growth as soon as we move through the current economic trough and achieve a reasonable balance of field inventories," he added. "In the short term, however, we would expect unfavorable earnings comparisons for the next two to three quarters."

For the first nine months of the fiscal year, sales of \$338 million are 34.5 percent ahead of last year's \$251.3 million. Net earnings of \$10.5 million are down 23.2 percent from \$13.6 million, and fully diluted earnings per share of \$1.85 are down 23.9 percent from \$2.43.

MARKETING IDEA FILE

Quality turf equals quality tenants

Well-maintained turf is one of the key ingredients for maintaining high occupancy and developing a good tenant profile, whether it be office buildings or apartments or condominiums.

You know this, but perhaps some of these statistics put together by Jim Owen, an associate of Hegg Companies, Inc., Sioux Falls, S.D. can help you sell your next mowing/maintenance job.

Until recently, when he took on new responsibilities as a commercial investment broker for Hegg, Owen was a manager in the property management division of the company, it was reported by Sally McGovern in *Turf and Grounds Manager*, published by O.M. Scott & Sons, Marysville, Ohio.

Owen received a 65 percent return on 200 questionnaires he circulated to tenants who had been living in Hegg-managed apartments for about a month. Of the 65 percent who responded, 83 percent said the single most motivating factor in choosing to live where they did was the external appearance of the property.

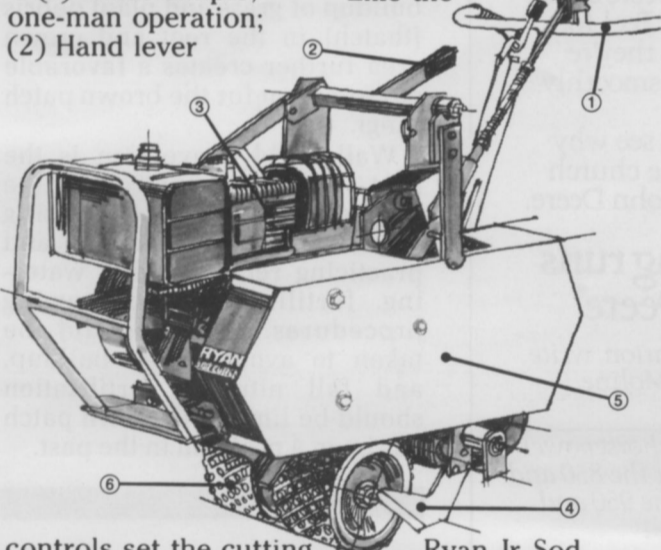
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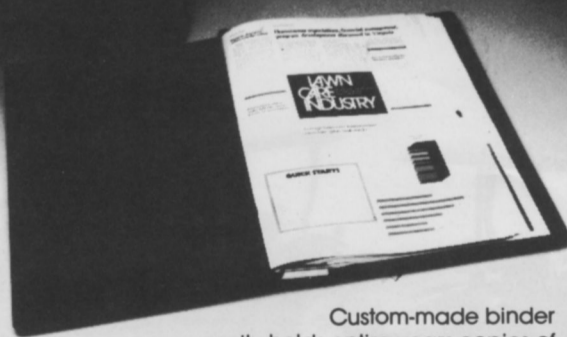
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DIRECTORY

Publication lists landscape contractors

The 1980/81 *Who's Who in Landscape Contracting*, containing over 800 listings for commercial landscape contractors throughout the United States, has been published for distribution by the Associated Landscape Contractor's of America.

The directory, listing the members of ALCA, provides the full name, address and phone number for each contractor, as well as the name of the principle contact person. Additionally, each listing contains a size index and the specialties for that contractor. The directory is cross-indexed geographically (by state), as well as by individuals' names.

Distributed to all members of the association, the directory is also available on request.

Persons interested in receiving a copy should write on their letterhead to: ALCA, 1750 Old Meadow Rd., McLean, VA 22102, and enclose \$3.00 to cover postage and handling.

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- Three-year Ohio trial (two locations) — Location # 1, Merit rated above Nugget, Fylking and Kenblue. Location # 2, Merit's ratings superior to Baron, Nugget, Kenblue and Fylking.
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Underground buildings a new market for turf industry

A new and expanding market for the turfgrass industry is developing as businesses and homes go underground. Instead of shingles and asphalt, dazzling green turfgrass tops one of the newest buildings in the Northwest.

Working with architects and the building owner, contractors helped launch a new era in grass seed usage with Eclipse Kentucky bluegrass covering three sides and the roof of Central Pre-Mix's new corporate offices in Spokane, Wash.

The two-story concrete building is almost entirely covered with one foot of earth and topped with turfgrass. The company expects to save 33 percent in heating costs and, because of the earth's 40 to 60 degree temperature range, the

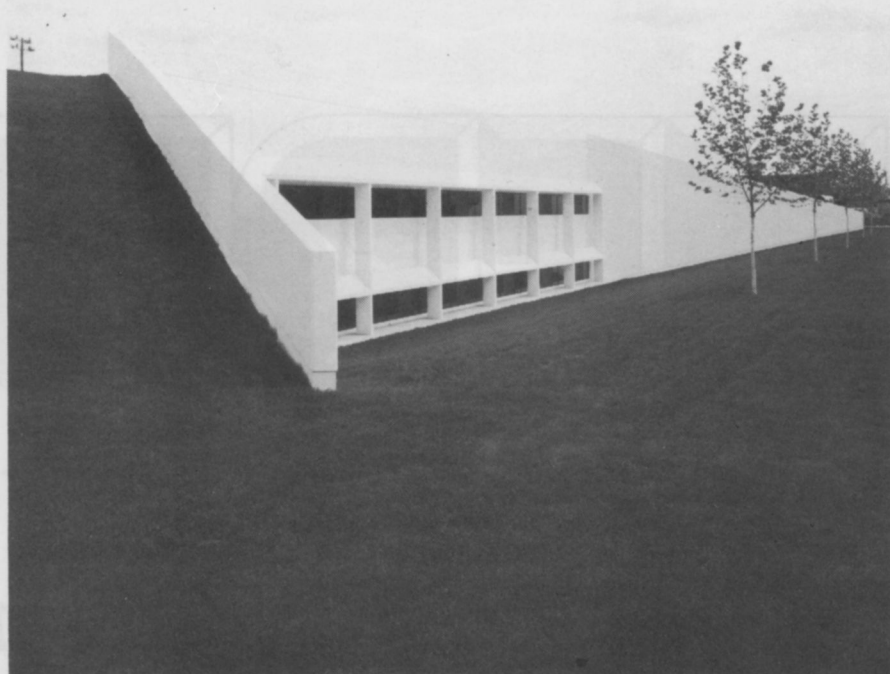
building requires no air conditioning.

Further, a sprinkler system buried in the turf is automatically controlled by humidity requirements of the grass roots.

The turfgrass selected (Eclipse) to cover the structure is a new turfgrass released by Turf Cultivars Associates. It was developed by Drs. C. Reed Funk and Henry W. Indyk of the New Jersey Agricultural Experiment Station of Rutgers University.

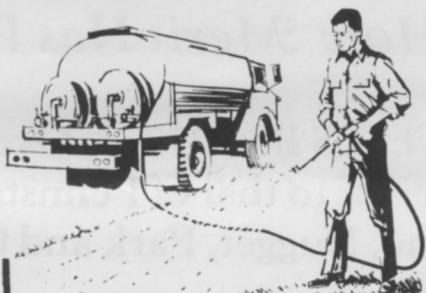
Eclipse is characterized as having fast germination, and consistently better shade tolerance in both East and West Coast shade test trials.

It also features excellent stem rust resistance and improved resistance to Fusarium and dollar spot.



Concrete, dirt and Eclipse Kentucky bluegrass tops the new office building of Central Pre-Mix of Spokane, Wash. Cited as the design of the future, the south side of the building utilizes solar heat through window areas, while the top and the north, east and west sides are covered by turf. The building is designed to save considerable amounts of energy in both summer and winter.

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Phosphate and potash shipments slacken

Unusually heavy producer shipments of nitrogen products highlighted fertilizer movement data for April 1980, according to a spokesman for The Fertilizer Institute.

Edwin M. Wheeler, Institute president, said, "Nitrogen domestic disappearance increased 18 percent in April 1980 over April 1979. In this group of products, anhydrous ammonia and nitrogen solutions were the leaders.

"Although shipments of phosphate and potash products slackened noticeably in April," he added, "domestic disappearance for each was above last year's levels for the July-April period." During this 10-month period, phosphates increased one percent in disappearance, potash products 11 percent and nitrogen products 13 percent, above a year ago.

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The Andersons offer fertilizer guarantee

The Andersons Lawn Fertilizer Division, Maumee, Ohio, has announced the introduction of a satisfaction-guaranteed, money-back program on their Tee Time product line, in what they call a first in the lawn care industry.

To qualify for the program, a side-by-side comparison is made between the current product in use and Tee Time.

"If the customer is not satisfied that Tee Time gives results that are as good or better than the product presently in use, we will refund the cost of the Tee Time products," Roger Brown, national sales manager, said.

An agribusiness and retailing partnership, The Andersons has facilities in Toledo and Maumee, Ohio; Delphi, Ind.; and Champaign, Ill.

For information on the Tee Time program and the name of a nearby distributor, contact Roger Brown toll-free at 1-800-472-3220 inside Ohio or 1-800-537-3370 outside of Ohio.

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Timing of Application—General
(Continued from left panel)

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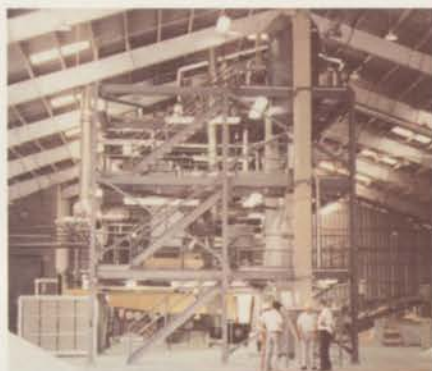
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What recession?

Lawn businessmen optimistic despite the sagging economy

RECESSION from page 1

\$185,000 to \$190,000, so I've maintained our volume, but again, all our costs are up so I don't look for as good a profit picture as I had last year."

Still, profit margins do not tell the whole story. Why, in this time of recession, are lawn care businessmen so successful in attracting new customers? "There are a lot of wealthy people out there," a representative of Agro-Lawn, W. Springfield, Va., said.

"We're not dealing with the blue collar workers," says Rich Blakley. It's going to have to get pretty rough before it hits the white collar man."

Indeed, the majority of people who subscribe to a lawn care service seem to fall into the middle to upper middle income bracket. They view having a lush, green lawn as a necessity rather than a luxury and are willing to spend the money to achieve it.

The residential landscaping end of the lawn care business seems to be doing especially well this year, as people are taking discretionary income that in the past might have been spent on vacations and the like, and investing it in their homes. "I'm amazed at how people will put in a pool with \$5,000 or \$6,000 worth of landscaping," says Glenda Eaton. "They don't think anything of it."

"People are not taking as many vacations, they're putting in pools and landscaping them so they can entertain at home," Eaton continues. "It all goes back to those that have it get richer, and those that don't never will. The ones that have it will still have their homes landscaped and their pools put in."

Commercial landscaping is not faring so well, however. "That's where big companies are cutting," says Pam Chesna of Ches-Gro Inc., Hickory Hill, Ill. "They'd rather hire a kid with a lawnmower than have a professional company do it because it's more cost effective."

The commercial and residential lawn spraying areas seem to be those hardest hit by the current economic downturn, and lawn care businessmen mention a number of factors that contribute to this problem as well as attempts they have made to correct it.

• **Purchasing & pricing.** As the prices businessmen pay for chemicals and equipment continue to rise, lawn care operators are faced with a choice: either pass these added costs on to the customer, or find other ways of cutting operating costs.

"I see some of these price increases that we were hit with, on some of our fertilizer and crabgrass control products," says William Harrigan, president of Green Life Lawn Service & Tree Care, Frederick, Md.

"One product had a 40 percent increase in one season; somebody's making a lot of money. We have a hard time getting a six or seven percent increase from our clients and when they give us a 40 percent increase, that's kind of stiff."

Harrigan eased the problem to some extent by eliminating some of the services that used to be standard in the program and passed the savings on to his customers in this way. These services are now available to customers on an optional basis. "We thought that was viable way this year of preventing a major increase for our customers."

Because many of the developments in our area have put down

selves, even if it's only by a dollar or two."

A logical step toward cutting costs for most operators would be to cut down on their purchases of equipment, but this is something that is not always easy to do.

"We think more about buying big equipment even though we need it," says Glenda Eaton. "We could use another truck, but we're trying to do without it. The more jobs you take on, the more people you need to hire, and the more people you hire, the more equipment you need; it's a vicious circle."

"I'm trying to be much more conscious as far as price is concerned, regardless of many other factors," says Harrigan. "Time used to be, if a product was a couple cents more, but your supplier was local and you knew he supplied you really well you would buy it, but as your volume goes up, five cents per thousand

trucks a lot busier than I have in the past. I really can't afford to lay anyone off at this point in time."

Pam Chesna agrees, saying that although Ches-Gro did not hire any new people this season, there was plenty of work to keep the company's employees busy. "There are only two people that do all our spraying and it keeps them busy six days a week. For us it was fine; our business increased, but with liquid fertilizer you can do so many people per day without having to hire any other employees."

This is not a year for large wage increases in any industry, however, and the lawn care business is really no exception.

"We have to hold the line," says Shearman. "Where we may have given a little bit another year, here again, everything that everybody gets has to be earned. Just because a guy gives you a sob story doesn't mean he's going to get an increase."

• **Advertising.** Whether or not to step up advertising efforts is a difficult decision for many lawn care companies, especially smaller operations. Most small companies are unable or unwilling to engage in the large newspaper and even television campaigns that are common practice for larger companies. Small companies are limited to using the Yellow Pages, sending out mailers, or perhaps an occasional newspaper ad, and indeed many feel that wide scale advertising campaigns would not suit their type of business.

"Increased advertising wouldn't help," says John Cruse, president of Easy Lawn Corp. in Piqua, Ohio. "We tried it in a few isolated areas and they're no better off than areas in which we did none or very little. The market is pretty saturated."

Kitchel disagrees, saying that his spring advertising campaign contributed to making this the best spring in the company's history. "I decided that I was going to advertise more this spring so I went with some different avenues. I went with some billboard advertising this year in about five locations for 60 days and I really think that it has helped the business."

Pam Chesna feels that Ches-Gro's advertising campaign was the prime factor in the unbelievable increase they have experienced this year. "Our business is up from last year mainly because we promoted more. We have at least 50 percent more business."

Of course as consumers become even more price con-



"The recession has not affected my business. In fact, we have had a growth in business. Our accounts receivable are stable compared to last year and we can see that our fall applications will maintain what they should have from the beginning."

milky spore (for grub control) in 1976, we feel that after checking with the entomologist at the University of Maryland, that in 1980 we don't have to put down grub control, so we have eliminated our standard program and it is now an option."

It is not always easy to keep prices down in any case, and most lawn care businessmen say that they have either increased their charges for services this year, or plan to do so next season.

"We have to increase our prices every year, often much more than we'd like to," says Pam Chesna. "You still like to try and hold down the amount you increase your customers to not more than 10 percent per year, but that all hinges on how much gasoline is going to go up, how much we pay for fertilizer, etc. It's still cheaper for our customers than doing it them-

square foot is significant. We all have to be more penny conscious."

• **Wages and employment practice.** It is not likely that you will find too many lawn care laborers standing in the already overcrowded unemployment lines — at least during the lawn care season — since this is probably the last area in which lawn care businessmen are willing to make cutbacks. In most cases, there is still plenty of work to keep employees busy.

"We're still as busy as we have been in the past," says Gary Kitchel. "When you finish one round on spraying you want to get started on the next round." In the case of E-Z Lawn, the hot dry summer that Indiana is experiencing has actually led to more work than in past seasons.

"I'm finding that we're having a lot of weed control calls and I'm running into more insect problems than usual. Therefore, I'm having to keep my service

scious, increased advertising may become a necessity for many lawn care companies as they compete for the elusive consumer dollar.

"I see people are making a lot more comparisons," says Harrigan. "I'm going to a lot more properties where people are saying, 'We're comparing prices,' or 'We had another lawn service company out and he says his price is \$4.35 less than you.' Maybe in mature market areas these things happen anyway, but in our area it is unique." Green Life Lawn Services covers a fairly rural area just outside Washington, D.C.

• Streamlined application plans. One avenue currently being explored by some lawn care companies is the practice of offering the customer a

streamlined plan, where they have the choice of taking two, three or maybe only one treatment, as opposed to signing up for the full program of treatments.

Harrigan says such option plans lead to "haphazard results" in treatment programs. "In the past, people have said that they wanted only part of the work done and not all of the work, and we told them that we can only effectively do a good job by doing it in a systematic, professional manner, and that means a complete job, not a halfway job. We've stuck with our program on the small accounts because when you get a lawn going, if you're going to guarantee it, you've got to be able to do what should be done at the right time."

Kitchel currently follows a plan which allows his customers to skip treatments at their request, but some problems with the system may lead him to reevaluate his program next season, changing to a plan which will require his customers to sign up for consecutive treatments rather than skipping treatments during the season.

"I'm going to let them take all four, or take three, or take two, but they have to be consecutive. I'm running into problems where a customer will take two treatments, skip the third and take the fourth, and then he'll have an insect problem or a weed problem between the second and fourth, and expect us to take care of it at no extra charge."

There are advantages to using such a streamlined program.

Kitchel says. "We have an awful lot of elderly customers that are on fixed incomes and are satisfied with just one or two applications."

Of course it is often difficult for small companies to offer such programs and still maintain the level of profit they get with a four application program.

"Customers would accept streamlined programs, but they would be counterproductive in the long run," says John Cruse. "Half your customers would be getting one application per year, which would probably be worse than not having them from a profit standpoint, unless you raised the price accordingly, and they'd end up paying as much for one as they would for two."

• Cancellations. This is the one telling factor in any recession story. Although the number of customers who have cancelled lawn care services this year is not extremely high, the real effects of the recession may not be felt until next season.

"One thing I've been surprised at is the low rate of cancellations," says Kitchel, "but there could be a reason for that. If a customer's lawn doesn't look real good and he's not satisfied, I think he's more reluctant to cancel until we get the situation straightened out. There could be a lot of customers out there that aren't at all happy, but will stay with us just to see if we can get their weeds under control better after this dry weather."

"One thing that frightens me about next year is that this has not been the ideal weather for lawn care. When a customer starts weighing where he wants to spend his money, and he had insect or weed problems this year that were difficult to control, he may be more reluctant to spend the money next year."

Blakley agrees that it may actually be too soon to tell if the state of the economy has had any

to page 23



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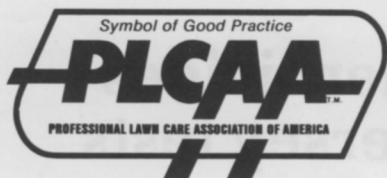
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WEED CONTROL

Pre-emergence herbicides studied in New Jersey tests

A study of factors related to effectiveness of pre-emergence crabgrass herbicides on Kentucky bluegrass turf conducted last year at Rutgers University in New Jersey yielded the following results:

- At recommended rates for granular preparations, bensulide and oxadiazon were most effective in 1979, which was a wetter season than normal.

- Application of pre-emergence herbicides on April 20 and May 17 gave similar results except for DCPA and siduron which were better with April application.

- Comparison of formulas showed 3.6, 7.0 and 12.5 percent concentrations of granular bensulide gave equivalent crabgrass control. On previous occasions there has been some small loss of control with the more concentrated preparations. Thus, it seems bensulide formulations can be prepared in higher concentrations of active ingredient with small or no loss in efficiency.

- Oxadiazon and bensulide can be applied in a water spray without serious loss of efficiency. Previous testing, also, has indicated these chemicals can be applied effectively as a spray.

- Three different levels of

dethatching prior to DCPA or benfen application caused no significant effect on pre-emergence crabgrass control. It seems dethatching can be used just prior to DCPA or benfen treatment without serious loss of control.

- Repeat applications over a three-year period of benfen, bensulide, butralin and DCPA did not show a major carryover effect into the next year.

The work was done by Dr. Ralph E. Engel, Rutgers research professor, and head technician C.W. Bussey. Their work was reported at the New Jersey Turfgrass Expo in Cherry Hill.

"Reviewing pre-emergence herbicide treatments for crabgrass control in turf shows the best long-term averages often fall in the range of 70 to 80 percent," Dr. Engel said. "If more complete control can be obtained consistently, this would greatly increase the value of the treatments and lead to a lower frequency of annual usage of these herbicides. The purpose of this study was to obtain more information on such factors as formulation, date of treatment and dethatching as they might influence control."

The test site for the one-year test had a mixed turf of Kentucky bluegrasses that had been es-

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Cleveland, OH 44102



established for about 10 years. The test site had a previous history of modest crabgrass infestation and it was overseeded with this weed three weeks prior to herbicide treatment. The soil had a pH of 6.0 to 6.5 and a 50 to 60 percent sand content.

The turf received 22 pounds of nitrogen per acre from an activated sludge with the application of the crabgrass seed. Dicamba was applied at a rate of one-quarter pound per acre in May to control clover.

Irrigation was not used to encourage crabgrass germination or turfgrass growth because of the abundance of rainfall through the season.

The entire site received a vertical mowing treatment before herbicide application except on those plots designated no-dethatch. Several treatments, as designated, received a double vertical mowing treatment. The amount of surface residue was classed as moderate before treatment. The test area was mowed to three-quarter inch at three- to seven-day intervals with a reel-type mower. Clippings were removed.

The chemicals used were benefin, DCPA, oxadiazon and siduron. Application dates were April 20, May 17, June 4 and July 5. Granular herbicide applications were made with two or more passes of a drop spreader. Liquid applications were applied with water through a fan-type nozzle at 30 pounds pressure and 40 gallons of solution per acre.

Crabgrass became apparent in early June. The treatments were rated for crabgrass control on July 30. All treatments had three replications arranged in randomized block design. Check borders surrounded all plots.

For the three-year test, conditions were similar, except the following: The chemical series included benefin, bensulide, DCPA and butralin. Each was applied as a one-year treatment in 1977, a repeat treatment of two years in 1977 and 1978 and as a repeat treatment of three years in 1977-78-79. The test site was overseeded with crabgrass in 1977 and was not overseeded in 1978 and 1979 as crabgrass occurred generously through the continuous check borders.

A good stand of crabgrass germinated on all untreated areas during June and crabgrass ratings were taken on July 30. The mid-to-late summer rainfall was generous and the crabgrass cover increased beyond the amount that developed after the spring treatment. Among the best performance for granulars at standard rates were bensulide at 7.5 pounds per acre and oxadiazon at three pounds per acre, which gave 99 and 90 percent control, respectively. Temporary discoloration of turf occurred with oxadiazon 2E. Otherwise, no significant turf injury occurred.

Benefin at the recommended rate of two pounds per acre gave 84 and 81 percent crabgrass control when applied in April and May, respectively. Benefin applied at the 2x rate of four pounds per acre gave 97 and 93 percent control on the respective dates. No significant turf injury occurred with the high rates, but

this is a hazardous level and above the recommended rate.

DCPA at a 10 pound per acre rate in April gave 68 percent crabgrass control. Siduron at a 12 pound per acre rate in April gave 63 percent control.

Comparison of pre-emergence formulations showed 3.6, 7.0 and 12.5 percent granular preparations of concentrations gave similar crabgrass control. Bensulide as 3.6G and 4E preparations gave equivalent results for the respective dry and spray applications. Also, oxadiazon preparations of 2G and 2E at three pounds per acre gave similar results for the respective dry and spray treatments.

A four pound per acre application of benefin was compared with the same total applied in a split application. The treatment date comparisons were: (1) Single application on April 20 versus a split application with treatment on April 20 and May

17; (2) Single application on May 17 versus a split application with treatments on May 17 and June 4; and (3) A single application on June 4 versus a split application with treatments on June 4 and July 5. The April 20 and May 17 single applications gave control which was equivalent to the split applications. The June 4 single application of four pounds per acre was better than the split application counterpart.

Application on April 20 or May 17 gave similar results for all herbicides except for DCPA and siduron which were better with April application. A June 4 application of two pounds benefin per acre gave 58 percent less control than the May 17 counterpart. At four pounds per acre the May treatment of benefin gave 19 percent more control than the June 4 equivalent. Treatment with DCPA on June 4 gave no crabgrass control.

A vertical mower was used for

dethatching just prior to application with benefin and DCPA. Treatments of one or two passes with the vertical mower compared with zero dethatch treatment caused no significant change in crabgrass control. This suggests the removal of grass residue and increased exposure of soil had no significant effect on action of the pre-emergence or germination of crabgrass seed.

Benefin, bensulide (at 20 pounds per year), DCPA and butralin applied in 1977, gave very good crabgrass control for the first year of treatment in the three year tests. Repeating two of the three 1977 treatments for each herbicide in 1978 gave very good control with bensulide and butralin. Crabgrass control with repeat treatments of benefin and DCPA was less effective. Repeating one of the three treatments for the third season in 1979 gave excellent results for butralin only.



Art Wick

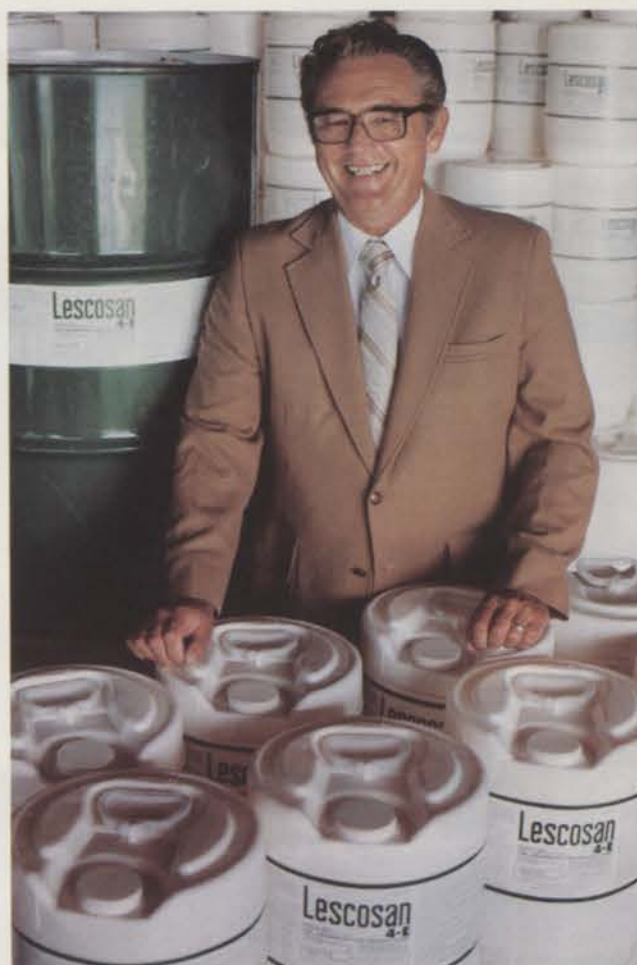
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Selecting the highest quality turfgrass at the lowest cost

The production of turfgrass is complexed by variable climates, which include extremes of hot and cold weather, often in the presence of limited or excessive soil moisture. Insect and disease activity interact to increase the difficulty of selecting grasses that have a potential for producing the highest quality turfgrass at the lowest cost.

According to Dr. John R. Hall III, extension turf specialist at Virginia Tech, in selecting any turfgrass for a particular area, one needs to consider climate, soil characteristics, light availability, irrigation facility, maintenance capability, use, season of planting and personal preference.

The cool-season turfgrasses are best-adapted to climates similar to those found in the northeastern and north central United States. Kentucky bluegrass, perennial ryegrass, creeping red fescue and tall fescue are the most popular cool-season grasses in the cool-humid region. Tall fescue has its greatest use in the drought- and heat-prone areas in the southern

portion of the cool-humid region. Some of the cold-tolerant hybrid bermudagrasses are working their way into turf use in the southern portions of the cool-humid region.

Understanding of the competitive dynamics of any seed mixture it is important to understand the individual strengths and weaknesses of components of the mixture. Kentucky bluegrass has a pleasing texture and dark, blue-green color. It has vigorous rhizome activity and a perennial root system. This extensive rhizome system provides it with maximum recuperative potential.

Kentucky bluegrass exhibits greater low temperature hardiness than tall fescue or perennial ryegrass and will tolerate moderately wet soils. It reproduces apomictically, which means that the female parent can fertilize herself and produce

Kentucky bluegrass reproduces apomictically, which means the female parent can fertilize herself and produce genetically identical offspring. This reproductive process provides more uniformity in Kentucky bluegrass turf than is available in other grasses, such as tall fescue, ryegrass and bentgrass.

genetically identical offspring. This reproductive process provides more uniformity in Kentucky bluegrass turf than is available in other grasses, such as tall fescue, ryegrass and bentgrass.

Weaknesses of the Kentucky bluegrasses would have to include their slow germination and establishment rate. Successful germination of bluegrasses normally requires 14 to 28 days. Under limited summer moisture the Ken-

tucky bluegrasses tend to go dormant and turn brown. In this condition they can withstand more severe droughts than perennial ryegrass or tall fescue and regenerate from the crown and rhizomes.

Under short-term drought conditions, better green color will be provided by perennial ryegrass and tall fescue because they do not tend to go into dormancy. Kentucky bluegrass will generally survive a serious

to page 27

Before selecting a turfgrass for a particular area, one needs to consider climate, soil characteristics, light availability and a number of other factors.

Managing turf in areas where soils are sandy and have low cation exchange capacity and moisture-holding ability necessitates the selection of a drought-tolerant turf. The cool-season turfgrasses most often recommended in dry shade areas are creeping red fescue or tall fescue. If a green turf is necessary for the entire season, summer irrigation will be necessary. It is important not to select a turf species which requires higher maintenance than the budget can accommodate.

Important in the selection of type of grass is the use to be made of the turf as well as the peak season of traffic. In many situations the time of planting is determined by factors outside the control of the individuals responsible for the establishment. In these cases, it is important to consider when seeding is most likely to occur. Every individual has a personal preference with regard to the texture and color of turfgrass. Obviously this is an important determining factor in the final selection.

In order to have a good un-

How to choose the right iron.



real detrimental affect on the lawn care industry.

"The question is, how many people who are unemployed are in financial trouble and have not cancelled their turf agreement. That could be 15 percent of my accounts receivable."

For this reason, most lawn care companies have adopted fairly strict policies regarding collections, just to stay on top of the situation.

"Our normal pay period is 15 days," says Harrigan, "because we got burned a couple times in the past. We figure, the phone company and electric company want you to pay in 15 days, why not us?"

Even more important to insuring a successful season next year is educating the consumer concerning the proper way to maintain his lawn, so that he will not be so quick to blame the lawn care company when he develops

weed or insect problems.

Consumer education is an important factor in Kitchel's mind when it comes to predicting success in these shaky times.

"I think there's still a great deal of misunderstanding of what the customer's part is as far as having a nice lawn. A lot of people get on a program and think their problems are answered. They don't understand the importance of proper watering and mowing, and dethatching periodically."

Of course, these are not the ideal times for any business, but the lawn care profession, along with other industries related to home improvement will probably fare better than most, as the decline in housing starts combined with the decreasing amount of discretionary income, lead consumers to invest in developing and maintaining the properties they now own.

In the case of lawn care, one

saving factor will be the amount of flexibility within the industry itself.

"There's always that fear of the economy," says Kitchel, "but I feel that there are a lot of different avenues that you can get into in lawn care such as total vegetation kill, dethatching and reseeding if the regular program we provide starts to falter."

In any case, it looks as though consumers will continue to invest a portion of their money in maintaining and improving their lawns, a factor that will contribute to the continued success of lawn care operators such as Bill Harrigan.

"Some people tell us that they have other items that are more important as far as expenses are concerned. On the other hand, people realize the value of their property, so we are experiencing an increase. When we come out of the recession, I'd like to think it will be better. Only time will tell." Kathleen A. Milgate

MEETINGS

N.Y. group to hold show in Rochester

The New York State Turfgrass Association will hold its annual conference and trade show Nov. 11-13, at the Rochester War Memorial with the Genesee Plaza Holiday Inn as the host hotel.

Following a successful show last year in Syracuse, NYSTA once again plans on an expanded trade show with much floor space devoted to the display of heavy equipment, along with exhibitors representing all facets of turfgrass management.

Along with the trade show, the conference offers three days of educational sessions with presentations on various aspects of turfgrass research and management for those in golf course, parks, landscaping, athletic fields, sod growing, cemetery, seed, supply and educational fields. Credit will be given for Pesticide Recertification and a special pesticide training course will be offered.

Booths measuring nine feet by 10 feet are available at \$135 each; multiple booths at a discounted rate. For complete information on the trade show contact: Janet Dudones, Ed Worthington Corp., 50 Petrova Ave., Saranac Lake, N.Y. 12983, 518-891-1830. For other information relating to the conference contact: Ann Reilly, executive secretary, 210 Cartwright Blvd., Massapequa Park, N.Y. 11762, 516-5419034 or 6902.

SEMINARS

Irrigation Association offers short courses

The Irrigation Association is offering two courses that should be of interest to the lawn care industry, as part of this year's Short Course Program.

The first, Turf Irrigation-Principles & Practices, will be held Jan. 6-7-8, 1981, in Rochelle Park, N.J. Beginning with an in-depth study of soil types through system programming of multiple controller systems, this course will assist the architect, specifier, installer and dealer in the proper design of large turf installations.

The second course, to be held Jan. 20-21-22, 1981, in Kansas City, Mo., is titled Pumps & Pump Controls. This course covers all types of pumps, as well as the various means of controlling the operation of the irrigation pumping plant.

Both courses will be three days in length with registration fees of \$175 for members and \$200 for non-members.

For more details, including an informative brochure describing the complete Short Course Program contact: Irrigation Association, 13975 Connecticut Ave., Silver Spring, Md., 20906, 301-871-1200. Individual course registration brochures will be available approximately two months prior to each course.

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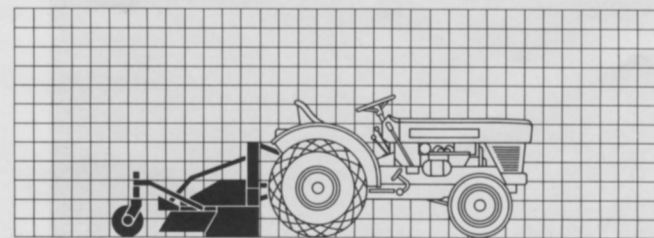
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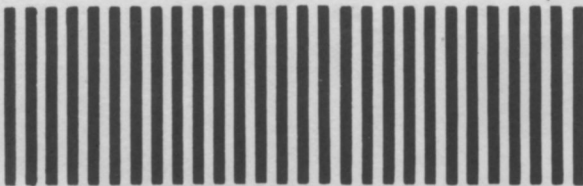
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The single-cylinder, air-cooled diesel engine offers high torque, with operation between 1800 and 3000 rpm and a maximum of 9.6 h.p. The engine conversion will pay for itself in fuel saving and long-life, the manufacturer claims.

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Lures control pests, cause no bait shyness

Two new Rozol (chlorophacinone) products available from Chempar Chemical Co., Inc., effectively control ground squirrels and gophers and do not cause bait shyness, according to the manufacturer.



Rozol ground squirrel bait is a paraffinized pellet formulation for use in vineyards and nurseries, while Rozol pocket gopher bait is a coarse grain bait for use where holes made by burrowing gophers can be hazardous.

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Full diesel tractor line ideal for landscaper

For the landscaper, Kubota Tractor Corp. markets a complete line of small-but-tough, B-Series diesel-powered tractors, easily distinguished by their bright orange colors.

The B-5100 Series is powered by a 12 h.p., two-cylinder diesel engine and is ideal for grass cutting and general estate maintenance. Not a riding mower, but a real tractor, the B-5100 comes complete with a category I hydraulic three-point hitch, standard rear PTO and six forward and two reverse speeds.

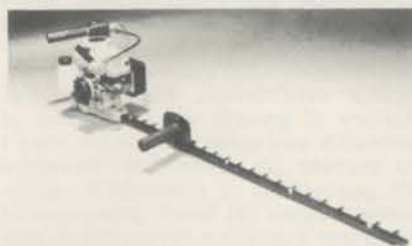
The B-6100 is slightly larger in size and features a 14 h.p., three-cylinder diesel for more pulling power. The B-7100DT is available with four-wheel drive and comes with a 16 h.p., three-cylinder engine. New for 1980 is a hydrostatic drive option for this model.

The company markets a wide variety of optional implements for its B-Series tractors, including mid- or rear-mounted mowers, a rotary tiller, front or rear blade, trencher, front end loader, snow blower and more.

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Gas-powered trimmer

From Echo, Inc. comes the HC-200 commercial quality, gas hedge trimmer, which weighs less than 12 pounds and has many fine features such as a 30-inch cutting blade, electronic ignition, a dependable automatic rewind starter system and a quality air-cooled, two-stroke single cycle gasoline engine.



The trimmer blade has a double-reciprocating cutter for positive cutting action, and the left handle features patented anti-vibration mounting.

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Kees adds slim 32-inch model to its mower line

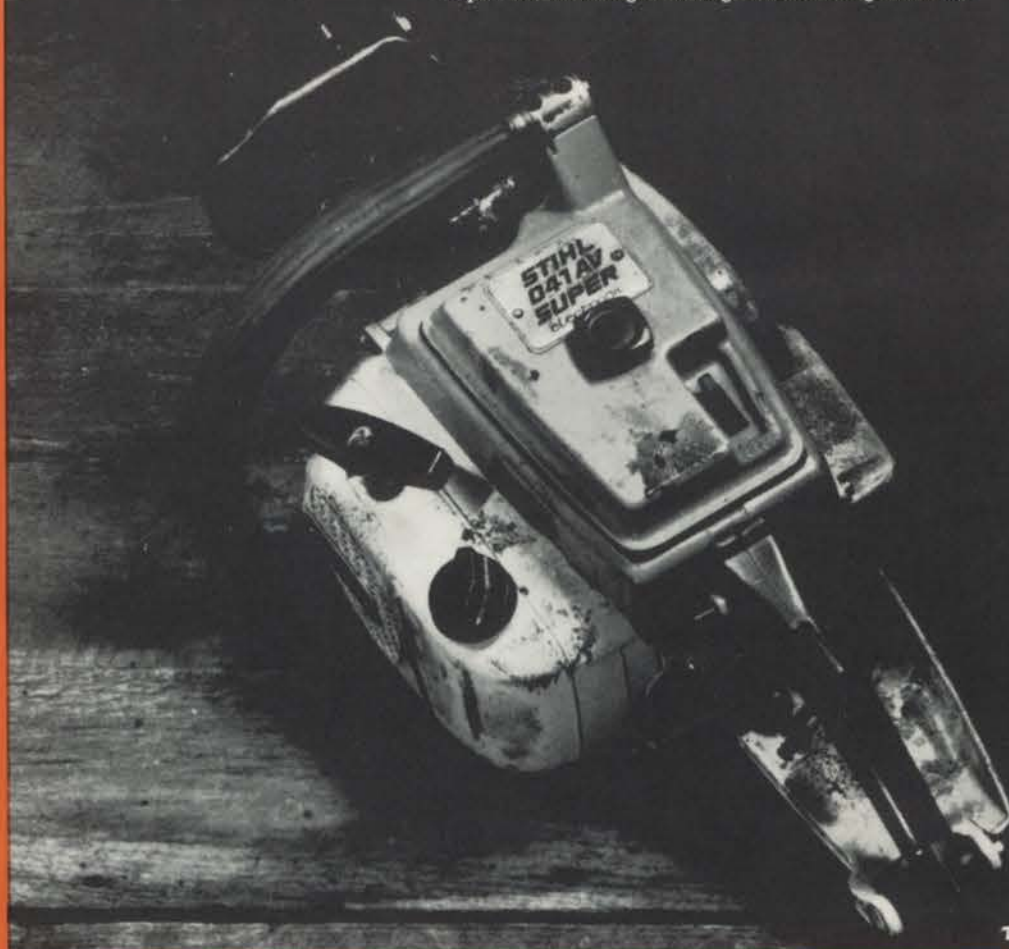
F.D. Kees has added a new 32-inch power mower to its line of professional lawn and turf care equipment. The mower is equipped with an 11 h.p. synchrobalanced engine and features a baffle frame, individual drum-type wheel brakes, protective V-flanged front deflectors and extralarge caster wheels.

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WANTED TO PURCHASE, granular lawn care companies in Midwest and South serving primarily residential accounts, present management

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We recently received a copy of a letter Kenneth R. Mays, president of Scientific Plant Service, Inc., Cockeysville, Md. sent to one of his area competitors. The reason he sent it was to "express my displeasure with some of the tactics employed by some companies in the lawn care industry. He wrote to his competitor:

"On July 14, 1980, my office received a phone call from a prospective customer requesting detailed information about our company, its services and prices. The conversation was ended by taking this person's name and address and promising to mail him, which he requested, a brochure detailing our spraying programs for trees and shrubs. After doing a little investigation, it was discovered that the name given was false and the address was that X company, located in Y, Maryland. The next day I followed up this phone call by calling on Z at his office at which time he admitted he was the caller. He said he was working on 'orders' from his superiors to 'get information' on the competition and what they have to offer.


"If this is what you have to do to keep up with your competition, I feel sorry for you. Has lust for the almighty buck gone that far?

"In my 14 years in the lawn care industry, I have never lowered myself to 'spy' or even worry about any other companies than my own and I take it as an insult to have to tolerate such actions.

"In the future, if you want to know anything about your competitors, why not confront them face-to-face? I would be glad to talk to you, perhaps we would help each other. That's what it is all about. I have always believed that it is not always what you do that counts, but how you do it."

We couldn't agree more.

Bob Enley

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BLENDS from page 22

drought better than tall fescue or perennial ryegrass being maintained under similar turf management conditions. The Kentucky bluegrasses have a slower green-up rate in the spring than perennial ryegrass and lack shade tolerance.

Attempts to take Kentucky bluegrass below a one-inch mowing height in the more southern portions of the cool-humid region requires additional management expertise to include the application of fungicides and extensive irrigation. The improved perennial ryegrasses appear to be better able to survive lower mowing heights than Kentucky bluegrass if disease pressure is reduced. Thatch buildup on some Kentucky bluegrass varieties under fertilization programs providing three to five pounds of nitrogen per 1,000 square feet per year has been noticed.

Tall fescue is a good turf if medium quality appearance is acceptable. It is strong in that it has a relatively quick germination rate of 10 to 14 days. It has an extensive, deep root system and can provide acceptable green color during short droughts. Tall fescue is adaptable to a wide range of soil types and does persist under low intensity management. It is popular on home lawns where a coarser texture is not objectionable. It has exhibited limited shade tolerance in situations where medium light levels are available and the microclimate is relatively dry. It will not provide good shade turf in poorly drained areas.

A primary weakness in tall fescue turf has been the difficulty of maintaining a fine-textured leaf blade after seeding. The fine-textured appearance is obtained with high seeding rates from up to 200 to 350 pounds per acre. However, after three to five years, the blades tend to broaden and become less desirable. Frequent mowing and periodic renovation by overseeding helps maintain the fine texture desired in Kentucky 31 tall fescue. Kentucky 31 and Rebel are two commercially available varieties of tall fescue that have performed well in our trials.

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