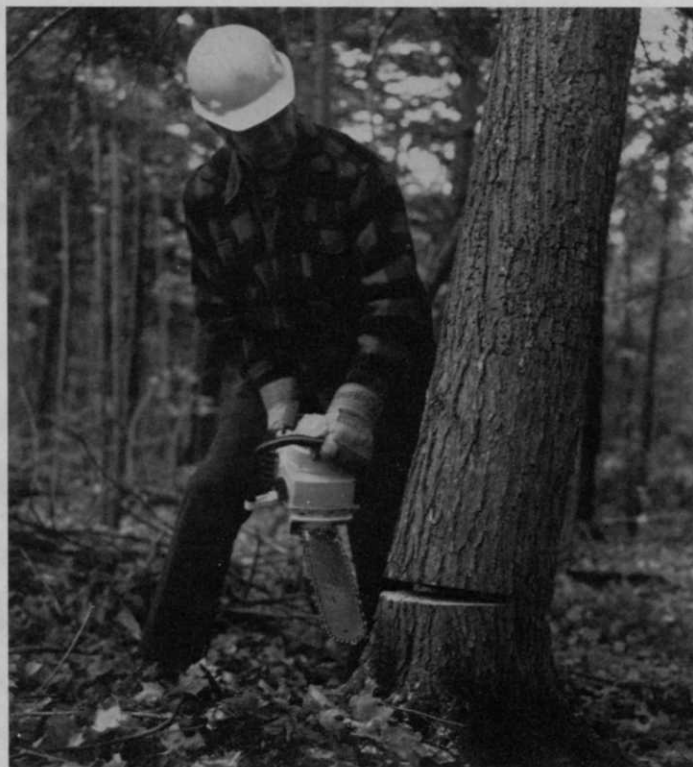


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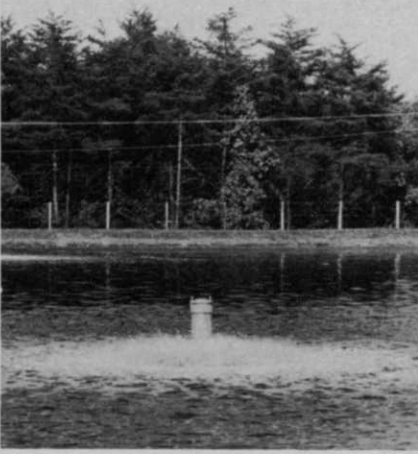


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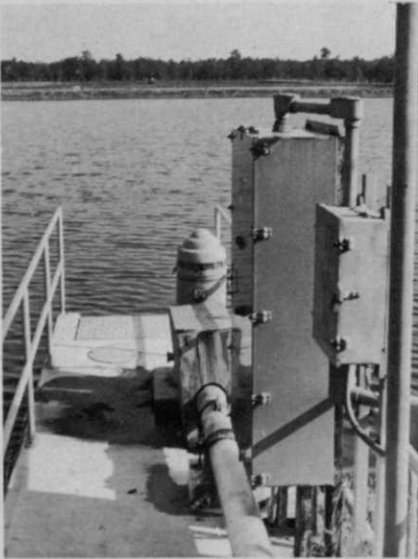
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Making things easier.

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One of four aerators that provide a supply of oxygen in the lagoons which the bacteria need to do their work of digesting the sewage.



This pump forces the treated effluent through irrigation pipes into the wooded spray field after sewage has been treated by air, sun and bacterial action for 40 days.

IN AN AGE of increasing public alarm over the harmful effects which domestic and industrial pollution are leaving behind us, a group of ecology minded developers and engineers have teamed up with industry, science and Mother Nature to employ a unique sewage disposal system which currently serves 1500 homes at St. Charles without polluting either the waterways, the land or the air around the community.

One of the nation's latest new communities, St. Charles is located only 20 miles from Washington, D. C. on an 8,000-acre tract in Charles county, Maryland. This new concept in community living, has been developed to provide better living conditions by master planning the residential, commercial, recreational, industrial, educational



One of several hundred spray nozzles that shoot effluent from the lagoon system into the air over 50 acres of woodland. The trees thrive on it.

Man And Nature Working Together

"Spray irrigation" is one of the most unique developments in sewage disposal yet. Combining sprinklers and sewage effluent, this new technique is a solution to pollution that today has application in our forests — tomorrow on turf, maybe your turf.

and governmental areas and locations in advance. In a nutshell, St. Charles is a community designed for superior living through superior planning. Its system of domestic sewage treatment is only one example of how superior planning can pay off.

St. Charles already has 1500 residential units in existence and is designed to grow over the next 20 years into a bustling community of 75,000 residents. Its effluent will ultimately go into a major interceptor sewer and treatment plant to be built by the county under a Housing and Urban Development grant. To meet the interim needs, it was decided six years ago to seek a method of sewage treatment which would meet present and future health standards—the sewage lagoon

system.

The system of pollution-free sewage disposal being used by St. Charles, termed "spray irrigation," is unique in Maryland, and is one of only a handful like it in the entire nation. It employs nature's own methods, which are probably the oldest, least expensive, and still the most effective known to man, along with considerable assistance from scientific know-how. Interstate General Corporation, the developers of St. Charles, have succeeded in a way which undoubtedly will be copied by other communities looking for pollution-free interim solutions to the ever-growing sewage problem.

The sewage lagoon system was created by a team of scientists from
(continued on page 36)



A Davey survey and report can help you make more efficient use of your tree budget.

Most maintenance departments have more work to do than they have men, money, or machines to handle.

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FOR THE FIRST TWENTY YEARS after its founding in 1949, the Sprinkler Irrigation Association became recognized for its leadership in the agricultural markets of the vast irrigation industry. Now, however, with a concerted change of programming and direction, the SIA is moving into an equally strong position in representing turf interests within the industry.

Similarly, the organization, which was founded as a manufacturers group, is increasingly placing major emphasis in the areas of irrigation distribution and contracting, those industry segments which the Association feels can most benefit from the services provided by a national trade group.

The combination of these two policies established by its board of directors is producing dramatic results within the organization that are working towards the direct benefit of all those in the turf irrigation industry.

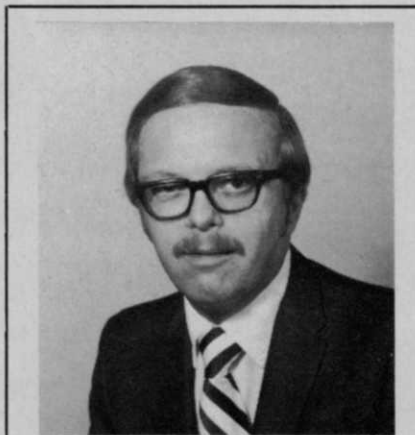
TURF INTERESTS COMMITTEE BEGUN

Changes began to take shape with the establishment in 1970 of a national Turf Interests Committee to develop turf-oriented programs and to design the part that turf irrigation would play in the SIA. Under the chairmanship of A. C. (Chet) Sarsfield, owner of Irrigation Technical Services, Lafayette, California, and with a membership representing all turf interests from throughout the country, the committee has moved quickly to become one of the best-functioning committees within the SIA.

Since its inception, the committee has worked on many major projects of significant value to the turf industry. These include: (1) publication in 1972 of a complete listing of turf courses and sources of information in schools at all levels throughout the country; (2) working in cooperation with the Golf Course Superintendents Association of America, the SIA has designed a multi-year irrigation seminar which will be held as part of the program each year at the International Turfgrass Conference and Exposition to bring golf course superintendents up to date on the latest technical developments, trends and needs of the industry; and (3) preparation of material for a large section on turf irrigation to be published in 1973 as part of the first supplement to the Association's text, "Sprinkler Irrigation" which is now in its Third Edition and is recognized throughout

the world as the authoritative source of information in the field.

In addition to these specific projects carried out by the Committee, all programming at the SIA's National Sprinkler Irrigation Technical Conference (Feb. 19-20, Fairmont Hotel, Dallas, Tex.) has been redesigned to present equal time for both agricultural and turf interests. Conference themes over the past



SPRINKLER IRRIGATION ASSOCIATION

PAST PRESENT FUTURE

By **WALTER D. ANDERSON**
Executive Secretary

three years, such as "Building Professionalism Through the SIA," "Automation: Whether or Not?" and the 1973 theme of "Our Industry in the Next 20 Years" have served as the focal point for important presentations on turf irrigation.

Similarly, Association publications have taken on a new tone with the regular publication of articles of a technical nature in the turf field.

Equally important changes have taken place at the Association's annual convention, held each Fall. Serving as an integral part of the Convention's program is the "Busi-

ness Management Seminar" which is designed specifically with the irrigation distributor and contractor in mind. With a primary purpose of assisting the small and medium-sized businessman in the day-to-day operation of his business, the seminar regularly deals with a variety of subjects ranging from data processing for the small business, personnel management philosophy and policies, product liability, union and open shop matters to problems of warranties, sales financing, credit collection and inventory control.

LOOKING AHEAD

While the SIA's turf interests committee has already completed some of its initial projects, its major efforts are still under way and many of them will see completion during 1973. These projects, affecting every aspect of the turf irrigation industry, reflect both the role that the SIA feels it can play in the industry in the years ahead and recognition of a variety of needs existing in the industry. The projects include:

(1) Development of a licensing and contractor qualification system which would establish standards of activities within the landscape/irrigation field. It would be based primarily upon the health, safety and general welfare of the public and could conceivably draw up model licensing legislation for adoption in all jurisdictional levels in the United States. A rating system, administered within the SIA, to rate contractors on the basis of performance, knowledge operation and other important factors could be developed.

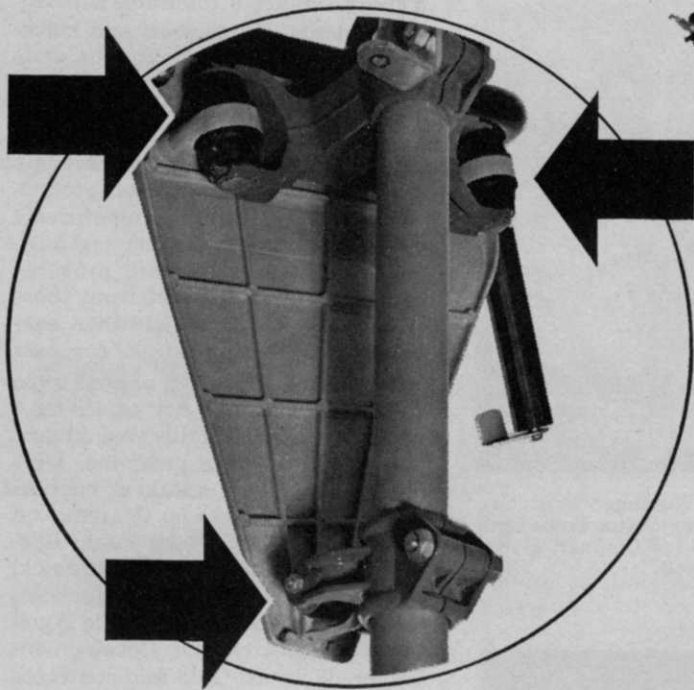
(2) Establishment of turf educational programs, in addition to that developed with the GCSAA, to include publication of a turf irrigation bibliography listing all available publications on the subject and to study the feasibility of establishing an SIA Turf Irrigation Speakers and Teachers Bureau;

(3) Publication of a new and updated "Minimum Recommended Specifications for Turf Irrigation" detailing standards for equipment, materials and techniques in the field.

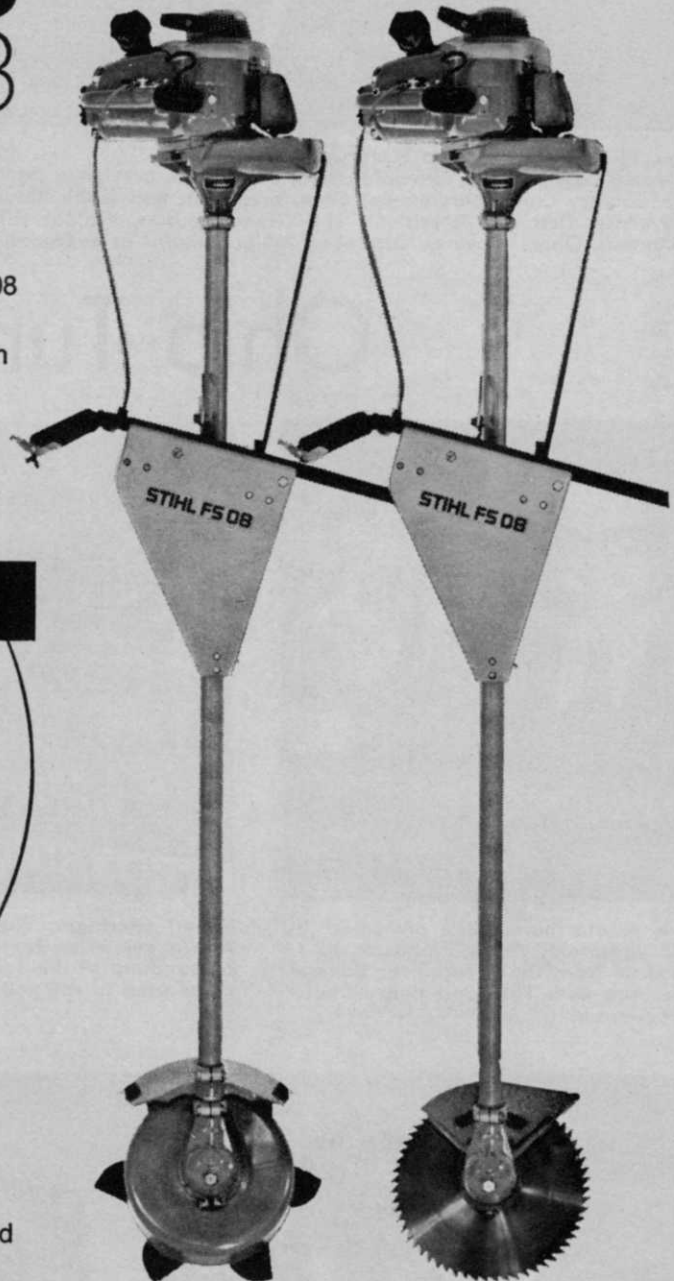
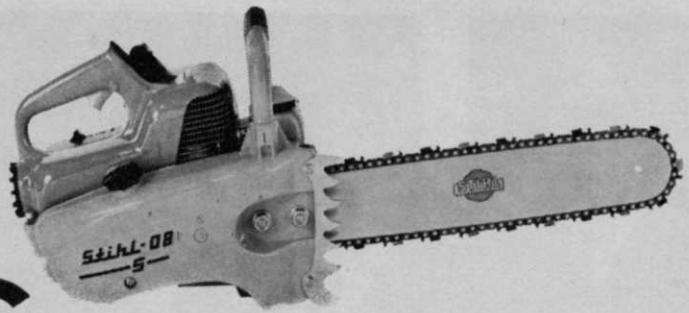
These are but the major highlights in the development of the SIA's turf-oriented programming that has been initiated in the last two years. With this change of direction for the twenty-four year old organization, membership from within the turf field has increased rapidly, a significant recognition of the commitment made by the board of directors to this growing and changing segment of the multi-million dollar sprinkler irrigation industry. □

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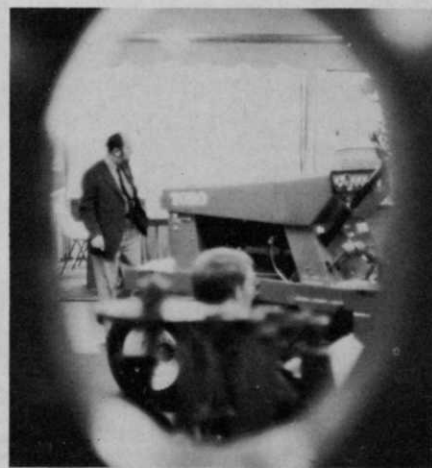
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New officers for the Ohio Turfgrass Foundation for 1973 are: (l-r) Paul Mechling, Sylvania Country Club, Sylvania, Ohio, second vice president; Paul Morgan, Browns Run Country Club, Middletown, Ohio, president; Ron Smith, Bowling Green State University, first vice president; and Glenn Hudson, Walnut Hills Country Club, Columbus, Ohio, treasurer. Dr. Robert Miller remains as executive secretary.

The eye of the "O" on the big Toro Company sign focuses on the attention getting equipment in the display. Delegates saw the latest in equipment designed to make the job easier.

Ohio Turfgrass Bonanza



Two scholarships were presented by OTF president, Gene Probasco, (l) to students from Clark Technical College. They are Beth Pohl and Henry Chafin (not present).



Robert Gieringer, Gieringer Mfg. Co., Milwaukee, Wisc. demonstrates the ease of handling of the Sod-Cropper, a machine used to roll sod.

MORE THAN a thousand superintendents, sod growers and industry men gathered in Columbus, Ohio in mid-December for the biggest and most elaborate Ohio Turfgrass Conference and Show yet. The pre-Christmas event suggested strongly that commercial turfgrass production in Ohio rates competitively with agriculture and other big business. This year's meeting probably generated more interest from those outside the turfgrass field than ever before.

Theme for the sixth annual expo was "Grass in the Art of Living." An effort was made this year to provide something for everyone. During the first day, speakers concentrated their remarks on Grasses And Their Uses. Dr. C. Reed Funk, Rutgers University, New Brunswick, N.J., spoke on New Grass Varieties while Merle H. Niehaus, Ohio Agricultural Research and Development Center, Wooster, Ohio told conferees about Blends and Mixtures of Turf-grasses.

Additionally, Dale Kern, Seed Technology, Inc., Marysville, Ohio outlined the steps taken in the purchase of grass seed. Dr. Robert W. Miller, Ohio State University, tied all of the remarks together in a presentation of Grass Use in Relation to Management.

The following morning Bob O'Brien, immediate past president of OTF, chaired a session on Safety and Personnel Management. Included in this session was a speech by James A. Napolene, Compliance

(continued on page 28)



The OTF Man of the Year Award went to two persons this year. Malcolm McLaren (l) and Colin Smith (r) are the first to receive dual recognition for their outstanding contributions. Gene Probasco, OTF president (c) made the presentation.



A Turfgrass Ecology and Management Short Course was held on the Virginia Tech campus in Blacksburg, Virginia in December for golf course superintendents. Those attending included: Front row, (l-r): Dr. A. J. Powell, extension turf specialist at Tech; Joseph L. Green, Altavista Country Club, Hurt; Peter J. Richard, Waynesboro Country Club, Waynesboro; John Alden, Forest Edge Cluster Association, Reston; Buddy Lee Rife, Happy Valley Recreation Corporation, Clintwood; and W. L. Middleton, W. B. Middleton, Inc., Norfolk. Second Row, (l-r): Bill Keehne, Mil-Chem Turf Division, Roanoke; John A. Gray, Cooperative Extension Service, Newport News; C. S. Moss, Kidwell Turf Farms, Midlothian; Robert Blosser, Kidwell Landscape, Culpeper; and Bill Rondeau, Ronco Enterprises, Poquoson. Third row, (l-r): Walter Huffman, Berry Hills Country Club, Charleston, West Virginia; Garrett E. Miller, Miller Chemical and Fertilizer Corporation, Richmond; William T. Robertson, Jr., Langley Air Force Base, Hampton; and Chester M. Beahm, Centreville Sod Growers, Nokesville. Top row, (l-r): John E. Mann, Warrenton Training Center, Warrenton; Kenneth P. Giedd, Blacksburg Country Club, Christiansburg; Mike Duncan, Ivy Hill Golf Club, Lynchburg; E. F. Grimm, Miller Chemical Company, Roanoke; and David E. Tellin, Golf Course Specialists, Inc., Wheaton, Maryland.

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Each year the Ohio Turfgrass Foundation grants scholarships to students at Ohio State University studying turfgrass science. This year's winners are: (l-r) William Job, Nevin Vandergrift, John Zimmerman, Mark Yoder, Clifton Pohling, and Robert Harper. Gene Probasco, 1972 OTF president (r) makes the presentation.



The Ohio Turfgrass Foundation student leadership award was presented to Col. Gale Love (Ret.). Here, Dr. Robert Miller, Ohio State University, (l) presents the plaque to Colonel and Mrs. Love.

OHIO TURFGRASS BONANZA (from page 26)

Officer, OSHA, who pointed out that the golf superintendent is not exempt from the rules and regulations of the Occupational Safety and Health Act. More inspections will be made of facilities this year, he said, and it is in the interest of each superintendent to keep the necessary safety records up to date.

The Ohio Sod Producers Association held their second annual meeting during the Conference and Show. Featured speaker for the business luncheon was James A. Sample, editor, *WEEDS TREES AND TURF Magazine*. He told members that sod producers must become ambassadors of the Green Industry. "Growth of sod in this commercial turfgrass industry has been phenomenal. Single family dwellings, mobile home communities, shopping centers, malls—all are demanding sod for instant beautification," Sample said. "It is time we as an industry stand up and be recognized for the accomplishments we have made. Sod is basic. And turfgrass is second only to the necessities of life." The editor said that more consumer oriented articles in consumer media are needed to tell the story of the Green Industry.

New officers for the Ohio Sod Producers Association are: Chet Augspurger, Cincinnati Turfgrass Nursery, president; Don Figurella, Besturf Sod Farm, North Canton, vice president; Woodrow Wilson, Eastside Nurseries, Canal Winchester, treasurer, and Dr. Robert W. Miller, secretary.

The last day of the session offered a "cafeteria approach" to turfgrass production to delegates. Four

sessions were conducted simultaneously.

There are five kinds of weeds that can be present in a water storage facility. Dr. A. J. Turgeon, department of horticulture, University of Illinois, told an audience of superintendents. Above surface, submerged, floating, free floating (not attached) and algae all have a marked affect on storage water. He said that care must be taken in applying aquatic herbicides or algacides to control these weeds.

"We must remember that this water will be used to irrigate turfgrass," he cautioned. "Water containing too much of a herbicide may injure or destroy turfgrass plantings."

He said that many aquatic herbi-



Four men were awarded the OTF Professional Excellence Award. They are: (l-r) Paul Mechling, Sylvania Country Club; Dick Craig, Camango Country Club; John Fitzgerald, Century Toro Distributors, Inc.; and Dalton Dean, Clark Technical College.

cides are rated in parts per million concentration. Generally, one part per million is the equivalent of 2.7 pounds of active ingredient per acre foot.

In the session for landscape contractors and home lawn maintenance personnel, Dr. Robert W. Miller said that a soil test is the first step of a fertility program. A soil test can determine what nutrients are needed. Then fertilizer can be added to correct the deficiency, he said.

Miller said that many of our turfgrass areas are excavated areas. Fill dirt has been brought in. Often this dirt is nothing more than subsoil. A majority of the time subsoil materials are low in phosphorus but usually high in potassium. Thus, it is necessary to add phosphorus to the soil to raise the level of fertility. The agronomist pointed out that it takes 10 pounds of P_2O_5 to raise a soil test value one pound. He recommended that phosphorus should be worked into the top six inches of soil.

Dr. Miller said that a typical starter fertilizer would be 23 pounds per thousand square feet of 15-20-10 or equivalent worked into the top two inches.

Lee Record, USGA, Chicago, Ill. quickly zeroed in on the pros and cons of a golf course irrigation system. "Two questions are always raised," he said. "The golfer wants to know why the water system is on every time he wants to play golf. And the superintendent wants to know why he can't water when he wants to. The problem is communication—the least understood word between the superintendent and the member."

Record said that the manual irrigation system in the past didn't

(continued on page 32)

THE INNOVATORS FROM TORO PRESENT A NEW CENTRAL PROGRAMMER... THE YEARS AHEAD VARI-TIME 4000!

Automatic irrigation of golf courses is not a new idea. But automatic control with almost unlimited flexibility located in one central place, plus on the spot field control, is only a recent idea which revolutionized golf course superintendent operations.

TORO has been innovating such ideas in turf care for over 50 years. And now it introduces the latest and newest concept in central controllers: the super Vari-Time 4000 Programmer.

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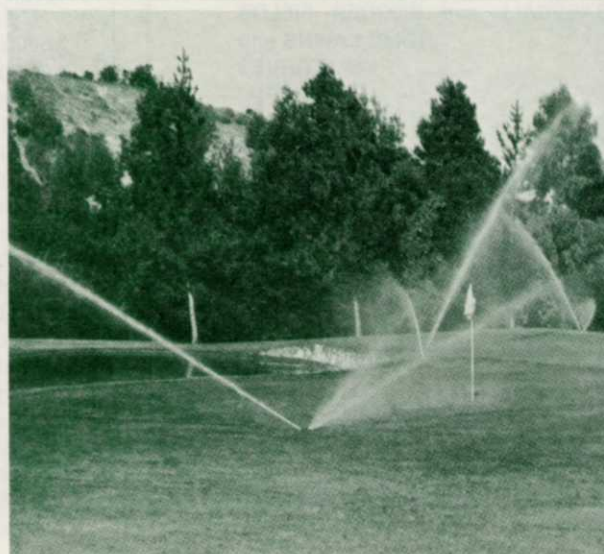
Up to six Vari-Time Central controls, each commanding up to 40 field Satellite controllers, can be housed in the master cabinet. Or, any possible combination of up to six Central and Syringe controls is available to satisfy any watering requirement.

The system is flexible to allow for in-the-field hot weather syringe of one or more greens when other areas may not need a syringe, or when player traffic is heavy, curtailing central syringe control.

The TORO Vari-Time 4000 is designed to function automatically; however, all Centrals have Manual Start, Cancel, and On-Off switches for instant manual control in any emergency.

The 14-day, 24-hour watering cycle can be set to operate in 15 minute increments and the Syringe cycle can be timed infinitely from 0 to 5 minutes. And whatever the weather or usage conditions on the course, immediate action can be taken to start or stop a cycle just by working the right controls on the Vari-Time 4000. Or the system can whir along automatically without any attention, operating either electric or hydraulic Valve-In-Head sprinklers.

Maximum flexibility in automatic watering, with minimum attention. That's the light-years ahead TORO Vari-Time 4000 super programmer. The ultimate in innovative technology from the company that is consistently the leader in the golf course turf irrigation market: TORO... The Innovators. Phone John Skidgel at (714) 688-9221 for more details.



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MODERN high rise structures may be just the ticket for business firms, but many are causing "planticide" to surrounding landscape plantings.

Take a hot, Texas summer. Add a modern structure with the new heat-reflective glass which bounces the sun's rays away from the exterior surface of the building. Turn on the afternoon sun and the result is cooking range temperatures capable of frying turf, shrubs and other vegetation all the way down to the root zone.

Case in point is the new Stemmons Empire Plaza in Dallas.

We discovered that the landscaping on the south side of the building would be most subject to reflected sun rays during the hottest part of the day," says John Heidman, Dallas Weather-matic president and irrigation contractor for the project.

"This area would require three to four times as much water as the north side. But two factors made it difficult to supply the extra water. Most of the turf areas sloped severely away from the building. And additional water could not be applied at mid-day because each drop of water would act as a miniature magnifying glass, further amplifying the reflected sun rays."

Using a Weather-matic SSR-10 Dual-Program control, the firm was able to achieve the scheduling flexibility required.

"The hot south area was zoned separately," Heidman explains, "and wired as stations 1 and 6 on the control." East and west areas were also separated from the north section.

"The dual program feature of the unit enables us to water the north area only three times weekly," he notes, "while watering all other areas daily.

Watering time for north, east and west areas is six minutes per section beginning at 4 a.m. and repeated on a second program cycle beginning at 7 a.m.

Watering time for the south area is also six minutes per cycle with three minutes applied on station 1 and the additional three minutes on the station 6 repeat.

This means that plantings in the hot south area will receive four separate three minute showers each morning. Excess runoff is minimized but adequate water is provided to offset the excessive heat.