EVENTS

CALENDAR

MARCH

20 Sports Turf Clinic and Equipment Rodeo, Ranger Stadium, Arlington, TX. There will be three hours of instruction and demonstration of equipment. Contact Bill Knoop, Texas A&M, 17360 Coit Rd., Dallas, TX 75252. (214) 231-5362.

24-26 Athletic Turf Management Seminar, Providence, Rhode Island. Intensive two-day seminar on sports turf construction and management for those with tight budgets. Contact Athletic Turf, Box 1836, Appleton, WI 54913, (414) 733-2301.

26-27 Landscape Design Short Course Fisher Auditorium, Ohio Agricul Research and Development Center, Wooster, OH. Contact Fred K. Buscher, OARDC, Wooster, OH 44691. (216) 263-3831.

27 Third Annual Sports Turf Institute and Trade Show, California Polytechnic University, Pomona; in cooperation with the Sports Turf Managers Association. Contact Kent Kurtz, (714) 598-4167, or 598-4168.

27-28 Athletic Turf Management Seminar, Roanoke, VA, Two-day program on efficient use of crews, equipment and turf care methods. Contact Athletic Turf, Box 1936, Appleton, WI 54913, (414) 733-2301.

APRIL

23-25 Landscape Industry Show, Long Beach Convention Center, Long Beach, CA. One of the largest trade shows in the landscape industry. Contact California Landscape Contractors Association, 2226 K Street, Sacramento, CA 95816, (916) 448-2522.

MAY

21 North Carolina Turf and Landscape Field Day, NCSU Turf Field Center, Raleigh, NC. Contact J.M. DiPaola, Box 7620, North Carolina State University, Raleigh, NC 27695-7620, (919) 737-2657.

THE FRONT OFFICE

OPINION PAGE

THE NEED FOR DEMONSTRATION FIELDS

As the overused cliche goes, "I'm from Missouri and you have to show me." Well, I really am from Missouri and it's true. In fact, my first newspaper job was editing an "action line" column called Show Me for the *Columbia Missourian.*

So I can appreciate a sports turf manager's concern for trying to make his field look like a professional ball park when his budget is limited. He has to be realistic when asking for money to improve or maintain his field. He needs a concrete, practical example to show those holding the purse strings, especially when a request has to be approved by two to three layers of decision makers. The initial request for funds can be twisted like a rumor as it's passed from one level to the next, unless such an example is there to keep the original request intact.

Statements like, "We can't afford a professional ball field; it's just not a responsible use of public funds," have kept many fields from being improved. It would be great to be able to say, "I share your concerns—and that is why the field being proposed has been designed by leading experts specifically for our part of the country, with special attention to construction and maintenance costs."

Both the National Sports Turf Council and the Sports Turf Managers' Association have made demonstration fields a high priority. They realize most sports turf managers operate under limited budgets. They want to show that good fields are possible even with small budgets. They also realize the right type of field construction and maintenance depends upon local conditions. This would require demonstration fields across the country.

At the local level you have leaders using fields for demonstration purposes. Dr. Bill Knoop at Texas A&M in Dallas is working closely with high schools and colleges to show them they can improve their fields with the support of suppliers and the Extension Service. Dr. Roy Goss at Washington State University is doing the same. So are Dr. Kent Kurtz at Cal Poly Univeristy, Dr. Herb Portz at Southern Illinois University, Dr. Henry Indyk at Rutgers University, Dr. Tom Turner at the University of Maryland, Dr. John Harper at Pennsylvania State University and Dr. Richard Skogley at the University of Rhode Island.

Golf course superintedents are also pitching in. George Renault at Chevy Chase Country Club in Maryland hopes to build a demonstration field this year. Frank Dobie at Sharon Country Club in Sharon, OH, is gathering volunteers for a northern Ohio demonstration field.

Golf superintendents face budget restraints too. A golf course greens committee may not be as sensitive to costs as public officials, but superintendents have to justify expenses regularly. How do they do it? What do they have that athletic field managers don't? One major advantage they have is the example set by other courses.

Demonstration fields are on the way. Let's all do what we can to speed things up as much as possible. Sports fields should get the same critical eye that residential lawns do. We hope to encourage competition between schools by a contest to be announced later this year. A bit of peer pressure might help move things along a little faster.

Bruce F. Shonk

Computerized Irrigation: A Natural for Large Turf Areas

The world is now well into the age of computers—and the sports turf industry is no exception. Every sports turf manager with a large operation should seriously consider the various uses of this space-age tool. Some have already put it to work with great effectiveness. Don't miss the boat—the water's rising, at least in cost.

As recently as the late 1970s, our industry was still in awe of solid state controllers, and rightly so. They provided a new degree of precision and accuracy not available from electro-mechanical controllers. These partly computerized devices gave the turf manager more flexibility in setting and adjusting irrigation cycles, and they had virtually no moving parts to break or jam. These solid-state units introduced the turf manager to the word "program."

Some irrigation manufacturers started transforming their solid-state controllers into more sophisticated electronic devices, to the point they were no longer just controllers opening and closing valves, they were computers performing irrigation programs.

Manufacturers of irrigation controllers, exploring the limits of solid state technology, envisioned devices that could operate groups of other controllers. They saw great savings in the ability to operate an entire network of controllers from one single command center. Step by step they developed the necessary technology to have field controllers receive commands from a central source.

As the '80s emerged, another marvel of modern science entered our world— the personal computer, the same computer you'd find if you went into any computer store. These highly adaptable electronic devices have unlimited potential. As more irrigation programs become available, personal computers have the ability to greatly increase the efficiency and control of irrigation systems, while at the same time serving the turf manager in business functions such as payroll, scheduling, budgeting, etc.

Computerized irrigation is state-of-the-art technology that has produced dramatic water-conservation improvements and labor-saving innovations. Both can mean reduced costs and/or added profits.

Today the computer is one of the most valuable tools in the field of irrigation, and by 1990 it may well prove to be indispensable.

By definition, a computer is an electronic device that can be programmed and updated at any time. However, some computers are designed strictly for irrigation. These units are called "dedicated" systems.

A dedicated system is usually programmed for a single purpose—in this case, irrigation. All the necessary information is actually built into the unit. Program updates have to be made by changing "boards" or "chips" inside the unit. Dedicated systems have one big advantage: In the event of a power failure, the memory is not lost and the computer does not have to be reprogrammed. "Power failures are a fact of life," says Mike Marion, president of Solar Wind Systems, Inc, Novata, CA, whose System 390 is dedicated. "We found in a study of 30 installations, that an average of 50 failures occur each year."

With a non-dedicated computer, the more functions you need, the more you can program in, providing the computer has the necessary memory to operate the programs (and that can be added if needed). As a result, it never becomes obsolete. It allows complete flexibility to irrigate, based on the current needs of the soil. It's more than a machine that opens and closes valves; it's a complete water-management tool.

First introduced into the market over 15 years ago, computerized irrigation was pioneered by Motorola Irrigation in Fresno, CA. Since water consumption is greater for agriculture than for landscaping, it was perceived that ag would benefit the most. Indeed, as the soil began to receive more accurately measured amounts of water and fertilizer, crop yields increased.

At that time, apparently no one envisioned computer use in the turf market for golf courses and athletic fields. How times have changed!

A decade ago, Rain Bird Sprinkler Manufacturing Corp., headquartered in Glendora, Calif., introduced its dedicated version of computerized irrigation for turf at Ahwatukee Country Club in Phoenix, AZ. It was named Maxi. Two-way communication between the field and the computer was one of Maxi's features.

About the same time, Solar Wind, in conjunction with Griswold Controls, Irvine, CA, installed their version of a dedicated irrigation computer at The Stanwich Club, Stanwich, CT. The race was on.

The demand for irrigation systems with multiple capacity started increasing. Instead of installing 60 or 70 controllers on a golf course, irrigation designers and golf course architects gain greater latitude, along with greater simplicity of operation, by using computers.

Irrigating effectively but economically is the major aim of any irrigation computer or controller. People have always had a tendency to overwater, because that was the easiest thing to do. It no longer is.

The computer, by using just the right amount of water for each designated area, is designed to conserve as much as 30 percent in irrigation costs. With escalating water and energy prices, this unique conservation device didn't come any too soon. Reliability, versatility and flexibility are the computer's three greatest amenities in addition to its economy, and all three contribute to its cost-saving achievements.

An irrigation computer doesn't look any different than most others. It has a keyboard—some have as few as eight keys, while others may have 20 or more—and a display screen that lets you see the instructions. It is easy to install and relatively simple to use.

It's true—while a computer is a complex device, learning to use one is not very difficult. You needn't be a computer programmer or even a typist to operate one. The messages are flashed on the screen, and all you have to do is follow the instructions.

The irrigation computer speaks your own language. It has totally eliminated the need for symbolism and hard-to-understand nu-

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merical data. It has a "user-friendly" program—a common computer term. There is no technical computer language to throw you.

If an operator wishes to open a valve—say, number six—for a five-minute cycle, he simply types in "OPEN 6 for 5." It would be hard to imagine anything simpler.

Motorola Irrigation's MIR-3500, a dedicated system, was one of the first computerized irrigation systems.

If the operator wishes to cut the watering time for the entire project in half, he types in "PERCENT 50." The irrigation times on every valve in the system will be recomputed to 50 percent of the former time value in about a tenth of a second. This same change could take several hours to accomplish in a conventional system.

"We work closely with the new customer," says Ed Shoemaker, vice president of Rain Bird's golf division. "Usually in two hours, the sports turf manager has a grasp of the basics."

The controllers are programmed from the computer. Using its store of information, it instructs each station how long to run. One man in one location can operate an entire project. John Skidgel, vice president of Toro Irrigation Division, Riverside, CA, says his company will introduce the Network 8000 this fall which can operate up to 800 satellite controllers, a phenomenal time and water-saver.

Before computers joined our industry, it was necessary to go into the field and physically set each controller. With a computer, if it rains and you decide to turn the entire system off, it can be done by simply pressing a key in your warm, dry office.

According to Chuck Hoover, vice president of Irri-Trol Manufacturing, Inc., in Valencia, Calif., "The greatest advantage to computerized irrigation is the time saved. You can communicate on a keyboard to many controllers at once, without going out and doing any work manually."

Like Maxi, many computers now have two-way communications. The field units, known as field switching terminals (FST), and the computer actually talk back and forth to each other in their own language. The FST interprets between the computer and the valve, deciphering just what is happening in the field.

The Maxi is continuously growing in capability. The current version, Maxi III, is a non-dedicated system using an IBM XT. Rain Bird used to make its own computer for the Maxi. "We realized," says Shoemaker, "that we could accomplish more by concentrating our efforts on programming instead of computer manufacturing. Last year our technical staff generated three program updates for our Maxi customers. All they had to do was insert the new disc into the IBM to expand the capability of the system."

Toro's Network 8000 central station will provide two-way communication by "downloading" information to the satellites and "uploading" information from the satellites. Toro's central controller also utilizes an IBM "XT" personal computer as the hub of the operation, including keyboard, color monitor, matrix printer and a light pen for easy access to all functions—with no "computerese" to be learned.

This non-dedicated central is capable of "transparent" multiple function. This means that it is available for simultaneous business and irrigation program operation. Says Skidgel, "In effect, you are getting two important pieces of equipment in one when you install Network 8000."

Melvin Canterbury, vice president of marketing at Buckner/Royal Coach in Fresno, Calif., reports, "There is one very large system in the Midwest where the central system includes a golf course, all the buildings and surrounding grounds, as well as a drip system on some of the ornamentals. In this case, there are 57 satellites, or FSTs."

In many cases a "modem" can be attached to the computer. This device allows one computer to "talk" with another by telephone. It is possible for a computer at one location to command an irrigation system miles away.

For example, the City of Los Angeles uses its Motorola system to control the irrigation for three golf courses: One computer takes care of all their watering needs.

Since a dedicated computer programmed for irrigation is used solely for water management, it can be hooked up to a number of facilities and operated 24 hours a day for irrigation purposes alone. This provides the maximum in watering efficiency.

Of the six major computer manufacturers, four have dedicated systems. They are Buckner/Royal Coach, Solar Wind, Irri-Trol and Motorola. These computers have been on the market for a number of years. Alan Sacco of Griswold Controls says his company will introduce a computerized irrigation control system by this summer.

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Countdown to Opening Day:

Atlanta Rebounds From Motocross

The Atlanta Braves field team has adjusted maintenance practices to help compensate for an old, inadequate drainage system.

Opening day for Major League Baseball is a national event. On April 8, every Major League team must be ready to compete and have its roster pared down to the best players for the year.

As coaches are busy molding their players into shape at training camps in Florida, Texas, California and Arizona, turf managers at major stadiums across the country are busy getting their turf into condition for the opener.

In Atlanta, the Braves' grounds superintendent Sam Newpher has just four weeks to turn his field, buried under mountains of dirt for Motocross, into a Major League quality baseball field. The job requires full cooperation from the Atlanta/Fulton County Stadium Authority and all suppliers.

The stadium, which also hosts the Falcons, the Peach and Freedom Bowls, concerts and Motocross races, was completed in 1965. "The field's original subsurface drainage system hasn't worked very well for years," says Newpher. National television audiences saw the effects of heavy rains on Atlanta/Fulton Country Stadium in 1982 when the Braves were in contention for the Western Division Championship with the Los Angeles Dodgers. "Those games had to be played despite heavy rains," Newpher points out. "We brought in a helicopter to help dry the field for one of the games. It's a credit to Robert Johnson, the person who trained me and still consults for the team, that he was able to keep the field playable with marginal drainage for so many years."

"If you look back, there is no comparison between the way fields were built in 1966 and the way they are today," says Newpher. "The same is true for the majority of natural fields in professional sports stadiums across the country. Prescription Athletic Turf (PAT) wasn't even utilized until 1975."

"Today we have many tools we didn't have just ten years ago. We can totally renovate the field and be ready for an opener in just over four weeks. But, four weeks is all we have, so our new tools have to fit this time frame," Newpher states.

Newpher's schedule leaves little room for error. After the Falcons wrap up their season, the stadium hosts the Peach Bowl, a college bowl game held each New Year's Eve. Two weeks later the stadium helps kick off the Martin Luther King Celebration with the Freedom Bowl, a two-year-old college bowl game. In mid-February, mountains of dirt are brought in and dumped onto the field for Motocross. By the time the field is cleared and new sod is installed half of March is gone. Newpher has less than four weeks before the Braves play their home opener.

The landscape contractor and the sod producer have to work closely with the Stadium Authority and Newpher to make everything snap into place. Fortunately, when Newpher rose from assistant to head grounds superintendent four years ago, he had two talented suppliers, Gray Contracting and Southern Turf Nurseries.

Gray had been working closely with the stadium since it was built, supplying basepath and mound mixes and topdressing. He is one of the few landscape con-

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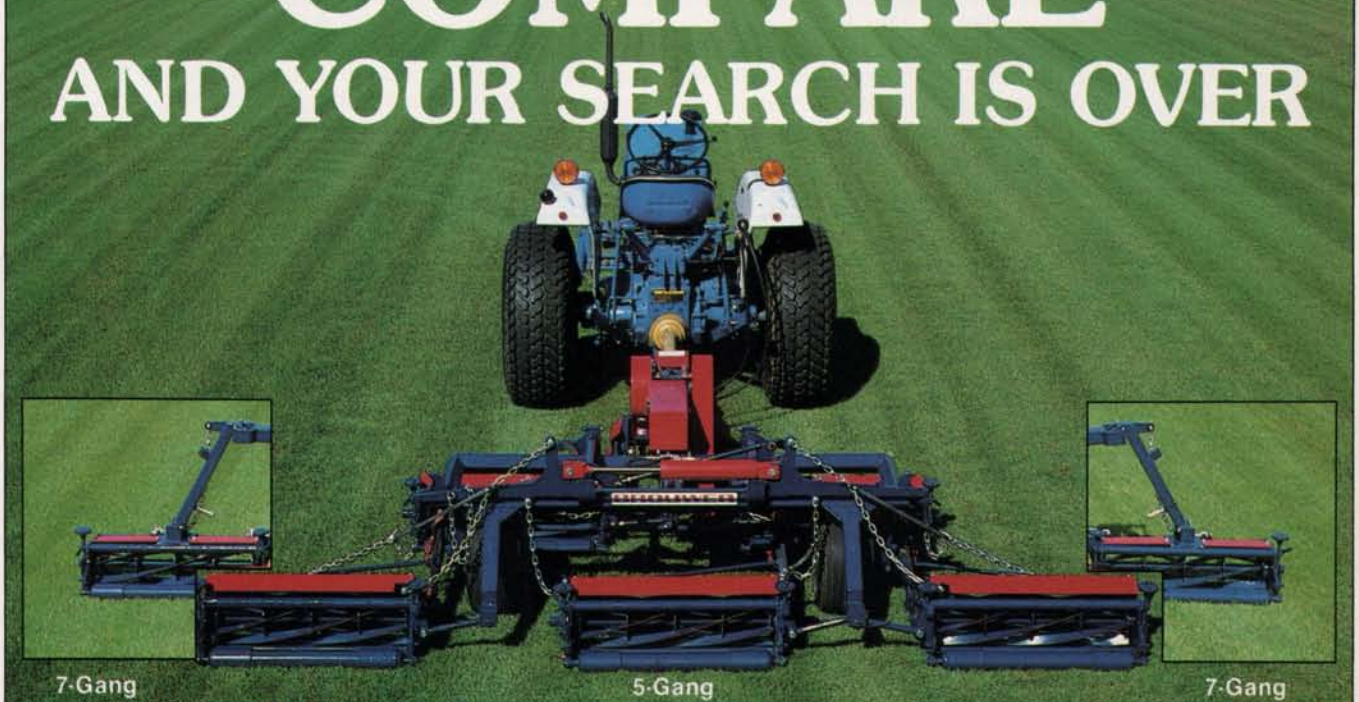

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Atlanta Rebounds

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tractors in the Atlanta area who has sports turf expertise. He does the grading for the Motocross and installs the new subsurface each March.

John is the second generation in the family landscape business. His company has also worked with the Fulton County Board of Education on its many high school fields, the University of Georgia with its modified sand rootzone field, Georgia Tech, the Dallas Cowboy Training Center in Irving, TX, and the Atlanta Falcons at their training facility in Suwannee, GA.

The Stadium Authority, Gray and Newpher work closely with Southern Turf Nurseries of Tifton, GA. President and agronomist Tim Bowyer and assistant vice president Turner Gibson assist in planning for the field. This committee came up with the idea of custom growing sod containing both Tifway (419) and perennial ryegrass. This takes the pressure off getting the bermuda out of dormancy by the first week of April. The ryegrass protects the dormant bermuda until the sod knits fully and temperatures rise. In May, Newpher's crew verticuts the field and gradually lowers the cutting height to discourage the remaining ryegrass.

From their experience with a modified sand field at the University of Georgia, Gray and Gibson suggested incorporating sand into the root zone every year. Following Motocross, the excess dirt is removed from the field and sand is mixed into the top eight inches of soil. The amount of sand ranges from one to four inches depending upon the texture of the soil. The sod is installed and topdressed with more sand. Gibson is careful to use the right sand and tests it before use for size and content.

Newpher is considering deep aerification as a temporary solution to his subsurface problems. He'd like to get the core holes down eight inches into the soil to encourage deeper rooting of the bermudagrass.

The injection pump was installed in less than a day providing Atlanta with new flexibility in fertilization.

Newpher and committee are trying to work out the details and timing for rootzone reconstruction with Atlanta/Fulton County Stadium Manager T. Herman Graves. "Timing will be essential in rebuilding the field with the current schedule," says Gray. Newpher believes that nothing is impossible and is looking for a way to meet the stadium's schedule and rebuild the field with a modified PAT design. One thing is clear, Newpher wants a natural field.

In 1983, Gray and Newpher sighted another tool to improve the playing surface, chemigation. "We'd get the field in top shape for a two-week homestand," says Newpher, "and then, since we couldn't apply granular chemicals for two weeks, we'd watch the field go downhill. With poor drainage we had

Sam Newpher (left) and John Gray during the GCSAA Show in San Francisco.

to be very careful when we watered in granular fertilizers and pesticides."

"I'd only been head grounds superintendent for one year when I went to a turf seminar put on by Mantek. Johnson taught me a great deal during the eight years I was his assistant, but now I was responsible and had to learn as much as possible from other sources. Mantek's Dr. Ed Kajihiro described a system which could inject the needed fertilizer and pesticides thorugh the Stadium's 17-year-old Rain Bird irrigation system. It sounded like a good solution to many different problems, but I was apprehensive."

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