



# THE NEWSLETTER

Golf Course Superintendents

Association OF NEW ENGLAND, INC.

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May 1997

## Regular inspection and maintenance are keys to a reliable irrigation system

by Robert Healey, A.S.I.C. / C.I.D.  
Irrigation Management Services

Your golf course irrigation system should be treated like any other piece of equipment on the golf course – and given periodic inspection and maintenance to ensure proper operation.

The irrigation system is most often the single most expensive tool a superintendent has to control the growing cycle of their turf. Yet amazingly little, if any, scheduled inspection and maintenance programs are in place on many golf courses.

Fairway and greens mowers receive tender loving care: washing after each use, daily oil checks, greasing, reels lapped, blades re-sharpened or replaced, and often re-painting yearly. Yet this golf course runs the irrigation system into the ground, until something breaks, and then you hear about what a lousy system they have – it's always breaking.

How long would your fairway or greens mowers run efficiently and effectively if all you did was to add gas, as needed? Would you be happy with the result of the cut or performance that these “non-maintained” mowers give, or their durability? No, of course not! Yet this is how irrigation systems are sometimes treated.

The superintendent needs to apply the same maintenance and inspection standards given to a 25-40K dollar mower, as to the 300-500K dollar irrigation system.

Today, most golf course maintenance departments have full-time equipment mechanics on staff. These professionals work strictly with your equipment, doing PM service and repairs, and keep your equipment in top operating condition. How many superintendents, who have a mechanic, have an irrigation specialist who does only irrigation? That sound we all just hear was a collective “Not Me!” Take a total of all your mechanical equipment, and in many cases, the value would not reach that of your irrigation components. Yet there is a mechanic, but no irrigation specialist.

Let's say your fairway mower breaks and you have no backup. You can go two or three days before repairs, borrow a mower from a neighboring course or supplier, adapt rough mowers as an emergency backup, or buy a new one. All you have lost is two or three days of cutting, maybe a few unhappy members who complain of the tall grass, but little, if any, permanent damage to the turf or course.

Let your irrigation system break and go “down” for two or three days. In some weather conditions, one day with no water will result in irreversible turf damage, let alone two or three days. When your irrigation system is “down”, often repairs must be done that day to prevent severe turf damage. Too often the value of the irrigation system is not appreciated until it goes “down.” Superintendents must be

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**Robert Healey  
Irrigation Management  
Services**

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prepared for these "down" times, to limit them and limit the time needed to get on-line again. Different reasons can cause a golf course irrigation system to go "down." By identifying these reasons and being prepared, the superintendent can eliminate or limit the "down" time in many cases.

The pumping system is one such area. Pumps can fail or power can be lost during storm conditions. I strongly recommend having an emergency backup PTO pump. All golf courses should have a PTO pump that will connect to your tractor, and to piping previously installed, in your pump house to enable you to bypass the "down" pumping system, and at a minimum, provide water to your tees and greens.

Second, the superintendent should modify their irrigation systems isolation valves to minimize the area of the course that needs to be shut down in case of a main line pipe break.

Third, the superintendent should maintain an irrigation parts inventory to handle the most common failures, so parts needed for the repairs are on hand. These parts include all sizes of pipe and repair couplings, isolation valves, electric valves, quick coupling valves, swing joints, fittings, concrete for thrust blocks, a spare satellite, wire tracer, wire, wire connectors, volt meter, and other necessary parts unique or common to your system.

Fourth, set up an irrigation inspection program, and learn to identify and repair malfunctioning irrigation equipment before it becomes a problem. In season, an irrigation specialist should be conducting daily monitoring. This technician should continually inspect the entire system as follows:

- (A) all greens - weekly
- (B) all tees - weekly
- (C) all fairways - over two weeks
- (D) pumping - daily
- (E) meters - daily
- (F) entire course - daily check for leaks

**The typical daily inspection should follow these guidelines:**

(1) Tour course, looking for areas that did not receive water or received too much, look for puddles, washouts, or draining heads. This is usually done first thing in the morning.

(2) Inspect three to five greens and tees daily.

(3) Inspect two to three fairways a day.

(4) Check pumping system and monitor meters daily.

(5) Superintendent check and adjusts, as needed, irrigation scheduling.

The inspection should take about four to five hours daily, thus leaving time for repairs or PM services that need to be done.

**When checking green, tee, or fairway sprinklers, use the following guidelines:**

(A) Check coverage (full or part), be sure sprinkler is covering the area of its intent, measure radius of throw, be sure head is turning completely. See if any surrounding trees or shrubs are blocking coverage, and trim these plants.

(B) Check disbursement at nozzles, nozzle pattern, and look for clogged or getting clogged nozzles. Minor problems can usually be taken care of in a few minutes time by removing the nozzle, cleaning and flushing the head or riser.

(C) Check pressure at discharge of nozzles, use a Pitot Tube, and log for future reference and comparisons. If several heads in line or in a group suddenly become weak or inoperative, this is a sign that a rock or other debris has entered the line, clogging a valve, or that your pipe has sprung a leak. Following your pipe layout plan, it is easy to locate the area of probable trouble.

*continued on page 6*

## Calendar

- |          |  |
|----------|--|
| May 5    | <b>GCSANE Scholarship &amp; Benevolence Tournament</b><br>Cohasset Country Club<br>Cohasset, Mass.<br>Supt. - James Carrol |
| June 9   | <b>GCSANE Monthly Meeting</b><br>Eastward Ho Country Club<br>Harwich, Mass.<br>Supt. - Brian Cowan, CGCS                   |
| July 7   | <b>GCSANE Monthly Meeting Team of Two Championship</b><br>Tedesco Country Club<br>Marblehead, Mass.<br>Supt. - Peter Hasak |
| August 4 | <b>GCSANE Monthly Meeting Championship</b><br>Winchester Country Club<br>Winchester, Mass.<br>Supt. - Daniel Higgins       |

# UMass Turfgrass Disease Research Report

by Gail L. Schumann,  
Associate Professor,  
Dept. of Microbiology,  
University of Massachusetts

We completed an interesting summer of field research in 1996 - officially ending Nov. 16, 1996 with establishment of a snow mold fungicide trial comprised of 33 treatments for Fusarium patch (pink snow mold) and 36 treatments for Typhula blight (gray snow mold). We conducted fungicide trials for dollar spot and brown patch as well as a fungicide (Eagle)/growth regulator interaction study.

A particularly interesting treatment in the fungicide trials was a new biocontrol product, Biotrek (Wilbur-Ellis Co.), a formulation of the fungus *Trichoderma harzianum*. We used a combination of granular and wettable powder formulations which provided significant dollar spot suppression relative to the non-treated plots. We also had a number of diagnostic samples, and numerous calls requesting a variety of information.

The UMass disease research program focuses on integrated management of the two diseases that require the most fungicide applications: brown patch and dollar spot. We hope to eventually combine cultural practices (in particular, nutrient management), disease prediction, and biocontrol into a program that will minimize disease and disease risk, minimize fungicide inputs, and reduce fungicide resistance problems with dollar spot. We have already developed a brown patch prediction model used in many parts of the U.S.

Student participants in this year's work were graduate student John Bresnahan (supported on federal research funds through the Microbiology Department), undergraduate plant pathology major Nathaniel Mitkowski (supported by the LT/GCSANE Research Fund), and Stockbridge turfgrass student Alan Tripp (supported by the Golf Course Managers Association of Cape Cod). John Bresnahan will complete his M.S. degree this spring. Nat Mitkowski is now applying to plant pathology graduate programs. Alan Tripp will graduate from the Stockbridge turf

management program in the spring. Much laboratory research is in progress by research technician M. Bess Dicklow (supported by department federal research funds and Extension funds) who also participated in summer research. I receive no university salary during summer months.

## Project #1: Improved management of Dollar Spot and Brown Patch by foliar nutrient monitoring and dew removal

Turf pathologists have long been frustrated by inability to give precise recommendations to turf managers about appropriate fertility for disease management. There is much research supporting the fact that many plant diseases are triggered and/or exacerbated by too much or too little nitrogen availability. The role of other nutrients is less obvious but certainly important. There is now a device that purports to give turf managers the ability to monitor nutrients in mowing clippings quickly and easily. It is called the Turf Anser 591 Nutrient Scanner from Karsten Turf, Inc. It uses near-infrared reflectance spectroscopy to determine nutrient content of turfgrass clippings. Samples are dried in a microwave oven, ground in a mill, then scanned in a matter of minutes. A computer program calculates nutrient analysis and prints results.

In 1994-95, we conducted growth chamber experiments using turfgrass grown in pots to determine nutrient levels and their effects on dollar spot and brown patch disease development. We confirmed these results in the field studies in which we demonstrated that disease was much more severe at low nitrogen levels and minimal at the higher levels. Because some disease is tolerated on fairways compared to putting greens, we are concentrating on disease management thresholds on creeping bentgrass maintained as a fairway (0.5 inch height of cut) in 1996.

In 1996, we repeated our field trials to confirm the 1995 results as follows:

**Nitrogen.** Nitrogen was monitored on a weekly basis using the Karsten device. Ammonium nitrate was the primary source of nitrogen with the exception of two applications of a balanced NPK which included Agrilene. On May 8, 1996, 0.37 lbs./1000 sq. ft. of 19-19-19 was applied to

the entire research area. Subsequent foliar tissue tests revealed the foliar N to be 4.5%. An additional 0.25 lbs./1000 sq. ft. of 19-19-19 was applied on May 20, 1996. Ammonium nitrate was applied for the remainder of the growing season.

Weather was generally cool and wet this past summer. Despite no further N applied to the "low" fertility plots after June 3, 1996, they remained at about 5% foliar N. There was good separation between "medium" and "high" N treatments, but there was little difference between "medium" and "low" treatments. Correlation between standard laboratory analysis and Karsten results, which take only minutes to complete, was excellent as in 1995.

**Dollar Spot.** Disease development was minimal in 1996 until mid-September. Because both the low and medium treatments maintained N levels we consider optimal for dollar spot management (5 to 5.5%), little disease developed. The amount of disease that developed in both treatments was very similar, which correlates well with foliar nitrogen level.

**Dew removal.** There was no significant difference between plots from which dew was removed each day at 7 a.m. This probably reflects low disease pressure in 1996.

**Conclusions and future plans.** Though disease levels were disappointing for 1996 we have gained confidence in the ability of the Karsten to provide "real time" foliar nutrient analysis data that can be valuable to turfgrass managers. Fertilizer added in spring to aid recovery of research plots following an exceptionally severe snow mold winter resulted in "low" treatment plots nearly the same as the medium treatment plots throughout the cool summer. Because publication of results requires at least two years of data, we would like to repeat this basic study for an additional year to confirm our proposed optimal foliar N of 5 - 5.5% as the level which will minimize dollar spot and brown patch, and to determine the role of dew removal in disease development. Under more typical disease pressure, the role of dew removal should be more apparent. We would like to test some surfactants for prevention of dew formation in a future study.

(Next month: Project #2)

## Mass. Pesticide Bureau News

# Earn contact credit hours through voluntary Use Observation & Application Records Inspection

Licensed and certified applicators can earn up to two contact credit hours by volunteer participation in an Application Records Inspection and Use Observation. This program offers the opportunity to participate in a dialogue with an inspector of the Pesticide Bureau. Errors found in records inspection will not be penalized through enforcement action during these inspections. This new program provides an ideal time to request clarification of regulations or other related matters.

One contact hour will be given to any licensed or certified applicator with whom the Pesticide Bureau performs a volunteer observation. Applicators can also earn one contact hour for voluntary participation in a records inspection. If a use observation and records inspection are both performed at the request of the applicator or pest control company, two credits will be given. These contact hours can only be earned once per calendar year. The Pesticide Bureau may not be able to honor all

requests, but will provide this program to applicators on a first-come, first-serve basis.

**What does a use observation entail?** The Pesticide Bureau conducts use observations to monitor application of commercial and agricultural pesticides. Important aspects of this inspection are:

- The following of label directions and attention to label warnings.
- Use of required safety equipment.
- Applicator knowledge of the application being performed.
- The conditions/appropriateness of equipment being used.
- Mixing, calibration, and storage.
- Pre-spray preparation.
- Knowledge of the pesticide product being used.
- A sample of the pesticide use-dilution may be taken and analyzed.

**What does a pesticide application records inspection entail?** The Pesticide Bureau has authority to inspect records of licensed and certified applicators. Records

are inspected to ensure they contain required elements set forth in 333 CMR 10.14. This inspection also offers an opportunity to examine the recording system and seek possible improvements.

For the small company, the owner being sole applicator, one contact hour will be earned for the use observation and the other contact hour for the records inspection. Larger organizations should have the licensed certified applicator responsible for maintaining records participating in the inspection. A larger organization may appoint an applicator to participate in the inspection for the purposes of this program. The Pesticide Bureau encourages the applicator to share what they learned with other applicators.

The Pesticide Bureau encourages applicators to participate in this program. For an appointment, please call: (617) 727-3020, Extension 134.

Mass. Dept. of Food & Agriculture

## GCSANE News

# “Remember when?”: People & events of GCSANE’s past

*Remember when?* recalls GCSANE’s significant events and individuals of the past.

### 25 years ago

Larry Bunn, GCSANE educational chairman, took a swipe at himself and the association in general over the lack of public relations by golf course superintendents on the eve of the annual superintendent/green chairman tournament.

“What usually happens in this tournament is that we do nothing more than socialize,” Bunn opined. “I’m not trying to say we can’t have a good time, but we’re missing the boat. There should be an exchange of ideas taking place, but there’s none.

“Why couldn’t we get to the site of the tournament an hour or so earlier and take a tour of the place? Usually, this tournament is played on one of the better member courses. It might open the eyes of the visiting green chairman, and maybe

those of the visiting super. After all, you learn every day of your life some way or another.”

### 15 years ago

Divot Drift congratulates Steve Chiavaroli and his wife on the birth of their baby girls. After the snowstorm of April 6 no one thought we’d be playing golf six days later. But Eastward Ho was ready, thanks to superintendent Brian Cowan and his staff. Part of the conditioning shapeup was shoveling off five greens. The home court advantage certainly paid off in the tournament, which was a four-man best-ball. Coming out on top was the foursome of Brian Cowan, Paul Miller, Mark Klimm, and Charlie Borden. Second place honors went to the team of Al Sanders, Dave Barber, Jack Cronin, and Bobby Brown. Dick Blake, a GCSANE stalwart and former national president, is taking a new position as superintendent at the

Card Sound Golf Club in Key Largo, Fla. In last month’s award-presenting action, Mel O’Kelly of Marshfield C.C. was honored with a 25-year pin, and Manny Francis, Sr. received the NEPGA Golden Golf Award for achievement in his field.

### 5 years ago

A research meeting on grant proposals was held at the Colonial Hilton with Paul Miller, Mike Nagle, Dick Duggan, and Ed Brearley in attendance.

Grants were approved for: Dr. Gail Schumann (UMass), summer path and necrotic ring spot, \$1,797; Dr. Pat Vittum (UMass), black turfgrass atanius, \$2,500; Dr. Rob Wick (UMass), Nematodes, \$6,000; and Dr. Stanley Swier (UNH), forecasting black cutworm on golf greens and biological control, \$7,950. After these grants, the research fund figures stood at \$12,753.

GERRY FINN

# **STUMP GRINDING**

“ WHY PULL ‘EM WHEN YOU CAN GRIND ‘EM ? ”

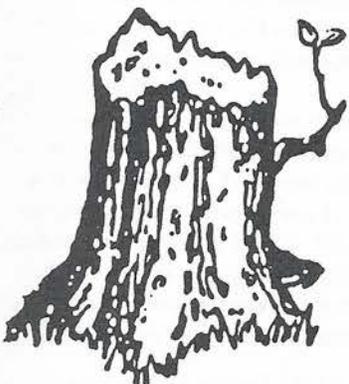
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## GCSAA News

# Excerpts from GCSAA Educational Sessions

Reported by  
Patrick Lucas, CGCS, Earth Works,  
West Wareham, Massachusetts

The following are excerpts from the GCSAA Concurrent Educational Sessions held February 10, 1997 in Las Vegas, Nevada.

**Helping Your Green Make the Grade,**  
by James Moore, USGA Mid-Continent  
Green Section Region:

- Most disasters are predictable, and many are preventable. Most disasters are a result of a combination of factors. Little things like putting traffic control up early before damage appears goes a long way to heading off problems before they get out of hand.
- Critical turf areas should be graded with the "scorecard" recently developed by the USGA Green Section. This scorecard is not only helpful for the turf managers, but is also a critical tool for communication by the Superintendent to the various club committees.
- It takes three years for an individual to learn the management of a piece of property.
- Anyone wanting to obtain the latest updated version of the turf scorecard can call the USGA Construction/Education Department at (817)776-0765.

**Do It Right From the Start,** by Michael Hurdzan, Ph.D. Architect Michael Hurdzan offers useful tips in the planning and implementation of both new construction and renovation projects. Many of these tips are also useful reminders in the day-to-day management of the course.

- Have a system, and do it right from the start.
- Identify the limitations of the site beforehand. The previously mentioned turf scorecard is useful for this task.
- Be aware of all the available technologies available for solutions. Usually there is no one right answer.
- Hire competent experts/specialists to help you solve a specific problem. For new construction projects, this certainly means involving the owners or owner's representative.
- Stop/Look/Listen/Ask. The two best tools are your eyes and common sense.
- Investigate several alternative methods for solving a problem.
- Trust the facts, not the claims. Learn from the experience of others!
- Plan for sufficient contingencies for both time and money. Use the best, most affordable methods.
- Monitor the quality of irrigation water.
- Use certified laboratories for various testing.
- Use qualified irrigation designers.
- Rely on brand names.

- Be like Santa. He's making a list and checking it twice. Inspect and document. You get what you inspect, not what you expect!
- In developing your system, be methodical, incorporating critical things into your system such as turf scorecard grades, irrigation water quality reports, soil tests and amendments, and results of newer turf cultivars which you have tried, etc.
- In construction, if you going to error, error on the side of good drainage.
- Do whatever you can to improve the "microclimate" of a problem turf area.
- Make no assumptions! Test, test, test. Especially with irrigation water quality.
- Don't compromise the long term for the short term.
- Manage soil air, not soil. Have more potential for air space. Water can always be added.

## UMass Extension News

### Turfgrass Research Field Day June 18

The UMass Extension and the Department of Plant & Soil Sciences will host a Field Day for turf professionals and associated grounds management professionals on Wednesday, June 18, 1997 at the University of Massachusetts Turf Research Facility, River Road, South Deerfield, Mass. This year's field day will include vendor displays and demonstrations.

The Field Day provides turf professionals with an opportunity to learn about current research projects, to meet with UMass researchers and associated staff, and to participate in field diagnostic and educational workshops.

Pesticide recertification contact hours and credits have been requested from all six New England states and New York.

Preregistration deadline is Friday, June 6, 1997. On-site registration is allowed, but will not include lunch.

For fees, registration, exhibitor, and other information, contact Thom Griffin, Manager, TurfResearch Facility, at (413) 545-3066, or Mary Owen, Extension Educator, Turf, at (508) 892-0382.

## Friend of the Association Profile

### Meet A. A. Will Materials Corporation

A. A. Will Materials Corporation, a 111-year-old construction materials manufacturer and supplier, has expanded its products, inventory, and marketing departments to service the golf course, parks, and recreations areas in Massachusetts and Rhode Island.

A fourth generation company founded in 1886, A. A. Will Materials Corporation has three locations. The main office in Stoughton, Mass., also serves as a transfer station and recycling facility. There is a sand and gravel operation in Lakeville, Mass, and a stone quarry in Freetown, Mass. All three locations are conveniently

located near major highways, allowing fast delivery, pickup, and service. All locations provide large material reserves.

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## Irrigation systems . . .

*continued from page 2*

(D) Check case to see if clean (impact heads in particular); remove sand, grass or debris.

(E) Check height of head, be sure discharge is clearing grass, be sure case is not being hit by mowers, check level of turf, be sure no scalping is occurring around head, and be sure head is still level.

(F) Once or twice a year, check nozzle size. Use a drill bit to compare to original size. Even brass nozzles will eventually erode and enlarge, and thus change flow rate, coverage, and Pr. rates.

(G) Check for weeping at all Valve-in-Heads and electric valves. Weeping usually indicates debris that has to be flushed out or cleaned out. If this doesn't work, visually check tubes or diaphragm, and clean, blow out, or replace as needed.

(H) Check low heads that are draining; they may indicate a weeping valve or you may need check valves.

(I) Check satellite for zones, review scheduling, look at connections at controller box, check for animal damage or insect larvae buildup.

(J) Log all work and keep records as to nozzle size, pressure at head radius of coverage, and speed for revolutions (especially important in two speed heads). Major changes in the time for one complete turn can indicate developing problems in the sprinkler.

These logged records, by comparison, can show a beginning of pressure loss, radius loss and identify many other developing situations before they develop into bigger problems. *Good records can often identify problems before a visual inspection can.*

### When checking valves, use the following guidelines:

(A) Check access to all valve boxes, where applicable.

(B) Check flow controls.

(C) Check all wire connections.

(D) Check to insure electric valve shuts down and opens, electrically and manually. If a single valve doesn't open, check solenoid, wiring or tubes. Check your plan for wire or tube route from satellite and track to locate break or weak link. Look at areas of new construction or recent work. If problem is electrical it can be common wire or power. Testing for continuity can help isolate the type of problem. If several zones are down, check satellite for both input and output power. If good, check area to first zone for damage to power or common wires. Target areas of recent work.

(E) Check all gate and ball valves to insure they open and close, and all reach tubes are clear of debris and accessible. Leaking around the top of a manual valve indicates that the packing nut needs tightening. Leaking through the valve means that either a stone or debris between the disc and seat or a damaged disk. Applying more pressure does no good; open and close the valve several times to try to

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## **DIVOT DRIFT...announcements...educational seminars...job opportunities ...tournament results...and miscellaneous items of interest to the membership.**

### GOVERNMENT RELATIONS

**National Turfgrass Evaluation Program (NTEP)** funding was cut again in the President's proposed budget for fiscal year 1998. Last year, successful grassroots lobbying by GCSAA members helped restore program funding slated for elimination, and even secured a 5% increase. NTEP staff believe the new funding cut was simply copied from last year's proposal.

**Voluntary guidelines** for above-ground storage tank spill prevention and containment practices will soon be issued by EPA. Recommendations from a 1996 GAO report critical of gaps in the EPA program were included in the 1997 EPA appropriations bill, pressuring EPA to act.

**Individuals in New Hampshire** who want to practice wetland science would be required under H.B. 197 to meet specific qualifications, obtain certification, and be regulated by a Board of Natural Scientists. Currently there are no standards for people calling themselves "wetland scientists."

**Environmental policy in Massachusetts** would be determined based on precautionary principles rather than scientific certainty under H.B. 3140. This action would give the go-ahead to ignore a lack of data when adopting new environmental protection laws.

### POSITIONS AVAILABLE

**Mechanic - Bass Rocks Golf Club, Gloucester, Mass.** Bass Rocks is currently seeking an individual for the position of golf course mechanic. Individual must have experience with internal combustion and diesel engine repair; electrical and hydraulic troubleshooting; knowledge of reel principles and grinding; ability to perform welding repairs; and will have purchasing power. The individual must be well organized and be able to keep accurate records. Contact: Patty Knaggs, Bass Rocks Golf Club, Gloucester, MA. Phone: (508) 283-7774; Fax: (508) 283-7571.

**Assistant Superintendent - Innis Arden Golf Club, Old Greenwich, Conn.** Innis Arden Golf Club is accepting applications for the assistant superintendent position. Candidates should have a degree in turfgrass management or related field, golf course experience, and an understanding of the game of golf. Computer experience is a plus. Position open immediately. Salary is commensurate with experience, plus benefits. Contact: Patrick Lucas, CGCS, Innis Arden Golf Club, 120 Tomac Avenue, Old Greenwich, CT 06870. Phone: (203) 359-0133; Fax: (203) 359-2552.

**Senior Assistant Golf Course Manager - Cape Cod National Golf Club, Brewster, Mass.** Individual will be involved in all phases of course construction and management. Specific areas of responsibility will include irrigation installation, programming, and repair; fertilizer and pesticide application; and recordkeeping and crew supervision. Requirements: B.S. in turfgrass management or related field. Candidates with A.S. will be considered. Minimum four years course management experience, two of which shall be at the supervisory level. Annual salary commensurate with experience and education. Send resumes to: Stephen G. Cadenelli, CGCS, Cape Cod National Golf Club, P. O. Box 686, Chatham, MA 02633.

**2nd Assistant Superintendent - Country Club of Pittsfield, Pittsfield, Mass.** The Country Club of Pittsfield is seeking a motivated individual to assist in the management of a Donald Ross designed 18-hole private club. The course will be installing irrigation system improvements in the fall. Qualifications include an A.S. or B.S. degree in turf management and two years experience on a golf course. A competitive compensation and benefits package will be offered. Send resumes to: James Conant, CGCS, Country Club of Pittsfield, 639 South Street, Box 538, Pittsfield, MA 01202.

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## A-OK Turf Equipment

9 Leuba Road, Coventry, RI 02816  
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Greens Groomer Brush, & used equipment.  
Mike Cornicelli - (401) 826-2584

## AA Will Materials Corporation

168 Washington St., Stoughton, MA 02072  
Top dressing & bunker sand, loam, decorative  
stone, & landscape materials. Est. 1886.  
Frank Will, Dan Graziano, Kevin LaPorte  
1-800-4-AAWILL

## Agirturf, Inc.

59 Dwight St., Hattfield, MA 01038  
Fertilizer, seed, and chemicals for turf.  
1-800-346-5048

## Allens Seed Store, Inc.

Specializing in quality seed and related  
golf course maintenance supplies.  
Gregg Allen - (401) 294-2722  
(car phone - (508) 577-1001)

## Baker Golf Cars

40 Walker St., Swansea, MA 02777  
Steve Fournier, Doug Hooper  
(508) 379-0092

## Bartlett Tree Experts

153 Rumford Ave., Newton, MA 02166  
Consulting, planning, IPM MoniTor®, pruning,  
fertilization, & plant appraisal  
Jack Kelly - (617) 969-5990

## Bay State Organic / MWRA

100 First Ave., Charlestown Navy Yard  
Boston, MA 02129  
Manufacturer & supplier of dry organic fertilizers  
Amy Barad - (617) 241-6261

## Bayer Corporation

118 Ellery Ave., Middletown, RI 02842  
Baylatox, Merit, Dylox, Tempo, Nemacur.  
Brad Herman - (401) 846-3515;  
FAX (401) 846-8012

## The Borden Company

Maynard, MA  
Bulk limestone dealer.  
Jack Borden - (508) 897-2571

## Boston Irrigation Company

Dedham, MA  
Distributor, irrigation supplies & accessories.  
John Ramey, Paul Kenyon, Robert Barbat  
(617) 461-1560

## The Cardinals, Inc.

166 River Rd., P. O. Box 520  
Unionville, CT 06085  
Golf course & landscape supplies.  
John Callahan - (203) 673-3699

## Cedar Lawn Tree Service, Inc.

32 Nickerson Road, Ashland, MA 01721  
Pruning, fertilization, removal, and  
professional care.  
William P. Maley - (508) 881-2622

## Geoffrey S. Cornish & Brian Silva

Golf Course Architects  
Fiddlers Green, Amherst, MA 01002

## Country Club Enterprises, Inc.

P. O. Box 820, Cataumet, MA 02534  
Club Car golf cars, carryalls, utility cars.  
Jim Casey, Dave Farina, Ed Maguire  
(508) 563-2284

## Country Golf, Inc.

4852 Westchester Dr., Traverse City, MI 49684  
Golf course construction & reconstruction;  
specialists in Donald Ross courses.  
Jery Deemer - (616) 947-5751

## Michael Drake Constuction, Inc.

240 Walnut Street, Framingham, MA 01701  
Golf course reconstruction; professional shaper.  
Michael Drake - (508) 875-8247

## Doering Equipment

P.O. Box N, Franklin, MA 02038  
Distributor of John Deere golf & turf equipment.  
Mark Doering - (508) 520-3629

## Elanco Products Company

31 Old Town Trail, Narragansett, RI 02882  
Bob Scott - (401) 376-7290

## F.D.I., Inc.

(Fairway Design Illustration)  
55 Railroad Ave., Warren, RI 02885  
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Joseph K. Martin, Robert Page  
(401) 245-7890 or 1-800-358-8337

## Gold Star Wholesale Nursery

& Sod Farm  
Bill Thompson  
Lexington, MA - (617) 861-1111  
Canterbury, NH - (603) 783-4717

## The Charles C. Hart Seed Co.

P. O. Box 9169, Weathersfield, CT 06109  
Roy Sibley, Dick Gurski  
1-800-326-HART

## Hartney Greymont

433 Chestnut St., Needham, MA 02192  
Tree care, landscape construction, consulting.  
Mark J. Tobin - (617) 444-1227

## International Golf Construction Co.

5 Purcell Rd., Arlington, MA 02174  
Golf course construction.  
Antonios Paganis  
(617) 648-2351 or (508) 428-3022

## Irrigation Management & Services

21 Lakeview Ave., Natick, MA 01760-4252  
Irrigation consultation, design & system  
evaluation.  
Bob Healey, ASIC, CID - (508) 653-0625

## Tom Irwin, Inc.

11B A St., Burlington, MA  
Jack Petersen, Wayne Ripley, Dennis Friel  
Paul Skafas, Chris Petersen  
1-800-582-5959

## Ken Jones Tire Co.

Worcester, MA  
Distributor of tires for lawn & garden, trucks,  
cars, industrial equipment, and golf carts.  
Gerry Jones - (508) 755-5255

## Landmark Construction

42 Chamock St., Beverly, MA 01915  
Tee/bunker shaping & remodeling,  
cart path work, drainage, tree planting,  
& landscape construction our specialty.  
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## Larchmont Eng. & Irrig. Co.

Larchmont Lane, Lexington, MA 02173  
Keith Savage - (617) 862-2550

## Lazaro's Golf Course Accessories

dba Hammond Paint & Chem. Co., Inc.  
738 Main St., Suite 223, Waltham, MA 02154  
Joseph Lazaro - (617) 647-3361

## LESCO, Inc.

20005 Lake Rd., Rocky River, OH 44116  
Ron Turniski, Mike Donohue  
1-800-321-5325

## Loff's Seed

22 Lantern Lane, Exeter, RI 02822  
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## Lycott Environmental Research, Inc.

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19 Turner Rd., P.O. Box 3218  
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and parking areas.  
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1119 Washington St., Weymouth, MA 02189  
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and oil/water separator installation.  
Greg Murphy - (617) 331-6446

## Modern Aeration Service, Inc.

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Kevin Osgood - (617) 630-1950

## Modern Tractor & Truck Service, Inc.

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## Nardone Sand & Gravel Co., Inc.

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Topdressing sand & mixes, bunker sands,  
root-zone mixes, loam, cart path materials,  
drainage stone.  
Greg Frederick - (508) 692-8221,  
(617) 648-6222

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Wilmington, Delaware  
David Sylvester - (203) 828-8905

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Specializing in turf & ornamental needs.  
(401) 397-8880

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Joe Farina - 1-800-660-2955

## J.P. Roberts Co.

Technical resource catalog; survey-weather-  
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& bulk detergents, sales, service, rentals  
Barry Hackett - (508) 752-8888

## Sawtelle Bros.

65 Glenn St., Lawrence, MA 01843  
Bob Brown, Larry Bunn, Mike Hannigan,  
Frank Higgins, John Lenhart  
(508) 682-9296

## Scotts Pro-Turf Div.

Mike Peterson, Regional Director  
Randy Hamilton - (508) 528-4642  
Richard Forni - (413) 534-8896

## Sodco, Inc.

P.O. Box 2, Slocum, RI 02877  
Matt Faherty, Pat Hogan  
Bluegrass/Fescue, Bluegrass/Rye,  
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Featuring Floratine Products, Precision Small  
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## TurfNet Associates, Inc.

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## Turf Products Corp.

157 Moody Road, Enfield, CT 06082  
Distributors of Toro irrigation and maintenance  
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Irrigation products: Tim Berge & Palmer Whitney;  
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## Turf Specialty, Inc.

15 Londonderry Rd., Londonderry, NH 03053  
Turf & ornamental supplies.  
Scott Mackintosh, Kevin Lyons,  
Dave Schermerhorn, John Lensing  
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## United Horticultural Supply

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Fertilizer, seed, chemicals, and IPM.  
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(508) 887-3672

## Zip Type Service

50 Kent St., Newburyport, MA 01950  
Design, printing, mailing,  
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Sheila Johnson - (508) 462-9358

## Irrigation systems

*continued from page 6*

flush the blockage. Then if still leaking, open, inspect seat or disc, and repair or replace as needed. *Remember, if you just flushed the blockage, the debris has gone somewhere else in the system.* If you are lucky enough to be on a dead-end line, now is time to flush the end of the line.

(F) Check pressure setting on all pressure regulating valves against log data, to insure proper setting. A difference of five to ten pounds can seriously affect intended Pr. rates.

### When checking field satellites, use the following guidelines:

- (A) Check connections.
- (B) Check grounding, and test once or twice yearly.
- (C) Check irrigation schedule; test manual operations of zones checked that day.
- (D) Test for continuity and voltage output and input to satellite.

- (E) Check and clean out larvae.
- (F) Test any rain moisture or shut off devices.
- (G) During winter, possibly remove satellites for storage.
- (H) Have on hand wire tracking tools to locate weak or broken wires.

### When checking pipes use these guidelines:

- (A) Traverse pipe route looking for puddles, flowing water, wet spots, places where mowers suddenly scalped turf, neighborhood kids surfing down the eighteenth fairway, and new lakes or ponds that have appeared over night.
  - (B) With help, activate zones and listen for water hammer sounds or unusual pipe noises.
- Like any other piece of equipment, a golf course irrigation system needs a scheduled PM program for optimum operation. Proper use of your system and proper procedures in daily maintenance inspections help keep the system

running at peak efficiency. The time spent in a complete irrigation inspection, maintenance, and preventive maintenance program will help insure limited "down" times.

Plan now to start off this irrigation season with a detailed irrigation maintenance program in place. Sit down with your irrigation technician and develop the program. Set up the method(s) to collect data, what data to collect, how to log, how to file the data, and a typical weekly inspection round. Be sure you have on hand for the irrigation technician any and all equipment and tools they will need.

Again, your irrigation system is most likely your most expensive and complex tool. Treat it so. With respect and care and you will be the beneficiary over the years, and other superintendents will wish they had a system like yours that never goes "down." Just lucky, I guess!

**Robert Healey, A.S.I.C. / C.I.D.**  
**Irrigation Management Services**

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