

THRU THE GREEN

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OUR OBJECTIVE: The collection, preservation, and dissemination of scientific and practical knowledge and to promote the efficient and economical maintenance of golf courses.

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PRESIDENT'S MESSAGE

Members of our group who are planning to participate in the GCSAA tournament in January please take notice. I am recruiting a team to represent our chapter in the team competition. Play as usual will be by the point system. The Gross Team Champion will receive the Scottish Trophy while the Net Team Champion will receive the Lamphier Net Award. Those of you who are interested in signing up to play on the chapter team, please contact me in the next couple of months.

Notice of a seminar sponsored by GCSAA has been sent to it's members. I have been asked to announce the program, Technical Training for your Spray Technician, will be held October 29 at Castlewood Country Club in Pleasanton. Registration for the one day seminar is \$95.00. Those requiring information please call 913/832/4444.

I would like to thank Stan Burgess for hosting our August meeting at Marin Country Club. The golf course was even better than I remembered it to be. I hit the ball all over the place so it was a complete tour. The hosting of the monthly meetings is one of the most important contributions made by our members. Without the work and effort required of the hosts of our monthly meetings, our group

would lose the ability to showcase the fine golf courses in Northern California. Hosting a meeting is work, inviting your peers to your golf course is not for the insecure. Too many of us have the feeling that everything has to be 'just right' to host a meeting. The August meeting has always been the hardest to book. I always schedule my annual visit from the USGA Green Section for August so that the report can focus on obvious areas of improvement needed.

Brian Bagley and Randy Gai are beginning to put together meetings for next year so let them know if you are interested in hosting a meeting. It is probably the most important contribution made by our members to our organization.

The next two meetings will be a little different in format. The September 14th meeting at Pasatiempo Golf Club will be an afternoon shotgun, followed by a meeting and dinner, so tell the wife you will be home late. The October Meeting will be hosted by the Sierra Nevada Chapter in Tahoe. This will leave you with two options-tell the wife you won't be home or the safe one, take her along and spend the weekend in Tahoe!

Rod



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CONSIDERING TIME AND HYDRAULICS IN IRRIGATION PROGRAMMING

The amount of time required to irrigate your golf course depends on the following variables:

1. The amount of irrigated area, broken down by zones of use; high use (tees, greens, fairways), medium use (roughs, clubhouse), low use (perimeter areas, driving range, extreme rough), etc.
2. The current water requirement for the various types (or zones) of turf and other plant material being irrigated.
3. The rate of precipitation being supplied to each zone by the irrigation system.
4. The efficiency of application within each zone.
5. The amount of water that the irrigation system can supply effectively at any given time.

The current value of each of these variables may be affected by any adjustments that are made to any other variable which may, in turn, affect the amount of time required to irrigate your golf course. It's a vicious circle.

If you are maintaining a typical golf course you probably have one additional "variable" in the weekly programming equation; the amount of time you have available to irrigate. This "variable" is dependent on how much time is left after the players, and your mowing crew, are finished using the course. This factor really should be considered a "seasonal variable" anyway because the course usage typically changes on a seasonal basis. Unfortunately the highest activity usage tends to be during the same season that the course needs to be irrigated the most. Even more unfortunate is the fact that this occurs during the same season that time available for irrigation is at its lowest. It's a vicious circle.

If you can't convince the pro and starter to limit play during the summer between 8:00 AM and 4:00 PM (and who can?) you will probably have to develop a seasonal programming schedule.

If you've been reading this seemingly endless series of articles about irrigation system programming in "Thru The Green" you should have values for all the variables described above except for "the amount of water your irrigation system can supply effectively at any given time". This variable is dependent on several factors of its own including type and capacity of water source, pump station capacity at efficient operating level, size and routing of pipe network, and water volume required by each zone of irrigation. Before we get into the calculations involved in this variable we should get a better idea about how much time is available to irrigate.

One of the easiest ways to determine available time is to pull the starter sheets for your course for last year and examine the seasonal trends for play, twilight or early bird play, tournament play, etc. You should also pull your own maintenance records and account for the time required for mowing, fertilization, top-dressing, system repairs, construction, and any other seasonal activities or planned projects that will affect the amount of time you can irrigate. Finally you should be aware of sunrise and sunset times throughout the year. This will give you an idea of the hours of darkness available for irrigation on a seasonal basis.

It may be helpful to develop a weekly seasonal chart that incorporates this data for reference when you put the whole programming picture together. An example of this chart may be as follows:

AVAILABLE IRRIGATION HOURS/ NIGHT (SUMMER):

	M	T	W	Th	F	S	Su
TIME (HRS)							
June Week 1	8	8	9	9	7	7	10
WEEKLY TOTAL							58
June Week 2	8	9	9	8	6	6	10
WEEKLY TOTAL							58

...and so on. This chart will assist in calculating the average number zones that need to run at the same time in order to irrigate your course within the weekly time allotment.

Next Month: Balancing Hydraulics based on Allotted Time.

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CAN YOU ANSWER ENVIRONMENTAL QUESTIONS ?

Here's the answers every superintendent should know well !

As someone involved with the game of golf, you may already be aware that golf courses are sometimes criticized for "damaging the environment."

The use of turf chemicals, the impact on water and soil quality, and the amount of irrigation water used are cited most often as public concerns about the golf industry.

Although most authorities agree that the maintenance of golf courses has comparatively little negative impact on the environment, we at the Golf Course Superintendents Association of America (GCSAA) believe that these issues must be addressed. And, through a comprehensive effort combining research, education and communication, GCSAA is leading the golf community's effort to minimize the potential for ecological harm resulting from course maintenance.

However, the biggest problem we have is public perception-or, more accurately, public misperception about the environmental impact of course. These inaccuracies, if left uncorrected, could pose a serious threat to the vitality and integrity of the game. You can help GCSAA change perceptions about our industry by reviewing the following overview and sharing this information with elected officials, decision-makers and others with whom you have contact. Please do not hesitate to pass this information to others who share our belief that golf is good for the environment.

1. Research has shown that golf courses do not contribute significantly to groundwater contamination. Several university and government studies (in Massachusetts, New York and Florida) indicate that when properly applied, pesticides and fertilizers used today on golf courses do not leach into groundwater in any significant amounts.

2. Modern turfgrass management practices (such as the use of slow-release formulations) can greatly reduce the potential for nitrogen leaching or runoff into water supplies. The organic (thatch) layer in healthy turfgrass also significantly reduces the potential for nutrient "movement."

3. An 18-hole golf course averages 140 acres. Pesticides and fertilizers are used only on certain portions of the golf course. The majority of the property often consists of natural areas that are not maintained with chemicals. These low-maintenance areas usually provide a home for wildlife, and include a diverse variety of native plants and large stands of trees.

4. Golf course superintendents are among the best-educated and most judicious users of chemical management tools. Today, most superintendents have university degrees in agronomy, horticulture or a related field. More than 3,500 superintendents also pursued continuing professional education through GCSAA last year. Although most golf courses do not apply "restricted-use" pesticides, virtually all course with GCSAA members have at least one staff person who is state-certified in the safe handling and use of these chemicals.


5. Because turf chemicals are often expensive, golf course superintendents have an economic incentive not to apply them. What's more, many superintendents entered the profession because of a love of nature and the outdoors and are strongly committed to conservation. In a recent survey, superintendents said they give extremely high priority to selecting maintenance practices that do not have a negative impact on the environment.

6. Golf courses typically compost grass clippings, thus reducing unnecessary contributions to Americas landfills. Grass clippings and leaves are usually composted in low-maintenance areas of the course. In some cases, the compost is recycled for use as a natural soil amendment. Composting is a growing and recommended practice for golf course operations.

7. The water used on golf courses can be an excellent investment in both economic and environmental terms. Irrigated golf courses generate billions of tourist and property tax dollars for state economies. (America's golf courses are also bringing an increasing number of international tourists to the United States.) When effectively irrigated, healthy turf provides numerous environmental benefits.

Properly maintained turfgrass:

- produces oxygen (carbon dioxide exchange)
- removes pollutants from the air
- cools the atmosphere (acts as a heat-sink)
- absorbs sound and glare
- prevents erosion
- filters natural and synthetic contaminants from rainfall and irrigation
- recharges critical groundwater supplies
- provides crucial "greenspace" in urban settings.



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Environment continued

Beyond these benefits, computerized irrigation systems and improved turfgrass varieties now allow course to use less water more efficiently to achieve the same level of conditioning.

Continuing research will provide even more "low-water" turfgrass varieties in the future.

8. GCSAA and the entire golf community are firmly committed to seeking answers through research. The United States Golf Association is funding a three-year \$3 million research that will provide a number of those answers.

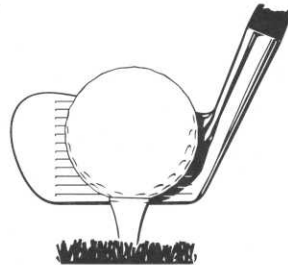
9. In addition to turf-related benefits, courses provide other important ecological and community assets. Golf course are:

- key sanctuaries for birds and other wildlife
- disposal and treatment sites for (effluent) wastewater
- attractive and environmentally sound "covers" for closed landfills and other ecologically damaged sites
- places for non-golf recreational activities such as jogging, walking, birdwatching, cross-country skiing and fishing
- businesses that provide hundreds of thousands of skilled and semi-skilled jobs.
- places for social interaction and community events
- civic benefactors that give major contributions to charities
- the keystone of a multi-billion-dollar industry nationwide
- community improvements that add value to land, thus increasing local tax bases.

10. On golf's behalf, GCSAA has developed a strong and cooperative relationship with the U.S. Environmental Protection Agency and other major regulatory groups. Though governmental affairs, professional education and public information, the association strives to make environmental responsibility a basic precept for its members.

Golf has the motivation, the resources and the willingness to address the issues now, before environmental questions seriously impede the growth of the game. By pursuing this enlightened path, it is hoped that golf will be increasingly perceived as a model environmental industry of the 1990's.

Reprinted from Greentips, published by the Golf Course Superintendents Association of America



A LOOK AHEAD

September 14	Pasitiempo CC
October 8	Sierra Nevada Chapter joint meeting
November 11,12	GCSANC /UC CooperativeExtension Golf Course Institute
December 4	Christmas Party



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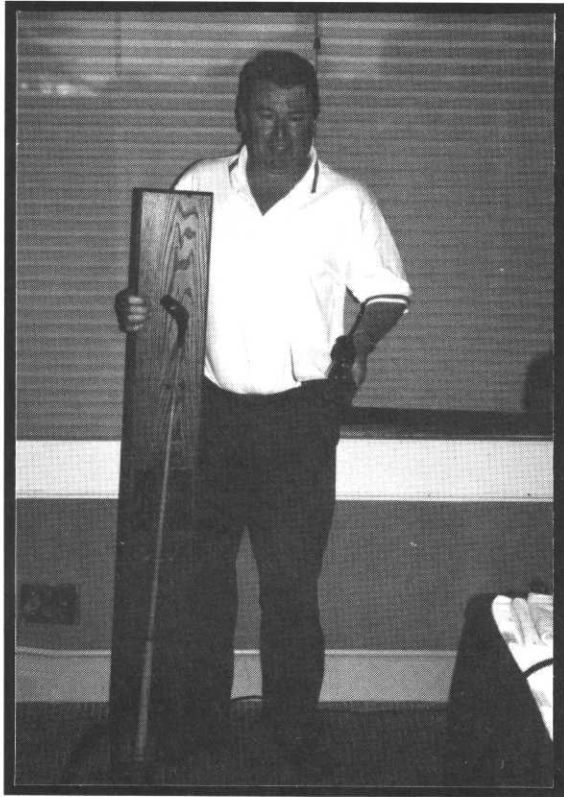
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