

THRU THE GREEN

EDITOR

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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. Information contained in this publication may be used freely, in whole or in part, without special permission as long as the true context is maintained. We would appreciate a credit line.



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PRESIDENTS MESSAGE

The results are in, the proposed amendments to articles and bylaws of the GCSAA were defeated by an almost three to one vote. This corresponded approximately to the vote from the Northern California Chapter. The only amendment to pass changed the third Article of Incorporation to read "To advance the art and science of turfgrass management; to collect and disseminate knowledge of golf course management with emphasis on efficient, economic and environmentally sound management of golf courses. The addition of the latter phase is 'politically correct' in the world today and also a good idea.

The recent election illustrates a classic case of poor communication and trying to change too much at once. The question arises, is the board to blame for this disaster or the committee that recommended them? Was the board overly influenced by staff interested including one of our finest, Charles Passios, were defeated for reelection due to their support of the amendments.

Pesticide labels are are changing to include more specific language regarding reentry on treated areas. Case in point, my favorite fungicide, which will go unnamed, used to control pythium changed its label. No fanfare or special notice, just a new reentry statement to comply with is as follows; "if entering into the treated area within 24 hours of application to perform hand labor tasks wear long pants, long sleeved shirt, shoes, socks, chemical/water resistant gloves, goggles or face shield. Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons." Question, how well can a person putt wearing rubber gloves and goggles?

I showed the new label to the local county agricultural inspector and we agreed the label would restrict golfers from a green for 24 hours. Next I went to the National and asked the company representatives about the new label and its impact for use on golf courses. They weren't aware of the changes, when I pointed it out to them they tried to tell me I was interpreting the label incorrectly. I told them it wasn't only my interpretation but my local agricultural inspectors also. The light went on, they finally realized they had a problem. The next day after some hurried communications I was assured a label would be prepared specifically for golf courses which would amend the restrictions listed on the current label. That may be easier said than done.

The point of this story is to emphasize that current laws and regulations regarding the use of pesticides are changing. The fact that you have been using a particular chemical for years with no problems does not mean you do not have to be careful. Read the label and make sure it is up to date. Pay particular attention to the reentry statements, the language is becoming much more stringent and restrictive.

Rod

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(con't from page 1)

*MSDS and PSIS

*Employees and their representatives' rights to receive information.

*Employees rights against discharge and discrimination.

*The location of the written Hazard Communication Program (PSIS A-8, pesticide use records, PSIS, MSDS, exposure/monitoring records, and training records).

-Training must be updated when new pesticides are handled.

-Training records must be maintained at a central work place location that is accessible to the employee.

Section 6761: Hazard Communication for Field Workers

Before employees are allowed to enter a field treated with a pesticide, the employer must make accessible to employees at the worksite a copy of the Written Hazard Communication Program for Employees Working in Fields (PSIS A-9). (Note: PSIS A-9 can be "made accessible" to employees in various ways, such as by placing in transportation vehicle; by posting at toilet facilities in the field; or by individually handing it out to each employee at the worksite).

-If employees are employed by a labor contractor, the operator of the property must inform the labor contractor of the location of records and other documents.

-The operator of the property must maintain at a central location and make accessible to employees who enter a treated field, the following:

*Records of pesticides applied to the field within the last two years.

*Specific PSIS or general information about pesticides applied to the field.

*MSDS for each pesticide applied to the field.

-If, after inquiry, no MSDS is available or provided, the operator of the property must keep a copy of the label or specified information.

-Prior to entering a treated field, employees must be informed of the location and availability of records and documents and their rights to access the information.

-If a request is received to review records and documents, the operator of the property must grant access to the employee or their representative within 48 hours.

-The employer must have available and make accessible at the worksite of a treated field, a crop sheet applicable to the crop. Upon request, the employer must read the crop sheet to the employee in a language he/she understands (see footnote).

-Crop sheets (English Spanish) provided by the Department of Pesticide Regulation must include the following information:

*A list of pesticides commonly applied to the crop.

*The month or season of the year each pesticide is usually applied to the crop.

*Information concerning possible human health hazards from pesticides.

*Information about required protective work procedures and clothing.

*A list of pesticide poisoning symptoms.

*Information about treatment for pesticide poisoning or injury.

(Note: employers are not required to make available crop sheets, unless they are available from the Department).


Article taken from the Divot News, February 1993.

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AN EXERCISE IN IRRIGATION PROGRAMMING....

Over the past year I've written a series of articles for "Thru The Green" describing the variables and calculation processes involved in developing an effective irrigation programming schedule. I'll try to wrap up the series this month by running through some simple sample calculations for a theoretical irrigation system program.

Let's assume you work at a course that has the following existing conditions:

-Pump station capacity = 1800 GPM. The pump station is centrally located between front and back nines and provides adequate pressure to all sprinklers at maximum demand conditions.

-Each nine is serviced by a leg of 10" mainline that splits into three legs of 6" mainline each servicing three holes. Each hole has a grid of 2" submain servicing the sprinklers in the fairway and rough.

-Full circle and part circle valve-in-head sprinklers are used, all with nozzle flow rate of 22GPM. Two sprinklers are typically wired to operate concurrently (as one zone) in fairways and roughs, sprinklers at tees and greens are wired individually.

-You have determined that your peak season watering times for various turf zones are as follows:

- Full circles in fairways @ 20 minutes/night
- Full circles in rough @ 15 minutes/ night
- Part circles in rough @ 8 minutes/night
- Full circles at greens @ 30 minutes/night
- Full circles at tees @ 20 minutes/night

-Your course has 500 sprinkler zones in fairways, 300 rough zones (200 zones for fulls, 100 zones for parts), 100 zones @ tees. The total number of sprinklers on your course in

approximately 1700 heads. You have 48 satellite controllers on your course (24 @ each side).

-You can irrigate for 8 hours per night during peak season.

If you want to verify that your pump station can provide the theoretical volume necessary to irrigate within the 8 hour water window you can use the following process:

Fairway fulls = 500 zones x 20 min. = 10,000 min./night x 44 GPM = 440,000 Gal./night

Rough fulls = 200 x 15 min. = 3000 min./night x 44 GPM = 132,000 Gal./night

Rough parts = 50 x 8 min. = 400 min./night x 44 GPM = 17,600 Gal./night

Green fulls = 100 x 30 min. = 3000 min./night x 22 GPM = 66,000 Gal./night

Tee fulls = 100 x 20 min. = 2000 min./night x 22 GPM = 44,000 Gal./night

Therefore, total nightly water use is approximately 699,600 Gal./night. 699,600 Gal./night divided by 8 hours = 87,450 Gal./Hr. divided by 60 min./Hr = 1457.50 gallons/minute demanded on a nightly basis at your course. Therefore you 1800 GPM pump station should be adequate if your pipe network allows you to operate all controllers concurrently.

To calculate a theoretical program to operate all controllers concurrently you need to determine how many controllers will operate on each mainline leg, and the maximum number of sprinklers that could possibly operate at each controller. In our example lets assume that 8 controllers will be operating concurrently

on each 6" mainline leg and a maximum of 2 sprinklers (one zone) will be operating at each controller.

8 controllers x 2 sprinklers = 16 sprinklers x 22 GPM = 352 GPM.

Since 6" CL200 PVC will provide up to 450 GPM at around 5 feet per second (the maximum velocity recommended), it appears that all 8 controllers can run concurrently on each 6" mainline leg. Continue back to the pump station, if all three legs of 6" pipe come together into the 10" mainline the volume of water flowing through the 10" pipe will be approximately 1056 GPM (352 GPM x 3 legs = 1056 GPM). This is acceptable because the velocity of 1056 GPM in 10" CL.200 PVC is approximately 4.5 feet per second. But hold on there! What happens when we get back to the pump station and the other side of the golf course meets

this leg? Theoretically we're trying to pull 2112 GPM from the pump station that is rated for 1800 GPM! somehow you have to reduce your total flow by 312 GPM in the program. You should be able to accomplish this fairly easily by making sure that you never run a series of programs where all operating controllers will be activating greens and tees programs on some controllers while fairways and roughs are operating elsewhere on the course. In this example you will have to run at least 15 controllers that have only one sprinkler activated while all the rest of the controllers are running zones with two sprinklers activated (312 GPM + 22 GPM/zone = 14.2 zones).

If you add up the total theoretical nightly irrigation time calculated earlier you will find that your system needs to run for a cumulative time of 18,400 minutes per night. That equates to 306 hours and 40 minutes per night which is divided among 48 controllers. If each controller has a similar mix of control zones types, your



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nightly irrigation time under this peak season condition should be approximately 6 hours and 25 minutes. Since you have 8 hours available to irrigate, you can use the extra 1 hour and 35 minutes for activating lower priority zones that may not have fit into the maximum pump station capacity programming time frame.

By starting with a "worst case" scenario in your theoretical programming calculations you can identify potential problem and develop fine tuning procedures to create an efficient seasonal irrigation program at your golf course before any potential problems become a costly reality. Continuing advancement in the field of computer irrigation control system technology has made it possible for the superintendent to monitor, analyze, and quickly adjust the field controllers to respond to varying water requirements for the irrigation zones on the course. In order to program and operate any control system effectively however, you need to know how much water is required by each irrigation zone, how much water your system can effectively provide to each zone, how many zones the system has and how long it

takes to irrigate effectively, and how much time is available to irrigate. After these variables are known it's just a matter of putting everything together into a logical program sequence. Good luck.

Next month: State Assembly Bill #325 and the Water Conservation Model Ordinance; How Might It Affect Your Course.

Doug Macdonald is an associate design consultant with Russell D. Mitchell & Associates, Inc., an irrigation system design and consultation firm in Walnut Creek, California.

NAUMANN'S NORCAL NEWS

Skip McCaslin has accepted the supt. position at San Jose CC. Skip was the assistant prior to his promotion. He is replacing **Bob Dauterman**...**Ed Miller** has left his position of Superintendent of Golf Course Maintenance for the Pebble Beach Company to become the Director of Grounds maintenance for Desert Highlands Golf Club in Scottsdale, Az...**Dave Davies** has left his supt. position at Dry Creek GC in Galt to become the Supt. at Palo Alto Muni GC under the direction of **Paul Dias**. Paul was recently promoted to the Director of Golf Course and Parks.

AUTOMATIC RAIN TURF DAY

Automatic Rain will hold a Turf Day on March 24, 1993 at the Alameda County Fairgrounds, Pleasanton, Calif.

Seminar topics to include the following: Pesticide Laws and Regulations; Common Diseases and Insect Problems in Landscape Trees; Pest Management and Water; Weed Control in Turf; Nutrient Management for Healthy Turf; Improving Vegetation Control Program; Spray Calibration, Why and How; Precipitation Rates and Sprinkler Irrigation; Troubleshooting Irrigation Systems; Troubleshooting Irrigation Control Valves; Troubleshooting Irrigation System Wiring. Also Toro "Red Iron" Equipment and outdoor demonstrations on irrigation equipment, over 30 manufacturers exhibits and more. CDFa credits have been applied for. Contact any of the 12 local Automatic Rain locations for registration info. There is no charge for the event by registration by March 17th is required.

For further information contact Pam Grady at 415-323-5161.



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EDITOR'S NOTES

If you can read this and have not paid your dues or filled out a questionnaire regarding your membership classification this is the last newsletter you will receive.

Please remit in full per the last statement you received or return your membership status sheet to the GCSANC office.

Along this line, *please* send in your monthly meeting registration on time. Walk-ins are not appreciated !!! This association gives a meal guarantee 48 hours ahead of the scheduled meeting. When you walk in, you are at the risk of not eating!!!! Please help all of us in the future by sending in meeting registrations on time.

Congratulations were given last month to Robert Costa, CGCS on his new certification. The GCSAA press release listed Bob as the Superintendent at Laguna Seca Golf Course. Bob is presently the Director of Golf Course Maintenance for the Lombardo Group.

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USGA/NCGA CONFERENCE

On March 24, 1993 at Castlewood Country Club, the annual USGA/NCGA will be held from 8:30 am-3:00 pm. Mr. Bob Murphy will moderate. This conference is intended for club directors, green chairmen, course owners and professional staff (superintendents, golf professionals and managers). Jackets are requested.

For further information, please contact Larry Gilhuly, Western Director, USGA Green Section, (714) 457-9464.



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Janice Avila
City of Visalia
Human Resources
815 W. Center
Visalia, Ca 93291-6095
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AA/EEO

A LOOK AHEAD

March 24	USGA/NCGA Meeting
April 21	Diablo Creek Golf Course
May 10	Rossmoor Golf Course
June 13,14	CGCSA Meeting
July 12	Supt./Pro Brookside CC
August	Open
September	Windsor Golf Club
October	Joint meeting with Sierra-Nevada
November	Institute
December	Christmas Party



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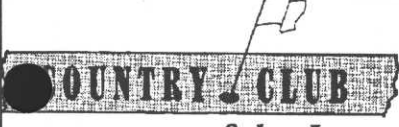
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