

USING YOUR CONTROL SYSTEM EFFECTIVELY

The objective of any golf course irrigation control system is to provide the amount of water required by the turf root zone within the time limits available for watering, and within the system's hydraulic limits for operation. If your control system involves dragging a hose around or connecting sprinklers into a quick coupling network, your water management technique is labor intensive and time consuming. Uniformity, efficiency water schedule adjustment, and operating costs are difficult to evaluate and manage using this type of system. If your system utilizes mechanical or electronic controllers that automatically activate valve systems for your sprinklers, you don't have to devote as much labor time to activating each control zone and your ability to make schedule adjustments or evaluate your system is connected to a computerized central monitoring station that communicates with your field controllers, you have the ability to evaluate and adjust your water application on a daily basis, you can record and analyze system operation and performance, and you may be able to directly link your system into equipment that will accurately monitor and respond to your system's flow characteristics or the current weather conditions on your course. Regardless of which control system your course employs, a few simple steps should be taken to organize your programming process into a manageable sequence.

The first step in organizing your control system programming involves categorizing areas of your course that have similar characteristics. A common list of major categories to start with might be Tees, Greens, Fairways, roughs, Driving Range, and Clubhouse. Each of these categories should then be evaluated for similar conditions or

special considerations. Tees, Greens, Fairways, and Roughs can be sub-categorized into the "front nine" and "Back nine". Fairways can be broken down into further sub-categories such as landing areas, major slopes, and swales; roughs can be separated into shallow rough, deep rough, waste areas, and so on. This categorization process will help you identify areas that should be grouped together into specific watering or controller programs. Each sub-category should be ranked by importance to help you determine which areas may require special attention.

A simple listing of each program categories in outline form will assist you in organizing your program format. An example of this may be as follow:

Program I. Tees

- A. Front Nine
- B. Back Nine

Program II. Greens

- A. Front Nine
- B. Back Nine

Program III. Fairways

- A. Front Nine
- B. Back Nine

Program IV. Rough

- A. Front Nine
- B. Back Nine

Program V. Other

- A. Driving Range
- B. Clubhouse

If you have followed the processes described in earlier articles for developing baseline programs for each of these irrigation zones, you will be able to determine the approximate total run time required to irrigate your course

within a one-week seasonal time period. This can be accomplished by determining the total number of zones for each sub-category and multiplying by the weekly run items required for each zone. For example, if weekly run time for Tee Zones in June is 28 minutes:

Program I. Tees

A. Front Nine

- 1. 40 zones x 28 min/wk = 1120 mins/wk

B. Back Nine

- 2. 38 zones x 28 min/wk = 1064 mins/wk

Therefore, the total weekly run time for tee zones in June is approximately 2184 min/wk (36.4 hrs/wk). By continuing this process for each program category, you will determine total weekly run time required by your golf course.

Because a golf course is a playfield, you are only allowed a certain amount of time to irrigate without disturbing the players. The next step in the process is to determine how much time you have available for irrigation each week. You may find that after totaling the weekly run times, the figures indicate that you cannot possibly irrigate your golf course because there isn't enough time available. If your system was designed properly, this time dilemma will be solved by running more than one zone at a time.

Next Month: Considering Time and Hydraulics In Irrigation Programming

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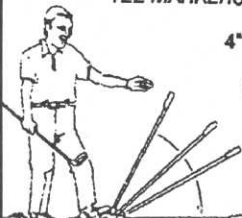
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