Smart Irrigation Month: Why it’s Important to Sports Turf Managers

Editor’s note: This article was supplied by Warren S. Gorowitz, Ewing Irrigation, Vice President–Sustainability & Conservation, and Danny Motylewski, Hunter Industries, Business Development–Water Conservation.

WHAT IS SMART IRRIGATION MONTH?

July has been deemed Smart Irrigation Month, first launched in 2005 by the Irrigation Association. In most areas July is typically the month of peak irrigation demand. The focus of Smart Irrigation Month is to promote the use of efficient irrigation products and water conservation practices to the public. This includes reviewing your irrigation system’s performance thru an irrigation audit as well as evaluating your irrigation system’s various components to ensure they are saving water and energy.

Experts on the Field; Partners in the Game: What does it mean to a Turf Manager? As a sports turf manager your priority is to provide a safe playing surface for those who use your fields. With the increased focus on sustainability everyone in the Green Industry needs to use our resources as efficiently as possible. Why not use SMART Irrigation Month as an opportunity to show your supervisors, players and the public what you’re doing to use water efficiently at your facility? By understanding the difference of irrigation “uniformity” (how uniformly the water is being applied to an area) versus “efficiency” (how efficiently the plant uses the amount of water being applied), are some of the first steps to being a better water manager.

WHY IRRIGATION AUDITS ARE IMPORTANT

In order to understand how your irrigation system is performing, doing an irrigation audit is

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critical. Think of this process as the easiest way to diagnose your irrigation system. In its simplest form, the irrigation audit involves placing catch cans in a zone on your field and measuring the consistency of the application of the sprinklers. The measurements are then calculated and can give a uniformity rating, in a percentage. These numbers can help you justify why you might need more funds for updating and/or retrofitting your system. If you’d like to learn more about irrigation auditing, visit the Irrigation Association’s Website (http://www.irrigation.org) and review the Certified Landscape Irrigation Auditor program. Classes are being taught throughout the year, around the country.

WHAT TYPES OF WATER-CONSERVING PRODUCTS SHOULD YOU BE USING?

The Irrigation Association formed a group to create testing protocols for various irrigation system components. SWAT (Smart Water Application Technology), has been testing Weather Based-Climatic Adjustment Controllers for more than 4 years and is now working with the EPA’s WaterSense Program, which will provide a WaterSense label on controllers that are 20% more efficient than their counterparts in the near future.

Controllers, with ET or soil moisture sensor adjustment, Water Budgeting, and Central Control software included, can allow the sports turf manager to have constant control over the fields and landscaping. Many controllers have special features to allow for more efficient scheduling of the runtimes for the zones. Cycle and soak help save water and prevent runoff, especially if there is a clay soil and/or slope that are being irrigated.

Flow management, which allows a zone to shut off immediately when there is a break in a line and/or sprinkler; thus saving valuable water and money! Real-time flow monitoring lets the field manager understand how much water is being used by each zone, with calculations created by the controller.
Rain shutoff devices are being tested by SWAT, which will bring an important approval to these products. By installing a unit that stops the sprinkler zones from running during a rainstorm, the manager eliminates calls from the public and/or private operation reporting water wasted when it’s raining. Included in some of these units are wind and freeze shutoff devices, too.

Understanding the importance of various sprinklers and the nozzles that are included with each one is imperative. Uniformity of the application of water is extremely important as it creates and/or eliminates brown “doughnuts” around the sprinklers and in the turf areas. Depending upon the type of soil, the precipitation rate of the sprinkler is very important to know. High precip rates can leach expensive applied chemicals through a sandy soil, while low precipitation rates allow the water to infiltrate into the soil at a more efficient rate. Matching precipitation rates with various sprinklers on the same zone is vital for proper scheduling of the runtimes. Mismatched nozzles, with differing precip rates promote overwatering and under watering turf and landscape areas.

Pressure regulation is important for saving irrigation water, as the direct correlation between pressure, flow and velocity (basic hydraulics) affect the radius, uniformity and efficiency of a system. Too high of pressure also promotes small, fast moving droplet sizes; prone to going everywhere (but on the turf) in high wind conditions. Too low, and the droplets get larger and the area being wa-
tered is not getting water applied uniformly. The higher the pressure, the more demand of the flow. Pressure regulation can be applied at the valve and/or in the sprinkler head itself. An example of how much water can be saved with rotors is:

Rotor zone example:
- 3.7 GPM @ 60 PSI
- 3.4 GPM @ 50 PSI (optimum)
- 0.3 GPM X 20 minutes = 6 gallons (saved)
- 120 irrigation days X 6 gallons = 720 gallons
- 20 heads X 720 gallons = 14,400 gallons per year saved

Programs, Initiatives, Education: All Lead to Excellent Water Managers in the Field. There are many key water-related initiatives taking place throughout the nation today. The United States Green Building Council’s LEED Rating System, ASLA Sustainable SITES Initiative, water budgeting per state, rebate programs, only to name a few. Many might be taking place in your region and you need to be aware of what’s taking place and how it affects your fields and surrounding landscapes.

Water conservation is not a trend; it’s a fact of life. Our most valuable resource is WATER…no two ways about it. Education is key to managing this and sharing your knowledge with colleagues, friends and families; much less your supervisor and your work establishment. There are many classes being offered by the Irrigation Association (online and in classroom settings); distributors conduct many types of irrigation-related classes that pertain to water conservation (Ewing Irrigation, for one); associations such as the Sports Turf Managers Association, have excellent regional and annual meetings with outstanding educational opportunities.

Finally, to ensure that you have a safe, healthy and beautiful playing surface, water conservation and awareness is vital. Professional turf managers need to constantly be ready to learn what is new and upcoming in this realm.

Remember July is SMART Irrigation Month but we should practice water efficiency throughout the year. You are the Experts on the Field, Partners in the Game.