

Trends

in water management for sports turf

With water use being so important to all sports turf managers today, we asked Douglas W. York, president of Ewing Irrigation, for some advice on using the resource efficiently.

SportsTurf: What are the recent trends in water management that sports turf managers can use to their advantage?

York: With the water scarcity issue beginning to have a widespread affect on sports turf managers across the country, we're witnessing a steady migration toward water-efficiency. Many professionals have been embracing water-efficient technologies and practices for some time; others are unsure where to start, or how to integrate some of these technologies into pre-existing budgets.

There are a wide variety of solutions currently available to help:

- **Water-Efficient Sprinklers.** In smaller areas and on sidelines, opt for more efficient irrigation heads, many of which are easily adapted to existing systems. Rotator-style heads offer better distribution uniformity and can save up to 30% of overall water usage.

- **"Smart" Controllers.** Smart controllers rely on weather or soil-moisture data to control irrigation system run times automatically.

- **ET Controllers.** Evapotranspiration or "ET" controllers gather and use information from local or on-site weather sensors to control run times automatically, ensuring plant material receives the required amount of water while reducing over-watering and runoff.

- **Moisture Sensors.** These subsurface devices placed directly under the rootzone are

among the most easily applied water-saving technologies. These sensors communicate with an irrigation controller to shut down the irrigation system when sufficient moisture is detected in the soil.

- **Low-Volume "Drip" Irrigation.** Drip irrigation systems apply water directly to the surface of the soil above a plant's rootzone, minimizing evaporation and maximizing the plant's ability to directly absorb water—requiring less water overall. Drip irrigation is ideal for landscape beds that may be adjacent to your fields.

- **Fertilizer Injection Systems (Fertigation).** Traditional fertilizer programs require the use of "extra" water during the application process to ensure that the fertilizer penetrates the soil layer. During the process of fertigation, liquid fertilizer is directly injected into the irrigation system, making it easier for nutrients to infiltrate a plant's rootzone, therefore eliminating the need for watering above and beyond the irrigation system's scheduled program run time. This process also eliminates the extra labor required for the "watering in" period for new fertilizer applications.

ST: What cultural practices can they follow that will assist in managing water better?

York: Sports turf managers should contact a Certified Landscape Irrigation Auditor to perform a water audit on the site. The audit process will reveal any inefficiency contained in the irrigation system, provide him or her with an accurate assessment of the system's distribution uniformity, and identify opportunities for improvement.

ST: What products are on the horizon that will further improve sports turf managers' ability to manage water?

York: With rigorous testing protocols—such as those set forth Irrigation Associations Smart Water Application Technologies (SWAT) and the Environmental Protection Agency's WaterSense program—manufacturers are investing in improvements to existing technologies. We can expect to see continued development in weather-based controllers and soil moisture sensor technology. Drought-resistant turfgrass varieties represent another area of exciting research being conducted across the country.

ST: Any thoughts to help managers battling tight budgets?

York: Propose a test site. If you are responsible for managing multiple complexes, or are managing a large complex with several zones, identify a single site or zone for testing. It is typically easier for a sports turf manager to approach his or her supervisor to request funding for a small "test" area than to retrofit or rebuild an entire complex.

Conduct a little research, and locate a case study for a site with similar conditions where true water savings was successfully demonstrated using your desired technology. Present this as a basis for starting your own test site.

Before you begin, have an irrigation audit performed prior to making any changes to the system in order to set a benchmark for the selected site or zone. Then implement the technology for an appropriate testing period. The data mined from the testing period will be your best weapon in combating financial resistance, especially if you compare your site's potential water savings over time with the initial cost of the upgrades. ■

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