



Water-saving tips for sports fields

Editor's note: The author is Rain Bird's area specification manager for the Southeast region.

THERE ARE MANY WAYS that sports turf managers can save water while still keeping their fields in top condition. Some of the tips I offer relate to system design. If the right product isn't specified for the right application, or at the

manufacturer's recommended spacing and pressure, the system may use too much water. Other tips involve regularly evaluating system performance and then making any necessary changes to improve performance moving forward.

DESIGN TIPS

- Use a variable frequency drive (VFD) pump. VFD pumps adjust pump motor speed based on the demand of the irrigation zones that are running. Not only can this save water, but will also save on electricity.
- Pay strict attention to zoning the irrigation system (how the system is sectioned or divided) for these reasons:
 - Fields with specific areas that incur heavier use should be zoned accordingly. For example, the centers of football, soccer or lacrosse fields typically endure more wear and tear. When it's time to re-seed or re-sod these areas, having them on a separate zone allows you to water them as needed and eliminates unnecessary watering of the perimeter.
 - Sunny and shady areas should be zoned separately so you can apply more or less water to each respective area. If there are sunny areas combined with shady areas in the same zone, many sports turf managers will water according to the needs of the sunny areas, which then results in over-watering the shaded ones.
 - Low-lying areas should also be zoned separately to minimize or eliminate run-off that can create boggy conditions in those areas.

Large area sprinklers as water conservation devices

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QUITE OFTEN people will see large expanses of turf in parks and on athletic fields, and think of how wasteful they are in regard to water. That perception is increased when they see the irrigation system running, and spraying large amounts of water into the air. What they don't understand is that those lush, green turf areas are more than just important recreational sites, they are air purifiers, contaminant filters, oxygen producers, air conditioners, and carbon sinks. They also provide us with pleasing green space, so important to human happiness, and help to offset the effects of hardscapes and buildings in our urban environment.

What about the water they use? Yes, water is needed to keep these surfaces in top shape, but the water used is for a good cause, as evidenced by the paragraph above. Everyone agrees that we need to clean our air, sequester carbon, offset the heat we create when we develop land, and provide safe play surfaces, and sports turf does all these things extremely well. The perception of some is their reality, and that is water is being wasted. But is it true? Professionally managed, well-maintained sports turf, watered by a professionally designed, installed, and maintained irrigation system actually uses water very efficiently, and that is what we will explore here.

Perception: Large rotors spraying great amounts of water are inefficient.

Fact: Manufacturers of sports turf sprinklers spend huge amounts of engineering, testing, and development time, and money to produce emission devices that rate in the excellent category as far as irrigation efficiency, as defined by the Irrigation Association. A properly designed and installed irrigation system operating at the appropriate pressure distributes water with a high degree of **uniformity**, ensuring the system only needs to run for the optimum amount of time to provide adequate water. Inefficient sprinklers that do a poor job of applying water

must run for extended time to make sure the driest area receives enough water to keep it green, while wetter areas are overwatered—sometimes by more than twice what they need. Concerning the large amounts of water coming out of the sprinkler, just remember, they are covering a greater amount of area when compared to spray sprinklers as well.

Perception: Large rotors operate for long periods of time compared to spray sprinklers, and that wastes water.

Fact: Large rotors do run for much longer times than typical spray sprinklers, and they need to. Small area spray sprinklers apply water at a high application rate, generally around 1.5 inches per hour. Some are much higher than that as well, but just imagine a rain storm that measured 1.5 inches in one hour; that's a lot of rain, at a rapid pace. Spray sprinklers by their nature apply a lot of water quickly, and only need to run for a short time to get the job done. Large rotors by comparison apply water at very slow rates, normally in the range of .5 inches per hour, one third the rate of sprays. They do need to run three times longer than spray sprinklers to apply the same amount of water to an area, but they do it with greater efficiency. Not only is their distribution of water superior to spray sprinklers, but the lower application rate ensures more of the water is absorbed by the soil, and is available for the plants. Soils in general cannot accept water at high rates, so some of the water applied by spray sprinklers may not reach its intended destination—the rootzone.

Irrigated turf for sports fields serves a variety of good purposes, and the supplemental irrigation of these spaces helps contribute to these benefits. Irrigation efficiency is the key to the responsible use of our water resources, and large area rotors are important tools in the professional manager's arsenal. ■