



Regularly check irrigation head nozzles and operation for efficiency and conservation. Photo by Joel Jackson.

Improve Your Water-Use Efficiency

By Todd Lowe

Water use will continue to be an important golf topic as they are big targets for environmentalists. While many golf courses manage their water well, we should make every effort to improve water-use efficiency and to document improvements over time. Below are some helpful tips to consider:

1. DECREASE IRRIGATED TURF ACREAGE

An obvious way to decrease water usage on golf courses is to decrease irrigated turf acreage. Many golf courses have converted bermudagrass turf areas into naturalized landscape plantings along out-of-play rough areas. In rough areas that receive limited play, bahiagrass is a good alternative as it requires

very little water and is less penal than ornamental grasses or shrubs.

2. LEVEL IRRIGATION HEADS

Leveling irrigation heads is an ongoing practice on golf courses as they settle over time. However, did you know that you can improve irrigation efficiency by as much as 20 percent by making sure they are level?

3. NOZZLES

Nozzles can be installed to improve irrigation use and efficiency. Most nozzles generally last five to seven years and it is important to replace them as necessary to improve your distribution uniformity. Companies like Full Coverage Irrigation (www.fcinozzles.com)

specialize in optimizing distribution with improved nozzles.

4. IMPROVE IRRIGATION DESIGN

Older irrigation systems contain large heads that are spaced far apart. Such heads are often referred to as “water cannons” as they spray a large amount of water over a long distance. Newer irrigation designs often use smaller heads spaced closer together. Dry spots can occur in areas with sandy soils or nematodes, and improved irrigation designs allow staff to apply water only where necessary with minimal wastage. This is certainly not a cheap fix; but most systems are replaced every 25 years and it is important to have a qualified irrigation designer to create an efficient design for your golf course.

5. Improve controller efficiency

Older irrigation controllers block several heads together on the same station, while newer systems allow for single head control. Isolated dry spots are difficult to irrigate with such systems without wasting water, as multiple heads are run at the same time.

6. SENSORS

Portable soil probes, like the Spectrum TDR, measure soil moisture and provide turfgrass managers with objective numbers that can be used to improve irrigation scheduling. These units also have the ability to log data based on GPS and can provide moisture mapping. In-ground units are also available from other companies, but are more costly and they can only measure water in the area that they are installed. Also, it is important to be aware of their location during soil cultivation practices.

7. IRRIGATION AUDITING

Become a certified irrigation auditor. The GCSAA offers a two-day seminar each year where participants can learn the basics of irrigation distribution, uniformity, and how to audit your system. Some water management districts in Florida have helped golf courses with irrigation system auditing as well.

Advances in technology will continue with golf course irrigation systems and provide better prescription irrigation. Newer technology is being developed and innovative systems like subsurface irrigation are becoming increasingly popular with golf courses, especially around bunker faces. Also, mowers with infrared sensors may one day be able to tell turfgrass managers when the turf is becoming dry. In any case, we must continually look at ways to decrease the use of natural resources for an environmentally sustainable future of our industry. ■

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