



Conserving water on sports turf

THE PERCEPTION OF WATER CONSERVATION as strictly low water use does not work very well for sports fields. Sports fields are subject to high traffic where the performance is judged by safety, playability, aesthetics, and durability produced by the optimum application of cultural practices, including irrigation.

Choice of turf species and cultivars, irrigation system design, hardware, field construction, and management all have an integral role in sports turf water conservation.

The primary criteria for choosing grasses for sports fields are traffic tolerance and fast recovery from injury. Water conservation on sports fields is less about the turfgrass than about the management, while traffic tolerance is very much about the grass.

Grasses commonly selected for sports fields are bermudagrass, Kentucky bluegrass, perennial ryegrass, and tall fescue. Where adapted the bermudagrasses, especially the hybrids, have excellent traffic tolerance and recovery rate and are among the lowest water users. Kentucky bluegrasses, perennial ryegrasses, and tall fescues are the sports turf species of choice in cool climates generally requiring more water than bermudagrasses. The difference in water use and traffic tolerance between cultivars within a species measured under research conditions likely would not be noticed in day-to-day operation of a sports turf complex.

The turfgrass industry is active in developing new cultivars and the performance of the new cultivars is evaluated regionally at universities under the cover of the National Turfgrass Evaluation Program (NTEP). NTEP has reports of the performance of the cultivars available online (www.ntep.org).

The most critical means of sports turf water conservation is irriga-

tion system distribution uniformity. Poor uniformity not only wastes water, but nullifies the benefit from the other cultural practices and lessens traffic tolerance. Patterns are caused by mal-functioning hardware, a poor design, low pressure, incorrect installation, and poor maintenance of the hardware. The system must function efficiently or water conservation is merely an exercise in futility.

How a field is constructed often is as much a determining factor in the effectiveness of the irrigation as is the design and construction of the irrigation system. Soil or sand rootzone, uniformity of the rootzone, sub-

surface drainage, and surface grade determine the percolation rate, water holding capacity, and potential for runoff.

Irrigation management tools available to the manager include moisture sensors tied into the controllers and evapotranspiration (ET) weather stations for water replacement calculations.

The scheduling of irrigation is the most misunderstood and difficult factor in irrigating sports fields, even with the technological tools. The irrigation needs of the field must be worked around sports activities, entertainment events, weather, and politics.

Soil compaction inherent to sport turf facilities reduces water infiltration decreasing traffic tolerance and causing runoff.

Compaction is reduced by core cultivation. Thatch control by vertical mowing is also a cultural practice that improves infiltration and reduces runoff.

There is no real savings in keeping the soil moisture level below optimum for turfgrass growth on a sports field particularly when safety to athletes may be compromised. The art of irrigation calls upon the combination of science, experience, and management for sports turf performance. ■

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Water drop image courtesy of istockphoto.com