

# Essence of Life: Water is the Key Ingredient

A healthy turf requires constant vigilance, and water is a vital ingredient. Every athlete wants to play on perfect, green grass that is soft and resilient, yet firm enough for good footing. These same athletes also want a field that is tough, wear-resistant, and weed-free.

"Water management is a key component of good field design and maintenance," says Dr. James Watson, Vice President & Agronomist for the Toro Company. Dr. Watson consults with sports fields around the world. He also works with Disney's Wide World of Sports® and is involved in preparing stadia for elite competitions, such as the World Cup.



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Even the heartiest turfgrass cannot maintain its growth and resiliency without supplemental watering, and some fields require more precise watering than others. Fields that sustain intensive play or that support football, rugby, or American football, need sand-based soils to ensure good playing surfaces while avoiding soil compaction. However, sand-based fields do not hold water or nutrients well and must therefore be watered more frequently, with smaller amounts of water. These fields also require smaller amounts of fertilizers applied more often. Fertilizers or nutrients may also be applied through an appropriately designed irrigation system, through a process known as "fertigation."

Water may also be applied to turfgrass in several ways to keep it green and resilient throughout the growing season. Hand watering is an effective way to treat stress areas but is most useful when used in conjunction with an installed irrigation system.

Another external watering option is the use of sprinklers that

pull themselves on a hose or wire-travelling sprinklers. They are largely limited to very small areas of established turf, as this method washes away grass seedlings during the grow-in phase. In addition, they require labour to move the equipment to various field areas and must be watched to ensure that they move freely, avoid obstacles, and are not subject to vandals.

In cases where soil is heavy or compacted, an automated system is capable of running multiple cycles to ensure water infiltration into the soils and percolation through the seedbed. Quick cycling capability is also effective for newly seeded or sodded fields, and when turf needs to be syringed to affect evaporative cooling during times of extreme heat and stress. Every field should be equipped with quick coupling valves around the field to allow hand watering or syringing of turf and to provide emergency water. They can be easily installed with automatic irrigation systems.

Water management also includes conservation strategies. Only an automatic irrigation system provides fingertip controls that alter irrigation cycling, which will conserve water and apply it efficiently and uniformly. The system may also include a rain switch to shut off automatic sprinkling during rainfall.

Another consideration when choosing an irrigation method is response time by support personnel. Missed watering cycles due to equipment failure can be a death-blow to athletic turf. When selecting irrigation equipment, it is important to choose a reputable supplier that offers local field support to customers.

With many stadium debates surrounding professional athletics and continual growth in community fields, groundskeepers are challenged to provide optimum turf under ever changing financial and social conditions. Good water management decisions by today's groundskeepers will ensure every athlete plays on the toughest, safest, and greenest turf possible. ♦

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*Note: Toro irrigation systems are found on the world's top sports venues including the Stade de France and Disney's Wide World of Sports complex.*

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