Summertime - Irrigation at Its Most Critical

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Although working on the end of a hose may not sound or look important, it is a job that if left to the untrained can lead to job hunting for golf course superintendents. Water management is critical in hot, wet summers.

Timing of irrigation is important in relation to disease activity in that the length of time that leaf surface and thatch remain wet likely affects fungus spore germination and therefore success of fungal entry. Irrigation is most beneficial when applied in the cool, early morning period as leaf blades can dry before mid-day temperatures rise and sugar-laden guttation droplets are washed off the leaf blades, reducing available fungal substrate.

Water movement into and through a soil is affected by soil texture, topography, thatch accumulation, soil moisure, compaction, and other factors. The water available to the turfgrass plant will vary depending upon rooting depth and type of soil mixture. In a sand green, plant available water may range from 0.4 to 1.0 inches of water per foot, whereas in a clay loam the range would vary between 1.8 and 2.1 inches of available water per foot of soil. Obviously the sandy soil will require more frequent irrigation if the rooting depth and turfgrass density are equal. Frequency of irrigation will also be affected by evapotranspiration rates which average from 0.11 to 0.16 inches per day from April to September in most areas of Virginia. This represents roughly 3000 to 4400 gallons of water lost per day that must be replenished by rainfall or irrigation if the soil moisture reservoir is inadequate.

Syringing is an important method of cooling turf areas that are entering drought or heat stress. It is different from normal irrigation in that it is not designed to wet the soil, but to mist the plants. Turfgrass plants with limited root systems incapable of absorbing adequate amounts of water can rapidly develop internal water deficits which, if not corrected, can lead to death of the plant. Bentgrass and annual bluegrass are very prone to this dry wilt death.

The practice of syringing is an art and should not be relegated to anyone without good common sense. When an untrained individual is faced with the impending death of turf due to dry wilt, there is a great tendency to overwater the turf and throw the plants into "wet wilt," which is just as deadily as "dry wilt." Wet wilt commonly occurs on poorly drained areas where the soil is saturated and the plant cannot absorb water because of a combination of a lack of oxygen in the warm soil and very low transpiration rates due to extremely high humidity near the leaf surface. It is thought that the lack of oxygen decreases respiration in the roots leading to root die-back and the possibility of disease interaction.

The theory of syringing is to simply place a mist of water on the surface of the leaf. The cooling effect arises from the fact that the water absorbs some of the sun's heat. Obviously, the cooler the water, the greater the cooling effect. However, as the sun's rays impinge on cool or warm water on the leaf blade, it is converted from the liquid state to a vapor state. This conversion of water from a liquid to a gas requires approximately 539 calories of energy for every gram of water converted. If the water were not present on the blade of grass to be converted to gas, this same energy would simply hit the blade and increase the leaf temperature.

If well-drained sandy greens are exhibiting dry wilt symptoms, more than a syringing may be necessary, especially if the roots at a 6- to 8-inch depth are dieing back because of lack of moisture. Likewise, the decision to irrigate on a poorly drained soil, when a syringing was really what was needed, could lead to death of the turfgrass plants. It is essential that the individual making the decision about whether a green needs to be syringed or irrigated have a soil probe. This will allow the individual to observe soil moisture conditions, rooting depth, and health and to make an informed decision about whether to syringe or irrigate.

Making informed decisions about whether to syringe or irrigate is essential to successful golf green management in Virginia. It demands good common sense, a detailed knowledge of the soil types being irrigated, evapotranspiration rates for the area, and the depth of the root system being managed.

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Nick Vance Reaches Match Play Semis

Nick Vance defeated Walter Montross 5 and 3 at Green Spring Valley Hunt Club on June 12 to reach the upper bracket semifinal of the annual Match Play Championship; he will play the winner of the postponed John Tutich-Frank Shirk match, which will be played at Piney Branch at 8 a.m. on July 10. In the lower bracket semifinal, Dave Fairbank defeated George Renault to win the right to meet Gerry Gerard, a second-round winner over Dick Gieselman. The foursome of semifinalists will go off at 11 a.m. on July 10. Other golfers will participate in a low net and gross stroke play event with a $3 entre fee.

Winners in the open play tournament at Green Spring Valley were Tom Turner, who took low gross with 77, matching out Robby Nelson; Paul O'Leary was third with 80. In the net division, Bill Neus won with a 70, two strokes up on Ken Braun and Bob Miller.

MAAGCS Mourns Dick Watson

Richard Watson, known to friends as Dick and the last living charter member of MAAGCS, died at age 87 on May 28 in NIH. Before retirement in 1970, he had been superintendent at Chevy Chase Club for 38 years and had served as a consultant in the building and maintenance of a number of area courses, including Burning Tree, Congressional, Columbia, Belle Haven, and Army Navy. Dick came to the U.S. in 1922 from his homeland in Scotland, after serving in the British Army in World War I, and worked on golf courses for his cousin, Robert Pryde, in New England. His first local superintendent's post was at the old Indian Spring Country Club, starting in 1927, and he thus was on hand for the founding of the MAAGCS in 1928.