

IRRIGATION

Sandy Tatum, vice-president of the United States Golf Association gave a talk regarding golf course operations to the American Society of Golf Course Architects at Pebble Beach. During the course of his talk he dwelt at some length on the practice of many, if not most, golf courses to apply far too much water. "In fact", he stated, "Far too many superintendents apply much more water than is required by the grass plants." He further stated, "I would hope that there is a place prepared in purgatory for those who have wet, soggy, golf courses even in the time of the years when they should be dry."

There is no surer way to encourage disease, encroachment of annual bluegrass (*Poa Annua*), cause foot-printing of greens, rutting of fairways, weeds, poor cutting by fairway units, poor grass vigor, destruction of soil quality, leaching of fertilizers, than by overwatering.

George Blake of the Soil Science Department, University of Minnesota, passes along this tip to superintendents about overwatering your course. According to Blake, too much water is wasted on golf courses these days. "Plants normally grow if watered thoroughly, but less frequently," says Blake. "Healthy roots aren't developed in wet soils. They develop during the drying out cycle."

"Some overwatering problems are due to poor system design. A good shop drawing is one thing, but more often than not systems are set up without taking into consideration the contours and low ground areas on the course."

"Cut down on your sprinkling time. See how little irrigation you can get away with. Adjust down till you border on the lean side. Your turf should respond with greater health and vigor."

Dr. James Beard, probably one of the world's foremost turf authorities, says that, "The net result of an irrigation frequency in excess of that required to maintain a positive plant water balance is an overall reduction in turfgrass vigor and quality as evidenced by the decreased root and shoot growth. The weakened, less vigorous turf is more subject to weed invasion, diseases, insects, nematodes, and damage from traffic. In addition, the turfgrass plants may become lighter green, more spindly; and less tolerant to heat, cold, and drought stress."

Musser's TURF MANAGEMENT, the Bible of golf course superintendents, says, "Water should be used sparingly during the transition from the wet to the dry season, with maximum periods between waterings. This will help to produce a hard turf with a deep root

system and a slow growth rate that is more capable of withstanding adverse conditions. It will permit withholding water during unfavorable weather for longer periods than is possible when grass is in a succulent condition."

A superintendent must carefully monitor the water needs of greens, tees, and fairways. Weather reports must be carefully noted. The evaporation-transpiration rates should be examined closely to determine water loss and need. Virtually every superintendent in the Pacific Northwest, if he wants to keep his course playable, will start to cut down on water application about August 15. It is at this time that the nights are beginning to be longer, the time each day that the temperature is apt to be higher than 80 degrees is shorter; morning dews are returning, sub-surface soil moisture starts to move up. Shorter irrigation periods are used and if cool, cloudy weather or perhaps early Fall rains come, irrigation is drastically reduced. Long-term average rainfall records show that August receives .84 of an inch of rain. September jumps to 1.66; October to 3.45; November to 6.30. This year, because of heavy rains in August it was possible to eliminate supplemental irrigation for some period of time.

If we do not cut down on watering in the Fall months, we would go into the winter season with soggy fairways, greens that would footprint badly and difficult maintenance problems. We could not achieve a good cut on fairways, soil compaction would be a real problem with poor drainage the immediate result. A beautiful golf course is the end result of proper water management. Turf management experts say water sparingly—you will have better turf. We concur completely.

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