



Water, Water, Everywhere?

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IT DOESN'T TAKE very long these days for the well to run dry! In many of the Northeastern and Mid-Atlantic states, 1980 and 1981 have been dry years, and, suddenly, we find water in short supply. People tend to forget that from 1972 to 1978, precipitation was plentiful in these states. Indeed, these were among the wettest years on record. And now, two consecutive dry years cause golf course superintendents to be concerned.

In 1981, some golf courses experienced irrigation restrictions. Fairway irrigation was not permitted in some areas. This may be the sign of the future for many of us. Because of the ever-increasing

costs and demand for clean water because of population growth and for industrial use, more and more golf clubs are investigating the possibility of reducing fairway acreage, reducing fairway irrigation, and encouraging drought-tolerant grasses.

Many clubs were surprised at how their permanent fairway grasses played and survived last year with no irrigation. On golf courses with bentgrass fairways (cut at $\frac{3}{4}$ -inch in the summer), one of the major problems of the golf superintendent was mower injury, particularly at the perimeters of the fairway where the mowers turn. The damage was alleviated by using lighter mowing equipment. *Poa annua*, with poor heat



Do bentgrass turning areas take a beating?

and drought tolerance, did not survive. The loss of *Poa annua* is always the biggest shock to members. Those golf courses having large amounts of *Poa* in their fairways would be wise to encourage permanent grasses, right now, for the future.

The effect of lighter mowing equipment on cool-season grasses deserves further evaluation. Will lighter mowing equipment actually reduce water requirements of grass? It's worth looking into. Grasses maintained on perimeters of fairways with lighter mowers seem to withstand heat and water stress much better during the summer. Permanent grasses also seem encouraged by lighter mowers.

THOSE CLUBS WITH water restrictions found a saving in their golf course operation budget. Less fungicides, insecticides, and fertilizers were required. At one club, constantly bothered by Japanese beetle grubs, no insecticide applications were required

in 1981. Brown patch, normally a problem on bentgrass fairways in these areas, did not require any fungicide sprayings. Dollarspot, however, did strike; it required normal spray applications at most clubs. The water bill at clubs with restrictions was, of course, much less than in 1980. A club in Philadelphia, with bentgrass fairways, saved 11.5 million gallons of water, worth about \$10,000.

Non-irrigated Kentucky bluegrass fairways in these areas, cut at $\frac{3}{4}$ -inch, also came through the summer in good condition. *Fusarium roseum* and the loss of *Poa annua* were the major concerns. Tillering of the Kentucky bluegrass into the weak areas was very noticeable from mid-July through September.

On golf courses with large numbers of trees adjacent to the fairway, tree root pruning can be very effective in "saving" the water for the grass plant. A trenching machine, rotary hoe, or a homemade tree root pruner can work wonders.

All grasses require water for survival. However, as was observed in areas of the Northeast and Middle-Atlantic regions last year, fairway grasses can and should be maintained using minimal amounts of water. Many clubs learned a valuable lesson. None of us should forget it! We can still produce good golfing turf today with less water.

As to the future, improved turf-producing grasses with low water requirements are needed. Researchers will soon be concentrating in this and other important areas with research grants from the USGA Green Section. The turfgrass industry is not the cause of the water shortage problem. Rather, we are part of the answer. We have the land for the application of effluent water and thus are able to use it, filter it and return it to the potable underground supply. But until research can provide us with new grasses, we must take steps now to manage irrigation water more carefully and use those grasses already available for the job at hand.