

from **THE IMPORTANCE OF WATER MANAGEMENT**

by **Fred V. Grau,**

**Consulting Agronomist, College Park, Maryland**

Drought years in 1963, 1964, and 1965 in the Northeast created an upsurge in the installation of irrigation systems. Water was thought to be the answer to the problem. A survey conducted in 1968 by Dr. Harper, Penn State, showed that irrigation produced a whole new set of problems.

77% reported decrease in Kentucky blue and red fescue

81% reported increase in Poa annua (some indicated 90 to 100%)

Height of cut had to be lowered.

78% said that mowings were doubled

22% said that mowings were tripled

Weeds increased, there was more thatch build-up, new grasses had to be introduced, renovation became necessary, fungicide use increased, and fertilizer requirements doubled and trebled.

Water provides films around solid particles which act as a lubricant. With traffic the soil particles become rearranged in the direction of more compaction. Pore spaces were reduced from 33.1% to 6.1% in one study. The weight of the non-compacted soil was 68 pounds per cubic foot. After compaction the same soil weighed 112 pounds.

Roots of turfgrass have been found at considerable depths when there is good sub-surface drainage, where the soil is permeable and water has been used in moderation. In California the roots of Merion bluegrass were drawing moisture below 3 feet. Roots of bentgrasses on putting greens have been found to be active below 12 inches. The secret is permeability, good drainage, and good water management.



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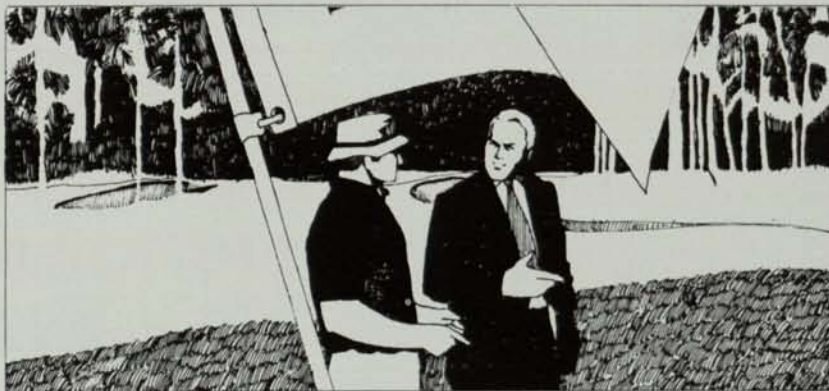
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