

should be applied. There is little difference between the percentage populations of permanent grasses on plots that received natural rainfall and on plots which received water as needed. However, the water-as-needed plots were green and in good playing condition during a drought period in July, whereas the unwatered plots were brown and hard. The population of permanent grasses in the unwatered plots did not deteriorate because the drought was of short duration. "The results should not be interpreted as indicating that irrigation is undesirable or unnecessary, but only that it must be used properly."

The amount of water to be applied in one application will be governed by the capacity of a given soil to store it in available form, and until better practical methods are devised for testing the quantity of available water that a soil will hold, it must remain a matter of experience and good judgment.

"From a practical standpoint, differences in storage capacity between sandy soils and silts or clay types mean that, although the sandy soils must be watered more frequently, the quantity applied in a single sprinkler run can be much lower . . ."

If either type soil is well drained, excess watering is wasted water because the surplus drains away. If soils are compacted, excessive watering is dangerous.

Proper Rate of Watering

Experimental evidence has shown that water intake is not governed by increas-

ing the volume applied. Soils have specific absorptive capacities, and increasing the rate of application may result in a reduction of total intake. The importance of soil compaction should also be taken into consideration, because reduced pore space as a result of surface compaction further lowers the intake of water. This applies to soils under a turf cover as well as fallow soils. Also, as the rate of water intake is not constant, the sprinkler should run for 10 to 15 minutes before attempting to determine the intake rate of a given soil.

Subsoil compaction and impervious layers below the surface also affect watering practices. Much has been written already concerning correction of these problems. The danger of sudden rains following water application can be reduced materially if minimum quantities are applied. Modern aeration equipment will correct the condition of surface compaction which results in slow water intake.

The writer concludes with the statement that, if we accept the experimental evidence, "we cannot escape the task of re-examining our watering programs in the light of the capacity of our soil and the rate at which it can take the water we apply. At the least, we will recognize that good watering practice must be based on something more than the capacity of our system and the size of the sprinkler heads."

Abstracted from an article by H. B. Musser in the March-April, 1950, issue of The Greenkeepers' Reporter.

BRIEF BUT IMPORTANT

Joseph Valentine, Merion's golf course superintendent and discoverer of Merion bluegrass, covered himself with glory during the Golden Anniversary Open Championship. Merion's turf represented the tops for championship play. *Firmness* characterized all areas and is the mark of championship turf. *Close-cut* and *true* are other identifying marks of tournament turf. Incidentally,

Joe is one of the few superintendents who has a hand in picking each new green committee chairman. **M. E. Farnham's** interest in the newer grasses at the Philadelphia Country Club, Spring Mill, is focused on Z-52 zoysia, U-3 Bermuda and Merion bluegrass. A large nursery of U-3 was started from one square foot obtained from USGA Green Section. Z-52 is being increased by 2-

inch plugs from original square foot. Farnham is testing 2-inch pluggers. Tees are being repaired by 2-inch plugs—the regular tee divot cutter makes too hard work in sod of these new deep-rooted grasses. Crabgrass is catching “what for” in Penn State’s experimental setup at Spring Mill.

Saucon Valley is readying for USGA Amateur in 1951 and is progressing soundly under joint guidance of **Leonard Strong**, Superintendent, **V. J. Pazetti** and **Bob Bennett**, with paternal guidance of **Eugene G. Grace**. This will be a great course for the Amateur; every hole is a framed picture. Capon Springs Hotel and Farms, West Virginia, has a delightful, natural nine-hole course run by the **Austin** family. The course is a recent addition to the USGA family. Tee mats made of fibre board are helping to solve the bare-tee problem.

Color television tests over WNBW in Washington, D. C., recently had **Fred V. Grau** and **Maynard Speece** showing an audience the latest in turf. It is believed to have been the first time Merion bluegrass, U-3 Bermuda, Z-52 zoysia and Maleic hydrazide have been televised in color. The latter is for slowing down growth so people won’t have to mow so often; only trouble is it kills the grass after a while. Color engineers were pleased with the results.

Dr. J. A. DeFrance, at Kingston, R. I., will have a great show for Field Days, September 6 and 7—improved Colonial bents on the way, better seed-bed sterilization, crabgrass control, plots of zoysia, more emphasis on Arlington Congressional mixture of creeping bent for disease resistance. Merion bluegrass is outstanding; surely wish we had more seed. **Charlie Allen**, DeFrance’s assistant, is the mainstay of the turf plots. He grows grass nursery after hours to supplement his income and just sold his lawn. **Dr. Glenn W. Burton**, Southeastern Turf Research Station, Tifton, Ga., announces a change in dates for Turf Conference and Field Days. New dates are September 7 and 8. A conflict with



Dr. William Daniel is the new turf specialist in the Department of Agronomy at Purdue University. Dr. Daniel completed his studies for Ph. D. degree at Michigan State College early this year under a turf research fellowship sponsored jointly by USGA Green Section, Midwest Regional Turf Foundation and Detroit District Golf Association. He will head turf-research and turf-extension work at Purdue.

Toro distributors’ meeting made the change advisable—many southern greenkeepers go to the meetings with their distributors. **Burton** and **Robinson** should have a real show. Penn State’s Turf Field Days, September 11 and 12, under **H. B. Musser** will be worth traveling for. “Turf Management,” USGA’s new book, is in the galley-proof stage. Look for announcements of its release. **Dr. James R. Watson, Jr.**, who recently finished his studies for a Ph. D. at Penn State under USGA Green Section fellowship and is now in turf research at College Station, Texas, reports first annual Turf Field Day at the Experiment Station, with encouragement. Jim did a great job on soil compaction and irrigation at Penn State.