



Education Never Stops in This Business

By **EMILIO STRAZZA**

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The Northeastern region was subjected to a very severe drought during the spring and summer of 1962. Our Round Hill Club seemed to be in the center of the area most severely affected by the absence of rainfall. To cite an old cliché, "It's an ill wind that blows nobody good" and this was indeed true in my case. In past years it was my practice to irrigate fairways frequently, and I tried to put on the equivalent of approximately $\frac{1}{2}$ inch rainfall per application. Although this method was never entirely satisfactory, it appeared to be the best that we could do with the fairway watering system that we had. The sum total of our output is 150 gallons per minute.

The severity of the early spring drought in '62 prompted me to re-examine standard irrigation practices of former years as it appeared evident that we could not hold our turf to the satisfaction of our membership or our workers if the drought were prolonged. After 40 years as Superintendent at the Round Hill Club I felt I could afford to gamble a bit so after some discussion with two trusted employees of long standing, Gus Powell, foreman,

and Francis Chiappetta, mechanic, I decided to alter our former technique by watering deeper, but watering less frequently. We therefore changed our technique to put out four sprinkler heads at night for nine hours at a setting. This provided the equivalent of 3 inches of rainfall per irrigation. To the surprise and satisfaction of both the club members and ourselves we found this deep, infrequent watering resulted in a uniform penetration of moisture to a depth of 15 inches. The turf and soil was never overly wet or soggy after irrigation, on the contrary the soil was loose and friable and roots were white, vigorous, and healthy to a depth of approximately 10 inches. This deep irrigation apparently helped maintain a more uniform soil moisture and temperature, and an improved capillarity provided roots with needed moisture for extended periods. Initially 20 days elapsed before we returned to the same setting between irrigations, and as the season progressed we were able to extend the interval to 26 days before the turf showed tell-tale signs of wilting.

Since our experiment worked so well

in 1962, we now feel that we have progressed beyond the trial and error method of irrigation at Round Hill. This technique worked very well under our conditions during a year when climate was extremely favorable to cool-season grass growth. Whether this technique will work again this year under different climatic conditions only time will tell. However, I feel it will.

I also feel that more adequate liming in recent years has also had a tremendous influence on the more efficient use of water. If I had the past 40 years to do over again there are two phases of a management program that I would study more thoroughly. I am confident that I would use limestone more generously and I would strongly pursue a program of less frequent but more thorough (deeper) irrigation.



"Molly" Strazza examines soil moisture penetration in a fairway. The soil core removed to a depth of 15 inches indicates moisture present at that depth.

Water and Turf Diseases

By **HOLMAN M. GRIFFIN**

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Plant diseases have been a problem to man since the dawn of history, and there has been a constant effort to find methods of alleviating or preventing them. Blight and mildew were known in biblical times, and Aristotle described wheat rust in 350 B. C. During these early times the causes of disease were unknown and accordingly many superstitious explanations were offered. At least one of the explanations was that the diseases were caused by demons or angry gods inflicting punishment on the people. In order to frighten away the demons or appease the gods, complex rituals were performed or prayers were offered. This was somewhat like the witch doctor approach some backward nations still use for curing human disease, and it constitutes the first-known attempts at plant disease control.

The following directions for plant disease control date back to 1790 and are a good example of some of the

earlier experimentations in this field. Take one bushel of fresh cow dung, one-half bushel lime rubbish from old buildings, one-half bushel wood ashes, one-sixteenth bushel pit or river sand. The last three are to be sifted fine before they are mixed. Then work them together with a spade and afterward with a wooden beater until the stuff is very smooth like fine plaster used on ceilings of rooms. The mixture was made to the proper consistency with soapsuds or wine; and after its application to the plant, it was dusted over with dry powder of wood ashes mixed with the sixth part of the same quantity of burnt bones.

Experiments with mixtures such as these were the forerunners of the successful experimentation that has resulted in modern controls for plant diseases. Extensive research has now given us chemical as well as cultural methods for combating turf diseases, but these principles and controls must