

house. The club built in a completely fire-proof manner, and has fire extinguishers placed in the right places. This matter of fire protection and insurance has been something of a problem for Westmoor as the club is located miles from the nearest fire facilities. Deposit guaranteeing payment for any necessary trips of fire fighting equipment have been made with three fire departments in the nearest suburban towns, and men from these departments have inspected the clubhouse during course of construction, making some valuable recommendations. Insurance inspectors checked the plans for the clubhouse and they also figured in making the nearest possible complete elimination of fire risk at Westmoor.

## Fight Texas Sun With 232 Water Outlets

BY FRANCIS SCHEIDER,

*Professional, Brook Hollow Golf Club, Dallas, Texas.*

THE average yearly rainfall at Dallas, Texas, for the period from May 1st until November 1st is 18.21 inches, therefore, one readily can see just how much irrigation our Bermuda grass requires to keep it verdant during the long hot and dry summer months.

We start watering in the early spring about March 20th, just when the tender Bermuda awakes from its winter sleep, and then confine our watering to only the greens and tees. About one month later we start to irrigate the fairways, tees, and greens regularly and water continually until the first frost comes which usually occurs around November 15th.

I have had the pleasure of viewing a great many watering systems at various golf clubs but have yet to see one quite as complete as the one we have here at Brook Hollow; our water supply is obtained from the Trinity river which flows along the very edge of our property.

On the banks of the river, we constructed a concrete well and run water into it through a 24 inch cement casing, the casing being screened at both ends to keep out trash, etc. The well is five by seven by 18 feet deep, or just about the depth of the river at that particular point. Near the well, about 25 feet away we built our waterproof concrete pumping station. It stands above high water mark about 18 feet and extends into the ground about 18 feet more. The pump is bolted to the con-

crete floor of this station. The pumping outfit consists of an electrically driven direct drive centrifugal pump capable of pumping eight hundred gallons of water a minute. The tank which is 160 feet high and has a capacity of 100,000 gallons, is situated about a quarter of a mile from the pump house. An eight-inch main is its



Fairway sprinklers and pressure from its water-tower keep Brook Hollow fairways verdant.

crete floor of this station. The pumping outfit consists of an electrically driven direct drive centrifugal pump capable of pumping eight hundred gallons of water a minute. The tank which is 160 feet high and has a capacity of 100,000 gallons, is situated about a quarter of a mile from the pump house. An eight-inch main is its feed supply. In the summer months when we are watering continually we pump almost direct to the sprinklers the tank absorbing only the surplus. Without a sprinkler going it takes about two hours to fill the tank but on the other hand with 50 sprinklers running it only absorbs enough water to run over in from five to six hours. The motor is equipped with a cut-off and acts automatically when the tank is filled.

We have a total of 232 one inch outlets at Brook Hollow, one fairway (number five), having 24 alone. With but few exceptions we have two outlets on every tee and green as some of our tees run 50 yards long. We use Buckner fairway sprinklers running over fifty at one time. Our greens and tees are watered on alternate nights while the fairways are watered continually day and night. To take care of all this watering we use over 6500 feet of one inch hose. We start watering the greens at eight o'clock in the evening and water until five in the morning when the hose is coiled and left to be moved to the adjoining tee the next night.

One man takes care of the eighteen greens making a round about every hour. One man also takes care of the fairways at night, for we keep about 34 sprinklers running on them also.

In the morning when the day man comes on he sees that all the dry spots are thoroughly soaked before the hose is transferred to the other fairways. We

water from three to four fairways at a time, going over some of them twice a week. Due to the fact that our soil is sandy loam it requires a great amount of artificial irrigation, therefore, it is necessary for us to use over 600,000 gallons of water every twenty-four hours. Thank Heaven we don't have to purchase it by the gallon.

I am well aware that when to apply water has been a controversial subject among greenskeepers and others interested in the proper maintenance of golf courses. Here in Texas where the weather gets very hot in the summer one cannot confine his efforts to night watering alone—we just have to water continually.

## Check Up on Your Records of Course

By C. A. TREGILLUS

**I**N GOLF greenkeeping, as in other lines of human endeavor, we are living in an age of eager progress: something new and better is recorded in each succeeding issue of our journals. With every new purchase of mechanical equipment, with every change in method, there is an unconscious speculation on how long before it will be superseded by something a little more up-to-date, a little more efficient and a little more scientific. We are breathless with expectancy that some improvement will steal a march and catch us unawares.

The urge for efficiency—perfection—has brought untold benefits to the modern golfer, and newcomers to the game little realize the fullness of their inheritance. To assist with the formation of new courses and metamorphosis of old ones, there are unlimited funds of information available from many sources, both commercial and academic; information based on practical experience and scientific investigation; so that new ventures may be launched on the wave-crest of advanced ideas. But, no matter how crammed with information, equipped with the last word in mechanical appliance, or provided with the most serviceable seeds or turf, there is still much to be gained before any club can be considered properly established in its greenkeeping methods. The missing quantity is individual experience, which must be gathered on the spot. A greenkeeper, though well informed and expert in his vocation, swallows a gilded pill when he takes charge of a new course. No two individual courses are identically alike. Those side by side have much in common, but retain their singularities, both as regards layout and turf, in spite of all attempts at standardization in methods. He must build

up a history of experience and observation to reinforce his technical skill before he feels competent to understand and manage the peculiarities of his new charge.

All improvement and all progress is based upon previous experience; the changes that are made this year depend upon what happened last season and the season before; the improvements in machines put on the market this year result from the behavior of earlier models and so on.

### How Are Our Records

The whole point of the story is this: are we logging our course along the river of progress and are we holding on to the experience of today to use it tomorrow? The keeping of full records of all that happens upon the course cannot be too strongly urged. The bare facts, that so much was spent upon labor, seed, fertilizer, chemicals etc., convey only a bookkeeping idea of the general trend of maintenance that must be checked against an actual survey of the links. The real facts, the facts that properly tell the story, are locked up in the heads of those who had the actual spending of the money provided for the purpose. Many interesting vital items remain memories when they should have been recorded and filed away for future reference.

The dearth of full, complete records is appalling. Take, for one example, the water system. In spite of carefully prepared plans rarely does the finished system correspond to the last detail. Topography, and physical object may change slightly the location of the pipe lines; drips are put in where it is deemed advisable when laying, and unions placed for easy dismantling. All this data, together