

administer the correct action promptly. He must always be set to move the right way in case of sudden changes in weather.

Then, in addition to being somewhat of a research scientist, he must be a water system engineer (motors, pumps, valves, gauges, pipelines, snap valves, sprinklers, pipe-cutters, threaders, etc.). He's a mechanic, with a lot of engines and other equipment to be kept in good operation on today's mechanized course.

And he'd better be a pretty good all-around mechanic as any job around the clubhouse probably will require the superintendent in an emergency. Then, of course, he must be a painter, a carpenter, an entomologist, a botanist, a section boss, a diplomat and a teacher.

### Diplomatic Strains

He must know when to tell the truth and when to lie to make the members happy. One friend of mine had a foursome come in after playing in the morning and complain about fast greens. The superintendent said, "The greens were just cut; that's why they're fast." A few hours later another foursome came in complaining that the greens were slow. To that the superintendent replied, "I'm sorry but we just couldn't cut the greens today."

If an efficiency expert wants a constant problem — let him try to figure out, as the superintendent must, how to place labor where it will not work in the vicinity of players, yet minimize unproductive time.

Where our scientific view of our own business may bump into a dead end is in trying to get golfers to realize that more than planting, cutting, feeding, treating and watering grass goes into the maintenance of a golf course. If we could get them to do that then superintendents wouldn't have the headaches of the locker-room and pro shop greenkeepers.

Sometimes I think the directors of the turf experimental stations, the Green Section and the superintendents should stop spending time and money on their problems (some of which will go on forever) when all the turf specialists would have to do is to walk into a locker-room or pro shop and get all the answers.

There may be some signs of hope in easing these headaches as the USGA and the Massachusetts Golf Assn.—to name two—are beginning to realize what superintendents are up against and giving them some help in their bulletins to golfers.

Another phase of our science concerns the directions with manufacturers' prod-

ucts. I'm not the only superintendent who thinks quite a few directions are due for revision. Often the treatments may be too little in order to set up economy claims, or to protect against misuse. I think more frankness in the directions might well be considered by some manufacturers.

It's nothing against a fungicide if it won't work the same way everywhere. What may work wonderfully well for me, won't work for another superintendent not far away. Why? Both of us wish we knew. I have a nursery that is fed once a year and never watered except by rain. The turf is rugged and has a great root system. This turf never has been attacked by disease or wilt and never has been chemically treated. If I maintained my greens the same way I would be fired.

But, enough of our problems. Now and then we get cheering answers that make the spirit and the job bright and fresh again. This year we got one of our big answers in a new pump with more pressure and volume. Instead of spending 11 hours in every 24 to water greens we now do the job in less than 3 hours; a saving of 8 in every 24. We water all our 19 greens at the same time.

Now the players are not inconvenienced by watering as it's done when there's no play. And I don't suffer by players forgetting to turn on water after shutting it off to putt.

We were buying 30 per cent of our water from a municipality with very low pressure. Now we have very satisfactory pressure and volume from our own supply; a supply that won't be rationed by the municipality.

It's a dream that has come true. I suppose some of my other dreams about the coordination of station research and course maintenance application and about improved morale of course working personnel also will become realities in time.

### Topsoil Use Examined

There's growing discussion among superintendents about questionable gain in use of topsoil in planting turf areas. Subject was brought into spotlight by Dr. V. T. Stoutemyer, USLA turf authority. Stoutemyer says there's considerable successful experience in Los Angeles district in conditioning soil available with fertilizers, gypsum (if necessary) or by working in organic matter rather than hauling in 4 or more inches of topsoil and have a sharp break in soil profile.