

than a college man can demand after graduation.

It is impossible for golf courses to compete with these inflationary measures. Until the American economy and dollar bill return to normal, which we nor our children may never see, there can be no relief from this situation.

Regardless of problems such as this, today's golfers still demand perfection, and even after that, improvements. But they give no thought as to how a dollar can be stretched to entice a worker who will do a job to the best of his ability for less than a minimum factory wage.

New Problems In Watering

By BOB WILLIAMS
Supt., Beverly Country Club
Chicago, Ill.

The most important problem confronting me in turf management today is the factor of fairway irrigation in the production of better fairway turf. I say this even though we have one of the best water systems by comparison to other clubs.

Our system is capable of producing 450 gals. per minute at 135 lbs. pressure at the pump. We can operate 11 sprinklers at one time with a center line installation and each sprinkler covering approximately a 200 ft. diameter. We can cover about six fairways in one night with one man operation.

Our fairway turf is comprised of creeping bent, poa annua and poa trivialis. This combination of grasses must be kept rather short if a good turf is to be ex-

pected. We have kept this turf mowed at approximately $\frac{5}{8}$ in. except in the heat of the summer time when we raise up to $\frac{3}{4}$ in.

So much for the briefing and now for the problem. When hot windy weather arrives in June, July and August we watch the moisture content of our tees and greens like hawks and sometimes find it necessary to water greens and tees at least every other day and sometimes every day. When this same condition applies to the fairway turf there is little we can do about it as it requires at least three nights to water the fairways only once. How then can we expect to keep not only poa but how about the bent? We can not. Consequently we lose turf and blame it all on the poa not being able to take the heat.

We do not lose the poa on our greens or tees because we have a moisture control but on the fairways I am stymied when I know moisture is needed to keep the turf from wilting and yet we cannot possibly cover more than about six fairways in one night.

When turf needs moisture after or before a day of high temperature and drying wind it must have it now and not two or three days later. I believe that if we are going to continue to try to grow bent fairways that have to be cut close we also have to make provisions to irrigate them in the same manner that we do for greens and tees. This means that we must increase the capacity of our irrigation systems so that we can water all of the fairways in one night. With such facilities we would lose very little poa and bent except a small proportion

STUDYING EXPERIMENTAL PLOTS AT RUTGERS UNIV.



Group attending Rutgers Field Day at New Brunswick, N. J. Turf specialists on hand for the meet included O. J. Noer, Milwaukee Sewerage Commission; Dr. Jesse DeFrance, Rhode Island Exp. Station; Dr. Fred V. Grau, Dir., USGA Green Section and Dr. Gilbert Ahlgren and Ralph Engel of Rutgers University.

through disease from unexpected causes.

I am not alone in this opinion as Ray Didier of Chicago's Tam O'Shanter club has already accomplished just what I am proposing. He has increased his irrigation capacity to where he can water the entire course in 14 hours, if necessary.

Does this theory conflict with the trend toward the use of less water in turf management as proven by our university research and the research of the USGA? No, I don't believe it does. Because if we can water all of the course in one night we could then use more frequent but less application of water.

As it is today we must start watering fairways about the next night after a shower in order to get around all of them in several nights. Where with greens and tees we can wait until they are in need and then give them what they require.

Fairway turf is maintained completely different today from what it was 15 to 20 years ago, as to type of grasses and height of cut but we have not taken the necessary steps to keep up the facilities for the management of this turf as applies to irrigation. We are sure now that the players want a tight close turf for fairways and it will be up to us to see that they get it.

Common Turf Problems Persist

By LEONARD J. STRONG
Supt., Saucun Valley Country Club
Bethlehem, Pa.

The most important course maintenance problem in our part of the country, from the strictly turf viewpoint, is the infestation of poa annua, crabgrass and clover.

This has been the case since the modern standards of golf course were developed and every year these same turf problems confront the superintendents although various remedies and maintenance procedures are employed in the search for the right answers. There is no question but that continued research is necessary on these problems and must have high rating on the research programs.

One method found successful in checking crabgrass has proved to be much too expensive for average golf course use on large areas such as fairways. Another method used is the elimination of the seed by chemical treatment over a long period but this is a long-drawn-out process. This method is being applied to poa annua as well as to clover and crabgrass. The player pressure on superintendents and the research men is to get a quick cure for every trouble.

This past season, being the worst experienced in many years, presented a number of turf problems in addition to

those previously mentioned. The problems included brownpatch, dollar spot, melting out, copper spot, pink spot, pythium, helminthosporium and other diseases which are still unnamed.

In this section the superintendents have been having a busy fall renovating and putting their courses back into shape. In most cases they have been aerifying, spiking, seeding and fertilizing with hopes of a good growing fall to complete the job and have first-class turf for next year.

The theoretical aim of the superintendent is to discover maintenance procedures and preventive measures that will eliminate the problems to which the finely conditioned golf course seems to be heir, and to simplify maintenance to operations required for careful grooming. But with the uncertainties of weather, the mysteries of soil and plant growth, and the exacting demands of golfers upon one of the most peculiar jobs in scientific agriculture, there'll always be many problems in golf turf.

About the best we can do is to stay determined, thoughtful and diligent in trying to solve some of the most common problems which continue to plague us year after year.

Study the Limiting Factors

By WILLIAM LYONS
Supt., Firestone Rubber Company Courses
Akron, O.

The major and very difficult problem in golf course maintenance is that of discovering and adopting good maintenance practices that will reduce some costs so on the same budget more money can be allotted to hiring well qualified people.

The superintendent is hard pressed between higher labor costs and trying to keep the cost of golf low.

We are in a business. We have set our sights high with respect to the quality of our production. We must compete in the labor market for good labor. We must match business and industry if we are to command respect in and for the profession of golf course maintenance. And certainly in solving the problems that now confront the superintendent we will be able to say that we have exercised a type of business thinking that deserves respect.

In our thinking we have to study every phase of the course and of maintenance operations. One can't stay in this demanding profession on grandpa's methods now any more than a farmer can produce profitable crops with grandpa's antiquated methods. In modern farming I have to look at every problem with an idea of finding the limiting factor that

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