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., Saucon Valley Country Club Bethlesem, 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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