soul. Aside from this annual weeding they do very little weeding during the balance of the growing season. This is a fundamental mistake in fine turf management and can only result in poor and thin turf.

Instead of one grand orgy of hand weeding at the height of weed growth the operation should be made an important part of the routine work throughout the growing season. As a result of this early weeding the fine grass has its own way and, provided proper fertilization and topdressing is practiced, the turf will be thick and heavy by the time crab grass begins to make its appearance. Under the circumstances the soil surface will be crowded with fine grass and the crab grass and other seasonal weeds will have greater difficulty in getting established.

In the last analysis the weed control problem is intimately bound up with every other phase of turf management, and as stated above mistakes in the handling of turf hurts the grass and gives the weeds the edge.

What I have said above may sound to a certain extent like old stuff. Old it may be but nevertheless it is true. I have taken the opportunity of repeating these seeming platitudes because they must still be borne in mind by the greenkeeper even if he institutes the use of arsenate of lead on his course as a means of controlling the great bulk of weed growth by methods which I shall describe in October GOLFDOM. The chemical will control many of the most noxious weeds in fine turf but not all of them, hence good turf management is an essential adjunct to its use.

Questions **GREENKEEPING** *Answers*

Here Are Some Answers to Problems They Put Up to Us. Ask If We Can Help You. The Service Is Free

Editor, GOLFDOM,
Sir:

I shall appreciate your suggestions as to the proper treatment of our fairways which are becoming badly infested with dandelions and other weeds. The weeds seem to be getting the best of the grass which is becoming thinner and thinner. The soil is a rather heavy clay with a little black loam on top. The soil is so heavy that the ground becomes unusually hard in dry weather.

Five or six years ago all of the fairways were given an application of crushed lime rock with an idea of softening them. At the same time, or perhaps prior to the lime rock application, they were treated with bone meal but I do not believe they have had any fertilizer within the past five years. It is difficult for us to obtain any except commercial fertilizer.

R. L. W. (Illinois).

Reply

This is a condition of relatively long standing caused, first, by the application of lime and bone meal, both of which encourage weed growth and do not stimulate the grass, and second, soil poverty due to lack of proper soil fertilization over an extended period.

A situation of this sort cannot be corrected quickly or cheaply and the club must be prepared to spend considerable money in order to get those fairways back into shape.

Annual topdressing with manure supplemented with ammonium sulfate three times a year, spring, summer and early fall, 150 pounds per application per acre would work wonders on this course in a few years and if the blue grass did not work in of its own accord the soil would then be in shape so that a seeding applied in early fall would catch. It is useless to apply seed until there is something there to feed it.

In the absence of manure would suggest a combination of milorganite, cotton seed meal and ammonium sulfate.

B. R. LEACH.

Treatment of Bermuda

Editor, GOLFDOM,
Sir:

I notice quite a lot of information in your magazine which I think ought to be valuable to every greenkeeper, especially

to those using creeping bent or blue grass for their fairways and greens.

But, consider by case down here in Florida, where we use nothing but Bermuda grass wherever it will possibly grow.

Should I attempt to use the same treatment described for exterminating crab grass, such as amonium sulphate and arsenate of lead? Will these materials do my Bermuda grass good and the crab grass harm?

I should like very much to see some discussion of the condition.

W. T. B.

Answer—

In reply would advise that as yet I do not have very much information on the effect of arsenate of lead on Bermuda grass, but hope to have this information soon as many greenkeepers in the South are experimenting with the chemical on Bermuda.

From what I have heard so far the chemical does not seem to impair established stands of Bermuda but does check the seed appreciably when germinating. Would suggest that you give the chemical a trial in a small way on a small portion of one of your greens or on Bermuda grass not in actual play, and would be pleased to hear from you as regards your results at any time.

B. R. LEACH.

A Poa Annua Problem

Editor, GOLFDOM,

Sir:

One of our greens is two years old. It is raised green built on fairly level ground with 18 inches raise to the back. Seeded; red top 30 per cent, bent 10 per cent, fescue 60 per cent. Seeded in the fall; coming fine the first year. The following spring poa annua set in and practically covered it. We asked advice and were told to burn it off and put on one inch of top soil and that would kill all the poa annua.

We seeded down last fall fescue, red top and a little bent. It looked good this spring and then more Poa annua set in. Some bare patches showed so we plugged with bent and the bent plugs are doing better. Now the question is, if we cut that green very short in the fall, even with a lot of Poa annua on it, and put 100 pounds bent seed, and top dressed, would the bent crowd the other out? Just what would you do?

J. M. (Mass.).

Answer—

Would advise that there are only two methods of cleaning up Poa annua from a green. The first method consists of taking it out by hand which, is fine in theory, but not so fine in practice. The second method involves the use of arsenate of lead since Poa annua does not flourish in a green so treated, whereas the chemical stimulates the growth of the bent grasses.

In the case of your green I would topdress immediately with your regular topdressing, mixing arsenate of lead with it, so that the turf will receive 5 pounds of the chemical to each 1,000 square feet of surface. Or, if you wish you can topdress as usual and then mix the arsenate of lead with sufficient quantity of moist sand and scatter it over the green on top of the topdressing. This will take the punch out of the Poa annua and give the bent all the chance it needs.

With regard to putting on 100 pounds of bent seed would advise that this depends entirely on how much bent grass there is already present in the green. If you think the bent grass is very thin and not capable of making a thick surface after the Poa annua fades out of the picture then I would seed with bent and do it immediately since the fall season in your lattitude is short and the newly germinated bent requires all the time it can get in the fall to get a toe-hold. If you think there is sufficient bent grass already on the green so that, with a little nursing, it will fill in the green as the Poa annua goes out then I would not apply any seed. As a general rule I do not think it pays to seed bent with other grass seed such as red top and fescue. These latter grasses are much quicker and stronger in germinating and have a tendency to crowd out the weaker bent seedlings. A year after seeding, as the red top and fescue die out, as they invariably do, there is not sufficient bent in the green to crowd in and fill up the empty spaces and as a result the Poa annua takes hold and the first thing you know you have a Poa annua green.

Would suggest that the next green you rehabilitate, that you seed the 20th of August with bent seed alone, using no redtop or fescue. Then if you have any trouble with Poa annua give the green a treatment of arsenate of lead as detailed above.

B. R. LEACH.