

Turf Experiment Plots at Golf Courses

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There is still a boundless field for investigations to select the best strains of turf grasses and to determine the most satisfactory way to grow them in nearly every part of the United States. At the present time such investigations are being made at only two or three places, most notably those at Arlington Farm, Virginia. It must be evident that the work at only a few places cannot solve the problems for the whole country. Under present conditions the most promising opportunity to increase such investigations to the desirable degree is for every golf club that is financially able to establish a turf experimental garden. At Arlington Farm many of the plots are 8 by 8 feet, arranged in checker-board fashion, and this size of plot is very satisfactory for most purposes. Of course these plots must receive all the care given to a putting green; besides, the record of each plot must be kept with complete notes on each, and also the relative merits of each need to be compared. There is no other method which will so surely advance knowledge in regard to the best grass strains and the best methods.

One of the striking advances made by the work at Arlington was the discovery that creeping bent consists of many strains of very different qualities. Several of the best of these have been propagated vegetatively, and with this material putting greens of an absolutely pure strain have been established. It can be said without exaggeration that the 9th green at Potomac and the 9th at Columbia, both planted in this manner, are the finest putting greens, so far as turf is concerned, in existence.

There are various other grasses in which similar results can be accomplished. Thus in the South, Bermuda grass is the usual one on putting greens. But there are numerous strains of Bermuda, some incomparably better than others. It is well worth while to test out dozens of strains to find the best. Bermuda grass is easily multiplied by planting in rows for one season, when the resultant crop will give a great abundance of runners and "roots" for planting greens. If the strain is pure and of high quality, the green will be so likewise.

There are also a number of little known southern grasses of promise, each of which can be propagated vegetatively with ease. To wait for seed supplies may involve long delay—certainly the seed supply cannot be expected to materialize until the demand exists, and the demand will not exist until the merits of the grass are known and appreciated.

Besides the testing of new grasses and new strains, the experimental plots can be made to answer all sorts of questions regarding soils and fertilizers. In short, it furnishes a means to find the best methods for any particular locality, but likewise applicable to places with similar climate and soils.

While putting-green grasses only have been considered above, the same experimental methods apply to grasses for the fairway or the rough.

The knowledge thus gained is real knowledge and will tend to do away with the foolish practice of testing on a large scale every new grass or new fertilizer that some enthusiast or some interested party suggests. In short, it is using horse sense in connection with grass problems. The necessary work is not inexpensive but is well within the means of the more prosperous and enterprising golf clubs.

The Green Committee is anxious that as many clubs as are able to undertake this kind of investigation engage in the work. It will be glad to give detailed plans to follow and will secure all the necessary grasses or seeds. Beyond this there is full opportunity to test out, if desired, all the ideas that club members are sure to suggest. In this way, the fellow who believes that lime will cure all grass ills, as well as the one who thinks that orchard grass will make good putting greens, can be satisfied and no harm done to the course. But, much more important, some things that will greatly improve the turf on each course will pretty surely be discovered. Please consider this matter prayerfully and realize that your club can, by this means, help itself as well as the other clubs, nearly every one of which will be able to contribute something new of value to you. Let us all get after these puzzling grass problems on an adequate basis and cut out the foolish and wasteful practices that still prevail.

The Use and Abuse of Lime

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There is still room for difference in opinion regarding the desirability of using lime on golf courses, but the weight of the present evidence is that, as good or better results are secured without lime as by its use, certainly so in the case of bents and fescues and probably so in the case of most other turf grasses.

The vast amount of agricultural literature dealing with the use of lime, and some enticing rhetorical statements such as "lime sweetens the soil," have conspired to lead many people to believe that lime is a corrective for all the ills of soil and of turf. It is this belief that leads many misguided victims to scatter lime on their half bare lawns every spring with the simple faith that this will in some way insure a dense cover of green velvet sward. Year after year they do the same thing, with exactly the same results as if they had not used the lime—a course lawn of crab grass in summer and a cover of ghastly gray-brown dead turf in winter. But their faith never seems to weaken; and indeed against such faith no reason can prevail.

The facts regarding the effects of lime on soils and crops are fairly well ascertained, but there is less agreement on the theoretical explanations of the facts. There are four very definite effects of lime:

1. Lime tends to improve the texture of clay soils by making them more crumbly. This can easily be demonstrated with small samples of soil; but it must not be forgotten that an application of one ton of lime per acre is only two-fifths of an ounce to a square foot. Of course a spoonful of lime does not go far in changing the texture of a cubic foot of soil.

2. Lime, being alkaline, tends to make the soil likewise. If the soil has an acid reaction, a sufficient amount of lime will make it neutral, while more will make it alkaline. The amount of lime needed to make one acre of soil neutral is called its *lime requirement*. The lime requirement of some soils is as much as 10 tons per acre.

3. Lime has a very pronounced effect in stimulating the growth of alfalfa and clover. Indeed, on many soils these plants can not be successfully grown without the use of lime. To a less degree this is true of other crop plants. The effect is probably due both to the lime itself as plant food and to the changed reaction of the soil.