

of an expert horticultural engineer, when such a man is available. With such service the clubs would secure not only economy but also thoroughly efficient treatment and management of their estates.

The BULLETIN of the Green Section of the United States Golf Association no doubt is a very great help to green committees and greenkeepers provided the information contained therein is applied intelligently. However, the difficulty remains of how, where, and when to apply the various experiences successfully. Local, climatic, and other conditions must always be taken into account. Unless these are considered, methods of doubtful benefit are employed. Few country clubs have the financial resources to enable them to experiment as much as is desirable.

There are men with lifelong experience who devote themselves specially to golf course interests. With the services of such men a great deal of unnecessary expense may be avoided and in most cases a far more successful golf course will be the result. The maintenance of a golf course is at the best a costly proposition; it becomes prohibitive if carelessly or inefficiently handled, and of course the aim of every club is to steer clear of ruin.

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### Sand Greens on a Sawdust Base

About two years ago it was reported to the Green Section that a sand green made on a sawdust base would provide a resiliency so that balls could be pitched to the green. The plan included a base of sawdust six or eight inches deep, well tamped, then covered with soil, and finally covered with sand. The first sand green of this kind was built on the course of the Ridgewood Country Club, Columbia, S. C., and a second one at Pinehurst, N. C. Mr. Richard S. Tufts reports on his results at Pinehurst as follows:

"I have just returned from Columbia and am glad to submit a report on the experience they have had there with their sawdust greens, and also on our own experience.

"I do not believe that these greens have worked out satisfactorily in either case. The main objection to them seems to be excessive maintenance. At Columbia they have been using too much sand and too little soil on top of the sawdust, with the result that the sawdust works up through the sand, making the putting very uneven. They have used from one-half inch to one inch of sand, which is too much, as heel-marks are always left in such an amount of sand.

"Our own experience with these greens has been a little more satisfactory. We used about 2 inches of loam as top-dressing on top of the eight inches of sawdust on one-half of the green, and about 3 inches on the other half of the green. The half with the thicker top-dressing became too stiff and a ball landing on the green did not receive the deadening effect of the sawdust beneath. The other half of the green has worked out satisfactorily, although we find that the maintenance is about twice what it is with the sand-clay greens.

"The main objection to these greens is that it is impossible to get the surface flat, as it is always slightly rolling and therefore not quite true to putt on. Furthermore, in order to use these greens it would be necessary for us to double the maintenance force that we have in use on the courses, and even then they would not putt as true as our sand greens. We therefore do not consider that it is advisable to replace our sand greens with the sawdust, even though their action can be made satisfactory."