

many different strains. Unfortunately in the latitude of Washington it does not thrive so well as creeping or carpet bent and in particular is more susceptible to brown-patch, and mainly on this account has not been recommended. Northward, however, especially in New England, the grass is amply vigorous, indeed, as before stated, crowding out other grasses under favorable conditions. Clubs that are favorably situated should experiment with velvet bent. The method is not expensive, and is virtually the same as that for carpet bent (see page 124, July, 1921, BULLETIN). We would suggest growing the turf first and then transferring it by the sodding method to the putting-green. In this way there will be practically no interference with play. Nassau has already engaged in this enterprise. It may well be taken up by many New England clubs.

The strains of velvet bent differ in their vigor of growth considerably. Some in one season will from a small sprig make a circle 3 feet in diameter; others, only 6 inches. The color of most strains is a deep apple-green, but in some it is as dark as bluegrass. We suggest a trip to Wollaston to any club that is interested. If the exquisite greens there do not inspire action,—then the spirit of the golf turf “bug” is lacking.

### Suggestions for the Rough

C. V. PIPER AND R. A. OAKLEY

Although much less attention is given to it than to other parts of the golf course, the rough nevertheless is an exceedingly important feature. Frequently with the “duffer,” and in fact with the real player, much of the game is played in the rough. It would appear that there should be a sort of standard for this feature, especially on courses where important events are held. There seems to be a general agreement among those who have given thought to the subject, that a shot into the rough should result under fair conditions in a lighter penalty to the player than a shot to a sand trap or grassy hazard. Furthermore, all will agree that the rough should not be of such a character as to make it practically impossible or at least a very difficult matter to locate the ball that lands in it. Much of the congestion and confusion that occurs on holidays and other days when the course is crowded is due to the lost ball. A ball driven to the legitimate rough should be relatively easy to find. In much of the rough as it occurs on a majority of our golf courses it is exceedingly difficult to locate it even when the player or his caddie has a definite idea of where it landed.

Ordinarily the rough is composed of practically the same species of grasses that are in the fairway, with some of the coarser grasses, such as orchard grass, timothy and the coarser growing native grasses and weeds included. These grasses and weeds do not make good rough. They have to be cut frequently and make too rank and continuous or too bunched a growth to be suitable. The rough should not be composed either of continuous thick turf or of large tussocks such as are formed by orchard grass, broom-sedge, and other large bunch-grasses. An almost ideal grass for the rough is sheep's fescue. It is a fine grass, requires little cutting, and grows in relatively small tufts or bunches. These tufts are just about of the right size to impose a proper penalty upon the player. Sheep's fescue, especially when grown on poor soil, makes a rough that is satisfactory from nearly every viewpoint. It is economical to maintain. The ball driven to it can be located with comparative ease, and it affords a sufficient penalty for the player. In many cases the soil of the rough is sufficiently poor to produce

the proper growth of sheep's fescue. There are, however, some courses on which the soil is much too rich for the production of ideal sheep's fescue rough. On such courses excellent results may be obtained by scalping off the top soil with the sod and sowing sheep's fescue on the under stratum. In addition to providing suitable conditions for the growth of this grass, there is also obtained a very large quantity of good material for the compost pile.

Sheep's fescue may be used for the rough as far south as the Potomac river and even southward at high altitudes. Its range is much the same as that of red fescue, but since the conditions in the rough are not so exacting as those on the fairways or greens it may be used even farther south than the latter.

Objections have been raised to sheep's fescue on the ground that even when used in the rough it spreads by seed to the fairways and even to the greens. This objection does not appear to be valid. On courses where critical observations have been made covering a period of many years no evidence has been found to indicate that this grass encroaches on territory outside of the area where it was grown.

Canada bluegrass is another good grass for the rough in the northern states. It is not bunchy, as is sheep's fescue, but it is a slow-growing species on poor soil and forms an open, wiry, stubbly turf in which a ball can easily be located, and it affords about the proper penalty for the player. Seed of this grass is relatively cheap, and it is quite an easy matter to obtain a stand of it from sowing in the fall under unfavorable cultural conditions.

To summarize.—Most courses are concerned chiefly with improving their greens and fairways, but there are some which have good greens and fairways that could well afford to devote more attention to the rough. The rough could be improved by the use of the grasses heretofore suggested, without interfering with play, and as much time as is necessary could be given to the improvement. It is practicable to treat one side of the fairway at a time, or as much as the labor regularly employed on the course is able to handle. It does not require occult powers to foresee a time not far distant when the rough proper will in some measure be standardized or at least will be given intelligent and special consideration.

### **Quack-Grass for Fairways on Very Sandy Soil**

Some years ago we were very much struck with the excellent quality of fairway turf made by quack-grass in patches on the course of the Pine Valley Golf Club, at Clementon, New Jersey. On this course there are on several of the fairways patches of quack-grass, six to ten feet in diameter. In most cases these are made by single plants. Perhaps similar patches occur on other golf courses, but these are the only ones we have specifically noted.

The following experience of the Escanaba Golf Club, Escanaba, Michigan, is of interest in this connection:

"We planted in the fall of 1920 about 1½ acres of sand dunes with quack-grass rootstocks and now have a very fine solid turf that is mowed with a regular mower and makes a surprisingly good fairway—much better than other fairways of better soil planted to other grasses years ago. We sowed 5 acres more of sand knolls this spring with quack-grass seed and will