

Preparation of the Greens for Vegetative Planting

By Lyman Carrier

In view of the interest being taken in creeping bent and the vegetative method of planting it, a brief discussion of the preparation of the soil before planting may be helpful. As the vegetative method of securing bent grass turf is somewhat new and unusual, many greenkeepers feel that it must require an unusual preparation for planting in order to insure success in the future development of the putting green. This is not the case. Creeping bent is in no sense of the term a finicky grass as far as soil requirements go. One of the strongest points in its favor is its ability to thrive and make excellent turf under adverse conditions. On the other hand, the most valid objection yet raised to the grass for putting is, that it is a little coarse where the soil is very rich.

Nature should be our guide in a matter of this kind. Greenkeepers the country over are fast getting away from the artificial methods, which were in vogue a few years back, of building up a soil for putting greens. Thousands of dollars have been spent in the construction of single putting greens, but the results have in most cases been disappointing. Layer-cake greens built up with infinite care have seldom had the fine quality of turf that obtains from common agricultural methods of preparing the soil and seeding the grass.

Creeping bent is quite widespread in this country and is to be found growing naturally on most of the older golf courses, especially those where bent seed was used in the original seedings. The creeping bent is usually found along ditches and in the low moist places. This gives us a clue to its desires. It wants plenty of water. As to soil requirements, it is found on sands, loams, clays, and muck, and apparently thrives with equal success on all of these where moisture conditions are favorable. The Sylvania Country Club, at Toledo, had a fine nursery on top of a sand dune, and the Inverness Club, a few miles away, had one on heavy clay. The Park Ridge and Edgewater clubs, at Chicago, have grown creeping bent successfully on sticky black gumbo soils. The soil of the Arlington Turf Garden, at Washington, where the vegetative method was originated and where most of the selections and breeding work with this grass has been done, is a heavy brick clay notorious as poor agricultural soil.

Experiments at Arlington on this poor soil in comparison with a rich compost have been in favor of the natural soil. The same is true at the Youngstown (Ohio) Country Club, where the versatile greenkeeper, John Morley, scraped off the top soil and planted creeping bent in a test with a rich garden loam. The creeping bent on the subsoil was finer-textured than it was on the rich soil. To put the matter in a few words, any fairly good agricultural soil in the North, if well watered, will grow creeping bent successfully. I am becoming more and more convinced that we should lean to a soil rather low in fertility rather than incorporate a lot of manure and fertilizers in the preparation for planting. If, after the grass is established, it appears unthrifty, it is a comparatively simple matter to encourage a better growth with an application of a quick-acting fertilizer, such as ammonium sulfate. The greenkeeper can control the growth of turf by judicious fertilizing on top, but he is helpless if the soil underneath is too rich or it has been ruined by layers of cinders, humus, or other materials which are objectionable for plant growth.

To be specific as to the recommendations for building a putting green which is to be planted with creeping bent, I would leave the soil as nearly like nature had formed it as possible. First I would scrape off the top 5 or 6 inches of soil and pile it aside. Then I would build up the green according to the architect's plans, using the subsoil from the traps, taking care that the finished surface of this sub-base has no water pockets—that is, low places where the water does not run off naturally. All greens on clay soils in the Middle West should have tile drains underneath them. These should be installed by a competent drainage engineer. After the green is contoured according to the architect's plans, and the drains installed, the top soil should be put back in an even layer over the surface. In most cases a light application of well-rotted stable manure is probably desirable, but excessive amounts, such as 25 cubic yards of manure to the green, should be avoided. The green is then ready for planting. After the stolons of creeping bent are scattered, they should be covered to a depth of about $\frac{3}{8}$ -inch. This top-dressing should be of such a nature that it will not run together when wet and bake into a crust when dry. Ordinary soil may be used if enough sand is added to make it friable. Creeping bent planted on greens prepared in this way, and kept moist until the stolons have had a chance to become well rooted, will make excellent turf with great certainty.

White Pine As An Ornamental for Golf Courses

By F. L. Mulford, Horticulturist, U. S. Department of Agriculture

In the northeastern fourth of the United States the white pine can be used effectively in adding an attractive note to the plantings on many golf courses. In those sections where it thrives, its blue-green foliage, symmetrical form when young, and large size and rugged outline when old, give it claims for consideration whenever ornamental plantings are being considered. It is native from Iowa to southern Ohio and Delaware, and northward. It is usually found on sandy lands or gravelly and poor soils, not on rich, moist bottom lands. This suggests its use on dry hill-sides or ridges or in other well-drained situations with moderately rich to poor soils. In such locations it may be planted in groups or clumps, without other species of plants, or with only an occasional specimen; or it may be used with other things. Its foliage is in great contrast to the deep, somber hues of the firs and some of the spruces, many of which are a dark, heavy green, and their formal, often stiff habit of growth generally gives an almost depressing effect to the landscape in which they predominate. On the other hand, the long needles, more open habit of growth, and characteristic color of the white pine give it an airiness that is stimulating whether the trees are used in almost pure stands or to give contrast to darker evergreens or mixed with deciduous plants.

When young, its growth is regular, forming an oval, symmetrical head, but as it gets older it loses its lower limbs and badly shaded branches. Its wood is brittle, so that as it attains maturity it is apt to assume an irregular though sturdy and picturesque form, due to the breaking out of branches by wind, but more especially by ice or sleet storms. As it is