

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

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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

one of the tallest of the trees of the regions where it is native, old specimens are apt to dominate the landscape by their height.

In addition to white pine being effective in combination with other plants, it is handsome even as a single specimen. The attractiveness of the tree at all stages of growth, combined with its habit of losing its lower branches on approaching maturity, suggests its suitability for planting to the rear of some of the tees on the last two-thirds of the course, where as a young tree it would serve to relieve some of the bareness that is often so noticeable; as it gets older it might also serve to give welcome shade to players passing by on a hot summer day, as well as to be a dominant feature in the landscape.

Like other evergreens, white pine should be transplanted with a ball of earth on the roots, in late spring about the time deciduous trees are coming into leaf, or in late summer. Because of its tendency to form



White pine either as a single tree or in groups or groves adds beauty to the landscape.

tap-roots instead of a fibrous root system, the tree is hard to dig with a ball of earth on the roots, and it is therefore usually best to transplant white pine when it is small in size. If the soil falls from the roots in transplanting, the roots should be puddled (dipped in a thin clay batter) and the tree planted immediately. If dry weather follows planting, watering will be necessary, especially with the larger sizes of trees. The larger the ball of earth which has been moved with a tree, the better will it withstand adverse weather conditions.