

should then be top-dressed with a sandy loam top-dressing. The dressing need not be heavy, but should be brushed or rubbed to fill in the spaces between the sods. The area should then be sprinkled until the water has gone through the sod into the soil below, followed a day later, or more if necessary, by a comparatively heavy rolling when the sod has commenced to dry out. A roller weighing from 150 to 200 pounds per foot of roller is sufficient. The sod should not be allowed to become dried out for lack of watering before the roots have had a chance to take hold in the soil below.

SPECIAL PROBLEMS OF FAIRWAY AND ROUGH

On fairways there are two areas in particular that require special attention while the course is being constructed. These are the approach area and the area lying between 150 and 250 yards from the tee. On par-5 holes there is also another area, lying between 350 and 450 yards, which receives an increased amount of wear. These areas receiving the bulk of the fairway play should be the first to receive special consideration after the greens and tees. Often during the construction of the green the approach is subject to heavy trampling and the ground becomes puddled. In some cases also the topsoil may even be stripped from the approach in order to improve the green. Turf on all such areas should be provided with a fairly deep and fertile soil, even if suitable soil must be hauled and spread on the areas. The approach should be particularly well graded. It is very disconcerting to a player who intentionally plays to a certain point before the green on his approach shot, to have his ball drop dead one time, bound over the green another time, or kick off to one side, due to uneven, poor turf. Often courses have an abundance of good soil in their rough and many poor approaches almost bare of topsoil. If topsoil is wanted, it is logical to take it from the rough, where it is not needed. By plowing and otherwise working the rough along with the fairways the rough is graded and the topsoil prepared for use during construction. Later, as it is required, it can be hauled away, and on some courses it furnishes an almost inexhaustible supply of soil for compost piles. On holes where the first hundred yards of fairway is to be treated as rough, there is no reason why the topsoil from these areas should not also be used. A rough with a dense, tangled growth is not desirable, and having at least an ounce of pity for the unfortunates who play most of their game there, would it not be a kindness to impoverish the rough so that it will sustain only a sparse, bunchy, open growth? Such a growth gives the required penalty by being difficult to play from, but, being open, the ball can not hide itself with its usual unerring instinct. Clubs also require much topsoil for the construction of greens and tees and for building compost piles for the future maintenance of the course.

Another area frequently neglected though one that does not receive much play, is that area behind and around the sides of the putting green. The rough does not necessarily continue around the sides and back of the putting green. Architects often do not insist on the preparation of this strip of fairway, which should extend around and behind the green for various distances, depending on the length and type of hole. There is no reason why a bold shot that runs over the green should have to be played out of the rough when a weak, over-cautious shot short of the green sometimes gets the advantage of a

perfect lie on a well-kept approach. Frequently when the greens and fairways are seeded the areas behind the greens get only a last-minute clean-up before the job is pronounced finished. Such areas are not properly graded, the soil is often puddled, or the topsoil has been robbed from them, and they do not produce good turf. Often they are neglected by the greenkeeper, and are sometimes left to remain as the worst kind of rough. Also, in greens set back in woods, sufficient room is seldom left in the clearing to get either the fairway mower or hay mower back of the greens. The fairway mower ought to be able easily to include the area around the sides and back of the green along with the approach and the remainder of the fairway.

SPECIAL PROBLEMS OF PUTTING GREENS

There is no place on the course where play is as concentrated as on the greens and tees. But on greens this concentration of play, apart from removal of divots, is liable to do more damage than on tees, since the turf is kept cut unnaturally close. The root system is therefore correspondingly limited in its growth due to the natural habit of grass. Also greens are frequently placed in poorly drained and aerated positions, or on very poor soil, in order to procure a better golf hole from an architectural point of view. Therefore since special demands are made of greens special treatment is required.

Frequently architects choose very natural locations for putting greens. These locations seldom require any fill but frequently require some leveling. Before the leveling commences all topsoil should be removed, as this soil is usually needed. Few courses can afford to bury topsoil, since even if it is poor it is of more fertilizing value than subsoil and can be greatly improved by cultural methods or by being composted.

Before the green is shaped and graded its subdrainage should be studied as well as the likelihood of its being subject to surface wash or to seepage from the surrounding area. Surface water from surrounding hills may be kept from the surface of the green by grassy hollows and by sand traps. These traps and hollows should be made to conform to the correct architecture of the hole. If the green is cut into the side of a hill or is nestled against the hill with the foot of the hill as its back or side, the construction of the open ditch or grassy hollow is no simple matter. There is a tendency to construct such ditches altogether out of proportion to the natural landscape. Often these ditches built to catch wash from slopes are built deep with steep sides; they look out of place and artificial and are difficult to mow and hard to play from. If these ditches and hollows are built while the green is being graded much better results may be accomplished.

The top layer and planting of a green built without any fill work will be the same as with greens built with a fill and will be described later. Most putting greens these days are elevated from the surrounding terrain; this is not always done for drainage purposes, but is more often done by architects chiefly to give the modern golfers what they demand. Courses must be made easier to play than the natural lay of the land frequently provides. Courses are being built according to modern ideas, and modern ideas require that the breaks of the game, or the element of luck, must be reduced to the minimum. A putting surface sloping away from the play would be subjected to