The Delicate Question of Watering Turf

One of the most useful and perhaps most abused improvements on golf courses is the modern watering system. The judicious use of adequate water has made it possible to maintain turf in a luxuriant condition throughout most of the playing season whereas if dependent entirely on natural rainfall the turf on many golf courses would be dried out during much of the season. On the other hand one frequently finds at the height of the growing season large areas of dead or badly-weakened turf which can be traced directly or indirectly to the use of too much water, which in many cases has been applied by artificial means. In many cases the loss of turf is attributed to disease, when in reality the disease had probably only a secondary effect and developed to serious proportions only after the grass had been greatly weakened by excessive watering.

The chief reason for watering turf artificially should be to provide sufficient water for the growth of grass during periods when Nature's supply is inadequate. Unfortunately watering systems are not limited to this main purpose of encouraging turf development. In many cases water is used to the disadvantage of grass in an endeavor, by ill-informed greenkeepers and club officials, to use large quantities of water to maintain putting greens soft enough to hold pitch shots. It is argued that golfers generally prefer soft putting greens and that it is impossible to keep the surfaces soft enough to satisfy the majority of club members unless the putting greens are constantly watered. Players contend that the chief purpose of a putting green is to provide the desired playing conditions, that the attainment of that end should receive first consideration from the course maintenance force, and that the growth of grass should be considered distinctly secondary. Players frequently are not aware that the same desirable playing conditions may be obtained by different methods. Any method which gives immediate improvement to playing conditions but at the same time endangers turf must ultimately result in a poor playing condition, for the best enjoyment of the game on most golf courses is dependent on a satisfactory covering of turf.

The modern tendency on American golf courses to place great emphasis on the pitch shot has created a demand from golfers generally for putting greens which can be depended upon at all times to hold pitch shots. Too frequently this demand for holding shots has developed to such extremes that it is apparently desired that conditions be such that the poorly-played shot be held as securely as the well-played shot. Such a viewpoint naturally raises the question as to what is the purpose of golf—whether the emphasis should be placed on skill or whether there should be a certain amount of standardization and simplification of the game to reduce the number of shots and make all shots easier to play effectively. Golfers in general will no doubt agree that if the elements of skill and variety are removed from the game it undoubtedly will lose much of its charm. Yet players constantly are making demands of their green committees and greenkeepers which, if followed out, would rob the game of a great deal of its variety and demand for skill. Elsewhere in this number of the Bulletin two well-known players give their opinions as to the danger of robbing the game of much of its interest by over-emphasizing the pitch shot

and providing conditions such that less skill is desired in playing this important shot. These writers point out the disadvantage of soggy putting greens from the standpoint of playing the game. There have been repeated warnings in the Bulletin against soggy soil in putting greens from the standpoint of maintaining healthy turf.

Unless the soil on the putting green is suitable, it is difficult to properly maintain the best playing conditions. If the topsoil of the putting green is largely clay it will be puddled by the trampling of players and by the machinery and laborers that work on the turf. Puddled clay becomes bricklike when dry, and even the best shots will not hold properly on a putting green with such a surface. When a clay putting green is wet, a pitched ball digs deep into it and leaves bad pockets which serve as a constant menace to putting. Putting

Damaged turf on a putting green caused by excessive watering in an effort to hold a pitch shot under all conditions. The injury first became apparent on the lower areas of the green

greens built of this type of soil are apt to be extremely fast when they are dry and especially slow and soggy when they are wet. On the other hand, putting greens which have a sufficiently thick top layer of good sandy loam do not present the extreme putting conditions that are presented on clay putting greens. Putting greens with a topsoil of sandy loam will hold a ball well even when relatively dry. These same greens will not be as badly scarred with pitch shots during rainy periods or when excessively watered. A good sandy loam with an ample supply of organic material therefore presents a much more desirable surface from the playing standpoint than is provided by a soil with too much clay.

A sandy loam well supplied with organic material is usually a much more desirable soil for grass to grow in than is a heavy clay soil, particularly if the latter is puddled and can not be cultivated. Excessive moisture drains out of a sandy soil much more rapidly than it does from a clay soil and, unlike a clay soil, a sandy loam is not easily puddled and consequently does not produce a hard crust when the sur-

face dries out. A sandy loam soil, therefore, is the type of soil which is generally preferred for the surfaces of putting greens both from the standpoint of play and from the standpoint of grass growth.

In Mr. Welton's article in this number of the Bulletin there is a discussion of soil structure, which contains information such as should enable greenkeepers and members of green committees to choose their soils more wisely. If a desirable natural soil can not be obtained readily, a suitable mixture can be easily prepared if one takes the pains to determine the amounts of the various ingredients needed for the preparation of a good sandy loam soil, using any available soil as a base for the mixture. If more attention were paid to the selection or preparation of soils used in constructing or top-dressing putting greens it is likely that watering costs would be minimized and much less damage to turf would result.

Where soil conditions are unfavorable it is especially important that putting greens be watered carefully. By some simple tests such as are described in this number of the Bulletin it is possible for the greenkeeper to determine which putting greens contain soil in a poor physical condition. Such putting greens should be watered with especial care in order to avoid saturation. On many courses putting greens are watered on a definite schedule with the same definite period allotted for watering each putting green. Such a practice can not be regarded as a sign of good judgment, for the different putting greens usually have differences in the size of the watered area, in the pressure of water at the outlets, in the height of the water table, and in losses of evaporation due to different exposures to air currents and direct sunlight, and many other differences, in addition to the important variation in soils used on the several putting greens. If it is determined that a certain putting green contains soil in a poor physical condition, the men who water that putting green should be instructed to use no more water than is required to keep it in the best condition and to apply the water slowly enough to enable the soil to absorb it readily.

When it has been determined that the physical condition of topsoil in a putting green is unsuitable for providing a playing surface or a medium for grass growth, some intelligent effort should be made to improve this condition of soil rather than to resort to other means, such as excessive watering. In some cases it is practical to remove the turf, change the entire surface layer of soil, and replant. In many instances such drastic methods are considered impractical even though they are obviously the best means for improving existing conditions. When there can be no removal of sod to make way for soil improvement there is still the possibility of improving the top layer by adding properly-prepared top-dressing. The common practice of jumping from one extreme to the other in the selection of materials for top-dressing putting greens should be condemned, for it results in the formation of distinct layers, which are undesirable. It would be better to build up a uniformly-good topsoil by using regularly a tested mixture which is prepared by using properly the fundamental principles of soil physics, such as are brought out in Mr. Welton's article.

In many instances the demand from golfers for soft greens is encouraged by poor approaches. If a hole is designed primarily for a run-up shot the hole should be maintained with that object in mind. Frequently approaches are so badly neglected that they become actual

hazards, and due to the irregularities of their surfaces a player can not possibly predict where his ball will roll even if it is accurately played for a run-up shot. In such cases a player is forced to use the pitch shot. Much of the emphasis on the pitch shot in this country may possibly be due to the tendency in greenkeeping to strive for perfect putting greens even at the expense of neglecting the approaches. If more attention were paid to the improvement of soil conditions and turf on the approaches, with a view to providing the desired accuracy in the bounce and run of a well-placed shot on the approach, it is probable that more golfers would use this method of approaching and there would be fewer demands for soggy putting greens that will stop quickly any kind of shot from almost any distance.

Why Keep Putting Greens Soft?

By Robert T. Jones, Jr.
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It is claimed by those in close touch with greenkeeping practices that much of the difficulty in maintaining putting greens is due to the excessive use of water and that greenkeepers and green committees point out that they water heavily in self-defense because golfers want soft greens. I have been asked to say how I regard the practice of keeping putting surfaces soft, even soggy, looking at the question purely from the player's standpoint.

There can be little question that the great mass of golfers in the United States prefer their greens very soft. Such a condition makes the play much easier for all classes of players and is, in a great measure, responsible for the fact that tournament scoring is uniformly lower in the United States than on seaside links in the British Isles. The difference is attributable more to the excessive use of water on putting greens in the United States than to the much-talked-of seaside gales in the British Isles, which, after all, do not blow constantly.

Of our two great American preferences—the one for placing the green-bunkering very close to the putting surfaces, and the other for soggy greens which will hold any kind of a pitch, whether struck with backspin or not—I can not say which induced the other or which came first. The close guarding, in many instances, makes a soft green necessary if the hole is to be playable, and the easy pitching, on the other hand, makes it necessary to decrease the size of the target in order to supply any test.

I quarrel with both ends of this proposition, whichever is to blame. These together are the two reasons, I think, why our golf courses in the main lack the subtlety of British links, and why our golf does not demand the strategy or the intelligent planning which it should. In my opinion, a properly-designed hole should impose a test upon each shot which the player has to make. There should always be a definite advantage to be gained from an accurate and intelligent placing of the tee shot, or a reward offered for a long, well-directed carry over some obstacle. This advantage or reward can be only in the shape of an easier and more open road for the second shot, and when we soak the green with water we absolutely nullify the advantage which the design of the hole has held out.