### Rolling the Green

In my last article I finished up on the question of rolling and in which I pointed out the impossibility of maintaining a healthy carpet of turf if this method of procuring a level and true surface was continued. Use a mower fitted with a roller, and keep the grass low enough for a putting surface, which means mowing as often as it requires; in fact, in my opinion, this operation cannot be overdone. Mow often and close is my motto and always has been. Now by using a roller mower the surface gets all the rolling required. If the greenkeeper thinks that the green might be benefited by a little more rolling I strongly advise the use of wooden rollers. A roller of this type should be from four to five feet wide, made in sections of one foot. Another point in using the wooden roller is that it picks up any worm casts or other matter lying loose on the surface.

Every green committee should see to it that these rollers are part of the green outfit. I do not mean that it may be possible to absolutely do without iron rollers, as perhaps after a hard winter the surface may be thrown up by the action of frost, and to get it back to a level condition the wooden roller would be of little or no use, being too light. The iron roller should then be used, but only so far as putting the loose surface in condition again. To perform this the greenkeeper

should choose a day when the green has dried out so that he would run no risk of "packing." However, if care has been taken in the fall to give the greens a good heavy topdress of sharp sand "packing" will be reduced to a minimum.

I am perhaps a bit old fashioned in some people's opinion, but I hold the opinion and I am speaking from experience that too little sand is used on the greens nowadays. I am a strong believer in sand as a dressing for turf, especially so if the soil is in any way of a heavy character, and to a lesser degree where it may be of light sandy nature. I hold that a far better, truer and even surface and a healthier carpet of turf can be maintained by the careful use of sand than by all the rolling in the world. In the case of young grass this treatment has to be watched very carefully for if put on too thickly or too often a loose surface may be built up and in hot summer weather the young plants might suffer. I find a good plan is to mix the sand with some good loam of proportions of about three of sand to one of loam. This will do away with any risk of "packing" or the opposite. Apply very lightly and brush well in. This dressing can be applied at any time but the best seasons are spring and fall.

If water is laid on, as it is almost always the case on every golf course nowadays, this dressing could be easily applied in the driest season. I now come to another point and one I consider a very important one, and one that has to be seen to very carefully by the

greenkeeper, namely watering of young turf. I shall deal with the older class of turf later. I have said that nearly all golf courses as a rule have a system of watering laid on, some to both fairways and putting greens. Now it does not hold that because an unlimited supply is at the greenkeeper's disposal that he should keep on sousing the greens, etc., with it and especially so in the case of young turf.

I have seen over and over again greens watered almost every day. Now I contend this is not natural. We do not look for rain every day, then why water every day? To me this sounds only common sense and if this system is kept up something is bound to happen sooner or later and those in charge will find themselves in a fix. It will be found that the grass will get weak and soft. It may, I admit, look green, but not a strong healthy green and one essential to withstand the hard wear and tear such as it is undoubtedly subjected to on a golf course. Another point in regard to this continual watering is that invariably the surface does not get a proper soaking at all but only a sprinkle, the result being that the young grass forms surface roots and does not go down. Weeds will also soon appear and take the place of the grass plants. What I suggest, and what I have found from experience to be the best way to apply water, if the greens require it, is to thoroughly soak the surface once a week. Soak it so that the water gets down and does not only wet the top. By this system the roots

will go down and should the surface get dry the plants will have moisture below, where it should be, and they will go after it and at the same time become much stronger and healthier.

I have never yet seen good healthy grass die out for want of moisture. I have seen many times in the old days when no system of watering was installed, the grass got brown and looked burned up and dead, but immediately after the first rain a sudden transformation would take place and the grass recover its natural color. Therefore I say it behooves those in charge to be very careful in the application of water.

So much for this; and I now come to the question of feeding the turf. I am not and never was a very strong believer in the use of artificial manures. I do not mean I have not used them, as I have, and found some of them not so bad, but I am a firm believer in the natural manure. Let me put it as plainly as possible and in a few words. A green has gone back somewhat and requires some nourishment. No doubt some artificial manure, as I have said, if properly applied will pull it around again, but others will only give results that are extremely of short duration and when they have spent their force those in charge may find the green in worse condition than before.

Let me just give a little explanation of what I am driving at. A man may feel tired and worn out after some hard work, and to revive him he may take some stimulant in the shape, perhaps, of a glass of whiskey

or other beverage, and he may feel the better of it, but does it continue long? Now if that man had, instead, taken a good meal of solid food the results would sure have been more lasting. The same remark applies to grass plants. They must have both air and good solid nourishment and as natural as possible, I contend. Put a dressing on of good, natural manure when the grass requires and the very best results will be obtained, and lasting ones at that.

Every greenkeeper ought to have a compost pile at his hand ready for any emergency; one never knows when something is to go wrong. The compost heap should have lain for at least a year and should be composed of the following parts: Start on the ground with a foot of good topsoil, on the top of this a foot of good old rotted stable manure. Then another foot of topsoil and so on. A little humus added to the topsoil is beneficial. If this has lain in a heap for a year and turned over, a splendid natural dressing will be at the greenkeeper's disposal. Put this through a screen before applying, to get rid of all small stones, etc., and it will also mix the whole up evenly. Apply very thin and evenly and rub well in. This should be applied on a fine dry day as it will go out of sight much more quickly. If properly applied no inconvenience should be given to the members playing on the green. By using this compost some body is being put into the ground. I find a dressing of "Humus" applied now and again also very beneficial.

There is another dressing I find of great benefit to the grass and I use a lot of it at times, this is malt sprouts. I find this dressing, if applied in early spring or in late fall, very good in giving a quick growth without rushing the grass away too much or weakening the plants. I believe in an occasional top-dressing of lime also, as it helps to sweeten the ground. Care, however, has to be taken in its use, as it is inclined to help clover should there be any in the turf. When a green is sown down there is bound to be a certain amount of weeds make their appearance and these should be removed by hand. If they should be in any large quantities, after their removal the green should be given another light reseeding, then topdressed.

I do not believe in any of the poison cures for weeds, they certainly kill them, I admit, but I hold that what kills out the weeds must at some later time harm the grass. I may be wrong, but this is my opinion. The above gives some idea of what the greenkeeper finds himself up against, in fact, it is one continued fight from the start to finish. Tees should be treated in the same way as the greens, as the turf is just as important on them and the wear and tear is far greater. Now as time goes on, it will be found that where at first a few worm casts were noticeable they have multiplied very considerably and have become an absolute nuisance. As with a human being, so with turf, it must be kept clean.

Now where worms are allowed to burrow all over

and cast their deposits on the surface it is an absolute impossibility to keep the grass clean, no matter how the greenkeeper tries. He may try to brush them off but a great amount is broken up into small particles and allowed to remain on the green. If he should, as he must, have to get the greens ready for early morning play, the sweeping process may turn out a failure, as being wet they cannot be swept off but are only plastered all over the surface of the turf, on which it is next to impossible to putt on. This state of affairs cannot be allowed to continue, as the grass will soon assuredly suffer, and in time die out and where there was once a fine, firm, clean, true carpet of grass all kinds of weeds have taken its place.

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