CHAPTER VI

THE UPKEEP OF PUTTING GREENS

Maintenance—Renovating Putting Greens—Soft Muddy Surface—Hide-bound Turf—Exhausted Putting Greens—The Systematic Treatment of Putting Greens—Sands and Thin Poor Soils—Medium Soils—Stiff and Clay Soils—Other Soils.

Maintenance

To keep a Golf Course in perfect condition, in the majority of cases, is no easy matter for many reasons, but by a system of elimination the great difficulty can usually be traced to the question of £ s. d.

Very few Courses are made to what one might term a generous specification; this and the lack of funds combined make the question of upkeep one of more or less difficulty. If ample funds were available, it would be quite easy to keep a Course in good condition in spite of the weather and the soil, but I have yet to experience the shock of being told that "we want the best, regardless of cost."

I have had a very wide experience of the subject, and when I go to inspect sites for new Courses or to advise on the improvement of old ones I am always told to think of cost, first, last and all time.

Do golfers expect too much? I am rather inclined to think that they do. A golf course occupies anything up to 150 acres, it has to be constructed, a club-house built, the whole equipped and provided with an efficient staff indoors and out. If the average subscription is five guineas, which I doubt, it works out at less than 3½d. per day.

Neither the Americans nor the French work on this principle; nothing daunts them, they want the best that money can buy, and they see that they get it in spite of their climate, which is enough to cramp any greenkeeper's style, varying as it does from Arctic to Tropical temperatures, so far as America is concerned. If the ground is poor, it is made rich; if it is wet, it is drained; if rocks or stumps stand in the way, steam drills and dynamite soon settle them;

water is laid on as a matter of course ; the club-houses are the acme of luxury, and the whole organisation goes with a click.

When a Course is selected for the Championship in the United States or Canada, it is given special treatment for at least two seasons in advance, nothing is left to chance, and the committee and club members regard it as a point of honour to see that its condition is worthy of the honour of the occasion.

It is hardly my job to dive into a subject like this, but knowing both countries intimately it is interesting to compare methods.

Renovating Putting Greens

Should a green get into such a bad condition that it requires renovating, there is doubtless something the matter, and before any intelligent action can be taken to recondition it the fault must be ascertained and corrected.

If the turf wears badly, it is generally safe to assume that the surface soil is too soft or full of worms, or both, and these troubles can easily be overcome by the use of sand, charcoal, breeze and Wormkiller.

Should it assume a starved, unhealthy, yellow appearance, the soil is probably lacking in lime, and plant foods generally.

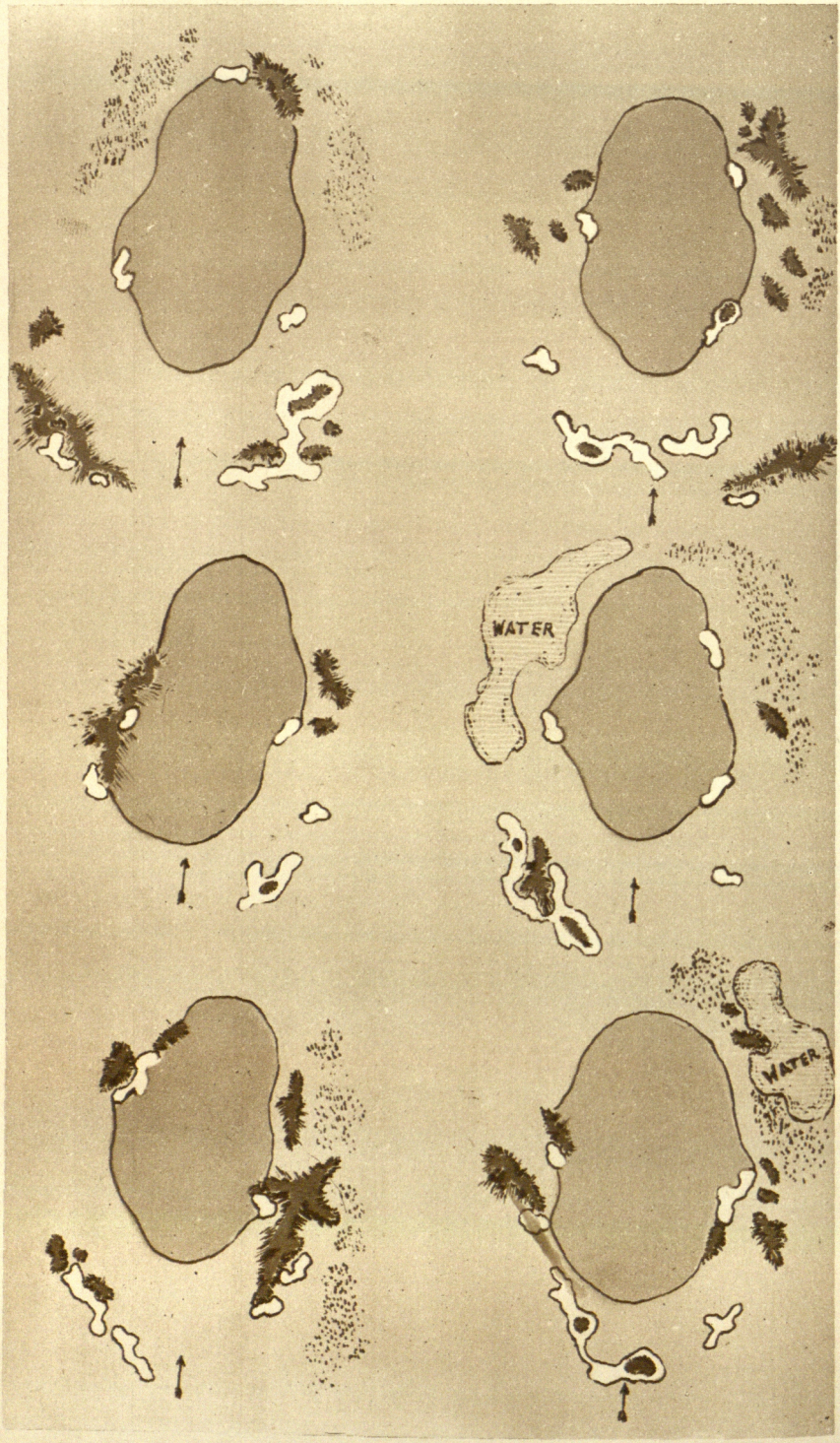
The presence of moss points to stagnant soil conditions, with or without an excess of moisture, a hide-bound surface, a deficiency of lime, poverty, or over rolling.

These explanations will, I think, cover ninety-nine cases out of a hundred, and as the other one is almost sure to be a special problem requiring individual treatment, I will leave it at that.

If the drainage is at fault, it must of course be corrected before anything else is done, and then proceed as follows : Test the soil for lime, and if it is found deficient, dress with pulverised chalk at the rate of 1 lb. per square yard. Allow if possible an interval of a week or two to elapse ; the longer the interval the better ; keep the grass closely mown all the time, then dress with Carters No. 1 Fertiliser at the rate of 2 oz. per square yard.

Rake the surface vigorously, but with judgment, so as to work in the fertiliser ; loosen and remove all moss and dead herbage, and at the same time open up the surface soil where the turf is thin or dead.

PUTTING GREENS AT BROCTON HALL,
DESIGNED AND CONSTRUCTED BY CARTERS, OF RAYNES PARK.



SUGGESTIONS FOR PUTTING GREENS BY CARTERS, OF RAYNES PARK.

Do not be afraid to use the rake, and remember that the more the existing plant appears to be ruined, short of actually pulling it out by the roots, the better will be the results. Unless the surface is loosened sufficiently, the roots of the young grass will not be able to penetrate the old turf and will die, and the whole work will prove a failure.

Should the removal of the moss leave depressions in the surface, fill them up with sifted soil, and press down with the foot. Sow the raked surface with a prescription of grass seeds specially prepared to suit the soil and turf, at an average rate varying between half and one ounce per square yard, according to the existing condition of the turf, sowing the seed thickly where it is thin or dead, and thinly where it is fair to good.

Rake gently in order to work in the seed, then cover with sifted compost at the rate of one cube yard per 150 super yards, or Compound Mulch, see Supplement, or sifted soil; rake again so as to spread the covering evenly, and finish off with a light roller.

Soft Muddy Surface

Some putting greens are so soft in winter as to be almost unplayable, and under these conditions the turf wears very badly indeed.

As a general rule the trouble is caused by an excess of moisture, or the presence of worms.

If the latter give trouble, there is only one thing to do, and that is to exterminate them—see Chapter XX. If, however, it is due to an excess of moisture, it is brought about either by faulty subsoil drainage, or by the holding nature of the surface soil, and consequent slow percolation.

Soil is only soft and muddy when it is wet, and it is only wet when excess water occupies the air spaces in the soil, and cannot get away quickly. It is worse than useless to roll a green in this condition with the object of making it firmer, because it will not have that effect at all; it will make it both softer and wetter. The only cure is to improve the subsoil drainage if necessary—see Chapter XXII—and to treat the surface with charcoal, sand and breeze, etc., with the object of opening up the pores of the soil, and so allow the excess water, which is the root of the trouble, to get away. The surface of a perfect putting green should

approximate a bad filter bed, and be so open that the rain can rapidly pass through it as it falls, and so get away; a condition conducive both to good putting and the growth of good turf. The best materials to use for improving the surface drainage are charcoal, both wood and bone, screened breeze, sea and clean pit sand. It is obvious that the coarsest grades should be used on the softest soils, until the time comes when the soil will not absorb it readily, then use the finer grades. It is uneconomical to use sea sand in the first instance on very soft soils, as it will get lost in the soil. Sifted breeze can generally be obtained very cheaply, and my advice to those interested in the upkeep of soft muddy greens is to give them just as much of it as they can take, and finish off with charcoal and sand.

Hide-bound Turf

In cases where the drainage is efficient, the soil is in good heart and contains sufficient lime, and yet the turf goes off in patches and moss appears, the fault can usually be traced to a hide-bound surface, so hard as to exclude the air and repel moisture.

This was the undoing of many greens during the great drought of 1921, when the soil got so hard and dry that the rains when they did come could not penetrate. If the condition of a green is in doubt, cut out a sod from a bad and a good place and compare the root growth and soil. Should the root growth of the bad sample be stunted and the soil dry, and the root growth of the good sample be active and the soil moist, it is not necessary to enquire any further.

The best treatment to adopt is to spring the turf with forks or use a "Sarel" spike roller—see Chapter XXVII—and coax the turf along with quarter dressings of No. 1 Fertiliser.

Exhausted Putting Greens

Many greens, quite irrespective of the class of soil upon which they stand, its fertility or the quality of the turf, are often in an extremely precarious condition at the end of the long, crowded summer season.

The reason for this is very plain, the grass is endeavouring to obey Nature, throw up its seed heads and reproduce itself, but instead of being allowed to fulfil its destiny it is kept closely mown. This long drawn out struggle, coupled

with the wear and tear of many players, not only exhausts the plant, but also the soil.

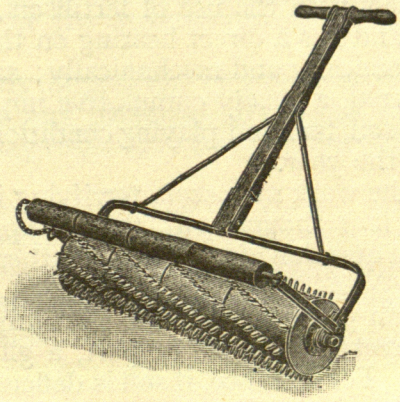
Every time a green is mown the turf draws on its reserve food in its effort to recover and grow a new crop of leaves, and unless there is a plentiful and readily available supply, it is bound to suffer and become weak and thin. This can be better understood when it is realised that one ton of grass removes about 34 lb. of nitrogen and 36 lb. of potash and 16 lb. of phosphoric acid from the soil.

Another source of trouble is the burning out of the tops of mounds and undulations, which become so dry and hard that they repel water instead of absorbing it.

In many cases long after the hot weather has passed and rains have fallen, the soil, if examined where the turf is dead, will be found quite dry.

To prevent or cure the exhaustion of the soil and turf, and to counteract as much as possible the unnatural conditions brought about by artificial watering during a drought, and consequent rapid evaporation, which has a chilling and parching effect, and the drying out of the high places, calls for very little work or expense.

The greens should be periodically dressed with Fertiliser No. 1 or 2, as the case may be, at the quarter rate of ½ oz. to the square yard, mixing the same before use with two or three times its own bulk of sifted compost, soil or sand, so as to increase its bulk and so ensure its even distribution, using a spike roller both before and after each application.



This will supply the turf with the required and readily available food and the spike roller will open up the soil and so encourage percolation and soakage.

The Fertiliser can be used at any season of the year, provided that the turf is in growth and the weather showery, or if it can be watered in, allowing a period of at least 14 days between the doses.

On heavily undulating greens it is only necessary to dress the high parts, and where the turf is weak and starved, as the water will carry the fertiliser to the lower areas.

The Systematic Treatment of Putting Greens

It is more than difficult to lay down anything approaching definite systems for the treatment of putting greens, owing to the enormous variation of soil, which makes any real classification a practical impossibility.

The remarks under this heading must therefore only be regarded in the light of a rough guide upon which to base a system likely to suit the greens in question.

To realise the difficulty to the fullest extent, one must bear in mind that putting greens are in play all the year round, a condition which does not apply to grounds devoted to any other game, consequently the structure of the soil and its mechanical condition are all-important.

Routine work may roughly be divided into two categories—one, which embraces mowing, rolling, weeding and worm-killing, has little or no direct bearing on the soil or its fertility, but even these simple operations have an enormous effect on the quality and condition of the turf, so should be carried out with care and thought.

The other deals with the use of fertilisers, top-dressings and composts, and has a direct bearing on the condition of the soil both chemically and mechanically; and if the work is properly ordered, a steady cumulative improvement can be made to the soil, turf and playing condition of the greens at all times of the year.

This side of the work may seem terrifying in its scientific demands, until it is thought out, then it appears more or less simple and a question of application rather than abstruse knowledge.

If we accept in principle the fact that any deficiency of soil can be corrected in whole or part, a glimmer of light is at once seen. For instance, if soil is deficient in lime, the bulk of its chemical constituents are unavailable and artificial fertilisers cannot function properly; but as soon as it is applied, the fault is corrected, although its full effects may not be apparent for a year or more.

Sandy or thin soils lacking in humus are poor, hot and dry, whilst heavy clays suffering from the same defect are poor, cold and wet. Humus, decayed vegetable or animal matter, is the natural refuge for the beneficent soil bacteria and can be added in the form of prepared compost and the balance of the grass food made good by the use of Complete Grass Fertiliser. The mechanical condition of the soil can be altered at will by the application of sand, charcoal and breeze.

All of these subjects have been argued at length in the chapters devoted to them, so all I need do now is just to make a few suggestions for the treatment of the soil with a view of making a slow but sure improvement in its condition.

Sands and Thin Poor Soils

This class should be frequently dressed with a rich compost made up of equal parts of good light loamy soil, leaf mould if available, and well-rotted short straw or fresh peat moss manure.

This will add humus to the soil, enrich it and tend to conserve moisture, but it cannot be relied upon alone, to keep the soil up to the required state of fertility. In order to make up the deficiency in plant food between the amount used up by the turf and that added by the compost, dress the greens as often as may be required with a complete grass fertiliser at the quarter rate of ½ oz. to the square yard.

It is obviously impossible to determine in advance how many dressings any particular green will want during the season, some may respond to two or three and others require six or eight.

All the greens should be examined periodically, and each one treated in accordance to its exact requirements.

If this system is adopted and the other routine work carried out carefully and thoroughly, a steady improvement should be observed.

Medium Soils

These are the easiest to handle, but in spite of this their reserve of food is strictly limited, and if allowed to get below par, can be just as troublesome as any other. Medium soils should be dressed occasionally with a nice porous compost, rich in humus, made up of two parts of good loamy

soil, two parts of well-rotted dung, one part of sand and leaf mould, if procurable.

Supplement this as may be necessary with quarter dressings of Complete Grass Fertiliser at the rate of ½ oz. per square yard, and all should be well.

Stiff and Clay Soils

This is the most difficult class to deal with, and one must always bear in mind that before any marked improvement can be made, the mechanical condition of the soil must be improved and so made more fertile, porous and warmer.

Top dress as frequently as possible with a compost made up of good light soil, well-rotted dung, leaf mould and a liberal quantity of sharp sand or fine breeze passed through a ⅛ inch mesh sieve.

In addition to this use sea sand, charcoal or breeze as necessary to make the surface quite firm and porous and give as many quarter dressings of Complete Grass Fertiliser at the rate of ½ oz. per square yard as each individual green requires.

The compost in itself will make an enormous improvement if it is used regularly, as it will in time cover the clay with a veneer of porous soil rich in humus.

Other Soils

A treatment for other classes of soil can be made up from the above ; the general principles to follow being, add lime where necessary, use sand, charcoal or breeze freely in all cases where the soil is inclined to be soft when wet and hard when dry.

Feed the greens or rather make up the food supply as it is used by the systematic application of light dressings of Complete Grass Fertiliser, No. 1 or 2, according to the nature of the turf.

If the natural soil is unsuitable from any point of view, cover it up by regular and frequent dressings of compost, which can be made to any required standard.

Adopt a system of some sort ; a bad one would be better than none ; do not get disheartened whatever happens, and remember that every time the grass is cut the food content of the soil is being reduced.