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THE BRITISH GOLF

EENKEEPER

HON. EDITOR: F. W HAWTREE



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APRIL

CONTENTS

Page 3 TEE SHOTS

> 4 PROVISION AND APPLICATION OF WATER TO THE GOLF COURSE

8 SITUATIONS VACANT

14 SPECIAL OCCASIONS

15 SECTION NOTES

20 MRS GREENKEEPER

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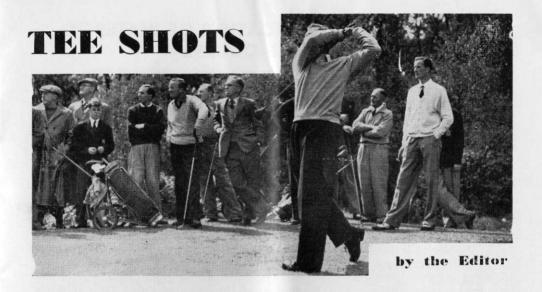
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Perhaps I dreamed it. At any rate, it was 1st April before noon when the letter plopped on to my mat. It came from a body which called itself the IRTS. I gathered this had something to do with research into turf science and that one of their representatives had called to look at my lawn while I was away and wanted to send me his sympathy

"The trouble is," he said, "it is too big. But fortunately modern techniques can ease your task more than you might wot of."

I was puzzled by this "wot of" In the first place, I was taught never to end my sentences with a preposition and in the second place — "wot" — well, I ask you. But I read on.

He thought a good deal of my daisies which, he said, if not cut too short, would give the grass an agreeable mediaeval appearance. (I now began to see the point of his "wot".) I was at all costs to avoid any preparations containing the Sulphates of Ammonia or Iron which tended to blacken and destroy the pretty plants.

He also took a good view of my moss. "While," he said, "there may be certain mercurised products designed to discourage the elegant fern-like fronds of Polytrichum, there can be no doubt that the basic conditions of poverty, bad drainage, compaction and, what have you (it seemed to me I had the lot already),

Continued on pages 10 and 11



PROVISION AND APPLICATION OF WATER TO THE GOLF COURSE

E. M. BAYLIS, N.D.A.

Advisory Officer, The Sports Turf Research Institute

AFTER such a long wet winter any remarks about watering may appear totally inapt but it often happens that very hard or wet winters are followed by particularly dry summers. From the point of view of maintenance it is generally recognised that a club having a good watering system available is in a stronger position than a course where no

artificial watering is possible.

Efficient irrigation provides more uniform playing conditions throughout the summer and also allows the Greenkeeper to follow a much more intensive and flexible maintenance programme. To date far too few courses possess a first-class watering really although a number of clubs are making efforts either to lay on water or to bring an existing system up to date and Where this is improve its efficiency being done many points have to be borne in mind, including the following

Where streams, lakes or wells exist on the course these should be considered first of all as sources of supply but it is essential to establish whether they will provide sufficient water to meet peak needs in a prolonged dry period. Sink ing special bore holes can often be justified although this work will raise the cost of the installation. Occasionally streams become polluted with substances injurious to turf and if there are any doubts about this point it is worthwhile having samples analysed before using the water on greens. Most private water supplies contain a great deal of suspended matter and provision must be made for filtering otherwise sprinkler jets can become blocked or badly worn.

There is often no alternative to using the mains supply but this has its disadvantages. Firstly, mains water is expensive. Charges are usually upwards of 2s. 6d. per 1,000 gallons. Also, restrictions are frequently imposed during discoverather just when the system

will be needed most to keep the turf healthy In a few cases mains water is delivered at sufficient pressure to allow direct application, thereby avoiding the cost of a power unit and pump. However, it is possible for some form of booster pump to be required.

Choosing the correct type and size of underground mains requires careful cal culation in order to allow for losses in pressure due to friction and heat. In addition metal pipes tend to corrode over the years, reducing their effective bore. A pump unit of the correct capacity must also be chosen. These factors must all be taken into account to ensure that sufficient flow and pressure are available at the distribution points to operate several sprinklers at one time. The only way to make absolutely sure the system will be sound is to consult a firm of experienced water

Methods of applying water can vary a great deal and include fully automatic systems using pop-up sprinklers which are permanently left in position, require no movement and consequently cut down the running and labour costs. Systems of this type can be set to operate completely automatically under electric control, if required. Their main disadvantage appears to be the relatively

engineers before work is put in hand

high initial cost.

Conventional sprinklers are more widely used and those operating on the rotary principle are usually found quite effective, being light to transport and cheap to purchase. The majority of sprinklers require a water pressure of at least 25 lb. per square inch to operate effectively although some will perform satisfactorily at much lower pressures.

Where water pressure is particularly poor a few clubs still hand-water using open hoses but this practice is now accepted as being very inefficient in labour utilisation and seldom achieves

good results.



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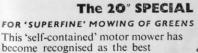
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The following principles for applying water are fundamental but often become overlooked to the detriment of the turf

It is important to begin watering before the grass cover shows any sign of suffering from drought. In a particu larly dry and windy spring, greens may well benefit from watering as early as April or May although it is more usual for turf to suffer from drought in the summer when temperatures tend to be higher and evaporation losses greater Water should be applied slowly enough for it to be absorbed by the surfaces. Soils vary in the rates at which they are capable of accepting moisture and although very sandy soils usually permit rapid percolation, the heavier loams absorb water much less readily Fibrous turf tends to retain moisture in wet weather giving soft soggy playing surfaces but if the mat is allowed to dry out it becomes exceedingly difficult to remoisten, the turf therefore suffers badly from drought since most of the water applied is shed off the area. Penetration can be assisted by intensive solid tining before water is applied but the long term aim should be to reduce the fibre formation. Tops of undulations suffer in a

similar manner and local forking before watering is helpful in maintaining uni form conditions where undulations occur

It is most important to give adequate amounts of water to meet the plants' needs. There is almost always a tendency to under-water turf during dry weather Light and infrequent applications of water may keep the turf alive but do not achieve good results. If only the surface is moistened roots tend to be active in this region and the turf becomes very tender and does not withstand wear or drought at all well. The aim should be to keep the top soil moist to a depth of at least 4 inches and preferably more. In order to achieve this something like the equivalent of 1 inch of rain per week is necessary in very dry weather means providing approximately five gallons of water per square yard per week under these conditions. In practice it is better to water thoroughly twice or three times per week rather than give small amounts each day

On the other hand over-watering can be detrimental to the turf since it can under certain circumstances cause the surfaces to puddle and become badly







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waterlogged. Playing on very wet turf results in compaction and destroys soil A relationship also exists between heavily watered turf and fungal diseases. Warm moist conditions in the turf encourage the development of, e.g. Fusarium patch disease and Ophiobolus patch disease, the incidence of both are, of course, to be avoided if at all possible. It must also be remembered that money is being thrown away whenever the irri gation system is being kept in operation unnecessarily

Applications of water should always be timed to cause as little interference with play as possible and naturally one does not expect to see sprinklers in operation during competitive golf. Automatic night watering meets this requirement without the need for staff work ing overtime. Watering during the day is however, often the only practical method and some inconvenience may be created for the player This, of course, is much less detrimental to his game in the long run than a turf badly affected by drought.

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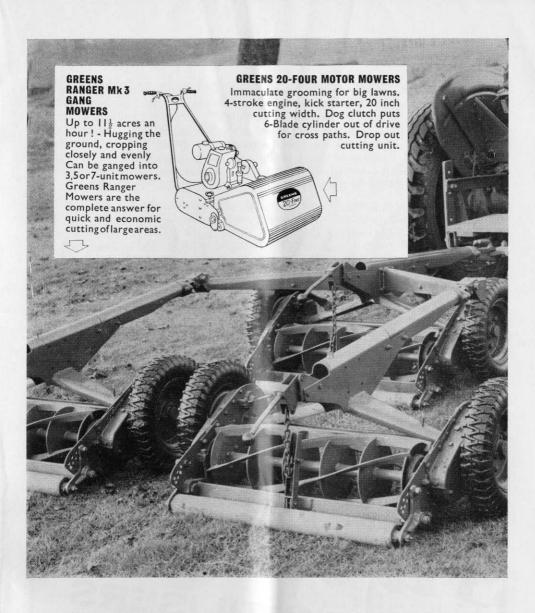
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are those best suited to your idle circumstances." He therefore advised trampling the turf while the surface was wet as a temporary remedy, but he thought that one of those hopping machines, saying "Ouf-Plonk" used by contractors in an endeavour to get back into the trench the same amount of soil that they took out, would in the long run be a sound investment. Steam rollers, he opined, were now difficult because non-turf enthusiasts were acquiring them as garden ornaments rather than essential equipment. In any case, the shrubbery tended to suffer if the driver failed to wind his little steering-wheel quickly enough.

There followed a good deal of technical advice with which I will not bore you beyond the odd quotation: "Mowing once a month at 3/16 in. will tend to reduce vigour and increase deck-chair time." A useful point, I thought. "Worm casts and mole-hills if suitably flattened with a blunt instrument will eventually produce a smooth, earth-like surface on which grass will find it difficult to compete with the more desirable weeds." Heavy top-dressing with a suitable clay soil would assist this condition.

Watering was to be restricted to the months of December and January, when the frozen droplets, besides reflecting the winter sun, would help to do the few remaining grass blades a bit of no good.

There was a useful hint on fertilising. Sodium Nitrate or Nitro Chalk, applied at 6 oz. per square yard in early September, had generally been shown to produce conspicuous bare patches before October was out and with careful neglect these

