Food for thought

BY J. PERRIS, B.Sc.

FERTILIZER treatment is an extremely important part of turf management. For best results it is necessary to use the right amount of the right kind of fertilizer and to apply it in the right manner at the right time of the year in the right weather conditions. The treatment must obviously be related to the condition of the turf and the demands made upon it.

Times have changed quite a lot and modern requirements are rather different to what they were in the old days. The modern golfer demands "better" playing conditions despite much increased wear and his wish for a good green colour and first class playing conditions in dry weather has caused many clubs to install up-to-date watering systems. This, in turn, is likely to increase the need for fertilizers. It will have to be faced that the beautiful fine turf, growing under extremely poor conditions of fertility, will just not stand up to these modern requirements and it seems that in very many cases changes in the composition of the sward resulting from feeding and watering are inevitable.

Grass, like other plants, needs a supply of many mineral elements from the soil but the three chief plant foods supplied in fertilizers are, of course, nitrogen, phosphate and potash. Of these three nitrogen is by far the most important for grass since it has such a high responsibilty for the production of sufficient foliage. Phosphate has many important functions, not the least of which is healthy root development, but clearly without sufficient foliage there won't be enough root. Potash is not really very important for grass but it affects both drought and disease resistance so that a deficiency of potash should be avoided. It is normal to apply all three plant foods to turf in the course of a year.

There are, of course, different fertilizers capable of supplying each of the plant foods. Some are quick acting and some are slow acting. A good greenkeeper tries to apply a good balance as between nitrogen, phosphate and potash and a good balance as between slow and quick acting fertilizers. He may do this by mixing (or having mixed for him) his own prescription of different fertilizers or he may count on the expertise of fertilizer manufacturers in their making up of proprietary fertilizers.

In the last year or two some of the ingredients that the greenkeeper would like to use have been in very short supply (e.g. dried blood, hoof and horn meal, etc.). New synthetic materials brought forward to fill the gap or improve on the old materials have so far not proved themselves entirely satisfactory. In the circumstances there has been a tendency for greenkeepers to turn more and more to proprietary materials if only to leave the head-ache of finding suitable ingredients to somebody else!

Interest in soluble fertilizers to be applied through a weed sprayer or a watering system sometimes arises, but there are drawbacks to both; e.g. the limited amounts that can be safely applied through a sprayer and the difficulty of getting uniform application through a sprinkler.

DIFFERENT TYPES OF TURF

From the point of view of providing technical interest a golf course has more to offer than most other sports areas. There is a wide range of turf conditions

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from the rough needing little or no fertilizer, to the fairways requiring a little fertilizer occasionally, on to the tees, requiring rather more fertilizer and then to the greens, requiring intensive treatment.

Greens

The turf on golf greens has to stand a great deal of stress in the form of wear and of regular close cutting. To maintain a good sward, therefore, quite a lot of fertilizer is necessary. As soon as weather is suitable to allow good growth in the Spring it is necessary to encourage growth to bring the turf from the weary and worn condition resulting from winter play to the first class summer condition that is required for the main golf season. A complete fertilizer is usually given and those making up their own mixtures might use a mixture on the following lines:—

3 lb. sulphate of ammonia 1 lb. dried blood 1 lb. fine hoof and horn meal 5 lb. powdered superphosphate 1 lb. fine bone meal 1½ lb. sulphate of potash 28 lb. sandy compost as carrier	per 100 sq. yd.

The sandy compost is recommended to facilitate uniform spreading and minimise scorch risk. Calcined sulphate of iron, though not normally considered a fertilizer, may be included in the above mixture at the rate of 1 lb. per 100 sq. yds. It acts as a turf conditioner and helps to reduce risk of weed and disease invasion. Some proprietary fertilizers are made up to similar formulae but proprietary fertilizers may also contain other ingredients with a view to obtaining the same or better effects. It is sometimes possible for manufacturers to get hold of other waste organic materials and, of course, some products contain a proportion of the new "synthetic organics".

During the growing season further phosphate and potash may well be unnecessary if the amounts mentioned above have been given in the Spring but usually further dressings of nitrogenous fertilizers will be required, either as proprietary products or as home-made mixes such as:—

1 lb. sulphate of ammonia 1 lb. dried blood 1 lb. fine hoof and horn meal 28 lb. sandy compost	per 100 sq. yds.

The greenkeeper will use two, three or four dressings of this kind, timing the last dressing for about the end of August and quite often in this last dressing a little sulphate of iron will be included. It has been shown that Autumn dressings of nitrogen increase the risk of disease and so after the end of August very little (if any) nitrogen should be given.

The question of winter fertilizer treatment is one which is much discussed and there is evidence to suggest that winter fertilizers are being more used now than in the past, although it would seem that in most cases evidence of benefit from them is not very pronounced. On the other hand there are circumstances, particularly on greens built to modern standards of drainage (i.e. mainly of sand) where winter fertilization has proved necessary and beneficial. Very often winter fertilizers contain mostly phosphate and potash and some people compromise by including phosphate and potash in the end-of-August dressing.

Tees

Teeing grounds receive a lot of wear and so a fairly strong growth is required. In the past many clubs have neglected the tees to their own disadvantage.

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Large teeing grounds in excellent condition are a great asset to any course. There has been a movement to bigger tees in recent years and, at the same time, appreciation of the need for fertilizing the turf. The kind of fertilizer to use on tees should be fairly similar to that used on the greens, although the frequency and amount can often be reduced. Further economy can be obtained by using proprietary granular fertilizers containing balanced amounts of nitrogen, phosphate and potash such as might also be used on fairways. Whereas powdered fertilizers are preferred on fine turf areas such as greens (although some proprietary mini-granular preparations are also suitable) to ensure as efficient application as possible, the position is not so clear on tees. Powdered preparations are generally preferred but granulars are sometimes used for cheapness. On a close-knit fine turf the individual granules of an ordinary granular fertilizer are likely to leave little yellow scorch marks whereas on less fine turf the granules are less likely to have this effect, which may not be very important anyway.

Fairways

Fairways do not receive a great deal of concentrated wear and the chief requirement from them is a decent lie and recovery from divoting. Providing that these conditions are satisfied and that the appearance is pleasant, then less mowing there is to do the better! Obviously fairways do not need a great deal of fertilizer but, once again, the position has changed over the years. At one time fairways never received any fertilizer at all but nowadays occasional dressings of fertilizer are given, usually in the form of a proprietary granular fertilizer such as one

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containing:—

10% Nitrogen
15% Phosphate
10% Potash

applied at 2-3 cwt per acre.

This would normally be applied in the Spring and few fairways need more than one dressing a year, even if they need that. In practice, poor fairways are often short of lime as well as plant foods and appropriate treatment might include winter liming followed by Spring fertilizer.

The Rough

Nobody wants an excess of grass on the rough but it is desirable to keep some sort of a cover and there are now areas of rough on many golf courses where lime and/or fertilizer treatment is called for to maintain a cover.

Other Areas

There are areas on a golf course which sometimes seem to get forgotten. Surrounds to greens and tees, approaches to greens, and banks on various parts of the course tend to receive insufficient attention and will often improve a great deal if given a little suitable fertilizer.

Obtaining best results from Fertilizer

Getting the best results requires skill and knowledge. The most carefully chosen fertilizer will not achieve the desired end unless it is applied with a considerable measure of skill and judgement. Uniform application is essential and, on greens at any rate, watering in should be considered if rain does not fall fairly soon after application. Much of the value of a good greenkeeper lies in the skill and judgement he exercises in timing his fertilizer application in relation to the state of the turf, to the weather and to known requirements in the way of competitions and the like.

Diary Dates

Mar. 4 South Coast Section Lecture — Huxleys, New Alresford, 7 p.m.
5 Southern Section—Whitbreads, 6.30 p.m.