

# FERTILISERS AND SPRING GROWTH

by R. V. DAVIES

**P**LANT nutrients are continuously taken up from the soil by the growing plant and the maintenance of an adequate supply of plant food through the application of fertiliser is essential to maintain satisfactory growth in turf. This is particularly true of golf greens and tees where growth has constantly to renew the foliage removed during mowing. The fertiliser requirement of fairways is less than that of greens because gang mowing returns the clippings so that the nutrient material is returned to the soil and gradually decomposed and made available to the plant again. Thus many fairways have survived quite adequately without fertiliser for ten years or more though others, on sandy or thin soil, or in areas of high rainfall where the fertiliser is washed out of the soil, require more frequent fertilising.

## Main Elements

Greens require a much more continuous fertiliser programme with regular application of nitrogen (e.g. in the form of sulphate of ammonia) at controlled rates through the growing season. Nitrogen is accepted as being the most important element in providing growth for the renewal of leafage but a supply of phosphate and potash is also essential to maintain a healthy sward. Application of the spring fertiliser provides a good opportunity to apply both these elements and ensure a supply for the remainder of the growing season. It is also argued that young growth is more demanding in its phosphate requirement and therefore spring application of this element is appropriate. Phosphates are usually applied as superphosphate with possibly small proportions of fine bone meal while potash is generally in the form of sulphate of potash.

Weather conditions for steady growth are required in spring time before this complete fertiliser is applied. Suitable conditions in a normal season should

occur round about the third week in April but unfortunately few years are "normal" and occurrence of the desired conditions will vary from year to year and between one locality and another. Therefore, the main criterion for application of fertiliser in spring is that favourable weather conditions should already be providing conditions for growth. Unfortunately, however, nature does not usually oblige by providing these conditions at the beginning of the main competition season, a fact which appears to escape a large proportion of the golfing fraternity.

## False Spring

The unwary may be caught out by a false spring at this time with a sudden flush of growth during early March which quickly subsides with no further movement for three or four weeks. The resulting soft, forced growth may also be more easily damaged. Fertiliser mistakenly applied at this time will be largely wasted as, by the time growth restarts, much of the nutrient material will have become unavailable and a supplementary fertiliser may then be necessary to boost growth at the true start of the growing season. Generally a flush of growth in March should be mistrusted except perhaps in the extreme south and west and if there is a desire to apply fertiliser at this early stage it would usually be advisable to think only in terms of a light dressing of sulphate of ammonia so delaying the complete fertiliser until more settled growth is assured.

## East Winds

An additional complication, perhaps most often experienced in the east of England and Ireland, and near coasts or other exposed positions, is the sharp easterly wind which often blows as late as May and can completely arrest growth causing discoloration by scorching leaf tips. Again it is often useful to

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### *Fertiliser and Spring Growth—continued*

follow such weather with a touch of sulphate of ammonia to get growth moving again and restore colour to the sward though it may be impractical to delay the main spring dressing in anticipation of these unpredictable easterlies. This problem cannot be completely overcome but can be reduced by working into the surface an application of good friable compost at 2-4 lb./sq. yd. in March following light wire raking. This will help to protect the grass and allow growth to resume more quickly when more favourable conditions return. Damage to the sward will also be minimised by avoiding unnecessarily close mowing.

### **Early Bite**

A temptation to apply fertiliser too early often arises where, on a course surrounded by agricultural land, the farmer is seen to obtain response to his fertiliser dressings at the beginning of March or even earlier, but the grazier is able to obtain this early bite for his stock only by using the coarser grass species such as Perennial and Italian ryegrasses often specifically selected for his purpose. The coarser grasses naturally begin growth earlier than the fine fescues and bent grasses and this often explains the advanced growth of fairways in the early part of the year as compared with greens. Difference in growth between greens on courses situated within the same district may also

be attributable to this feature where greens containing a proportion of the coarser grasses and annual meadow-grass can show greater growth than those containing a high proportion of bents and fescues, although the latter will provide the superior putting surface over the year as a whole.

### **Roots**

Though adequate supply of fertiliser is essential for growth it is of little value if other requirements are not also satisfied. In addition to the points already mentioned the condition of the turf itself will have an important bearing on the effectiveness of fertiliser applications. Nutrient material supplied by the fertilisers is taken up by the roots and a deep, well spread, root system is essential to give a good, long lasting response which does not tail off quickly. A desirable root system and consequently efficient utilisation of fertiliser can only be obtained by a full maintenance programme giving adequate attention to deep aeration and fibre control.

### **pH Level**

Over-acidity of the turf may also be responsible for poor response and the level of soil acidity should be regularly checked and corrected where necessary. In some cases nitro chalk will produce a better response than sulphate of ammonia on acid turf but this fertiliser should only be used exceptionally and with discretion.

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