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Front Cover Picture

This month's Front Cover Illustration highlights the special feature on grass seeds for Golf Courses appearing in this issue. The two species shown are Yorkshire Fog and Fine-leaved Sheep's Fescue. They are taken from a booklet "The Identification of Grasses by the Foliage" published by Suttons Seeds Ltd, Reading.

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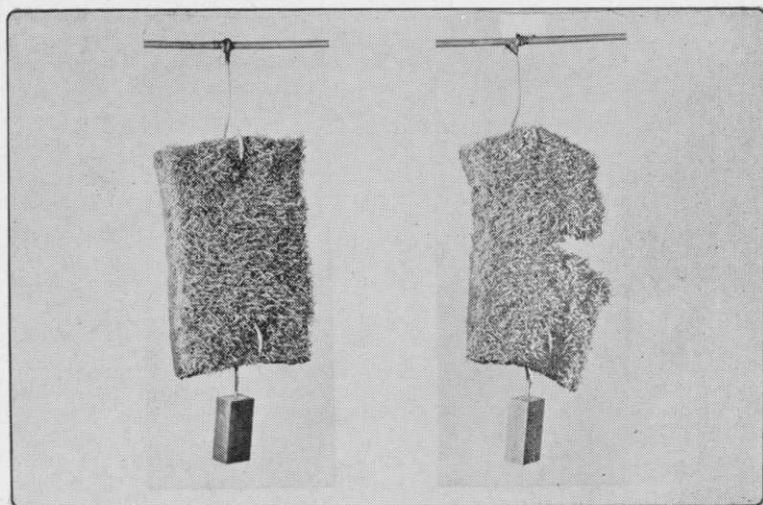
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Grass roots wisdom

A review of grass seeds suitable for golf courses

GRASS is probably the most successful family of plants occurring naturally in the British Isles, where it grows almost everywhere in abundance. The world contains approximately 10,000 species of grass, but Britain has only about 160 occurring naturally, of which eight have been selected for characteristics which make them useful in the production of domestic and professional turf.

Grass habitats are very diverse, and extend from the mountainous terrain of the north to tidal mudflats far out in estuaries of the south.

One of the most commonly sown species of plants, it has an important role to play in virtually every private garden and public recreational area,

● **This review is abridged from a book by GEOFF TAYLOR, turfgrass adviser to W. W. Johnson & Son Ltd., of Boston, Lincs.**

from golf courses to city parks. It is a natural foil for the bright colours of a flower bed, and with little attention will enhance any area.

So it is hardly surprising that grass tends to be taken for granted, largely due to the British climate, which favours its growth and disguises the many important factors which contribute to the production of good turf.

At this point it is perhaps sensible to remind ourselves what the word turf means. The term is usually applied to a community of plants, ideally consisting of grasses only. The word turfgrass is now being generally accepted to describe any area of grass that is used for non-agricultural purposes, and includes for example, ornamental areas, verges, and all the many sporting applications.

These diverse roles call for different species, as clearly the grasses which are

able to produce the fine dense turf of the golf green are not suitable for the heavy wear and tear of the professional football pitch. In practice, it is not usual to sow pure varieties of grass, as a greater degree of flexibility is obtained from a mixture.

A mixture can respond to environmental changes more successfully and will also resist weed invasion and attacks from disease. Pure stands of any species always run the risk of disease, which has a greater opportunity to reproduce on susceptible plant material. This can even lead to the breakdown of a variety's resistance to a particular disease.

Today, with the aid of varieties, the basic eight species are used to provide different mixtures that will approach quite closely in most cases the ideal requirements of most turfgrass situations. The species may be divided in different ways, but probably the most important factor is the ability to tolerate close mowing.

Other important characteristics are tolerance to wear, fineness of leaf, disease resistance, and habit of growth in particular, whether it produces runners and if so, whether they are rhizomes or stolons (growing below or above the soil).

The golf course is one recreational area that illustrates quite well the importance of prescribing the correct mixture for each of the various playing areas. Although the management will vary from course to course, it is possible to distinguish quite easily four types of turf with different needs—the greens, the tees, the fairways and the rough.

Each area has two principal considerations—the height at which the turf will be mown, and the degree of wear imposed upon it. There are, of course,

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the other factors listed earlier which need attention, as they tend to be inter-dependent. For example, low mowing, at 8mm. ($\frac{1}{8}$ in.) or less will put stress on the plants and increase the risk of disease.

THE GREEN, as the focal point of every hole, needs to be maintained in a really first-class condition. Besides providing a playing surface which should be uniform although not necessarily level, it is used throughout the year and must, ideally, always remain attractive.

On most other sports turf there is a season when the grass can be rested and many of the man-made stresses relaxed to allow a thorough recovery from the rigours of use. But in golf this is not possible. It is important, therefore, to make full use of the modern improved varieties which offer really significant benefits over the older types that frequently have little to commend them over commercial seed.

The green is very closely mown and is traditionally composed of a mixture of chewings fescue and browntop bent, in proportions that nowadays are usually 80% to 20%. These species tolerate close mowing of 5mm. ($\frac{1}{4}$ in.) better than others, and produce the very fine textured turf that is essential for the surface of the green.

There are a number of varieties of chewings fescue, but one which is commercially available for the first time in 1974 is Waldorf, which has received excellent reports from trials conducted over a number of years both here and abroad. It has been singled out for its superior ability to produce a truly neat, compact turf which has a very high degree of disease resistance, ensuring that its colour will remain attractive.

Browntop is available also in a number of varieties, but in this case, there are two quite distinct types. On the one hand there is Highland Bent which has good winter colour, is inclined to be uneven in growth, produces both rhi-

zomes and stolons, and is very aggressive when compared with the growth habits of other species.

On the other hand, there are the bred strains from Holland, such as Holfior, which are uniform, have good summer colour and produce rhizomes only. It is considered sound sense to blend the bents so that good colour is obtained all the year round with the additional benefit of greater uniformity.

In the case of **THE TEE**, the prerequisite is clearly not the closeness of mowing, but the degree of wear. Courses which have more than one tee per hole are able to reduce this severe burden on the grasses, but it is still vital that the mixture used should consist principally of wear-tolerant, vigorous rhizomatous species.

Recommendations vary, but the principal specie must be smooth stalked meadow grass, sometimes known as Kentucky blue grass, or more correctly *poa pratensis*. This would be combined with a second rhizomatous specie, creeping red fescue, making up the major part of the mixture. Other ingredients would be chewings fescue and browntop. The two principal ingredients, plus the bent, are included for their ability to repair and recolonise scarred and bare areas.

Once again, modern varieties of all the species in the mixture are vastly superior in their ability to produce a dense, harder-wearing turf, with greatly improved colour all the year round plus disease resistance. In particular, *poa pratensis*, with varieties like Prato and Fylking, are so much better that the commercial Danish seed is by comparison a non-starter.

In the case of creeping red fescue, it would be preferable to use Dawson, a member of the group 1 category, typified by fine leaves and relatively dwarf growth habit.

The third type of turf area, **THE FAIRWAY**, is similar to the tee in some respects, but differs in that the degree of

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This photograph of a new golf green was taken 3 weeks after Tana Grass was laid. The green was ready for play just 3 months after the completion of the work.

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[Grass Review from Page 7]

wear is not confined to one small area. The local soil type is also more likely to have an influence on the mixture, particularly if variations exist.

In view of this it is often advisable to include timothy, which may replace part or all the *poa pratensis*. Where timothy is used instead of the *poa*, it is necessary to increase the proportion of creeping red fescue.

In many cases it is possible to use the same mixture as for the tee, although where soil conditions are heavy or the area is prone to wetness timothy would be a valuable sward component. Timothy is an interesting specie which tolerates wear, but it is available in two forms.

One type is a very dwarf creeping form which is best known in the Aberystwyth variety S.50. The other is the common one, which is also used extensively in agriculture and is available in several varieties, the best of which are the prostrate types such as King and S.48½.

Finally, there is **THE ROUGH**, which by comparison with the other three turf

areas is an area of relatively low or no maintenance. Cutting or topping if carried out is minimal, and the turf is largely left to its own devices. The slow, low-growing species would be chosen where the rough is to be produced from seed, and one additional specie not recommended for use elsewhere would be fine-leaved sheep's fescue. The mixture would also include the other two fescues, *poa pratensis* and browntop, but in proportions that enable each specie to play a more or less equal role, since close mowing and wear are irrelevant in this instance.

Grass is something that is generally taken for granted because it is to be seen everywhere and grows quite freely under British conditions.

Good turf is **not** natural, however, and is obtained only by the use of good varieties.

The cost is usually higher than for commercial seed, but it is possible to reduce sowing rates substantially with the superior varieties, so that the total outlay on seed is no higher. In view of this it is not surprising that professionals are turning to the better grasses, which are more in keeping with the needs of the modern community.

NOW, eleven specialist seedsmen give their recommendations for mixtures covering all the requirements of greenkeepers on British courses.

Cannock Fertilisers Ltd., Cannock Staffordshire WS11 3LW.

GREENS

Mixture No. 23—80% Highlight chewings fescue; 20% Highland browntop bentgrass.

TEES

Mixture No. 24, for newly seeding or repairing — Highlight chewings fescue; Cascade chewings fescue; Newport smooth stalked meadow grass; creeping red fescue; Highland browntop.

FAIRWAYS

Mixture No. 22—Perennial ryegrasses Aberystwyth S.23 and S.321; creeping red fescue; browntop bent.

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Goldsmith Brothers Ltd., Bury St. Edmunds.

GREENS

Heavy soil: 70% Barfalla chewings

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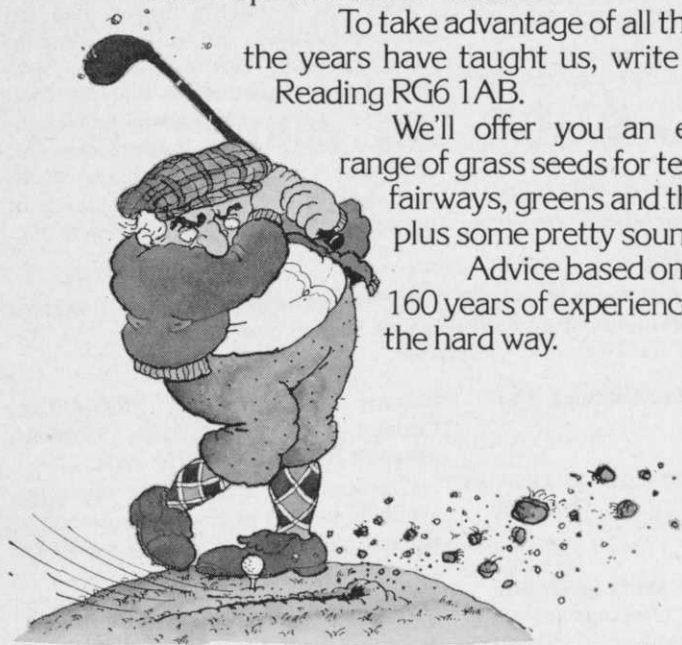
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