

FREEDOM FROM FIBRE ?

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ACCUMULATION of dead and decaying material at the base of the sward, i.e. fibre or "thatch" as the Americans call it, is one of the most common problems, directly or indirectly, on turf in Britain today, particularly on fine turf such as golf greens.

Formation

There is not yet a complete understanding of how fibre develops. We know, however, that fibre formation is encouraged by extreme acidic conditions and lack of regular mechanical operations such as spiking and scarifying also appear to have an important influence. There is speculation in many quarters as to other possible factors critical for fibre formation such as a possible relationship with soil flora and/or fauna, and if so the effects that modern artificial turf aids may have on such a relationship. During the next few years there may be some answers to these questions.

Resulting problems

In wet weather, fibrous turf tends to hold water rather like a sponge thus resulting in wetter conditions underfoot which in turn encourages disease outbreaks as well as causing damage to the playing surface (pitch marks etc.). The wetter surface conditions caused by fibre create more critical anaerobic conditions in the turf and thus even more fibre may develop — it really is a vicious circle.

Conversely in the drier summer weather the fibre layer dries out very quickly and then if watered prevents moisture from reaching the grass roots where it is really needed. A shallow rooting turf can result where the roots grow upwards into the fibre for moisture. When these shallow roots die they can contribute to further fibre formation — again the vicious circle situation. A fibre layer can also restrict materials such as fertilisers and wormkillers etc. from getting into the lower regions of the turf profile and thus the full benefits of such materials are often not obtained.

Elimination

Assuming that an area of turf has an appreciable fibrous layer (instances of perhaps 2in.-3in. of fibre can often be seen) elimination of this undesirable material is often achieved by either:

(a) *Correction of excessive soil acidity.*—Fibrous turf where the soil is excessively acid should normally receive an application of lime. This causes some breakdown of the fibrous material, but here a word of warning: for some time after treatment there may exist on the surface of the turf a fibrous condition which may be moisture retentive and possibly of an alkaline nature. Such conditions often result in troublesome outbreaks of *Ophiobolus* patch disease.

(b) *Scarification and aeration.*—Breakdown and elimination of a fibrous layer can often be achieved by mechanical means. Scarifying will physically remove dead material from the base of the turf, particularly mechanical scarification on fine turf. Here again another word of caution: the severity of scarification work must be related to the state of growth, weather conditions and, of course, playing commitments. Light scarifying is recommended for spring and summer but *early* in the autumn period on fine turf, deeper and more thorough scarification is desirable.

In addition to scarifying, regular spiking is essential using the appropriate tines for the time of year. Continual spiking through the fibre layer helps improve the drainage qualities and combats the anaerobic conditions associated with fibre formation.

(c) *Cutting away fibre.*—Where a very thick fibre layer occurs (say 2 in. or more) the practice of lifting turf, cutting it very thinly (say 1 in.), and cultivating the remaining fibre into the top soil before relaying the turf is often quite successful. Such methods have become more common in the last few years due to the more widespread use of

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mechanical sod cutters, but on some courses the old practice of lifting, boxing and cutting the turf by hand is still employed.

Conclusion

An excess of fibre may take quite a long time to develop and unless lifting

the turf, cutting off the fibre and relaying is then undertaken, reduction of the fibre by scarifying and spiking may be a lengthy process.

The fibre problem must not be ignored but perhaps the best answer comes from the old saying "prevention is better than cure".