

GREEN BUT NOT NECESSARILY GREAT

by David Boocock, The Sports Turf Research Institute

Fertiliser manufacturers, aided and abetted by the advertising industry, have for very many years pursued a relentless campaign based entirely on maximising sales. Whether the message was put across by the hard or soft sell approach – the written word, glossy photographs or colour graphics – these all encourage the notion that turf has a high demand for fertiliser and the greater quantities used the better things will be. That the salesmen have been all too successful in the past is borne out by the gradual deterioration in turf quality and the condition of playing surfaces, especially on putting greens. Not that fertiliser is solely to blame, but it has a great deal to answer for.

The same thing continues today, but more subtly with the emphasis placed on environmental issues – nitrate pollution and the advantages of so-called slow release nitrogen sources, products with nil phosphate, low potash, and even those old favourites – autumn and winter feeds – are still around with a superabundance of phosphate for application to many soils that are already brim-full of the stuff. The impression has been created through carefully planned and orchestrated advertising, which has brainwashed the laymen or laywomen who play golf and serve on Club committees, that if grass is not a bright, lush green there is something wrong. It takes only one step further to equate poor colour with other problems and ergo there is something wrong with the management of the course and greenkeeper or manager are called in to explain.

The layperson can be brainwashed in other ways too, and none more so than by television – that ace medium for accentuating trivia. Golfers see the lush greens, tees and fairways of Augusta National in April and expect that sort of appearance on their home course, notwithstanding the vast differences in soils, climate, amount of play and, last but by no means least, maintenance budgets. One other simple and often overlooked aspect of colour television pictures is that contrast and depth of colour are both capable of adjustment by the production team as pictures are transmitted and sets certainly vary greatly in their ability to reproduce natural colour with integrity. One perception of that turf as a lush, dark green carpet may be the result of



One perception of golf course turf on TV as a lush, dark green carpet may be the result of nothing more than the producer shouting 'turn the colour up Norm!'

measure by the grass species making up the sward, general soil drainage and other maintenance inputs, including aeration and scarification. Fertiliser plays a relatively small part.

Nitrogen is the plant nutrient required in the largest amounts by turfgrasses. Leaves can contain between 2 and 5 per cent nitrogen and it is vital to their proper function. It is present in chlorophyll, the green pigment which absorbs and utilises the energy of the sun through the process of photosynthesis for growth. Plants can obtain nitrogen from the soil solution mainly as a nitrate, which is the most soluble form found in the soil and therefore the most readily available via the root system. They can, however, also absorb nitrogen as the ammonium molecule and as urea.

Amounts of nitrate and ammonium available in the soil vary enormously during the growing season and this depends largely on the release of nitrogen from soil organic matter by the action of micro-organisms, and in turn by their death and decay as a part of the nitrogen cycle. This process is largely temperature-dependent and could be said to be nature's own slow release nitrogen source and an extremely effective way of conserving nitrogen, since it only becomes available as soil temperatures rise and the plants themselves are making enough growth to take it up. There is no question that turfgrasses require nitrogen, especially in the putting green situation where clippings are removed – the matter at issue is how much?

Over supply of nitrogen in the early spring when soils are too cold for sustained growth is simply washed deeper into the soil profile, possibly to contaminate the ground water. Excess when there is enough warmth for growth leads to succulent, lush leaves with sappy, thin-walled cells which are far more prone to mechanical damage from feet, machinery and to attacks by fungal diseases. Disease attacks on such lush turf can be damaging enough in the summer, but during the autumn and winter months can completely ruin putting surfaces through the scars and pitting effects which follow from widespread and severe outbreaks. Turf damaged in this way takes a long time to recover in the following spring and early summer; and since the finer turfgrasses such as bents and fescues are very slow to spread vegetatively, the opportunist free-seeding and inferior grasses – such as *Poa annua* – are given an easy entry and often take over areas of turf damaged in this way.

The other important aspect of using fertiliser to excess, particularly nitrogen, is that rapidly growing turf produces far more leafage and therefore organic matter. This not only requires additional mowing effort to ➔ 22

Warwickshire College of Agriculture
offer the following specialist courses in

GREENKEEPING

Day-Release over four years leading to CITY AND GUILDS OF LONDON INSTITUTE GOLF GREENKEEPING qualifications.
ADVANCED NATIONAL CERTIFICATE IN GREENKEEPING
(One year, or over two winter periods)

For further information please contact:

The Registrar, Warwickshire College of Agriculture, Moreton
Morrell, Warwick CV35 9BL. Tel: 0926 651367



20 → control it, but also produces proportionately more dead material in the form of roots, shoots and leaves, and that happens far faster than can be controlled mechanically by verticutting or grooming. The nett result is an increased build up of surface thatch and all the ill-effects which follow. Principal among these effects are slower green speeds, greater pitch marking and footprinting, so that surfaces are far more uneven. It is well known that thatch holds greater quantities of moisture so drainage rates are reduced, the playing surfaces then become soft, wet and spongy throughout wetter periods of weather. I am convinced this has a deleterious effect on the upper soil layers, since in the constantly moist environment the soil tends to become compacted more easily, thus adding to drainage problems.

Combine the above effects with increased incidence of fungal disease and you are well on the way to losing the finer turf species. The free-seeding annual meadow grass spreads in as the better species lose ground; since it can survive better in such poor growing conditions.

The poor appearance of annual meadow-grass swards in the spring due to weakness from winter disease attack and wear and tear of play always provokes criticism from Club members, with pressure put on the greenkeeper.

'Fertiliser treatment should therefore be restricted to low nitrogen feeds'

You've heard it all before, 'so and so's course down the road has lovely green greens' (again that accent on green being great), completely ignoring the fact that this paragon is 500 feet lower down the hill, on better soils and sheltered from East winds. All too often there is a resort to the fertiliser bag to provide a quick boost and so the cycle of deterioration continues.

Too little nitrogen is nowhere as bad as too much; but can still have a drastic effect on playing surfaces. Whilst bent and fescue grasses are predominant in the sward there will be little immediate effect, both being well adapted to infertile soils low in nutrients. However, the wear and tear from constant play nowadays, combined with the removal of clippings on fine turf areas, does require supplementary feeding to sustain an adequate grass cover and even growth.

The natural colour of a healthy browntop bent and fescue sward is a very pale green – far removed from the image of turf promoted by the fertiliser companies and thus perceived as desirable by the layman.

Perfectly adequate growth can be maintained and the grasses we want to encourage will thrive on a regime where the emphasis is on regular aeration, for these superior turfgrasses require a good supply of air at the roots and an open, uncompacted, and therefore reasonably well drained soil. If that is supplemented with frequent, light top dressings of a sandy soil mixture during early autumn and repeated several times in the spring, you are well on the way to excellent, smooth and true surfaces.

Fertiliser treatment should therefore be restricted to low nitrogen feeds and, usually, a lawn sand type dressing in fairly early spring when there are spells of mild weather, which allow some growth, will be appropriate. Back this up with one or two more mainly organic-based nitrogen feeds through the summer with the last dressing some time in July, and that should provide a reasonable level of the major nutrient – nitrogen – for most courses.

On the majority of normal soil greens, levels of phosphate and potash are likely to be adequate for the very low requirements of these finer turfgrasses and additional quantities from applied fertiliser are unnecessary. On particularly busy courses there may be benefit from a further but low nitrogen turf tonic type of feed in August.

Use of fertiliser in turf culture is only one aspect of management and, for success, every part of the programme that is followed throughout the year must be tailored to suit the type of soil, climate and amount of play the course receives. We have got to get away from the idea that green in relation to turfgrasses is necessarily great, and realise that colour is of little significance in the production of turf surfaces that will please members year round.

● David Boocock is a Senior Agronomist with the Sports Turf Research Institute.

TRADE TOPICS



■ Stoneleigh Centre was the recent venue for the making of a video on the building of an ICI Tech Turf tee. ICI Advanced Turf Systems have made great progress in the use and application of Tech Turf and now boast over 40 Clubs using their innovative product, with many more in the pipeline. Perhaps the most costly part of the system is physically monitoring the correct method of application, which is somewhat labour intensive, and with interest growing and more Clubs eager to install, the idea of issuing a video which shows EXACTLY how this may be done by greenkeepers themselves is to be applauded.

• Pictured: a section of Tech Turf showing the root system growing through the sand/peat/fertiliser growing medium incorporating pieces of Propathene mesh.

■ Tillers Turf, in conjunction with Fibresand Ltd, have launched a brand new sports turf package – known as Fibreturf – that greatly reduces maintenance costs and gives a far superior playing surface. Already proving its worth at Sunningdale and other prestige locations, it combines the benefits of Tillers well established sand-grown sports turf or seed and a reinforced sand rootzone specially developed by Fibresand. The artificial fibres in Fibreturf imitate the natural root system and confer immense strength to the rootzone, thus combining the benefits of high infiltration rates and stability. The need for hollow tining, slitting and sand dressing is also greatly reduced. Call Tillers Fibreturf for a free colour brochure and construction and nutrient specifications. Tel: 0652 650555.

■ Milestones are set to be passed this year by Fen Turf Dressings Ltd, who in 1990 sold in excess of 20,000 tonnes of Fendress top dressing nationally and during '91 are expecting to achieve the magic 100,000 tonnes mark since commencement of production. They have recently opened another depot and now offer a delivery service from the Midlands, East Anglia and Derbyshire. The use of their screened East Anglian Fensoils, which when blended with the correct sand produces a free draining golf green rootzone mix, is recommended for the construction of new greens and tees.

■ Pen Lubrication Ltd, mentioned last month, have now 'christened' their new synthetic grease "Greenkeep" and issued a technical pamphlet on a full range of synthetic lubricants especially for the green-keeping industry. As an ardent user of synthetic's myself – in my trials car – I can assure you they are, quite simply, 'priceless'. A call to 0483 765233 will bring a free copy.

4

GOOD REASONS WHY YOU SHOULD USE COCKLESHELL FOR ALL YOUR PATHS

1. No damage to your mowers – saving you time and money
2. It always looks clean – especially after rain
3. It can be used on all paths – right up to the edge of the grass
4. You can put it directly onto sand – and it stays on the surface

...and if you want a 5th... over 150 golf clubs already supplied can't be wrong!
(Including Sunningdale, St Georges, North Hants, Knole Park, and Gerrards Cross).

Contact us today for a leaflet and a sample – or you can do it tomorrow, because we've been in business for over 100 years so we'll still be here! Deliveries nationwide.

DEVENISH LTD suppliers of shell sand and top soil

60 Hambro Hill, Rayleigh, Essex SS6 8DH Tel: (0268) 743866/7

COCKLESHELL:
The 'natural'
choice for paths

10% SUMMER DISCOUNT
for orders placed before 31st August.
Send for a 3 litre free sample.