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 bind 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 is 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 the producer shouting 'turn the colour up Norm!'

This was brought home to me quite forcibly during a visit to a course in Warwickshire when the driver of the greens vehicle on screen bore no resemblance to those just inspected, though they were normal soil greens, not of sand construction.

The bottom line is, of course, quality of playing surface. There were no truer words than those spoken by Tom Mascaro more than 20 years ago when he said, 'Golf is not played on colour, but on a surface'. It is the quality of the playing surfaces, maintained day in, day out and year round that really counts most and which are influenced in no small measure by the grass species making up the sward, 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 sand 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 bent and fescues are very slow to spread vegetatively, the opportunistic 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 "
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 verticuting or grooming. The result is an increased build up of surface thatch and all the ill-effects which follow. Principally 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 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. 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 brown top 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. The 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 pale green — far removed from the image of turf promoted by the fertiliser companies and thus perceived as desirable by the layman.

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