

Trust your own eyes...

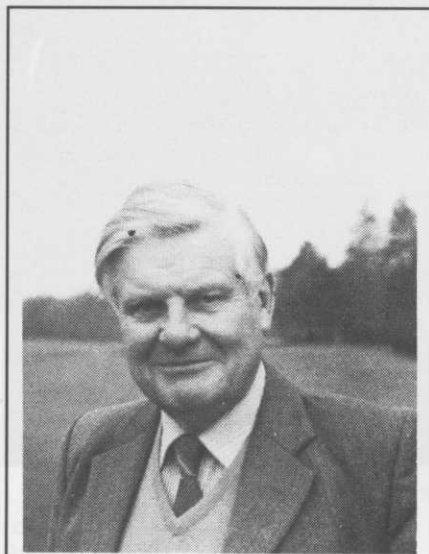
The theme of this concluding article, triggered by questions posed by younger greenkeepers, is based on what is often the first thing tackled in greenkeeping training—namely, the soil itself. Sadly, many lecturers who admit to limited ability on grass identification feel they know all there is to know about soils, basing their teaching on standards applicable to growing agricultural or horticultural crops.

One of the biggest sources of trouble in greenkeeping is reliance on soil analysis as an end in itself. Even in my agricultural advisory days, I used to preach that the quickest way to loose money in cropping was to chase a theoretical standard for phosphate, potash (and lime), instead of feeding for the crop. Some farmers loved to have soil analyses carried out on every field every year and related their manurial programme to the annual results. An awful lot of fertiliser went straight to the drains, partly because the crop concerned did not need it and partly because it was leached out, before it could be absorbed.

The same thing applies in greenkeeping, with chemical and physical analyses of soils. I do not decry them totally, but they really only confirm what visual observation should indicate to any reasonably experienced eye and, if an abnormal result shows up, my first instinct is to assume the sampling was wrong!

Where the theorists go wrong is in failing to realise two things. First, we want 'poor' soil conditions chemically, though not physically, and, second, there is no such thing as an ideal pH, phosphate or potash figure.

To deal with the chemical side first, there is now general acceptance by users and suppliers that fine turf needs no phosphate or potash—in fertiliser form, anyway—and that, on the whole, acid soil conditions are desirable. Some of us knew it nearly 40 years ago and it has taken a long time for facts so well supplied by research, as well as experience, to be agreed. I expect before long some pundit will emerge who will decry it all just to be different for difference sake but, at the moment, there is no argument.



By Jim Arthur

Of course, as with all black and white statements, this needs to be modified in detail, but if we want to encourage the finer-textured fescues and bents and discourage annual meadow grass, we must find out what one likes and the other dislikes.

Though these fine grasses grow happily in such widely different environments as arid dunes and tidally-flooded salt marshes, alkaline downs and limestone heaths, as well as acid sandy heathland or moorland and on all soils from pure sands to heavy clays, there are, however, two basic factors common to all these widely different ecologies. These are an uncompacted, well-structured, free-draining soil and a very low level of plant foods, especially phosphate.

The pH does not matter and, in any case, altering it from its natural level can be expensive or have undesirable side effects. Acidity locks up phosphates especially, but it also improves the physical structure of heavy soils by flocculating the finest particles. It can, of course, be induced quickly by applying sulphur or more slowly by the use of acidic reacting fertilisers, but this is of primary importance in order to restore conditions reversed by some stupid action, such as liming acid land just because it is acid and thus destroying one of that course's invaluable assets—fine, wiry, worm-free turf. It

is, however, possible to grow fine turf on very alkaline soils—for instance, sandy links—if there are no earthworms because there isn't food for them.

If, however, we alter any aspect of the chemical or physical characteristics of a soil, then we alter its grass cover, for good or bad. (It is usually quicker and easier to alter it for the worse!)

It seems to me to be rather a waste of time to carry out a repeated series of soil analyses on every green when we can well guess that the phosphate level will be too high anyway and the potash is unimportant—high levels being known to depress fine fescues as high phosphate levels favour annual meadow grass. It is for this reason that, in my view, autumn fertilisers are a big mistake. They only encourage disease, not fine grasses.

My experience is confirmed by Bingley's surveys of its analysis results—in less than five per cent of all soil analyses was the phosphate low enough (below 60 ppm) not to actively encourage annual meadow grass. Fine grasses are happy at 10 ppm! I have found greens at over 600 ppm!

What we must always do is to relate the quality of, say, a green with its soil analyses. All too often, the best greens show the worst manurial 'deficiencies'—but we are, of course, comparing several variables, physical as well as chemical, so we must beware of rash deductions.

Over-stressing the importance of chemical soil analyses in the past has, in fact, been a prime cause of annual meadow grass invasion. It is sometimes as difficult for the seller as the buyer to accept that a fertiliser with an analysis of 8:0:0 is both more expensive and far better for fine turf than, say, one of 10:15:10. But, what matters, of course, is that such a pure nitrogen fertiliser must be compounded with a high proportion of slow release organic nitrogen in the form of dried blood and fine hoof and horn meal, where the release is dependent on the activities of soil micro-organisms rather than slow solubility.

Obsession with fractional analyses—that is, the percentages of any soil divided into particle size groups—can lead to some false assumptions. In any case, such

analyses only confirm what an experienced man can assess by running the soil between fingers and thumb! That remark will, I know, arouse the ire of soil chemists but, in my book, they are equivalent to accountants, useful servants, but disastrous masters.

There is an old business axiom which advises that an accountant should never be put in charge of running any business—all he will do is concentrate on balancing the books and will forget about making profits. Some chemists are so obsessed with comparisons against some quite theoretical stands, that they never look at the grass itself. What is the point of having well structured soils if other management—for instance, manurial—produces 100 per cent annual meadow grass greens and thatch?

This, really, is the first lesson in greenkeeping—that everything divides between those who fight, with every method at their disposal, the invasion or even presence of annual meadow grass and those who, at best, tolerate this wretched weed grass or feel they can do nothing about it or, worse still, who actively encourage it, consciously or unconsciously, by feeding and watering to produce tarted-up greens for tournaments, caring little about (or perhaps being incapable of altering) the disastrous state of such greens once growth ceases.

They earn a short-lived reputation among unthinking young professionals and whoever heard one of them plead for 365-days-a-year excellence, especially if they are presented with holding, easy paced, very true greens for the week of their tournament.

The game is won on the green and it should be the best putters, with the skill to read fast contoured greens, who come out on top. With slow

greens, all you need is strength and direction and nuances about borrows are subtleties that never come into contention.

It is understandably confusing to young thinking greenkeepers, who listen to the contrasting remarks of television commentaries, misguided tournament professionals, the agriculturally-biased teachings of too many college lecturers teaching to a bad syllabus and the pleas of those striving to retain and improve the old standards all saying different things. They must choose, but if they choose

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annual meadow grass, they will never sleep easily at night and may pay for four months praise with eight months of complaints. They must be prepared for a migratory life since, sooner or later, disaster will strike and they will inevitably be blamed.

Of course, we need well-structured, free-draining soils, but we are not going to make them so by analyses, nor by miracle cures, which claim to produce free-draining soils without the aid of mechanical aeration. With present intensive levels of play causing gross surface compaction, routine remedial mechanical measures will be needed, whatever the soil and however well it meets some theoretical standards of fractional analyses. Even 'perfect' sands will pack down with traffic and hold water. They need structuring with humus. Silts and clays in which sand is mixed can go down like concrete.

Perhaps the message that may sum up what greenkeeping is all about is to think deeply before acting; to avoid that all too common error 'correct observations but wrong deduction'

and to realise that, while methods may vary, principles never do and never have and if we want the traditional grasses that produced our traditionally best courses, then we must treat them on traditional lines.

Greenkeeping has become a highly specialised technical subject, with the development of a specific cure for every weed, disease or pest problem. These are excellent aids to management, but sound, basic management will almost certainly make routine corrective measures unnecessary.

Chronic disease is certainly a sign of managerial errors. Highly expensive and repeated deworming will have to be carried out for years after rash liming or slugging of fairways.

Badly designed and grossly over-used pop-up systems were a major cause of thatch in the past decade—admittedly primarily because poor golfers demanded holding greens and managements were not strong enough to refuse them. Equally, many other problems could be laid at the door of management so weak that it gave in to every demand by players. "Can't you leave the greens alone for five minutes?" is still an all-too-common complaint, to which the only answer is: "Yes, certainly, if you stop playing on them!"

All this opposed advice and opinion cannot but be confusing to those starting on their road to top greenkeeping positions, but all I can plead is for them to think things out from first principles, to work with, not against, nature, and to realise that the biggest enemy of golf greenkeeping is the golfer and his ill-effects are predictably going to increase every year, not only in terms of extra play, but because necessarily there will be far more poor golfers about and they will all demand greens and fairways to flatter their game, instead of trying to improve it.



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