

FUTURE OF THE FESCUE

The desirability of *Festuca rubra ssp. commutata* as a major component of the finest turf has long been held as dogma in the teaching of greenkeeping and, by and large, still is today. Seldom is a top quality seed mix offered without it, and the most expensive cultivated turf usually contains one or two of the top varieties.

And yet, nearly everywhere in the country, difficulty has been experienced in retaining the fescue content of greens and on many inland courses it is absent altogether, the sward constituents being bent and annual meadow grass in varying proportions.

For sure, some management regimes employed have not helped the situation, though in a hopefully enlightened age sound practices – plenty of aeration and careful control of water and fertiliser application – seem to be altering sward balances very slowly, if at all, in favour of the finer grasses. As a result, many greenkeepers have had to become experts in pandering to the whims of *Poa annua*, and are notwithstanding capable of producing excellent surfaces, albeit limited to certain times of the year.

So, is the production of the traditional fescue/bent sward still desirable? More to the point, when greenkeepers seem to be swimming against the flow in trying to discourage meadow grass, is it worth the effort?

Some years ago, Nick Park wrote an article outlining what had been done at Lindrick Golf Club to herald the return of fescue/bent greens. He went on to give in some detail an appraisal of the resilience factor of the latter, which concluded that fescue/bent greens were more receptive and gave the best and most consistent rewards to the well-struck shot. The resilience was ascribed to the fact that fescue/bent greens will remain firm, whereas *Poa annua* dominated greens are usually either soft to the point of plugging or too hard to hold a ball. Perhaps these observed tendencies have more to do with thatch, poor drainage and overwatering than the sward constituents, but certainly when the engine room of a densely *Poa annua* sward gets going in the height of summer, evaporating water at a suicidal rate, it then is very easy to err on one side or the other with the irrigation programme.

This difficulty apart, another argument for the traditional green is that attempts to produce a top quality surface with *Poa annua* is in terms of both time and money an expensive hobby, trying alternatively through the year to thin it when it's thick, boost it when it's thin and to fight off the inevitable ravages of fungal attack. Add this to difficulties of presentation – profuse seed head production and the patchwork quilt effect noticeable as

fertiliser is expended – and a case must then be evolving for a more consistent performer.

It is worth mentioning at this point that as an alternative the creeping bent monosand has been introduced in the UK. The pros and cons of this alternative are already a long-running bone of contention, and this article is concerned with the virtues, or not, of the fescue.

The most important desirable qualities of the fescue have been held as the ability to withstand and recover from drought, and tolerance of heavy wear. Of lesser importance these days is the classification of fescues as 'poverty grasses' – able to withstand low levels of nutrition in inhospitable acid environments.

It is in the 'heavy wear' area that thinking on the performance of the fescue may have to be revised, and it would be relevant at this point to look at new courses/constructions. Eighteen properly prepared sites with suitable free-draining rootzones, irrigation system etc., are either sown or turfed with a fescue/bent mix. The usual moratorium is imposed while the turf establishes. What happens next varies according to the expectations of the management, but you are still dealing with a two-headed coin – either way it's tails you lose for the fescue.



by TONY HOWORTH

If the management decides to open six months later like some amphetamine-soused drag racer, going from 0-30,000 rounds in six months, then at the end of the first season fescue content will be rapidly in decline and some of the bent may have gone with it, leaving areas of zilch. If, on the other hand, traffic on the course is increased gradually from a low initial number of rounds per annum, then the fescues may take four or five years to pack their bags before waving the meadow grass in.

The above may be seen as a very gloomy scenario, and one which decries the efforts of some excellent course managers on new sites who do not have *Poa annua* (yet?). For the rest of the poor devils who have inherited established greens demonstrating 50 years of excellence in the growing of *Poa annua*, what hope? Perhaps it is time for some contentions on how we may help ourselves with both new and existing sites:

i. Existing greens are unlikely to be surrounded by an abundance of flowering fescues so seed importation would be required. Overseeding should be helped by being carried out when there is maximum time to establish, under conditions of reduced traffic and least opposition from vigorous *Poa annua*. This suggests seeding in the autumn, in the hope also that a slightly longer winter sward will offer some protection to emergent seedlings.

ii. On new sites the maturity of the fescue plant is important. If it has grown to a decent size before being 'trained', it will have a better chance of withstanding wear. So with new constructions, perhaps turf is a better option from the outset, unless a longer maturing time is allowed.

iii. It has been suggested that fertiliser applications should be of the very slow release type. Forced growth is anathema to fescues and the plant will not take up nitrogen into the leaf as would, say, ryegrass. Applications of quick release fertiliser therefore favour anything but the fescue.

iv. Steps should be taken to ensure that no single area of the green is punished beyond its limitations. Fescues will not return of their own accord once gone. This may be helped by frequent hole-changing and, failing all else, limiting play.

v. Consideration should be given to the timing of any hollow-tine operations. If there is a clear spot *Poa annua* is always ready to fill it, though more readily at certain times of the year. So make the odds favour the fescue.

vi. If greens are new constructions, wear tolerance will be helped by making them as large as possible.

You may say at this point – 'but of course we've already tried this – and it doesn't work!'

But have we tried hard enough? A concluding contention might then be: If you take a four hundred square metre fescue/bent green from the seaside links, rootzone and all, deposit it next to a suitable drain in some inland park and proceed to manage it in customary inland fashion, in five years you will have a *Poa* dominated problem. If, however, you take an eight hundred square metre etc., etc., and manage it under the constraints applied above, in five years you would have...?

■ The author, Tony Howorth, is course manager at Willesley Park Golf Club, Ashby-de-la-Zouch. He is also secretary of the East Midland section of BIGGA.

Are you a fescue fan? Replies please to 'Bones of Contention' The Editor, Greenkeeper International, 13 Firls Close, Seaford, East Sussex. BN25 2HL. Subject to response, an up-date will appear in a future issue.



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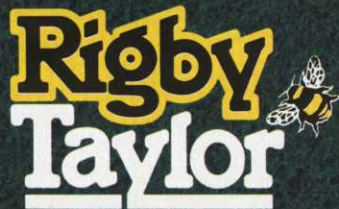
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by DAVID HEMSTOCK

If you didn't already know it, golf is under attack; from a written and verbal assault which will increase rather than diminish whether there is a further 'boom' in new courses or not.

It is of course over the desirability of an increased number of golf courses in the countryside, and to what extent a course benefits or detracts from rural Britain. And it falls upon those existing courses which can be set up as fine, environmentally sound, non-intrusive examples to defend against some of the perceptions that others hold on golf and its venues.

It is an unfortunate fact that the recent activity on construction of new courses does not appear to have particularly helped the cause because of the inadequate quality control that has applied during the boom.

Any consultant such as myself who visits a wide range of golf courses, and particularly the recent spate of projects which can be said to range from the 'insensitive' to the downright disastrous, cannot help but worry about the defence of such schemes in future as prospective new projects are compared to them.

The battering that golf development is taking from the financial world, for whom the Midas touch has been replaced by the lepers', is linked to the struggle to show environmental compatibility to those concerned.

A long-term viewpoint has not featured in many new courses. The massive earthworks that have helped snuff out financial viability of some, are in a way the impatient developers' device allowing the claim of 'a major championship course', the instant and impressive formation of a spectacular piece of saleable real-estate. The scale of some of the work is awe-inspiring, or frightening if you are viewing the butchering of a childhood held scene of the local countryside. But the fact is that some of our true, actual championship courses are what they are through age and maturity, through woodland, water and ice-age sculpting of the land rather than as a result of major civil engineering work. Apart from breaking the bank on capital



No bunkers allowed - or needed - on this proposed Midlands course. The greenkeeper will follow an established ecological management strategy

costs, the ground conditions are likely to be badly effected for an awfully long time (there is a more concise, less polite way of describing it) which may put your debenture holders in the Clubhouse rather than on the course. And to top it all, the environmentalists, which are actually becoming 'the public', are able to compare golf course construction to opencast mining or quarrying; with the same rape-of-the-countryside tags.

The big schemes have had all the publicity; bad publicity recently. They have set the tone in the general public's mind of what golf courses are about; development, 'bull in a china shop' approach, private clubs behind whose gates untold crimes against nature are committed.

This sort of misconception or lack of understanding fuels the type of situation which appears to be at its worst at present in parts of Germany. To give one example, a greenkeeper friend of mine who operates there in a very 'green' way; integrated pest control, replacement of ornamental trees with indigenous, revitalising choked-up ponds and woodland, has a running battle going on with local environmentalists who would rather he cut fairways above daisy flowering height (I don't think they have extended this to putting greens, yet).

Some of the German planning policies applying to golf course development such as the setting aside of areas purely as nature reserves in addition to that required for the course are inter-

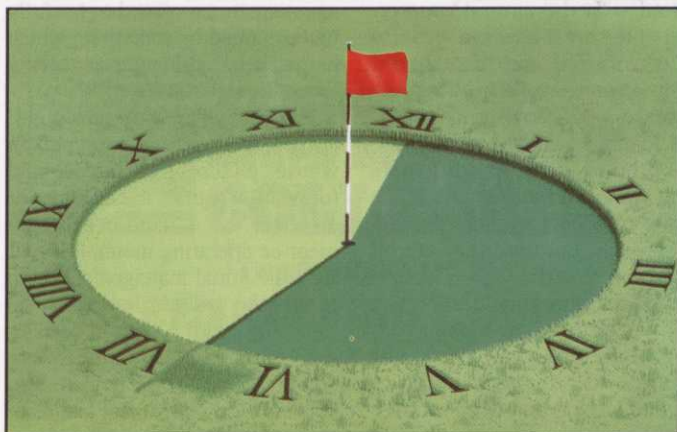
esting, but the inference is that these are needed to counteract the damage done by the course to the environment; a pay-off.

The planning authorities are important in controlling what happens in the countryside but

have in the recent past been fairly slack in their control over golf developments. Now they require landscaping details, and some sort of information on earthworks, but further constraints and controls are to be expected.

However, what happens over a long period to the development of a course is pretty well out of their hands. It takes more than a small amount of consistent self-control by a club to avoid the over-ornamentation of their course and even over-manicuring, which takes a golf course away from countryside on which golf is played, to an extension of the formal garden type of landscape.

With time, the evergreen hedging trees, other ornamentals, fountains, paths, walls and sanitised water features do tend to give courses a rather artificial, urbanised feel. Plenty of ammunition for those who say golf → 34



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'The truly 'green' golf course will now have a water storage or perhaps a re-circulation system, preferably with a means of aeration to keep the water clean'

33 ➤ detracts from traditional landscapes.

It's not that a golf course can ever look anything but a golf course; greens, tees, markers and flags make sure of that, but some do appear to be at odds with their surroundings, and are probably less useful to their environment than they could be. Useful in terms of the habitats and diversity that could exist, in an area by its nature protected from the annual upheavals found on most farmland, for instance.

Although most golfers may not be capable of or interested in identifying plants and birds, I believe that they appreciate the more natural surroundings, perhaps even subconsciously, and 'feel' that they are on a course with an active environment.

Back to nature

So, if a course provides a better golfing experience and makes non-golfing friends if it is integrated with the natural countryside of the area, how can a course be constructed and/or managed with as an aim? In the first instance, on a new development, the Planners should ensure that the project is set up with more than hollow promises about the future treatment of the landscaping aspects. But once they are off the scene, it is the Club or course managers who should set up a few golden rules, or a policy setting out long-term what the nature of the course is meant to be, and what is and what is not to be allowed. The less Draconian it is the more likely it is to be adhered to over a long period, human nature being what it is.

The Club's management and development policy might contain clauses such as:

- A list of natural tree species for the area to be used on the course.
- A programme for woodland management with certain aims on species and spacings.
- Preservation of areas for wildlife only.
- Limits on the amount of hard edging to ponds and watercourses, preservation of varied conditions within watercourses and around ponds.
- A description of what the natural conditions of the course and surroundings consists.



This new course near Stratford suffers more from previous agricultural practice than any design or construction effect. The foreground shows an important 'wildlife corridor' - a hedge; one of the few features on the original land, but a key to rejuvenation of the new course environment

- Specifications for various features on the course.
- Restrictions on environmental pollutants of all kinds; including garish course accessories, loud clothing, loud Americans!

But seriously, the basically transient nature of the course management team can be usefully under-pinned by something which helps keep things progressing along the right lines.

This sort of information ought to be presented by the person whose philosophy shaped and formed the course, the designer or architect, as a hand-over document or operating manual. If not, then the initial management team could take pride in having set up the course with a written basis or reference. Some of the more eccentric additions which can appear during particular trends or phases of management might then be avoided, preserving both the original intended nature of the course and the ecology around it.

Construction

Apart from the earthworks and landforming considerations already covered, there are other green aspects which might be important at the development stage.

Preserving any old ponds, hedges left over from the ravages of grant aided agricultural defoliation, etc. will give the course a head start with re-establishment of wildlife. Having come across even Planners with reservations on the desirability of water features and tree numbers on golf

courses it is worth remembering that prior to agricultural hyper-efficiency the land was littered with ponds and ditches for stock watering and the like, and the more open water we restore the better. And of course almost any land below 3,000 feet would have once been thickly wooded in the UK.

Bunkers are perhaps the most visible labels announcing the presence of a golf course, but there are courses which manage without, using their own indigenous natural hazards, notably rocks, water and trees instead. Sharp-edged, bleach-sand filled and sore-thumb like, bunkers can be very intrusive, to golfer and non-golfer alike.

The truly 'green' golf course will now have a water storage or perhaps a re-circulation system, preferably with a means of aeration to keep the water clean. Apart from using water efficiently the alternative cost of irrigating with mains water is becoming, and must continue to be frighteningly expensive.

Although theoretically water re-circulation and aeration helps to prevent nitrate pesticide runoff pollution, it is fair to say that on the golf course any such pollutant is far more likely to originate from adjacent farmland, inputs of such chemicals being enormous and more powerful compared to the course.

Maintenance

The final point following on from the latter is that relatively little chemical input does go into

a typical golf course, but there are still possibilities for reductions. I have mentioned previously integrated pest control management, but there is another key factor in keeping chemical inputs to a minimum. Keeping the turf and sub-surface conditions in a healthy state i.e. by combating those weakening factors that appear on any course; compaction, water-logging, avoidable drought stresses, will make turf more resilient to attack and therefore reduce the need for pesticides.

Compaction and water-logging also inhibit the usefulness of any fertiliser added. An application may even be washed away with the first rain if the surface does not allow absorption. Fertiliser wasted in these conditions affects the greenkeepers turf management programme but also, of course, has to end up in a place where it was not intended to. Soil analysis helps to trim fertiliser amounts to the minimum required, soil management helps to use the amount applied to the full.

I have left out a lot of features which could be identified as being part of the 'green' golf course in this article, but in a way I am preaching to the already converted and so that does not matter. Greenkeepers are, like any other landowner or manager, custodians of the countryside generally in addition to managing land for a purpose. And we all have a responsibility to defend golf by our actions.

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Digging up the course to

How Pinner Hill GC handled 'major surgery' and lived to tell the tale

London's water supply has long been the cause of headaches and heartaches. Demand has outstripped supply and the ancient piped network, incapable of sustained volume, has on occasion caused pressures to drop to little more than a dribble, with flow capable of being stemmed by nothing more than a finger plugged into a hosepipe.

Putting the matter to rights has long been a priority and after years of deliberation the water authorities have at last begun the colossal task of replacing the worn-out system with a new ring-main, the pipework eventually planned to encircle the whole of London, providing a grid system that will leave nothing to chance.

Logic suggested that where possible the environmentally correct course for such a huge undertaking be made over land that was either green belt or, as has happened recently at several London golf clubs, tunnelled or open trenched through their fairways!

The pretty rolling hills that make up Pinner Hill Golf Club's course have been the most recent recipients of what is a colossal upheaval by any standards, and last month I met Chris Nicholson, the club's course manager, to see how they were coping and the problems they had encountered.

For the record, Chris Nicholson, whose experience includes a decade or more as head greenkeeper at Mid Herts GC., joined Pinner Hill as their course manager only some 18 months before the upheaval, having returned to the UK following extensive experience working in golf course construction at the prestige Vines course in Sydney, Australia, seeing the championship course through from

turning the first sod to completion. Though it was not for this reason alone that Chris was hired, his extensive construction knowledge was to prove priceless, as readers will learn...

Chris was under no illusions as to his task on joining Pinner Hill, for the course had been neglected: greens rife with *Poa annua*, heavy thatch, no proper pathways, nothing done by way of construction, no indication of a concerted aeration programme, – a classic case of 'on with the fertiliser, don't the greens look lovely and green.'

Since his arrival the course has been a hive of activity, a new maintenance building erected, clapped-out machinery replaced, new tees constructed, drainage improved, full tee/green irrigation installed or upgraded, with the greens receiving mega attention, Vertidrain, overseeded and Hydrojected (with added wetting agent the results with the Hydroject were, in his words 'incredible'). An almost unbelievable transformation is the happy result.

For something like 12 years the possibility of the ring-main has been mooted, though cynics opine that the government waited until water privatisation was a fait accompli before saying in effect – 'right, there you are, get on with it – it's your headache.'

Being the sixth club to suffer the indignation of such major surgery has had its compensations, for prior to arriving at Pinner Hill, clubs such as Knebworth, Mill Hill, Uxbridge, Haste Hill and Grim's Dyke have all experienced excavations of one sort or another, though it is true to say that none save Haste Hill, a municipal course that actually lost six holes, had suffered in such a big way, the 'cut' on this

occasion going straight through Pinner Hill from end to end, butchering six fairways and hacking through woodlands.

Work began October last, and the anticipated completion – earth reinstated, Agraflex drainage installed and linked with the lateral drains that cross the fairways, open scars big-roll turfed – is thought to be June. Chris made the valid point that had the club been allowed to go ahead with their own reinstatement, without the inevitable water board deliberations, the work might well have been completed already – but the way of bureaucracy is such that everything must wait for official approval! As it is, the 13,750 square yards of Pinner Hill that have been disturbed have still to be turfed before a crawler irrigation system can be utilised to give growth a headstart.

Turning to club secretary Jeremy Devitt for numbers to add to the equation and seeking advice for others that might find themselves in the same boat, Jeremy was in no doubt that being sixth in line was a bonus. "We were lucky not being first, and the first thing we did was visit every course that had been earlier victims.

It's the same in all golf clubs, 'there are them that talk and them that do' and in the final analysis the do'ers have to be the full-time staff. On the course it's the course manager and in other aspects it's the secretary. Effectively we had a dry



Chris Nicholson with 'the pipe'

run, for the water board – armed with their Act of Parliament – are bound to advise three months in advance that they are coming. Whatever rumours may circulate, until then, the advice I would give is – do nothing! The club had notice of intent in 1989, before I became secretary, and an initial meeting took place between the water board and club management. Following, the club selected a surveyor to represent them and minutes reveal that they were then interested purely in the golf aspects of it, demonstrating no real concern for the ground, even though it was essentially a ground problem.

Moving to 1991, notification was

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again served, a board meeting again convened, but this time we were careful to select a surveyor who had experience in this field, not only with the pipeline situation but also dealing with other clients on the pipeline run. We appointed Strutt & Parker, who are dealing with seven other clients and one other golf course. The immediate side benefit of this appointment was that we couldn't get a dividing rule by the water company and if Strutt's were looking up a point for another client we would get side benefit. Chris visited all the other courses, learned everything of their problems and returned with invaluable information.

Fundamentally it appeared to us that the water board appoint a PR team to make the first sortie, a sort of 'we'll do this for you, we'll do that for you' soft approach that can possibly give a false sense of security. That's fine, and any club would leave such a meeting feeling that things would be OK. However, we were advised to pay attention to various aspects of what had happened at other courses. Then came a long pause – nothing happening – and they hadn't yet appointed contractors. The three months were running down and we became anxious: there were society bookings, fixtures to be ratified, to say nothing of the work on the course. Then a contractor visited us direct to view the site and we went out of our way to be accommodating, making sure we were available. We looked after them and we helped them. In hindsight this was to our advantage as they subsequently won the contract.

Our key area of concentration was to be co-operative: there was nothing we could do to prevent the work, so we helped by guiding them toward local specialists, tree surgeons and the like, we were totally supportive.

In the meantime it was necessary to do some serious forward planning, advise members – in a positive way – and this was done. The promised starting date came and went, no activity took place and then suddenly a site meeting was called and we were confronted by a whole new team – both water board and contractors – the operators. Apparently the contract had been granted on the basis of a straight run, with no 'single fairway at a time' as had been intimated, and we ended up with some tough negotiations taking place in the woods. There was no chance that

our board members could be present, but Chris and I could – and it was very important that we were and we had our surveyor there too. Immediately we conceded the 'straight through run', on the basis of wanting to be co-operative, whilst wanting them in and out as fast as possible. We conceded, but said 'it's going to cost you more because we're going to need six temporary tees instead of the one originally bargained for!' Advice to others? – be ahead of them and think smart, which is easy to say as we were not first – thankfully".

At this time Chris spotted an obvious 'gaff' – the contractors proposed to charge through without prior stripping of the turf. Being on clay and with precious little top soil this seemed criminal, so the club set about stripping and saving the precious topsoil and with a few 'phone calls the word went out that Pinner Hill had turf available for free – on the old boy basis of 'you'll owe us one'.

Once begun, the contractors moved at astonishing speed. Land staked out in a single morning was soon overrun with spider-like diggers and a swath the width of a major highway was soon transformed into a deep, deep channel. Granted that lousy weather took its toll, with inevitable hold-ups, but both Chris and Jeremy expressed genuine admiration for the speed and efficiency of the crew.

Compensation is a word charged with emotion. Each party will seek to protect their corner and here again Jeremy stressed the importance of keeping on top of the problem. For smaller amounts – roping off tees, temp. tees, numerous new signs and all other immediate emergency needs – the club sent claims direct to the water board for payment, whilst for larger amounts, eg. reinstatement, the rule is for the water board to contract the work – which they wanted to do by simply digging out, backfilling and seeding the scar! Again Jeremy stressed how essential it is that the club know who is doing what and to ensure (by seeing that proper experts are included in the tender list) that it is carried out by experts rather than by any old contractor – the rule always is to be on guard and defend your corner. By digging in their heels Pinner Hill have won the turf versus seed battle (including roughs) and have seen an expert who they know and trust appointed to reinstate the ground.

"There is no profit in this, but the secret is to make sure there is no loss", Jeremy continued. "I'm almost certain that other clubs have lost out, most of them. For example, we would not have had a drainage contractor in unless we had pushed for it. Right at the onset I established that Chris should be the on-site project manager and with his vast experience this has proved valuable beyond measure. He dealt direct with all site personnel and if any problem could not be solved on site we established that every single communication be via our surveyor, no direct letters from us – we established that principle from day one.

Other attributable losses include green fees, pro shop sales and lessons, catering and bar revenue, together with an important issue that has yet to be resolved, lack of facility. We've not yet reached agreement, but as a basis for negotiation I have used the loss of 17% in course length over the winter, 24% in season, and used that as a figure across our playing member-

ship. Whether we win or not I don't know, but we will have to show that the sum is either returned to our members or shown as a reduced subscription. To substantiate our claims I have built a computer model that goes back four years – claims can be backed up with hard facts".

Costs thus far are 'guesstimated' at something like £50-100,000 for reinstatement, and at this stage £60-70,000 for loss of revenue. The point has to be made however that revenue does not instantly return to its former level, so there may well be a further claim. And one final cost which must never be overlooked is the added cost of both Chris's and Jeremy's time – with all the extra work these two stalwarts have put it, this also will be a substantial sum.

Next time the reader draws a glass of water from the tap he will do well to ponder the hidden cost. We all know that privatised water is going to cost more – now we can see where some of the money is being spent.

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TO ORDER, COMPLETE THE CARD OPPOSITE PAGE 54





They may be the gardeners' friend but they are the greenkeepers' enemy. JIM ARTHUR discusses what to do with worms

With more and more of the tools of our trade being banned by our Brussels bureaucrats and our 'Greens', who live in mortal fear of killing off the planet if we carry on as we have been, we shall have to rethink our approach to problems which have always made fine turf management very difficult and where cures are progressively banned.

The worst pests of golf greenkeeping are indubitably casting earthworms. It is being suggested that only recently have we discovered that there are non-casters and we should be looking at selective wormkillers. How typical! I was writing articles 46 years ago on earthworm activity and my erstwhile colleague and friend at the then Board of Greenkeeping Research; the late Peter Jefferson, researched this problem for his M.Sc. We both came to the same conclusion: it was a non-starter.

Earthworm control is beyond argument necessary. They may well be the farmers' and the gardeners' friend but they are the greenkeepers' enemy. The problem is not just the unsightly casting and resultant smearing and muddiness of the affected turf, but interference with putting surfaces and winter playing conditions, weed invasion (from both buried seeds brought to the surface and in giving points of invasion for airborne seeds) and also subsidence (to which non-casting worms contribute), not to mention increased fertility (when we want the opposite in greenkeeping).

In my young days to describe someone as green meant they were inexperienced, naive or five green shield stamps short of a pop-up toaster. Today the term means something different. But does it? On reflection, our dear and often blinkered conservationists, many of whom seem to put invertebrate life ahead of human, should still be so described. On second thoughts however, who am I to be critical - there are some invertebrates which are infinitely to be preferred to certain so-called humans busily engaged in killing or starving their neighbours to death - and not just the third world, either.

I venture to propose a philosophy which will certainly bring down coals of fire on my head, but those hurling them had better do their homework first. As with acid rain, now blamed more on cows and excessive conifer planting than on power stations; with prophets of global warming competing with those forecasting increased glaciation; with our low lying east coast areas threatened with unlimited flooding because of perhaps a few inches extra high tides, we all listen (well, some do)

WORM

to these harbingers of doom who persuade our bureaucrats - and ours are far worse even than those in Brussels - to ban everything in sight, replacing the tools of our trade with less efficient ones which in turn are later also proscribed as 'dangerous'.

Let us take earthworm control. In my advisory life from 1946 the best advice was to use lead arsenate and I did this up to the early seventies, when it was banned. Yet I had never lost a greenkeeper in all those years, there were no cases of poisoned stock (except one case where a daft greenkeeper had washed out the drums after use in a local stream!) and when I treated my own lawns, our black cat came back with white paws and he licked them clean and all he got was a much glossier coat and an increased zest for life. he lived another 14 years after that episode!

Lead arsenate was an ideal wormkiller. It was persistent, lasting an average of eight years and in some cases where re-invasion was slower, even longer. It stayed in the soil, did not leach, did not drift when applied and did not get into water supplies, being insoluble. However, despite the evidence of their own eyes - you could still see the lead arsenate in the soil years later - it was banned. Chlordane, with an effective life of 1-2 years, replaced it. It too has now been banned. We are now down to applying short term wormkillers several times a year. Surely the risk to environment, wild life and operators is far less, when carrying out an operation once in eight years than once in eight weeks?

I mentioned this point to Jon Allbutt who at once supported my view, as this was his view too when trying unsuccessfully to oppose the ban on Chlordane - a political decision made by those who were unrepentantly deaf to all reason and logic.



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OUT THESE PESTS

However, as I was brusquely informed by some of our continental E.C. barons laying down the law about golf course construction, 'you can moan as much as you like but there is nothing you can do about it and the sooner you accept defeat the better'.

So we must try to control earthworms and leather jackets (the two worst pests of fine turf in the U.K.) by other means. There is nothing new in this and of course we might look into wormkillers such as derris dust used many years ago, displaced by the more efficient and cheaper (in the long run) lead arsenate.

Furthermore, even in fairly recent times, i.e. forty odd years ago, there was so little money in golf that poor clubs could not afford even modest expenditure on lead arsenate costing £122 ton in 1947, so we and they had to devise management methods avoiding direct use of pesticides.

The chief method of alternative earthworm control was to acidify the soil, generally by using sulphur, to bring alkaline soils (favouring earthworm activity), down to a pH of the lower fives or even high fours. No self respecting earthworm would poke its nose into such a hostile environment! Sulphur of course takes months to oxidise and trials were and still are necessary to determine the optimum rate – to be decided not earlier than six months after laying down replicate trials from 1-4 ozs sq yd (most commonly 2 ozs did the trick). Today sulphur is used for less laudable objectives than acidifying soil: as a constituent of explosive mixtures, so its purchase is looked on with a jaundiced eye by some authorities.

Other methods were to top dress heavily with sharp sintered ash (more like pulverised glass) and similar materials such as coke breeze, worked in after aeration. This firmed up muddy fairways and certainly discouraged earthworms, but was pretty unpopular with golfers because of club damage.

Sometimes on links courses where local earthworm activity was a problem and of course against leather jackets, low lying areas (which attracted the crane flies and the worms initially because the grass was green and the soil moist) were flooded with sea water – which needed skill if you were not to risk severe yellowing. As it killed off the grasses we did not want and left the salt resistant links grasses, we tolerated any discolouration – and anyway golfers were less critical in those days and given good putting surfaces were quite happy to play the ball where it lay in between.

We used orthodichloro-benzene and Jeyes fluid as expellents for leather jackets but even without this mix, soaking turf and 'sweating' pests out under sacks or tarpaulins and then sweeping up gave some relief.

Another method widely used, especially against leather jackets or chafers, was to heavily roll the turf, killing some grubs by squashing them but making the passage of others through the soil more difficult. Of course the resultant compaction had to be corrected later by deep aeration, but it is correctable. Without such treatment (or the use of pesticides) many areas would have been left dead and rootless, demanding wholesale reseed-ing in autumn.

Of course DDT and later the BHC's made leather jacket control easy, cheap and effective – and of course its use was stopped (perhaps with some justification because of its effects at the far end of the food ladder on birds of prey). I have heard it said of the use of DDT, which continued for many years after that in the third world, that the main problem with DDT was that it had saved so much human life by eliminating insect-borne diseases (notably malaria) that there were too many heads to feed. This I think is unfair since despite the gloomy prognostications of the experts – from Malthus and Sir John Boyd Orr to the present day – about the world not being able to produce the food to meet the demands of exploding populations, the sad fact is that it is not shortages but wars, distribution and incompetence – and religion – which is the cause of the harrowing scenes of starvation that we are presented with nightly on the box.

On a parallel tack, it is of course important not to encourage earthworms to invade. Their food is of course decomposing

(not decomposed) organic matter. Now that we almost all use imported top dressings of fen soil or equivalent and sand, the use of materials attractive to earthworms has all but ceased. In the old days when farmyard manure was stacked with local soil and the heaps turned, they were veritable earthworm factories and even when let down with sand, they provided free meals for earthworms.

Allowing cuttings to fly – even on greens in those days in winter or in drought – was another source for earthworm's looking for food. One of the reasons why mowing 20 m of approaches with triplex mowers, collecting the cuttings, is the best way I know of improving turf quality is that this discourages earthworms and related weed invasion.

Pure organic fertilisers – often sewage sludge-based, but including dried blood and hoof and horn without 'balancing' ammonia and iron – certainly invited earthworms.

Pure acidic reacting inorganics (ammonia and iron on their own) will certainly discourage earthworms, but tend to leave eventually fine turf thin and open and, with prolonged use, mossy and drought susceptible.

The biggest encouragement of all, of course, comes from alkaline reacting materials. This is so widely recognised that one sees less of the horrors resulting from agricultural advice forty years ago – but one thing is certain; some fool will always come along to repeat all the mistakes made so many years ago, in the name of progress. Lime, of course, is rarely used though one sees photographs of courses where one cannot see the fairways for clouds of lime being applied to 'sweeten sour turf'. Such pictures are not all from the 1920s. It is not so many years ago that some of our heathland courses were being limed and even more recently given a dressing of basic slag, especially if the current chairman of green was a farmer! I am talking about the mid-sixties, even the seventies!

It is totally unrealistic to expect so-called research (really only investigation of known products and policies) to come up with a new wormkiller which is acceptable to the E.C. – and even if one cropped up by sheer accident it would cost millions to get it tested and passed by our obsessed bureaucrats, with no guarantee of it being passed for use after that astronomical expenditure. We can therefore forget about that remote possibility. Frankly we want glimpses of the obvious like a hole in the head and I for one cannot see any new management methods emerging, though one has to accept that with effective persistent wormkillers and pesticides so easily available, the incentive to develop such new methods was absent, in the past.

Trawling the technical papers of the temperate world's research organisations has, believe me, been done already by commercial concerns so is not likely to yield success! We might be better off in preparing cast iron cases to protect what few products we still possess against the interference of a host of busy bodies who would not know one end of an earthworm from the other.

Doubtless we shall get the usual manic minority talking about sonic booms, electrocution, or similar way-out methods of getting rid of that oldest pest of fine turf – the casting earthworms, which may be the farmers' and gardeners' friends but are most certainly the golf greenkeepers' enemies. Those who say earthworms help by aerating soils, improving fertility and breaking down thatch live in a world of their own. Casting is the main but not only problem and a mechanical aerator does the job deeper and with less men. When will golf writers understand that the poorer the soil, the better the golfing grass. Finally, thatch is associated with waterlogged conditions and I have yet to find earthworms wearing snorkels. They just don't appear in flooded conditions.

In passing, when will the uninformed realise the difference between thatch (undecomposed stagnant dead vegetation derived mainly from leaves and stems causing all manner of problems) and fibre, the dry wiry load-bearing constituent of hard wearing turf – especially for winter play – which occurs under totally different conditions and within reason is as beneficial to golf as thatch is deleterious.

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Lots on offer at

Planning for the Landscape Industries '93 show in June is well underway. This unique exhibition is the most comprehensive event of its kind. It's the only one which brings the whole industry together at one venue. No matter what sector of the industry you're involved with, there are many reasons why you shouldn't miss it.

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EDUCATION AND TRAINING

There is a great emphasis on training and education and many of the established technical features are set to continue in 1993. You will notice a number of new elements, particularly the development of links with the play industry as a new area is created outside for this sector of the industry.

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DRAINAGE FEATURE

There'll be a chance to learn from the Royal Showground's experience, as a new drainage feature highlights the conditions the groundsmen have had to deal with in a major showing ring. You'll have an opportunity to look at the drainage work and the product used, as well as talk to people involved about the decisions which have been taken and the reasons why.

DISCUSSION SESSIONS

The discussion sessions at the exhibition have proved very popular in the past and the topics for 1993 should provide a good deal of information and food for thought. Each session will be held on both days of the event and there's no admission charge so it's the ideal opportunity to update yourself:

- Leisure Strategy for Water – examining the alternative uses for irrigation reservoirs, their design and limitations, particularly with reference to a variety of sports and their specific requirements.
- Children's Play Areas – an overview of the situation including the possible knock-on effects of recent developments.
- Health and Safety Issues – a look at health and safety issues in the workplace, particularly in the landscaping sector.
- Introducing NVQs into Industry – a complete demonstration of the computerised training management system and a total overview of the experience of introducing cost-effective vocational qualification into the workplace.

ARBORICULTURAL ASSOCIATION

There will be a display by the AA utilising one of the trees within the exhibition to indicate areas of weakness, maintenance work required and previous pruning work that has been carried out.

TRAINING IN ACTION

Trainees from industry and colleges will undertake the second stage of a project to construct a landscaped area within the exhibition by working in groups and trying their hand at various skills.

AND FOR THOSE WITH A COMPETITIVE STREAK...

Introduced in 1992, the Fencing Competition will give both professional and college two-man teams the chance to show their skills in erecting three types of fencing – chain link, close board and post and rail. The winning teams will be awarded prizes from Fencing News and the National Fencing Training Authority.