

They reckon old James Braid knew a thing or two about the architecture of golf.

He was a great golfer who, though designing was always an avocation, took the game very seriously, stubborn to the point that he refused to change a feature once it was planned. It was Braid in 1920 who designed the gem that is Tyrrells Wood, an 18 hole course built high in the Surrey hills, some ten or so miles from the bustle of London and now very much part of what is known as 'the stockbroker belt'.

Though Braid was never privy to the changes that have taken place around this blessed acreage: the 24-hour traffic jam that is the M25 a mere mile away, the urbanisation of nearby Leatherhead, the sheer hectic nature of life in the fast lane, I fancy that were he to peer down from Valhalla he would smile knowingly The city of London is only just around the corner, but it's far enough away for Bert Watson and his team – with 117 years' combined experience – to make Tyrrells Wood the perfect golfing haven

and approvingly, probably casting a friendly wave toward course manager Bert Watson, proud to see that Tyrrells Wood is lovingly tended and counted still as one of Braid's unspoiled treasures.

Leaving behind the snarl of the motorway, Tyrrells Wood may be found by taking a country lane off the A24, just a few hundred yards from twentieth century madness and confusion. Yet as one turns into the drive leading toward an expansive red brick clubhouse the feeling strikes – the clock has turned back to the roaring twenties of PG Wodehouse, the place a veritable oasis of tranquillity, reeking of class and exquisite taste, though playground now as much to the Mercedes and BMW brigade as the country squire. Nevertheless, the occasional visitor might be forgiven for expecting to see Bertie Wooster waiting on the first tee.

Tyrrells Wood is also Bert Watson territory, the domain of a man who has spent the past 35 years caring for Braid's eighteen blessed examinations of golf. Bert began working here as a 19 year old greenkeeper under St Andrews stalwart, Andrew Corstophine, progressing over the years to become head greenkeeper and thence, 12 years ago, to course manager.

The title 'course manager' can mean different things to different people, this writer inclined to the view that it is often used somewhat frivolously and with scant regard for the true meaning of the word 'management'. 'What difference did the title make to you, what does it really mean?', I asked, Bert's reply swift and to the point. 'Simply stated, the course is my absolute domain, I manage it in its entirety, deciding and controlling my own substantial budget. I make the decisions, control the purse-strings, balance the books, decide machinery and supplies purchasing, staffing, pay structures, and policy on course maintenance. I work hand ₩ 22



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Changing the

21 ** in glove with George Shiels, my agronomist of some five years and a friend with whom I enjoy great rapport, and I report only to the club's green convenor on matters arising from my management and my decisions, he in turn reporting to the board. Those decisions are mine alone - that's course management! Everything routinely done on a daily basis is logged in a diary, everything major goes into the computer, there to be unearthed whenever a technique is queried, a question needs answering or a problem needs solving'.

There is no hierarchy in Bert's greenkeeping team, no first, second or third assistants. All save the young apprentice share equal status, all are greenkeepers to a man. The team, Bert included, boast a combined total of 117 working years at Tyrrells Wood: Ian Huggett 32 years, Keith Harris

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and Jack Street 25 years apiece – indication that it's a good place to work and a good place to play. I had come specifically to learn something of Bert's spring maintenance programme, though the word was out that some rather major developments were afoot and I was eaten with curiosity – we walked the course.

The first noticeable thing on the bright January morning of my visit was the dryness of the place: built on a rich chalkland seam several meters deep, the course drained like a sieve. Second (and I'm sure, seventy years on, James Braid would have approved), there was a whole lot of construction going on, new and substantial tee areas being built, Hymac's shifting earth and creating tees as large as 540 square yards, practical and much more in keeping with 1990s volume of play. This programme is centred currently



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soil structure

around the fifth, eleventh and twelfth tees but will in the next five years incorporate every teeing area and replace often piddling small areas with massive, easy to maintain tees that will take extra wear whilst further enhancing appearance and maintaining the status quo. We walked to the highest point on the course, the panoramic views toward London and Middlesex quite awe-inspiring, despite a haze that prevented me glimpsing the Post Office Tower. I could quite imagine Braid those many years ago getting goose pimples just thinking about the majesty of it all.

Another major programme involves the gradual changing of soil structure on the greens. A compaction layer around four inches has been tackled first by Vertidraining, followed by slit tining, alternating between four and six inch slitters and making 26 passes over each green. In addition, each spring (autumn too) hollow tining is carried out twice, the core holes filled with an imported Norfolk 80/20 mix, some 160 tonnes being used each season. Within the top four inches this exchange is now about one third complete (an inch and a half), achieved over three seasons. Slit tining had already been completed on all greens at least eleven times (once each week) and more of the same was scheduled as weather dictated.

The course at Tyrrells Wood may be tranquil for its members, but the amount of activity I saw suggested that it is a positive powerhouse for the team. Bunkers were being emptied of old material and replaced with Kingsley washed sand – Sunningdale style – and many bunkers were being revetted, edges trimmed and tidied, whilst a new zig-zag path In the driving seat: course manager Bert Watson

was being formed to make life easier for members when hauling up the slope from first green to second tee.

'So many things that take place on the course, routine things, are never noticed by the average player, though

they would soon become apparent if we didn't do them', opined Bert, suggesting that such routine accounted for upwards of a third of the greenkeepers working week. 'In March I like to get things moving, aiming for a little colour and a tickle of growth by applying a turf tonic – sulphate of iron based – on the greens, whilst on the fairways I'll put straight tines on the Amazone, just at turf

level, to take out any old rubbish and dry divots. Then we'll set to repairing those old divot holes with seed and soil and wait to see positive germination from the repair before passing the mower blades over. As soon as I see some signs of positive growth on the greens I'll hollow tine, twice over each green, two ways, looking to remove 5% on each pass, before brushing the Bailey's well \Rightarrow 25







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 $23 \Rightarrow$ in – following this a little later with a 12-0-9 fertiliser application, one which has worked well over the seasons'.

Worm casts were conspicuous by their absence, in the main down to Bert's tackling the problem 'before it arises'. Each autumn he carefully applies flowers of sulphur in an attempt to reduce the pH, naturally occurring at around seven, trying to turn the conditions around. Water on the course, applied through a Watermation irrigation system via the club's recently excavated deep borehole, comes ready filtered through the chalk, thus alkalinity is in the water as well, though by turning the acid balance they seem to have the worm problem licked, or at least under control. Bert is of the opinion that creating such conditions means that worms find Tyrrells Wood less than comfortable!

February will see the club's tees and approaches treated with a slow-release pellet fertiliser, with

the new tee bases being turfed over a tasty looking root-zone mix and utilising something approaching 1400 sq. yds of material. In addition, work continues on restoration following the gales of 1987, when Tyrrells Wood suffered considerable losses. Some six years on the losses were not apparent to this observer, though deep in the undergrowth of bordering thickets an occasional uprooted tree may be seen if one looks closely. Bert's team have tackled these systematically (there were scores of fine trees felled by the hurricane) in the time honoured fashion - removal by chainsaw of all branches before dropping the naked root back into its vacant hole. Some live trees are also being moved, under the direction of Civic Trees, in particular a Yew from behind the twelfth to the right of the eighth to replace an old favourite lost in the big blow - the whole programme suggesting that much thought had gone into ₩ 26

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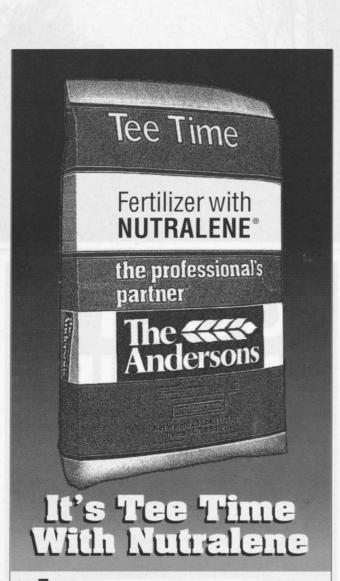
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'My aim is to see that blatantly unfair shots are not part of my course'

25 the process, the idea being as much one of caring for future golfing generations as of those playing today. Finally, Bert and the team are involved in a 'spring special', albeit a one-off, the removal of three Corsican Pines from the left of the tenth green, together with a reduction in height of an overpowering Beech, all this with the commendable idea of letting in more light and air, especially allowing winter sun to find its old target á la Braid, for too long overshadowed.

There is one overwhelming theme that pervades in listening to Bert Watson, his unswerving enthusiasm for Tyrrells Wood. He calls it 'his' golf course, which is only right for such a dedicated craftsman who sees these golfing acres as the canvas he paints, sensitive as only an artist can be to both criticism and acclaim. He's an avid eight handicap golfer and finds that playing helps enormously in preparation of the canvas: 'I'll sometimes hit a ball, not a bad shot, and see from where it has come to rest that there is

has come to rest that the something that offends – an overhanging branch maybe – an unfairness not just for me but for any golfer, which may not be apparent to the layman. Golf may not always be a fair game – it was never intended to be – but my aim is to see that blatantly unfair shots are not part of my course' – witness the artist at work!

'Any advice for young greenkeepers', I asked, Bert suggesting that the best move any young greenkeeper could make would be to remove any fear that a visiting agronomist works against him. 'Get him on your side, show him what you're made of, discuss everything you've achieved in detail, build up a friendship. George (Shiels) and I enjoy such a friendship and we work as a team, our thinking being that two heads are better than one. When George makes a recommendation it is usually the result of two minds with but a single thought – and means that the proposals are nearly always accepted -seen to be right for the course, right for the members and right for my regime'.

Each month Bert produces a detailed report of work either carried out or scheduled, which in edited form is produced for his members. He is also something of a writer, producing a short article on a pertinent matter which appears in the magazine 'Tyrrells Times', explaining in layman terms the reasoning behind a particular activity. His latest, 'Why Aerate', was a wee gem and I was left with the thought that Tyrrells Wood members are fortunate indeed - not only do they enjoy an exquisite course but, through this simple form of communication, they know why.

Major machinery at Tyrrells Wood

- 1 Ford Dextra tractor
- 2 Kubota tractors (models 345 & L3250)
- 1 Amazone flail mower
- 1 SISIS overseeder
 - 2 Cushman Turf Trucksters
- 1 Cushman attachment
- 1 Ransomes Fairway hydraulic 5
- Ransomes 180 mower
- **Ransomes Whirl blower**
- Jacobsen greensmower
- 1 John Deere 2243 greensmower
- 3 Atco 24 mowers
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- 1 Trailer



fter the difficulties experienced with loss A of grass cover due to prolonged drought stress over the last few years, an extremely wet, mild autumn and early winter period has highlighted how rapidly conditions can fluctuate and the types of extreme in weather now experienced. This situation makes the greenkeeper's task of maintaining the fine balance between offsetting high levels of course usage against achieving quality year round surfaces very difficult, especially on low lying golf courses with heavy, ill-drained soils. It is therefore essential that quick responses are made to rapid changes in the weather and action is taken in advance of problems occurring. Forewarned is forearmed.

A surface problem?

In a number of situations the difficulty of poor drainage and muddy conditions may well relate initially to the immediate soil layers, particularly where the loss of grass cover has resulted from compaction, prolonged drought stress or significant thatch build up. All these conditions encourage surface moisture retention and hence exaggerate wear and tear with consequential loss of grass cover, levels and playing quality. A package of aeration treatments including hollow tining and slitting in the early stages can help to open up the top 100mm (4") as well as removing thatch. Thereafter, the soil profile can be opened up further by degrees through, for instance, Vertidraining or deep slitting. Ground conditions should be firm enough to take each unit, yet the soil moist enough to gain good penetration otherwise resultant damage will nullify the benefit gained.

It is absolutely essential to avoid aeration work, especially the deeper treatments like Verti-draining, when the soil profile is saturated to depth and during or after prolonged periods of heavy rain. If the timing is wrong then instead of excess water shedding off the surface, rainfall fills up the tine holes above a saturated base making the greens/tees like puddings. Wet surface conditions invariably lead to the cancellation of top dressing application, which only increases the speed and severity of the water retention. In such a situation the only real option is to let the surface dry out over a long period before the green staff can take the necessary remedial action. The key here is timing, with the emphasis on anticipation and an early response. This is so important where we have high course usage.

Prolonged mild, wet conditions invariably encourage earthworm activity on parkland courses. Very heavy worm casting in itself can create extremely muddy conditions which affects appearance, immediate surface levels, drainage, sward density and weed populations the following year. Accordingly, an early application with an approved wormkiller can keep surfaces clean and relatively dry, although with the active ingredients left on the market two or three applications may well be required through the autumn to spring period.

On a localised basis

Surface ponding and stagnation can often be exacerbated by sub-surface seepage and run off from higher ground. On a localised basis this situation can be tackled through the introduction of a catchwater intercept drain around the toe of the bank taking care to avoid pop-up irrigation supply pipes. Ensure the catchwater drain encompasses the whole of the surface run off area and that there is a fall on the drain of no less than 1:200. The drain should also be connected to a positive outlet.

Low lying moisture retentive sections of green, surround and fairway are further trouble spots where localised aeration treatments can be given to prevent surface ponding and the development of stagnant thatch. There is still room for localised hand forking and hand hollow tining at close centres and infilling holes with approved medium coarse sand, although mechanisation allows a quicker and more effective treatment, ie. a soil ameliorator (locally) or the Verti-drain (overall). In the case of the latter, infilling holes with sand for added drainage is another benefit. Where design causes major problems in lower lying features, another option is a spur drain to tap the area with the addition of a solid vertical pipe in the lowest spot connecting the surface with the aggregate. The pipe can then be covered by a gauze or synthetic grass hole insert to minimise disruption to play. The diameter of the pipe can be varied according to requirement.

Spread the wear!

Another significant weapon in keeping the course in play is the management technique of spreading wear. The options available are numerous including:

Regular moving of pin positions on greens, keeping away from lower lying weaker areas during wet weather and strategic positioning to alter traffic route flow on and of greens.

■ Re-routing walkways, taking every opportunity of changing the alternative traffic route from time to time to prevent another worn path developing.

The provision of alternative tees away from the main areas.

Adjusting the distance for landing zones on fairways by changing tee positions.

■ Look at alternative tractor routes through semi-rough/rough and woodland rather than using fairways.

Nevertheless, there does come a point when the above factors are not enough to cope with the disadvantages of poor design, soil profile make-up and lack of adequate drainage. In such a situation the best course of action is controlled usage, eg. a trolley ban for a defined period.

It should be appreciated that considerable damage can occur over a short period under adverse weather conditions and the aim is preservation of surfaces for the main playing season the following year.

Indeed, in certain situations the decision would be to leave well alone by resting the course until such time as the surfaces have dried out sufficiently for the green staff to work on them again. $\Rightarrow 28$

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WET, WET WETTER

The cure

Good drainage is fundamental to successful management and whilst all the above items will bring about short term alleviation, the answer must lie with reconstruction of greens, tees, bunkers and surrounds to provide better design, a suitable depth of free draining growing medium and an under drainage system to take the water away.

On heavy soils and lower lying land it is important to raise tees, bunkers and greens above ground levels to enhance drainage rates and contour surrounds to shed water away from putting surfaces.

In respect of fairways the key to success is the installation of an integrated piped drainage system.

There are far too many golf courses where fairway drainage consists of a piecemeal arrangement of pipe drains, with haphazard design and poor drain profile make-up, including connections. To ensure good surface to aggregate drainage rates employ approved sand as a growing medium over the blinding layer/aggregate, finishing off with a skimming of top dressing mixed with fine seed to aid surface establishment. Drain lines may stand out for a period during drought, but this is worth



it for the benefits that accrue in prolonged wet weather. On completion of the project, the drainage system would then be assessed over one or two winter periods with a view to evaluating the subsequent requirement for localised or overall slit drainage or just mole ploughing to aid lateral movement of water to drain lines.

On flatter land with minimal falls ditches can be a very effective alternative as a carrier of water and as an outlet for pipe drainage. Existing open drain networks should be cleaned out prior to the winter period to enhance water flow.

Summary

Preventative maintenance, including attention to specialised aeration work, along with worm control and spreading wear and tear will alleviate problems caused by excessive rainfall on poorly drained golf courses. However, the timing and intensity of treatments given are essential in gaining the best results. Nevertheless, this action only has short term benefit and the cure lies with improved design, growing medium quality and depth as well as the provision of drainage systems.

■ The author, Stuart Ormondroyd, is an advisory agronomist with the Sports Turf Research Institute.



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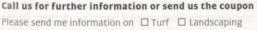
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f there's one thing certain to upset the more senior members of the British population, it's an announcement about the introduction of more rules and regulations concerning another aspect of our daily lives. Whether emanating from Whitehall or Brussels, the arrival of yet more red tape is sure to make the blood boil and bring cries of 'molly coddling', 'wrapped in cotton wool' and 'never would have happened in my day', from the many who have more than solely an historical interest in the Second World War.

Yet, for anyone who uses or comes into contact with substances designed to control or kill pests, weeds and diseases, the regulations encompassing the safe use of pesticides and other chemicals must be among the most sensible and appropriate introduced during the past ten years. They are the Control of Pesticide Regulations 1986 and the Control of Substances Hazardous to Health Regulations 1988, supporting and reinforcing existing legislation designed to safeguard the health, safety and welfare of employees, golfers, and all others who may come into contact with the day-today maintenance activities on a golf course.

The principal statute governing activities in the work place is the Health and Safety at Work Act 1974. It places a duty on any establishment with five or more employees to have a written statement of its policy for ensuring health and safety. Furthermore, since 1 January this year, there has a requirement for employees to carry out a risk assessment and to record all significant findings. There are at least 15 further Acts and Regulations currently in force in the UK concerning health, safety and welfare at work. At privatelyowned clubs, all legislation will normally be enforced by the local authorities environmental health department. In the case of public courses, the inspector will come from the

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Health and Safety Executive (HSE).

Inspectors are essentially there to inspect and enforce regulations. However, both bodies are able to advise and assist employers in meeting their legal obligations. Points on which employers have been pursued include failure to make provision for first aid treatment to be available for employees who are injured or become ill at work; failure to provide sufficient instruction, information or training in a task to minimise the risk to the employee or others; and failure to train and appoint one person to carry out specific prescribed duties.

Under regulations in force in both the UK and continental Europe, all persons engaged in spraying operations must use specified personal protective clothing and equipment. At the same time, under the risk assessment requirements, it is important to identify, control or eliminate the risk from spray chemicals by other means, as far as is reasonably practicable.

Employers are required to issue spray operators with the following personal protective equipment:

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- a face shield
- coveralls
- rubber or plastic boots.

The HSE points out that disposable spraying coveralls will protect against most of the chemicals likely to be used on golf courses. It is required of every manufacturer that they provide all necessary information on the suitability of their protective equipment. However, if in any doubt, it is important to seek advice from the manufacturer or supplier on suitable protection for the chemical being applied.

British manufacturer, Allman, offers two protective kits for sprayer operators. The Allclear contains 11 essential safety items including goggles, visor, nitrile gauntlets, a washable coverall and apron, pure air respirator and eye irrigator. It costs less than £90 and each item can be replaced individually as required after use.

For about £30 less, the company's One-Pak kit includes the vital face and hand protective items but no respirator or irrigator and has disposable coveralls which can be replaced for £7.50 each. Irrespective of whether one is wearing reusable or throwaway overalls, it is essential that storage facilities are provided to keep spraying clothing and equipment separate from normal working clothes. Furthermore, hot and cold water wash facilities must be available to clean gloves, visor and boots before storage.

Details on a specific pesticide and instruction covering its safe and effective use must be provided on the containers of all approved agricultural pesticides. For maximum safety, never decant a chemical into another container and never use a container for any other purpose. Empty bottles and