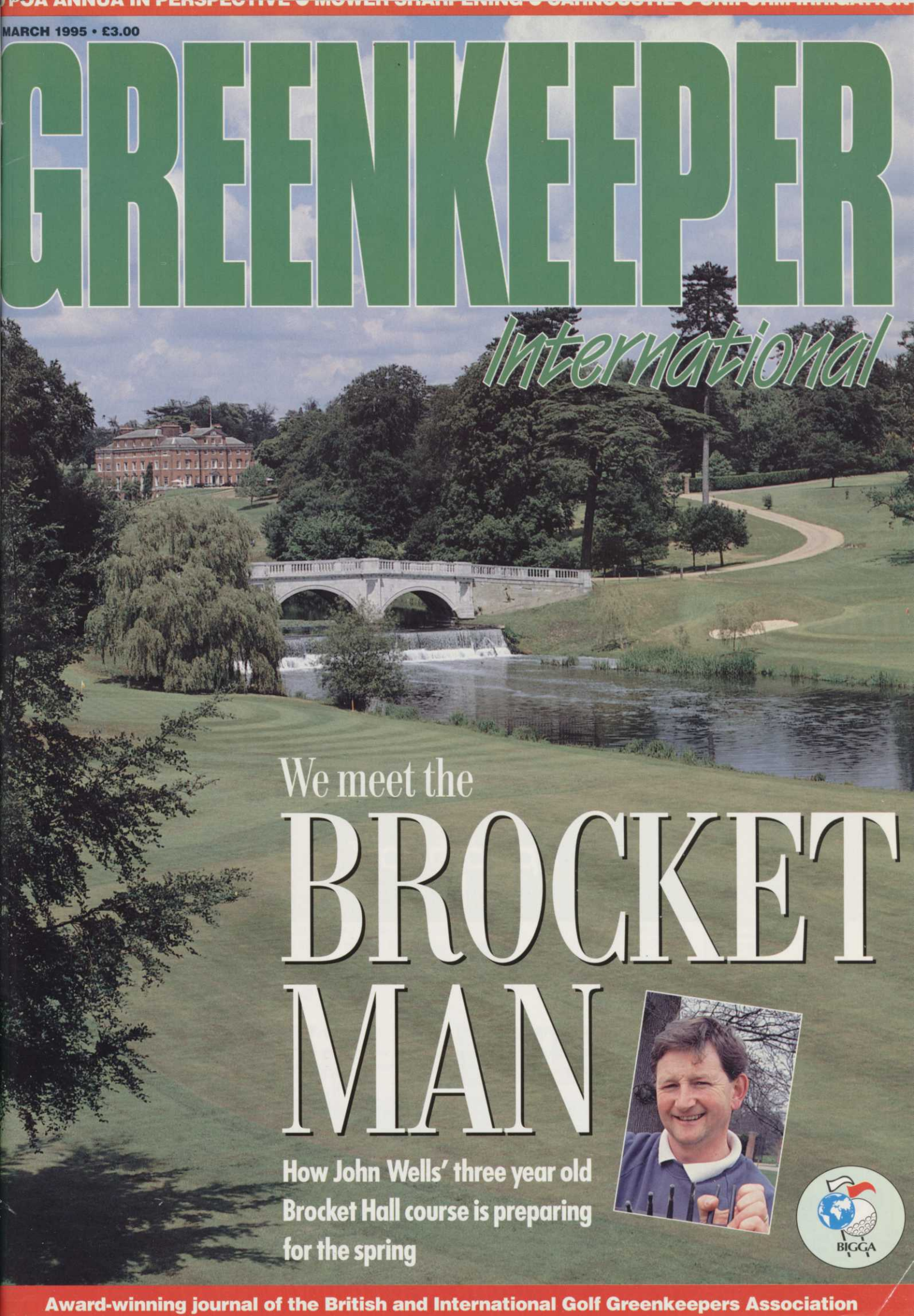


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MARCH 1995

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One of the most attractive features at Brocket Hall golf course – the bridge built in 1760



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Want to exhibit at next year's BTME? Call Louise Lunn on 01347 838581 for a comprehensive information pack

Time for greenkeeping to take the global view

It is that time of year when the international role of BIGGA comes up for discussion. This occurs during the European Forum at the BTME and is then closely followed by the GCSAA Conference and Show which invariably provides for an international gathering of greenkeepers and administrators. The recent GCSAA Conference and show in San Francisco attracted all time record numbers in the region of 17,500 and the International Summit which Chairman, Barry Heaney and myself attended was certainly the most worthwhile international gathering of recent years. Two hours of intense discussion took place with three main topics – Global Concerns Facing Golf and Golf Course Management; Education of the World's Golf Course Superintendents and The Status of the Golf Course Superintendent Throughout the World. Some 15 countries were represented and whilst there were exchanges of view on such vital topics as environmental considerations, educational programmes and what is generally perceived to be the improving image of the greenkeeper, all present were united on the need for improved communication and debated how best this could be achieved.

Communication is of course facilitated by personal contact and four of my most interesting conversations during the show were with Wayne Hinton and Euan Laird, President and Chief Executive Officer respectively of the Australian Golf Course Superintendents Association, Trevor Smith, President of the Canadian Golf Superintendents Association, Ricardo de Udaeta, Greens Committee member of the Argentina Golf Association and Nigel Butler, Immediate Past Chairman of the Golf Course Managers, Greenkeepers Association of South Africa. The discussions which took place have undoubtedly led to closer relations between our respective bodies and to a greater understanding of common problems. Much international goodwill is generated annually at the



BIGGA in focus

BY NEIL THOMAS

BTME and the GCSAA event but all too frequently this can be dissipated through lack of contact in the ensuing year. I really do believe that this year good intentions will be turned to positive action as there seemed to be an underlying determination on the part of all concerned to communicate more effectively.

BIGGA will need to be instrumental in facilitating improved communication and in so doing assist other Associations in their growth and development. We can also learn much from the programmes being developed by other Associations. BIGGA, as probably the second largest greenkeeping Association worldwide, must be seen to give a lead in these matters and indeed to do justice to the 'international' contained in our title. The Board of Management has recognised this and made budgetary provision for such development. At present BIGGA has some 320 international members spread across 32

countries and their help will need to be sought in the vitally necessary exchange of information and implementation of educational programmes which will allow the profession to grow and flourish worldwide. In this day and age there is no need for members in distant countries to feel remote – indeed some are more involved and closer to BIGGA than fellow members in the United Kingdom. Let me give just one example. Bil Montague is based in Ohio and is one of our Master Greenkeepers. He is in regular contact and has twice visited the BTME. During the recent GCSAA show he was only too happy to help out on the BIGGA stand when he was not proudly touring the show in his BIGGA Master Greenkeeper blazer. So I would ask our international members to get in touch and make suggestions as to how communications can be improved and I would like to see 1995 as a year when real progress in this regard will be made.

If we can work closely with our international members how then can BIGGA take a lead in communicating with its fellow Associations? It can start with the dissemination of information from Headquarters and this will begin immediately. I believe this will stimulate other Associations to respond and then we can move forward together. In the not too distant future the time will surely come when the annual gatherings at the BTME and the GCSAA Conference and Show are supplemented by more formal meetings during the year to establish com-

mon goals and policies – the fields of education and the environment could be prime current considerations.

The Swedish Greenkeepers Association has invited BIGGA to be present at their conference and exhibition this coming September and this represents an excellent opportunity to learn from one of the most progressive associations. I have previously had the opportunity to speak at their conference and I am sure that Billy McMillan, Course Manager at the Wildwood Golf Club, who has accepted an invitation to speak this year, will return enriched by the experience. So the exchange of views and information is facilitated and BIGGA must be prepared to play its part on the international stage – not I hasten to add intrusively. We will go where we are invited and welcomed respecting the wishes of our fellow associations but offering help and guidance where it is requested. The world is becoming a smaller place and greenkeeping can only benefit from actively cultivating a recognised and respected international and worldwide image.

Editor to move on

BIGGA's editor Chris Boiling is off to pastures new. Following production of the April issue of *Greenkeeper International*, Chris will take up a new post in Dubai with Motivate Publishing, one of the leading publishing houses in the Middle East. Chris will be responsible for 'What's On', a monthly Entertainment and Sports magazine. BIGGA's executive director Neil Thomas said, "We are very sorry to lose Chris' services as he has developed *Greenkeeper International* to an ever higher standard during the last year. The search is now on for a successor who will continue to take the magazine forward as the market leader". Design and production editor Tim Moat will take on additional editorial responsibilities for the May and subsequent issues pending a new appointment.

Another new Golden Key member

Massey Ferguson has become the latest member of BIGGA's Education and Development Fund, bringing to five the number of new companies already in Golden or Silver Key membership for 1995.

Commenting on Massey Ferguson's decision to take up Golden Key membership, BIGGA's executive director, Neil Thomas said, "The Association is delighted to receive this backing for the fund from one of the industry's leading companies. The fund goes from strength to strength and the training aids and programmes now possible as a result will bring great future benefits for greenkeepers. We are indebted to the industry for its ongoing support".

BTME rival changes its name and dates

P&O Events has backed down from staging a rival event to BTME in 1996.

Following the success of the seventh BIGGA Turf Management Exhibition in Harrogate in January, P&O has moved its proposed new show from January '96 to June 11-13 1996.

It has also renamed its show Landscape Professional 96 – significantly, dropping the word 'Turf' from its original title. The new show will be held in the National Hall at the Olympia Exhibition Centre, London.

The June timing and new title indicate that P&O is teaming up with BALI, although confirmation of this is not expected until a press conference on March 23.

The English Golf Union, which was due to organise the golf education seminars at the January show, said it had not been notified of the changes and would not comment until it knew what was going on.

SALTEX gets golfing boost

With BIGGA and the IoG working closer together, SALTEX '95 – the Institute of Groundsmanship annual trade show at the Royal Windsor Racecourse – will feature an increased number of golf-related products. Companies already booking space at the September 5-7 show include Tildenet, Standard Golf, Ransomes, Toro/Lely, Jacobsen Textron, the Inturf Group and Zeneca.

West country gears up for Westurf '95

You can do it all at Westurf, promise the organisers. If you're looking for new machinery or new products, you'll find them on show at Long Ashton Golf Club near Bristol on Wednesday April 26. If you want to see some being demonstrated, you can. Just fancy a day out? Want to meet old friends? Then join the rest of the fine turf industry at Westurf.

More than 40 exhibitors have already signed up for the show,

NEWS



Learning a lesson

Northop Country Park Golf Club has been forging closer ties with its local college, the Welsh College of Horticulture. Students spent a day at the 18-hole John Jacobs-designed course as part of their NVQs in greenkeeping and golf course management. The club's machinery maintenance engineer Malcolm Westcott (pictured right with Ray Cotgrave, David Coates and Paul Drennan) gave the 17 students tips on maintaining the equipment.

But the students are not the only ones swotting – course manager Noel Hynes is training to be an NVQ assessor. Noel is currently part way through a course at another Clwyd college and, if he qualifies, he will be able to put his own staff through their NVQ paces. Noel, who also helps with tutorials at the Northop college, said: "We like to help the students whenever we can and we do have a good relationship with the college."

including British Seed Houses, Roffey Bros, Sisis, Standard Golf UK, Farmura, Barenbrug, Ruffords Top Dress Supplies, Rigby Taylor, Avoncrop, the Sports Turf Research Institute, Toro and Ransomes.

Sabo-Roberine distributor Claymore Grass Machinery is, for the first time, taking a stand in its own right at the show, which is organised by BIGGA's South West and South Wales Region. Product

manager Clive Pentecost explained why they support Westurf: "All the profits go towards the education of greenkeepers. This gives us an opportunity to put something back into the industry." On the demonstration area they will be showing the new 1.8m wide Continent 400-3D for cutting tees and bunker surrounds. For further details about the show call 01803 844056.

FLYING DIVOTS



■ Grass care equipment manufacturer Dennis has appointed ex-Jacobsen man Max Peacock as northern area

sales manager. Sales director Ian Howard will look after the southern half of the country.

■ Wortley Golf Club deputy Robert Needham, 41, has been appointed head greenkeeper at Hickleton Golf Course, near Doncaster, following the departure of Tony Booth.

■ John Turner, 31, is moving from France's Golf National, where he was in charge of the irrigation system, to take up the deputy head greenkeeper post at Keswick Golf Club. This follows the death of Maurice Studdart.

■ Golfer Lennie Learmouth, 62, landed a 40lb pike in a flooded bunker at Wetherby GC. The 4ft whopper is thought to have been trapped when the nearby River Wharfe burst its banks.

■ The PGA European Tour's director of agronomy, Bruce Jamieson, has left to set up his own consultancy business. He was with the Tour, which sponsors the runners-up prizes in the Toro Student Greenkeeper of the Year Award, for six years.

■ Symbio has joined forces with three companies to distribute its biological products, such as Green Circle and Black Layer Treatment. These are Stewarts in Scotland, Turf-Actant Products in Norfolk, Suffolk Cambs and Essex and Roffey Brothers Ltd in South Wales and the south west.

■ Roffey Brothers Ltd of Bournemouth has appointed RE Rushbrook and Son of Ipswich as a distributor for its fertilisers, including the new mini-granular spring turf fertiliser Gypronit.

■ Maxicrop International tells us its no1 seller is its concentrated seaweed extract, No1 Triple Seaweed, while sales of No6 ProGreen have increased "significantly".

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NEWS

Servicing incentive

Greenkeepers who buy Ransomes' G-Plex 160 and E-Plex mowers in south and west Wales are being offered virtually free servicing for the next three years by local distributors RS Bird Ltd of Cowbridge, South Glamorgan, and Carmarthen, Dyfed. The only charge made will be for consumable items such as oil, filters, fuel, batteries and tyres. Said managing director Jeff Bird: "In making this offer, we are giving customers the opportunity to receive 18 on-site service visits and three winter overhauls, including cylinder regrinds, at a fraction of the normal cost."

RS Bird also announced it has become the South Wales distributor for Japanese-made Shibaura tractors. Tel: 0446 772001.



Lost words of wisdom found after 65 years

A lost manuscript, written about 65 years ago by one of the world's most famous architects, Alister Mackenzie, has been found.

Called 'The Spirit of St Andrews', it covers the history of golf from the author's eyes, his favourite courses and holes and there is also a chapter on the swing. The manuscript also had a handwritten introduction by Bobby Jones.

It was discovered by Macken-



zie's step-grandson, Raymund Haddock, in a box of Mackenziana and is published as a book this spring.

Mackenzie's designs include many of the world's top courses -

Augusta National, Cypress Point, Royal Melbourne, Crystal Downs, San Francisco Golf Club and Pasatiempo.

An earlier book of his, *Golf Architecture*, is considered a classic. It contains memorable sentences like this: "One of the objects in placing hazards is to give the players as much pleasurable excitement as possible." *Golf Architecture* was published in 1920, prior to his emigration to America.

The *Spirit of St Andrews* was written around 1930, four years before the former surgeon died.

Top golfer Ben Crenshaw, a student of course design and an avid golf historian, is one of the people who has read extracts. He was suitably impressed: "It's incredible. Mackenzie goes on about how he uses camouflage in his courses, and how it relates to war tactics."

Peter Alliss has also seen it: "Perhaps the discovery of this manuscript written in the galant doctor's own fair hand was not quite as dramatic as Lord Caernarvon discovering the burial ground of Tutankhamen, but for lovers of golf it must run damn close."



Vitax technical sales adviser Mike Shephard (left) presents a BIGGA gift voucher for £100 to Jeff Dickenson of Hucknall GC. Jeff won the prize in a competition at BTME.

FLYING DIVOTS

■ Three-year-old Mill Ride - the outstanding Donald Steel-designed course in Berkshire - has been sold, along with some nearby luxury apartments, for around £5 million. The buyer is a leisure and hotel operator from the Far East.

■ Phil Breakey from Irrigation Control has joined Tim Hooper and Paul de Rham's Weathermatic dealer network. Tel: 01606 558927

■ Martin Bros and Tim Banks of Fen Turf Dressings have teamed up to produce and market Fendress in the north-west of England. Martin Bros has also announced the appointment of Melvyn Guy as north-east area salesman.

■ Paul McDowell of Slinfold GC proved the value of greenkeeper education when he entered the Rigby Taylor Technical Quiz during the BIGGA Turf Management Exhibition at Harrogate. His correct diagnosis and cure of eight problems was drawn by BIGGA chairman Barry Heaney and his prize - a hamper of assorted bottles - will be delivered to his home.

■ Grasslands Turf Farm, New Romney, Kent has appointed two new distributors as part of its expansion programme: The Cottismore Group, Newbury (tel: 0635 298368) and Evergreen Landscape Supplies, Congresbury, Avon (tel: 0934 876337).

■ Neil Toner of Heswall Golf Club has won the Sisis Trophy for being the best craft level student at Reaseheath College.

■ Brian Mitchell has been appointed to the newly-created position of director of engineering at Ransomes,

Sims and Jefferies. Previously the company's general manager of engineering, Brian retains overall responsibility for the design and development of all Ransomes' machines produced in Ipswich. He has been with the firm for 30 years.



Some points of interest to come out of the BTME seminar programme

DR JAMES BEARD

Pesticides is a very controversial area. Many people associate golf courses and toxic waste dumps in the same breath. The perception is there although it is incorrect.

Trends concerning pesticides include greater difficulty in registration of pesticides, continued increases in cost and much of that cost is the cost of doing the research to get the information to register the products. I also anticipate increasing employee awareness regarding safe pesticide usage, tighter government controls on pesticide use, and less broad spectrum applications. I see a move away from fence-to-fence applications on a calendar basis to going out, scouting the area, assessing whether there really is a need to apply that particular pesticide at that time or that year.

DOUGLAS SHEARER

Protective clothing relies totally on the PPE. If you do not choose the right PPE, then you've problems. Some 95% of that used by local authorities and on golf courses in the past 25 years has been the wrong protective clothing. People thought they were protected – and weren't. The problem is that if people think they are protected they will put themselves in danger.

COLIN HEGARTY

How do greenkeeping budgets fit in with the overall business of the golf course? Generally, the clubhouse accounts for 50% of all the money spent, and the golf course accounts for about a third of the expenditure, with labour accounting for about half of that third. It is not a bad rule of thumb to look at your budget and work out what proportion of total club expenditure you are getting. If it's nowhere near a third (or your labour bill is a lot more or less than half your budget) then there's a problem.

JAMES MOORE

The first thing you probably do after you've finished a job is wash the equipment down. You've got to stop doing that if you want to be more environmentally friendly.

Look what you're doing. You go out there and you generate lots of clippings, which are between 3 and 5% nitrogen, 1 and 2% phosphorous and a lot of other things as well. Where do those clippings go? They're washed off and go down a drain.

So what can you do? Simple suggestions include building up the intake on the wash rack and putting a screen over it to reduce the number of clippings going down. We let the machines dry off in the sun and then blow them clean. The benefits are:

1. We don't send clippings down the drain;
2. If you're using your irrigation system as a source of water, the water is coming out at 100-120psi and as soon as you start washing the reels, guess where all the grease went out of the bearings and seals? It washed right out. We shouldn't be surprised that the cables rust and the bearings go bad when we wash the equipment every single day.

What the

With reconstruction work at established clubs becoming a growing market for architects, there is a fair chance you will soon be faced with appointing and working with one. Cameron Sinclair gave delegates at this year's BTME seminars this advice...

A good working relationship between a golf course architect (gca) and greenkeeper is, in my opinion, crucial to the success of any construction project. When I consider the best projects I have worked on, a common feature has been that I have had a first-class working relationship with the greenkeeper. There are basically two circumstances in which we have to work together:

- When a greenkeeper is appointed to maintain a new course;
- When a golf course architect is appointed to advise an established golf course.

They are very different situations – in the first instance the gca is often responsible for the selection of the greenkeeper, at the existing club the boot can be on the other foot – you, as the greenkeeper, can select the gca! I am going to concentrate on this situation.

Firstly, how do you appoint a gca? Golf course architects all come from different backgrounds and have different strengths and weaknesses depending on their ability and experience – you need to choose one that meets your needs and requirements.

I believe it is important that the greenkeeper gets involved in the appointment process. You should use the greenkeeper network to find out about the most suitable architects.

Having decided on your gca, it is very worthwhile writing down in the form of a brief what you expect from him. Don't tell him how to do the design, but give him a performance specification of what you expect from the end result. This will help the gca to focus on your needs and stop him experimenting on your course with the latest craze in golf course architecture.

Once the design has been agreed and detailed plans have been drawn up, the first big area in which the gca and greenkeeper need to work together is in deciding on the construction methodology that will be used during the implementation of the scheme. Obviously the size of the scheme will have a big influence on the decision on how the project will be implemented but if the scope of work is not too big one of the first questions I am usually asked by the committee is whether I think the greenkeeper can do the work.

As I see it there are essentially three options:

1. The club takes responsibility for the work using its own resources, ie. the greenstaff;
2. The gca draws up tender documentation and contractors are asked to quote on a fixed price basis.

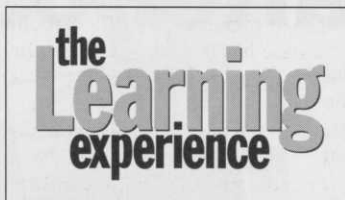
When I discuss these options with the greenkeeper I find there can be a variety of responses. Generally if the project is not too large, eg building one or two new tees, or a few new bunkers or a new green, I find that greenkeepers are quite keen to take it on, particularly if the work can be fitted into their winter programme. Very often advice from the gca comes in the form of a series of recommendations which can be implemented over a few years so the work can be done as part of a winter programme. Training in construction techniques amongst greenkeepers is improving and I find quite a lot of enthusiasm amongst greenkeepers to become involved in construction – indeed some of you take a great pride in not wanting outside contractors on your course. Others alternatively take the view that they have not got time and do not want the responsibility. The scope of work is

clearly a major factor in terms of the time you would have available to devote to it.

Before discussing it with the club, I like to discuss all the options with the greenkeeper first and present a joint approach with the

greenkeeper on how the construction methodology should be handled.

Whichever way you decide to go, it is vital that the gca makes sufficient visits during the construction stage. Under a fixed price contract the gca will be responsible for supervising the work and his fees will be based on the value of the contract. His visits are therefore built into the fee. Under other options it is important that a certain number of visits from the gca are built into the budget. Gca's get very irritated if, having advised a club and produced design plans, they find that the club do not want to pay for supervisory visits during construction. All plans are open to interpretation on site and it is annoying to find that your ideas have been implemented but the shapes are all wrong. The art of golf course architecture not only involves technical ability and an understanding of golf course strategy but also aesthetics. A good gca has got flair, imagination and an eye for the land – he should be at his most productive in this department during construction – if you do not use your gca at this time then it is not worth employing him at all. Most gca's love getting out of the office spending time on the site during the shaping process – so use them.



experts say...

I often see examples of work at existing clubs where what has been done is technically sound but basically lacks flair. This scenario can occur when a gca has prepared a masterplan of improvements at an existing club. Very often the recommendations are to do with bunkering – suggesting new bunkers and removing obsolete bunkers. The greenstaff set about implementing the proposals under the guidance of the greens chairman and the result is a triumph of the practical over the aesthetic. Greenkeepers need to recognise their own limitations and recommend to the greens committee that the gca is asked to look over what is being done.

There is a crucial point in the shaping process when the gca should be there to approve the works. That is basically the point before any drainage is installed or topsoil replaced. For example, it is fairly straightforward to reshape a green base but once you start drainage and build up you are locked into the shapes on the sub-base and it becomes expensive to make changes. So try and arrange visits from the gca at the point of sub-soil formation and make sure that the machinery is available on site to make any changes during the visit. Even if a contractor is on site they generally won't charge extras for making changes to the sub-soil base but if they have to undo completed work they usually do.

I would therefore hope that the greenkeeper would keep me informed of progress and advise me when would be the most productive time to visit. In this respect do not be afraid to shout at the gca if you feel his presence is required – gca's often have more than one project on at one time and they will tend to prioritise their time according to who screams at them the loudest!

A final point on the timing of visits. It is obviously essential to get the basic shapes right but you also need to involve the gca for the finishing touches. Very small changes in level or in the profile of the bunker can make all the difference to the imagery and aesthetics of the picture. A gca should have the eye for the job so try and make sure he is around before the turf is laid or the seed sown.

In conclusion, in order to establish a good working relationship with the gca you should:

1. Get involved in the appointment process and find out about your gca through talking to fellow greenkeepers.
2. Discuss the construction methodology with the gca and do not be afraid to take on the responsibility.
3. Present a joint proposal with the gca to the committee. Make sure you get enough visits from the construction and be aware of the critical point formation when it is easy to make changes.
4. Use the gca for the finishing touches.



Taking it all in: delegates at the seminar programme in Harrogate

TOMMY LINDELOF

Chief executive of the Swedish Greenkeepers Association and publisher of Greenbladet

The dentist to his patient: "Unfortunately, I have to pull out a tooth."

The patient: "Will it hurt?"

The dentist: "Normally not, but sometimes I hurt my wrist..."

This somewhat absurd dialogue could, figuratively speaking, be a dialogue between the greenkeeper and the chairman of green. Although, they should think in the same way, they do not. The greenkeeper makes a statement based on a professional view of the problem. The elected representative often reacts in one or two of the following ways:

1. Does it cost money?
2. How shall I explain this to the captain or the board of management?
3. Does this affect my chances of re-election?

In Sweden, last year, we saw quite a few examples where elected representatives of the golf clubs turned a businesslike problem into a personal problem. For example, if the irrigation system is inadequate during a drought, the golf club blames the greenkeeper for not irrigating enough. Or, in the spring, if it is too cold for the grass to grow, the greenkeeper is blamed for not fertilising. Or if the greenkeeper is told to lower the height of cut to improve the speed of the ball and the greenkeeper says that it cannot be done because it will kill the grass, the greenkeeper is blamed for having difficulty in co-operating.

In my view, there is nothing wrong in these examples with either the greenkeeper nor the elected representative. What is wrong is the golf club and its form of organisation. The golf club as a non-profitable organisation is not able to handle activities that should be dealt with in a professional way. Nor are they upto handling decisions that have long-term effects.

We have had golf clubs in Sweden for 90 years and in Britain for nearly 250 years. As far as I understand the structure of the golf club has not changed much during these years, although the activities within the golf club have undergone many changes. Furthermore, the demands from members on quality and excellent conditions on the course have been much accentuated during recent years. In addition, laws and regulations imposed from outside the sport interfere with the maintenance of the golf course and how to handle employed people.

In my view, a golf club should be run as a limited company. The members would still handle the game of golf (competitions, handicaps etc) and the social life (parties, playing cards etc) but all the activities that must be handled in a professional way should be handled by a limited company whose shares are owned 100% by the golf club. The secretary would become the managing director and you would have professionals in charge of the following 'departments': golf course, finance and administration, and buildings.

To avoid a situation where corruption by friends could arise, there should be different members on the board of the golf club and the board of the limited company.

I do not think one could directly reduce the costs of the golf club by this organisation, but I think the better management that would result would reduce costs. My prime aim with this setup is to create a better framework for a professional management and with a company, I think, the members would better understand and appreciate the professional work that must be done. Furthermore, the management of a company is better described in laws and regulations than the golf club and that in itself gives the company a firmer ground to stand on.

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Agronomist Eddie Connaughton, of Grass Technology International Ltd, kicks off a two-part feature on annual meadowgrass by looking at what it is. Next month he provides tips on managing it

The subject of *Poa annua*, or annual meadow grass as we commonly refer to it, has had many thousands of words written about it over the last 50 years. Much of this has been to castigate it or recommend ways of eliminating the evil weed. However, little that I am aware of has been printed on how to manage annual meadowgrass where it forms the majority of a grass sward in our greens.

The aim of this two-part article is to discuss what annual meadowgrass is, how to control the invasion of greens and how to manage the species if so desired.

Decisions

One of the most difficult decisions facing the golf course manager/head greenkeeper is do you fight *Poa annua* or do you live with it? It is interesting to note that this is not a modern management decision but one that has been faced by people managing grass since the 1920s. As early as 1948, Dr Fred Grau, then national director for the USDA, published an article entitled '*Poa annua* - Friend or foe?'

As recently as ten years ago, I attended a conference in Milwaukee, Wisconsin, USA, where the leading university researchers, agronomists, superintendents/course managers/greenkeepers and industry representatives gathered for three days to discuss the facts and fallacies of *Poa annua*. At the end of these presentations, speaking for and against *Poa annua*, the summing up statement was '*Poa annua* - Friend of foe?'

A decade on, through my agronomy work, I have seen many different situations of course managers and head greenkeepers having to make the choice of living with annual meadowgrass or seeking to get rid of it. This very point was highlighted during a visit I made to a course extending from nine holes to 18. The 9-hole course was 70 years old with established soil-based greens that evolved from continuous mowing and treatments of the area at the end of the fairway which became the green.

The club decided to extend to 18 holes and had modern sand-based greens built with fine fescues and bents sown after

construction. After allowing time to establish and then opening for play with great excitement, the new greens went 'bad' after a year of play. The fine fescues and bents declined and in came the annual meadowgrass in its coarsest form. The club was now experiencing the wrath of annual meadowgrass in its purest form, tufts of coarse-bladed grass taking over from fine-leaved fescues and bent. The *Poa annua* made it virtually impossible to produce any kind of level putting surface.

After my course inspection to determine why the club was having problems, and having explained that the fine grasses were declining and meadowgrass was taking over because of the construction, rootzone material and aftercare management, the captain and committee were confused. In their opinion, they had commissioned the construction of new greens with the best grasses and three years later 'meadow-

grass' was causing a problem. In the committee's innocence during all of this discussion, they asked what was the main species of grass in their existing nine greens. I explained that the old greens were predominantly fine-leaved established meadowgrass and I was immediately told that if the new greens were half as good, they would not need my advice.

The moral of relating this true story is that while I, as the agronomist, could find fault with the construction and the aftercare management, the ordinary golfer was only recognising that the old greens were good and the new greens were bad. It did not matter what the grass species was, but merely how the greens performed when using the putter. This type of experience makes you think on a broader level, that it is not only about the grass species present but about preparing the best greens possible with

the conditions and resources available to your particular site.

Every situation is different and individual to everyone's site but there is one constant in our climate and that is "wherever you are managing fine turf, you are going to deal with annual meadowgrass and the problems or challenges it creates". As an example, to compare the links of Great Britain which host the Open or Open qualifying with the heavy parkland low budget course is not a fair comparison for attaining the ultimate of fescue/bent greens as opposed to meadowgrass greens. Therefore, the management decisions of the links courses as opposed to the heavy parkland courses with regard to meadowgrass is quite different and it is important to realise this.

To further explain this, let's look deeper into what is *Poa annua*.

● See Page 12

Poa RELATIONS

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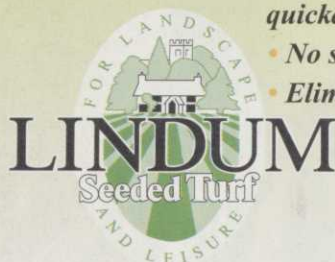
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What is Poa annua?

It is reported to be the evolutionary offspring of *Poa supina* and *Poa infirma*. It probably originated in the area between Pakistan and Yugoslavia. There are two recognised types of *Poa annua*:

1. *Poa annua* var 'annua' which is a bunchgrass with an upright habit of growth and produces a limited number of shoots and roots and normally survives from one to one-and-a-half years, and
2. *Poa annua* var 'reptans' which exhibits a perennial, stoloniferous habit of growth which seems to be much more prolific in stem and root production and continually replaces itself vegetatively.

However...

Poa annua by its very nature is basically a winter annual plant.

That is, its seeds, which are produced in the spring, germinate in the autumn and the new seedlings rapidly develop into a mature plant. Going dormant over winter, annual meadowgrass breaks dormancy early in the spring and later develops the profusion of seed heads which complete the life cycle for this type of plant. Thus, physiologically, after the seed head production period *Poa annua* has completed its life cycle and is ready to die under summer stress, or other related conditions.

Therefore, today's golf course manager/head greenkeeper has the ability and decision to make, do I live with annual meadowgrass or do I get rid of it?

More on this subject next issue.

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Education update

BY KEN RICHARDSON



Send your letters to The Editor,
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Still time to go in for top prize

This month's column includes reminders on the Zeneca Premier Greenkeeper and Toro/Lely/PGA European Tour Student of the Year competitions, changes of dates for the next MGC examination and an update on N/SVQs.

Zeneca Premier Greenkeeper

Entries for the 1995 Zeneca Premier Greenkeeper of the Year are beginning to arrive at HQ. However, there is still time for more entries to be submitted. Entries can be from individual greenkeepers, greenkeeping teams or golf club committees and members and they can be made by returning the card in this issue or by writing to HQ. The first prize, for the winning greenkeeper, is an all expenses paid trip to Florida for the 1996 GCSAA Exhibition and Conference plus £500 to the winner's team. Runners up prizes include a weekend in London with tickets for a top West End show and a weekend for two at Aldwark Manor. Remember, the competition is to find the greenkeeper who gets the best from his course with the facilities that he has available and aims to recognise services to the greenkeeping industry.

Toro/Lely/PGA European Tour Student of the Year

Entries are invited for the Toro/Lely/PGA European Tour Student of the Year competition 1995 from colleges in the United Kingdom and Southern Ireland. Full details of entry criteria are given in a leaflet, obtainable from BIGGA HQ and most colleges and nomination forms must be returned to Aldwark Manor by May 31 1995. Regional finals will take place during September and the National Final will take place at Aldwark Manor on October 8/9.

Master Greenkeeper Certificate

Since the last issue of *Green-*

keeper International was printed, unforeseen circumstances have caused the dates of the MGC examination technique day to be moved to March 6 and the next MGC examination to April 28.

National/Scottish Vocational Qualifications

Discussions are continuing at Lead Body meetings on the revision and modification of Amenity Horticulture (Greenkeeping) Vocational Qualifications to make the qualifications more acceptable to all parts of the amenity horticulture industry. David Golding, education director with the Greenkeepers Training Committee, is continuing to hold seminars which describe the N/SVQ system, the problems of changing from a knowledge based assessment system to a practical, competence based system and the need for greenkeepers to become assessors and advisers. The N/SVQ system can only work effectively when assessment of competence can be done at the workplace ie on golf courses. Anyone wanting further information on how to become an assessor or adviser should contact me or David Golding on 01347 838846.

Library

I had hoped that BIGGA might be successful in acquiring some or all of the John Shildrick memorial library. However, a recent meeting of the National Turfgrass Council decided that all the books should be held in one library, that the books should become part of the National Library system and that only establishments with a full time librarian could be considered. Therefore, as they met all of these criteria, Myerscough College will receive the books. Our library is growing, albeit slowly, and I would welcome contributions from anyone who wishes to donate a book or books.

Hard hats can give the wrong impression

With regards to the letter concerning 'hard hats', I wish to offer my feelings on the subject.

There is a golf course in the Torbay area with a lady greenkeeper who dons a green hard hat for her protection from the occasional stray Cayman ball.

I am grateful for Mr James Smith's concern for the protection of greenstaff, but the hard hat only covers a very small part of the body. It does protect the onboard computer, namely the brain, but leaves other vital parts of the anatomy unprotected and subject to severe bruising and excruciating pain.

If the greenstaff wore hard hats for safety reasons, I feel it would create a false sense of security for the wearer who would be even more at risk from the oncoming golfer, who would consider the greenkeeper to have been given adequate protection.

May I suggest we forget the hard hat and ask all golfers to respect the greenstaff in their very difficult and sometimes dangerous duties in striving for perfection for the benefit of others.

Martin Petherick, Waterbridge Golf Course, Devon

Such a success

To the executive director,

I would like to congratulate you and your staff who worked so hard to make the BTME show such a success. I would also like to thank the board of management who give up their time and the exhibitors - for without them there is no show. I have been to all the shows at Harrogate so far and the show gets better every year. As soon as you enter the exhibition hall there is a friendly atmosphere and let's hope the show goes on for many more years.

Ron Ullathorne, secretary of the Sheffield Section

GREENKEEPER'S LAMENT

The story true is often told,
Of Percy once a greensman bold,
As a bloke was not contentious,
But at his job most conscientious.

Twenty summers came and went,
While Percy often did lament,
How can I make my greens
sensational,
Just like those at Augusta National?

For you must dear reader pity,
Perce who had a greens committee,
Who yearly saw the National greens,
All lighted up on telly screens.

Looking at this turf like lightning,
Really could be rather frightening,
For Perce knew after the Masters' fleeing,
The committee quickly would call a meeting.

"Perce!" they'd cry all tongues a lashing,
"From the members we get a bashing,
They want us for it is fashionable,
To get our greens like Augusta National."

So they went and gave to Perce,
And now you'll see things getting worse,
I think the man's first name was Peter,
Who gave to Perce the dreaded stimpmeter.

With this tool they would stand tall,
And have greens to beat them all,
Slick and green with curvy bends,
On which they could impress their friends.

Well Perce tried hard to tell the facts,
But it availed not, they wanted acts,
"Give us greens like we desire,
Or Percy, you, we'll surely fire!"

Then Perce left the meeting site,
Though he had put up quite a fight,
They didn't want to know the reason,
Augusta looked so good each season.

So here stood Perce quite all alone,
To the vagaries of English climate prone,
Take-all patch and dollar spot,
Fusarium wilt, he'd got the lot.

No USGA spec greens for him,
What could he do just for this whim?
He reduced the height to speed the ball,
And in three months had lost it all.

With greens all sad and looking sick,
The committee the fault with Perce did pick,
And so they sent him soundly packing,
For they thought that he was lacking.

And now Perce doesn't tend his course,
He rather goes with cart and horse,
And feeling like the committee to throttle,
At each front door leaves a fresh milk bottle.

Alan Mitchell, course manager,
The Hampshire, Andover

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Massey throws its weight

Latest commitment to greenkeepers - from grass equipment division of multi-national company

It's hard to believe that Massey Ferguson's Grass Equipment Division was formed only two years ago because it has made so much progress in establishing itself as part of the turfcare scene.

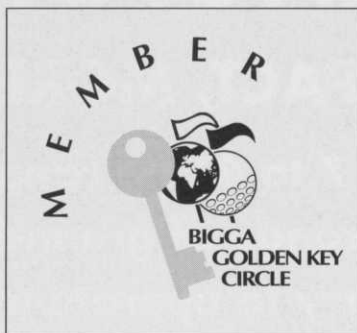
Becoming the latest Golden Key member of BIGGA's Education and Development Fund is a further sign of their long-term commitment to greenkeepers.

"We've long admired BIGGA's education initiatives and the work that greenkeepers are doing," says Nick Kirby, the division's director, "but, of course, we are hoping to get their support in return."

Massey Ferguson is a heavyweight name with bags of heritage and multi-national status behind it, but the Grass Equipment Division is, to all intents and purposes, a company in its own right with its own budget and staff.

The division was set up in 1992 to "grow a separate business within the UK." For a long time, MF had seen the opportunity to develop its marketing operations in the golf and amenity sectors but had not had the product line-up to offer.

Headed by Nick Kirby and with a hand-picked staff of 15 from a variety of back-



grounds, the Grass Equipment Division now has a turnover of £5 million.

Mr Kirby came from Massey Ferguson Ireland to run the new division. His first big task, which took 14 months, was to negotiate with the Japanese tractor manufacturer Iseki to distribute its products in the UK.

Fortunately for Iseki, it already had links with Massey including a marketing agreement in Australia.

Mr Kirby's task was "to find competent, active dealers in all areas." In some cases this involved existing Massey farm machinery

dealers but the main criteria was to select outlets that had proven grass machinery expertise and experience. "This sector demands a high quality of specialist service," Mr Kirby points out, "and this could not come from the grass machinery business being a bolt-on to agriculture."

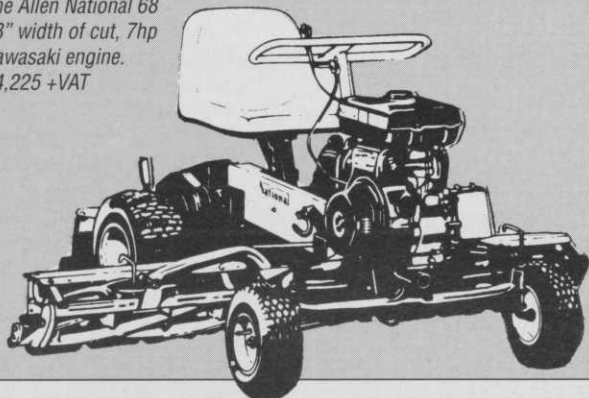
Of the 23 dealers appointed, only six are also Massey Ferguson agricultural dealers. Thirteen of the new network transferred from the old Iseki dealer network. The other 35 Iseki accounts were phased out.

The division set six 'standards for appointment' - and no dealer would be appointed unless they met all six. These standards were:

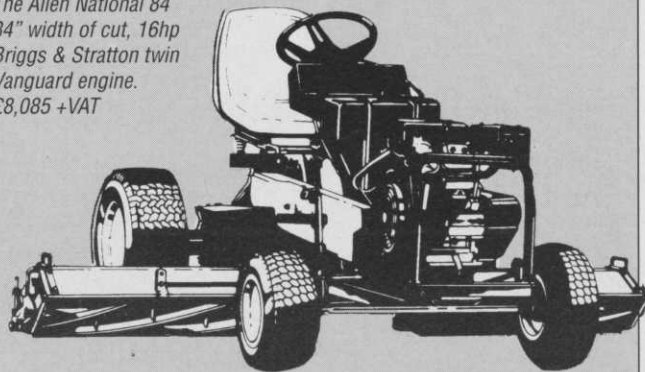
- Specialist sales staff with experience of grass equipment and successful sales track record;
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Nick Kirby at Stoneleigh with some of the MF/Iseki machines

"There were no sacred cows – underpinning everything we did was the desire to build the best distribution network for the turf industry, and I believe we are now well on the way to achieving that," says Mr Kirby.

Streamlining and improving the dealer network from the Iseki franchise was just part of the restructuring that went on. Sorting out the stocking and distribution of parts was another priority. "We want to be one of the easiest companies to do business with," remarks Mr Kirby.

The parts distribution centre was moved to Massey Ferguson's headquarters at

Stoneleigh, Warwickshire. 94% of stock orders can now be filled from this warehouse and they are air-freighting less than 50 lines per week, compared with 200 a year ago. The warehouse at the former US military hospital near the Royal Showground holds six months' stock of fast-moving parts.

There have also been product improvements and additions, while rights to distribute the professional grass and grounds maintenance machines made by Swiss manufacturer Bucher were also acquired at an early stage.

"The line-up stands up against any other

range," says Mr Kirby, who points out that customers include top courses such as The Belfry, Woburn and Gleneagles.

In essence, the range includes MF's own line of 1200 Series compact tractors from 17 to 35hp and petrol-driven 30 Series lawn tractors; the Iseki TA tractors from 25 to 45hp; the Iseki TU compacts from 17.5 to 20hp; Iseki TX 16 and 18hp tractors; Iseki SF 300 front cut mower and the Iseki SG diesel riders.

At the recent BTME, a new mid mower deck was announced for the MF 1200 compacts and there are other product improvements planned for later in the year.

Mr Kirby, who started with Massey as a graduate trainee 14 years ago, says he enjoys being in the golf industry and selling these products to greenkeepers "because you're dealing with customers who know what they want".

As well as supporting greenkeepers by contributing to the Education and Development Fund, Massey Ferguson is also firmly behind the BTME. It is committed to exhibiting there in '96. "We're only interested in shows with a creditable customer base and a track record, and we're quite happy to see Harrogate as the only national show."

However, he stressed he will continue to support dealers at Westurf, Scotsturf and other regional shows.

"We see golf as the only stable part of the grass equipment business," concludes Mr Kirby. "We also see it as a sector which can actually develop because the rest is going through so much change."

Left: the MF1230 at work



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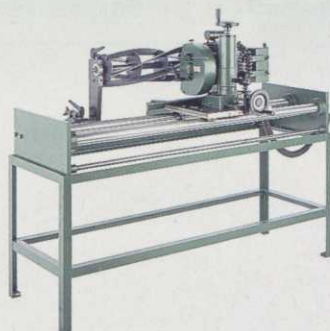
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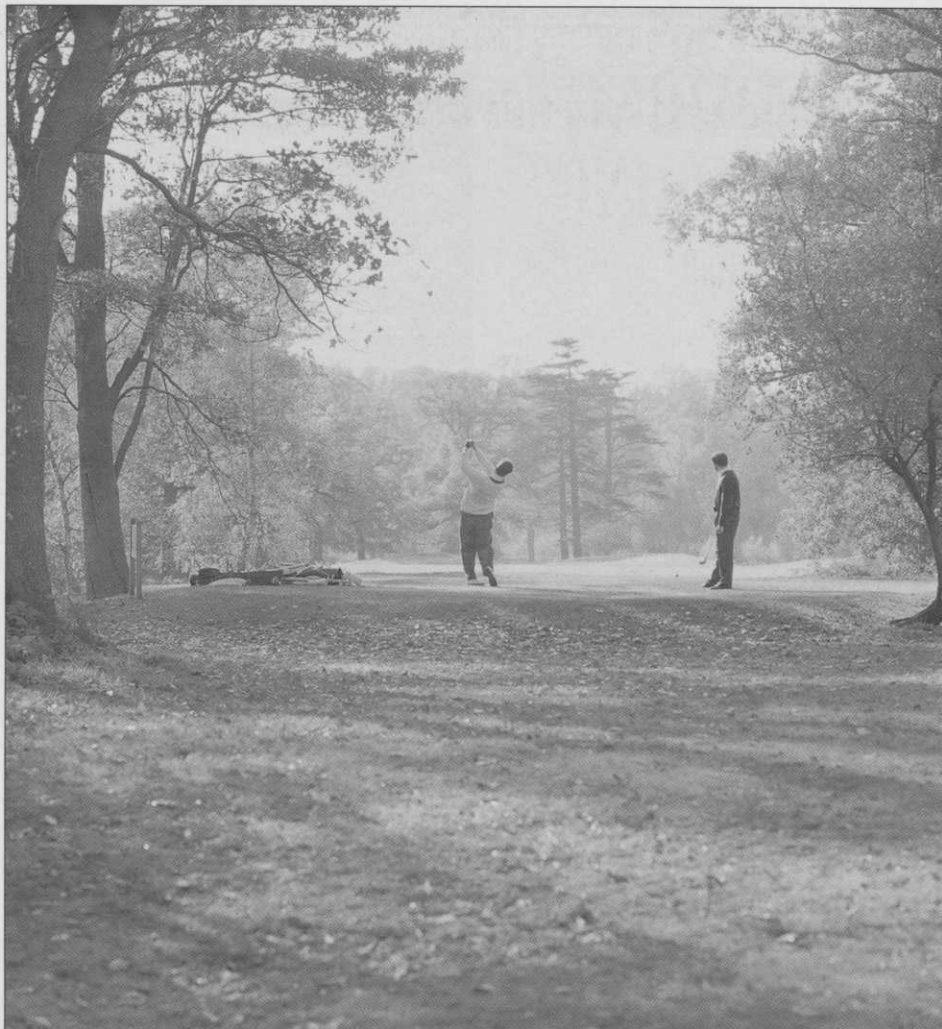
HISTORY IN THE MAKING

Elizabeth I learned she was to become Queen whilst in the grounds of Brocket Hall. There are high aspirations too for the golf course built on the same site just three years ago

HISTORY IN THE MAKING

Lord Brocket is rarely out of the newspapers these days, so why should his course in Hertfordshire be any different? David Stokes talks to course manager John Wells about the course, his maintenance programme, and its furniture...

The furniture around a course is like a well dressed man – you only notice it if there is something wrong. I visited John Wells, course manager of Lord Brocket's beautiful course at Brocket Hall near Welwyn Garden City, Hertfordshire, to see what he's got on the Melbourne course. John has a policy of the fewer notices the better. "Golfers will walk right past notices and they are a hazard to greenkeepers, who have to cut round them," he said. "It's best to put most of the information on the scorecard and our members are the sort of people who don't need to be told how to behave. The less notices, the better the atmosphere the course has. People don't like to feel they are back at school."

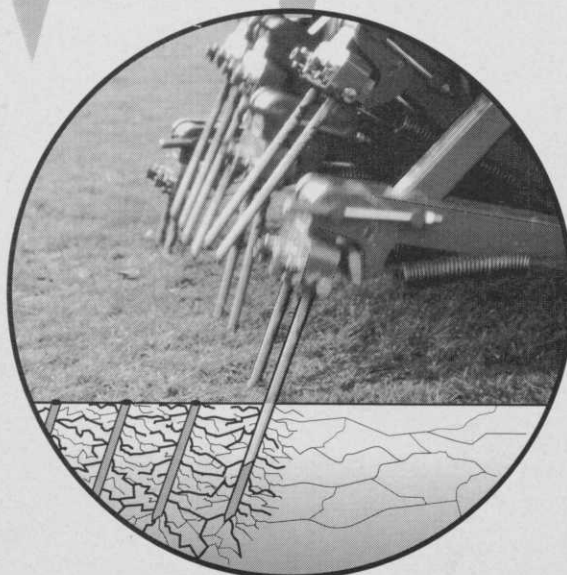


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'At Bocket Hall everything must be just right, to meet the company's high standards and this often means that items are specially made'

The course at Bocket Hall is less than three years old and while John was working out his notice at Welwyn Garden City Golf Club he attended many meetings to decide certain aspects of how the new club was going to look. "I learnt a lot at those meetings," he recalled. "We had a rep round and he showed us some signs made of slate. They were beautiful, excellent quality and in the room we held the meeting they looked wonderful. When we took it outside and put it on the tee it looked very much out of place, it just did not belong. I found out then that you can never buy things out of a brochure, you must see them in their context. Then and only then can you know that it will work.

"English Heritage has a say about many things the club does and they were particularly interested in the course furniture. It had to fit in and not be in any way garish. For the signs we had a look at plastic, marble, and brass, as well as slate, but in the end we plumped for wood – oak that had come from the estate. They were cut to size on the estate and sent to a sign writer and carved there."

Historic site

Almost cutting the course in two is the Broadwater, a man-made lake created by a weir near the bridge. John told me that many balls are lost in the Broadwater. Part of the kit of many of the 330 members is an extending pole to net their submerged balls.

Elizabeth 1 – then Princess Elizabeth – was sitting under an oak tree overlooking the Broadwater in 1558 when she learned of the death of her sister, Queen Mary, and thus her accession to the throne. The oak still stands near the first tee and the hole is called Elizabeth 1 to mark this moment in history. Other holes at the 235-year-old hall also have names associated with the place – like Caroline Lamb, Palmerston, Byron and Paine (the architect of the hall and beautiful bridge that crosses the lower end of the Broadwater, both built in 1760).

A touch of common sense is that every sign on the course is not set in concrete, instead it's set in a plastic tube. This enables the greenkeepers to remove a sign and cut over the hole instead of cutting around it and

strimming up to the posts. The main sign has a map of the hole, its par number, length and the SI number. The Elizabeth 1 hole for example has the number 1 and the name, the map showing the Broadwater and the tees, trees and green. Plus par 4, 330 yards and an SI of 13.

To mark the white, yellow and red tees there are pearshaped wooden markers which are easily removed and replaced for mowing. The greenstaff have to repaint these four times year owing to scratches (caused by squirrels that abound in the park). There are also secondary signs on the yellow and red tees giving the hole number, the par, the length and the SI number.

The club spent a lot of time looking at ball washers and settling on the American make, Par Aid. These are in cast metal and will not break when a ball or the frost hits them. They come in two colours as stock items to this country but the committee didn't like those and opted for 'Hunter Green'; these took longer to be delivered as Rigby Taylor had to order them from America. "But we felt it was



HISTORY IN THE MAKING

worth it, they certainly 'fit in'," said John. "At Brocket Hall everything must be just right, to meet the company's high standards and this often means that items are specially made."

To cross the Broadwater at the clubhouse end, Brocket Hall has what must be unique, a chain ferry, or cable in this case. Splasher plates from a Great Western Railway Hall Class Loco 'Brocket Hall' grace both sides of the ferry with its number plate, 5987, (scrapped in 1964). The ferry can accommodate two golf carts and their passengers with ease.

Walking around the 6584-yard, par 72 Melbourne course, you are struck by its grace, style and taste. Lots of time has been spent on making sure nothing offends the eye and it has all paid off.

Of course the furniture and fittings are just the finishing touches to the Alliss/Clark-designed course. To bring the course up to the present high standard from the construc-

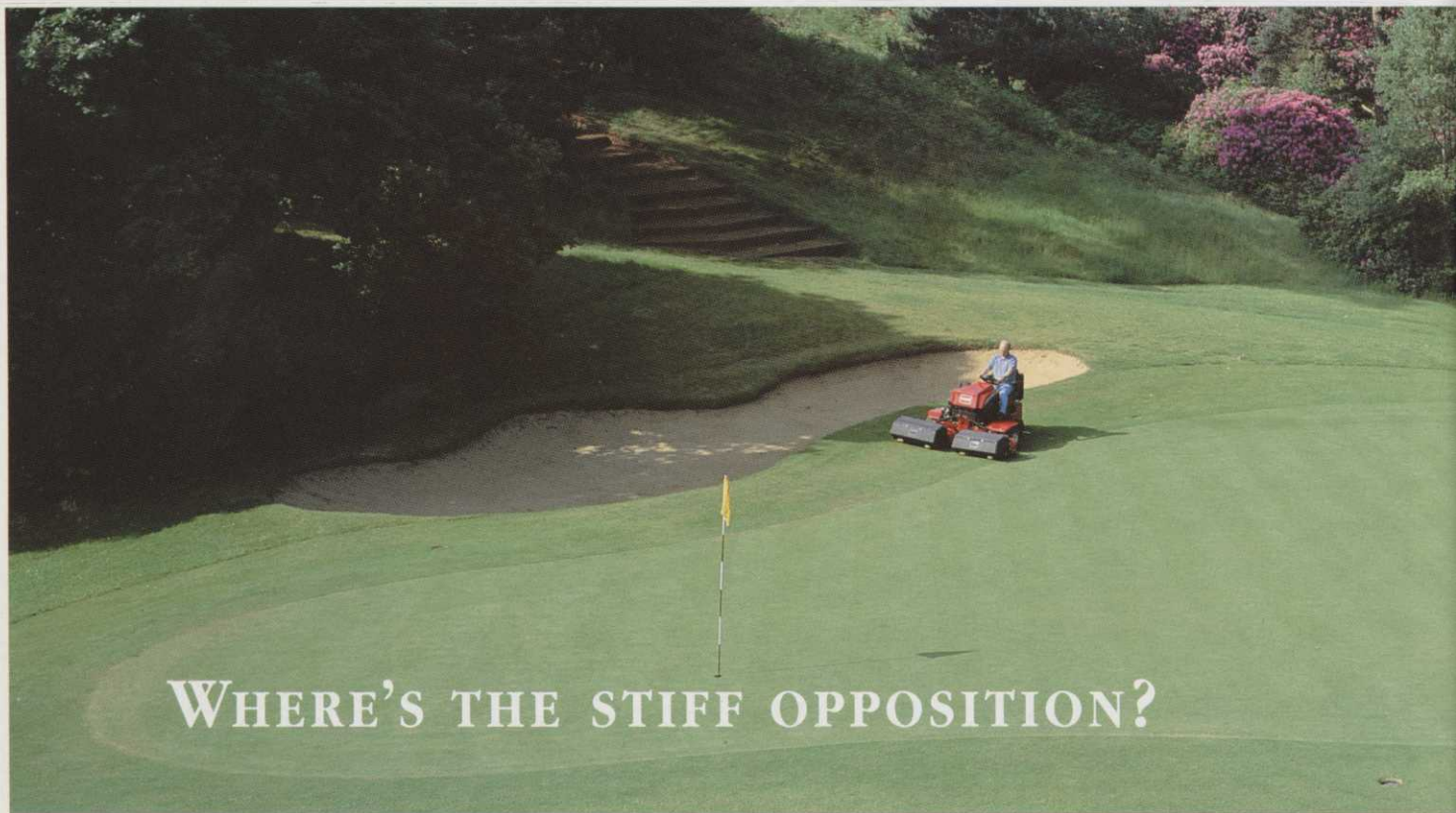


John Wells, course manager

tion in 1991, has required a lot of hard work. This has been carried out by a highly motivated greenstaff of 10. Staff training and welfare come very high on John's list of priorities. As course manager John feels the club's best

asset is a greenstaff with pride in their work. All the staff are encouraged to play golf and are all members of BIGGA. This is paid by the club, out of the training budget, and time is given off to attend lectures and golf tournaments. All Brocket Hall staff are trained to provide a service where nothing is too much trouble.

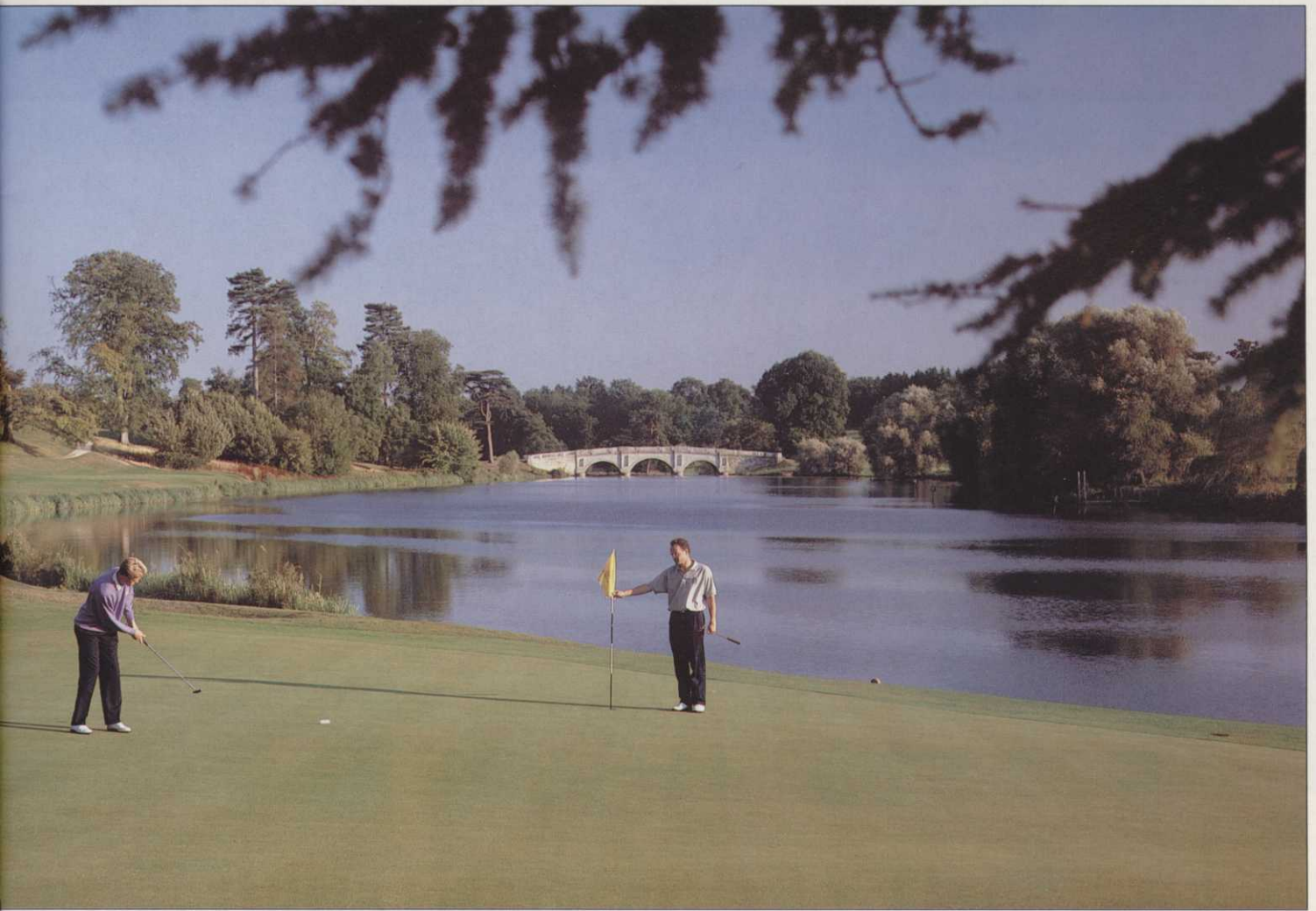
From a 1991 construction, the course opened in June 1992. This didn't leave much time for the course to grow in and iron out any small problems. One of the early problems was poorly draining bunkers - now they have all been drained and complement the free-draining greens. The greens are built with a 12-inch layer of 90% Kingsley washed sand and 10% fensoil which overlay 2 inches



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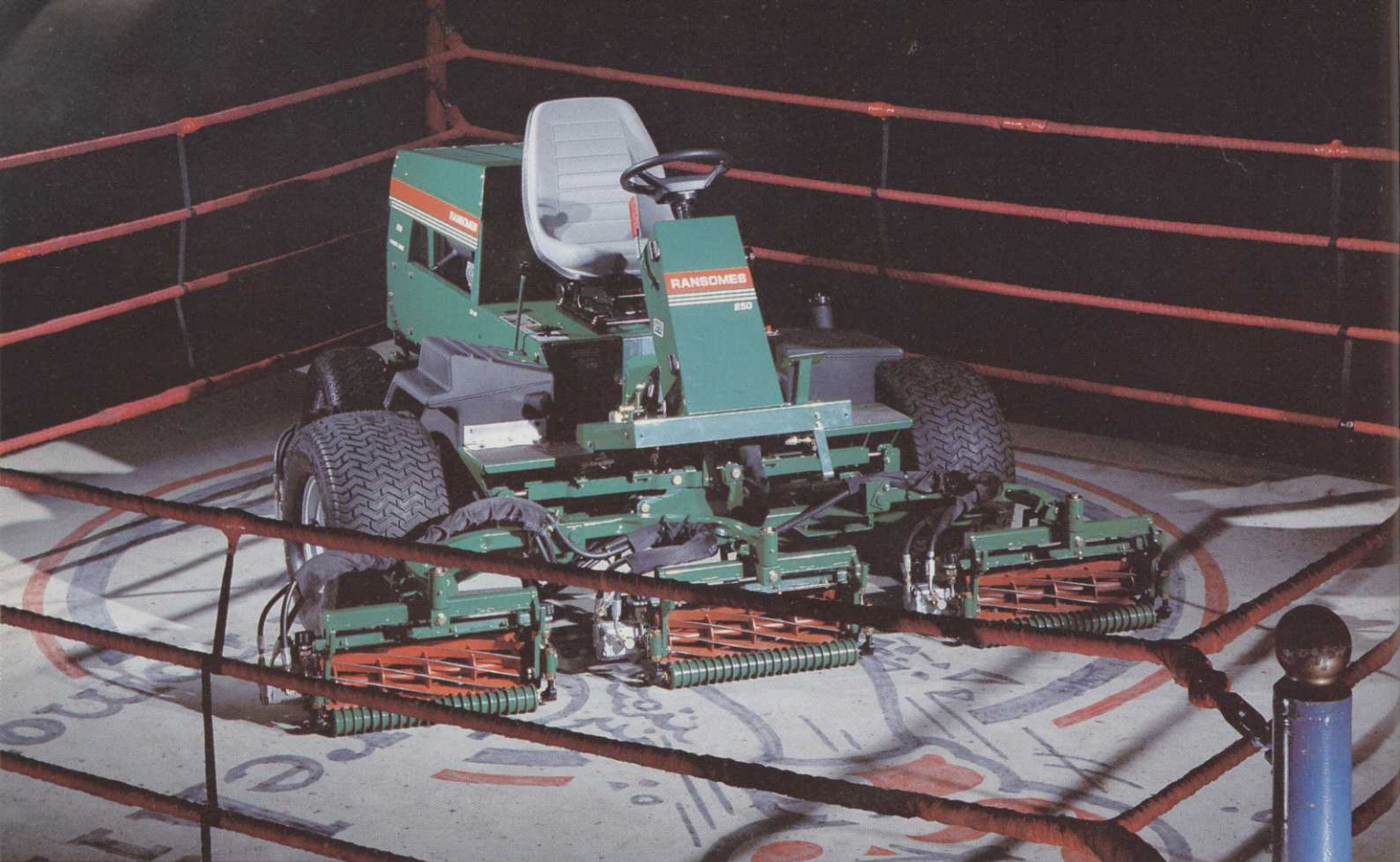


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HISTORY IN THE MAKING

of sharp sand and a 4-inch layer of pea gravel (10mm in size), with a draining system set into the subsoil. The grasses sown in construction were 80% fescue split between 60% chewing fescue, 20% slender creeping red fescue and 20% browntop bent. After three years, the total fescue is now 60%, the bent 30% and the other 10% is *Poa*. "This is my biggest disappointment on the course," says 35 year-old John.

The greens are contoured to shed water and have never held surface water in the three years since construction. They are firm and true 12 months of the year, which has enabled the course to stay open every day since the opening, apart from a fall of snow.

Although all the course requires a great deal of attention, the greens are the most important to John. A careful maintenance programme is carried out throughout the year. Spring maintenance starts in early March with a feed of 4-0-8 + 2FE 2MG 35g/m². A total of six feeds are used throughout the year, finishing with a late autumn feed being the most important on such high sand content greens. Totals for the year are between 200-250 kg/hectare of N 20-30 kg/H



of P and 180-200 kg/H of K. Feeding is based on mini granule slow release methylene urea, and some summer liquid feeds of urea. "It is important to feed at the right time, and rate, to keep the grass healthy and to protect from wear. On sand more damage is caused from under feeding than over," said John. "This is also true with watering."

To control the build up of fibre, John advocates light grooming and occasional verti-cutting throughout the growing season. Aeration is in the form of solid tining at the start of

every month, alternating between 3/8in tines at a depth of 1 1/2ins and 1/2in solid at a depth of 3ins. At the beginning of October, hollow tining is carried out with 5/8 tines to a depth of 2ins. In between the tining programme, light sorrel rollers are used to keep the surface open. Because of the good quality sand used in construction there are no signs of compaction. No slit tining is carried out because a slit in sand will just close up after the next cut.

Top dressing is applied from March to

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October inclusive with the Kingsley washed sand straight after the solid tining (100 tons per year).

The rootzone is kept moist at all times, to guard against dry patch, and regular use of wetting agents from early March also helps.

Adjusting to sand-based greens was a novelty for John, as the principles of feeding and watering them were so completely different after 12 years of tending soil-based greens. But he must be getting it fairly right as in the three years since the course opened, only one application of fungicides has been used, to control fusarium patch. That was applied in October of last year.

As we completed our tour of the course and took in the view of the 18th 'Broadwater' hole – a vista framed by trees falling away to the Hall below with the lake just visible between – John concluded with this thought: "People think that sand-based greens are expensive to maintain because the cost of fertiliser is more, however the saving on fungicides and the lower cost of sand dressing makes the costs comparable. The major benefit to any club of sand-based greens is the 12 months play a year on smooth, firm, green surfaces."



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PRIME CUTS

Hugh Tilley looks at ways of achieving mower sharpness, to deliver the cut you need.

There is no dispute that cutting fine turf needs a sharp, well adjusted cylinder mower. However, when it comes to sharpening and adjusting the cylinder there are a number of opinions which seem to vary by manufacturer, nor are greenkeepers unknown to have strong views on how their machines should be set up.

It seems surprising that no research has been done into this critical area of greens maintenance or, if it has been, it is not known about. The original 'lawnmower' design comes from machines built to trim the nap of carpets, however there are fundamental differences between cutting wool in factory conditions and cutting grass (often with sand and soil) in radically different conditions.

Assuming that the shearing principle is the most ideal for cutting fine turf, and this may be debated, then several parameters are immediately set. It also begs a number of questions such as whether it is best to single blade grind or spin grind, what (if any) relief

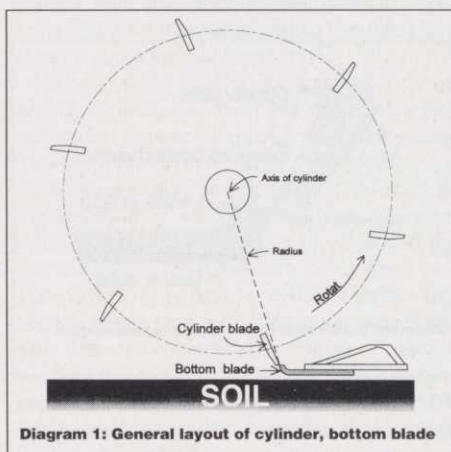


Diagram 1: General layout of cylinder, bottom blade

angle to grind and is there a place for backlapping? Arguments such as whether to in-situ or out of frame grind add to the confusion. Changes in recent years with more precise grinding means that spin grinding is now acceptable without any real need for backlapping or need to bed bottom blade and cylinder in together.

Having talked to a number of manufacturers of both mower and grinding machines it is

obvious that a definitive answer need not be specific, and what is all important is what works in the field, in field conditions. Less disputed is the means of testing for sharpness, the usual method being to use a bit of thin paper (occasionally even a blade of grass) – perhaps not very scientific, but nevertheless effective. Some people (manufacturers) suggest there should be clearance between cylinder and bottom blades – a few thousandths of an inch, but most people find it more practical to adjust the blades to give the lightest possible touch.

Perhaps the first step in resolving some of these arguments is to get a clear understanding of the terms and geometry of cutting – not everyone is very clear of these and there is some ambiguity over how relief angles are measured.

Diagram 1, which is representative rather than typical, shows a general arrangement of bottom blade and cylinder – a fine turf mower has a much thinner bottom blade simply to enable it to cut exceptionally close to the ground. Each manufacturer has his own design in which the relationship between cylinder blades and the axis, and between axis and the bottom blade, varies. None sug-

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PRIME CUTS

gest any formula for these, but perhaps this is because the designs have been proven over time, or perhaps (more likely) there is some latitude in such relationships.

While the need to have sharp shear edges is obvious, the need for having any relief may not be. Relief angles are often described as the angle by which a blade edge slopes back from 'square' – but what is square? With cylinders this usually actually means the angle between a tangent to the cylinder radius and this is not the same as square to the blade because these are not radial (see diagram 2). One advantage of a large relief angle is that it allows backlapping to be carried out between re-grinds with the minimum of increase in the metal-to-metal contact area and in power consumption. More complex to assess is the best relief angle to grind onto the bottom blade as this depends on its relationship to the cylinder axis. If the cylinder leads the bottom blade (assuming it is horizontal) by a significant distance – ie its axis is well in front of the bottom blade – then a relief angle may be unnecessary. The less the lead, the greater the angle needed. This is highly academic when what is important is how cleanly and easily the machine cuts, in simple terms

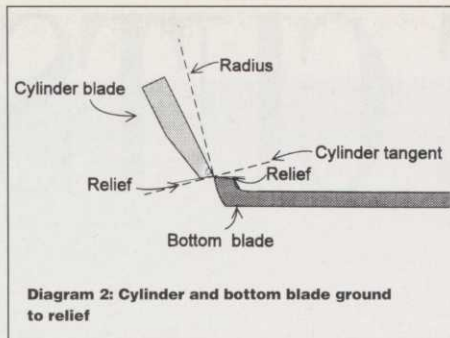


Diagram 2: Cylinder and bottom blade ground to relief

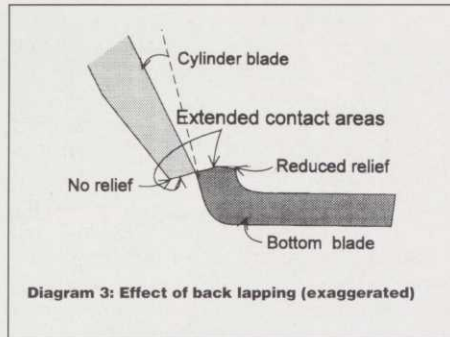


Diagram 3: Effect of back lapping (exaggerated)

the aim is to minimise metal-to-metal contact and provide adequate clearance behind the cut point.

The ideal situation is a single line contact – or even a clearance (max .004ins) – so that there is virtually no drag due to blades in contact, ie as in diagram 2. Large angles can only be achieved by grinding blades individually. However, if little or no relief is required on the cylinder blades then it is possible to grind these to a true cylinder – American practice is changing away from single blade grinding to spin grinding and no relief. Atterton & Ellis

claim their machines impart a 4-5deg relief because of the way their grinding wheel cuts in from the back of the blade – and this is probably true of others where grinder and cylinder rotate at different speeds but in the same direction. The maximum angle which can be cut with single blade grinding will depend on the closeness of the blades around the cylinder, however greater angles should not be advantageous for fine turf mowing. This is probably the crux of the matter, cylinder blade relief is possibly more valuable, and easier to apply, to mowers used for less critical turfs. In addition, not all grinders can single blade grind, manufacturers whose machines can't will say that single blade grinding is not for the golf course anyway, and in any case after blade grinding it is essential to either spin grind or backlap to ensure concentricity – an unwelcome second operation.

In-situ versus out-of-frame grinding may also be largely a theoretical argument, however there is the significant advantage with in-situ grinding of not having to remove the cylinder from the machine. The advantage of grinding a cylinder in its own bearings and frame should be a red herring – assuming that both are sound and true – and there is no



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'How often sharpening is required depends on several factors, such as the amount of sand on the leaf, weather, cylinder adjustment, volume of work and the greenkeeper's definition of a good clean cut'

way it will be cut true, sharpened in or out of frame, if they are not. Not all cylinder grinders can undertake in-frame grinding easily, if at all.

The argument on grinding bottom blades is not the same, and of course they have to be removed, nevertheless the frame and stiffener must be seen as an integral part of the blade with 'trueness' applied to the complete unit.

So what is the place of backlapping? Firstly, it is the cheapest, simplest and perhaps quickest means of sharpening a cylinder mower on most golf courses – using grinding paste and running the cylinder in reverse and many courses do it as a weekly routine. What this does is shown in exaggerated form in diagram 3, with both cylinder and bottom blades being 'sharpened' to produce an extended metal-to-metal contact area, and a considerably greater power demand. Obviously no greenkeeper would let his machines get to this state. Best practice must be to use backlapping for no more than honing the shear edges, using no more pressure and paste than are necessary. This way there should be little difference between the life of a bottom blade whether it is backlapped or ground, however in practice backlapped edges with greater

contact area, and often greater pressure, generate heat and distortion and so become blunt faster – and a vicious circle starts.

Some courses seldom backlap but rely on regular grinds, for them grinding particular pedestrian mowers is quicker and easier than backlapping. How often sharpening is required depends on several factors, such as the amount of sand on the leaf, weather, cylinder adjustment, volume of work and the greenkeeper's definition of a good clean cut. The advent of hydraulic cylinder drives has been a major spur to backlapping, but it has also led to considerable abuse – simply because it is too easy to do, not that manufacturers complain, it leads to extra blade sales. Some machines have a special backlapping facility giving high torque at a slower speed, not just simple reverse drive.

Another disagreement between makers is over whether it is best to adjust the cylinder to the bottom blade or blade to cylinder, and how to do this. While there are significant differences in theory, in practice this is minimised as the all-important adjustment is height – in essence the relationship between the rollers and bottom blade. More important in practice may well be the ease of removing

or changing the cylinder – and resetting it. The form of adjusting also has a theoretical effect on relief angles, for instance where either cylinder or bottom blade pivot, however few if anyone takes note of this although it can make several degrees of difference.

As to the economics of grinding, this is complicated by the circumstances of each club, the sharpness demanded, the abrasiveness of the soil on the grass, the number and type of equipment used and staffing. However with sharpening required probably at least twice a year and costing say £2 per inch, and most golf courses having at least 400 inches of cut, then sending mowing cylinders off-site is likely to cost over £800 a year. Additional factors include the cost of having spare machines while others are off-site being sharpened, possible reduced bottom blade wear and perhaps improved overall sharpness. Having spoken to several greenkeepers who do their own sharpening, the suggestion is that the repayment period is only two or three years, shorter than they first envisaged, while the service and sharpness is significantly better. Of course these clubs have a full-time mechanic – and this puts an additional dimension on the argument.

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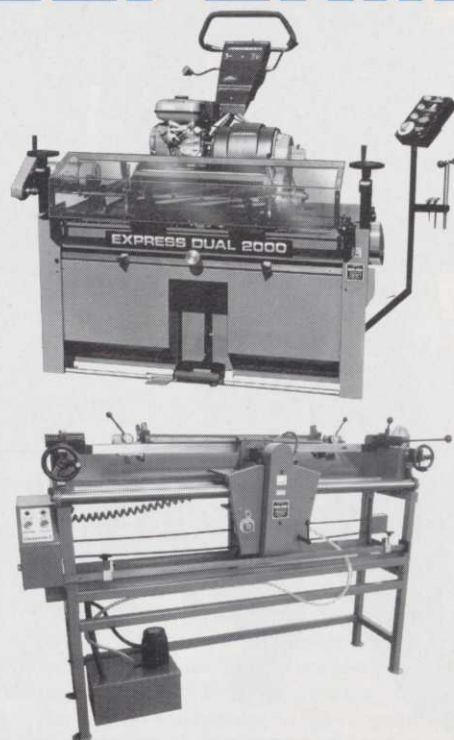
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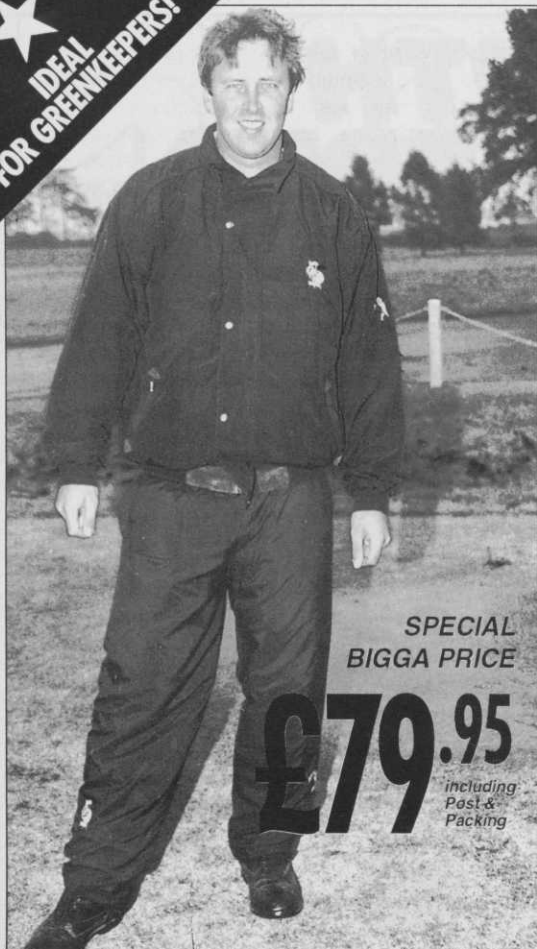
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Around the Green

Keeping in touch with news and comment from the regions

MID ANGLIA

Next month sees our first golf fixture of the year at Royston Golf Club, April 25. This will be, as normal, the qualifying event for the Hayter-Beaver competition. Entries should be sent on the appropriate form to our new fixtures secretary, Richard Saunders, and not to Chris Brook. Richard's address is 55 Leys Road, St Neots, Huntingdon, Cambs PE19 1EP. Please enclose a cheque for £20.

Six people attended our all-day safe-lifting course at the Family Golf Centre. Several people turned up in the afternoon, as they thought it was the usual format of an afternoon talk. Our apologies to these people, as it was not shown in the fixture card that it was an all-day course. Next year we will try to get more details of events in the fixture card so this does not happen again.

The National Education Conference at Harrogate was a complete success, with varied topics and good speakers, particularly from overseas, ie America and Sweden. The show itself went well although it was disappointing to learn that the English Golf Union is backing an alternative event to be held in London. The general feeling among greenkeepers is one of complete support for the existing event at Harrogate. It was great once again to see so many representatives of the Mid Anglia Section attending, although we could have had a bit more support during the snowball fight which took place at 2am on the Thursday morning against the London section.

PAUL LOCKETT

EAST OF ENGLAND

Our fixture list for 1995 is nearly complete, and looks like this:

May 18 – PGM Trophy at Elton Furze GC; June 6 – Purdeys Trophy/Hayter qualifier at Sandilands GC; August 23 – Rigby Taylor Trophy at Carholme GC; September 28 – Lambs Trophy/Rhône-Poulenc Prize at Spaldings GC; October 10 – Secretaries Association v BIGGA East of England at Sleaford.

Our winter education seminar at Kenwick Park (Louth) was given by John Hacker of PSD Agronomy Ltd. This first-class talk on grasses, irrigation and course presentation was enjoyed by all who attended. I expected about ten to 12 members if we were lucky, but in fact 30 attended (not bad for our small section). Our thanks go to Kenwick Park and Ian Morton for allowing us the use of the club facilities.

I heard recently Don Dykes of Carholme GC in Lincoln is to retire in June after 25 years at the club. I am sure he will be missed, but I hope he can attend our days out, especially the golfing day at Carholme in August.

GRAEME MACDONALD

SOUTH WEST AND WALES REGION

What a winter wonderland our trip to the BTME at Harrogate turned out to be. We started off in dry weather conditions which was a pleasant change for our part of the world, even the sun shone in places. After one initial hiccup where

EVENTS DIARY

April 26: Westurf, Long Ashton GC, Bristol

May 9: Drainage '95, Rockingham Castle Estate, Market Harborough, Leics. Tel: 01604 499662

June 21: South Turf, Motpur Park, South West London

July 20-23: The Open Championship, St Andrews

July 31-August 2: National Tournament, St Annes Old Links Golf Club, Lytham

September 13-14: Hayter Challenge Tournament Final, West Lancashire Golf Club, Blundellsands

our friends from the farthest point south nearly missed the coach – through no fault of their own, I might add – we sallied up to the Fatherland, one minute's silence was respected. For the first evening, the Leeds v QPR match was on the agenda, and this set the tone for the week when Leeds won 4-0.

What an exhibition! Better than ever and that's hard to imagine. There is an incredible, almost family atmosphere at Harrogate. Viscount Whitelaw made a point of hoping that it would continue, and that BIGGA was good for golf and golf clubs. The turnout was excellent, and the organisers made sure of continued attendance by having all roads leading from the town closed – due to adverse weather conditions, they said. Seriously though, we were snowed in and could possibly have been home sometime in February.

The seminar programme was the only area which many felt could be improved. It was suggested that maybe we should have the National Education Conference and the exhibition as one, and return to workshops on Monday and Tuesday. This would improve the quality of the seminars even more.

Nothing however could dampen the enthusiasm on the journey home, not even drifting snow and rain. All the talk was about the trip for 1996, a gratifying feeling for those who organise it all. Let us know if you would like to come with us. Get your name down on our list now. This trip and the conditions for some greenkeepers was a new experience, so please book early. Tel: 01803 844056.

MARION CHILD

MIDLAND

The first winter seminar – held at Walsall GC – saw 33 members turn up for talks by Mark Radford of ET Breakwell and Graham Francis of TTL. We would like to thank them both for their talks, and Walsall GC for the use of the club-house.

The second winter lecture is to be held at Telford Golf and Country Club on March 31 at 2pm. The speakers will be Andy Cole of the STRI and Peter Jefford of Rufford Top Dressings.

The golf fixtures for 1995 are as follows: Spring Tournament/Hayter Qualifier – Kenilworth GC, April 26; Summer Tournament – The Warwickshire, August 27; Autumn Tournament – Maxstoke Park GC, September 25; Christmas

Tournament/AGM – Worfield GC, December 7.

Fixture list and entrance details will be posted to you as soon as possible.

I would like to welcome the following new members: Darren Hardy, David Farmer, James Cowson and Gordon Smith.

Leaving the best till last, I would like to thank my staff for all their suggestions for the magazine – unfortunately they could not be used in Greenkeeper International, perhaps the Sunday Sport!

Finally, if anybody wishes to contact me, my address is: 14 Croft Close, Winyates West, Redditch, Worcs B98 0JT. Tel: 01564 833563 (work) or 01527 524217 (home).

KIM BLAKE

SOUTH WALES

The Pyle & Kenfig GC played host, as is the norm now, to our winter competition and AGM. Although numbers were down on last year, some 40 hardened golfers braved the windy, icy-cold conditions to play over the course as they have never seen it before. For the Pyle & Kenfig GC have recently purchased the leases on the land surrounding the course and this has now allowed them (in case you hadn't noticed) to remove all of the fences that have kept the greens guarded so well for so long against both sheep and cattle. An enormous difference and a great improvement, congratulations!

Congratulations also go to Paul Robinson and his merry team for the condition of the course. It was so refreshing to see so many new members and so many members present from Dyfed. In fact it was the new members who took the honours: Winner of the winter competition and Vitax Shield – John Borge from the Vale of Glamorgan GC; 2, Graham Lowe of Glyn Abbey GC; 3, David Gladwin from Carmarthen GC; longest drive – Huw Thomas, formerly of Pontardawe GC; nearest the pin – Gerwyn Price, who seems to be on a roll for he also recently won £600 worth of holiday vouchers in a BIGGA competition.

Our AGM followed the golf and attracted 50 members. The meeting went relatively smoothly taking only 50 minutes and for this we have to thank our chairman, Idwal Morris. New officers are Douge Donne and David Ward who replace the retiring Dennis Archer and Les Hallett.

Our sincere thanks to all at the Pyle & Kenfig GC for allowing us courtesy of the course for this annual event, but especially their captain, Glyn Charles for his kind words during his presentations, Roger Thomas, the secretary, and Don Booth, the chairman whose company I sincerely enjoyed throughout the whole day. I would also like to thank Pat Coombes and her catering staff for what can only be described as a superb Christmas dinner and, most importantly, our sponsors. Our main sponsors were Vitax with Celtic Mowers sponsoring the longest drive and nearest the pin competitions.

There was a good attendance of over 30 for health and safety adviser Richard Monk's lecture

at Pencoed College. His paper outlining recent updates in the Health and Safety at Work Act provided a good, informative evening for all.

Congratulations are in order, firstly to Mr and Mrs Malcolm Rees, owner of Power Cut of Carmarthen, on the birth of their 9lb 5oz daughter Deanne, and secondly to Huw Thomas, formerly of Pontardawe GC, on his appointment as sales rep of RS Birds Ltd. Huw took up his position on January 23. We wish him well with his new career and I'm sure we'll be seeing a lot more of him. Jamie Probert, 22, is the new head greenkeeper of Pontardawe. Well done!

It is with great sadness that I have to inform you of two tragic events. On January 8 John Walsh, a former head greenkeeper at Southern-down GC who learned his trade at nearby Royal Portcawl GC, passed away. John was only 36 and retired from greenkeeping five years ago due to ill health. He fought a long and hard battle against cancer, was well known locally and well respected. On January 14 Christopher Thomas was killed by a train only yards from his house. He was only 20, a student at Pencoed College and an assistant greenkeeper at South-ern-down.

Dates for your diary: Wednesday April 5 – South Wales annual seminar, Mechanisation on the Golf Course, at St Mary's GC, Bridgend; Wednesday April 26 – Westurf, Long Ashton, Bristol.

You should all have received a 1995 fixture card, sponsored by Tacit. If you haven't or need a replacement, please contact me.

PETER LACEY

BUCKS, BERKS AND OXON

Firstly my apologies for the lack of reports during January and February, but the section was fairly quiet and there was no juicy gossip to write about.

One golfing event that did take place was the Turkey Trot, followed by the AGM. This was held at Mapledurham GC near Reading. The format, again, was a Texas scramble. Results: 1, G Walsh, R Lucas, A Cooper; 2, D Childs, D Goodchild, T French; 3, P Reeve, G Patient, B Wall. Thanks to Lachlan Morrison and staff for preparing the course under difficult weather conditions. Thanks also to the catering staff for a splendid meal afterwards.

Two football matches have taken place recently – and once again Berks beat Bucks (6-5) with man of the match Chris Saunders scoring a hat-trick. In the second match Berks/Bucks greenkeepers beat Ellesborough golfers (7-4). Poor old Dale Childs got knobbed and had to come off. Apparently the team played better with Dave sidelined! Man of the match was Gareth Austin (a rock at the back). Once again anybody wanting to represent Oxon phone me on 01491 578147.

The next golfing event is the Spring Tournament at Beaconsfield GC on April 5. This is an 18-hole event to be played in the afternoon. It is also the Hayter qualifier so there is lots to play for. The invitations will be posted along with the season's fixture card.

LINDSAY ANDERSON

SOUTH WEST

Having just returned from the 1995 BTME at Harrogate, I would like to say what a very worthwhile visit it turned out to be in many respects. There were the educational seminars on many relevant topics from budgeting and finance to health and safety, to turf grass trends, all of which proved very informative.

Around the Green



The trade exhibition, held at the same time, was larger than in any previous year and gave greenkeepers the opportunity to view new machinery and discuss relevant issues with company representatives. Lastly, but just as importantly, there was the opportunity to socialise with fellow members both during the stay and whilst on the coach. Thanks go to Gordon and Marion Child for their excellent organisation which led to a very enjoyable week. To anyone still undecided about the trip I can strongly recommend it for 1996 and, at a greatly subsidised price thanks to funding from Westurf, what more incentive is needed?

Whilst on the subject of Westurf, may I remind you that this year's event takes place on April 26 at Long Ashton GC, Bristol. Help is always useful and anyone able to assist in its organisation, before, during and after the show should contact me on 0117 9793127. The popularity of this event increases yearly with exhibitors and visitors alike, but it needs your continued support through the gates to maintain this, so remember the date and come rain or shine, be there!

By now every member will have received a fixture card for 1995, once again provided by TH White, Tetbury. Thanks to Pat Smith for organising these and to TH White for their continued support of the section.

Regarding fixtures, the next section event will take place at Bowood Golf and Country Club on Thursday April 6 and not Monday April 17 as stated on the fixture card. This event, sponsored by Hayter, is the section qualifier for the Hayter Challenge tournament.

There has been more interest in first aid and chainsaw courses in the past few months. If anyone would like to continue the trend, please contact me.

Finally, congratulations to regional board officer Robin Greaves who recently took up a position on the National Board.

KEVIN GREEN

NORTH SCOTLAND

Grantown-on-Spey assistant Neil Sadler is the latest addition to the North Section membership. Keep them coming!

We are running the 200 Club again this year, so please support your section by purchasing a ticket and maybe selling one to someone. This is the major fundraiser for the section and helps to keep outings and other events cheaper for the members.

Two items of note concerning the section to report this month. First up is the announcement that Nairn GC will host the Walker Cup in 1999. This is due to all the hard work put in by a lot of people at Nairn in producing a superb facility and to head greenkeeper Ian Carson who, along with his staff, have made the course one of the finest in the land with consistently superb greens. Well done to all at Nairn. Secondly, for the first time in 37 years the Scottish Golf Union president is a North man, George Gormley, a former captain of Moray GC. The North Section

welcome this appointment and look forward to closer ties between the SGU and BIGGA, which can only be good for all.

Harrogate '95 was a great event as ever. This was my first National Education Conference and I would certainly attend again, but the general feeling from the section is a return to the workshops next year. The exhibition was first-class and the seminars very enlightening. As to my own talk, it was fine for me, how was it for you? One of my highlights of the week, apart from meeting old friends, was the hastily arranged 'Burns Night' on the Wednesday. Next year I will bring my kilt if there is a repeat. Thanks to Cecil, Jimmy and Harry for their organisation at such short notice. Thanks also to the FA Premier League for arranging a Leeds home game during the week so that I could take a few lads along to see my idols! Roll on next year!

Finally, I know of two or three qualified greenkeepers looking for employment, so if anyone has a vacancy they should get in touch with me on 01862 894402 and I will pass on the information. These are lads who, at the time of writing, are out of work after finishing their college education.



IAIN MACLEOD

NORTH WEST ENGLAND

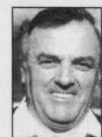
The BTME at Harrogate was once again a great success with all the halls full to capacity with exhibitors. It is hoped that the companies which exhibit at Harrogate will continue to do so in future. The EGU, it appears, will be supporting the P&O show at Olympia in 1996, after a change of mind, but this does not necessarily mean that others will follow suit. Speaking to many companies at Harrogate, they feel that BTME has a personal touch that does not exist anywhere else, and I totally agree.

Whilst at the BTME I met Andy Peel, a former N/W section member who moved to Bull Bay GC in Anglesey, and he asked me to inform his old mates that he now has a son, William, born November 22. Congratulations to Andy and Sarah.

Chris Haspel is returning to greenkeeping this month. Chris, who has worked for Richard Campey for the last couple of years after leaving Oaklands GC, is moving to an 18-hole golf course in Denmark as head greenkeeper and his wife Kay will also be involved with the business organising golf holiday packages etc. Good luck in your new venture.

This year's regional seminar will be at The Tytherington Club on Thursday March 16, so if you have forgotten please ring me and I will fit you in.

The Spring Tournament is at Wilmslow GC on Thursday April 13. This tournament is also a qualifier for the Hayter Regional Final. Entries, including £10 deposit, must be in by Saturday April 8. Send them to: Paul Pearse, 1 Swan Close, Poynton, Stockport, Cheshire SK12 1HX. Proper dress is essential both on the course and in the clubhouse. The N/W v N/Wales clash of the titans is at Northop GC on Tuesday May 2,



tee-off 1.30pm. I require a team dedicated to winning (and enjoying a good day out), so if you fit the description ring me on 0151 7245412.

BERT CROSS

CLEVELAND

The new 9-hole course at Hallgarth Golf and Country Club near Darlington opens for play on

May 15. This pay and play course will be open to everyone. By the time it opens £200,000 will have been spent on it.

New tees have been added, three greens have been relaid, six bunkers have been added, and the lake around the 5th enhanced. A new drainage system has also been installed because of the potential for flooding.

Welcome to new member John Ball from Castle Eden GC. Two new committee members are Ian Pemberton of Bedale GC and Chris Fiddell of Billingham GC. Middlesborough Municipal have obtained BS5750. Congratulations to Ian Holloran and his team.

The quiz between Cleveland BIGGA and Teeside IoG at Durham was excellent, resulting in a good win by Cleveland led by Kevin Heslop from Brancepeth GC. Thanks to Terry Charlton and Barry Clennell and all the staff from sponsors Turfcare of Leadgate, Co Durham.

The Spring Tournament at Wear-side GC, Sunderland, is on April 27. BRUCE BURNELL



LONDON

I would like to thank the GTC for organising the effective speaking course that was held at Porters Park GC. The two-day course was conducted by Frank Newberry and was extremely informative and beneficial. I would like to thank Frank for all his help and congratulate Jim Cassidy for his presentation at this year's BTME. It was evident that Jim had understood Frank's training concepts and it was a pleasure to see Jim (The Axeman) perform so well.

It was nice to see such a good turnout from the London Section at this year's show. The quality of speakers at the conference was excellent and the evening entertainment was equally good. The weather turned very cold midweek and the heavy snow that fell caused quite a few problems for the town centre. The main one being no taxis to the nightclubs! The music pumped well into the early hours at Jimmies Bar and was the haunt for many a greenkeeper. A good snowball fight occurred after the Wednesday night visit and I don't know if the London Section beat the Mid-Anglia Section, so it will have to be decided at this year's annual golf team challenge.

The week was excellent and the company even better so make a date for next year and I will hope to see you all there.

Finally, I would like to say that all the golf venues for 1995 have been set and we are looking forward now to 1996 and 97. If anyone can help in finding a venue, then please contact Don Wilson on 0181 4490541. TONY DUNSTAN



SURREY

Firstly, a thank-you to Ian Kerry from the Surrey members who took advantage of the coach to BTME, which Ian kindly supplied. It was much appreciated. Also a thank-you to Watermation for supplying one of their engineers for our second winter lecture, held at Walton Heath Artisans Club. Thanks also go to Clive Osgood for his organisation of this event.

Looking forward to the coming golf season, the first of our events being the Spring Tournament at Blackmoor GC on May 4. I hope the event will be well attended. By now you should have received the Huxley Bowl entry forms. Be sure to return entries before the closing date to avoid disappointment. On June 6 Kingswood GC

Around the Green



will play host to the Cresta Cup. DAVID GIBBS

DEVON AND CORNWALL

Hopefully you will find this report under the right section's heading as I have been known to forget which section I belong to!

Just over 50 members attended our first meeting of the new year, which was our section seminar held once again at the superb venue of Fingle Glen. Only a dozen members took to the course for the morning's Zeneca Challenge competition which was played over the well prepared 9-hole course.

As usual, the trade supported the section by taking up stands in the reception area which proved very successful once again. Our thanks to Avoncrop, Barenbrug, Devon Garden Machinery, Fisons, PJ Flegg, MST, Rigby Taylor, Roffeys, Vitax and Willcocks for taking trade stands.

After an excellent lunch, Richard Minton of Zeneca presented the golf prizes to: T Gooch (Torington) 21pts; C Rawlings (Padbrook) 19pts; E Barber (Teign Valley) 16pts.

Our afternoon seminar was held in the Zeneca sponsored conference room, with members being treated to two excellent papers – Jim Arthur on 'Grass Identification' and Jenny Rolph on 'Dealing with pressure at work'.

Question time finished the afternoon programme which was of great educational value to all who attended. Our thanks to Jim Arthur and Jenny Rolph for their papers, to Bill Pile, Fingle's course manager, and his staff who made our day so successful, and to Zeneca and the other companies which sponsored the day.

On behalf of all the section members who took advantage of this year's regional package to BTME at Harrogate, I would like to thank Gordon and Marion Child for once again organising a superb educational trip. I would like to hear your views on the package you would like to see the region arrange for next year.

Members, please note our last meeting of the season will be held at Mullion on Wednesday March 22. This will also be our Hayter qualifier so please make sure your entries are returned to me with correct monies by the closing date.

Your help is needed to promote this year's Westurf Trade Show on Wednesday April 26 at Long Ashton GC, Bristol. Many of you will know groundsmen and committee members of your local sports clubs, so why not invite them to the show? Anyone in the turf care industry will be most welcome. We also need your support at Westurf so I look forward to meeting you all on our stand. RICHARD WHYMAN

AYRSHIRE

Our AGM saw the end of Derek Wilson's two-year reign as chairman. Derek reflected on the continuing rise in our membership and the renewed interest in attending not only the golf outings but also other aspects of section business such as the STRI day at Ayr College and the AGM. He then invited new chairman Ian McNab

from Dunfries and County GC to take over the chair. Ian thanked Derek on behalf of the section for his efforts of the past two years, then spoke about his hopes for his term of office, particularly in the field of more training lectures during the winter and better communication with our members within our very spread-out area.

We had a tenpin bowling night at Saltcoats for the Christmas get-together and although the turnout wasn't what we hoped for, everyone enjoyed it. The winner was myself, just scraping home from Harry 'What are these holes for?' Diamond, with several others just behind. This was great entertainment, with fabulous prizes, so don't miss the next one.

An excellent turnout of over 70 greenkeepers and club officials attended our STRI day at Ayr College and certainly got their money's worth as the talks were well presented, informative, and sometimes contentious, which certainly got the questions flowing. Although not agreeing with many of the points made by the speakers, it still made for a very good day.

I've just returned from the BTME and, as usual, thoroughly enjoyed it, with the only reservation being the lack of choice at the meals on Sunday and Monday nights. Thanks again though to all those involved in the organisation and here's hoping it continues for many years to come.

Our spring outing this year is a first-time visit to Kirkcudbright GC, a fine 18-hole parkland course on the Salway Firth with some great views if you're not playing well. Details will be out shortly, so let's have a good turnout. DUNCAN GRAY

NORTHERN REGION

Having just returned from Harrogate, I would like to take this opportunity to thank everyone from the Northern Region for their help on the regional stand and also door duty. Special mention must be given to David Milbourn, Andy Smith and Mick Hannam who 'mucked in' when I was struggling to find staff due to the weather.

The regional stand proved very popular as a meeting point and also for our patrons to meet members. It was also good to see David Hannam over from Switzerland and Alan 'Lofty' Lofthouse who is returning from exile to work at Fixby.

International relations were also fostered by the presentation of a flag from the Swedish Greenkeepers Association and also an approach from the Ontario Greenkeepers Association who are seeking to twin with our region.

Once again BTME was an excellent and very well-attended show (especially considering the weather). I look forward to seeing everyone again for many years to come in HARROGATE! BOB LUPTON

NORTHERN SECTION

The Spring Tournament is our first golf competition of the year and is also the Hayter qualifier. Any member wishing to take part should contact me as soon as possible as numbers are limited. To all new members wishing to take part it will be held at Hessel GC on April 12.

One of our sponsors, Rhône-Poulenc, has told me it will be providing fleecy jackets as nearest-the-pin prizes for all our tournaments this year. Our thanks to them.

I would like to congratulate Pat Murphy on his 25 years' service at Shipley GC. I hope they appreciate your hard work over the years! MARCUS CORDINGLEY

SHEFFIELD

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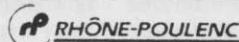
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BIGGA: BUILDING A BRIGHTER FUTURE

Around the Green



moved from his post at Brough and taken up his new job with Turf Grass Services International, the position of section correspondent has fallen to yours truly and I will try to keep members up to date with all section news. If any member has any information they want mentioning please contact me on 01405 765322. We at the Sheffield section wish Ian all the very best and thank him for all his work on the committee in the past.

At our February meeting members had the pleasure of having Neil Thomas, executive director, give a very interesting talk on BTME and the Association in the past seven years and hopefully where we are going to the year 2000. The education officer, Ken Richardson, talked about the Master Greenkeeper Certificate, Zeneca and Toro awards, BIGGA videos, the library, management courses and the N/SVQs. The attendance was quite good but could have been better.

I have spent a lot of time arranging speakers for lectures next year and have got some excellent people lined up, ie Jon Allbutt, Nick Bissett, Duncan McGilvray, John Hacker and Inturf. All the committee asks is that members support these lectures.

Congratulations go to Robert Needham on his appointment as head greenkeeper of Hickleshen GC. New members include Paul Bentley (Dere and Totley), Andrew Braithwaite (Holme Hall), Damian Kidd (Buxton and High Peak GC), James Neve (Brough GC) and Robert Townsend (Sickleholme GC).

Golf dates arranged: July 3 – National Tournament, Cavendish GC; September 25 – Autumn Tournament, Coxmoor GC.

RON ULLATHRONE

KENT

It is nice to see that the BTME is now so big that it has had to extend into a fourth hall. It took me some time to find it as it is separate from the main building, but diligent detective work and a nose for a good ale enabled me to find the Pump Room. I shall refrain from mentioning any incidents directly but suffice it to say the scope for bribery is enormous, especially amongst those hardy members, both greenkeepers and trade of the Thursday Lunch Club.

On a more serious note, I thought that the exhibition was excellent being well supported by both greenkeepers and trade alike. Let's hope that it can continue as an independent entity.

I have not as yet received any details of either future BIGGA events or news from around the region and so it only remains for me to wish everybody well with the current inclement weather and hope that by the time this appears all thought of floods etc are gone.

RICHARD PAGE

CENTRAL SCOTLAND

It is my sad duty to report that John Henderson, the only life member of the Central Section, died last month. John worked for many years at Canmore GC in Dunfermline before moving to Dunfermline GC, Crossford, where I was head greenkeeper and he became my first assistant. He remained there until his retirement in 1987.

He was a strong supporter of both SIGGA and BIGGA and until recently attended a good number of section events. He is survived by his wife, Margaret, son, daughter and four grandchildren.

On a happier note, with another successful BTME and AGM behind us we can look forward to the challenge of the golf course.

Entry forms for the Spring Tournament and

the Inter-Club Tournament (which is being reintroduced this year) should be with everyone shortly. As these events are becoming ever more popular, please return your entries as early as possible in case a limit is put on the numbers. The Spring Tournament is also the qualifying event for the Hayter Challenge Tournament. To qualify for this event a national handicap is required, so, if you don't have one, get three cards in before April 13. Due to the ever increasing numbers at our golf events, it has been decided to have an additional category, which means we now have 1st, 2nd and 3rd class sections. (With a bit of luck we might start a veteran's section, then I might stand a chance!)

While I am on about golf, here's a date for your diary: the Autumn Tournament will be held on Thursday October 12 by courtesy of Muckhart GC. Details of other section events will be circulated as soon as dates are confirmed.

Membership of the section is still on the increase and it is a pleasure to welcome Kenneth McIntosh, Kenneth Harper and James McLean as our newest members and I look forward to meeting them at some of our section events in the near future.

Following the huge success of our five-a-side football tournament last year, word is out that another section wishes to challenge us to a full 11-a-side match. (Did they have a spy at our event?) Hopefully this can be organised and if it is I will report on the outcome as soon as possible.



JOHN CRAWFORD

NORTH EAST

Firstly, I would thank Terry Charlton of Turfare for laying on the coach for BTME. It was good to see a lot of members from this section in attendance, and the feedback from them was that it was the best show yet. Again, it was good to see one of our members, Mal Lathan, at the seminars. The message is slowly getting through that these are an important factor and not to be missed.

The Spring Tournament will, we hope, be held at Newbiggin in April and the Autumn Tournament at Garesfield, but details have yet to be finalised. The autumn match against the East Lothian section will be held over the border this year and the match against Cleveland is also being played away.

Congratulations to Barry Weddell on his move from Foxton Hall to Almouth Village GC, where Willy Holden has taken early retirement.

Two new members to welcome to the section are Albert Davis and Andrew Bowes, both from Matfen Hall GC. They are currently in the process of planting 18,000 trees and shrubs, mostly hard woods such as oak, sycamore, beech, lime and some not so hard silver birch, rowan and aspen etc plus shrubs of various types. The club is expected to open 18 holes between April and May and a further 9-hole par 3 course later in the year.



JIMMY RICHARDSON

EAST MIDLANDS

Hands up all those members of the section who didn't attend this year's BTME. It really is a great show and should not be missed by anyone. Apart from the seminars and stands there is an excellent social programme with comedian Tom O'Connor and singer Linda Nolan entertaining us all in great style. Despite some awful weather, it didn't stop Dave Leatherland making the most of all the snow and coming off by far the worse in a snowball fight. On behalf of all section members who did attend, I would like to thank staff at HQ for their hard work in making this show for us.

Congratulations go to Nick Root of The Leicestershire Golf Club on completing 25 years of service. The club presented him with a gold watch.

Thanks go to Pete Jefford of Ruffords Top Dressing for his recent entertaining talk on top-dressing. Thirty-one members attended, but we still need more support from all our members. I would also like to thank Charnwood Forest GC for the use of their facilities on this evening.

This month we welcome the following new members to our section: Ian Marshall of Kirby Muxloe GC (not to be confused with the Ian Marshall of Wellingborough GC), Christian Harrison and Stephen Priestley of Branston GC and Robert Woodise of Horsley Lodge GC.

One more date for your diary is this year's AGM and Texas scramble at Kirby Muxloe GC on November 8.

ANTONY BINDLEY

SOUTH COAST

I have just got back from the 1995 BTME at Harrogate. What a splendid show this is with the opportunity to meet fellow greenkeepers from all over the world. With Tom O'Connor to entertain us at the banquet and Dr James Beard to update us on the future trends of the industry, it was a memorable event. It is now up to all of us to ensure that it remains so!

We had a good meeting at Brockenhurst Manor GC on January 12 when John Pemberton from HQ came down and gave an update on the Association. Being an afternoon meeting it was noticeable that everyone was relaxed and a lively discussion took place. Also, our February meeting at Alresford GC was very well attended and the section is to be congratulated for turning out in such poor weather. Ian McMillan gave a good talk on Hankley Common Golf Course and the conservation policies adopted there.

It has come to the committee's attention that membership cards are still being used fraudulently by non-greenkeepers to obtain courtesy of golf courses. It must be emphasised again that there is a tradition of greenkeepers being allowed courtesy of the course but this is not a right. Anyone fraudulently using a card or allowing one to be misused is putting this tradition in jeopardy. Please ensure that this does not happen.

This month sees us throwing off the winter blues and launching into the spring programme – no more peace for some time now. But we will be pausing on March 14 to enjoy the section seminar at Sparsholt College..

This year's golf fixtures will be starting soon with the Spring Tournament at Corhampton Golf Course. Please send entries early this year as we will be closing the list ten days before the event so that players can be contacted prior to the day. Send entries to new tournament organiser, Mark Webb of Alresford Golf Club, at 12 Lime Road, Alresford SO24 9LD or phone 01962 733061.

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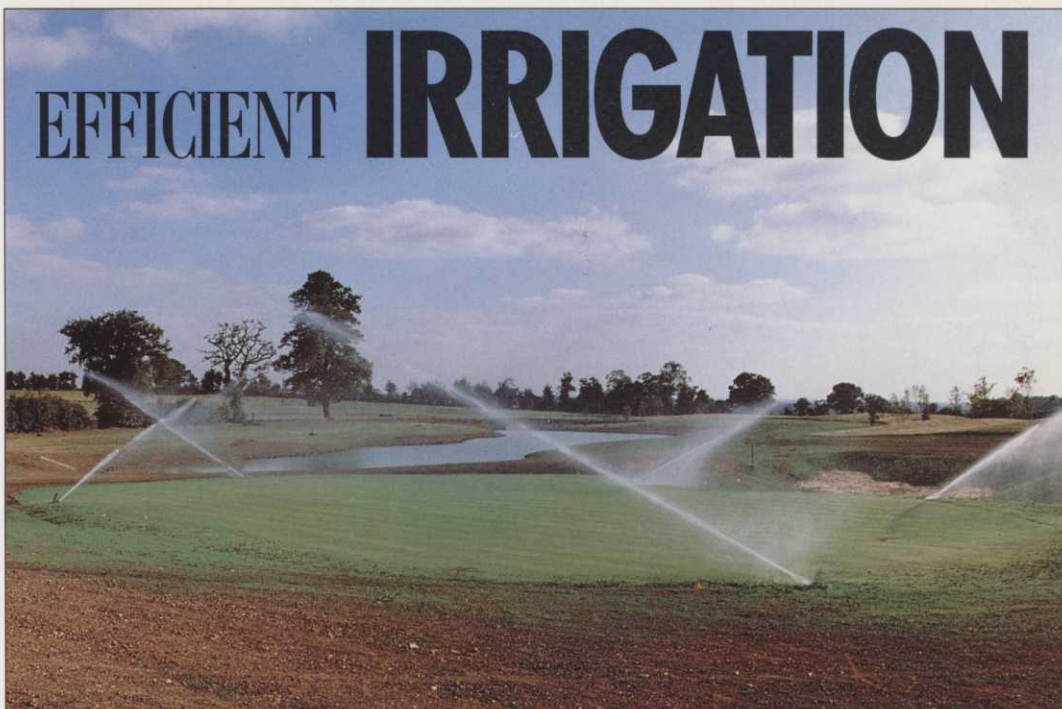
Independent consultant and chairman of the British Turf & Landscape Irrigation Association, Philip York, looks at sprinkler spacing, placement patterns and timing of operation.

The right selection and spacing of sprinklers is critical if a course's irrigation system is to be efficient. To understand that, you need to remember that a single rotating sprinkler will distribute progressively less water per square metre to its maximum radius and that is why, even if it were practical in golf, you do not see one sprinkler in the middle of the green. The problem though is often seen on tees where for misguided reasons of economy one sprinkler is positioned in the middle of a tee (there are other factors which effect the performance in this case which I will discuss later). How then do we achieve a reasonably uniform application of water?

Initially, let's take the case of two sprinklers overlapping each other. As we move them closer together to the point where the radius of one reaches the other, one can see the resulting improvement in the uniformity of coverage to a point where theoretically it is 100%. Now take four sprinklers, typically used on say a 500m² green. It is probably not difficult to imagine that within the spacing the uniformity is as near as possible to 100%. Usually, because of sprinkler design and the distance across the diagonals, 80-85% can be achieved.

Outside the spacing there is a limited distance where sufficient water will be applied for the operating times required to be the same as the area within the spacing.

If spacings are stretched (or for that matter compressed) the result will be uneven applications with the result that the operator



will have to operate the sprinklers for longer than necessary to ensure the under irrigated area receives sufficient water, therefore water will be wasted, adding to operating costs and quite probably causing agronomic problems through run off, puddling and soil saturation.

Before we move onto specific applications for golf course irrigation equipment there are further aspects which must be discussed which have a major bearing on system efficiency.

Firstly, wind. The theoretical situations I have explained so far assume a still air situation (and this is the basis of all catalogue information). If we introduce the wind factor to the single sprinkler situation more water per m² will be deposited on the windward side, therefore the more the site is exposed to strong prevailing dry winds the more the designer must take this into account. Incidentally, it is an accepted fact that the triangular spacing of sprinklers is better than square in helping to combat the effects of

A BETTER UNDERSTANDING

To promote a better understanding of golf course irrigation techniques, design and cost factors, the British Turf & Landscape Irrigation Association (BTLIA) is considering opening its membership to club secretaries and course managers.

Formed 20 years ago as a trade organisation, the BTLIA is of the opinion that individuals with an interest in irrigation – perhaps as a purchaser of a system or senior greenkeeping staff – would benefit by becoming more closely involved.

"Experience has shown that the majority of UK golf club officials, committees or managers have little idea of the deeper considerations of the use of irrigation equipment in the long term," says Philip York, BTLIA chairman. "By joining our Association they will become much

better informed. This, in turn, will assist developers, architects and golf club officials to appreciate just what they are buying, and why.

"At present, purchasers of irrigation systems are largely influenced by cost factors. Price alone should not form the ultimate decision-making process.

"Membership of the BTLIA will help golf club officials by educating them in the technicalities, finer points of design and operating costs and standards of workmanship.

"It will also help them to service, maintain and efficiently operate what is, after all, a complex investment."

For further information write to the BTLIA c/o Myerscough College, Billborrow, Preston, Lancs PR3 0YE. Tel: 01995 640611.



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wind, as there is within reason better coverage of the area equidistant between heads.

Secondly, the typical application rate of sprinklers in a square or triangular configuration is between 12-18mm/hour. Other than on extremely well constructed greens or tees, it is unlikely that the absorption rate of the soil in the rootzone will be equal to this, therefore if there are any slopes, high points etc – and usually there are – the surplus will run to the low points and again there will be a tendency to over irrigate to compensate. This can to some extent be overcome by aeration and the use of wetting agents.

Sprinklers which are not operating at the correct pressure will not distribute water efficiently; under pressurisation will result in too large a droplet, over pressurisation will result in too fine a droplet too easily disturbed by the wind.

We advocate the use of pressure regulated valves on even the simpler systems. The flow control device on basic solenoid valves is only of use when the upstream pressure is constant and in case it is usually unwittingly altered after (if it ever was!) calibration. To know how much water you are applying see the formulae in last month's magazine.

Now let us look at some typical practical applications.

Greens

Sprinkler selection for the putting surface will be determined by the overall dimensions and shape. The objective should be to place the sprinklers – all must be of the same configuration – in a uniform square or triangular spacing at the edge of the putting surface so that even with a minimal specification no part of the putting surface is more than the equivalent of 25% of the radius outside the spacing.

Approaches

Except in exceptional circumstances, two full circle sprinklers should be used of the same configuration and spacing (extended from the greens sprinklers) as the greens sprinklers.

Tees

Many budget proposals for tees feature a single sprinkler or single row of sprinklers (depending upon tee size). We do not recommend this layout as, inevitably, disappointment will result through a combination of unfortunately mis-specifying, wind and mis-management.

Far better to go for a double row either side of the teeing surface, preferably using full circle sprinklers.

The current general practice in the British Isles is to irrigate once per 24 hour period to replace the losses by evapotranspiration during that period. Some agronomists would argue that

this encourages surface root growth and therefore thatch. Therefore it is better to irrigate an 18-hole course over a 48- or even 72-hour period, watering 9 or 6 holes per night.

We are irrigation engineers, not agronomists, but do know that providing the control equipment is correctly programmed the losses by evaporation will be reduced.

A normal irrigation cycle should always be at night, not only to avoid inconvenience to players and other maintenance practices but also because wind speeds are typically lower and ambient temperatures are lower, therefore evaporation losses are less.

Some controllers have a syringe (or soak cycle). This permits a full cycle (or partial cycle on selected areas) of the system, wetting the surface which will encourage better percolation of water when the full irrigation

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operating pressures is avoided, provided the system has been designed properly.

A word of warning: some contractors design systems with individual head control to reduce the cost of pipework, particularly with spurs and laterals. These must be sized for all greens heads to be operated simultaneously, semi-automatically or manually for the washing in of fertiliser etc.

To accurately programme a controller (which should be done daily), it is essential a water balance record is kept in order that the irrigation programming can be adjusted to compensate accurately for natural precipitation in the preceding 24 hour plus period.

There are controllers on the market now which can be connected to a weather station which in various stages of sophistication can automatically adjust the controller for rainfall, sunshine, wind, temperature and humidity, or alternatively in the simplest form give readings of these various factors.

Add all these factors together and not only will turf grass management be easier but also operating costs will be reduced. And in these days when courses are being encouraged to be more "environmentally friendly" that's important!

cycle follows. Towards and during peak season do not endeavour to replace all the water lost by ET in one operation, better divide the required operating time into 2 or 3 equal periods and re-cycle the controller. Thus the first and/or second application can be absorbed before the next application, reducing run-off and subsequent puddling.

Do consider the advantages of what is called individual head control where each sprinkler in a sensitive area has its own in-built automatic valve and is allocated a dedicated station in the controller, therefore permitting it to be individually timed. This can be a very useful feature particularly where greens and approaches are partially shaded or where mixed part circle and full circle sprinklers are required, for example around a green. Incidentally, this type of sprinkler body has a built-in pressure regulation feature - therefore the problem of incorrect

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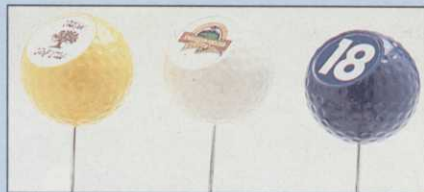
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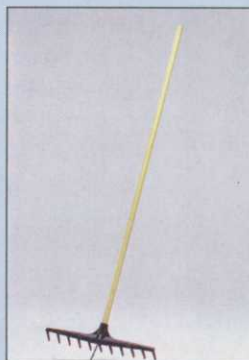


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After 20 years, a sleeping giant is awakening to challenge the world's leading players.

Carnoustie – generally regarded as the most difficult and certainly the longest links of all the Championship courses – has been restored to championship status in more ways than one. And its sister courses, Burnside and Buddon Links, have also been updated over the past ten years, since John Philp took over as links superintendent.

The first formal layout of 10 holes at Carnoustie has been accredited to Alan Robertson of St Andrews, the first professional golfer, in the late 1840s although records of golf being played on the Barry Links go back as far as 1527.

Over 120 years ago, renovation work at Carnoustie meant carving holes in frozen turf with a mallet and chisel. John Philp, links superintendent, today uses a more subtle approach as Arne van Amerongen discovers

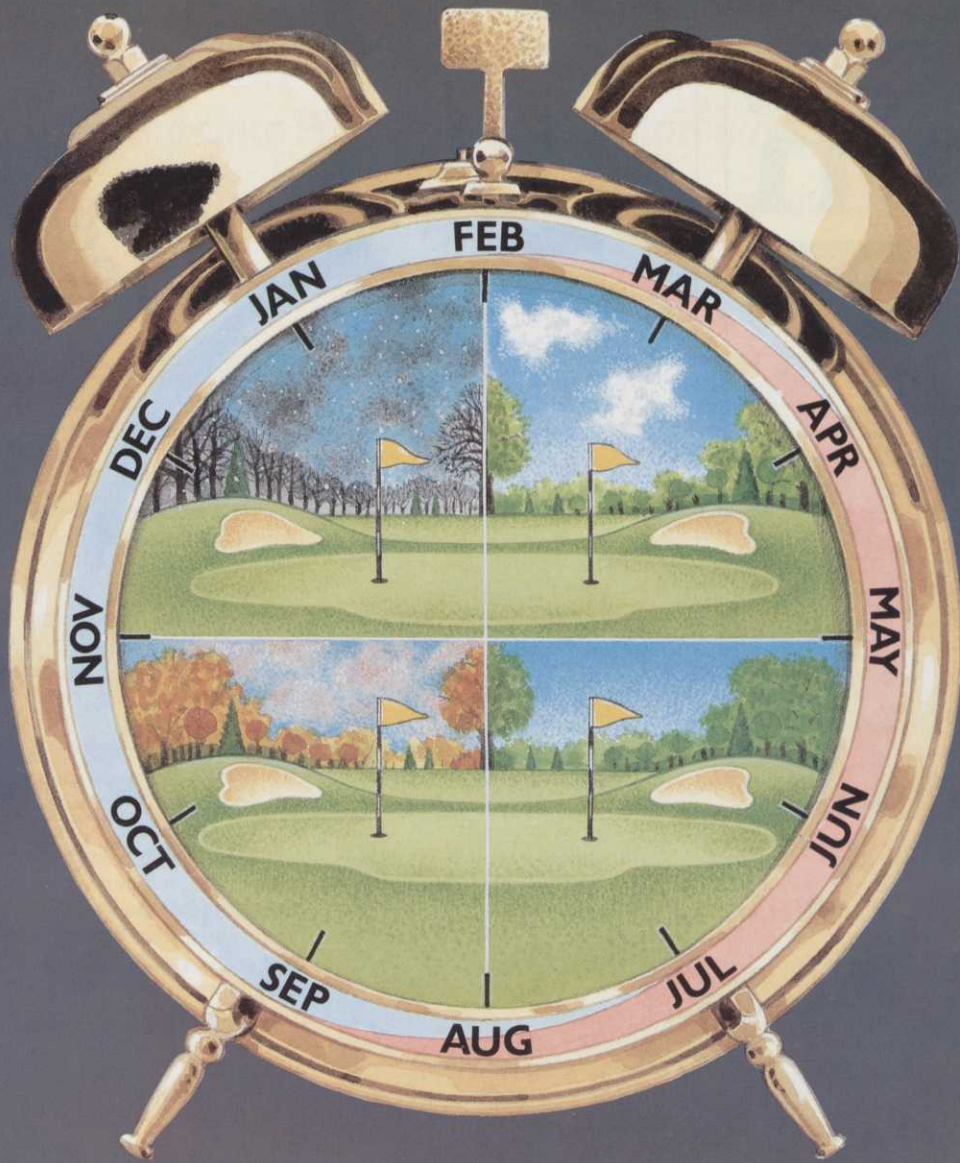
The first 18-hole course was laid out by old Tom Morris who developed Robertson's 10 holes. This new course opened for play in 1872, the holes being cut out of the frozen turf using a mallet and chisel by apprentice Geordie Lowe, later to become instrumental in the formation of Hoylake and Lytham St Annes to name but two of the many well known layouts he subsequently became involved in. Five years earlier

young Tom Morris won his first important event against all the best players of the day in three rounds over the 10-hole course following a play-off.

Bob Simpson, one of three famous golfing brothers, came to Carnoustie in 1883 and as curator of the links instigated many alterations and improvements to the course. Further changes took place as well as the development of a second course, the Burnside,

until the mid-1920s when James Braid was called in to review the course. Braid introduced several new greens and tees as well as numerous prominent bunkers and with the construction of a new 13th hole in 1930 his changes formed the course that exists today. Such was the impression created later that year during the Scottish Amateur Championship that the R&A promptly announced that Carnoustie would be the venue for The Open the following year.

Alterations have been carried out in recent times and are still under way but all with a view to maintaining the character of the course and, according to Philp, "any revisions deemed necessary are no more than Braid would



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most likely be endorsing if he were alive today."

Philp was appointed links superintendent in 1985 as part of the move to restore the course to Championship condition. He began his career at Pitreavie Golf Club in 1964 and gained promotion to head greenkeeper there in 1970. Following five years as head man at The Links Golf Club, Newmarket, from 1974-79 he was appointed to the new position of deputy links supervisor at St Andrews where he worked under Walter Woods for six years gaining experience in preparing The Old Course for the Open Championship in 1984 in addition to various national and international amateur events. Philp is quick to point out the invaluable experience he gained in many aspects of golf course management during his years at St Andrews and he is indebted to Walter Woods and agronomist Jim Arthur for what he considers the completion of his training. As he puts it: "No matter what variety of golf courses you may have worked on, your education is not complete until you have experienced the links and thereby become involved first hand with the origins and true values of the game of golf."

Over the last ten years he and his greenkeeping staff of 20 for the three courses have improved the condition of the links. The reward for their efforts is that the Open is to return to Carnoustie in 1999 and, as an added bonus, the links will host the Scottish Open this year and next.

One of the factors affecting play is the wind, as you'd expect with a links course, but at Carnoustie the effect is enhanced as no more than two consecutive holes run in the same direction and that happens only once. The course indeed becomes progressively harder and each hole has an individual character with its own variety of shot-making requirements. The finishing holes are particularly difficult with the Barry Burn, described by Darwin as "that ubiquitous circum-bendibus", playing an important role in the last two. Par for the last four reads 4, 3, 4, 5 with championship yardage of 461, 250, 457 and 516 respectively.

The potential championship length is over 7,350 yards.

Golfing standards have changed over the years with major improvements to equipment and technique and there are many more top-class professional players around the world who are better prepared both mentally and physically than the best players from past eras. With this in mind, the policy at Carnoustie is to ensure that the reputation of the course is maintained. Indeed it is the ambition of everyone concerned that Carnoustie will set the standard for links golf as we enter the next millennium.

To add to the character of the course and maintain the challenge to the modern experts, improvements are being made to bunkering, especially greenside, in conjunction with a general narrowing of green entrances. Further green reconstruction and recontouring is scheduled to follow the five already completed, placing an emphasis on skilful chipping and putting. "Green and surround contouring is a critical aspect in reconstruction work as this is considered to be an area where developing the challenge to the top players can be most effective," says Philp.

Turf from Carnoustie's own 15 acres of turf nursery, which includes a 5,000 sq yd greens nursery, has been used in all construction projects. Philp reckons it is well worth the time, cost and effort to produce his own sand-grown turf of chosen varieties without which a good deal of the restoration and development work accomplished on the links would have been impossible. He says he is looking forward to the establishment of two new areas of turf nursery, one sown with a mixture including the new crested hairgrass variety Barkoel from Barenbrug, the other with a special mixture formulated for the purpose of producing an aggressive bunker revetting turf.

Bunkers are constructed in typical links fashion using "half" turves in strips 6in wide by 2ft long. Bunker wall bases are formed using "full" turves set about 15ins below anticipated finished sand levels. Turf is cut thick and layers are set back a little over an inch per row to pro-

Realising the full potential of the three courses is the aim and since 1986 Philp and his staff have been gradually winning back the fine fescue and bent grasses



Previous page: John Philp at the 10th green.

Above: a close-up of the 'spectacles' at the 14th hole

Right: revetting greenside bunkers at the 9th green



duce a revetted angle of approximately 30 to the vertical. Care is taken to blend the construction into surrounding contours. The finished article has a top and sides which run slightly to the wall, producing a more natural appearance. Much work has been done to bunker 'lead-in' areas to improve the gathering effect and at the same time enhance the look and character of the hazards.

The 3rd and 6th greens have been reconstructed this winter along with three new Championship tees for the 5th, 7th and 18th holes. Five new bunkers have also been introduced: one at the 1st green, one on the 4th hole and three on the 5th.

Two large spectator mounds have recently been completed which add to the aesthetics of the course with a few more scheduled in ensuing years.

Completion of all these and other aspects is scheduled for 1999 and form a large part of the course's third five-year development programme.

Since the announcements that have given just rewards to the successful team effort to restore

one of our great courses, there has been a buzz about the links reminiscent of past times. But still the work goes on...

From early summer this year fairway landing areas will be narrowed at appropriate distances and roughs will be encouraged to afford a suitable penalty for wayward shots. Some 700 tonnes of fresh bunker sand will be used to top up the 119 bunkers on the course, over 80 of which have been revetted over the winter. The routine maintenance programme will be under way and intensified as the weather dictates.

Philp believes that turf quality is more critical to the game of golf than in any other sport played on grass and following a close examination of sward composition throughout the links, especially greens, by far and away the most important surfaces on any course, along with soil conditions, a corrective programme was devised to encourage the fine perennial species indigenous to the links at the expense of annual meadowgrass which had been a major problem in the production of quality sur-

faces for many years.

Realising the full potential of the three courses is the aim and since 1986 Philp and his staff have been gradually winning back the fine fescue and bent grasses by way of well established greenkeeping principles, controlled nutrition, minimal watering, frequent topdressing with consistent good quality materials including seaweed products to encourage root development and drought tolerance, combined with "the single most important aspect of modern greenkeeping" – an intense and varied aeration programme. "Aerobic conditions have to be maintained, and a free-draining uncomplicated medium is essential for the development of the finer species," says Philp.

Additional verti-draining on traffic routes and weak areas as well as main playing surfaces together with regular slitting have been Philp's weapons in the battle to beat *Poa*. A variety of tines are used – from 5-40cm. Shallow in the summer, deeper in the autumn and winter. The larger tines help to alleviate compaction in the main problem area

– down below 4ins, where previous aeration work stopped. The shorter tines are used for root pruning, assisting the incorporation of topdressings and generally keeping the immediate rootzone open for entry of air and water. Hollow-tining is not normal practice on greens save for overseeding purposes where deemed necessary and is carried out when annual meadow grass is very much in recession, September being the typical month. Hollow-tining has however proved most useful as part of the fairway improvement work.

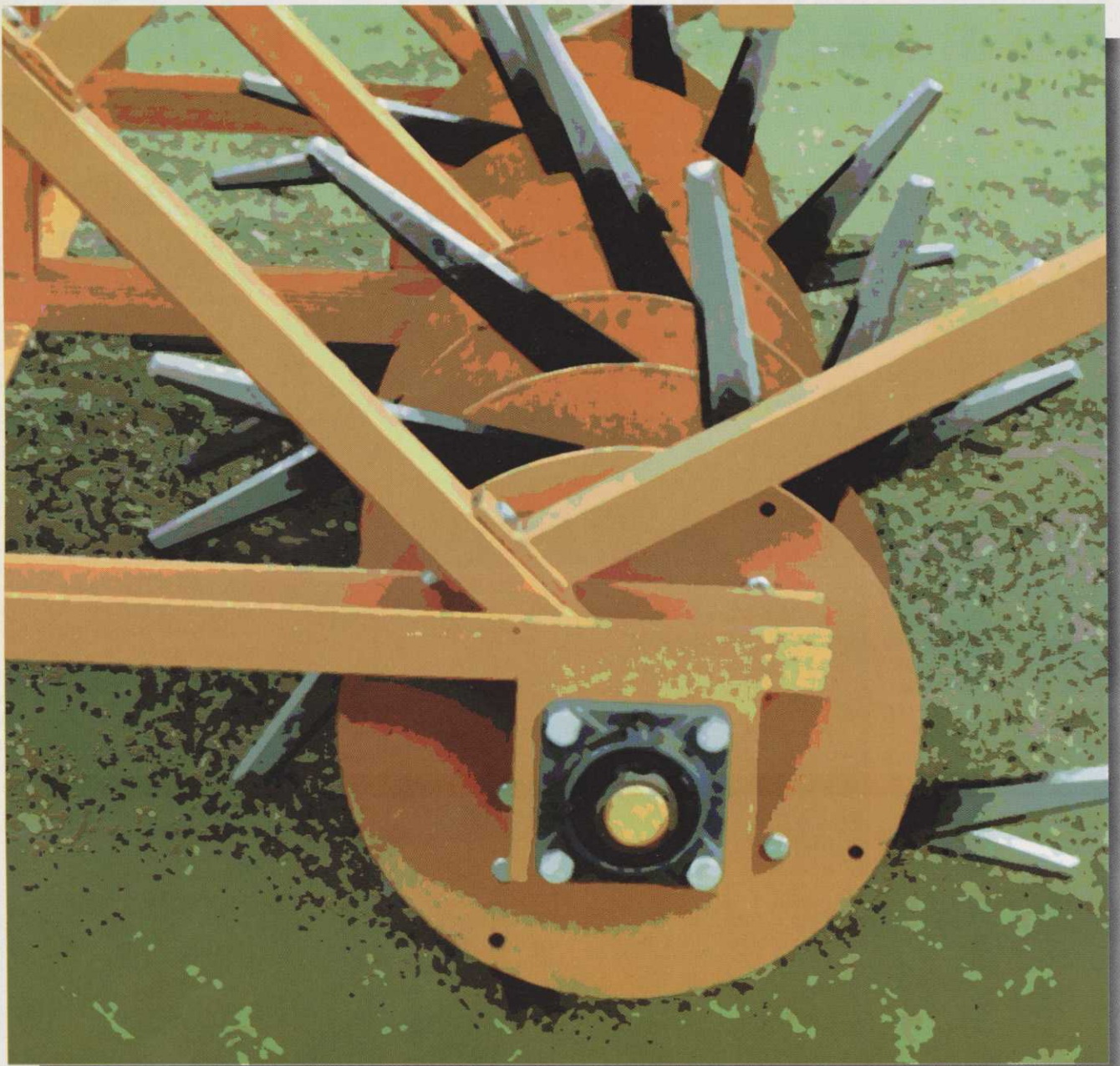
Little and often is the philosophy behind the topdressing programme. The fairways are topdressed with a 90:10 sand-fensol mixture. Greens receive an 80:20 mix but using fendress purchased at 60:40 and let down with a similar quantity of beach sand. During the summer, greens are topdressed every three weeks, golfing calendar and weather permitting.

"Maintaining some acidity at the leaf surface has proved useful in stressing annual meadow grass in a mixed sward situation," according to 47-year-old Philp.

Together with the other main effects of the programme, ie promotion of a dry surface, minimal nitrogen nutrition, regular light topdressings and verti-cutting allied to slitting, meadowgrass plants become chlorotic and much smaller physically giving a very much "tightened down" appearance to the sward. This all lends a competitive edge for ground cover to the more desirable species in the resulting thinner sward.

A common spray applied to fairways contains liquid seaweed extract, liquid iron and wetting agent. Occasionally some liquid organic manure is included for certain fairways. Greens generally receive a dressing of ammonia and iron in the 'false spring' period with sandy topdressings taking over from April through to September. Tees are dressed with SSD (8-0-0) in the spring followed by occasional topdressings and liquid sprays.

The roughs have received more nutrition than anywhere else on the links in recent years by way of a mild organic pelleted



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manure. Bunker faces are sprayed usually with a liquid organic fertiliser and wetting agent. All new constructions and repair work receive appropriate nutrition during the critical establishment period along with extra topdressings.

Very little fungicide is used on the links and any local outbreaks of fusarium patch are controlled using dry iron sulphate bulked up with sandy compost.

The irrigation system is used to keep the fine grasses alive and any additional requirements are applied by hand to local dry areas or by setting sprinklers to aid establishment of new turfing work when required.

Ryegrass patches on greens, a legacy from many years ago, are conspicuous among fine species and are removed by taking circular plugs. Philp finds these blend in better on smaller areas.

The maintenance programme

then is fine-tuned with "blanket" treatments seldom used. Surfaces are treated according to individual need and the situation is monitored on a day-by-day basis. This means some greens are topdressed more frequently, some are oversown, some are not. Some get additional iron dressings, seaweed treatment or wetting agent but mowing regimes are never severe.

"The experience of seeing the recovery of native fine grasses at

Carnoustie and the long-term benefit for the heritage of the game and the future generations of golfers has been very satisfying," adds Philp. He is well aware, however, of the challenges that lie ahead and in particular the staging of the last Open of this century.

Only five Opens have been played over the massive links since 1931 but the names of the past winners speak volumes for the challenge the course has set:

1931 - Tommy Armour, the Silver Scot; 1937 - Henry Cotton, The Maestro; 1953 - the legendary Ben Hogan in his one and only appearance in the event; 1968 - Gary Player, the Man in Black; and, most recently, 1975 - Tom Watson winning his first 'major'.

The man who adds his name to that list by holding aloft the old Claret Jug in 1999 will truly deserve his place in one of golf's most elite clubs.

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There were so many new products launched at the BTME that we couldn't fit them all in last issue...

Barenbrug used the BTME to launch two low maintenance mixtures featuring Barkoel, crested hair-grass. Named Bar Slow Motion, the two mixtures are quick to establish but then produce unusually slow annual regrowth, according to Barenbrug. The company says Barkoel's performance in dry and infertile conditions has been "remarkable - actually performing better without fertiliser. While in every trial, and in any application, Barkoel has shown drastic reductions in cutting frequency. At the rate it is used in Bar Slow Motion, a reduction in mowing of up to 50% can be expected." The mixture aimed at greenkeepers for use on fairways and roughs is the one without Barcredo/Barlow

perennial ryegrasses. It features 35% Barkoel combined with four other varieties, each recording the lowest regrowth rating listed on the STRI Turf Seed Guide.

The new Beaver FM 514 five-gang, self-propelled mower from **Hayter** has been designed specifically for cutting fairways. It features newly designed 26in fully floating cutterheads to follow precisely the ground contours. The mower is available with 7 or 11 blade cutting reels offering a clip rate of 131 or 206 per metre. It also has a wide wheel track of 1.46m to ensure safety and stability in difficult areas. Four-wheel drive is fitted as standard and when the going gets really tough the differential lock can be engaged. Hayter also claims excellent weight distribution has been achieved to minimise compaction and great care has been taken to obtain a tight turning circle with the minimum of tyre

marking. Power comes from a 29hp Lombardini diesel engine.

Human error, particularly at the mixing stage, is one of the most frequent causes of disappointing results with pesticides. To remedy this, **Levington Horticulture's** turf fungicide and wormcast control product, Turfclear, is now available in pre-measured, water soluble sachets. The new option, Turfclear WDG, comes in a plastic tub containing 10x50g soluble sachets which dissolve quickly and completely in water. Each sachet contains sufficient Turfclear to treat 100m² at the higher (disease control) rate and 200m² at the lower rate (wormcast control only). Turfclear, which contains carbendazim, will continue to be available in the traditional liquid concentrate formulation. Chris Kennedy, who uses Turfclear as part of the disease and wormcast control programme at Wentworth, says he will try the Turfclear WDG. "I welcome any product which improves accuracy and efficiency," he says.

Rope and rope stakes are an easy, economical way of protecting high traffic areas and ground under repair. **Standard Golf** now offers green rope stakes and green and white polypropylene rope. The green rope stakes are available in two sizes - 32in for traffic control and 14in for use along cart paths and around new plantings. Costing £4.70 and £4.45 respectively, each stake is 5/16in in diameter and is said to position easily with foot pressure, even in compacted soil. The loop at the top is designed to make it easy to attach or remove rope. The green and white polypropylene rope - costing £22.75 for 500ft - provides high visibility without disturbing the beauty of the course. Classic yellow rope and rope stakes are also available.

Standard Golf has also added a new "bigger, better" bunker rake to its range. The Tour Smooth Maintenance Rake is a maintenance class version of its Tour Smooth Bunker Rake. With its 22in wide, extruded aluminium head, heavy-duty teeth and extra-long, powder-coated aluminium handle (66 or 82in), the new rake is said to be "perfect for fin-



The new 422 Greens King pedestrian mower from **Jacobsen** complies with the latest EC regulations and is fitted with Operator Presence Controls (OPC). It also has a 22in cutting width and a high-speed 11-knife cutting cylinder. It is powered by a quiet 4hp, four-cycle OHV engine and, with its 11.5in rollerbase, follows contours without scalping. The reel, roller and traction drum are all the same width.

ishing bunker edges quickly and professionally." Prices are £60.33 and £51.43.

An extension to **D&E Turf Maintenance's** premises in Bishop Auckland houses a new purpose-built training facility where greenkeepers can receive practical and theoretical training in turf machinery maintenance. A constantly updated fleet of machinery will ensure that the training delivered is technically up to date, relevant, more specific and in-depth than other training establishments, claims Edith Stephenson, director of education. Tel: 01388 608620.

British Seed Houses introduced its new creeping bent, Providence (*Agrostis stolonifera*). Bred by Seed Research of Oregon and marketed by British Seed Houses, Providence has high STRI ratings for all characteristics and is recommended for greens, tees and fairways. BSH claims: "No other cultivar of *Agrostis stolonifera* has the outstanding high shoot density of Providence to quickly give a strong dense turf of even texture and, therefore, hard wearing." BSH also says it is highly rated for its fineness of leaf, it has much shorter growth than other cultivars, it has good resistance to fungal diseases, it keeps an attractive colour throughout the season without heavy application of fertiliser and it produces less thatch than Penncross." Tel: 01925 654411.



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Autoguide Equipment has introduced a new flail mower. With a 1.5m (59in) working width, the mower is designed specifically to fit on ride-on power units such as Ford CM224/274, Kubota F2000/2400 and Iseki SF300. The flail rotor, which carries 90 heavy-duty reversible back-to-back grass flails, is dynamically balanced and runs in large sealed self-aligning ball bearings. Cutting height is variable and quickly adjustable without tools from a minimum height of 8mm (3/8in) to a maximum of 122mm (4 3/4in), with the monocoque-constructed machine running on two castor wheels at the front and an anti-scalp roller at the rear. The side frames have anti-scalp skids and 'plygene' safety deflectors are fitted to both front and back. Price is £2,575 plus VAT.

Gannon's Aera-Vator AE60 150cm width (for the compact tractor) now has a big sister – the Aera-Vator AE80 270cm width. The Aera-Vator, which can be used for turf cultivation, seed bed preparation and bare soil conditioning, is available in standard form or with optional seeders, rollers and brush attachments. Prices start at £5,692, or it can be hired with all its attachments.

Inventorlink Products Ltd is marketing a practice mat that enables golfers to practise on a sloping lie. The Quadra-Slope Golf Practice Mat enables golfers to practise on downhill, uphill, right to left and left to right slopes. Tel: 0171 3234323.

Farmura Environmental has launched a new fusarium management product, Inhibiter. Working on the principle that prevention is better than cure, Inhibiter is applied before the onset of this major turf disease. But it is not a fungicide. A British development, Inhibiter is applied by spreader at 50 grams per square metre and stays active for 6-8 weeks. It costs £36 per 25kgs. Farmura managing director Jonathan Harmer says it should be used as part of an integrated disease management approach, that is, combining cultural, chemical, mechanical and now biological methods. "We are not in the magic business – no product can work in total isolation," he commented. Inhibiter should be applied 2-3 weeks before fusarium is expected. It works by stimulating soil bacteria which inhibit the activity of fusarium and enhance the plants' natural resistance to the disease. Tel: 01233 756241.

Rolawn can now supply turf in a new roll size. The harvested dimensions of the 'Budget Roll' are 21in wide x 77ft 2in long which yields approximately 15 sq yds of turf on each roll. They weigh approximately 5cwt. Price varies according to the grade of turf. All Budget Rolls are provided with netting as standard and have a circular core running through their centre which takes a standard 4in forklift tine. Rolawn also has a new laying machine, the Turfmaster, which is 48ins wide, 35in high and weighs 132 lbs (60kilos). This

New from **Ransomes** is the Greenplex 160 hydraulic greens mower. Available in 19hp diesel and 16hp petrol-engined versions, prices excluding VAT are £16,235 and £13,435 respectively. Designed and built with continuous input from greenkeepers, the new triplex has three steerable cutting units producing a maximum mowing width of 1.6m (62in). The cutting reels, available with either nine or 11 blades, can be set to cut at heights from 2-20mm (0.078-0.78in). At the recommended 6km/h (3.8mph) mowing speed, cutting frequency is every 5mm (0.19in) using the 11-bladed reels. Maximum transport speed is 12km/h (7.5mph). Manoeuvrability is enhanced by rear wheel power steering which



requires just two and a half turns of the steering wheel to move from lock to lock. The result is an inside turning radius of 150mm (6in) and an uncut turning circle of 685mm (27in). Features are a thoughtfully laid out operator's platform, high-back seat and adjustable height steering arm. A kick pedal is fitted to lift, lower and engage the cutting units, with a timed delay ensuring that all three units start and finish mowing in line every time. Back-lapping can be carried out in-situ on the fully interchangeable units.

machine, which can be taken apart in seconds, can transport and lay the turf. Two Scottish courses, Gullane and Ythan, have already used it. Paul Seago, course manager at Gullane, said: "We laid 1000 sq yds in four hours on the first day using three men." This machine can be bought for £395 plus VAT or hired for £15 a day.

Huxley's new Turfblazer 91in Rotary Mower has been designed for rapid mowing of roughs and semi-roughs. The mower has a powerful 32hp Yanmar diesel engine, optional four-wheel drive and a variable cutting width. The operator can quickly select a 56in, 74in or full 91in mowing width using a hydraulic control lever next to the driving seat, enabling him to work in narrow

as well as open areas. The standard machine costs £16,545 plus VAT. Tel: 01962 733222.

Turf Machinery Ltd has introduced a range of replacement cutting units suitable for Jacobsen and Toro greens mowers. Made from premium grade steel, the cutting units and accompanying verti-cut units are cheaper than manufacturer-branded originals. Turf Machinery's price for a Toro GM300 unit fitted with an eight-bladed cylinder, standard bedknife, grooved front and solid rear roller is £740 – a saving of more than £400. A nine-bladed unit for a Jacobsen Mk4 Greens King with tournament bedknife and grooved front and solid rear roller costs £720. Tel: 01483 764467.

● More new products on Page 51

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Dax Products has launched a crystalline tree and weedkiller that breaks down into a nitrogenous nutrient in the soil once it has killed the plants to which it has been applied. Root-Out is designed for scrubland and brambles, and for killing trees and

their root system. It is not harmful to animals. Tel: 0602 609996.

The first new **Echo** product to be introduced into the UK since **Allen Power Equipment** took over the franchise last year is the model HC2410 40in Hedgecutter. This single sided double reciprocating machine is powered by a Kioritz 23.6cc engine, featuring electronic ignition and diaphragm carburettor. Other features are a new commercial duty air filtration system, see-through fuel tank and a vibration reduction system. It weighs 12.6 lbs (5.7kg) and costs £408.47 plus VAT. Tel: 01235 813936.

Service Chemicals plc has relaunched Turfex Traditional, the concentrated wetting and penetrating agent. It is the same formula tried and tested by greenkeepers over the last eight years and is claimed to be the

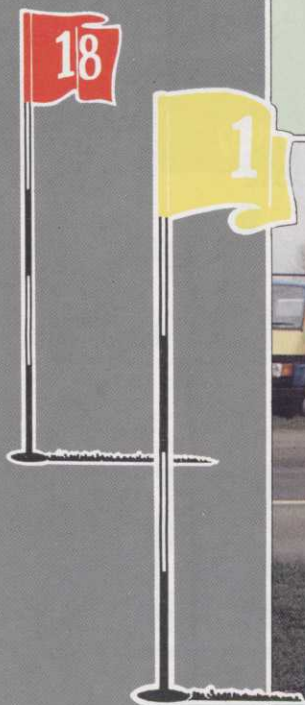


Ultra Plant has launched a new high lift trailer, the HL40. The trailer cuts down on shovelling and double handling of materials and the scissor action design means sand and other materials can be directed straight into difficult locations. Managing director Kevin Gates tells us: "The trailer can drop from a height of over 6ft direct into bunkers, topdressers, drainage hoppers and skips. Jobs that normally take two or three men can now be done by one and the ingenious floating axle design prevents damage to bunker edges and other delicate surfaces. And, of course, it can also tip as a standard trailer." Tel: 08687 47582.

only product of its type fully evaluated in independent tests by the STRI. A free 12-page colour booklet explaining the management of dry patch and related problems and how to use wetting agents effectively is now available from

Service Chemicals plc at Lanchester Way, Royal Oak Industrial Estate, Daventry, Northants NN11 5PH. It is called The Turfex Guide to Dry Patch and Compaction. For further information about Turfex Traditional call distributors **Amenity Technology** on 01734 510033.

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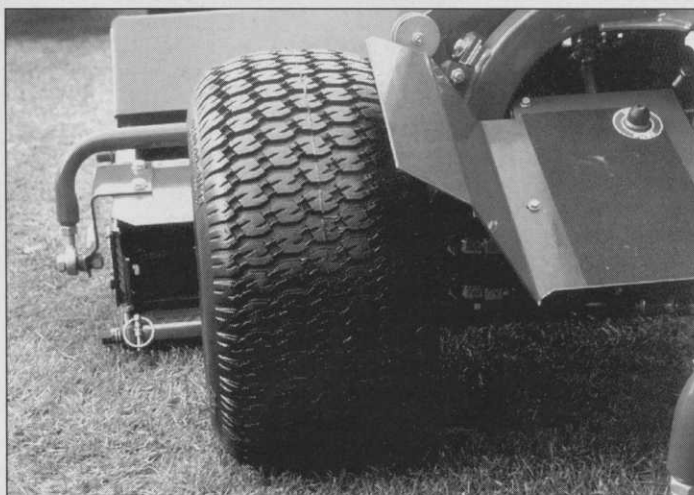
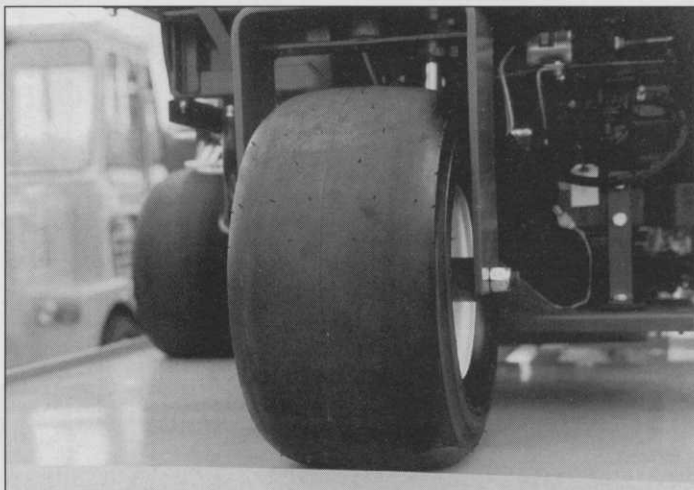
The greatest asset to the greenkeeper is the vast range of machinery now available to assist him in his work. One of the most vital parts of such modern machinery is its contact with the turf, namely the tyres.

Beautifully kept and manicured turf, be it on municipal or championship golf courses, can be ruined by one cut if the tyre application is incorrect. The footprint, or indentation, made by the load-bearing tyre is of great importance to the greenkeeper. Selection of the correct tread pattern, width and profile of the tyre can mean the difference between a level fairway and unacceptable ruts.

Turf tyres on modern machinery are themselves developed by very modern methods; computers are used to simulate varying ground conditions and the impact tread designs make in these conditions. By using such methods the patterns and the profile can be altered to reduce footprint, but allow enough tread for the traction needed, with a design that will not clog and create slip.

A change in terrain could warrant a change in tyre pattern; when working on banks and inclines grip is usually the foremost consideration, both in the aspect of safety for the operator and reduced turf marking by slipping. To overcome this manufacturers and dealers try to offer a wide variation in sizes of tractive tyres to replace standard turf block tread. Often these optional tyres are purchased on wheels as complete units giving the customer a choice of applications with just a simple wheel change, allowing his machine to be operational under most conditions.

Tyre manufacturers are ever aware of the change in customers' needs and market forces, and, although they are unable to supply every individual requirement, they aim to produce a tyre to suit most applications. Over the past few years higher ply ratings have been introduced to assist in carrying heavier equipment and harder compounds to resist thorn penetration, reducing the downtime of machines.



Top: the Dico slick flotation tyre. Above: the Dico turf tyre

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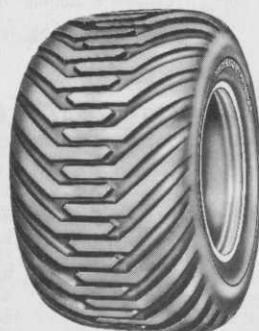
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Toro distributor Lely UK has reduced the price of its Groundsmaster 223-D rotary mower. At the new price of £11,605, this two-wheel-drive unit now costs £1,925 less, while there is a £1,769 saving on the four-wheel-drive model, which now costs £13,350. The model pictured features a 62in Toro Guardian Recycler deck.

ATV quad bikes are becoming more popular with greenkeepers – and thieves. One area which has suffered a series of thefts of Kawasaki machines recently is Shropshire and a £1,000 reward has been offered for the recovery of two green Kawasaki ATV quad bikes, one fitted with a white Logic 125-litre sprayer tank. Tel: 0952 641949.

Let greenkeepers take charge – call

Greenkeepers are the best people to take charge of a golf club, according to Alan Mitchell, secretary of BIGGA's South Coast section. He has been promoted from course manager to manager/secretary of The Hampshire Golf Club, Andover. "I think greenkeepers should aspire to more than head greenkeeper," he said. "The best person to put in charge of a golf course is someone who has come through greenkeeping

because they understand the club's main asset."

Alan has been involved with the club, which opened in September '93, since its construction. It has 18 holes plus a 9-hole par 3 course and a driving range. It opened as a pay-and-play but is moving towards a private members club.

Alan's assistant, Jeff Drake, has been promoted to head greenkeeper.

Hayter appoints new agent

Hayter Ltd has appointed Rogers Engineers Ltd, suppliers of Hayter domestic mowers for 30 years, as agents for its Professional range of machinery.

The family firm will cover Northants, Bedfordshire and parts of Cambridge from its head office in Gt Barford, Bedfordshire. Open days and demonstrations are now being organised. Tel: 01234 870201. Hayter has also appointed Bredy Agricentre Ltd

of Dorset as agents for the Professional range of mowers.

King's is sold

Essex-based horticultural merchant Kings Horticulture Ltd has been bought by Cereal Industries Ltd, a wholly owned subsidiary of Associated British Foods plc. Kings Horticulture will continue trading under its present name from its Earls Colne site and all of the staff have been retained.

Breakwell expands

ET Breakwell is expanding into Northamptonshire. And the Shirley-based Ransomes and Massey Ferguson dealer has taken on two new managers to cope with the expansion.

Former Ransomes area sales manager Mark Radford has been appointed key account manager and Graham Robinson has come on board as area sales manager for the new area and Warwickshire.

Peter Cooper will continue to cover West Midlands, Herefordshire and Worcestershire while Alan Prickett will look after Oxfordshire and Buckinghamshire.

Paul Breakwell, son of MD Len, has been appointed to the board as sales director.

The new area will receive thrice weekly spares deliveries and Paul Hudson, based in Banbury, will cover it with his mobile service facility.

In addition to Ransomes and Massey Ferguson, the new sales team will also be talking about two new product ranges it represents – from Richard Long and Wiedenmann.

Heriot & Bardot

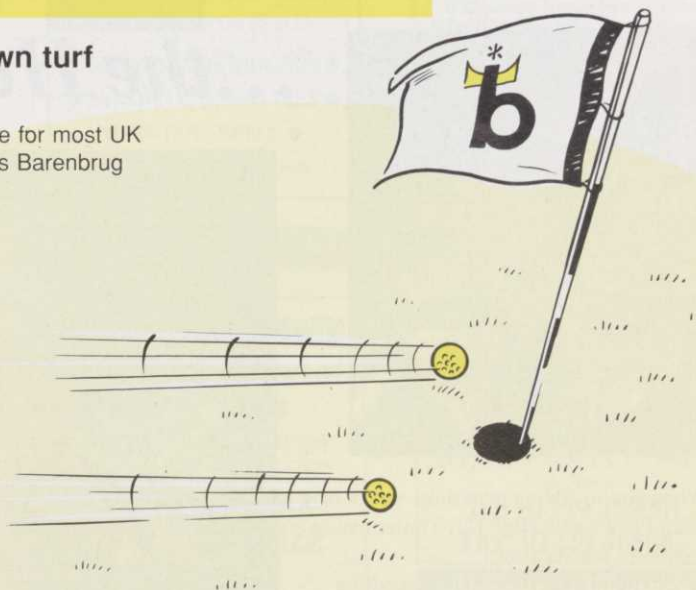
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Ransomes kit out slow moving Chinese course

■ Newspaper and golf course owner Eddy Shah will be the guest speaker at the conference dinner of the British Institute of Golf Course Architects being held at Wentworth on April 20. The dinner precedes the 1995 Conference which is entitled 'Golf Course Design in the Modern Age'. Speakers at this event on April 21 include Dave Thomas, Dr Alastair Cochran, George Shiels and David Piggins. The delegate cost is £125. Tel: 0883 712072.

■ Following the success of the first Grounds and Greens two-day seminar at Newmarket Race Course, another one is being organised for June. The speakers this time round include George Brown (Turnberry), Derek Ganning (The Belfry), Anthony Davies (Prestbury), Stuart Stenhouse (Monarch's Course, Gleneagles), Jeff Perris (STRI) and John Souter (Gti). The topics on June 20 will relate to general groundsmanship while the following day will concentrate on greenkeeping. Attendance is by invitation and places are limited so anyone wishing to attend should phone Lynn Hamilton at Sisis Equipment on 01625 503030.

A new 27-hole golf course being built in southern China has ordered £200,000 worth of Ransomes turf equipment. Items already in place include a Commander 3500 fairway mower, two Motor 180s for tees and surrounds, a Turftrak 420 with rotary mowing deck, three and four-wheel Cushman Turf-Trucksters with topdressers and Ryan aeraton and turf-cutting equipment. Machinery still to be delivered includes four Greensplex 1600 greens mowers with nine and 11 blade knife units, additional Cushman Turf-Trucksters and attachments, two further Motor 180s, Ryan pedestrian aerators and a Supreme Mowing Golf Leader cylinder grinder. Known as the Long Island Golf and Country Club, the new course is located at Chang An in Dong Guan Province, approximately one hour by ferry from Hong Kong. It is owned by Bout Holdings, a joint venture estab-

lished by Chang An Development and Malaysian developer Madusalat Berhad. This company is also the construction contractor for the course, which is to a woodland/links design produced by JMP Design.

Encompassing 384 acres of former woodland, orange grove and lakes, the complex will include a 27-hole golf course, hotel, residential housing and sports facility. Eighteen of the holes will be floodlit for night golf.

Senior superintendent Marty Alexander tells us that the first nine holes are expected to be ready for play in November with the final completion planned for June next year. "The construction period is longer than might be expected in other parts of the world, but we have to contend with an extended rainy season from May to September and cool winter months from January into March," he explained.

China now has 80 courses in

play, under construction or being planned.

■ A special conservation scheme for golf courses has been set up in Victoria, Australia. It is an adaptation of the Land for Wildlife scheme administered by the Department of Conservation and Natural Resources. So far seven clubs have been recognised by the department as having significant habitat values for native flora and fauna, and for their valuable contributions to the conservation of local plants and wildlife. Each course is provided with a sign acknowledging its efforts and given information and useful contacts. "The aim is to give golf clubs an excellent opportunity to receive recognition and advice for their contribution to the conservation of Victoria's flora and fauna and to increase the awareness and enjoyment of club members and other course users," said a department spokesperson.

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Judges' decision is final. Not open to BIGGA staff.



★ **Eagle-eyed David Hill, first assistant at Garforth Golf Club in Leeds, was the winner of our February competition. David scoops a crisp £50 note, just for spending a few moments scouring these pages. It could be YOU this time – get searching now!**

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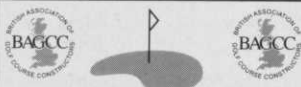
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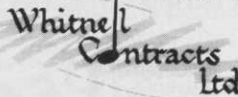
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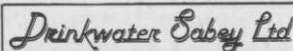
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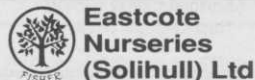
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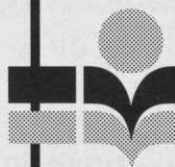
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COURSE MANAGER AND HEAD GREENKEEPER

This large 2-course London golf club, which has hosted many national events over the years including the English and Boys Championships and The Equity & Law Challenge, is seeking to appoint a Course Manager and Head Greenkeeper.

The successful applicant should be an existing Head Greenkeeper and meet the following criteria:

- Should be aged under 50 years, have experience of running an existing golf course and have the ability to motivate and head an established greenkeeping team.
- Suitable qualifications and experience in modern greenkeeping techniques, and use of turf machinery and automatic irrigation systems are essential.
- Should be able to organise work programmes, fix budgets and set long term targets.

A good financial package with benefits is available for the right candidate including a three bedroom house within a few minutes drive of the Clubhouse.

Apply in writing with full CV to:

M.S.R. Lunt, Secretary, Royal Mid-Surrey Golf Club,
Twickenham Road, Richmond Upon Thames,
Surrey TW9 2SB



Petersfield Golf Club

Hampshire

Requires a

HEAD GREENKEEPER

To take charge of existing old established 20 holes and nearly completed, new 18 hole course, which will be growing in from May '95 to September '96.

Situation will suit current Head Greenkeeper in 1st position, wishing to gain growing in experience, or a 1st assistant of 4/5 years standing with experience of tees/greens construction and drainage, preferably qualified to phase three standard.

This very old established, progressive and expanding members club will be operated as a 27 hole course, from October '96 and offers considerable future potential for the right person. No accommodation available. Initial salary c£18.5k with contributory pension scheme.

Applications in own handwriting, together with full CV to:
Mr R R Hine, General Manager, Petersfield Golf Club,
The Heath, Petersfield, Hants GU31 4EJ

Guildford Golf Club

invites applications for the post of

FIRST ASSISTANT GREENKEEPER

Preference will be given to an experienced, qualified applicant who is also a competent golfer.

Salary in accordance with BIGGA recommended scales
- no accommodation available.

Applications in writing with full CV to:

Mr R E Thomas, Secretary, Guildford Golf Club,
High Path Road, Merrow, Guildford, Surrey GU1 2HL

The Hesketh Golf Club

requires an

ASSISTANT HEAD GREENKEEPER

Applicants must be suitably qualified and experienced in all aspects of course management. Salary negotiable.

Applications in writing with CV to:

The Secretary, The Hesketh Golf Club,
Cockle Dicks Lane (off Cambridge Road)
Southport PR9 8QQ



Birchwood Golf Club Ltd

require an

ASSISTANT GREENKEEPER

To join a young, enthusiastic team committed to continue the development of our course.

Apply in writing with CV to:

Mr P J Baume, Course Manager,
Birchwood Golf Club Ltd, Kelvin Close, Birchwood,
Warrington, Cheshire WA3 7PB



WESTON-SUPER-MARE GOLF CLUB

Applications invited for a

FIRST ASSISTANT GREENKEEPER

Applicants should have at least 5 years experience in all aspects of Course Management.

Knowledge of Links Courses an advantage.

Apply in writing to:

The Secretary, Weston-super-Mare Golf Club,
Uphill Road North, Weston-super-Mare, Avon BS23 4NQ

Benefits of making the water wetter

Sufficient levels of water availability to the roots of turf grasses are imperative for their healthy growth and development. If the plant roots are either starved of water or forced to tolerate conditions of waterlogged soil, the turf will rapidly show signs of stress, increased susceptibility to disease and in severe cases, even death. The specific water requirements of any given turf area depends on the grass species present in the sward, environmental conditions and the use of the turf area. Effective irrigation systems and correct drainage of the turf areas are required in conjunction with the experience of the greenkeeper to determine the amount of water to be applied and when.

However, certain situations arise in which, irrespective of the amount of water applied to a given area, sufficient water is not made available to the plant roots. Examples of these are high spots and slopes which will generally dry out more rapidly than surrounding

areas, compacted soils, turf supporting a deep thatch and areas affected by water-repellent soils. In each case, applications of water alone may not provide adequate levels of available moisture in the areas where it is most needed. To overcome this, products can be applied which effectively make the water wetter than normal. These wetting agents have been used for many years to improve water penetration in areas from which water would normally shed. Advances have been made regarding the type of molecule used in these wetting agents to ensure that they pose no adverse effect on either the soil structure or the turf itself.

The market now supports a range of wetting agents that have been specifically developed for use on areas of fine turf. This is a dramatic advance from early attempts to increase soil wetness in problematical areas through applica-

tion of soap and detergent solutions. Both of these products acted to reduce the surface tension of water thereby increasing its ability to wet the soil when applied. However, these chemicals were not designed for this purpose and problems such as scorching and adverse effects on the soil structure occurred.

So-called non-ionic wetting agents are arguably the best products to use if wetting agents are to be applied to a given area. Because the overall charge on the molecule is neutral, they persist in the soil to varying degrees and are the least phytotoxic of the wetting agents to the sward. The surface tension that exists on the surface of a water droplet is the result of forces between the individual water molecules within that drop. Each molecule pulls towards the surrounding molecules resulting in the spherical water drop. If the drop lands on a surface which resists wetting, the water droplet remains in a similar shape. This effect is the same as that seen by water as it beads on the paintwork of a recently polished car. If this condition occurs on turf that is difficult to wet, the water will either run off the area or be lost through evaporation before it is able to penetrate the soil to the rootzone. Wetting agents reduce the attractive forces between individual water droplets and allow the water to spread across areas of turf which normally show a natural water repellence. Lowering water tension physically changes the way in which it moves in the soil and allows more rapid water movement and more uniform wetting.

Different wetting agents will vary in their effectiveness to wet soils, either in their ease or duration of efficacy. Most of the wetting agent products available for use on amenity turf are composed of varying percentages of esters, alcohols and/or ethers. It is essential to adhere to their specific rate of application and dilution, so as to achieve maximum effect and longevity in the soil and avoid phytotoxicity which can result from incorrect application. Areas of turf which show annual effects of either water-repellent soil or general drought stress, should receive the initial wetting agent applica-

tion prior to onset of the symptoms, at the start of the growing season. In severely affected areas, much can be gained from regular wetting agent applications through the April to October period, spraying the product at four to six week intervals. This can be carried out in combination with aeration to aid turf penetration.

The non-ionic wetting agents are water soluble and are therefore applied to the turf through a sprayer or watered on in solution. They are available in three main forms: as a granule, a liquid and a concentrated block which can be placed on-line in a hose for hand-watering certain areas. The type of product used depends on personal preference and how any one specific course reacts following its application. The cost of wetting agents is something that should be considered before choosing a specific product. Some products may appear cheaper than others per given volume of concentrate, but these may not contain the same amount of active ingredient nor subsequently provide the same degree of efficacy as each other.

Wetting agents should be applied early in the year before the symptoms of drought stress or water repellent soils appear. If applications are delayed until the symptoms become apparent, it may take a more intensive programme to achieve the required results.

Wetting agents are unquestionably a major tool in the successful management of areas of fine turf. Not only do they enhance water availability in soils that for whatever reasons are unable to offer adequate moisture, but as a "side effect" of their application they tend to reduce the formation of dew on the sward and keep the turf surface drier, hence less susceptible to disease development. Enhanced root development has also been observed in soils treated with wetting agents and this may contribute to the turf's ability to tolerate and recover from heavy traffic.

The benefits of using wetting agents on fine turf far outweigh the potential problems that could occur through either incorrect application or application on stressed turf. Wetting agents will continue to be an important tool in the greenkeepers' fight to provide the quality of turf that both they and the club members require.

by Kate York of the STRI

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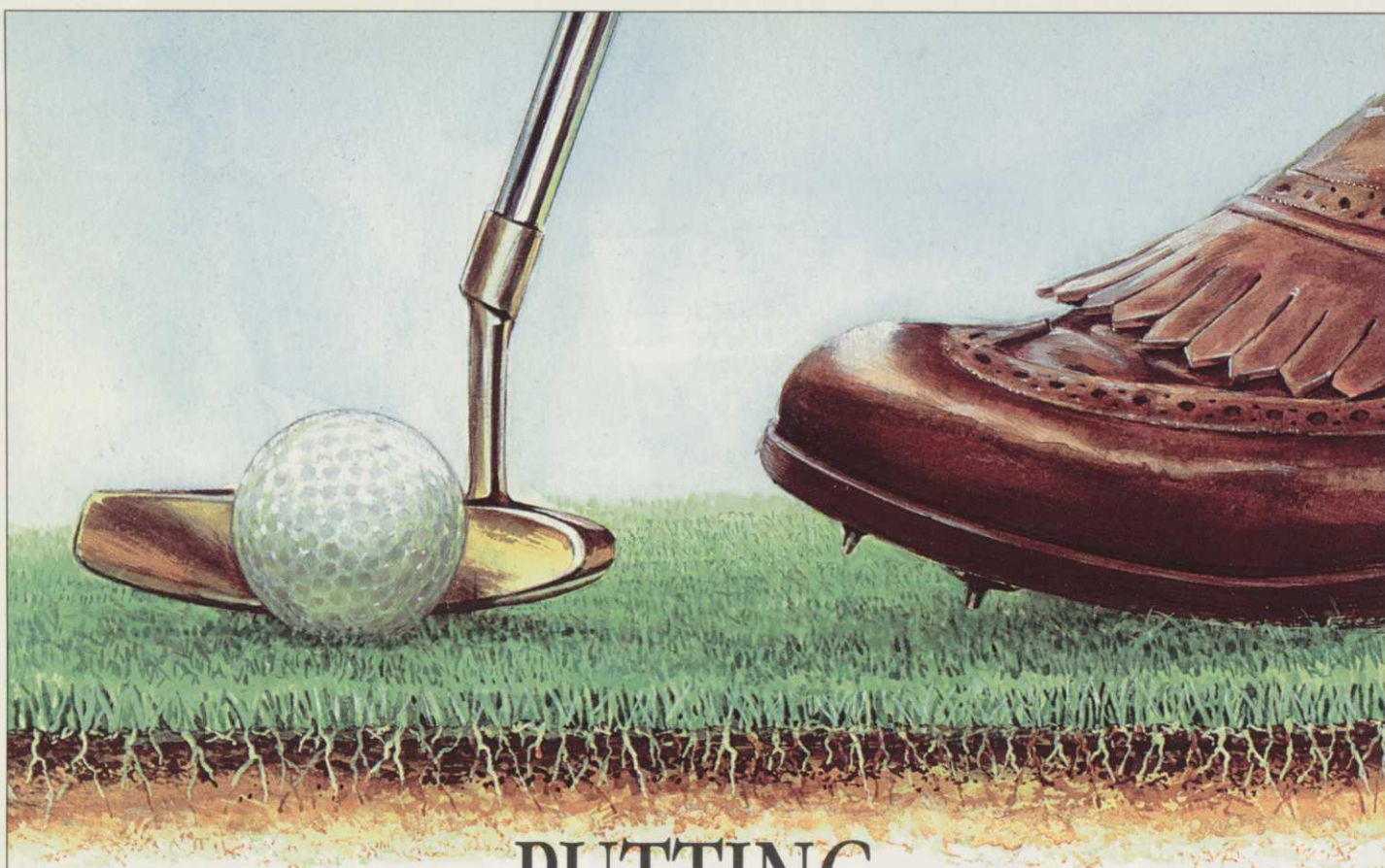
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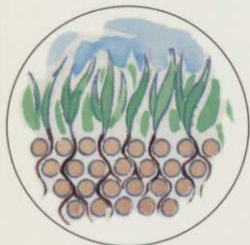


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