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Official publication of the
British & International Golf Greenkeepers Association
APRIL 1992



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Greenkeeper International is the official magazine of the British and International Golf Greenkeepers Association and is published monthly at BIGGA Headquarters, Aldwark Manor, Aldwark, Aline, York YO6 2NF. Tel: 03473 581/2 • Fax: 03473 8864

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Circulation is by subscription. Subscription rate: UK £29 per year, Europe and Eire £39. The magazine is also distributed to BIGGA members, golf clubs, local authorities, the turf industry, libraries and central government.

Editorial Offices

All magazine contributions should be sent to: The Editor, Greenkeeper International, 13 Firlie Close, Seaford, East Sussex, BN25 2HL. Tel: 0323 891291. Fax: 0323 895593. Although every care will be taken, no responsibility is accepted for loss of manuscripts, photographs or artwork. Opinions expressed are not necessarily those of the Association and no responsibility is accepted by the Association for such content, advertising or product information that may appear.

ISSN 0961 - 6977

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GREENKEEPER

International

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COVER PICTURE:

Hardi Ltd. joins the Golden Key Circle: presenting a cheque are Colin Gregory, left and Bob Margree, centre. Receiving it, during the Pesticides Training Course, are George Malcolm, Neil Thomas, David Golding and Jon Allbutt. Details: Page 18.



The BIGGA Turf Management Exhibition and Seminar Programme is now recognised as the industry's most significant indoor event. Contact Debbie Savage on 03473 581 for a BTME 1993 Information Pack and find out how your company can take part.

Greenkeeper Education and Development Fund

Launched by Viscount Whitelaw at BTME 1992, the Fund provides the key to the future for greenkeeper, golf club and game. Individuals and companies can join the Golden Key Circle and Silver Key circle. For details, contact BIGGA on 03473 581.

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Augusta will bring more converts: and more questions

Writing this on a grey wet afternoon in March, I take some comfort in the knowledge that when you read this in early April, swamped in claim and counterclaim from Messrs Major, Kinnock and Ashdown, I shall be taking my annual holiday pilgrimage to Augusta and The Masters. Yes, I can almost hear you saying 'what a tough old life he has'; as you reach for the TV remote control and switch from tiresome action at Big Ben House to the sweet and fluid swing of gentle Ben – action of a decidedly better nature.

The TV cameras will of course be bringing the world's most photographed, feted, televised and talked about golf course smack bang into your sitting room; and whilst it would be a relief to think that the millions of golfers around the country – your members included – will find politics more interesting than pars and putts, the chances are distinctly unlikely. Television will bring still more new converts to the game, will make countless others want to rush off to the first tee at dawn the following day and, if I am any judge of behavioural patterns, will bring about the first rash of ill-considered demands for super-fast greens and highly manicured fairways and tees. "Why can't we have *our* course like Augusta", they will intolerantly howl in unison. "Why doesn't *our* greenkeeper produce putting surfaces like that, why can't we have *our* greens that colour?" The bleating will continue, *ad nauseam*, well into the summer!

As an on-the-spot observer I am not mesmerised by Augusta's spring gown, no matter how low it may be cut. For I know full well that Augusta's swanky style is the result of 51 weeks of preparation in order to bring one week of perfectly manicured perfection. Though greenkeepers will be aware of the sacrifices that must be made, few golfing punters will be even remotely aware – or care – that Augusta's picture postcard good looks are the result of huge budgets, state-of-the-art equipment, large maintenance crews and a positive army of volunteers who help to bring the seven day bonanza to fruition.

Furthermore, you may depend on the TV commentators to bring the most infinitesimal changes in the swing pattern of Joe Blow to your attention whilst totally ignoring to mention the span of time necessary to bring Augusta – or any other championship course for that matter – to peak perfection. Those manicured fairways don't just happen, as all turf professionals know. They are the result of months of planning, brought to a peak at just the right time.

Will our British commentators mention the difference in Georgia's balmy climate with that of, say, northern Britain, where greenkeepers will just be emerging from a spell of near zero growth that has lasted for all of six months? I'll bet a dozen Titleists that our differences don't even get a mention!

So, as the intolerance begins, tell your members they can have the perfection they seek – within the limitations of our climate – at a price. For a start, tell them that the course will



need a budget perhaps ten times its present one, probably with ten times the labour force and with a whole heap of tolerance and understanding, especially over the time span necessary for eliminating the undesirable before the quality can come good. Tell them those imperfections that suddenly seem so magnified are mostly of their own making and that you know how to bring back the quality fescues and bents – but tell them the truth: that perfection isn't cheap, it isn't quick and it isn't easy. Without a very understanding membership and a dedicated turf manager, it probably isn't there!

When the magnolias bloom at Augusta, golf course managers the world over can expect unrealistic demands to erupt from their members

DAVID WHITE

■ Colin Murphy is not one to let a thing like open-heart surgery set him back for too long, or so it would seem from the reports filtering through from South Wales. The heartening news (forgive the pun!) is that Colin has made a fine recovery from his recent ordeal and is now recuperating at home. All of his many friends and colleagues wish him a speedy recovery and return to a full and active life, as do we all at Greenkeeper International.

■ ADAS, the Agricultural Development and Advisory Service, originally set up in 1948 as a free service under the 'wing' of the Ministry of Agriculture, Fisheries and Foods and only over the past five years operating on a fee charging basis, became a fully fledged Government Agency on April 1st 1992. This is the final step toward ADAS operating as a commercial, profit orientated organisation; in the same way as Her Majesty's Stationery Office.

■ David Hemstock, long time advisor for ADAS and their specialist in matter pertinent to golf courses, has left to become an independent consultant on golf course improvement. He will also find time to contribute technical articles for publication in Greenkeeper International, starting with a provocative piece on 'Water Features'. David can be located on 0773 827115.

■ Plans for a major enhancement of golf facilities at St Andrews are set to take a step forward with the application for planning permission for a new driving range on St Andrews links. The development of the range is the latest stage of the extensive Links Development Programme set in motion by St Andrews Links Trust.

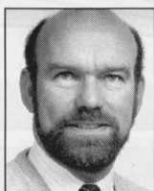
Aimed at providing the "Home of Golf" with facilities on a par with those at top international centres, the programme includes the construction of the new 18-hole course, the Strathtyrum, and the re-designed 9-hole Balgove. All three projects are scheduled to open in 1993. The driving range complex, comprising 12 open and 12 covered bays, and including a reception area, changing rooms and ball wash facilities, will be floodlit.



■ Hortech Ltd has become the first weed control company to be awarded the coveted BS 5750 quality assurance standard. Hortech MD Richard Powell, centre, received the certificate from John Gummer MP, Secretary of State for Agriculture, at a presentation ceremony in London. Mr Gummer said: "This business sets the standard. Increasingly others will have to do as well if they are compete effectively. Well done." Hortech had to show that it has an effective quality control system covering every aspect of its work, from handling customer enquiries to applying herbicides.

Mr Powell places great emphasis on safeguarding the environment when carrying out weed control work, saying "we are moving away from older herbicides toward the new breed of chemicals such as Roundup Pro, which has excellent safety characteristics and is biodegradable". Hortech is

based at Swynnerton in Staffordshire. Also pictured is contracts manager, Peter Jones.



■ West Country Groundcare have appointed Mike Taylor to their team to assist them with preparations for 5750 Approval, and to help set up a number of new projects. Mike Taylor brings a wealth of experience with him, having spent five years as a service engineer with Atco and 15 years with Veals Lawnmowers of Bristol – starting as a fitter at Veals and five years later becoming general manager. Mike leaves on a high note as Veals accounts show a 33% increase in turnover from 1989/90 to 1990/91.



■ John Brooks has joined Hayter Beaver as demonstrations co-ordinator. No newcomer to machinery, John began his working life training for an agricultural engineering apprenticeship. His technical expertise will be invaluable when working with Hayter Beaver's sales team, demonstrating the company's new extended range of professional groundcare equipment to local authorities, golf courses and other commercial end users. Married with two young sons, John lives in Bishops Stortford.



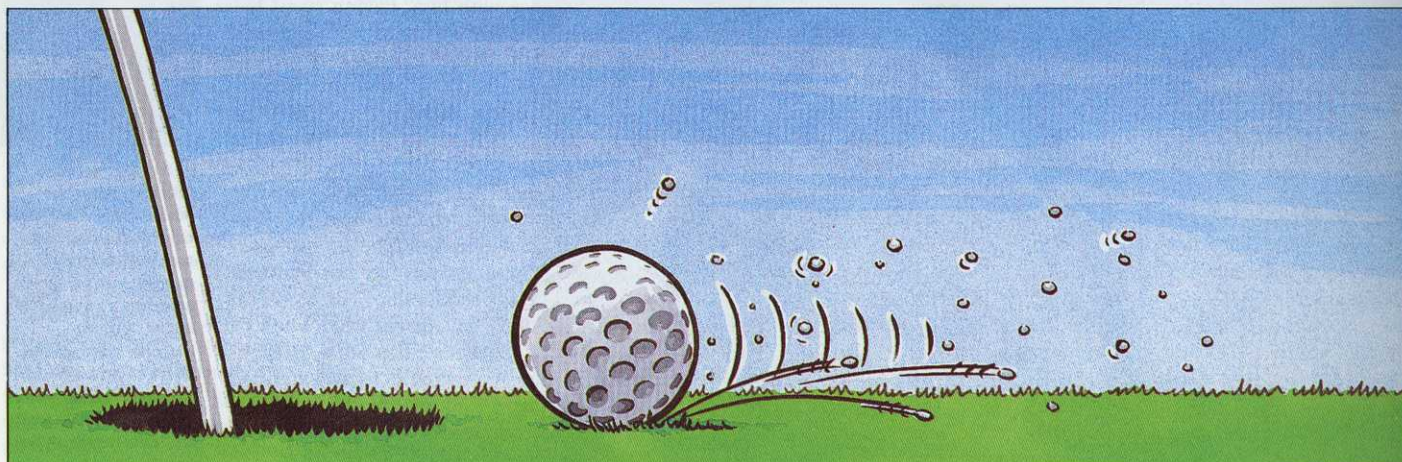
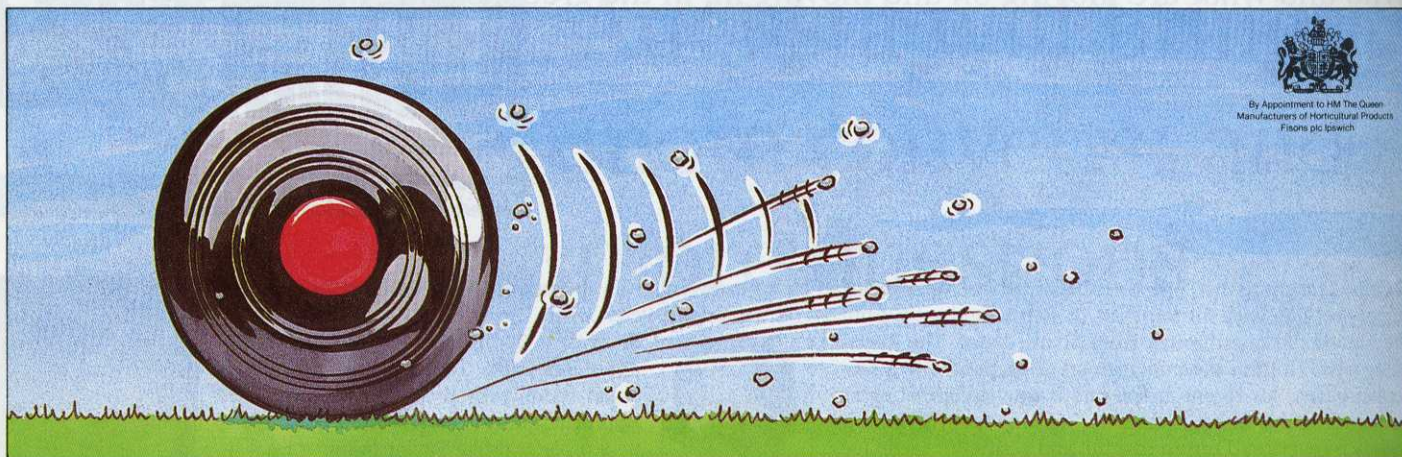
■ Chester firm Bruera Agricultural Services Ltd have been named Huxley Dealer of the Year for their outstanding achievements in 1991. At a special presentation at BTME, Brian Spruce, Bruera's groundcare division manager, was presented with a specially inscribed barometer by Huxley's field sales manager, Roger Barnes.

Bruera became a Huxley dealer early in 1991 and have already supplied the British made Huxley 358 Greensmower to the Runcorn, Hazle Grove, Old Padeswood, Rhyl, Heswall, Betws-y-Coed, Flint and Denbigh Clubs and to the Plassey Golf Course.

■ At a recent meeting held at the second Golf Asia International Golf Show in Singapore, the formation of the Asia Pacific Golf Course Superintendents Association (APGCSA) was tabled, with a committee soon to be formed and the Association formally registered. The golf industry in the Asia Pacific region has developed at a staggering pace over the past few years, resulting in the construction of numerous courses and the trend revealing an urgent need for trained personnel. That there is an evident lack of such personnel has resulted in a need to employ foreigners (mostly American and Australian) at very high costs. One positive measure to overcome this gap is the formation of the new professional body – APGCSA. Early indications suggest that the APGCSA may forge links with BIGGA in the furtherance of education and training. Though in its absolute infancy, the formation of APGCSA looks most promising.



■ Finally, on to a missing face, for which Joel Paul, the talented sculptor and golf course model maker, is offering a reward of £500. This to anyone tracing the theft of an original bronze figure, stolen recently from the smelting/casting works. The piece is instantly recognisable as a likeness of Tony Jacklin. Information to Peckham Police Station, telephone 071 639 4333.



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A chance to win and to help Blind Golf Championships

■ A unique golf team competition in which every Club in Britain can compete against every other Club is at the heart of a bid to raise funds to stage the World Blind Golf Championships in Britain in 1992.

A letter from Peter Alliss, Patron of English Blind Golf, has gone out to every Club secretary. In which he asks the Clubs to take part in the 'Hot Shot Golf Challenge' and for every player who enters to donate one pound to the fund.

The target of the competition is the short par 3 hole in the May 1992 medal round at every Club in Britain. Each participating player has his or her drive at the short par 3 measured from the pin. The distances in inches of the best six drives are totalled, any holes-in-one count minus 24, and that is the Club's recorded score.

The winning teams, both ladies and men's, will win for that Club greenkeeping and landscaping equipment and supplies to the value of £5,000. The individual players will receive inscribed trophies and the prizes will be presented at the World Blind Golf Championships at Patshull Park, Shropshire in August 1992.

■ It was with a smile that I read Seve's comments after scoring a double-bogey seven on the 645 yard tenth in the Turespana Balearic Open in March, critical of the greens: "They were much quicker – I don't know why they cut them so much. You lose your touch and rhythm. I should be leading, but you just have to be patient". It seems that green speed is the one thing that can never be right for everyone and why indeed do 'they' cut them so much? Almost certainly because 'they' are instructed to. Seve later went on to win in a gift-from-heaven play-off!

■ The IOG, which came in for some well deserved criticism following sloppy handling of the press at their last

trade show at Peterborough, have suffered a further set-back with the resignation of Gerald Snook and Frank Scott as organisers of the show, following reported internal conflict over the re-scheduling of the exhibition and some apparent accusations that Scott and Snook had put the institute in a mess over agreements with the East of England Showground owners.

The conflict was sparked off when Scott and Snook made arrangements to move the IOG show forward a week to avoid a clash with the August bank holiday weekend. The revised move to September 8th-10th, though dodging said bank holiday, now means that a part of the showground will also be occupied by a kit-car show.

The IOG are playing the whole matter down, claiming that their HQ staff, though somewhat slimmer in numbers following recent personnel cuts, can handle the bulk of administration for the show, but as has been observed before and will now be watched with even keener interest, there is no substitute for getting professionals to do a professional job.

It must also be said that the previous masterminding of the IOG exhibition by Dianne Mowat, deposed two years ago as the show organiser, is mourned in many circles, for she remains the essential 'missing link' that IOG so desperately need again.



■ A special word of praise for Rhone Poulenc on their initiative in chipping in a massive 10% of their distributor representative financial awards to the worthy charity, Physically Handicapped, Able Bodied (PHAB). Rhone Poulenc have come in for a mite of criticism just recently over the 'worm killing' saga, but on this occasion they may step forward for well deserved accolades.

Just leave the countryside alone, golf course developers are told

The Countryside Commission wants any plans for golf courses in areas designated for their scenic beauty to be bunkered. In a position statement, shortly to be set out as an advisory booklet for planning authorities and golf course developers, the Commission recommends a general presumption against new courses in:

- National parks, including the Broads.
- Areas of outstanding natural beauty,
- Heritage coasts.
- Historic parklands.
- The New Forest.

In other areas the go-ahead should be given only where such a development would contribute to and enhance the character of the landscape. And it should proceed only after a thorough environmental assessment of the likely impact, says the Commission.

Manicured greens, contouring, planting of often alien species, sandy bunkers and the removal of hedge-rows and stone walls can give an 'imposed' look which would conflict

with beautiful landscapes – especially as, on average, an 18 hole golf course spreads over 50 hectares of land. There are fears, too, that such a facility could be the thin end of the wedge, with clubhouses, hotel accommodation, roads and other development following. But the Commission is not against the idea of golf course facilities in less sensitive areas of the countryside.

Preference should be given, it says, to locating them where they can make a positive contribution to the area – for example, within degraded landscapes, such as those affected by mineral workings or where intensive agriculture has already left its mark. The 12 new community forests being planted in different areas of England, or the New National Forest being created in the Midlands, could make suitable locations for new golf courses, it suggests.

But, says the Commission, in all circumstances where golf courses are allowed, consideration must be given to their effect on

the conservation of wildlife and historic features, as well as on local communities. Furthermore, appropriate management of new or retained landscape elements should be a condition of any planning permission, together with arrangements for the provision of public access to the countryside.

The Commission, with the help of consultants, is to publish an advisory booklet on the subject later this year, giving guidance to local authorities and golf course developers on the way in which the principles should be applied.

It will cover matters such as environmental and landscape factors to be taken into account when considering a new course, design guidance for landscape treatment and enhancement, and opportunities for creative conservation, together with guide-lines for future management and after-care.

• Source: "Countryside", newspaper of the Countryside Commission

Drainage

by Dick Nugent,

Dick Nugent
Associates, Illinois,
USA

During a recent tour of British golf courses, I was told, "You Yanks take a well man and make him sick!" That was their picturesque way of saying we use too much irrigation water, make the grass sick, and then we apply pesticides and even more water.

Irrigation has been a favourite topic of the golf course maintenance industry during the last 20 years. Applying water to the golf course is the conspicuous, perceptible part of turf maintenance. But the other side of that coin is drainage — getting water off the golf course. Drainage is the hard job, the thankless job, the job nobody wants to talk about.

Drainage is not only crucial to quality turf maintenance, it also affects the playability of a golf course. A properly designed and installed drainage system keeps the golf course dry and playable, providing more playing time than a non-drained course. A drained course has the added advantage that it can be played more often with carts — no small consideration.

Rx for Turf Health

Ideally, the combination of drainage and irrigation achieve a soil condition agricultural engineers call "field capacity." This is the ideal level of moisture that, when balanced with air, enables aerobic bacteria in the soil to complete the nitrogen life cycle, thereby supplying nutrients to the grass.

Drainage can lower the water table, allowing the top part

of the soil to dry out. This fosters grass root development, especially during the spring when the water table is normally near the soil surface. The deeper roots break up the subsoil and help develop good soil structure. Drained soils also warm more quickly during the spring season, promoting turf growth and speeding winter recovery. Conversely, drained soil is less apt to suffer from freezing damage.

In parts of the United States where soils contain a large amount of salt, sufficient irrigation is needed to flush the salts from the turf root zone. Drainage is especially important in these soils to allow this maintenance practice to occur. Adding fertilisers, which are basically salts, can create a similar situation if inadequate drainage exists.

System Components

There are a variety of drain types available, including tile drains, French drains, and open ditch drains, as well as storm sewer systems.

The least expensive to install is the open ditch drain. This type is frequently used in Great Britain, even at the exclusive Sunningdale Golf Club near London. In the United States, open ditches often are used on land of low value, such as swamps and forests, where more sophisticated drainage systems would not be cost effective.

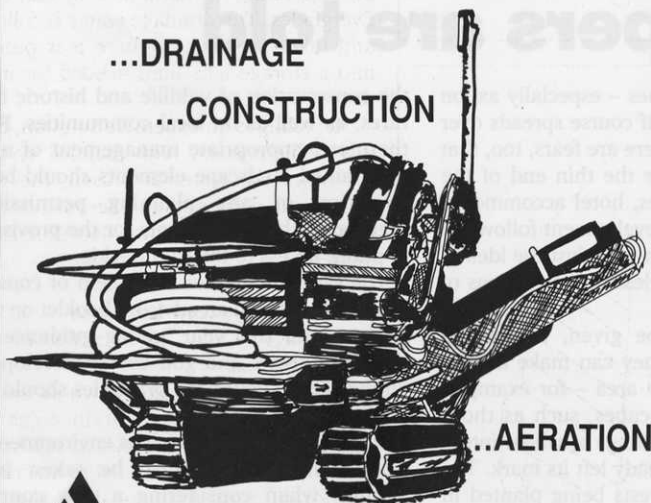
Open ditches are relatively inexpensive to construct, but they do require long-term maintenance, including the removal of weeds and sediment. They are difficult to mow, and maintaining the slopes without the sides collapsing can

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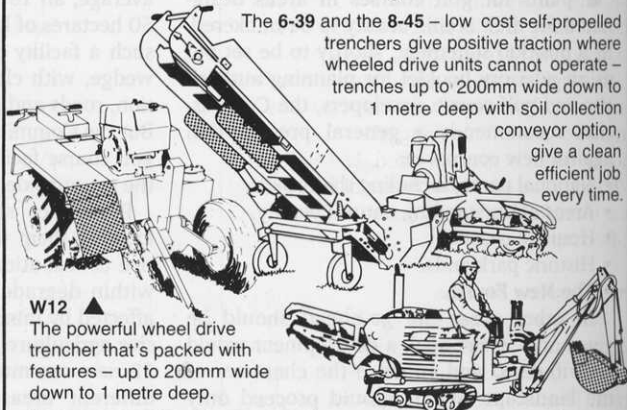
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Shhhh! It's a job nobody wants to talk about

be a problem. Also, there is the need to dispose of the excavated soil during construction. Although open ditches are not the optimum drainage solution for a golf course, there are occasions when physical conditions do not provide adequate slope or cover for drain pipes, and an open ditch may be the only reasonable option.

A variation on the open ditch drain is the French drain, consisting of a narrow open ditch drain filled with gravel. A disadvantage is the tendency for the upper portion to become sealed with dust and surface soils, which eventually clog the drain. To alleviate the problem, a geotextile fabric can be used to line the bottom and sides of the trench. When the gravel is in place, the fabric edges are overlapped over the top of the gravel. The fabric holds the gravel in place and, in unstable soils, prevents soil fines from entering and clogging the drain. The top can be cleaned off periodically or simply sealed off with a layer of porous soil or sand. Today, French drains are rarely recommended.

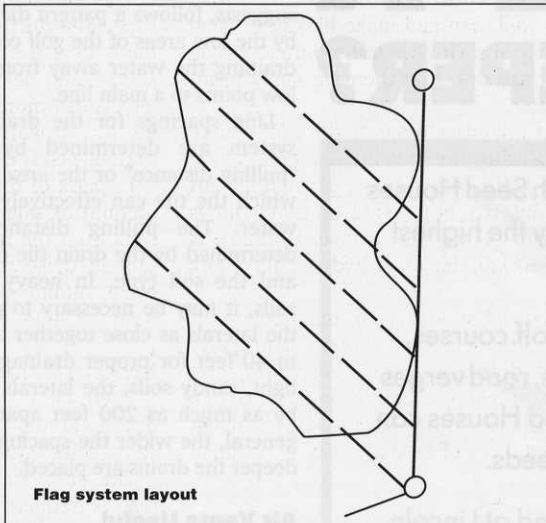
Historically, tile drains were constructed with 4 inch diameter, 12 inch long pieces of concrete or clay tile. Corrugated polyethylene plastic tubing, which is resistant to damage by acid soils and frost, is now a popular substitute for concrete or clay tile. The corrugations strengthen the tubing, which is manufactured in continuous lengths ranging from 500 feet for 2 inch diameter tubing, to 20 feet for 8 inch or larger tubes.

Although tile drains are somewhat more expensive to construct, they provide a system that functions well over the long haul, with minimum maintenance. While it is true that soil fines and sand can enter the tile or tubing, the flow of water should carry the deposits along, preventing clogging of the system.

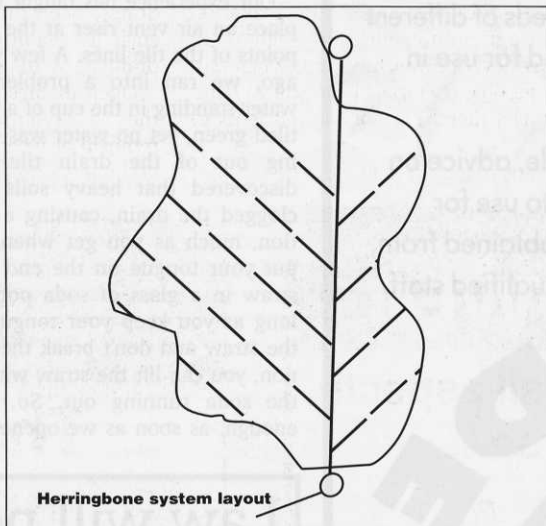
Although a variety of materials can be used as an "envelope" around sub-surface drains to prevent clogging, the most commonly used is gravel, sized 1/4 inch to 3/8 inch. The envelope material functions as a filter for fine sands and silts from the in-flowing water.

Interceptor Drains

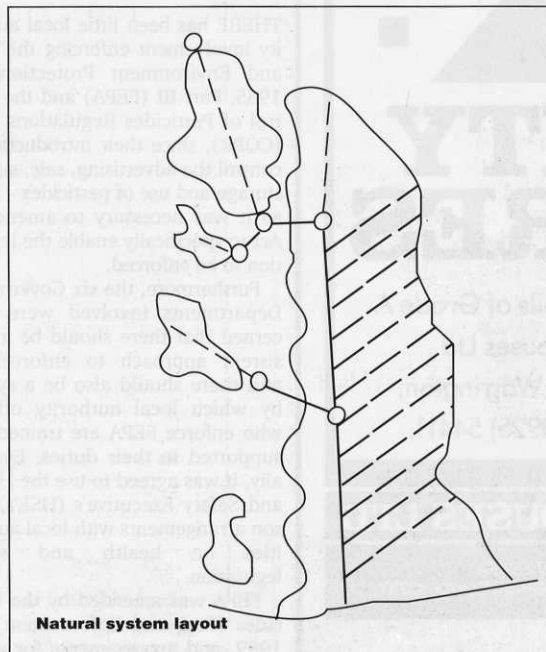
There are occasions when hillside surface water must be dealt with to prevent erosion and subsequent ponding in low areas. Hillside seepage occurs when previous surface soil is underlain with impervious soil that restricts vertical water movement. Hillside seepage also occurs when a water table exists at the soil surface, usually at the intersection of a hill and a flat valley. For example, seepage may occur where an elevated green



Flag system layout



Herringbone system layout



Natural system layout

meets the surrounding land. By locating a sub-surface interceptor drain uphill from the wet area, water can be intercepted and carried away.

Storm Sewers - A Plus

The best outlet for a quality drainage system is a storm sewer system. While golf course drainage systems often do not tie into storm sewer systems, they should whenever possible. This should be a major consideration for a quality golf course drainage layout.

Storm sewers usually have two types of maintenance access: manholes and catch basins. Manholes should be placed at any point where a drain line changes direction, but no farther than 300 feet apart. Manholes have a covered top and a smooth bottom that matches the flow line of the drainage tile connected to it. The catch basin has an open, grated top to allow drainage to flow into it from the top, as well as from drain tile entering above the bottom of the basin. Since the flow is uninterrupted in a manhole, soil deposits do not accumulate. However, in the catch basin, the space between the tile and the basin bottom can fill up with drainage solids, so it must be cleaned out periodically. For easiest maintenance, it is best to run your drainage to a storm sewer system that features only manholes.

There have been cases where drainage water has been recycled for use in the irrigation system. Pete Dye's design for the Old Marsh Golf Club in Florida is a case in point. There the water is recycled to avoid contaminating the natural ecosystem of the Everglades. The drainage water is collected and taken to sumps, where it is pumped into a storage lake until needed for irrigation.

Recycling is an expensive solution, but it is a viable answer. With recycled systems, the more the water is reused, the more concentrated the salts can become. Because of this, the water must occasionally be diluted.

Drainage System Layouts

Drainage systems are identified by their layout patterns.

The flag pattern, also known as the parallel system, is used to drain areas that have uniform slopes. A series of sub-branch lines, or laterals, run parallel to each other and drain into a main line. Drainage installers must do a good job of setting the lateral lines to an established pitch that must remain constant for the system to perform properly. Maintaining a constant pitch can be difficult if the terrain is uneven.

The herringbone system is used to drain swale areas. Water flows in the laterals ➔

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Drainage

→ toward the main line, located in the lowest part of the swale. This system is frequently used because of the ease of its installation.

The natural layout, as its name suggests, follows a pattern dictated by the low areas of the golf course, draining the water away from the low points to a main line.

Line spacings for the drainage system are determined by the "pulling distance" or the area from which the tile can effectively pull water. The pulling distance is determined by the drain tile depth and the soil type. In heavy clay soils, it may be necessary to place the laterals as close together as 30 to 40 feet for proper drainage. In light, sandy soils, the laterals may be as much as 200 feet apart. In general, the wider the spacing, the deeper the drains are placed.

Air Vents Useful

Our experience has taught us to place an air vent riser at the high points of the tile lines. A few years ago, we ran into a problem of water standing in the cup of a well-tiled green, yet no water was coming out of the drain tile. We discovered that heavy soils had clogged the drain, causing a suction, much as you get when you put your tongue on the end of a straw in a glass of soda pop. As long as you keep your tongue on the straw and don't break the suction, you can lift the straw without the soda running out. So, sure enough, as soon as we opened up

the tile at the high point of the green, the water went gushing out of the tile. Since then, we have generally made it a practice to introduce an air vent at the high points of drainage lines.

The air vents accomplish three things. First, they prevent the suction from occurring. Second, they provide convenient places to introduce water into the system if flushing is needed to clear a blocked tile. And finally, the vents introduce air into the tile line, which helps to aerate the soil.

Common Sense and Drainage

Thinking about what it takes to achieve an outstanding and playable golf course, I am reminded of the story about the farmer who, every year, had the most outstanding crops in his area. His neighbours finally asked him to meet with them and share his secret. "Well," he replied, "the way I look at it, there's really not much to farming. It's about 90% drainage and about 10% common sense. If you don't have much common sense, put in more drainage!"

That story applies handily to golf courses. The secret of a great golf course is good turfgrass. One of the secrets for growing good turfgrass is good drainage. So if you want a great golf course, you'd better pay attention to your drainage!

● This article first appeared in the USGA 'Green Section Record' and is reproduced with due acknowledgement and thanks.

Law will now be enforced

THERE has been little local authority involvement enforcing the Food and Environment Protection Act 1985, Part III (FEPA) and the Control of Pesticides Regulations 1986 (COPR), since their introduction to control the advertising, sale, supply, storage and use of pesticides – to do so it was necessary to amend the Act to specifically enable the legislation to be enforced.

Furthermore, the six Government Departments involved were concerned that there should be a consistent approach to enforcement and there should also be a system by which local authority officers who enforce FEPA are trained and supported in their duties. Eventually, it was agreed to use the Health and Safety Executive's (HSE's) liaison arrangements with local authorities on health and safety legislation.

FEPA was amended by the Pesticides (Fees and Enforcement) Act 1989, and arrangements for a sys-

tem of liaison and training were completed with a view to commencing enforcement on 1 April 1992.

Local Authorities will enforce all aspects of COPR, that is, from advertisement to use, on those premises where they now enforce the Health and Safety at Work etc. Act 1974. This includes all golf courses.

HSE Inspectors will continue to enforce all aspects of the pesticide legislation with the exception of advertising. This includes the effect of use on people and the environment in the area of agriculture, forestry, and horticulture, manufacturers premises, timber treatment works, construction sites, local authority premises, private dwellings when pesticides are used as part of a work activity.

A special section has been set up within the Local Authority Unit of HSE to ensure consistent standards of enforcement and to deal with pesticide matters.



Ask a farmer what to do, then do the opposite, says JIM ARTHUR

Lasting legacy of

LIME

There is no better (or worse) example of the lasting legacy of lime than on an old abandoned tennis court turned into a lawn where the lining out was originally done with a lime-wash. Twenty years after such old courts had last seen a forehead smash or genteel lob the old lines can still be seen, narrow strips of dark green lush grass black with worm casts and covered in weeds contrasting with the old wiry turf. Of course if such lush, worm-ridden weedy turf is what you want, lime away with gay abandon! But surely we are agreed most grass sports are best played on fine wiry turf, which may not be bright green but is certainly worm and weed-free.

The problems of greenkeeping can so often be laid at the feet of farmers or agricultural advisers. Printed at the top of any report or feasibility study carried out by such 'specialists' should be the old greenkeeping adage "Ask a farmer what to do about greenkeeping, listen carefully and then go and do the exact opposite!" This is totally logical because 'grass' to a farmer means exactly the opposite of what it does to greenkeepers. Many of our problems in this direction stem from farmers on green committees in the periods after two World Wars, trying to equate the success they had on their farms from liming and feeding with managing their golf courses.

Good greenkeepers hate lime. It builds up fertility, encourages earthworms (now so difficult to eliminate but still so capable of creating soft, muddy, weedy turf) and favours our old enemy annual meadow grass, not to mention creating very poor surface drainage.

It is nearly a century since the first paper was written on the benefits of acidifying heavy soils by the use of acidic reacting fertilisers, viz sulphates of ammonia and iron and the harmful effects of lime. This was by Dr Murray in South Africa in 1904, anticipating the research work done in the States at Rhode Island, set up in 1890, which was the first greenkeeping research station. It was this paper and those which followed which generated so much enthusiasm here in the 1920s for the acid theory, and certainly, on heavier soils, acidification eliminated weeds, reduced earthworm casting, improved drainage and encouraged finer grasses, notably the acid-tolerant *Agrostis* family (bent grasses).

It was on this theory that RB Dawson as a young and inexperienced Rothamsted soil chemist pinned his faith in the early thirties after he was appointed as first Director of the Research Station at Bingley in 1929. Sadly – and especially sadly for him and his reputation – the theory was grossly abused in practice. On the principle that if one bottle does you good, two will do you better, ammonia and iron were applied with gay abandon, irrespective of soil type, climatic conditions and, above all, back-up irrigation facilities. Six and more dressings a year, at rates only marginally below those at which post-application scorching would be inevitable, were applied to links greens with at best primitive irrigation, if any. This brought the pH down with a run from 7.5 and 5.0 and below.

Initially highly successful control of broad-leaved rosette weeds and earthworm casting was followed by disastrous drought damage in the mid thirties, as the acidity burnt up the moisture-retaining humus. Dawson lost heart, panicked and changed back to NPK fertilisers and the inevitable annual meadow grass filled in the bare areas. We are still suffering from this in the turf quality on some of our *Poa annua* dominated links.

Ever since, there has been guarded and strictly qualified acknowledgment that acidity can produce fine wiry turf. So it does, on heavier soils, where the natural grass species is *Agrostis*, but on light sandy soils, where fine grasses are found, such acidification discourages the alkaline-loving fescues and where the turf thins out, annual meadow grass rather than *Agrostis* tends to take over.

Today, there is much less talk of manipulating the pH figure, which frankly can be summarised by saying that the ideal pH is the one you have got. "If it ain't broke, don't try to mend it" is a very sound philosophy. If one is favoured by desirable species being dominant, do not try to upset the soil conditions that encourage this desirable state. Even where undesirable lush species are dominant, think hard before acidifying (or liming). There may well be other factors: traffic and resultant compaction; over-watering or a legacy of grass over-feeding, which are responsible.

Liming acid turf because it is not sufficiently vigorous or even green is not the answer. Even less so is the use of alkaline fertilisers such as nitro-chalk. Liming bent turf without phosphates will assuredly result in a severe attack of the fungal disease Take all Patch, formerly *Ophiobolus*, now *Gaeumannomyces graminis*, for which we now have no legally permitted fungicidal cure, (even the illegal cures involving mercurial fungicides, practised by those with access to stocks of old fungicide, have now stopped as the material runs out).

A confusing factor is that pure sand, as opposed to sand/soil/humus greens, need lime plus complete fertilisers etc. and this inevitably encourages annual meadow grass and disease.

One answer to Take all Patch is to increase phosphates, but this causes *Poa annua* to take over. Acidification can sometimes reverse the ill-effects of liming and reduce the disease, but all too often the long suffering turf does not know whether it is punched, bored or hem-stitched and reacts accordingly. One classic way to deal cheaply with worm casting and lushness of heavy alkaline soils due to past liming, practiced for 60 years, is to use powder sulphur which slowly oxidises to sulphuric acid and produces an acid soil. The problem is that there is no way in which soil analyses can determine how much sulphur to apply. Excessive rates, while initially showing dramatic improvement, eventually produce so low a pH that grass dies, leaving only moss. Too little has no effect. The only way is to put down trials at say 1-4 ozs. sq. yard and wait 6-9 months before assessing the optimum rate. Beware of uneven application – or overlapping – so easy with a material notoriously difficult to spread evenly. Of course, if you do overlap, you can always lightly lime the scarred strip!

This sulphur treatment may be our only way to eliminate earthworms now that our masters in Brussels have banned the use of virtually all vermicides. Before long, I expect to hear that they propose banning golf on the grounds that it is a dangerous sport. Everyone at each and every level in golf should be well aware that the EC are planning regulations which will control every aspect, both of building new courses and maintaining existing ones. When the rules are made, it will avail nothing to protest – we must guide the rule-makers, who could quite easily lay down laws as to the ideal pH and even the grasses to be used! You can be sure, on their present track record, that they will get it wrong!

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It is no secret that the most popular speakers at seminars and conferences are our own greenkeeper members. However, not many members have the confidence or the presentation skills to be able to share their experiences.

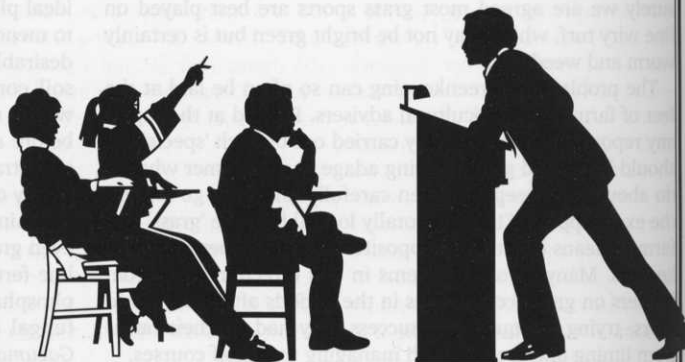
The Association, through its new *Education and Development Fund*, is arranging two-day courses at Aldwark Manor for members willing to gain the necessary confidence and technique.

All you have to do is agree a subject with Education Officer David Golding, and following the training course, we pilot the presentations at Section meetings, prior to national platforms.

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In the future the Association would like to develop a "bank" of speakers who could be used on the various platforms around the country, to pass on their particular skill or experience.

It is hoped the course will be very popular – and so early application is recommended.



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Personal protective equipment

An update on the new proposed regulations by JON ALLBUTT

Since 1974 the Health and Safety at Work Act placed a general duty on the employer to provide a safe working environment for the employee, this including the provision for protective clothing where it was considered necessary. In general the minimum clothing is provided, although we tended to accept the manufacturer/suppliers opinion as to it's suitability rather than ask for a detailed specification. In situations where special protection is needed, eg. in dusty conditions or using chemicals, the equipment is often woefully inadequate.

The COSHH Regulations require that a 'suitable and sufficient' assessment of the risk to employees' health is carried out before a job involving the use of hazardous substances is carried out. If correctly carried out the risk assessment should deal with avoiding the risk by changing work practices or changing the substance used. The use of personal protective equipment is considered to be a 'last resort' after all other factors have been considered.

Temporary staff are sometimes treated differently; the provision of protective boots, coats or specialised equipment is usually reserved for permanent staff only.

Two important draft documents have recently been published by the Health and Safety Executive to implement EC Directives. They will not only help our understanding of what exactly a temporary worker is; but they will also more clearly define the employer/employee duties with regard to the issuing and use of personal protective equipment. These draft documents will be issued as Regulations and Codes of Practice soon and will come fully into force later this year.

The proposals for 'Health and Safety (General Provisions) Regulations and Approved Code of Practice' is intended to implement EC Directives 89/391/EEC and 91/383/EEC. The latter Directive is specifically to "encourage improvements in the safety and health at work of workers with a fixed-duration employment relationship or a temporary employment relationship". Article 2 sets the objectives of which (1) states "The purpose of this Directive is to ensure that temporary workers are afforded the same level of protection as that of other workers in the user undertaking and/or establishment". This statement makes clear that temporary staff will no longer be treated as the 'poor relation' in terms of health and safety at work. In fact this document also makes clear in Regulation 12 that temporary workers must be provided with the same information and training as permanent workers.

It is necessary to employ seasonal workers on golf courses and sports grounds to help out at peak times and these temporary workers carry out a variety of tasks, including the use of machinery. In future it will be necessary to make provision for their training and issuing of personal protective equipment.

The document: Personal Protective Equipment at Work, Proposals for Regulations and Guidance, is intended to implement EC Directive 89/656/EEC on the Minimum Health and Safety Requirements for the Use of Personal Protective Equipment at the Workplace. The proposed Regulations provide some useful definitions:

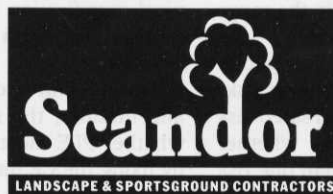
"Personal Protective Equipment" – means all equipment designed to be worn or held by a person at work to protect him against one or more risks, and any addition or accessory designed to meet this objective. "Risk" – any risk to the health or safety of a person and includes wet or extreme temperature, caused by adverse weather or otherwise.

The guidance for Regulation 6 states "Most PPE will be provided ➡

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on a personal basis, some may be used by a number of people. There should therefore be arrangements for cleaning and disinfecting if necessary before PPE is reissued".

The employers duty is set out in Regulation 4 (1) - "Every employer shall provide suitable personal protective equipment to each of his employees who may be exposed to any risk while at work except where and to the extent that any such risk has been adequately controlled by other means which are equally or more effective".

Regulation 4 (3) states that the PPE shall not be suitable unless;

(a) it is appropriate for the risk or risks involved and the conditions at the place where exposure to the risk may occur;

(b) it takes account of ergonomic requirements and the state of health of the person or persons who may wear it;

(c) it is capable of fitting the wearer correctly, if necessary after adjustments within the range for which it is designed;

(d) so far as is practicable, it is effective to prevent or adequately control the risk or risks involved without leading to any increased risk (including circumstances where, whether because of the presence of more than one risk or otherwise, it is necessary to wear simultaneously more than one item of PPE).

The guidance to Regulation 4 refers to the use of PPE as a last resort. It explains that

Personal protective equipment

steps should first be taken to prevent or control the risk at source by other means before deciding to issue PPE.

Regulation 5 (1) states "before choosing any PPE, an employer shall make an assessment to determine whether the PPE intended for use is suitable". As part of this assessment the employer should ensure that the information required to be supplied (Health and Safety at Work Act Section 6) by the manufacturer/supplier is available. This data will give the technical specification for the equipment and the relevant testing to indicate that it is 'suitable for the purpose'.

This year, in addition to any BSI kite mark and number, the manufacturer will indicate whether PPE meets EEC standards of quality by fixing the CE mark followed by the last two digits of the year it was fixed, eg. CE92.

The employee also has duties to wear the PPE, maintain it in good condition and report any defects as soon as they occur.

What should the golf course manager do?

Take a fresh look at the golf course as a workplace and make a list of all the jobs that require PPE in any form. Discuss your findings with all concerned, as this may well reveal some areas hitherto not considered. Make a list of the PPE currently in use, ask the wearers for their opinions and ask the supplier for the Section 6 information to ensure that the equipment is 'suitable for the purpose', or otherwise!

Assess the work practices and see if the job could be done another way to reduce or eliminate the need to wear PPE without reducing efficiency.

Revise the Statement of Safety Policy to include any special provisions for the use of PPE generally; and make mention of any special provisions necessary eg. working in very dusty conditions, mixing top dressing or mowing in drought conditions.

Remember that it does not have to be a hazardous operation to require the use of PPE; remember too that the reappraisal of the use of PPE may have an impact on the COSHH Assessment. If Risk Assessments have yet to be carried out, do the two jobs together and do not hesitate to ask for expert assistance'.

● The author, Jon Allbutt, is an independent technical consultant to the leisure and amenity industry, best known to BIGGA members as a no-nonsense trainer and lecturer in pesticides and the Code of Practice.

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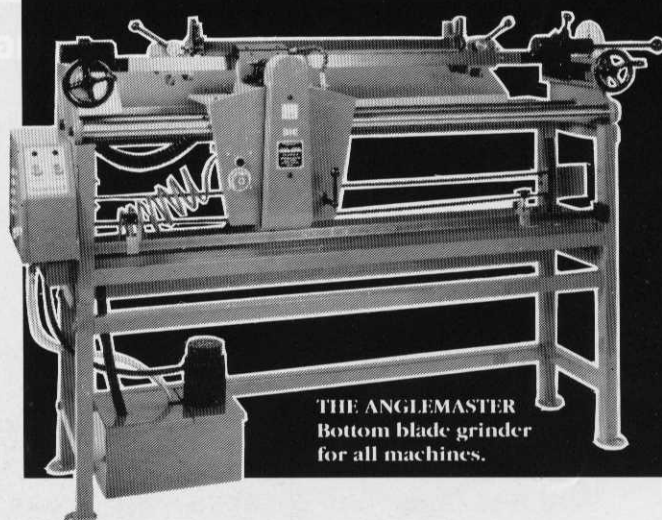
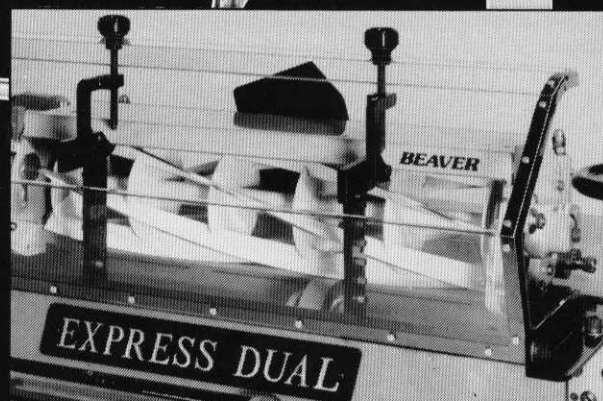
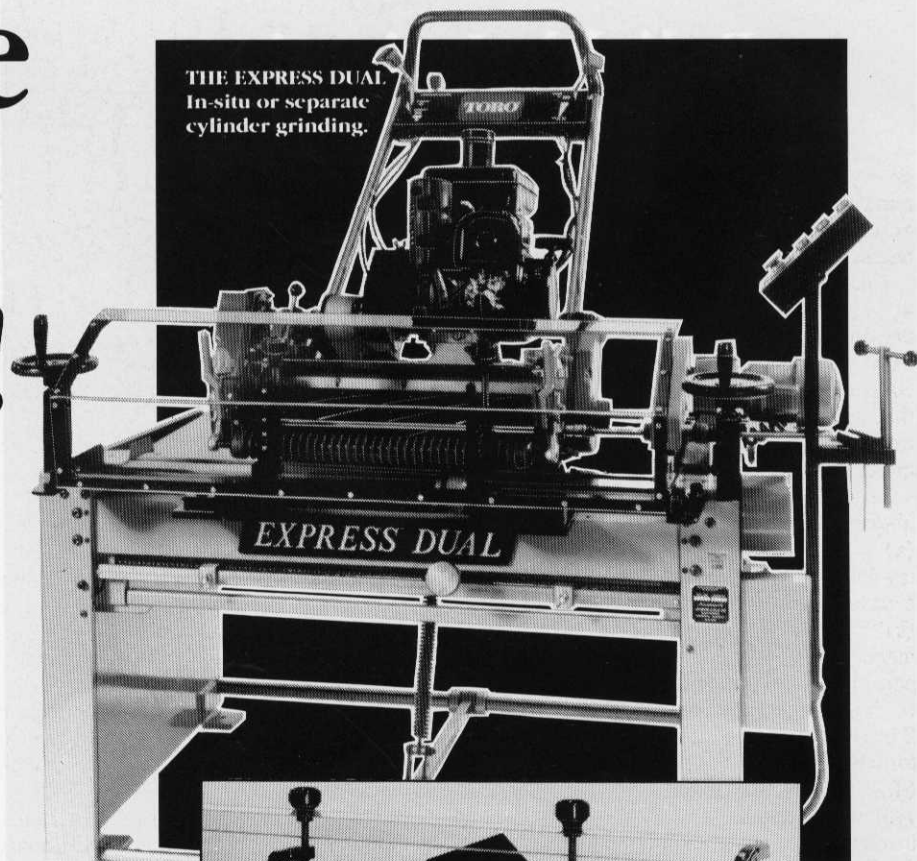
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A Greenkeeper International tribute to supporters of the Greenkeeper Education and Development Fund.

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ICI Professional Products



Mention ICI to the layman and he might be forgiven for thinking that this conglomerate, for that is what it is, with all that enormity and strength in the world of commerce and industry conjures up, is an unapproachable, remote superpower. Useful; yes, fantastic products; yes, market leaders undoubtedly and innovators unquestionably. But that stated, the man in the street thinks of ICI in terms of BIG business, of the share market and of being more in keeping with the boardroom and of those who move in the mysterious corridors of power. Dare to put that same suggestion to a greenkeeper, however, and the likely come-back will be an entirely different, humanised story.

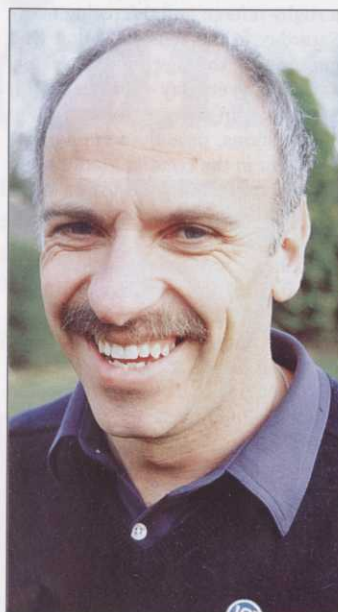
To the greenkeeper, ICI – or, more specifically, ICI Professional Products – represents a close and caring organisation with the turf manager and his interests very much at heart. Granted, the company is in business to make a profit, as indeed is every company save those few which are propped-up by governments, but with this particular section of ICI's empire, the feeling one gets when talking to the team at Professional Products is of genuine involvement with the folks at grass roots level.

Of course, ICI means different things to different people. To the golfing greenkeeper it means the BIGGA National Tournament, now in its second year of sponsorship by ICI Professional Products and increasingly the most prestigious event in which to compete. To the thriving young academic greenkeeper it means a crack at becoming ICI Greenkeeper of the Year. Ask Anthony Davies and David Whitaker, the victors of '91 and '92, what this represents and they will tell you that being crowned ICI Greenkeeper of the Year has changed their lives. To every greenkeeper it represents professionalism and technical superiority in the fine turf care product market.

To find out more about ICI Professional Products, of its relatively short history within the parent company and of those who mastermind the operation, I met up with Roger Mossop, marketing manager, and David (Dave to his friends) Siddon, national sales manager, at Walton Heath Golf Club and prepared to



Roger Mossop



Dave Siddon

FACE TO FACE WITH THE BIG FRIENDLY GIANT

quiz them.

Did I say that ICI was a giant? Our particular 'giant' comprises just ten people – managers, area sales managers and office personnel – based at Fernhurst in Surrey though blanketing the country through a network of distributors. Professional Products began life as a separate entity, launched at Windsor in '83, primarily as the recognition for sports amenity specialisation took hold. ICI had some wizard products

which had hitherto been serviced to greenkeepers by ICI's agrochemical or garden product divisions. With nationwide acclamation of ICI's then new growth retardant Paclobutrazol, the stage was set for a specialist group – ICI Professional Products – to market these and other products and provide the vitally important technical back-up so essential to the fine turf industry.

Dave Siddon was one of the earliest pioneers, joining Keith Cleverly

in bringing the new infant forward and increasing the total workforce by 100% – from one pioneer to two! Keith had moved from ICI Agricultural and Dave joined him from ICI Garden Products, both men hell-bent on making the world take notice of this new company – and succeeding! The pioneering over, Keith was soon to move to another division, presumably to wave his magic wand in a different direction, and his place was taken by Roger Mossop, again an ICI agricultural specialist, whose task was to be marketing manager. If there is one note of sadness to the success of Professional Products it came when Keith Cleverly died shortly after, cut down in his prime by a brain tumour and cheated from seeing the triumph that was to come.

Roger Mossop had all the right credentials to take him to the top: college educated with an agriculture and forestry base, thence to Harper Adams in Shropshire to take a National Diploma in Agriculture and finally to University College, Bangor, to gain a BSc Honours degree in Agriculture with Agricultural Economics. Straight from university to ICI, he joined ICI Agrochemicals in '72, following the technical sales path from trainee to senior rep. (in East Yorkshire) before becoming an area sales manager in '84, training others in the art of professional selling and achieving all that was set before him. Above all, Roger possesses that impish sense of humour so essential in any marketing operation, coupled with an encyclopaedic knowledge of his chosen industry – the perfect passport. He's a keen sportsman, having captained his rugby team at Harper Adams and been capped for University College. He plays an aggressive game of squash, works out regularly in the company gymnasium, plays golf (claiming to be at an embryonic stage, though as Dave pointedly remarked, he's a real mean performer when battling against him!) and has a deep interest in motor cycle racing. He carries this latter interest full circle by spending time in restoring a favourite 1950s classic – a BSA Bantam De Luxe!

Dave Siddon was quick to point out that Roger is the perfect 'sounding board', the essential deep thinker who can and does evaluate the brilliant ideas from the impracti-

'The formation of BIGGA was music to our ears... it was the best thing that could have happened'

cal, the ideal partner in what is undoubtedly a doubles match. If one was to draw a comparison in sport, they act together like a perfect golfing foursomes partnership, playing shot and countershot.

Both men have inordinate pride in their company, pointedly so with the high esteem in which Professional Products is held in the industry. "This is not something that just happens", Dave said; "we are ever conscious in our desire to achieve the highest standards throughout: products, packaging, people, service and distribution. We've a worldwide reputation to live up to and nothing is ever left to chance". We touched on the importance of environmental awareness, Roger making the point that with this issue uppermost in their minds (and government legislation aside) this has always been a vital issue for ICI. Interestingly, the cost of achieving, indeed going beyond, mere environmental acceptance is the highest single expense in producing all ICI products.

Like Roger, Dave Siddon has a long career with ICI as his professional background, some 17 years in total, which from the very beginning has been deeply entrenched in sales.

He began as an ICI Garden Products rep., joined Professional Products in '84 as territory manager in the North and has been national sales manager since '88. He's a positive power-house at both work and play, having been an active rugby and football player, remaining an active cricketer and recently qualifying as a rugby referee and refereeing every Saturday in the season! If that isn't enough, at the age of 41 he runs five miles every day - further still on Sundays - in training for marathon competitions, proudly pointing to a highlight in the London Marathon in '89 when he finished with a storming time of 3 hours 30 minutes! On top of all this Dave plays golf to a 14 handicap, encourages his wife Jane to join him in marathon training, encourages both his sons to further honours in rugby (both have been capped for Bedfordshire), and crams into a day what many people would consider tough work for a week. He can make a mere mortal like me feel tired just talking about his average day, beginning at 6am and ending only when the work of managing a national sales force and 17 distributors is done!

Turning to the BIGGA connection, I learned that Professional Products

had sought involvement from the very start, indeed even in the days of EIGGA, BGGGA and the like they had been active in supporting the greenkeeping cause. The formation of BIGGA was, to quote Roger, "music to our ears". At last we could see fragmentalised groups united and it was the best thing that could have happened". From the earliest days of Harrogate, when they sponsored the seminar programmes, BIGGA and Professional Products have sat comfortably in each others pockets, each gaining from the other in terms of exposure to the men that matter - the greenkeepers of Britain. Apart from their initiative in national promotions - Greenkeeper of the Year and the National Tournament - they are active at sectional level and see this as an important way of reaching the groundswell of greenkeeper activity. Offering an opinion, Dave says: "We are committed to a strong association and see an essential part of our activity as the marketing of greenkeepers. To put it more succinctly, the PGA European Tour market themselves well but would be nothing without the courses on which

tour events are played - this I see as the greenkeepers' ace card. BIGGA must aim to market this ace card in the most vigorous fashion, to seek a greater share in the fortunes if you like, for they are out there to be grabbed, though in the hands of professional golf in the main - it is an absolute strength upon which to grow even further and even quicker. Greenkeepers, through BIGGA, must market themselves in order to get a stronger foot hold in the world scene". To take from an old and wise saying, Dave further suggests that greenkeepers should heed the call to 'ask not what your association can do for you, ask rather what you can do for your association'.

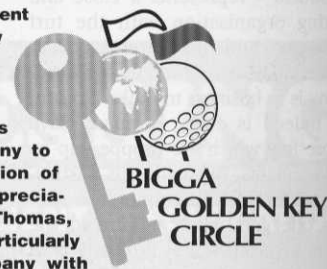
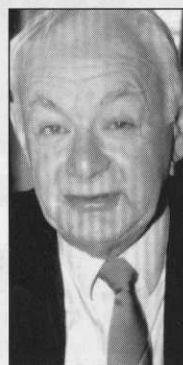
If one was to summarise ICI Professional Products it would be to see it as a tightly knit team. When you talk to an area sales manager you are talking to a team, when you make a 'phone call to Fernhurst you are talking to a team, pose a technical question and the team moves swiftly into action. See them at national level and the team spirit is startlingly apparent. The essential teamsters are Dave Siddon and Roger Mossop!

BIGGA's Education and Development Fund continues to be boosted by new donations.

Hambro Legal Protection Ltd, who provide legal protection services for the Association and its members, are the latest company to support the Fund with a donation of £250. In expressing BIGGA's appreciation for their donation, Neil Thomas, Executive Director, said: "I am particularly delighted that Hambro, a company with whom we work closely, have made this contribution. Such donations give an impetus to the new Fund and I hope many more companies, groups and individuals will add their financial support and so enhance the educational and training opportunities which can be made available for greenkeepers."

Readers of Greenkeeper International will be aware that Colin Gregory has recently moved from Iseki Ltd to become Managing Director of Hardi Ltd. The company has now joined the Golden Key Circle and in a ceremony which saw the presentation of a cheque - as pictured on this month's front cover - Colin Gregory expressed his enthusiasm for the new Fund: "Hardi Ltd is fully supportive of all that BIGGA is doing to advance greenkeeper education and training," he said. "I am sure the Education and Development Fund will have a major impact in channelling the resources of the game and the industry into a central fund which will enable training resources to be provided, courses to be established and scholarship awards funded. Membership of the Golden and Silver Key Circles is an excellent way for companies to support greenkeeper education."

A real friend and supporter of greenkeepers and all things greenkeeping is Jim Fry, pictured, President of the South Coast Section. Jim seems to be present at all major BIGGA events and was recently spotted at the GCSAA Conference and Show as a member of the BIGGA party. Over the years his contribution to his section has been both substantial and much appreciated. Jim has an infectious sense of humour and is always ready to give unobtrusive advice and guidance when requested. Neil Thomas comments: "I am particularly pleased to record that Jim has become the first individual Member of the Golden Key Circle and on behalf of the Association I would wish to express our great appreciation to him for his generous support of the new Fund."



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■ Entering discussion 'beyond argument' ■ Height of common sense

■ May I address Mr Gray (February letters) through your columns, thus?

In your letter in Greenkeeper International you felt that you must enter the fray. I am glad you did, because apathy is one of the greatest enemies of greenkeeping and I am sure you are sincere in your beliefs.

I am equally sure that people like Jim Arthur, who by the way clearly states his view 'beyond argument', in his October article, Steve Isaac of the STRI, Jack McMillan and even Neil Whitaker of Woburn (see February issue), are also sincere in their beliefs; in fact Neil Whitaker's experiences seem to contradict yours entirely. Anyway, the pace of any putting surface is a personal interpretation and comes second, in my opinion, to smoothness.

Your comments on cutting height are interesting and the first part I agree with entirely. On the second, I note you say that your surfaces are firm but not solid and unyielding. Therefore my point on accuracy still stands. As you seem to use a ruler and straight edge, you obviously do not put much emphasis on accuracy. I use a height of cut setter which is both very simple to use, and very accurate. My staff regularly set all three Paladins and all three units on each of our two Jacobsen GreenKing triplex mowers, to an accuracy of 1/10mm.

Even with 20/20 vision your method is inherently inaccurate and prone to operator error.

As far as your third point goes, all recent (say the last ten years), STRI research and trials suggest that fescues thin out when mowing heights drop much below 5mm for any extended period of time. Concerning winter cutting, I cannot agree more, and never raise the mowing height to more than 6mm.

Finally I prefer to work with millimetres, as I feel the sooner we accept the metric scale, the less painful it will be in the long run. I do not, by the way, object to you or anyone else using sixteenths, as long as you stick to this unit, and do not jump about between eighths, quarters, halves, thirty secondths, and even sixty fourths!

I like to learn about greenkeeping techniques, and enjoy nothing more than a good chin wag with a fellow greenkeeper. I have learnt a great deal from such face to face discussions. I do, however, change my mind if I find that I am wrong. Do you?

PN BERTINSHAW

Head Greenkeeper, Royal Norwich Golf Club

■ I find it necessary to reply to the letter of Mr D Gray (February issue) with particular reference to greens mowing heights, if only to voice

some well-proven common sense on behalf of those professionals in our business who seek to restore, by way of a corrective programme, or maintain the quality in the turf which the game of golf inherently requires but which is still so sadly lacking up and down the country.

Surely Mr Gray cannot be seriously suggesting that the large number of S-L-O-W greens he has experienced is a direct result of normal summer mowing heights (ie. 3/16"). No, surely he must agree that the basic reasons for said slow greens lie elsewhere, in all probability with the dominance of well fed and watered *Poa annua* in a poorer state of health than his own, being mown at 3/16" possibly only three or four times per week! Mr Gray is well aware that well managed fescue/bent greens do not require drastic mowing measures to produce fast, true, firm surfaces for any class of player.

He is also aware of alternative interim measures should greater speed of roll be deemed necessary, infinitely better indeed than the severely detrimental effects of close mowing on a fine fescue population in particular, a widely accepted fact especially when combined with the abrasive effects of wear and tear from the intensity of play consistent with the majority of courses nowadays.

Mr Gray's diagnosis here is plainly incorrect and the very fact that he is mowing at 1/8" sometimes, it appears, even lower, and twice a day at that, is indicative of a sward lacking certainly in fine fescues and which may contain a percentage of bent species interspersed with a dominance of *Poa annua* and perhaps some patches of Yorkshire Fog. I am assuming here, of course, that the head greenkeepers on the courses under Mr Gray's control do indeed carry out this severe mowing regime. They may however make their own adjustments to any formal programme and hence protect and maintain fine species present.

He may well have firm greens but his mowing heights inform us that although, yes, he has attained a thatch free turf, possibly well drained, he has gone no further towards true quality nor cannot with such close mowing practices. He has taken what has been seen as the "easy" way to fulfil a requirement or trend, the quest for speed, to the detriment of the finer species and consequently the production of all year round quality surfaces, at the same time forsaking the correct turf resilience so important for surface ball reaction so typical of fescue/ bent turf.

Jeff Perris's statement comes to mind here when he said "it is unfair to condemn the men with *Poa annua* greens when you know that one of the main contributory factors is the pressure from members to mow too closely," and here we have a turf manager willingly carrying out such practices! Interestingly, Mr Gray does not mention grass species or relevant percentages present or indeed any overseeding programme for the golf courses under his control, although he does mention the case of the bowling greens which are closed for half the year.

This point is significant, as is the fact that Mr Gray still found it necessary to overseed his bowling greens for the past three years in the autumn despite the fact as he states, "The bowling greens still retained the high percentage of fine grasses found at the start of the season", following his close mowing regime. This obvious contradiction begs the question, why then the seemingly needless expense of overseeding? If this does not represent a serious indictment of faulty mowing practices, I don't know what does!

Why put whatever fine turf species you may have (or have recently sown) on golf greens under unnecessary physiological stress? Mr Gray must be aware of the adverse effects of extremely close mowing on plant rooting capability particularly at prime periods such as late



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Letters

■ GCSAA: shape of things to come ■ Courses' biggest compactors

summer and early autumn, not to mention the general weakening of the plant through resultant excessive leaf tissue removal, enhancing the abrasive effects of wear and tear and the inevitable invasion of *Poa annua* on the fine turf which is so essential for the game of golf. In no other sport is the turf species so critical to the playing of the game.

Of course if *Poa annua* dominance is accepted then all of this pales into insignificance due to the inherent capabilities of this opportunist weed which can never produce acceptable surfaces for year round play!

Coming to Mr Gray's point regarding cutting height trials on bent grass plots at St Ives in the thirties, surely the fact that the STRI (as he himself acknowledges) have long since documented and published the shortcomings of excessively close mowing practices on fine turf, particularly fescues, merely highlights the obvious inadequacy of said trials in relation to the practicalities we now know.

This re-assessment of past 'advice' in the light of modern technology and understanding of pedological aspects, for instance in fine turf production and maintenance, is not new. It is not that long ago the STRI were advising NPK compound fertilisers for general use on fine turf! Like all research and development programmes, some previous findings or conclusions, although not all, have to be abandoned as progress is made and naturally the same analogy applies to old books on greenkeeping or golf books containing chapters on course upkeep, where quite often only a percentage of the information therein is of any practical value, either then or now. Certain basic principles remain true however (ie. the need for well-drained, well structured, un-compacted soils of low fertility).

A cutting height over the winter period of approximately 5/16" is the normal on fescue/bent turf for obvious reasons and perfectly suitable surfaces ensue. Contamination with ryegrass patches of course spoil good, clean surfaces and necessitate physical removal. Incidentally I have seen perfectly good surfaces produced over winter on fescue greens with an occasional light roll being the only requirement following a raising of mowing height to 5/16" in October as growth fails. The only 'coarse growth' I have experienced on putting surfaces is from coarse grasses and as they are weeds by definition in this situation, they consequently require removal!

In conclusion I consider it important for the restoration of British golf courses in general (re. The Way Forward) that such heretical writings be refuted by all responsible professional people in golf course management (as Neil Whitaker found his cost in the same issue of Greenkeeper International).

How can we expect our young ambitious greenkeepers, the course managers of tomorrow, to gain a clear understanding of the interrelation and timing of the many and varied, yet essential, cultural practices in the quest for

high quality playing surfaces if consistent correct advice is not forthcoming, especially when in the vast majority of cases it is not the maintenance of such surfaces that is initially required but the reclamation of the fine turf species, something which sadly only a limited number of Course Managers are seriously engaged in, let alone have achieved.

J S PHILP

Links Superintendent, Carnoustie Golf Links Management Committee, Carnoustie, Angus

■ I was fortunate in winning a competition run by Maxwell Hart Ltd, the prize being a trip to New Orleans to visit the GCSAA convention. I thought I would put pen to paper, or rather finger to keyboard, and put down some of my thoughts and reactions

I thought the exhibition was really good, my first reaction being that it was no bigger than IOG Peterborough, but then it struck me that the Stateside show is 100% golf course equipment and materials, unlike 'our' show, which covers all sports and even kid's playground gear!

If you can imagine a show with about the same number of stands as IOG but held indoors in just one huge centre that has three very large halls, a large ballroom and umpteen meeting rooms then you will get an idea of the size of the new Orleans Convention Centre.

I saw many new products and I guess that we may never see some of these on this side of 'the pond'. Equally, there were many new products which I was told would be launched in the UK in September – it was good to get this preview of things to come.

As for New Orleans itself, what can I say? It's a town and a half! Nightlife that really has life and food that is so Tasty it deserves a capital 'T'! Though viewed with some trepidation, I even enjoyed alligator tail on a stick! However, like many American towns and cities, we were warned to keep to the main streets, for the deserted side streets were places where one walked in peril of mugging or worse!

The weather was unbelievable for February, with highs of 80°F and 100% humidity. I dread to think what the summer atmosphere must be like. It rained one night with a fall of four inches, though next day everywhere was totally dry. I got off the 'plane' at Gatwick in my short sleeved shirt and found ice on the handrails in the airport. What a shock!

Final thought – what a well organised event.

JOHN ATKINS

Course Manager
Chestfield Golf Club, Kent

■ Whilst I agree with the contents of Jonathan Tucker's February article on trolleys (being a 'bag carrier' myself), I must point out that there are minus points in carrying your bag, especially across the green.

As we all know, by far the biggest compactor on the golf course is the golfer. When

you walk the whole of your weight at one time is on the ball of your foot, an area of approximately five square inches. This, for a man weighing 12 stones, works out at a pressure of $168 \div 5 = 34$ pounds per square inch. A carrying type golf bag together with a full set of clubs, waterproofs and umbrella can weigh up to 20 pounds – adding another 4 pounds per square inch to the compacting pressure.

This is worse from the compaction point of view than taking a trolley across the green, though I hasten to add I am not for one minute advocating this practice!

Whilst on the subject of trolleys, I think some manufacturers should take another look at their designs. The weight distribution benefit of a wide wheel is completely lost if the wheel is not lying flat on the ground. In fact, if it is running on it's edge it probably does more marking than the old fashioned narrow wheels. Some types, especially folding ones, tend to have their wheels running on edge.

I am in full agreement of the development of alternative tees to vary the routes from green to tee and hence spread the wear. However, I think it is vitally important that we make 'alternative' tees as properly constructed tees, approximately the same yardage and not 'winter' tees. 'Winter tees' usually mean a neglected, muddy piece of ground approximately 3 yards by 2 yards and 50 yards in front of the proper tee.

AG ELLIS

Chairman of Green, Royal St David's Golf Club, Harlech

• *Valid points certainly, especially that of archaic trolley design. Nevertheless, the real problem of trolley use remains that of constant 'same path' attrition. Worn areas and bare, often muddy, patches are always the unsightly result of such rigid flow patterns. Furthermore, carriers will always dump their bags at the earliest greenside opportunity.* –Editor.

■ Included in our 'wants list' of new machinery, tools and other accessories – deemed necessary in the annual assessment – one doubtful piece of equipment, namely a clocking in and out machine, was duly bought (I understand, from a company that had gone bust, which may prove something!) and laid to rest one wintery morning whilst we sat over lunch. "It looks nothing like the expected new 180", said someone, but there it looms, the 'thing' which now has pride of place on our bothy door, whirring away with a loud 'clonk' every minute of every hour of every day.

No one dares approach it: it rules and you don't mess with it. It seems to say 'You will now clock in on time and you will not sneak off thirty seconds early at night'. We are three 'amazed, never late' greenkeepers and now wonder if we are the only greenkeepers in Britain with a time-clock monster as another master?

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■ Sleaford-based Sharpes International has just published a new amenity grass seed brochure which provides full details on the company's range of Designer Mixtures. This new 28 page brochure, which now has colour illustrations, features several new mixtures. These include GREEN BAIZE, for bowling greens, croquet lawns and golf greens and TURFMASTER, which offers very fast establishment and an extremely good appearance. The brochure also provides detailed information on a comprehensive range of grass & wild flower mixtures – along with useful hints on how to establish and manage them. Free copies from Sharpes International, Sleaford, Lincs. NG34 7HA. Tel: (0529) 304511.

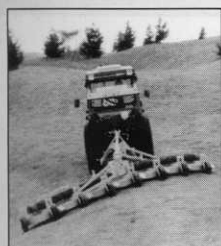


■ **Logic ATV Equipment have just introduced a new cab for ATVs. The Weather-Stop MkII has significant improvements on the original version, claiming excellent visibility with hinged side doors that are frame supported. Towed equipment controls can be reached by rolling the rear panel up. It will fit most ATVs including those with rear cargo beds. Details: 0434 606661**



■ Spanish manufacturer, AUSA, has introduced MULTITRANS DV17, a 1500kg payload utility vehicle. Powered by a water cooled 21.7hp Isuzu diesel, DV17 features 4 forward and 4 reverse gears and has a top speed of 16mph. Power to weight ratio is impressive and there is plenty of power in reserve for towing trailers. Standard equipment includes

electric starting, lighting apparatus and indicators and rough terrain driving wheels are available. Body options include: standard tipping, hook type demountable skip plus a powered access platform with a platform height of 10m and sufficient payload to safely carry two men and their tools. Details: 0706 49691.



■ The Articulator, which was launched by Hayter Beaver in 1991, has won the prestigious Australian New Product of the Year Award, sponsored by 'Power Equipment Australasia'. It was when the publication's editor, Steve Symons, visited Hayter Beaver at IOG that he first spotted the Articulator – a unique concept

in rotary mowing. The magazine's reasons for selecting this winner were 'its rugged and simple design with the idea of solving the problem of cutting undulations without scalping the turf.' Mark Phillips, Beaver's export sales director visited Australia in February to receive the award and coincidentally, whilst out there, Mark also presented Kubota Tractors (Australia) with Beaver's Award for Best Asia-Pacific Distributor 1991. This title was achieved in spite of stiff competition from Japan, where the company's grass cutting machinery is selling well. Details: 0279 723444



■ The Amazone Groundkeeper tractor-mounted grass cutter/scarifier from Amazone Groundcare now has a spring-loaded top link assembly designed to allow the machine to follow ground contours. It avoids the problem with fixed linkages of the

machine rising out of work when the tractor traverses an undulation. The new top link consists of a coil spring inside a telescoping tube. Tension can be adjusted by re-positioning a stabiliser chain, and this can also be adjusted to suit the machine to different makes and models of tractor. It is standard equipment on all Amazone Groundkeeper semi-mounted models and optional for Hi-Tip and standard machines.

Details: 0579 51155.

■ **The addition to Multi-Core's range of aeration equipment – the TM1500 – is announced. Like its smaller brother, the TM1000, it features a robust, all welded steel frame and is fully sealed throughout and requires no greasing. The 1.5 metre working width makes the TM1500 ideal for tees, fairways and greens. It fits any tractor 22hp and above and various tine sizes are available. Details: 0772 451959.**

■ Dorset-based Central Spares have set up a new division to supply replacement parts to professional users of grass-cutting machinery. Central are better known in the industry for the lead they have developed supplying replacement parts to the domestic trade for the last 20 years. They source from suppliers throughout the world. Newly-appointed division head Pat Lowry said the company have been supplying a small number of professional users for just over 10 years, primarily with items like air filters, brushcutter blades and line. "We have scored with our huge stock of parts ready to ship out – about £1/2 million worth," he said. Central's products include items currently supplied by the original equipment manufacturers. Details and catalogue: 0905 831873.



■ Ransomes have won an order to supply 104 electric Cushman vehicles to Euro Disney, to be delivered in time for the April 12th opening. Custom-built bodies are fitted with sliding doors to facilitate total access. There are over 500 Cushman vehicles in service with Disney in the USA.

■ Rhone-Poulenc have introduced Regulox K to their range. Based on Maleic Hydrazide, Regulox K has an established reputation for long term grass suppression and, being a foliar acting product, its performance is not greatly affected by drought conditions. Evaluated at the famous Bibury plots, it was demonstrated to increase species diversity on road side verges, with coarser grasses suppressed and the finer leaved, shorter grasses encouraged, producing a denser sward. Unwanted grass growth can be retarded on grass areas. Regulox K should be used in conjunction with a selective herbicide to control any broad leaved weeds present. Details: call the Rhone-Poulenc helpline on 0277 261414.

■ Fisons Horticulture has taken over the UK sales and marketing of the brand-leading Turfex turf wetting and penetrating agent from Service Chemicals. This announcement coincides with the launch by Fisons of an improved version of the product at BTME.

New Improved Turfex effectively alleviates the twin dry summer problems of dry patch and compaction. Both dry patch and compaction weaken a sward by restricting water penetration to the roots, causing poor growth, susceptibility to wear and disease and poor playability. Increasing the rate of water penetration leads to a deeper, healthier root development for a more resilient, healthier sward. Simultaneously, the product when applied reduces the volume of irrigation water required in times of drought and yet facilitates rapid draining of surface water. New Improved Turfex has been trialled at Fisons Levington Research Station – building on the development work carried out at the STRI, Bingley. The result is a product which offers greenkeepers the most rapid performance available, with no risk of foaming or phytotoxicity problems.

■ Specialist grass seed mixtures for golf courses are featured in a new 12 strong Olympic range introduced for the leisure industry by Hunters of Chester. A leaflet is available: 0829 760644.

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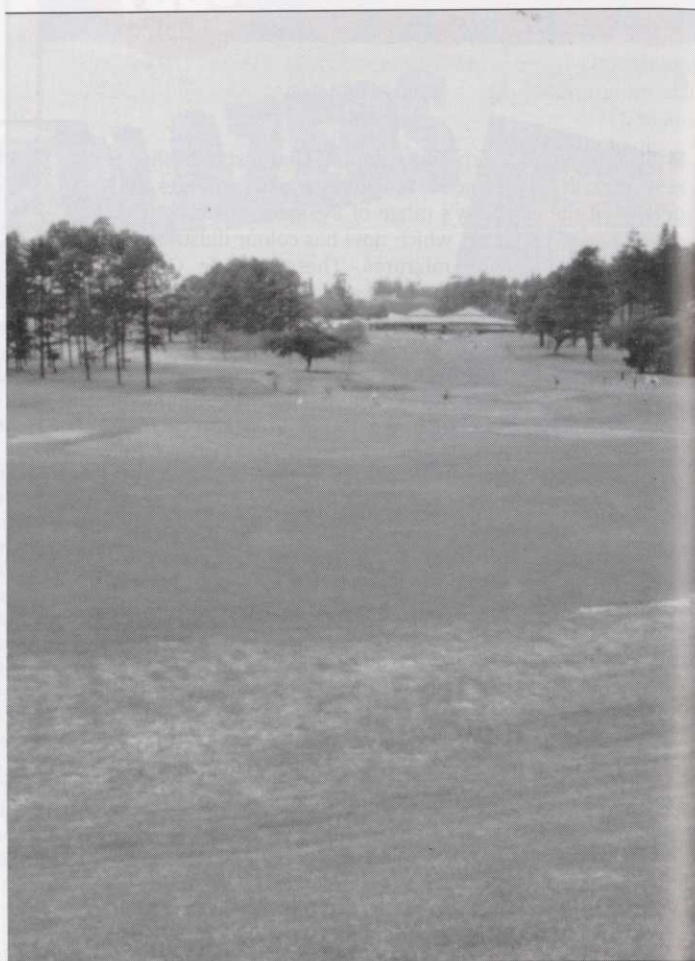
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Greenkeeping in



SOUTH AFRICA

From Surrey to a climate altogether sunnier... LES ADAMS explains how greenkeeping practices are different, and how some stay the same, in a country five times the size of the UK, when showers bring 50mm of water in 20 minutes

I live in Durban, a coastal town in South Africa where miles of golden beaches are pounded by the Indian Ocean.

I left England in 1983 with my wife and two children in search of sunshine and some essential warm weather to improve the health of my eldest son. I had been employed in greenkeeping for over ten years, the last six years as course manager at Leatherhead Golf Club in Surrey, and I am now course manager at Mount Edgecombe Country Club, a picturesque parkland course 3km from the sea and

18km north of Durban. We have two bowling greens, squash courts, four tennis courts, a large swimming pool and a clubhouse which has two bars and two dining rooms. The Club has a membership of just under 2000, approximately 900 of these being golfing members, and we average around 50,000 rounds of golf each year. An old friend in England asked me to write about my greenkeeping experiences in South Africa, which has prompted this epistle.

South Africa is a big country, five times the size of the UK, therefore with many different climatic conditions. I have worked in both Durban and Johannesburg and will write a little about both these areas.

Durban's climate is sub-tropical with average summer temperatures in the mid-30s and humidity almost as high as Florida in the USA. Night temperatures in Durban in summer drop only a few degrees below those of the day time, and if an off-shore wind (known as a Berg wind) blows, it can actually get hotter. Because of this, cool season grasses do not survive and warm season grasses are grown, *Cynodon* (or Bermuda as it is known in the USA) being the most popular.

Course management is more related to southern locations in the USA, although basic principals of cultural practices are the same anywhere. Warm season grasses are stoloniferous or rhizomal in growth habit (sometimes both) and colonise open ground very quickly. *Cynodon* grows towards the sun and forms what is known as grain, which creates different putting speeds – putting down grain being much faster than against the grain. Verti-cutting and topdressing are the main ways to control and minimise grain and must be done very regularly. Grooming reels are now available which can be used daily.

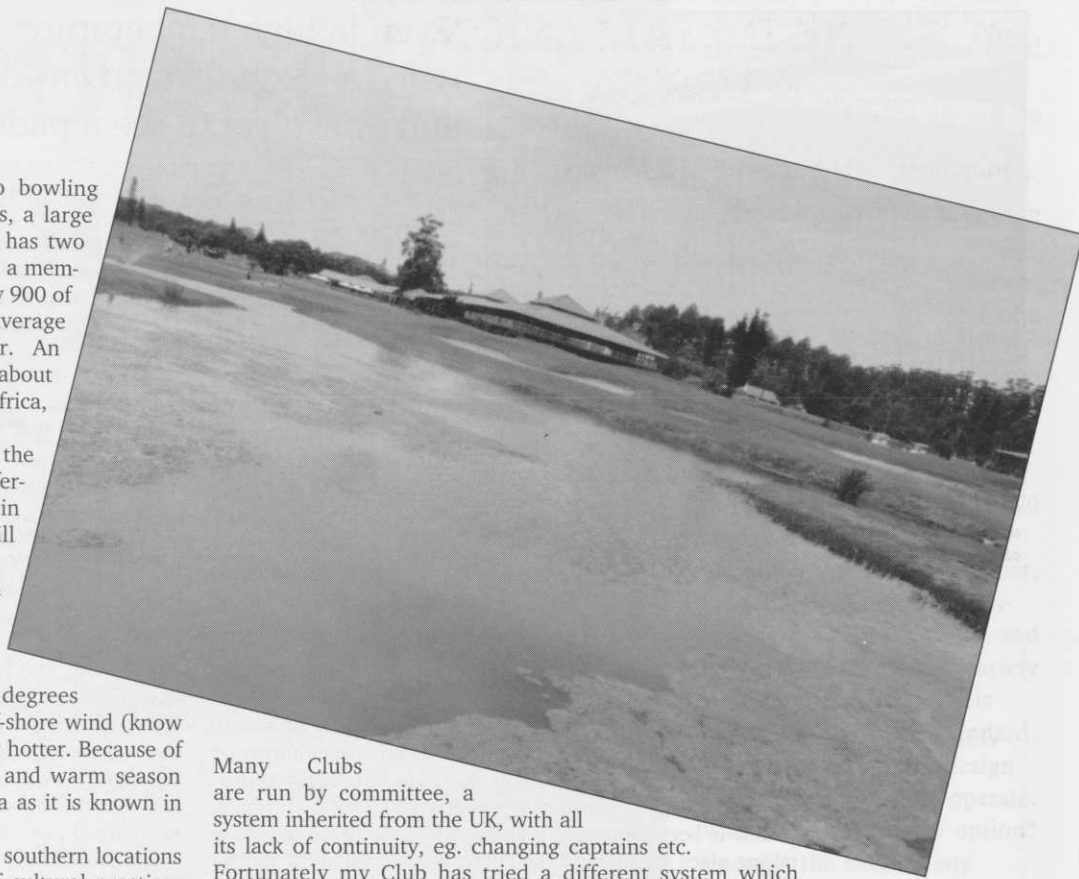
Because of the rate of growth and toughness of the grass it is general practice to try to cut the entire course, including rough, every day during the summer. Greens are generally double cut seven days a week during times of peak growth.

I now have a much better understanding of the reason why courses in the USA have larger budgets than those in the UK. For a start; staff levels are much higher. As an example, we have a total of 30 staff employed to maintain the golf course, bowling greens and gardens. Such work requires a great deal of machinery to cut the entire course each day, for remember; the grass grows for 9-10 months of the year. This leaves little time for machinery maintenance and to overcome this most top Clubs have considerable back-up machinery, which once again adds to the budget.

Jacobson, Toro, Ransomes, Scott Bonar and Kubota machines are all available in South Africa, as are Ford, Massey Ferguson and John Deere tractors, but prices are high. A triplex greens mower for example, costs around R50,000 and I sometimes think we course managers have to be extraordinary salesmen to convince committees to pay this amount of money for a greens mower, especially when a Toyota Corolla with air-conditioning, electric windows and power steering costs only R45,000.

A sophisticated irrigation system is essential in South Africa, especially in the winter months when days are sunny and warm (mid-20s) and rain is not expected for weeks. Frost is unheard of in Durban, with the lowest night temperature around 5 degrees centigrade and the most miserable days between 15 and 20 degrees centigrade.

We have recently installed a computerised irrigation system capable of putting one million litres of water on the course in 12 hours. Our irrigation water is stored in two large lakes, which are features of the course and fed by a small river. Most Clubs are not so fortunate and rely entirely on borehole water, which is both costly to extract and has to be stored in man-made reservoirs.



Many Clubs

are run by committee, a system inherited from the UK, with all its lack of continuity, eg. changing captains etc. Fortunately my Club has tried a different system which seems to work reasonably well. We have an executive committee of five members from which the chairman and vice chairman are elected. They also form the nucleus of the financial committee and are responsible for all major decisions affecting the Club. The Club captains, both male and female, are co-opted onto this committee for their term of office and attend mainly to keep the members up to date with committee policies. I report directly to the chairman, who has held his position for almost ten years. Should the present chairman decide to retire, his place would be taken by the vice chairman; who has also been involved for several years and is fully aware of the policy we have been following since I joined the Club. This creates continuity and stability within the club and is more settling for the staff than the annual or bi-annual changes of committee I have experienced in the past. Just out of interest, Leatherhead was run on similar lines and was also a pleasant working environment.

Johannesburg is a city on a land plateau known as the reef, which is almost 6000 feet above sea level. It has an average rainfall of 700mm and an evaporation level of over 1500mm. Rainfall is almost entirely in the summer months and is usually in the form of afternoon thunderstorms. Because of the altitude, temperatures are usually below 30°C day-time and night temperatures drop considerably. This makes it possible to grow some cool season grasses under good management and bent grass is widely used on the greens throughout the reef, with excellent results.

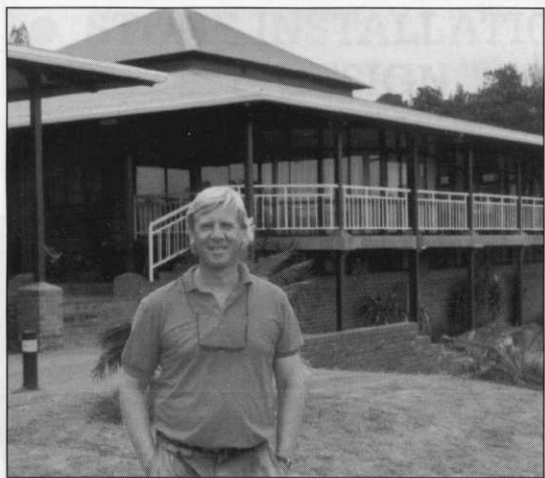
Turf grass diseases such as Brown Patch, *Helminthosporium* and Pythium Blight are all a problem, but the biggest problem appears to be invasion by *Poa annua*. Tests are under way with a selective herbicide, and these show some promising results, but it will be sometime before the product is registered; even if successful.

Poa annua can be controlled in Bermuda grass with a chemical called Promamide, which is usually used as a pre-emergent, but unfortunately the chemical damages bent grass and I would imagine that it would also damage fescue.

Because of its altitude and lack of cloud cover during winter nights, Johannesburg has moderate frost from May until August and although day temperatures are high, even bent grass does not grow much during these months. Pitch mark damage becomes a serious problem, as the number of rounds played is high during this time. Some course managers are experimenting with very high applications of

Above: Clubhouse, built in 1990 following a fire at the old clubhouse, with 18th green and water feature.

Left: A view of the clubhouse from the back of 17th green. The green was opened for play just five months ago.



Les Adams in front of the new clubhouse

'Even in high temperatures I only irrigate once or twice a week. The greens drain exceptionally well and I have yet to see a puddle on them'

➔ Nitrogen throughout the winter, an idea which came from Israel, a country which has a similar climate.

Results so far have been interesting, with an increase in growth and surprisingly little increase in disease, but it is too

early to draw any conclusions as yet. Education for greenkeepers is almost entirely supplied by their own association, but a technical college in Pretoria does offer a Diploma course in Turfgrass Management, which is a definite step in the right direction.

Greenkeepers – or course managers as they are now called – are almost all Europeans, working with Asian or African staff. There is a serious shortage of trained greenkeepers, with only few Clubs having European assistants gaining experience. Thus golf Clubs rely on horticulturists or mechanics to fill those vacant positions caused by retirement or for any new course construction.

Golf is becoming very popular and new development is taking place throughout the country. Unfortunately, due to the shortage of trained course managers, standards are dropping. Salaries are increasing quite quickly in Johannesburg and also in some parts of Durban and it is hoped that with a change in policy by the Clubs and the increased pay structure, more educated people will be encouraged to join the industry.

South Africa is a beautiful country which is in the middle

of huge political changes. How these changes will affect our lives we really do not know. If it wasn't for the 'wind of change' I would recommend that the more adventurous young course manager come and make a career in the sunshine.

As a past member of the BGGA executive way back in the 1970s, I must congratulate BIGGA on the tremendous forward strides that they have made in the past few years – well done! I must also say how much I enjoy reading Greenkeeper International – keep up the good work.

● *The author is course manager of the Mount Edgecombe Country Club, in Durban, South Africa. He also acts as a consultant at the Royal Durban Club and is involved in advisory work on new course maintenance and construction.*

● *As a postscript to the above, Les Adams wrote again most recently: The days just fly past at the moment, it's almost scary. We are in the middle of a huge re-vamp of the course and the pressure is on to open four more new greens, making eight new ones so far with another five almost ready and only two left to construct, leaving me with 30 greens to maintain at present – it's really quite hectic.*

Out of interest, we have built our greens to the USGA Spec., and contrary to popular belief, these do not need huge amounts of water. In fact, if constructed properly, a perched water table is formed and even in Durban's high temperatures I only irrigate once or twice a week. The greens do, however, drain exceptionally well and I have yet to see a puddle on them – even after the heaviest of downpours, eg 50mm in 20 minutes – a typical Durban storm!



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— The Series 20 —
Compact Tractors



AD
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The great attraction of compact tractors compared to other grounds maintenance machines is their versatility to work every day of the year, says GLYN BRYAN

Whenver any item of grounds maintenance equipment is acquired, the most expensive elements to buy and maintain are generally the engine and transmission. Yet if you buy a ride-on mower, all-terrain load carrier or mini excavator, the chances are that when the machine is not working at its specialist task, its motive power unit (the engine and transmission) cannot be used for anything else and must stand idle.

Of course there are times when a compact tractor cannot compete with, say, a ride-on mower in terms of manoeuvrability, but when the mowing season ends a compact tractor can swap its mower for another implement and continue working.

Compact tractors may all look similar, but they can offer significantly different features. To get the best out of a machine it is important to choose one with features most relevant to your particular needs. For example a transmission system ideal for loader work is of little value if you never use a loader.

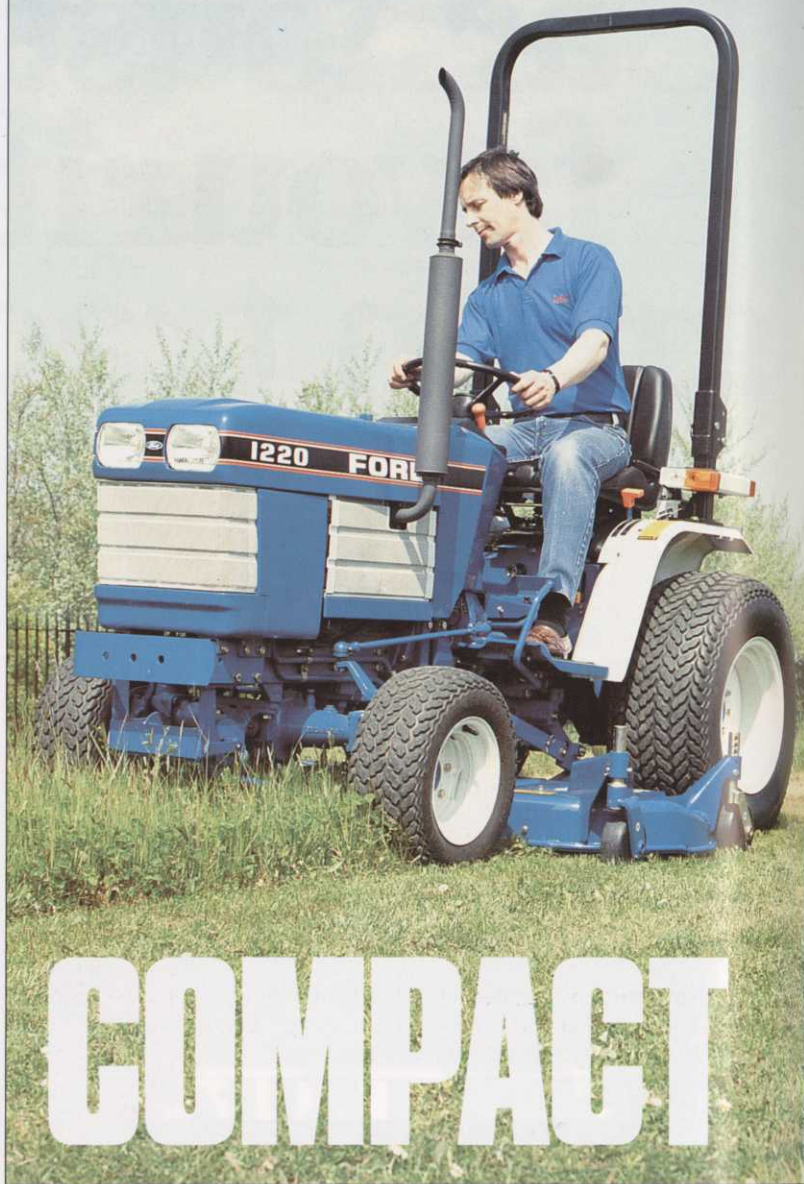
Starting with the engine, compact tractors invariably use diesel power. Traditionally diesel engines have been noisier and heavier than petrol, but the difference at compact tractor size is not great and the diesel engine works better from cold, can use untaxed fuel, has a longer life and better torque characteristics.

Torque still causes a lot of confusion with horsepower. Horsepower is a measure of the energy from an engine. For example, two machines, both with X horsepower engines can shift five pallets of compost from A to B in five minutes. Machine 1 is fast but not very strong, so moves the pallets one at a time, taking only a minute for each pallet. Machine 2 is slow but very strong, so can take all the pallets in one load, but takes five minutes to move from A to B. Machine 2 has the higher torque, sometimes referred to in sales jargon as pulling-power. For most jobs around a golf course, engines with higher torque capacities are more desirable. These engines tend to slower revving, with large cylinder displacements.

Getting the power from the engine to the wheels is the transmission, and here I have always tended to prefer a manual gearbox. They are lighter, more efficient and I have always felt more "in control" with a manual change. A horticulturalist I knew however, chose hydrostatic transmissions for his compact tractors because he towed trolleys heavily laden with potted plants. Achieving a smooth move off with a manual transmission had meant he kept burning out clutches, but this problem doesn't occur with an hydrostatic unit. Hydrostatic transmissions are also easier to operate and they allow on the move changes in speed, even when working or pulling heavy attachments.

Iseki, Massey-Ferguson, Kubota and Ford offer the choice

● Ford offers five models, ranging from the 16.7hp 1220 (shown) to the 41.3hp 2120



COMPACT TRACTORS

of manual or hydrostatic versions on many models in their ranges, while Ferrari has gone one better and has a 30hp tractor with both manual and hydrostatic transmission within the same machine. Those who like the control of a manual with the flexibility of a hydrostatic should take a look at Honda's debut machine, the new H6522. It has a nine forward, three reverse powershift transmission. The difference between a manual gearbox and the powershift is that the operator can move from one gear to another without dipping the clutch, so the power can be kept on at all times.

The other option to look at in the transmission is what is referred to as a synchro or power shuttle. Put simply, it means the ability to change from forward to reverse by pulling a single lever or pedal. This applies to mechanical transmissions and allows the tractor to move backwards or forwards without having to de-clutch, change gear and re-engage. It is primarily of use for loader work. Whether to choose two or four-wheel drive is now largely academic. Manufacturers have recognized that two-wheel drive is becoming obsolete and many now only supply their four-wheel drive versions in the UK. Power take-offs are a common service on compact tractors.

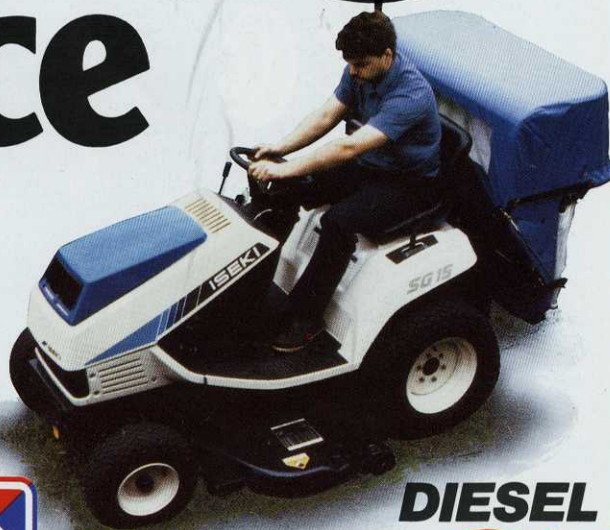
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COMPACT TRACTORS

● Power take-offs and hydraulic services are major contributors to the versatility of compact tractors, as shown by this shot, above, of a John Deere 755 with 303 hydraulic gang mower.

● Honda's debut machine, the 22hp H6522, right, features powershift transmission, optional front PTO and the highest hydraulic lift capacity in its class

28 ➤ All manufacturers supply a rear PTO as standard, but check that the speed(s) available will match the implements to be used. Having a mid-mounted PTO offers the flexibility to run a mower without having to detach it before using other implements. Going a step further, other manufacturers are following the lead of farm tractor makers by making provision for a front-mounted PTO. In theory at least, it should be possible to run one tractor operating three implements at the same time.

Honda offers a front PTO option while Iseki has it as either optional or standard for most of its machines. Marshall compacts have a front PTO option for the complete range. A typical item of equipment attached to the three-point linkage of a golf-course compact is a leaf collector. Take a close look at one of these when fully loaded and you realise the importance of a good lift capacity for the three point linkage. This is a feature many manufacturers choose to ignore, but others such as John Deere, Massey-Ferguson, Ford, Hinomoto and Honda publish lift capacities in their promotional literature. Honda claim the strongest lift capacity in the 22hp category with a load of 950kg, but the best overall range (for the machines featured on Page 32) is Ford, with four out of its five models having the best lift capacity. Ford's range are also the heaviest machines – so presumably you need less weights to counter balance at the front of the tractor.

Still on the subject of hydraulics, think about the ancillary hydraulic services needed – the number of single or double-acting valves you need to operate your implements. A single-acting hydraulic ram (such as on a trailer) extends by receiving oil under pressure, but relies on

gravity to force the oil out when it needs to contract. A double-acting ram receives oil in the same way to extend, but a second inlet on the other side of the "plunger" pushes the other way to contract the ram – providing force both outwards and inwards. Double-acting hydraulics are seen typically on backhoe/back actor digging attachments. Iseki, John Deere, Massey-Ferguson and Ferrari include single or double-acting valves in the base specifications, but other companies will only supply them as options – which can add an average of around £250 (per double-acting valve) to the price.





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COMPACT TRACTORS COMPARED

Make	hp	Length m (in)	Width m (in)	Weight kg (lb)	Transmission	PTO Fr :Md :Rr	Hyd lift cap. kg (lb)	Hydraulic Services
Honda H 6522	22	2.77 (111)	1.33 (52)	834 (1839)	Semi auto	Opt :Std :Std	950 (2095)	N/S
John Deere 670 755 855 955 1070	18.5 20 24 33 38.5	N/S N/S N/S N/S N/S	N/S 1.33 (52) 1.33 (52) 1.49 (59) N/S	844 (1860) 807 (1780) 848 (1870) 903 (1990) 1481 (3265)	4F 1R x2 2-range hyd. 2-range hyd. 2-range hyd. 9F 2R	N/S :Opt :Std N/S :Std :Std N/S :Std :Std N/S :Std :Std N/S :N/S :Std	358 (790) 409 (899) 409 (899) 491 (1079) 916 (2020)	N/S Twin SCV Twin SCV Twin SCV N/S
Marshall 184 224 264 304	18 22 25.8 29	2.18 (86) 2.30 (91) 2.18 (86) 2.52 (99)	0.98 (39) 0.96 (38) 1.00 (39) 1.21 (48)	630 (1390) N/S 700 (1545) N/S	5F 3R 12F 6R 6F 3R 12F 6R	Opt :Opt :Std Opt :N/S :Std Opt :Opt :Std Opt :N/S :Std	550 (1210) N/S 550 (1210) N/S	1SCV, 1DCV N/S 1SCV, 1DCV N/S
Shibaura S320HST S330 S435	20 33 45	2.70 (109) 3.08 (123) 3.21 (128)	1.20 (48) 1.50 (60) 1.60 (64)	625 (1378) 1195 (2635) 1370 (3021)	Hydrostatic 12F 4R 12F 4R	N/S :Std :Std N/S :N/S :N/S N/S :N/S :N/S	N/S N/S N/S	1SCV, (1DCV) (4DCV) (4DCV)
Iseki TX2160F TU318F TU320F TA525F TA530F TA537F TA545F	18 19 22 26 33 40 48	2.00 (80) 2.71 (108) 3.02 (121) 2.95 (118) 3.05 (122) 3.33 (133) 3.41 (136)	1.09 (44) 1.06 (42) 1.30 (52) 1.48 (59) 1.31 (52) 1.54 (62) 1.55 (62)	N/S 710 (1565) 900 (1984) 1150 (2535) 1170 (2579) 1535 (3384) 1760 (3880)	6F 2R 6F 2R or Hyd 6F 2R or Hyd 4F 4R x4 4F 4R x4 4F 4R x4 4F 4R x4	Std :N/S :Std Opt :N/S :Std Opt :N/S :Std N/S :N/S :Std Opt :N/S :Std N/S :N/S :Std N/S :N/S :Std	N/S N/S N/S N/S N/S N/S N/S	(1SCV, 1DCV) 1DCV, (1DCV) 1DCV, (1DCV) 2DCV 2DCV 2DCV 2DCV
Massey Ferguson 1010-4 1010-4HST 1020-4 1020-4HST 1030-4 1035-4	16 16 21 21 26 31	2.16 (86) 2.30 (91) 2.40 (96) 2.81 (112) 2.67 (107) 2.72 (109)	1.02 (41) 1.02 (41) 1.15 (46) 1.15 (46) 1.46 (58) 1.51 (60)	641 (1413) 650 (1433) 830 (1830) 960 (2117) 1235 (2723) 1235 (2723)	6F 2R 2-range hyd. 12F4R 3-range hyd. 12F4R 12F4R	N/S :N/S :Std N/S :N/S :Std N/S :N/S :Std N/S :Std :Std N/S :N/S :Std N/S :N/S :Std	550 (1210) 550 (1210) 700 (1543) 700 (1543) 780 (1720) 780 (1720)	(1SCV) 1SCV 1SCV 1SCV 1SCV 1SCV
Kubota B1550 B1750 B2150 L2550GST L2850 Reversible L3250 L5450	17 20 24 26.5 31 36.5 54	2.59 (104) 2.59 (104) 2.78 (111) 2.77 (111) N/S 2.93 (117) 3.49 (139)	0.98 (39) 1.04 (42) 1.36 (54) 1.30 (52) N/S 1.42 (56) 1.72 (68)	630 (1389) 650 (1433) 830 (1830) 1160 (2557) N/S 1245 (2740) 2510 (5522)	6F 2R or Hyd 6F 2R or Hyd 9F 3R or Hyd 8F 8R 16F 16R 8F 7R 8F 8R	N/S :Std :Std N/S :Std :Std N/S :Std :Std N/S :Std :Std N/S :N/S :Std N/S :N/S :Std N/S :N/S :Std	N/S N/S N/S N/S N/S N/S N/S	(1SCV, 1DCV) (1SCV, 1DCV) (1SCV, 1DCV) 1SCV (1DCV) 1SCV (1DCV) 1SCV (1DCV) 1SCV 1DCV
Ford 1220 1520 1720 1920 2120	16.7 22.7 27.4 33.1 41.3	2.70 (106) 2.83 (111) 3.08 (121) 3.21 (126) 3.48 (137)	1.04 (41) 1.23 (48) 1.40 (55) 1.48 (58) 1.57 (62)	648 (1429) 1034 (2278) 1220 (2690) 1392 (3069) 1750 (3858)	9F 3R or Hyd 9F 3R or Hyd 12F4R or Hyd 12F4R 12F4R	N/S :Opt :Std N/S :Opt :Std N/S :Opt :Std N/S :N/S :Std N/S :N/S :Std	669 (1474) 874 (1921) 1034 (2275) 1062 (2341) 1800 (3960)	(1DCV)) (1DCV) (1DCV) (1DCV) (1DCV)
Hinomoto C144 C172 C174 C174HST E2304	17 20 20 20 28	2.10 (84) 2.10 (84) 2.10 (84) 2.36 (94) 2.77 (111)	1.03 (41) 1.03 (41) 1.03 (41) 1.06 (42) 1.27 (51)	668 (1473) 580 (1279) 658 (1451) 760 (1676) 980 (2161)	6F 2R 9F 3R 9F 3R Hydrostatic 12F4R	N/S :N/S :Std N/S :N/S :Std N/S :N/S :Std N/S :Std :Std N/S :N/S :Std	528 (1164) 528 (1164) 528 (1164) 790 (1742) 986 (2174)	(1SCV, 1DCV) N/S (1SCV, 1DCV) (1SCV, 1DCV) (1SCV, 1DCV)
Ferrari 18-3W 22-3W 22-4W 1300 Series 1300 Series 1300 Series	22 30 30 30 33 38	N/S 2.77 (111) 2.30 (92) N/S N/S N/S	N/S N/S 0.96 (38) N/S N/S N/S	N/S 910 (2007) 920 (2029) N/S N/S N/S	12F 6R 12F 6R 5F & or Hyd 12F 6R 12F 6R 12F 6R	Opt :Std :Std Opt :Std :Std Opt :Opt :Std Opt :Std :Std N/S :Std :Std N/S :Std :Std	N/S N/S 420 (926) N/S N/S N/S	1SCV 1SCV 1SCV, 1DCV 1SCV 1SCV 1SCV

Key: N/S = Not specified (in company literature); 4F 1R x2 = Four forward, two reverse, two ratios; SCV = Single Control Valve (in brackets means option); DCV = Double Control/Acting Valve (in brackets means option). Information shown is taken from manufacturers/distributors price lists or promotional literature.

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| HARDI Wheelbarrow sprayers | <input type="checkbox"/> |
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| HARDI ATV trailed sprayers | <input type="checkbox"/> |
| HARDI BL and NK Tractor Mounted models | <input type="checkbox"/> |



Fertilisers

There are divided opinions about fertiliser usage on the golf course: those who see fertiliser as 'death' to the traditional golf course grasses and those who believe that a little 'sugar' promotes a stronger more active plant. The fertiliser manufacturers report that golf courses are using more of their products – and this also applies to 'turf conditioners' or 'growth stimulants'. Both of these latter can be defined loosely as those products which provide a range of nutrients and other essential elements and compounds, but not necessarily with a sufficient or specific level of the major nutrients of 'N P & K' (nitrogen, phosphate and potassium). Both have greenkeepers who swear by them, together with research and/or trials which shows how effective they are, but as yet they tend to remain in the realms of 'muck and mystery'. That stated, Greenkeeper International is informed that research is being undertaken to analyse the constituents of seaweed which promote root growth and tillering.

Neither fertiliser nor turf conditioner should be seen as cure-alls and it is vital to cure underlying problems such as compaction and drainage, if for no other reason than the plant cannot utilise your expensive fertiliser efficiently unless it is growing healthily. A strong healthy plant also provides maximum resistance to disease and weed infestation.

Proof of expanding demand in the market is also provided by the growing number of products being produced specifically for golf greens and similar fine turf. Agriculture has

HUGH TILLEY weighs up what some greenkeepers believe is death to golf course grasses, while others reckon it's a little sugar... on Page 38, we present the range of spring and summer fertilisers available and how best to use them

seen fertiliser develop to inorganics of greater concentration, purity and consistency, and to a certain extent away from this as farmers seek cheaper materials, but the needs of amenity turf are significantly different and the goal is not maximum growth but 'wearability', health and (perhaps) grass appearance. In this market; price is not all important, (at least not to all) nor are concentration or purity. 'Organic' has become a preferred word, preferred by humans but not necessarily by a plant. However there are sound agronomic reasons for using some elements as organic compounds such as buffering and stabilising them from premature absorption or degradation.

Fertiliser is available in several forms, liquid or solid, and in many formulations from fully soluble, for foliar feeds, through suspensions (solids in water, which are seldom used on the golf course) to granulars. Foliars can be applied

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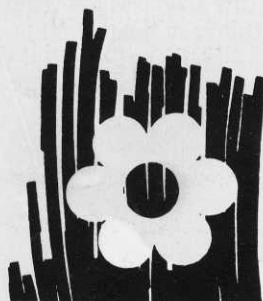
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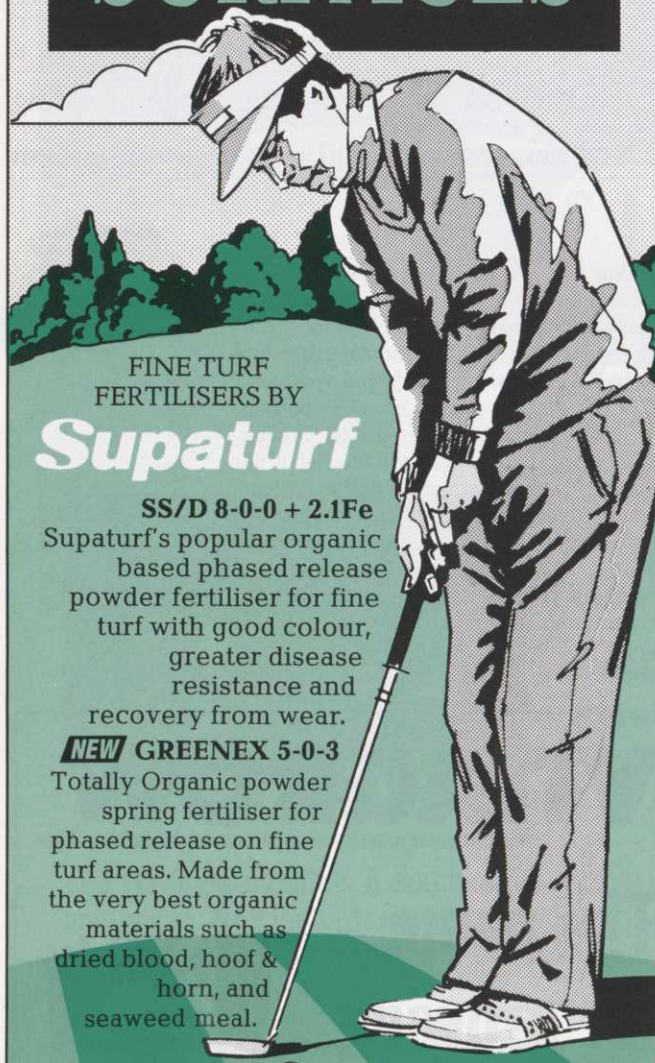
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Fertilisers

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➔ (at suitable dilution) by watering can, sprayer or even irrigation. Solid fertiliser is mostly formulated as mini-granules for better spreading and quicker easier assimilation into the soil – and away from the mower, but some are in powder form.

While it is easy and convenient to refer to specific elements by name or chemical symbol as if they were 'pure' or single atoms, in fact they only exist (in stability) as compounds chemically bonded to other elements. How they are bonded and with which other elements obviously has a great bearing on how available they are to the plant. The differences are often used as a sales pitch; this being particularly true over nitrogen, and is very easy to become confused by conflicting claims. The average greenkeeper needs to develop some skepticism over competing claims and seek the reasoning behind the formulations.

For the greenkeeper a most important feature in fertilisers is safe application, and this means safeguarding against 'scorching' the leaf and also avoiding mower contamination. Nitrogen is the main culprit in scorch, particularly when it exists in purer or stronger nitrate or ammonia compounds. Most high nitrogen products include several different forms of nitrogen, and this also extends the period of their release to the grass. However, nitrogen is the most effective element in 'greening up' the grass; and it is the major nutrient depleted when clipping are removed from the green. In excess the result is a more lax, lush, easily bruised plant of lower resistance to wear and disease.

Nitrate nitrogen is ideal for quick assimilation, while ammonia nitrogen reaches peak availability later in spring as nitrification bacteria in the soil become more active. Release of nitrogen can be modified and retarded by incorporating the nitrogen with or in various compounds; such as 'Didin,' the proprietary name for dicyandiamide, IBDU (Isobutylidene Diurea) and others, or 'Osmocote', a semi permeable organic resin coating. Didin is found in medium and high N fertilisers from ICI, Farmura and others, working by inhibiting the nitrification bacteria. IBDU is used by Fisons, Mascot, Schweizer and others, while Osmacote is available from Sierra in a range specifically for turf. The release life of the differing methods varies depending upon the mechanism of release, whither soil temperature, moisture or bacterial, thus 'life' is not predictable at spreading.

The advantages of phasing release allows fewer and earlier applications to be made, and it levels out the availability of the nutrient. Sierra suggest that a single annual application is possible, whereas Didin and IBDU, only claim up to about three months, thus increasing the number of applications. It is also easy enough to 'top-up' with foliar feeds as and when weather and grass growth dictate. The other major nutrients of phosphate and potassium are significantly different as they are longer lasting and more stable in most soils, nor do they have the same dramatic visual effect, nonetheless they are essential. Potassium ('K' or potash,) is essential to disease resistance and plant hardness, and is removed with mowing. Thus annual (autumn) application is usually needed, though some may be provided by certain sands used in topdressing. Unfortu-

'For the greenkeeper a most important feature in fertilisers is safe application, and this means safeguarding against 'scorching' the leaf and also avoiding mower contamination. Nitrogen is the main culprit in scorch'

nately an excess of potash free in the soil can inhibit other trace elements and nutrients.

Phosphate is most significant for root development. It too can be applied annually, though many soils – particularly clays – contain sufficient. The trend towards forming greens on sand has had a very significant effect on nutrition as most sands are poor at retaining potassium and magnesium. There is an indication from STRI and one manufacturer that there is significant advantage (on acidic sands) in providing calcium and boron too. Agriland have recently added a NPK foliar feed which includes enhanced levels of these elements.

Of other metallic elements; magnesium is vital to photosynthesis, with the obvious symptoms of deficiency being loss of leaf colour and lack of response to nitrogen. Iron is another 'visual' element which is essential for chlorophyll with application promoting a desirable dark green 'green' colour. In contrast to magnesium, iron deficiency is more likely to occur in high alkalinity soils such as chalk downlands. Iron has the other beneficial effect of suppressing moss, though how effectively will depend upon the level of inclusion. This element and other metals, particularly copper, also work as fungicides; for instance against fusarium. There are many ways in which important elements and nutrients can become 'locked-up' in the soil: excesses of one element is one common cause, cold and wet conditions are another. Wet anaerobic (oxygen-less) conditions will inhibit iron absorption (and many other plant processes).

Manganese, zinc, copper and iodine are all important at



trace levels, and these and many other compounds, vitamins and amino acids are found in seaweed. Thus the inclusion of seaweed meal or extraction in fertilisers and foliar feeds is a useful addition – and although this may be a shotgun approach it is effective, failing having a complete and detailed analysis of the soil. The word 'chelate' – pronounced key-late – is often used in conjunction with trace elements and is simply an organic compound form of the element which is readily absorbed by the plant and not locked into the soil.

➔ 40



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Supplier	Product	Type	%N	%P	%K	Other elements	Comments
Agriland Ltd. Blue Roof Farm, Throop Road, Throop, Bournemouth, Dorset, BH8 0DW. Tel: 0202 532291 Fax: 0202 535224	Classic 20-0-0	LF	20	0	0		Fast acting ureic N
	Classic 15-0-10	LF	15	0	0		Ideal for intensive use areas
	Classic 10-2.5-7.5	LF	10	2.5	7.5	4.2% Ca O, 0.1%B	Ideal for sand constructions
	Agrimaster	LF	1.2	4.4	6	0.6 Mg, Ca, Na, Fe+	Seaweed base growth stimulant
	Agricrop	LF	5	.36	.47	as above	as above plus added N & sulphur.
BASF plc Lady Lane, Hadleigh, Ipswich, Suffolk IP7 5BQ Tel: 0473 822581 Fax: 0473 827460	Floranid N	G	31	0	0		Based on Isodur slow release N
	Floramid NK	G	14	0	19	2%Mg	The highest NK on market
	Floramid NPK	G	15	9	15	2%Mg	Ideal for sand or high pH
	Floramid Turf	G	20	5	8	2%Mg	Standard spring/summer use
Fairfield Turf Ltd., Fairfield Court, Brookland, Romney Marsh, Kent TN29 9RX. Tel: 06794 731	Scotts Lawnbuilder	mG	22	3	3		Vermiculite based
	Scotts	mG	17	23	6	1.6Fe	Supplied for unit area application
	Scotts	mG	16	0	0	5Fe	Metalyene Urea + iron, moss suppressant
Farmura Environmental Products Snow Hill, Egerton, Ashford, Kent TN27 9DU Tel: 0233 76241 Fax: 0233 76419	Flo-Gro Blue	LF	12	0	4		Incorporates Didin
	Flo-Gro Brown	LF	12	0	4	0.5Fe & Mg	Incorporates Didin
	Flo-Glo Green	LF	9	3	9		Organic base
	Flo-Glo Yellow	LF	18	0	0		
	Flo-Glo Purple	LF	10	0	10		Wettters & iron also available
	Liquid foliar feed range based on "bovine extract" with added nutrient.						
Fisons Horticulture, Paper Mill Lane, Bramford, Ipswich, Suffolk IP8 4BZ Tel: 0473 830492 Fax: 0473 830386	Turf Tonic	MG	7	0	0	2%Fe, 1%Mg	
	Zero Phosphate	MG	14	0	7		
	Mosskiller	MG	14	0	0	8.9%Fe	
	Super N	MG	24	0	0	2%Fe	Incorporates IBDU
	Spring & Summer	MG	14	2	4		
	Extra	MG	14	2	4		with MCPA & Mecoprop herbicid
	Organic 2	MG	11	0	0		
	Also range of Organic and traditional fertilisers in mini pelleted form for outfields and fairways.						
	Liquid	LF	15	0	0	0.5%Fe	
	Seafeed	LF	Natural complementary feed				
ICI Agrochemicals, Professional Products, Ferhurst, Haslemere, Surrey, GU27 3LE Tel: 0428 645454 Fax: 0428 657222	Longlife						
	Spring & Summer	mG	14	3	7	2%Mg+s/weed extract included	Didin, fully compounded
	Finegreen	mG	15	0	5	2%Mg as above	
	Nitrogen with Iron	mG	8	0	0	2.5%Fe	N as sulphate of ammonia & urea
	Also range for "sportsfield" formulations for fairways including 11.6.9, 25.0.0, 14.3.7 analyses.						
Maxicrop International Ltd., Weldon Road, Corby, Northants NN17 1US Tel: 0536 402182 Fax: 0536 204254	Maxicrop						
	No. 1 Triple S'weed	LF	3	0.6	2.4	Fe,Cu,Mn,Zn,B,Mo+	In seaweed extract base
	No. 4 Super Grass	LF	12.5	6.9	4.1	Comprehensive	In seaweed extract base
	No. 5 plus Nitrogen	LF	17	0	0.7	range of traces	In seaweed extract base
	No. 6 Seagreen	LF	2	0	0	6%Fe +above	In seaweed extract base
	No. 2 Mosskiller	LF	2	0	0	16.4%FeSO ₄	
Rigby Taylor Ltd., Rigby Taylor House, Garside Street, Bolton BL1 4AE Tel: 0204 394888 Fax: 0204 385276 (Scottish agents: Souters of Stirling)	Mascot						
	Microfine 18-0-0	mG	18	0	0	6%Fe	80%N as IBDU
	Microfine 14-4-7	mG	14	4	7	2%Mg	50%IBDU
	Microfine 12-0-6	mG	12	0	6	2%Fe, 2%Mg	50%IBDU
	Microfine 8-0-0	mG	8	0	0	4%Fe, 2%Mg	
	Organic S/S2	mG	14	2	7	1%Mg	
	Special Organic N	P	8	0.5	0.5		Organic slow release nitrogen
	Mini-Gran	mG	11	5	5		Less expensive than mascot range
	Supreme S/S	P	10	5	5	1.5%Fe	Blend of organic/inorganics
	Taylor's Fairway		12	6	6		
	Taylor's High N	G	27.5	0	0		
	Taylor Lawn Sand	P	5.4	0	0	1.5%Fe	Sulphate of ammonia
Sierra UK Ltd., Loughborough Road, West Bridgford, Nottingham Tel: 0602 455100 Fax: 0602 455311	Sierrablen Turfmix	mG	28	5	7	Fe	6-7 month release life
	Sierrablen Mini	mG	25	2	10		6-7 month controlled release
	Osmocote N	G	39	0	0		6-7 month controlled release
Sta-brite Supplies Ltd., Unit 7 Bessemer Park, Bessemer Road, Basingstoke, Hants RG21 3NB Tel: 0256 811811 Fax: 0256 811078	Sta-Green 110	P	10	5.5	2.5	1.5%Fe	Course Powder, 34% organic
	Sta-Green 195	MG	10	5	5		56% organic
	Sta-Green 270	MG	12	0	9	1%Mg, 1%Fe	also contains seaweed
	Sta-Green 260	P	5.25	0	6.25	4%Fe	
	Sta-Green 130	G	9	7	7		Fairway granular
	Sta-Green 140	G	7	7	7		
	Sta-Green 185	Pellet	11	5.5	5.5		organic based
	Schweizer Golf	mG	20	5	8	1.6%Mg	part IBDU and UF
	Sport-Green Golf	mG	18	6	12	1.6%Mg	
	Certoplant Golf	mG	9.5	7	10	3.2MgO & traces	including slow release
	Also fine granular "fairway" products as previous three analyses.						
Vitax Ltd., Owen Street, Coalville, Leicester LE6 2DE Tel: (0530) 510060 Fax: (0530) 510299	Fine "N" extra	P	8	0	0	2.5%Fe	Plus trace elements.
	Key "N"	P	20	0	0	1.6%Mg	60%IBDU
	Fine "X"	P	8	0	6	0.5%Mg, 1.0%Fe	
	Lawn Sand	P	4.6	0	0	1.8%Fe	
	Weed 'N Feed	P	8	4	4.2	0.3%Mg, 3%Fe.	
	Micro gran 1	mG	12	4	6		
	Micro gran 3	mG	12	0	9	0.5%Mg, 1.0%Fe	
	Micro gran 4	mG	12	3	9	0.5%Mg, 1.0%Fe	
	Also 12-6-6 and 12-0-9 "outfield" compounds.						

Key: G = Granular; m = micro; M = min; P = Powder; LF = Liquid Foliar.

THINK FERTILIZER, THINK **Longlife**

All 'Longlife' products are organic based mini-granular fertilizers. As a result the granules do not stay on the surface for weeks, but breakdown within a few days, so reducing the risk of scorch and mower pick up. They are all true compounds and **not** blended fertilizers, each granule containing the desired spread of nutrients so that speckling, which can occur with blends, is prevented.

All the Fine Turf and Sports Turf fertilizers contain seaweed extract to provide a source of trace elements. Six

of the products also contain the unique ingredient DIDIN. This reduces the growth flush and gives a controlled release of nitrogen, thus extending the grass feeding period from one application. DIDIN has the added benefit of reducing nitrate leaching.

The use of 'Longlife' fertilizers should be considered an integral part of any turf management programme, giving effective results at a very reasonable cost.

FINE TURF RANGE



Product Name	Spring & Summer	Autumn Feed	Finegreen NK	Nitrogen with Iron
NPK Analysis	14:3:7	5:5:15	15:0:5	8:0:0
Other Ingredients	2% Mg, Seaweed extract	2% Mg, 1½% Fe, Seaweed extract	2% Mg, Seaweed extract	2½% Fe, Seaweed extract
Contains DIDIN	Yes	No	Yes	No
Mini-granule	Yes	Yes	Yes	Yes
Application Rate	35–50 g per sq m 1–1½ oz per sq yd	35 g per sq m 1 oz per sq yd	35–50 g per sq m 1–1½ oz per sq yd	35–50 g per sq m 1–1½ oz per sq yd
Area Treated	500–710 sq m 585–880 sq yd	710 sq m 880 sq yd	500–710 sq m 585–880 sq yd	500–710 sq m 585–880 sq yd
Bag Size	25 kg	25 kg	25 kg	25 kg

SPORTS FIELD RANGE



Product Name	Spring & Summer	Autumn Feed	Nitrogen	Plus
NPK Analysis	11:6:9	10:10:15	25:0:0	14:3:7
Other Ingredients	1% Mg, Seaweed extract	Seaweed extract	1½% Mg, Seaweed extract	2% Mg, 2,4-D, dicamba, Seaweed extract
Contains DIDIN	Yes	Yes	Yes	Yes
Mini-granule	Yes	Yes	Yes	Yes
Application Rate	35–50 g per sq m 1–1½ oz per sq yd	35 g per sq m 1 oz per sq yd	35–50 g per sq m 1–1½ oz per sq yd	35 g per sq m 1 oz per sq yd
Area Treated	500–710 sq m 585–880 sq yd	710 sq m 880 sq yd	500–710 sq m 585–880 sq yd	710 sq m 880 sq yd
Bag Size	25 kg	25 kg	25 kg	25 kg

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Fertilisers

'It is often easy (even desirable) to carry out your own mini-trials'

37 ➔ Soil analysis can be a useful guide to soil nutrient status but there are some reservations about just how useful. It must be realised that the analysis only refers to that particular sample, ie – if you take several cores and mix them you get averaged results – this may not tell you maximum and minimum levels at any one spot, which may be more useful. On the other hand taking a multitude of cores across the whole course is usually expensive and impractical except for quick and cheap tests (such as for pH), thus a more useful practice may be to take one or two cores from areas of satisfactory growth and the same from 'problem' or less satisfactory areas, which will allow for better comparison.

The time and method of sampling can also cause distortion of results: a hand auger can take a disproportionate volume of soil from one level without providing a true profile of the soil and may not include *all* the soil available to the root system. In addition, recent fertiliser applications can cause distortion. Most analyses of P & K use the MAFF ADAS 0-5 scale where 0 equals no trace and 2 is 'ideal', and this provides a simple and effective guide for applications of these nutrients. Most suppliers give a guide to application rates based on these; however it must be remembered that such figures are only a guide. Some DIY soil test kits are available but these are limited in scope. How useful any one course manager will find them will depend on his attitude, and perhaps on his knowledge of basic soil chemistry.

Minor nutrient and trace element analysis and recommen-

dations are less well defined, with interpretation often dependent on the advisor. Fortunately most plant deficiencies produce classic symptoms and these can usually be used as a guide, either for more detailed analysis or for a trial application of a specific remedy. However it must be remembered that deficiencies – and thus symptoms – are often transitory, caused by weather or other temporary conditions such as drought, water-logging or cold, or even a spell of rapid growth.

There is an abundance of advice freely available on most matters effecting golf turf, (not always welcome or 'useful'), which often leaves the greenkeeper with the problem of selecting which to 'hear' and which to ignore. Fortunately most traditional greenkeepers are imbued with a healthy scepticism.

It is often easy (even desirable) to carry out your own mini-trials, and while results may not be scientifically valid they often give valuable indications of the effect of specific nutrition and management programmes: on *your* course, with *your* management and under *your* conditions. What works for one greenkeeper may not work for another, but with range of fertiliser and growth promotion products now available it is easy to select materials which meet your requirements for turf nutrition with greater precision than ever before.

• *Hugh Tilley is a regular contributor to Greenkeeper International. His special interests include machinery, management, safety and agrochemicals.*

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*Natural solutions
to get you growing*

by ROGER EVANS

The aim of the golf greenkeeper is to produce the best possible quality of turf with the resources available. In general, this means that the presence of broad-leaved weeds in any number is unacceptable not merely from an aesthetic point of view but also because weeds can actually influence play.

If weeds are beginning to become a problem, there may well be an underlying reason. The most common causes are over-acidity of the surface soil, poor drainage, or poor nutrition. Weeds can act as indicators of an underlying problem and without tackling the underlying cause then weeds will always be present. It is a wise policy to try to discover why weeds are present, particularly if they are a recurring problem, and to adjust turf management in conjunction with chemical control measures accordingly. For example, sheep's sorrel (*Rumex acetosella*) is associated with an over-acid surface soil, creeping buttercup (*Ranunculus repens*) is often found in damp, boggy corners and white clover (*Trifolium repens*) is often seen in areas that have not been fertilised for several seasons.

The greenkeeper must be familiar with the common broad-leaved weeds and if there any doubt about identification, then advice should be sought or a good flora purchased.

Hand weeding

Before reaching for the sprayer it is always worth considering hand weeding, particularly in small areas. Much effort and money can be saved by always carrying a knife to remove weeds during the course of the day. Even some grass weeds can be significantly discouraged by regular slashing, for example the spread of Yorkshire fog (*Holcus lanatus*) can be limited in this way.

Spot treatment

In general, spot treating individual weeds needs to be done carefully, as so often weed-killer is over-applied with the result that as well as the weed, surrounding turf is killed. A single nozzle, lance-type sprayer is not recommended for spot treating weeds in turf for this reason. However, provided care is taken, correct doses can be applied to small areas using, for example, aerosol spot weeders.

Wiping out WEEDS

As is the case when hand weeding, spot treating weeds is really only practical over fairly small areas of putting surface or tee.

Spraying - choosing a herbicide

Once it has been decided there is a weed problem and the weeds have been identified, the next step is to choose the appropriate herbicide for selective control.

Commonly available selective herbicides are

based on the active ingredients MCPA, 2,4-D, dicamba, dichloroprop, fenoprop, mecoprop and ioxynil. Normally proprietary products contain one or more herbicides. The different combinations increase the number of weed species it is possible to control. The choice of product should be based on the susceptibility of the weed species to any of the available herbicides or a mixture of herbicides. Information is available and the table lists a selec- ➤ 43




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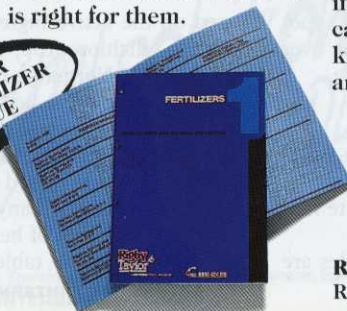
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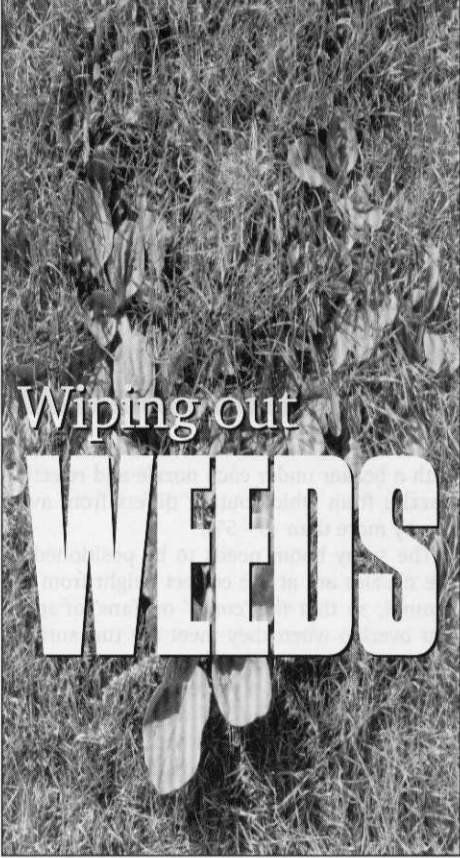
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41 ➤ tion of common weeds and their susceptibility as mature plants to various herbicides and mixtures.

Selective weedkillers

Selective weed-killers or herbicides will control most broad-leaved weeds of turf. They may contain one or more active ingredients. At least one of the active ingredients is normally a foliage-applied translocated herbicide with growth-regulating activity, such as MCPA, 2,4-D or mecoprop. These chemicals are taken into plants chiefly through leaves, but also through roots, and upset normal plant growth processes and distort growth within susceptible weed species. Effects can be seen in twisting of leaves and distorted growth within a day or two of application, but weeds may not die for four to eight weeks. Resistant species may take in less chemical (eg. because of angle and type of leaf, which partly accounts for selectivity between grasses and broad-leaved species) and also avoid the toxic effects in various ways. Some herbicides, eg. ioxynil, act primarily by contact, producing a rapid contact scorch and then yellowing of foliage on susceptible plants as photosynthesis and



other processes are affected. Selective herbicides are sold as proprietary products containing variable amounts of active ingredient (a.i.). For some herbicides, the active ingredient is expressed as acid equivalent (a.e.). Although the two terms are not the same, they have a similar meaning for the layman, both being used to distinguish the active

ingredient from the 'carrier' or solvents in a proprietary product. The proportion of active ingredient varies between products. Thus, if two firms sell weed-killers with the same active ingredient, firm A may formulate its product with 20% a.i. while firm B formulates its product with 30% a.i. Manufacturer's label recommendations must be followed at all times.

Approved products

All pesticides, including herbicides, currently used must be approved by MAFF; this can be checked by ensuring the product label displays a MAFF number.

Choice of application equipment

Herbicide application by sprayer generally gives the best results for professional users. The spray droplets give good cover, reaching, at least partially, the undersides of leaves and lower parts of the plants, but spray drift may give risks to non-target plants, the operator and the general public.

There is a wide range of spraying equipment available. For comparatively small areas or for spot treatment (putting greens) a knapsack sprayer may be acceptable. For larger areas there are 'knapsacks on wheels' or other pedestrian equipment, e.g. Walkover sprayers, while for larger areas, e.g. fairways, tractor-mounted or tractor-drawn models are available. The volume of liquid applied by a sprayer depends partly on the machine itself (e.g. pump output), partly on nozzle size, and partly on speed of movement over the ground. The following are generally accepted definitions of the various volumes of application appropriate to conventional sprayers with nozzles:

- low volume - 55 - 225 litre ha⁻¹
- medium volume - 225 - 675 litre ha⁻¹
- high volume - 675 - 1125 litre ha⁻¹

Details of application volumes for herbicides may be found on product labels and must be strictly followed.

Controlled droplet application (CDA) sprayers based on a spinning disc principle work at very low (11-55 litre ha⁻¹) or ultra-low volumes (1-11 litre ha⁻¹)

There are several traditional application methods still in use, eg. wick applicators, fluted rollers, or a watering can with a rose or dribble bar). These methods are generally less efficient than spraying and the product label must be checked to ensure these methods are recommended. For areas containing low populations of weeds only, spot treatment may be appropriate. This is often difficult to achieve with any degree of accuracy in practice.

Checking spraying equipment

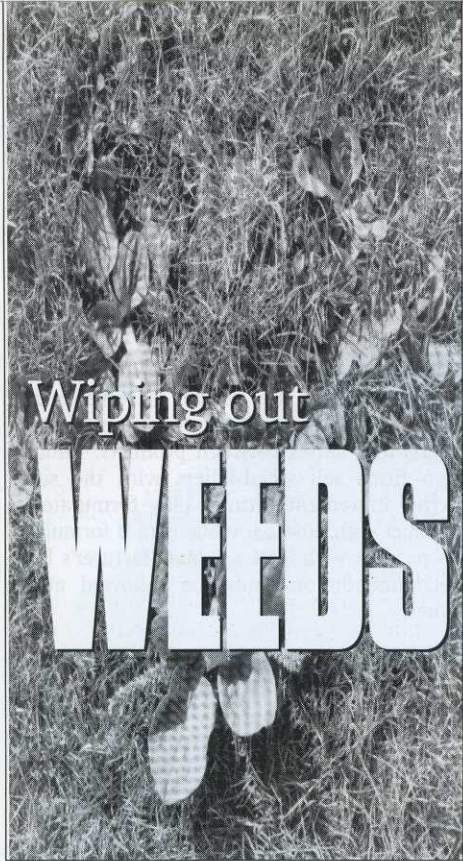
Prior to every spraying operation make sure that the application equipment is in good working order and that pressure hoses, joints and unions are watertight. Ensure that the jets and filter screens of spraying machines ➤ 44

Broad-leaved weeds and their herbicide susceptibility as mature plants

Common Name	Botanical Name	MCPA	2,4-D	Mecoprop	Mecoprop/ 2,4-D	Ioxynil mecoprop
Creeping buttercup	<i>Ranunculus repens</i>	S	S	MR	S	MS
Bulbous buttercup	<i>Ranunculus bulbosus</i>	MS	MS	MR	MS	MR
Mouse-ear chickweed	<i>Cerastium holsteoides</i>	MS	MR	S	S	S
Common chickweed	<i>Stellaria media</i>	MS	MS	S	S	S
Pearlwort	<i>Sagina Procumbens</i>	MR	MR	S	S	S
Blinks	<i>Montia fontana</i>	-	-	-	MR	-
Black medick	<i>Medicago lupulina</i>	R	R	MS	MS	MS
Suckling clover	<i>Trifolium dubium</i>	R	R	MR	MR-MS	MS
White clover	<i>Trifolium repens</i>	MR	R	MS	MS	S
Cinquefoil	<i>Potentilla reptans</i>	MR-MS	MR-MS	MR-MS	MR-MS	MS
Parsley Piert	<i>Aphanes arvensis</i>	R	R	MR-MS	MR-MS	MS
Sheep's sorrel	<i>Rumex acetosella</i>	MS	MS	R	MS	MS
Common sorrel	<i>Rumex acetosa</i>	MS	MS	R	MS	MS
Curled dock	<i>Rumex crispus</i>	MS	MS	MR	MS	-
Slender speedwell	<i>Veronica filiformis</i>	R	R	MR	MR	MS
Self-heal	<i>Prunella vulgaris</i>	MR	MR	MS	MS	MS
Broad-leaved plantain	<i>Plantago major</i>	S	S	S	S	S
Ribwort plantain	<i>Plantago lanceolata</i>	S	S	S	S	S
Common ragwort	<i>Senecio jacobaea</i>	MS	MS	-	MS	-
Daisy	<i>Bellis perennis</i>	MR	MS	MR	MS	MR
Yarrow	<i>Achillea millefolium</i>	MR	MR	MR-MS	MR-MS	MS
Cat's ear	<i>Hypochaeris radicata</i>	MS	MS	MS	MS	MS
Mouse-ear hawkweed	<i>Hieracium pilosella</i>	S	S	S	S	MS
Dandelion	<i>Taraxacum officinale</i>	MS	MS	MR	MS	MR
Toadrush	<i>Juncus bufonius</i>	R	R	MR	MS	MS
Field woodrush	<i>Luzula campestris</i>	R	R	MR	MR	MR

Note: Herbicides used at full recommended rates according to manufacturers' instructions.

- Key: S = Susceptible, one application kills
MS = Moderately susceptible, one application usually kills, sometimes a second needed
MR = Moderately resistant, two to three applications needed
R = No useful effect
- = No information.



White Clover



Speedwell

Wiping out WEEDS

41 ➔ are free from blockages and are suitable for the job in hand. The nozzles fitted should be of the type and size specified by the equipment manufacturer or, for particular jobs, those recommended by the chemical manufacturer as described on the label.

Make sure nozzles are clean and giving their proper spray pattern. As part of the calibration process check their uniformity of output, by operating a stationary water-filled sprayer

with a beaker under each nozzle and rejecting nozzles from which output differs from average by more than $\pm 5\%$.

The spray boom needs to be positioned so the nozzles are at the correct height from the ground, so that the 'cones' or 'fans' of spray just overlap when they meet the turf surface. To keep this correct height consistently, make sure that on a 3 or 4 wheel sprayer the boom is level and securely fixed at the right height, and that a 2 wheel sprayer can always reliably be held at the correct distance from the ground (eg. using a chain of just the right length hanging from the boom). The nozzles of hand-held booms on knapsack sprayers or the working height of controlled droplet applicators are even more difficult to keep a consistent height above target level during operation, but unless this is done, calibration will be meaningless and the application rate quite different from what is intended.

Cleanliness of spray machines is of paramount importance, especially where one machine is used for many different products. If equipment is shared with other users, it is advisable to wash it out thoroughly both after

spraying is complete and also before the next use. Ideally, a separate sprayer should be kept for total herbicides or other similar chemicals, to avoid problems of contamination which damage turf.

Calibration of equipment

The first essential of accurate treatment is to know what volume per unit area you will actually be applying when you start work: otherwise you cannot possibly work out the correct rates of chemical. Establishing this volume per unit area is calibration. Calibration is not a magical process, but it is all important. It must be done afresh every time you spray and must also be done every time equipment is altered or changed, or a change in herbicide product is made.

The volume of liquid applied by a sprayer depends on nozzle size, pressure and travelling speed.

Always wear suitable protective clothing when mixing chemicals. (Refer to product label for details.) Follow any specific instructions given on the label but, as a general rule, add half the required quantity of water, then the chemical, then the remainder of the water (which can be used to rinse out the container in which the chemical was measured). Powder formulations can usually be added to the water and stirred to give a suspension or solution, but it may be necessary to pre-mix the powder by adding a small amount of water to it and mixing thoroughly, to the consistency of a thin cream. This 'cream' can then be added to half the quantity of water in the spray tank and topped up in the normal way.

Patterns of spraying

Accurate marking of strips is essential to minimise misses or overlaps. If chemicals do not contain a dye, or sprayer wheelings cannot be followed, lines and/or marker pegs should be used or a marker dye added to the spray, particularly on important areas such as golf greens.


For such areas, it is also advisable to spray twice over with a half-strength tank mix, the second time at right angles to the first. This makes misses or overlaps less serious. All spray work using a boom should be done in parallel lines, not curves (to avoid different speeds at the two ends of the boom). Even with single-nozzle equipment, parallel working is more methodical.

Special points on applying growth regulator herbicides against broad leaved weeds

Timing
Apply any time from spring to early autumn, preferably in fine, warm weather when the soil is moist and growth is vigorous. Late spring is generally considered best. Avoid applying herbicide treatments during hot, dry weather, or in late autumn (when weed control may be good but the turf may not fill in adequately before winter). Heavy rain shortly after application may reduce effectiveness. Wind gives risk of drift, but a slight constant breeze may allow better work than light variable winds. Growth-regulator herbicides act best when both weeds and grass are growing vigorously. Therefore, if the turf normally receives nitrogenous fertiliser, give some a week or two before spraying. Fertiliser/herbicide mixtures are convenient and avoid risks of spray drift, but they do not boost growth in readiness for herbicide treatment like a separate fertiliser dressing, and a granular herbicide may be washed off by rain more easily than a spray, especially a rain-fast one.

Mowing before and after spraying


Turf mown infrequently (every seven to ten days, or more).



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Plantain



Yellow suckling clover



Mouse ear chickweed

A large leaf area of weeds allows maximum herbicide absorption: therefore delay spraying until a few days before a cut. But then make sure not to cut for two to three days, to give time for herbicide absorption before weed leaves are removed by mowing.

Frequently mown turf

Weed growth between cuts will not matter. Some people would advise not to spray freshly cut grass, but many greenkeepers mow fine turf and spray the same day with no apparent damage. Also, there is no need to refrain from mowing to allow herbicide uptake if all weed foliage is below mowing height.

Disposal of clippings

After use of growth-regulator herbicides, the clippings from the first four mowings must not be used directly as a mulch round broad-leaved plants or shrubs but may be incorporated into compost heaps, provided that they remain there for at least six months before the compost is used for broad-leaved plants or shrubs.

After the first four mowings no special precautions are needed.

Grass weeds

The three most common grass weeds found in fine turf are annual meadow-grass (*Poa annua*), Yorkshire fog (*Holcus lanatus*) and perennial ryegrass (*Lolium perenne*). There are no suitable chemicals available for their control in fine turf and the best way to avoid them is by employing suitable management practices. Removal of grass weeds is possible on a small scale by, for example, hand weeding, plugging or re-turfing.

Certain resistant broad-leaved weeds may require more than one application of herbicide for effective control. Consult the product label for instructions on repeat treatments.

Precautions

Growth-regulators are very powerful and can affect non-target plants even in minute doses. Risks are very real where crops and plants other than grass and cereals are grown in the vicinity of spraying. Do not treat areas of turf near valued plants in flower beds, etc. except on a calm day. If contamination of such plants is suspected, wash them down copiously with clean water. Clean out spraying

equipment thoroughly after use.

All herbicides are potentially harmful to the user; follow safety instructions on the product label carefully. Always be careful when measuring out and mixing concentrated herbicides, avoid inhaling the spray, and store and dispose of containers carefully. Always wear minimum protective clothing, i.e. gloves, protective clothing and face mask. Above all, read everything on the label before opening the container. It should be understood that herbicide users are under an obligation to comply with legal requirements governing the usage of such materials and that the instructions included with each product are mandatory, including instructions regarding application rates. Users should be familiar with the FEPA (1985)m Part 3: Control of Pesticides Regulations (1986).

•The author, Roger Evans, is an advisory agronomist with the Sports Turf Research Institute.

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59



AROUND THE GREEN

Keeping in touch with news and comment from the regions

COMING UP

April 8th: BIGGA Annual General Meeting, Royal York Hotel (immediately adjacent to York Railway Station), York. Commencing at 2.30pm.

April 29th: BIGGA South West and Wales Region Trade Show WESTURF '92 – Long Ashton GC, Bristol.

June 3rd-4th: Landscape Industries '92. Trade Show – National Agricultural Centre, Stoneleigh, Warwickshire.

July 16th-19th: The Open Championship – Muirfield, Scotland.

August 10th-12th: BIGGA National Golf Tournament – Littlestone GC, Kent.

September 8th-10th: IOG Trade Exhibition – Peterborough, Northants.

September 24th: ISEKI Championships Final – Coventry GC, Warwickshire.

October 12th: TORO/PGA European Tour Student Greenkeeper of the Year Award – Aldwark Manor, York.

October 14th-15th: Kubota Challenge – The Belfry, Sutton Coldfield, Warwickshire

October 26th-November 27th: BIGGA Management Courses (five weeks) – Aldwark Manor, York.

November 11th-12th – IOG Scotsturf Trade Exhibition, Edinburgh.

November 12th-14th: Golf Course Europe '92 Show – Cannes, France.

December 7th: ICI Professional Products Premier Greenkeeper Award: Finals – Aldwark Manor, York.

KENT

Our Spring Tournament at Darenth Valley on the 6th May will soon be upon us. Hopefully spring will also bring some welcome encouragement for some very tired looking turf. Mild winters may be good for maintaining a golf course's income, but they leave behind some very thin and worn turf. Looking ahead, we don't have a Summer Tournament arranged for this year as we are hosting the BIGGA National Tournament at Littlestone. No doubt more detailed information will appear nearer the time, but I can give you some outline of the format in the hope that we in the Kent section can support this very important event.

The Tournament itself will take place on the 10th, 11th, and 12th of August, but a practice round will be available on Sunday the 9th August between 2.30 pm and 5.30 pm, with the registration for the main event taking place during the Sunday evening. As for the social side, we hope to have an informal barbecue in a marquee adjacent to the club house on Monday evening, with the banquet the following evening.

Much of the thanks for the organisation of the event must go to those at Littlestone Golf Club. Malcolm Grand always has this gem of a links course in tip-top order and a special thanks to Littlestone's 1991 Club captain, Brian Evans. It is great that Brian can lend his enthusiasm and organisational abilities to the event, for as some of you may know he is also secretary of the Kent Golf Union and EGU golf development officer for the South East. Perhaps he would rather I forget him as one of the Kent youth selectors many, many, many years ago – about as long ago as the last time I hit a decent shot!

Touching on the subject of club captains, we may have a BIGGA first in that our chairman, Chris Marden, is the captain at West Malling Golf Club this year. He brought his own special slant to the drive-in proceedings at the start of the year by arriving on the tee, in front

of the assembled galleries, dressed in overalls, boots, cloth cap and donkey jacket. In one hand he clutching his trusty driver and in the other a large bucket of soil and seed, with which he diligently began to divot the first tee. To the horror of the ladies present, he then began to strip off – thankfully to reveal more correct golfing attire. He then drew a ball from his pocket (apparently preferring to supply his own as those supplied in the past by supposed friends of the new captain had a habit of exploding!), tee'd it up and struck a remarkably straight shot some 164 yards. That is a good 164 yards further than I have seen some new captains attempt to drive, but I can't help but wonder that it was a relief he hadn't previously divoted another tee, as this may have only resulted in a drive of some 82 yards! Perhaps the policy of appointing the head greenkeeper to the position of Club captain should become more common practice at all Clubs, for it would surely result in an improvement in the general condition of the course, after exercising the "first decree" – the banning and dissolution of the green committee!

PAUL COPSEY

SOUTH COAST

Members unable to attend the February lecture missed a very entertaining and interesting talk from our editor David White, who spoke of his annual visit to Augusta for the Masters Tournament and showed a number of slides covering the organisation and running of this prestigious event. This was followed by a talk on the Association's magazine, which resulted in a number of questions being voiced and with more bouquets than brickbats going in David's direction. It was pleasing to note that such is David's fame that a few greenkeepers from the Surrey section joined us for the evening.

The next section event is the Spring Tournament, which this year is being held at the Weymouth GC on Thursday, May 28th. The format



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for the competition is a 36 hole medal, though members not wishing to play two rounds can play a single round. A number of trophies are available to various playing categories and the entry fee, which includes all meals, is £11.00.

Further details and all applications to play should be directed to our tournament organiser, Mr Joe Burdett, 23 Jacobs Ladder, Child Okeford, Blandford Forum, Dorset, DT11 8EA. Tel: 0258 861482. Other section tournaments for 1992 are: Summer Tournament, Basingstoke GC, Thursday 6th August, Autumn Tournament, Bulberry Woods GC, Monday 5th October.

Finally, please make every effort to attend Westurf at Long Ashton, Bristol on April 29th. This has become a major regional event for green staff and exhibitors alike and is well worth a visit.

BOB DENNIS

SHEFFIELD

As the first lady secretary, I am slowly finding my feet, though the responsibility is far greater than I expected. My Phase III training at Ashham Bryan College is proving invaluable, for BIGGA has grown in size and stature, which in turn leads to more administration. I have drawn up an agreement with my husband: if he puts central heating in the spare bedroom and converts it into an office, he can relax in his lounge without the sound of the typewriter clicking every night. "Agreed!"

I attended my first Regional Board Meeting at Cleckheaton Golf Club on the 12th February, where some very valid points were raised, all of which, I must stress, were in the interest of members and the success of the Association. I must congratulate the regional administrator, Howard McAddy, on the professional way in which he arranges and administers regional affairs.

DRESS RULES.

The executive director, Neil Thomas, has requested the section secretary to ensure at all times that the dress rule is observed. More important, when visiting a golf Club on a section event or for a 'courtesy' round, all members must observe the host Club rules and standards. In addition, please also note that it would be advisable to take a letter of introduction from your own golf Club when requesting a courtesy round at another Club. This will help to identify you and maintain the goodwill that has been built up between greenkeeper and golf Club.

WINTER LECTURES:

The winter lecture at Rotherham GC on April 2nd is scheduled for 2.00pm., and will be a talk on the RULES OF GOLF, delivered by a member of the R&A Rules Committee.

COMPETITIONS:

SPRING TOURNAMENT: 11th May Wheatley GC, tee off 2.00pm., ANNUAL TOURNAMENT: 6th July. Buxton High Peak GC 27 hole competition, tee off (morning) 10.30 am (afternoon) 1.30pm. AUTUMN TOURNAMENT: 7th Sept., Sitwell GC, tee off 1.30pm. Please contact the competition secretary, Barry Heaney, if you require any information. Tel: 0742 884063.

Barry is to be admitted to hospital for surgery and the section send their best wishes to him and his family. Get well soon Barry, we need you.

If any further information is required or I can help in any way, please do not hesitate to 'phone me on 0298 813374; or write to

AROUND THE GREEN



Stoneyford, Chapel-En-Le-Frith, Stockport, Cheshire. SK12 6QU.

JANE RYAN

DEVON & CORNWALL

As we arrived at Bigbury GC for our February meeting we found the course under a blanket of fog, which locals said would last all day. Nevertheless, 28 golfing members decided to brave the conditions and play for the Avoncrop Amenities Trophy. To their surprise the fog cleared as the first players reached the tee, though delight soon turned into despair as the heavens opened, with many running for cover to the club house and only a few brave souls managed to complete eleven holes before calling it a day.

During this time our non-golfers were being shown Rhone Poulenc's computer software, which was presented by Shaun Price and Paul Clifton. Many thanks gentleman. To present the Avoncrop Amenities Trophy (and prizes to the brave) was John Palfrey of Avoncrop Amenities, these going to: 1st C.Rawlings-18 pts 2nd B.Lewer-15 pts 3rd B. Ridgeway-14 pts. Many thanks to John for donating & presenting the prizes to our lucky winners and also our thanks to Graham Davis & his staff, who kept the course playable in such appalling weather.

After an excellent lunch we continued on the theme of computers with course manager Kerran Daly, from Salisbury & South Wilts G.C., presenting his paper on "Computers and Greenkeeping". Kerran must have thought he was back on the coach from Harrogate when water started to drip onto his overhead projector, but to his credit he waded on in fine style and brought home the point that we do not need to be afraid of computers, as those available today are 'user friendly'. He further suggested that we will all be using them in the work place in the near future. Many thanks, Kerran, for a splendid talk and also to Bigbury Golf Club, for allowed nearly sixty members to use their excellent facilities.

Members please note that WESTURF is now only a few days away. You should all have received your free invitation to the show which will be held at Long Ashton GC on Wednesday 29th April. If you haven't received an invitation, please contact me at once.

RICHARD WHYMAN

MID ANGLIA

Well, once again the Harrogate exhibition has come and gone, and it was pleasing to see so many members of our section in attendance at the workshops, seminars and trade exhibition. Let us look forward to next year, and to it being equally enjoyable.

Congratulations to our chairman, John Wells, who will shortly be starting his new appointment as course manager at Brockett Hall. Welwyn Garden City Golf Club must be very sad to lose John, who has, I believe, spent

15 years there. All section members wish you every success in the future, John.

An interesting afternoon was spent at Oaklands College on Feb 19th., when the lecturing staff gave us information regarding existing City & Guilds examinations and future plans for a full time one year course - the National Certificate in Greenkeeping and Sports Turf Management. This was followed by a tour of the campus looking at machinery and facilities, as well as an inspection of the site for a proposed 3 hole golf course, one upon which students will work in the future. Many thanks to the college and lecturing team for making us welcome.

Finally, please ensure that entries for the Spring Tournament at Verulam Golf Club on April 21st are with Chris Brook by April 14th at the latest, so that numbers, meals etc., can be confirmed. Should you either have not received or are having any difficulty with the entry forms, please contact any of the committee members listed below for help. Chris Brook, (fixtures secretary), 0438 813346. Gerald Bruce, (secretary), 0442 876765. Paul Lockett, (vice chairman), 0525 402550.

PAUL LOCKETT

SOUTH WEST

Yeovil Golf Club, in deepest, darkest Somerset, was the venue for the second meeting of the '92 season. This friendly Club, recently expanded to 27 holes under the expert eye of John Lawton, made the section very welcome, which was reflected in the very good turn-out despite the greater than usual travelling distances. The day was rather windy, to say the least, though this didn't prove a problem to Jon Leigh of Henbury, who recorded the days' best score of 37 points, to secure his first win after many attempts in section meetings.

The full result was as follows: 1st: J Leigh, Henbury, 37 points. 2nd: P Godwin, Tracy Park, 32 points, 3rd: K Millar, Tall Pines, 31 points. 4th: P Thorn, Tracy Park, 30 points.

Many thanks to Yeovil Golf Club for having us, to John and his staff for preparing the course, to the steward for the lunchtime meal; and to Huxley Grass Machinery, Avoncrop Amenity, Rigby Taylor, Richardson Plant, I.C.I., and Roffey Brothers for prizes. Huxley Grass Machinery were our sponsors for the day, bringing along two of their very latest machines to be put through their paces under the critical eyes of our resident experts. Thank you all.

Hot on the heels of Martin Townsend in the parenthood stakes is Dave Everett of Lyme Regis. I am happy to report that he has a son, Scott James, safely delivered in January. Congratulations David, we'll allow you two extra shots on your handicap to compensate for all those sleepless nights, and don't worry about all those teething problems encountered in the first three or four decades of your son's life, by the time that's past, you'll be too old to care!

On a more sobering note, we wish the recently retired section chairman, Bob Gates, a speedy recovery from his recent bout of bronchitis, and also best wishes to Ivor Scoones' wife Anne, for a complete recovery from her recent injury.

With this being a final reminder for WESTURF, April 29th, Long Ashton, let's have no excuses. Bring the staff, bring the green committee, let's have a successful, well attended show.

PAUL WORSTER

EAST MIDLANDS

First, many thanks to Rigby Taylor for the hospitality extended to section members at their seminar at Derbyshire C.C.C. on February 26th. Any chance of another one at Leicester in the autumn? Thanks also to Mr Gusterson and his staff at Brooksby College for a very pleasant and informative social evening on February 18th.

It's still not too late to enter the Spring Tournament at Wollaton Park GC on April 28th: you may ring me for an entry form if you haven't had one already. This competition will again be a qualifier for the ISEKI Tournament in September. There seems to have been a spate of injuries to section members over the past few months, so would prospective ISEKI team competitors, especially Roger Willars and Steve Goode, please take extra care, at least until the 28th, or we will end up fielding a team of reserves!

The section is once again pleased to welcome the following new members: Andrew McGreal of Lingdale GC, David Johnson of Ruddington Grange GC, Edward Mitchell of Springwater GC; and Philip Jennings of Rushcliffe GC. In addition, we welcome back Philip Reffin, also of Rushcliffe GC; and Anthony Burgoine, now at the new Uppingham Castle GC.

Finally, I am in the process of preparing a section name, address and telephone number listing for circulation to all East Midlands members, which should come in useful for arranging matches etc. If, because of past indiscretions, an anti-social desire for privacy; or for any other reason, you do NOT want to have your details circulated, please give me a ring on 0509 650140.

TONY HOWARTH

AYRSHIRE

The Ayrshire section Spring Outing will be held at Irvine Ravenspark on April 30th, commencing with coffee and biscuits on arrival and tee-off at around 9am. Please ensure that your entry forms are returned promptly in order that meals and tee times may be booked. An added incentive this year will be that qualifiers for the ISEKI Tournament will have the shortest of trips to Troon Darley for the regional finals. Let's see if we can find a team to go 'all the way' this time. The Autumn Outing will be held at Millport in September, and I will let you have full details later.

Congratulations and good luck go to Billy Fletcher on his promotion from first assistant to head greenkeeper on the Troon Municipal courses.

Finally, how about the Ayrshire greenkeeper who takes his job so seriously that he not only spikes fairways, tees, greens, etc., but also gives the vehicles in the car park a run as well! He was last seen with a Volvo, a Jaguar, and two Ladas, bouncing along behind his tractor.

DUNCAN GRAY

NORTH WEST

This year of 1992 looks again like being a busy year for golf fixtures, at the rate of at least one per month, quite apart from the National Tournament at Littlestone and an extra for those lucky enough to reach the ISEKI final at Coventry in September. The Spring Tournament is at West Derby GC, Yew Tree Lane, West Derby, Liverpool, on Tuesday May 12th. The tournament will take the form of an 18 hole medal round, with the tee available from

AROUND THE GREEN



1.30pm and at a cost of just £12 per player. Soup and sandwiches will be available on arrival, with dinner and prize presentation in the evening. Proper dress is essential and you must also bring your membership card with you. All enquiries to Paul Pearse, 1 Swan Close, Poynton, Stockport SK12 1HX. Tel: 0625 859258.

Members should note that the West Derby event is a qualifier for the ISEKI Tournament and is likely to prove somewhat competitive. Members will enjoy jockeying for vital places at the regional finals at Cleckheaton GC on June 25th., so come along, enjoy the day, and have a crack at qualifying.

Finally, if anyone is retiring, changing jobs, becoming a father or involved in something worthy of exposure, PLEASE let me know, as section news is hard to find without your help. Just ring 051 724 5412 and ask for Bert.

BERT CROSS

LONDON

The London section held its own seminar at Aldenham GC on February 26th, with some 50 greenkeepers representing eighteen Clubs in attendance, along with a several trade members. A warm welcome was extended to us by the staff at Aldenham and our sincere thanks to Mr Phillips for once again playing host to us for this important fixture in our calendar. Three companies supplied advertising display stands and our thanks go to Dennis Smith (Parkers), Peter Hopkinson (Browns), and Liam Galway (CMW), for continued support.

The speakers were of high quality and were received very well by their audience, for which thanks are due to Mark Hunt (Sierra Chemicals UK), Jim McKenzie (Wentworth GC), Peter Jefford (Rufford Top Dress Supplies), Kevin Munt (Buckinghamshire GC), and Jessie Johnson (EuroTurfCare), for their paper presentations. To mark our appreciation, the speakers were each presented with a gold-plated pen in recognition of their contribution.

To end this report on a sour note, one thing that did NOT go unnoticed was the number of greenkeepers who arrived wearing jeans, sweat shirts, training shoes and, would you believe it, tracksuit bottoms! This surely cannot go on any longer. If golf Club members are expected to dress correctly at their own Club, surely we owe it to them (and to ourselves) to do likewise. It is pure luck that these individuals have not been refused entry into hospitable Clubs such as Aldenham, and it surely only a matter of time before such a refusal will face the culprits. Worse still, as a section we may not be extended the courtesy of many Clubs, simply because of the few without pride, who cannot dress themselves properly. If individuals cannot take responsibility for their dress at such events, then their head greenkeepers must take it upon themselves, if only to safeguard our interests. So come on, all you head men: if you are sending staff to represent your

Club at any future section event – golfing or non golfing – get them in order, or don't send them at all!

ANDREW PHILLIPS

MIDLANDS

There couldn't have been a more successful start to the year than that which the BTME gave to us. Many members have mentioned how much they enjoyed the show and of the many good seminars available. Many thanks to all the staff at headquarters, who worked so hard in producing a show of this standing.

Our Summer Tournament this year will be held at Handsworth GC on Thursday June 18th. Please note that entry forms must be sent to Mike Hughes by May 13th; and that the maximum handicap for this event is 24. Please also remember that any news from within the section would be most welcome, so please call me – any time.

DEAN CLEAVER

SURREY

The recent debate held at Merrist Wood College was a huge success, with over 50 members in attendance. A panel consisting of Jack McMillan and David Whitaker, with Bill Hargreaves of Sisis in the chair, examined aeration techniques and equipment past and present. Two main conclusions seemed to be reached, one being that with the availability of a wide range of methods of aeration, it is imperative that the correct ones are applied to an individual site. Second, that it is up to greenkeepers to educate players and Club members of the necessity for on-going aeration programmes and ensure careful planning in order to give prior warning of interruption to play. Thanks went to the panel, to Merrist Wood College for the use of their excellent facilities, to David Luxford for his organisation, and to Sisis for sponsoring the event.

Our Spring Tournament takes place at Foxhills GC on April 23rd, entrants being reminded that they will be required to produce an Association membership card before playing, and that the 'one prize per player' rule applies. A presentation will also be made at Foxhills, this by Huxley's to the holders and three times winners of the Huxley Bowl, Alex Armitage and Paul Weston.

Finally a plea for section news, which should be conveyed to either Dave Andrews or myself. In a section as large as ours, something must be going on that is worth reporting – so let me know!

ROGER TYDEMAN

EAST ANGLIA

Our first winter lecture for some time was most successful, with over 60 turning out at Purdis Heath at very short notice. Michael Peters did very well at his first attempt at public speaking, addressing us on the subject of irrigation systems and techniques.

Colin Pryce, whose company, Soilcare Ltd., both sponsored the event and provided the welcome refreshments, spoke at length on deep soil aeration, followed by Patrick Lucas from Connecticut, USA, who gave a very interesting talk on deep 'aerification' and most aspects of American greenkeeping, most noticeably on how sand greens are not all they are cracked up to be! All in all a very worthwhile evening and well done to all concerned and thanks to Purdis Heath GC for the use of facilities.

There is a diary change, with our game at Eaton GC now fixed for SEPTEMBER 23rd – not October 7th. I must thank Aldeburgh for their kind hospitality way back in December when we held the Turkey Trot. Unfortunately, I missed the publication deadline (again-I hear you cry!), sorry, lads.

Man on the move Paul Bertinshaw bids a fond farewell to Royal Norwich after eight years, moving to Delamere Forest in Cheshire. AGM's will never be the same! We all wish Paul and his family the very best for a successful future.

Now for the be-all-and-end-all of why farmers don't make good greenkeepers. One of the many fields with 18 flagsticks that have been described as 'golf courses' has an active farmer owner. He has a good head greenkeeper (for now) but over-rides everything the head man suggests. The greenkeeper, fed up with all the arguing, has decided to toe the line and do just what he is told – e.g. scarify and top dress in early February when there is a hard frost in the ground, never close the course, and if it snows the green staff will be laid off without pay! Not surprisingly, this course is going down hill even faster than Eddie the Eagle, and serves to highlight the enormous potential for 'quality' courses when one considers the vast numbers who play these 'mickey mouse' set-ups, simply because there is nowhere else to go.

MICK LATHROPE

SOUTH WALES

First, I must apologise to Celtic Mowers and their managing director, Mr Kim Davies, for not acknowledging in print the recognition they so rightly deserve. As a section we are indebted and thank them for their financial donations throughout 1991 towards both education and the new knockout competition, which was played last year for the first time. In my last report, I forgot to give the results of the above mentioned competition, played for throughout the season: Huw Morgan won the Matchplay Shield, the first prize of £75.00, and an engraved salver. Phil Swain was runner-up, winning £50.00 and also taking an engraved salver. Beaten semi-finalists were Idwal Morris and Anthony Iafraite, both of whom won £20.00 and statuettes. It is hoped that the Knock-out Competition will continue in 1992 and that the generous sponsorship will again be forthcoming – I will publish details as soon as possible.

At the Christmas competition we presented Dennis Archer with an engraved clock – this in recognition for all his hard work done at both regional and national level before ill-health forced him to take things a little easier. Dennis will still be helping out at section level, and for that we are most certainly grateful. We also wish him well in the hope that future operations required for cataracts will be totally successful and that we shall see him back after the summer is over.

In the same vein, it was with regret that we learned of Ted Thompson's recent illness, the surgery required and the unfortunate relapse suffered of late. We hope Ted will be back to full strength before too long and will soon be strolling the fairways again with his fellow greenkeepers.

Movements within the section:

David James recently left Newport GC to take over at Glynneath GC, Paul Davies has moved from St Pierre to take over as deputy head greenkeeper at Tredgar GC, with Stuart Lindsay (who hails from West Lothian) having taken the deputy head greenkeeper post at Southern-down GC. We hope to see them at future section meetings and send them all our best wishes for success at their new Clubs.

I would like to urge as many members as possible to attend WESTURF '92 at Long Ashton GC, Bristol, on April 29th, 10am - 5pm.

FIXTURES FOR 1992

April 9th: St Mellons GC, Cardiff Cup and

Iseki Qualifier. 18 holes of golf, followed by an afternoon talk, meet 9.30am. April 29th: Westurf '92, Long Ashton GC, Bristol. May 14th: Cradoc GC, Jacobsen Cup and Brown's Shield, 18 holes of golf meet at 12.30am. May 28th: Match against Club secretaries. Southern-down GC meet at 11.30am. June 17th: Iseki Regional Qualifier at Isle of Purbeck GC. July 2nd: Southerndown GC, Birdie Cup. 18 holes of golf, meet at 12.30am. September 9th: St Mary's GC, Pencoe, for the Presidents Shield. Play over 18 holes, followed by a talk in the afternoon, details to follow. Meet at the Club at 9.30am. October 7th: Annual match against South-West at St Pierre G&CC. Tee time to be arranged. December 16th: Pyle and Kenfig GC. Christmas Competition and AGM. Playing for the Vitax Shield. Meet at the Club 9.30 am. A note from Huw Morgan, our handicap chairman: All members must produce their membership cards and handicap certificates at every meeting. Failure to do so could result in not being allowed entry. Will winners please return the relevant trophy to be played for on the respective days.

Finally, Hugh Parry, our section chairman and national board representative, has asked me on his behalf to send congratulations and thanks to the staff at HQ for their hard work at Harrogate, which made BTME such a success.

PHILIP SWAIN NORTH SCOTLAND

On behalf of the section, I would like to congratulate our very own member, Gordon Moir, on his election to the post of vice-chairman of the Scottish Region, and of course to John Crawford, who has taken over from Harry Diamond as chairman. Harry is a hard act to follow but I'm sure that John will prove a very able replacement. Thanks finally to Harry for all his hard work.

As promised last month, here are brief profiles of the first four speakers at our conference later in the year. First will be Simon Gough, the amenity and industrial manager for the Chemical Spraying Company, Perth. Mr Gough will talk on "Health and Safety for Golf Courses". This is quite a poignant subject in these days of certificates and pesticide laws. Second will be Dr. Neil Baldwin, plant pathologist at the STRI, who will discuss "Turf Diseases in Scotland". Mr Baldwin was a speaker at our conference last year and we shall look forward

to another informative session. Following coffee, we shall hear from John Souter, of Souter of Sterling, who is to talk on the setting up of a new golf course in the north of Scotland. Next we are fortunate to have the secretary of the Royal & Ancient, Michael Bonallack, whose talk will be "The Role of the R&A in Greenkeeping Education". The remaining four speakers will be profiled next month.

Finally, have you bought (or sold) your 200 Club ticket, or failing that, returned it for resale? I look forward to seeing some of ➔ 58

CLASSIFIED And there's more on Page 57

Tenders



CHRISTCHURCH ENVIRONMENT & LEISURE DIVISION LOCAL GOVERNMENT ACT 1988

TENDERS FOR GROUND MAINTENANCE

The Council intends to let the following grounds maintenance contracts as two separate packages to run for a period of 5 years from 2 November 1992.

1. Contract No. 1 (General) comprising of wide variety of work to include open spaces and general amenity areas throughout the Borough, allotment gardens, woodlands, highway shrub beds and roundabouts plant containers and the Grounds of Highcliffe Castle.
2. Contract No. 2 (Sports/Fine Turf) comprising of two individually located Bowling Greens and Hum Bridge Sports Ground housing Christchurch Football Club, football pitch and high quality cricket pitch. The contracts will be output performance based.

Specifications will be available for inspection on purchase at £50 each by the end of May 1992 at the Civic offices.

Contractors wishing to be considered for inclusion on the select list must write to The Manager, Environment & Leisure Division, Christchurch Borough Council, Civic Offices, Bridge Street, christchurch, Dorset BH23 1AZ by April 24, 1992.



MILTON KEYNES BOROUGH COUNCIL

MILTON KEYNES BOROUGH COUNCIL

TENDER FOR GROUNDS MAINTENANCE WORKS: STAGE 4

In accordance with the provisions of the Local Government Act 1988, the Council will be inviting tenders for Grounds Maintenance in parts of the Borough. The work will comprise:

Complete Landscape Maintenance of the Council's two municipal golf courses situated at

1. Windmill Hill, Bletchley and
2. Abbey Hill, Two Mile Ash Milton Keynes.

The works will be of a specialist fine turf nature associated with the maintenance of golf courses.

Specimen Contract documents and indicative plans will be available for inspection from Wednesday 22nd April, 1992.

Applicants wishing to be included on the select tendering list should be of a sufficient size to undertake the work and have a proven history of fine turf maintenance relating to the maintenance of Golf Courses.

Applications for a copy of the questionnaire for Contractors should be made to:

Assistant Director (Services Administration)

Milton Keynes Borough Council

PO Box 113 Civic Offices

1 Saxon Gate East

Milton Keynes MK9 3HN

Telephone (0908) 682454 (Questionnaires) or (0908) 682574 (Appointments).

Completed Questionnaires must be returned to the above address by Friday 15th May 1992.

RECRUITMENT



CASTLE COMBE GOLF CLUB COURSE MANAGER

FOR PRESTIGIOUS PETER ALLISS/CLIVE CLARK DESIGNED COURSE
CASTLE COMBE WILTSHIRE
NEGOTIABLE PACKAGE

The new Castle Combe golf course, set in 200 acres of outstanding natural beauty in the southern Cotswolds, is due to open later this year and aims to become one of the top courses in the country.

Reporting directly to the Chief Executive you will join the senior management team at this exclusive members only club and become responsible for all aspects related to the management of this exceptional 18 hole course, including staff training, budgetary control and equipment specification.

Obviously for a position of this seniority you will need a relevant qualification and a minimum of 3 years senior greenkeeping experience, preferably with a working knowledge of sand greens.

In addition you will need to demonstrate an understanding of computerised irrigation systems and competence in health and safety practices.

A genuine interest in environmental issues is also an essential prerequisite for all candidates.

We can offer an exceptional salary package for the right individual and applicants should apply giving full personal and career details to:

ANTHONY WALTERS, MANAGING DIRECTOR,
CASTLE COMBE GOLF CLUB, CASTLE COMBE, WILTSHIRE SN14 7PL
CLOSING DATE FOR APPLICATIONS APRIL 30TH 1992



ROYAL NORWICH GOLF CLUB

requires a

HEAD GREENKEEPER

The applicant is to be currently in a supervisory capacity at a quality Golf Club.

The successful applicant will have a sound knowledge of greenkeeping techniques and be skilled in man management.

Full CV to:
The Secretary
Royal Norwich Golf Club
Drayton High Road,
Hellesdon,
Norwich NR6 5AH

DOUGLAS GOLF CLUB



Founded in 1910

HEAD GREENKEEPER

Douglas Golf Club requires AN EXPERIENCED HEAD GREENKEEPER. The successful candidate will be responsible for all aspects relating to the upkeep and maintenance of the 18-Hole Course and Grounds to the highest standards in accordance with an approved Work Plan.

Accommodation available, if required.

Replies with full CV to:

The Manager
Douglas Golf Club
Douglas
Cork
Southern Ireland

By 25th April 1992

MONTROSE LINKS GOLF COURSES

Vacancy – HEAD GREENKEEPER

Are you good at Greenkeeping?

Are you a good supervisor
as well as a good worker?

Are you keen?

Do you want to negotiate an inclusive wage?

Up to around £17,500?

We want to improve even more; do you?

Would you like a preliminary chat
to find out about us?

Application forms and job description from:
Mrs Margaret Stewart, Secretary, Montrose Links
Trust, Traill Drive, MONTROSE, DD10 8SW.

Tel: 0674 72932.

(Phone above if you would like a preliminary chat
with a Senior Trust Member)

Closing date: 4pm, Monday 20 April 1992

The Bramall Park Golf Club

requires

EXPERIENCED HEAD GREENKEEPER

WITH COURSE MANAGER POTENTIAL

For a 20 hole parkland course.

The successful applicant will have fully proven
qualifications and be experienced in all aspects of
golf course management and machinery
maintenance.

The club offers a salary commensurate to the
experience offered, with excellent
accommodation.

Applications with a full CV to:

The Hon Sec
The Bramall Park Golf Club
20 Manor Road
Bramhall
Stockport SK7 3LY

Head Greenkeeper

required for

Newcastle West Golf Club

The Club, in County Limerick, Republic of Ireland,
have begun construction of their New Championship
Golf Course on 150 acre park land site, and require
an experienced Head Greenkeeper to take the course
into the playing phase and beyond.

The Applicant would need to have a good knowledge
of general and fine turf, machinery maintenance and
repairs, tractor equipment, fertilizer and spraying
operations and irrigation systems.

Ability to lead, work with and motivate staff to create
a very high standard.

Salary negotiable.

Apply in writing with full CV together with work
experience to:

**Mr Patrick Lyons, The Secretary, Newcastle West
Golf Club Limited, Castlemahon, County Limerick,
Ireland.**

GOLF COURSE CONSTRUCTION PROJECT/CONTRACT MANAGERS

required by

Tilhill Sports & Leisure to assist with the
Company's Development. Candidates should
have experience in overseeing and managing
Golf Course Construction Operations and be
prepared to work in varying locations around
the UK.

Competitive salary, company car, profit shar-
ing schemes, pension and other benefits
accruing from being part of an International
group, Booker plc.

Self employed experienced Managers will be
considered.

Apply in writing enclosing CV to:
Mr P Middleton, 48A Market Place, Thirsk,
North Yorkshire


Tilhill
Sports & Leisure

DEPUTY HEAD GREENKEEPER

The Gleneagles Hotel, the country's premier golf resort is currently seeking to strengthen its golf operations team with the above appointment.

Home to three of Scotland's classic courses - the King's, the Queen's and the Monarch's, designed by Jack Nicklaus, which is currently under construction. It is also the location for the Bell's Scottish Open Championship. The Gleneagles Hotel strives continually to meet the ongoing challenge to provide the best golfing facilities in the country.

The successful applicant will have at least five years' greenkeeping experience and be fully certificated in golf course maintenance and the use of pesticides. A committed team worker with good communication, training and management skills is required.

Applicants should write with full career details to date to Miss G Johnston, Personnel & Training Officer, The Gleneagles Hotel, Auchterarder, Perthshire, PH3 1NF. The closing date for receipt of applications is 1st May 1992.



THE
GLENEAGLES
HOTEL

Arthur Spring GOLF DESIGN LTD

Arthur Spring Golf Design Ltd., requires immediately for Golf Course Construction Projects in Ireland and Europe:

QUALIFIED CONSTRUCTION SUPERVISORS

to supervise all aspects of construction of 18 hole championship Golf Courses.

Ability to manage and supervise contractors and sub-contractors and organise work programmes is essential.

Applications including full CV to:

James Healy,
Inisgrove, Lahinch Road, Ennis, Co. Clare, Rep. of Ireland.

ASSISTANT HEAD GREENKEEPER

LYNEHAM GOLF CLUB

Lyneham Golf Club is a new club with an 18 hole course and clubhouse becoming fully operational since 1 April 1992. The course is set in an area of outstanding natural beauty in the Cotswolds.

The Club has a young, enthusiastic, progressive and committed management team. The course is about to be extended and the Club therefore seeks a talented and ambitious Assistant Head Greenkeeper.

This individual will be treated as a key member of the team.

The position would suit a young but reasonably experienced greenkeeper.

Preferably he or she will be affiliated to BIGGA and will be appropriately qualified.

Remuneration package will be competitive and will be discussed at interview.

Applications to:

The General Manager,
Lyneham Golf Club, Lyneham, Oxfordshire OX7 6QQ

ALFRETON GOLF CLUB

GREENKEEPER

required for a progressive 9 hole course celebrating its Centenary in 1992.

Must have good experience of all aspects of golf course and machinery maintenance.

The policy of the Club is towards future extension therefore an interest in golf course construction would be an advantage.

Salary negotiable (No accommodation).

Application with full CV to:

The Secretary, Alfreton Golf Club,
Wingfield Road, Oakerthorpe, Derbyshire DE5 7DH



LEE-ON-THE-SOLENT GOLF CLUB

Applications are invited for the post of

HEAD GREENKEEPER

The successful applicant will be suitably qualified and will be widely experienced in modern greenkeeping techniques and in operating and maintaining irrigation systems.

An ability to control and motivate staff and to operate within a planned budgetary control system is essential.

Salary negotiable, according to age, experience and qualifications.

Applications with CV will be treated with strictest confidence.

The Manager

Lee-on-the-Solent Golf Club,
Brune Lane, Lee-on-the-Solent, Hants PO13 9PB

PINNER HILL GOLF CLUB

invites applications for

1st ASSISTANT GREENKEEPER

A mature person, fully experienced in all aspects of course maintenance.

Please apply in writing with full CV to:

The Course Manager,
Pinner Hill Golf Club,
Southview Road, Pinner Hill, Middx HA5 3YA



BURHILL GOLF CLUB

invites applications for the post of

HEAD GREENKEEPER

The present Head Greenkeeper is returning to the West Country after nine years service, a successor will be appointed who can demonstrate the necessary ability to maintain this busy 18 holes parkland course to the high standard required by members and visiting golfers alike.

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Applicants should submit full personal details in writing to:

Mr M B Richards, Secretary/Manager, Burhill Golf Club,
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RECRUITMENT



DÜSSELDORFER GOLF-CLUB (GERMANY)

require a
FIRST ASSISTANT GREENKEEPER
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of the varied aspects of the job. Applications, in writing, to:

Mr A Buck
Zum Steines 2
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Pleasington Golf Club

require a

HEAD GREENKEEPER

Pleasington Golf Club's head greenkeeper will retire at the end of the 1992 season after 40 years. The Club is seeking his successor to maintain Pleasington's reputation as one of the foremost inland courses in the north of England. The successful applicant will be a qualified experienced greenkeeper with managerial skills, who can demonstrate sound knowledge and practical experience of good greenkeeping, equipment maintenance, staff organisation, supervision and motivation, and a proven record of golf course management. Application forms may be obtained from:

The Honorary Secretary,
Pleasington Golf Club, Pleasington, Blackburn, Lancs.

ISLE OF PURBECK GOLF CLUB

requires an

ASSISTANT GREENKEEPER

Applicants should possess relevant qualifications and have experience of intensive turf management and the use and maintenance of modern golf course machinery.

Please write for an application form to:

The Course Manager, Isle of Purbeck Golf Club, Studland,
Swanage, Dorset BH19 3AB



Bromsgrove Golf Centre

invite applications for the post of

FIRST ASSISTANT GREENKEEPER

New 9 hole Golf Course requires applicants experienced in all aspects of greenkeeping, modern course machinery, irrigation and maintenance. No accommodation available. Salary and conditions negotiable depending on age and experience.

Applicants should include a full CV with d.o.b. and apply in writing to:

G E Morris (Senior Partner)
Bromsgrove Golf Centre, Stratford Road, Bromsgrove,
Worcestershire B60 1LD

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All replies with full CV (in confidence) to Box G.I.A. 1,
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Applications in writing enclosing full CV to:

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The Buckinghamshire Golf Club, Course Management Operations,
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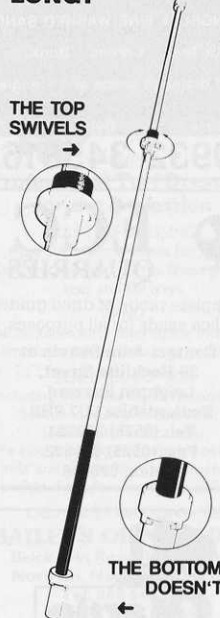


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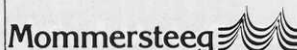


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IAIN MACLEOD

BUCKS, BERKS AND OXON

Hello, is anyone out there? If so, please contact me – write to Ray Clark, Flat 1, Temple GC, Henley Road, Hurley, Nr Maidenhead Berks SL6 5LH

You'll all be glad to know that our second winter lecture was a great success and we are most grateful to Sierra UK for both lecture and grub (though that was not the main reason we all turned up, I hasten to add!) and to Alan Collis and Sonning GC. An enjoyable evening was had by all.

Well, to say that our Gentlemen's Dinner was a success is like saying that Ben Crenshaw can putt a bit! Over fifty people attended, both greenkeepers and guests, on a beautiful day to enjoy a fine round of golf on the immaculate RED course at Frilford Heath, the greens made almost impossibly fast by the use of an Australian Greens Iron. The only people who didn't knock putts a mile past the pins were C Taylor, first with 38 points, S Edwards, second with 37, P Quiros third, also with 37, J Texiera, fourth, again with 37, and P Wheelerhan fifth, yet again with 37 points. A tight result! Unfortunately Mr Taylor could not pick up his prize as he was en route for Barbados (not much of a reason, is

AROUND THE GREEN



it?). Congratulations also to Bernie Wall for his birdie on the 18th, although it is rumoured that he bribed his playing partners (a little birdie told me!).

Special thanks go to Peter Gunter, who delivered an excellent speech. As always, our thanks go especially to David Heads and Jacques Klemanns of Frilford Heath and to the catering staff for an excellent meal. To the trade, as always our gratitude, especially to Sisis, (thanks Russell, for doing the score cards), StaBrite and Bernie Wall for his dedicated hard work, Rhone Poulenc, Rigby Taylor, British Seed Houses and ICI. A special thanks finally to the committee and particularly to Jackie Morrison, who worked relentlessly to make the event a success.

Our good wishes to D Driver who moves from Henley to Denham, D Porter from Frilford Heath to Ragburn, and L Morrison from Calcot Park to Maple Durham. Good luck. See you all at Henley in May.

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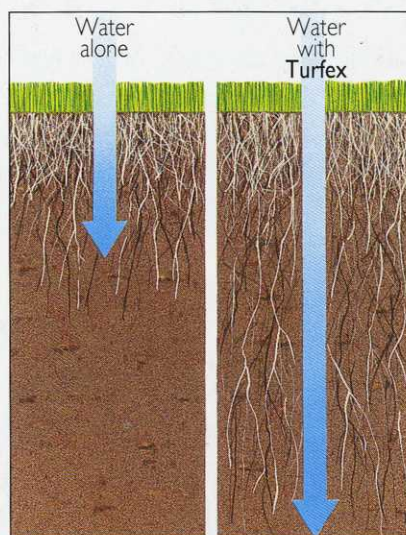
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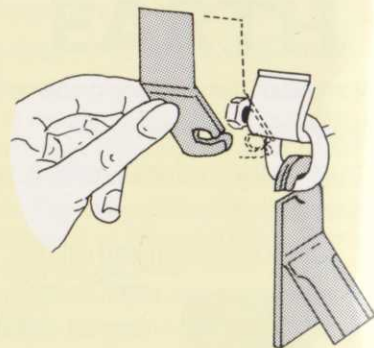
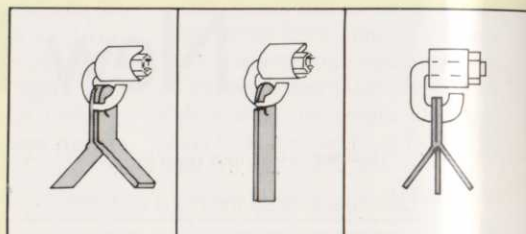
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