

July 1979

No. 410

GOLF GREENKEEPING AND COURSE MAINTENANCE



The Official Journal of the British Golf Greenkeepers Association



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GOLF GREENKEEPING AND COURSE MAINTENANCE



Golf Course Design — Part 5 <i>J. Hamilton Strutt; BSc</i>	Page 5
Workshop Golf Course <i>Barry Lax</i>	9
Irrigation of Golf Courses <i>Philip Yorke—Toro Irrigation Ltd</i>	11
News	21
Trials on Turfgrass Cultivars <i>J. P. Shildrick</i>	22
Turf Topics	23
Letters	24
Section News	26
Golf Course Directory	30

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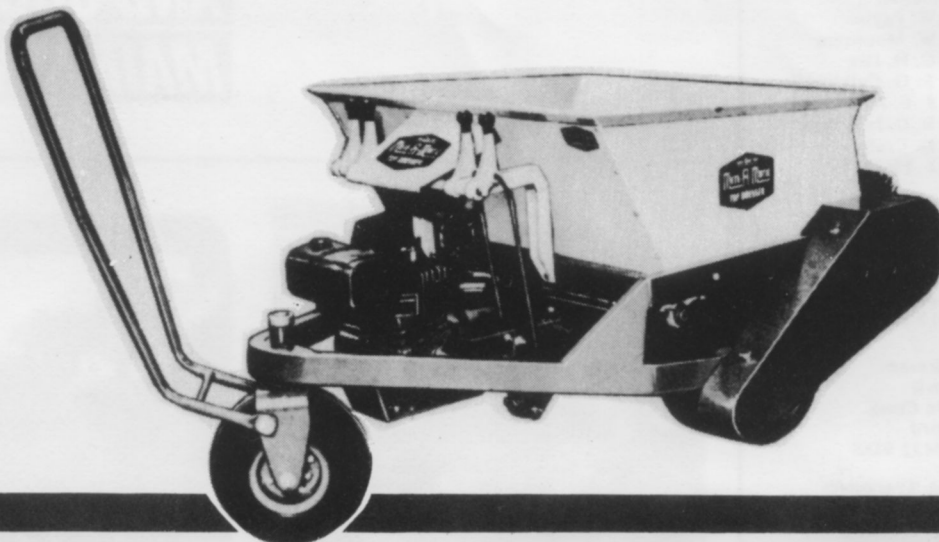
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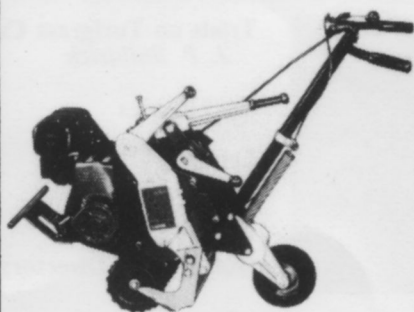
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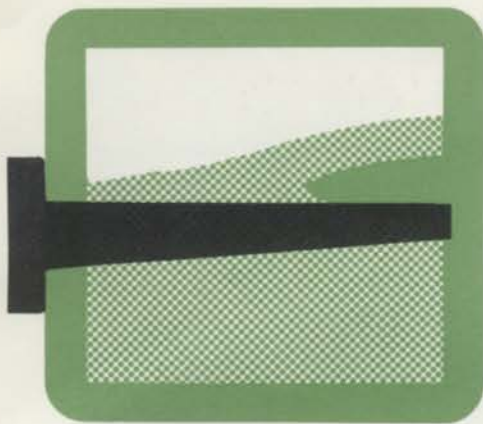
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GOLF COURSE DESIGN

Some Personal Views on Modern Golf Course Architecture

by

J. Hamilton Strutt, BSc

Chairman, British Association of Golf Course Architects

THE CONSTANT CHALLENGE. PART 5.

BUNKERS AND OTHER FEATURES



Born in Scotland, 20 November 1924. Educated at Glasgow Academy and St Andrews University where he graduated BSc in maths and botany at the age of 19 — one of the younger graduates in the University's 500 year old history. Played both golf and tennis for the University. Served in the war on Operations Research with RAF Bomber Command where he soon led his own section.

In 1945 entered the golf and sports ground construction company which had been founded by his father John R. Strutt in 1919. Studied civil engineering and surveying at Strathclyde University and for the next 15 or so years, first based in Scotland then in Poole, Dorset, was responsible for the execution of many major golf and sports ground construction contracts throughout Great Britain and Ireland. Regards his early years spent travelling and working on golf course construction with some of the great golf architects of the day, people like James Braid, Philip Mackenzie-Ross and John Morrison, as being the best possible training for golf architecture.

Commenced designing over 30 years ago and gradually gave up the running of the family construction company to become a full-time golf course architect. Prefers to work on his own because of

the greater freedom this gives to pick and choose commissions and for the satisfaction of following projects personally from beginning to end.

Has worked in all countries of the British Isles, France, Spain, Scandinavia and the Middle East. Speaks French, German, Spanish and Norwegian.

Founder member of the British Association of Golf Course Architects and current Chairman. Past Captain of Parkstone Golf Club. Lloyd's underwriter. Member of the R & A and honorary member of several other golf clubs.

The design elements which a golf course architect can use in the creation of a golf course are really only six in number — layout (the all important Layout Plan), contours (natural and man made), trees, sand, water and playing surface (short grass, long grass, heather, etc.).

We have already considered the first three in some depth, so now let us look at the others.

Trees

The planting of additional trees and shrubs is one of the simplest ways by which a golf course can be improved. It is also the most commonly badly done.

Planting should be carried out in irregular, natural looking groups which blend in with the landscape — *never in artificial looking straight lines and regular spacing.*

Examples as in "Chamber of Horrors 3" can be found on all too many courses.

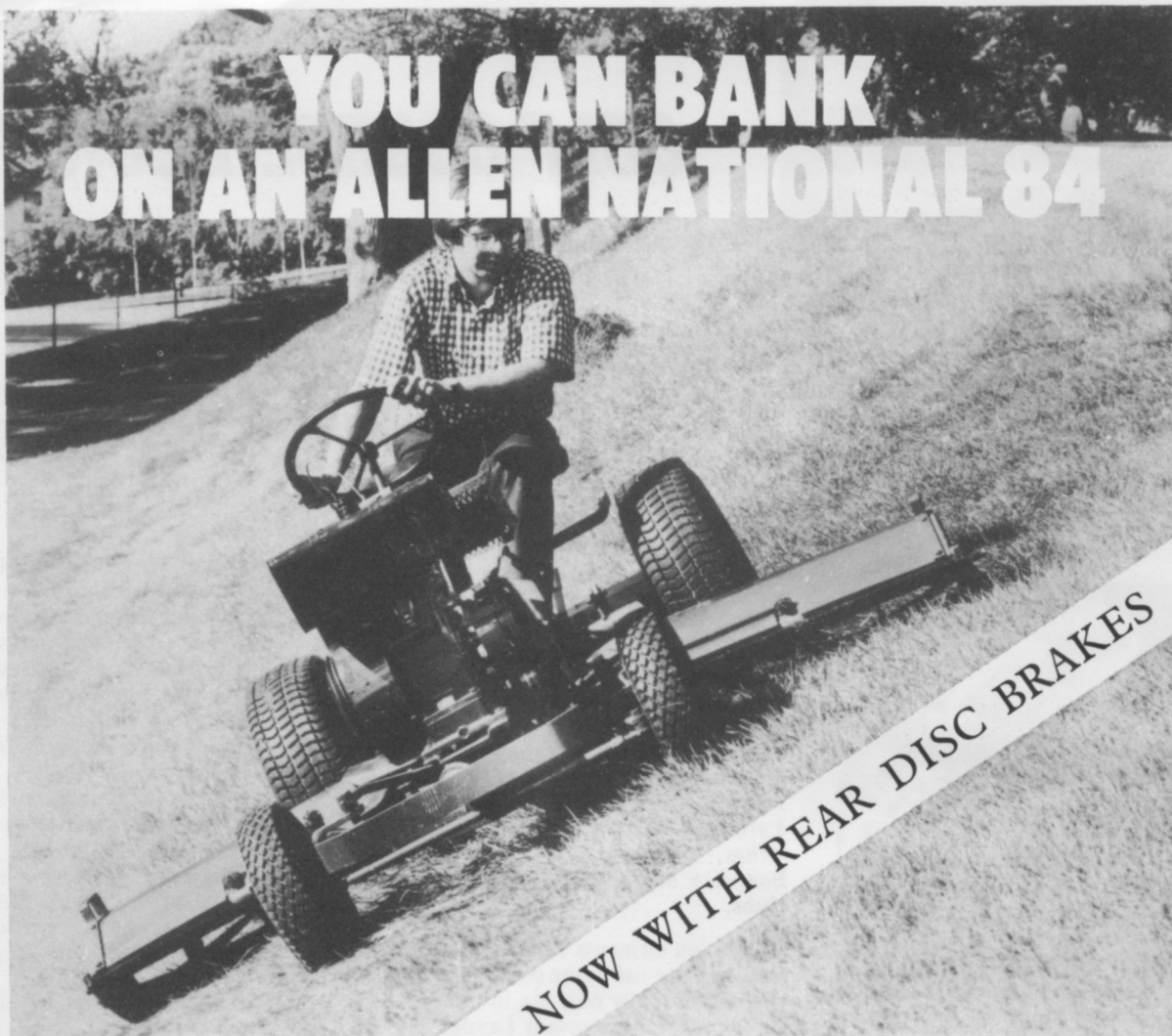
Another common fault is *planting with ornamental or formal trees and shrubs, such as Cupressus, Thujas, etc., more suited to a suburban garden than to the natural country environment we should be trying to create.*

Resist the temptation to plant with species which do not naturally blend, simply because they have been presented by a member or because the local nursery is selling off surplus stock. As a general guide, it is far better to plant those species of tree which already occur naturally in the area.



Chamber of Horrors (3)

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On difficult sites, particularly where exposure to wind, salt spray, or excessive moisture is involved, the advice of a local forestry expert should be sought — I have always found them most helpful. I am sure that in doubtful situations it is especially advisable to:— (1) Plant small (e.g. pot grown Pines), (2) If possible shelter with suitable shrubs, (3) Be patient!

Trees which are particularly suited to golf are Silver Birch and Pines. Silver Birch I have always been particularly fond of — it does well in a wide range of situations, has small leaves which do not create problems and standards of 6ft to 7ft or so are moderate in price and soon develop to useful size. Most important of all, it is one of the few trees which have almost equal beauty throughout the year. An occasional Weeping Willow, planted by a stream or in a marshy area, also shares many of the Silver Birch's attributes.

Amongst conifers I have obtained best results with mixtures of Scots Pine (*Pinus sylvestris*), Monterey Pine (*Pinus radiata* — formerly known as *P. insignis*) and a few larch for colour and variety.

The lesson of Dutch Elm disease, and recent beetle infections of Lodgepole Pine, remind us of the folly of relying too much on any one species of tree.

In addition, although the Silver Birch and other trees mentioned may be fine for short and medium term effect, it should not be forgotten that *our golf courses are, or should be, a heritage for future generations*. Well clear of play — visualize their ultimate size! — how about planting for the future a few specimen forest trees such as Oak, Beech, or Chestnut? They will do better if planted small, provided they are well marked to avoid accidental damage and not forgotten about until old and strong enough to look after themselves!

Tree Planting

Here is an example of the way in which a typical tree planting scheme as described above, might be carried out. Note the



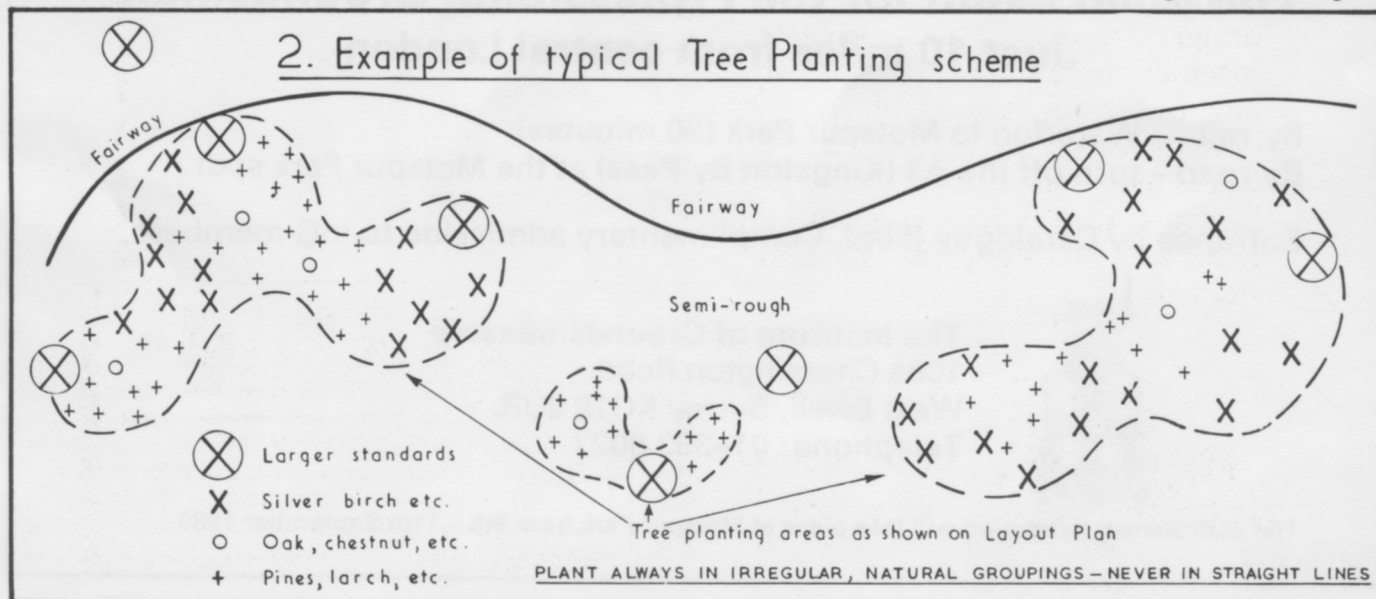
Costa Brava GC

emphasis on an irregular, natural effect. Planting should generally be to an average spacing of about 5 yds (i.e. varied 2 yards and 8 yards) to enable mowers to work between the trees. On difficult sites, clear of play, closer spacing may have to be accepted to allow for the inevitable higher mortality rate. Rabbit guards and good stakes should, of course, be fitted as necessary. The few larger standards shown are for

immediate effect but generally it is best to avoid the temptation to plant large. Modest size trees are very much less costly and invariably do better in the long run. I normally specify Silver Birch 6'/7', Oak, etc. 3'/4' and Pines 1½'/2½', depending on circumstances.

Shrubs and Flowers

Shrubs and other aids to landscaping should not be forgotten. Here again,





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The 35th Annual Exhibition will take place at Motspur Park from 9th – 11th September 1980

beware of imported garden species. Few, however, would quarrel with masses of Gorse, Broom or Heather, properly sited. If your course is fortunate enough to favour them, Rhododendrons and Azaleas, planted on conspicuous banks not too close to play, make a grand show. I planted several hundred hybrids on my own home course, Parkstone, a few years ago and I am pleased to see several succeeding Captains adding to the numbers.

Daffodils planted in bold masses round trees and shrubs and on isolated banks help to remind us during the gloomiest part of the year that spring is not far away. At St Mellion, near

Plymouth, we recently planted 2½ tonnes (yes, tonnes!) of daffodils. I am told there are about 16,000 bulbs to the tonne. The quantity shook me, but my natural caution proved unjustified and the effect in March is alone worth a visit!

Clearing Woodland

Clearing a fairway through existing woodland is more likely to be the task of a golf architect or contractor than those responsible for an existing course. If it should have to be done, perhaps for a new green, it is *most important to avoid clearing in an artificial looking parallel sided "avenue"*.

This is another fault found on far too many existing courses and which is absolutely inexcusable. Clearance should be done in several stages, starting from a narrow sight line so that as many specimen trees as possible may be saved and irregular woodland boundaries emphasised.

The accompanying photographs from the writer's course on the Costa Brava, Spain, shows the natural, irregular effect for which I strive. Sometimes less successfully than I should like! The beauty and strategic importance of isolated trees within the fairway — as shown also in the tree planting diagram will also be seen.

WORKSOP GOLF COURSE



Barry Lax, Secretary of the Sheffield Section, is Head Greenkeeper of Worksop Golf Club in Nottinghamshire. He has been in turf culture for over 20 years, starting at Lindrick Golf Club at the age of 17 as an assistant greenkeeper. After four years he left to take up a position as Head Groundsman at Worksop Cricket and Sports Club and subsequently spent several years as Head Groundsman on sports grounds where he obtained 1st, 2nd and 3rd class certificates in turf culture and became a member of the Institute of Groundsmanship.

Barry came back into greenkeeping as Head Greenkeeper at Worksop Golf Club eight years ago and for the past four years has been Secretary/Treasurer of the Sheffield Section of the Association.

Worksop is an 18-hole flat course, fairly thickly forested and with a lot of gorse and broom. The course is constructed on a very sandy base with very poor top soil and pure sand and gravel below and is situated on the edge of Clumber Park which is part of the Dukeries.

The club has a very active playing membership of 500 and the course sees many competitions at club, county and national level. Staff at the club total 15, one assistant has been there for ten years. In addition there is one other assistant and two juniors 16 and 17 years old, both of whom are currently attending college.

Because of the light and sandy nature of the soil the course becomes dry very quickly which presents difficulty in getting enough grass on the fairways. Fairways are spiked regularly and divots filled three or four times a year. The

course is heavily used during winter months as it is dry most of the time. About ten years ago four new holes were added. A lot of hard work has gone into bringing these into shape but they are now in first class condition.

A Cushman pop-up sprinkler system was installed five years ago which has been a great benefit as the greens need so much water. Water for the system comes from a local coal mine which provides an unlimited supply.

Seven years ago the club purchased a Toro GM3 and sold all other machines that were used to cut greens. These are mown seven days a week during the peak growing season and nothing but the GM3 has been used for seven years. Barry is very pleased with the machine and personally feels that they do more good than harm, a view not always shared by greenkeepers. On that subject Worksop use only a triple for cutting greens and also, as we have said, utilise a pop-up sprinkler system, two things which many other greenkeepers and "experts" say ruin golf greens. Barry is happy to report that neither his members nor committee are active in complaining about the course and he feels that these two facts have helped to produce good quality turf.

Machinery and equipment owned by the club include:

- Toro GM3 (Greens) plus thatching reels
- Toro 70" (Tees and semi greens)
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- Howard Flail Mower TM
- Two Flymos
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- Cooper Pegler Sprayer
- Ryans Greensair Spiker
- Pattissons SP Spiker
- Sisis TM Spiker
- Sisis Duo Rota Rake
- Pattissons Soil Sifter
- TM Fertiliser Spreader
- Cyclone Spreader

This month's front cover



At most golf courses the Head Greenkeeper will purchase, on average, about four to six cwt of grass seed per year. Out of this amount he will allocate some for the repair of his tees particularly the short holes where divot marks are more pronounced. The remainder will be for his fairways, or for his turf nursery in preparation for next year's turf. At St Andrews I find it necessary, having 41 golf courses built on sandy subsoil, to purchase one or two tons of seed per year. In 1976, after having such a dry summer, I found that huge areas of my fairways were ruined. However, 25 acres of seeding was completed successfully using a hired Contravator. Now we have purchased our own and I make a point of overseeding any poor areas at the end of each golfing season. Another way which I find successful is to overseed the greens when they are hollow tined and it is amazing to see the grass germinating up the aeration holes. This type of seeding guarantees you a better quality putting surface.

When you purchase a large amount of seed the selection of a first-rate supplier is essential to guarantee the best results for your money. You should demand quality, the best turf-bred varieties, good germination, disease resistance and a uniform turf which provides good playing conditions for the golfers. Myself, at St Andrews, I use Mommersteeg International.

WALTER WOODS
Links Supervisor
St Andrews

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Irrigation of Golf Courses in the 1980s

Philip Yorke, Toro Irrigation Ltd.

The last decade has seen the acceptance of pop-up sprinkler systems for the watering of greens and the gradual emergence of the importance of tee and approach watering using comparatively unsophisticated techniques of design, equipment and installation.

Many lessons have been learnt, notably the importance, even in our climate, of selecting the design and equipment which will provide an even distribution of water over the area to be irrigated (which was not, and cannot be provided by merely overlapping the sprinkler areas); the need to provide greater flexibility in the control of the sprinkler and for installation techniques to be modernized and streamlined within the manufacturer's recommendations.

In the 1980s it is expected that discerning users will put greater emphasis on the selection of the right sprinkler for the project, ones which have been specifically designed for the turf market and where water distribution profiles have been scientifically proved in test stations in conjunction with a computer. The day of the "agricultural sprinkler in a can" has gone, so has the idea of an adjustable diffuser pin to improve coverage (one such nozzle recently tested showed that the performance was better without than with!).

What of sprinkler spacing? Most manufacturers have recommended spacings, stretching them may reduce the cost of the system but it won't bring long term satisfaction as distribution profiles will suffer.

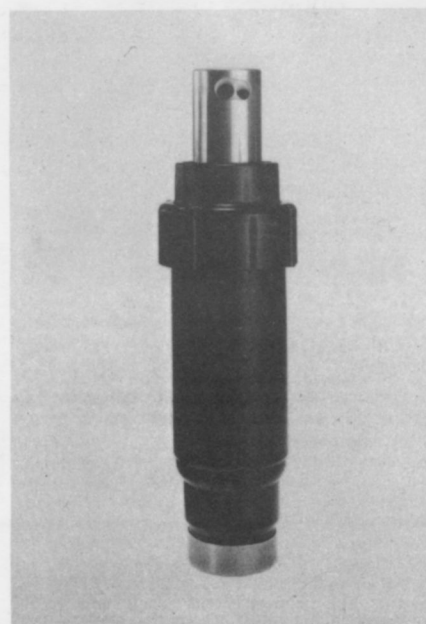
The next decade will see the gradual replacement of the impact drive sprinkler as the requirement of a constant gear drive is married to water distribution coupled with reliability and ease of (and minimum) maintenance. Materials used in the construction of sprinklers are constantly changing away from metals to plastics providing more economical production costs and resistance to corrosion and sealing. On basic schemes the utilization of an easily maintained check valve in the sprinkler will avoid unnecessary wet spots around the heads.

This latter innovation will also provide for the greater flexibility of control so that if required each sprinkler can be controlled independently! Thus eliminating the need for remote control valves at each green, etc. One area of maintenance totally eliminated!

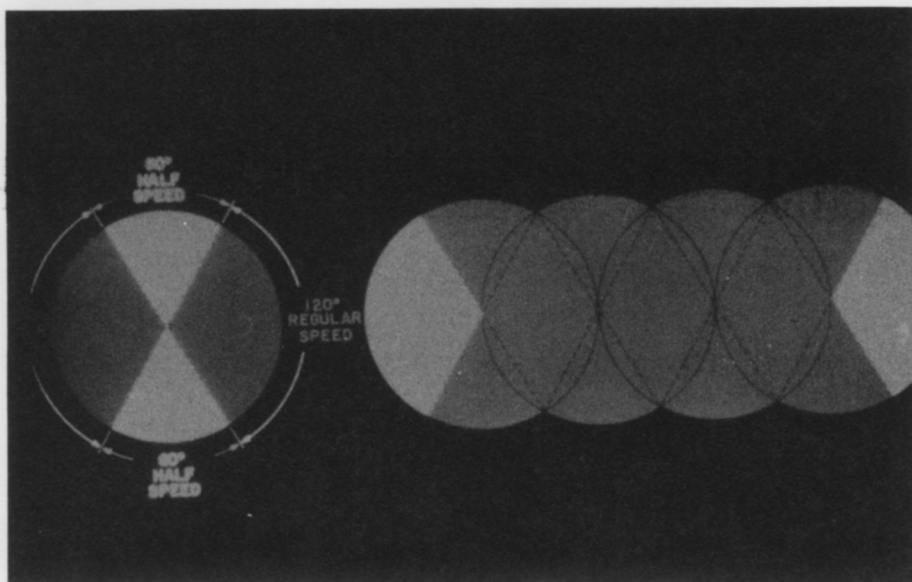
Controllers will be more reliable, the early part of the decade will see an influx of push button, LED display, solid state controllers and it is likely that systems totally eliminating wires underground will be made available in the foreseeable future.

More and more clubs are finding that a limitation on revenue is the amount of wear a course can take, wear is reduced and maintenance made easier by irrigating fairways, now a sprinkler on the market provides even water distribution when used in the economical single row configuration, the Belfry project in the Midlands is a good example, for the commercially minded owners the system

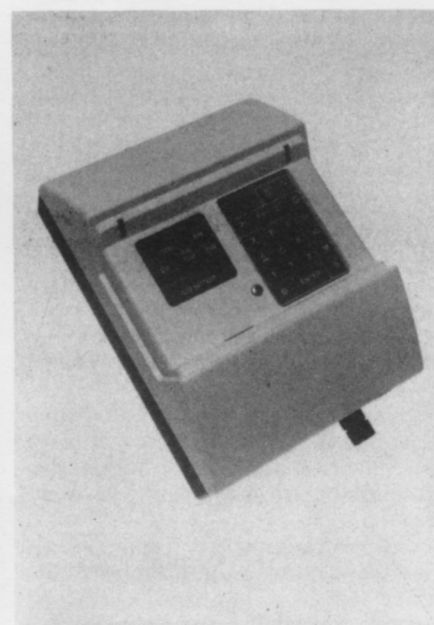
also provides guaranteed playing conditions for the many tournaments held there. The irrigation system at the Belfry, greens, tees and fairways system is for the 1980s, good water distribution, flexible control and easy to maintain.



The Toro 640 sprinkler for use where vandalism could be a problem.



How even water distribution is obtained on a single row fairway system using two speed heads.



A typical solid state LED display push button controller.

DAVIS TRENCHERS



Davis Task Force 500 Trencher which was used during the construction of a golf course in North Staffordshire, on which both the mains drains and greens drains trenches were cut with the machine for the installation at that time of regular clay pipes.



Davis Vibratory Plow working on a Midland golf course pulling in 2 in diameter plastic pipe at a depth of about 18 in around the green for the installation of pop-up sprinklers.

It is interesting to note that at the time of this installation, due to the virtual non-disturbance of the course, play continued during the installation of this system.

The photograph clearly shows the extremely narrow slits and the absolute minimum of disturbance of the turf.

Most of the golf courses in this country on which pop-up sprinklers have been installed have used Davis Trenchers and Vibratory Plows for burying pipe.

News from Watermation

The number of golf courses going over to full automatic irrigation grows steadily year by year. This spring and summer Watermation installations include the Royal Cinque Ports at Deal, three clubs in the Nottingham area, Rushcliffe, Stanton on the Wolds and Wollaton Park and Worlebury in Somerset. In Scotland, the Gullane Golf Club have gone over to automatic for all three of their courses and Long Niddry have installed it both on their 18 holes and on some fairways as well. In Ireland Rosslare will join Portmarnock with a Watermation system. Many clubs which put in automatic irrigation for their greens some while ago are now extending this facility to cover tees and now also fairways, like Sunningdale have done this year.

Perhaps most interesting of all though is the growth of automatic irrigation in places like Africa and Watermation have just finished two schemes in the Ivory Coast.

Watermation have just finished irrigating the gardens of Hampton Court Palace (photo). Should there be unexpected rainfall in the night then the "rainstat" will cut out the automatic irrigation programme.



Watermation working at Hampton Court Palace, May 1979.

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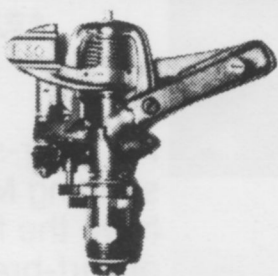
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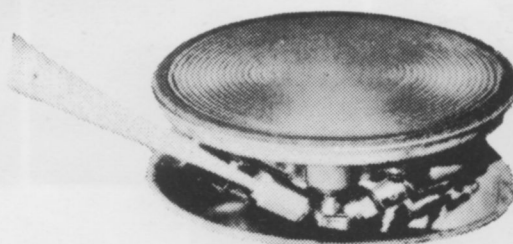
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Pop-up sprinklers are produced in a range of sizes from the LVZA through LVZE, LVZF, LVZK to LVZL. All these sizes can be provided as circle,

circle and sector or double nozzle sprinklers according to individual requirements. The LVZL sprinkler has three nozzles which ensure even distribution.

All Pop-up sprinklers sit level in the playing surface so there is no interference with cutting, rolling, levelling or other maintenance jobs.

Recent installations include Nelson Golf Course, Lancashire and Stockport in Cheshire.

Perrot provide a booklet of Handy Data which is invaluable for outline planning giving details of individual sprinklers, giving water consumption, spacing, casting range, etc. Perrot Irrigation Ltd, 38 High Street, Rowhedge, Colchester, Essex.



Perrot Pop-up sprinkler LVZEW, 7mm nozzle, installed at Stockport, Cheshire.



Sectoring Perrot Pop-up sprinklers LVZEW, 7mm nozzle, showing droplet precipitation, providing green coverage well clear of the playing area.



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- Hillside stability for mowing slopes
- Ease of control and operator comfort
- All-day petrol tank to save time on refuelling
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Camerons have been supplying and installing Golf Course systems for over twelve years including pop-up systems and a full range of equipment ranging from a self-travelling sprinkler capable of putting down 1" of water over five acres in one day to a $\frac{1}{2}$ " portable sprinkler offered on a variety of bases.

The range of portable sprinklers are often mounted on wheeled bases which allow the sprinkler to be moved across the green or tee by pulling the hosepipe without the necessity of shutting off the water. Connections from taps to sprinklers are facilitated by the use of quick release geka couplings and tricoflex hose in all sizes is available.

Also included in the Cameron range are irrometers for testing the moisture content of the soil. These can be supplied in automatic form which wired through a

solenoid will prevent the watering system if the soil is wetter than the preset level. As this acts on soil moisture which is the critical factor it is probably more efficient than a Rain Stat, which is activated by rainfall. The automatic irrometer is sold for just over £50.00.

Cameron are also able to offer a range of water storage tanks, pumps and control equipment and advice to Golf Clubs on their irrigation requirements including surveys of the Course.

Fully automatic systems recently completed include the East Course at Wentworth, Corhampton Golf Club, Lancaster Golf Club, Bedford and County Golf Club and Brickendon Grange Golf Club. Cameron Irrigation Company Limited, Harwood Industrial Estate, Littlehampton, Sussex.

The British Turf Irrigation Association

Although pop-up sprinklers have been manufactured and installed in America from shortly after 1945, the concept was not introduced into the UK until approximately 1964 when Handsworth Golf Club were the first to install such a system for their greens. Gradually from that time the concept has been widely accepted and the scope extended to take in tees, approaches and fairways, equally, from those early days of only two companies being seriously involved the number of companies supplying the market on a direct or indirect basis has grown to approximately 20.

The point was reached last year when there became an obvious need for an association to be formed to protect the interests of customer and trade alike, so the British Turf Irrigation Association was formed with the fundamental objectives detailed in the January issue of this magazine.

Initially the association has formed two committees to:—

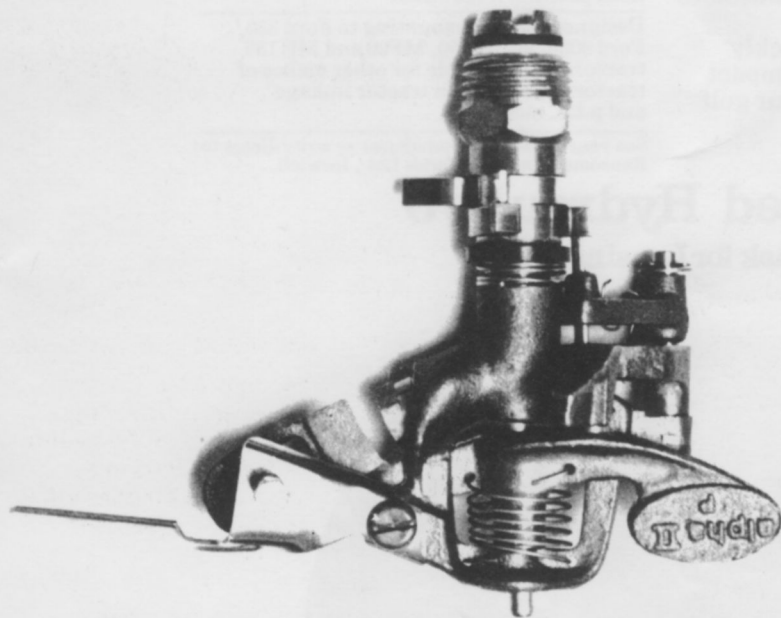
- a) prepare a code of practice covering minimum installation standards and contractual terms;
- b) to liaise with the National Water Council with a view to agreeing minimum acceptance levels for equipment and installations bearing in mind the industry's role as a water user rather than a water supplier, additionally to agree on minimum design standards based on the experience gained in this country.

The organisation is very much in its infancy but in the long term membership of the association will be an assurance to the customer of the integrity of the company with whom he is dealing and that both customer and supplier will be benefiting by standardization of practice and the wealth of experience from which the members can draw without restricting in any way a member's right to be innovative and flexible within the basic parameters.

Membership of the association is divided into two classes defined in the articles as:—

- a) Full
- b) Associate.

Any company, partnership or private individual who is involved in the turf/landscape irrigation industry and who would like to be a member is invited to apply for a copy of the articles and a membership application form to either the writer of the Secretary, Mr W. D. Hawthorn, Watermation Limited, Courtenay Building, Monument Way East, Woking GU21 5LY.



Cameron $\frac{1}{2}$ " full or part circle portable sprinkler with a range of nozzle sizes from $\frac{1}{8}$ " to $\frac{3}{4}$ " and with a variation on throw from 35' to 45'.

Sand-slitting

Sand injection is the method of relieving surface water in sports turf surfaces into an existing herringbone or similar sub-soil drainage system.

Sportsfield Construction Ltd, Dillywood Lane, Higham, Rochester, Kent, use the "Bruff" developed machine which, by means of a large circular disc, cuts a slit of approximately 250 mm in depth and 25 mm in width. The machine is fitted to a Ford County Super Six tractor with four wheel drive and a large hydraulic ram, mounted at the rear, retains the cutting disc in the ground at the desired depth. Fine blown dune sand or in certain situations pea gravel is fed from a hopper through a chute backfilling the slit immediately before this can

close in. Materials must remain dry to achieve the flow through the chute which leaves the infill slightly proud of the adjoining grass surface.

Normally slits are made at 1 mm centres across the fall of the existing sub-soil drainage system and assuming the stone backfilling in the drains to be within 225 mm of the turf then surface water will be collected speedily and discharged.

It is essential, however, that the existing subsoil drainage system be installed efficiently with a good outlet.

As an additional benefit to the playing surface an overall dressing of fine sand can be applied subsequently to the entire area to a depth of 6 mm.



RANSOMES

Gang up with the Mounted Hydraulic 5

The new Mounted Hydraulic 5 is designed for golf course fairways where severe undulations make mowing difficult and for other large grass areas where a good quality finish is demanded. Hydraulic power driven cutting units are fully floating to follow ground contours. Front rolls prevent scalping. The same basic cutting unit is fitted to other Ransomes Hydraulic mowers – a distinct advantage to fleet owners. Quickly attached to the tractor, this compact gang mower will soon make your golf course "match" trim.

Check these features

Cutting width of 3.57 metres (11ft 8in). Wing units and frames can be removed allowing the machine to be used in the 3-unit form for cutting or transporting on the highway.

Height of cut from 13mm to 90mm ($\frac{1}{2}$ in to 3 $\frac{3}{4}$ in).

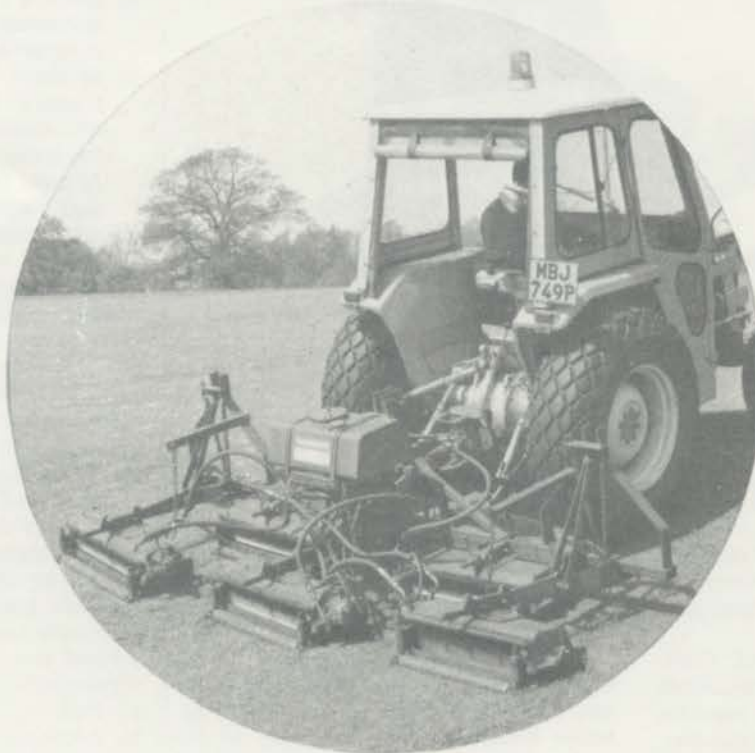
Supplied with 8-knife cutting cylinder and floating head which can be locked into a fixed position if required.

Designed for easy mounting to Ford 333, Ford 3000, Ford 3600, MF20 and MF 135 tractors. It is suitable for other makes of tractor depending on tractor linkage and p.t.o. mounting.

See your Ransomes Distributor or write direct to: Ransomes Sims & Jefferies Ltd., Ipswich.

Mounted Hydraulic 5

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NEW TRADE ASSOCIATION FORMED

Plans to form a new trade association for British companies involved in the design, supply and installation of irrigation for landscaping and sports turf, were formalized at a recent meeting in Birmingham.

The meeting was convened to accept the articles of the British Turf Irrigation Association and to elect an executive committee.

Stated objects of the BTIA are:

"The Association is a voluntary, non-profit organization formed to promote the development, proper use and acceptance of irrigation equipment for the Turf and Landscape Industry, to promote water and soil conservation, to conserve energy through efficient design and operation of irrigation systems, to enhance the environment by expanding efficient use of irrigation for landscape maintenance, dust and erosion control, to collect and disseminate information regarding irrigation of value to Members of the Association, to allied industries and to the Public, to acquaint public and private agencies, institutions and organizations with developments in the industry and the part the industry occupies in the economy and development of the nation, to conduct educational programmes regarding the industry and to maintain agreed standards of design, installation and contractual codes of practice, and to carry out such other lawful trade association activities as the officers of the association may deem conducive to the attainment of the above objects."

The newly elected executive committee comprises: Chairman, Mr R. P. York (Toro Irrigation Ltd); Vice-chairman, Mr R. Hunter (Cameron Irrigation); Secretary/Treasurer, Mr W. Hawthorn (Watermation Ltd); Committee, Messrs S. Usher (Irrigation Systems Ltd), E. Yates (E. A. Yates & Sons (Sandbach) Ltd), and M. Walker (Sports Ground Irrigation Co).

"Most of this country's leading irrigation specialists have indicated their

intention of joining the BTIA but we welcome further applications for membership," says the association's chairman, Philip York.

Bill Hawthorn, secretary of the BTIA, may be contacted at 46 Manor Farm Road, Shepperton, Middlesex.

MAJOR UK EXPANSION BY MAY & BAKER LTD

To enable continued expansion of May & Baker's sales of agrochemicals in the UK Agricultural, Commercial Horticultural, Home Garden and Amenity Turf Markets, the Sales and Marketing functions of May & Baker have been restructured and a major programme of

staff recruitment has been initiated.

Mr Peter Moring, formerly Market Development Manager, has been appointed overall Manager of UK Operations. The position of Market Development Manager is now held by Mr David Havers, formerly Agricultural Products Manager. Mr Laurie Taylor remains Sales Manager of the expanding Field Force.

Mr Simon Rose, Manager of the Garden Products section, now takes over responsibility for sales and marketing of Amenity Turf Products.

New positions for Marketing and Technical staff have been created as a result of the expansion, and further Sales Staff are also being sought.

NEW 16 HP RIDE-ON 44" MOWER

Barrus announce an addition to their range of Lawnlite Ride-on Mowers. This is a direct result of market research by the manufacturers which discovered that the vast majority of 16 hp tractors sold with "ground engagement capability" were in fact being used only for grass cutting.

The new Model 820 has a 44" cut and is powered by a synchro-balanced twin cylinder Briggs and Stratton engine developing 16 hp at 3,600 rpm. This high horsepower coupled with 4 forward speeds on a pure ride-on mower enables large areas of grass to be cut at high speed.

Motive power is transmitted through a transaxle providing 4 forward speeds and reverse. Heat-treated precision-cut steel gears operate in an oil bath.

An ingenious feature is the operation of the twin-bladed 44" cutting deck which is engaged by a console lever,

offering 5 different height positions.

Automotive type segment and pinion steering provides responsive control. A disc brake ensures quick stops and the combination clutch/brake pedal system prevents parking brake being engaged whilst driving. A hand operated hill-holding brake permits easy starts on hilly terrain.

Full riding comfort is provided by the multi-position seat which tilts up for easy access to the large capacity fuel tank incorporating a gauge.

Whilst the machine is in use, a built-in alternator automatically charges the battery to provide power for starting, and the dual sealed-beam headlights.

Price of the machine is £1,275.

For further information contact Farm and Garden Division, E. P. Barrus Ltd, Launton Road, Bicester, Oxon OX6 0UR — Telephone 08692-3355.



New 16 hp Lawnlite 44 in ride-on mower by MTD from Barrus

Trials on Turfgrass Cultivars in the United Kingdom

J. P. Shildrick

Assistant Director, Sports Turf Research Institute

The basic pattern of cultivar trials at Bingley in recent years has been "rotation" of the four main species or groups — Perennial Ryegrass, Smooth-Stalked Meadow-Grass, Fescues and Bents. Each year's new trials would consist of a single-treatment preliminary trial, for hitherto untested material, and a main trial with several treatments, for cultivars and selections that showed promise in the previous preliminary trial. It has not been possible to follow this ideal sequence exactly, partly because of a contract with the Natural Environment Research Council which started in 1974 and has permitted an extension in scale of the main trials, from one centre (Bingley) to three or four extra centres (Aberdeen, Monks Wood, Wey and a centre in Wales — Aberystwyth or Cardiff).

Trials of Perennial Ryegrass were sown under the contract in 1974, Smooth-Stalked Meadow-Grass in 1975 and Fescue in 1978. The intended sequence is being interrupted by sowing another set of trials of Perennial Ryegrass in 1980, to concentrate on the many interesting new cultivars of this species. In parallel to the contract trials, preliminary trials are being made at Bingley.

There have been three treatments in the main trials of Perennial Ryegrass and Smooth-Stalked Meadow-Grass at each centre:—

1. Intensive management, with mowing twice a week at 19 mm (cuttings removed) and 280 kg/ha N per annum.
2. "Low maintenance", with mowing once a fortnight at 25 mm (cuttings returned) and no N after the first 12 months.
3. Two cuts a year, raked clean, with no N after sowing.

The results for Perennial Ryegrass are being published in the *STRI Journal* due out in June 1979. The newer trials, of Red Fescue and Perennial Ryegrass, will include wear treatments with equipment specially developed under another part of the NERC contract work.

The information from these trials, and from other relevant sources, is collated and published in the *STRI booklet Choosing Turfgrass Seed in 1978* and its

1979 Supplement. These publications give lists of available cultivars and compare their merits. Such descriptive lists are steps towards eventual United Kingdom Recommended Lists for Turfgrasses.

Currently, there are three main growth points in Turfgrass cultivar development:

1. "Turf-type" cultivars of Perennial Ryegrass, increasingly available from breeders in Europe and the USA, give greater shoot density, finer leaves and better wear tolerance than conventional cultivars.
2. Smooth-Stalked Meadow-Grass also provides a range of steadily improving material: the features of greatest importance, in addition to wear tolerance and recovery, are speed of establishment and improved winter colour.
3. The slender Creeping Red Fescues are the most interesting Red Fescues; fine-leaved and with rhizomes also, they may be able to replace Chewings Fescue and the traditional strong Creeping Red Fescue in most uses, if the seed production capability makes them economically viable.

This paper was first presented at a Symposium organized by British Seed Houses Ltd on 13 March 1979 and we are grateful to Jonathan Franks for his permission to reproduce it.

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TURF TOPICS

J. H. Arthur, BSc(Agric)

Golf Course Agronomist—
Landscaping Consultant

"Show me a golf course in poor condition and I will show you a Head Greenkeeper who is frightened of the members." Too often Head Greenkeepers fail to carry out essential greenkeeping operations simply because the members demand that nothing is done which remotely disturbs playing surfaces. Yet if courses are to stand up to heavier and heavier play, some such interference must be tolerated. If it is not and the resultant crisis develops, far more interference to play is inevitable, as neglected operations have to be intensified. If, for example, fairways are aerated *regularly*, there is very little surface disturbance but if such aeration is neglected and the turf consequently suffers from drought damage — then using the same tines on a fairway spiker may leave the fairways like a ploughed field! Members will then have to put up with real interference if the course is to survive.

One has a certain measure of sympathy with those members who, more in hope than in anger, plead that their course be left alone once it has been brought to a satisfactory standard. Frequently, where misguided sympathy overrides both sense and technical knowledge, for a few months all is well. Then

disaster strikes — and the Head Greenkeeper takes the blame.

I always relish the true story of that great old Greenkeeper, the late James King of Luffness, who many years ago before the war was told that it had been decided, in the interests of keeping abreast with the times, to create a green committee. His reply was brief and to the point. "There will be no green committee on my course" and there is not even today.

Incidentally — why will so many golfers refer to this body as a greens committee? If it does anything — such a committee looks after the *green* (as opposed to the *House*), i.e. the whole course from 1st tee to 18th green and not just the *greens*.

Most green committees are composed of well intentioned but inexperienced members often genuinely devoted to their course — and suffering all too frequently from that built-in recipe for disaster — annual election. It would be too much to expect that an annual succession of committees, over a decade, would not initiate *some* fatal error of management. Most make many! The result — soggy, awful greens; overfed fairways, quite uncharacteristic of the original native fine, wiry turf and a host of other problems — acquired at great cost and costing even more to correct.

Yet the British Golf Greenkeepers Association is not above criticism in condoning this state of affairs, which is

closely linked with the unsatisfactory state of Greenkeeper education and consequently status.

We have too few trained and qualified, as opposed to merely skilled, course managers — and some of the best of these have come into greenkeeping from other occupations, sometimes in recent years.

Some clubs actively discourage young staff from attending greenkeeping courses. Where such courses concentrate on pruning roses and general horticulture as opposed to specialist greenkeeping, such an attitude may be understandable, but equally this state of affairs has been caused by lack of interest and so lack of numbers. There is never any shortage of applicants at Elmwood College in Fife — with a first class course syllabus, good trainers, and even their own small golf course!

The Golf Unions started to set up an educational system but seem to have lost interest. There is no consistency in the syllabus in different training centres. Some are good, others are frankly useless. I am often rung up by people asking for titles of good books on greenkeeping — some turn out on enquiry to be horticultural college lecturers who have been saddled with running a greenkeeping course and do not even play golf. There is an urgent need to train the trainers, to stop promulgation of heresies, especially over heavy feeding, and to get better training courses.

TORO TOPICS

Calculating sprinkler application rates and operating times—Part 2

Knowing the application rate of the sprinklers is the first step towards calculating the required operating time, that is assuming the evapo-transpiration rate for the time of year has been established and balanced against the rainfall during the intervening period since the last irrigation cycle.

To determine the operating time the following formula is used:

$$\frac{\text{evapo-transpiration (mm)} - \text{rainfall (mm)} \times 60}{\text{application rate (mm/hour)}}$$

On installations where the same sprinkler nozzle sizes are used but covering different arcs, control of these sprinklers with the same arcs must be grouped to a station(s) and not mixed. The operating time for each station should be adjusted accordingly, i.e., quarter circle sprinklers should be operated for one quarter of the time of full circle sprinklers, etc., and of course due allowance must be made for varying degrees of light and shade and varying soil types which will give differing localised evapo-transpiration rates.

Recycling (applying the required total amount in two or more separate applications with a pause of one or more hours in between) can be advantageous eliminating wasteful run off, unnecessary surface evaporation (from puddles) and the concentration of salts. It is important if this practice is adopted that a check valve is incorporated in the lowest sprinkler(s) of any group to avoid low head drainage.

For further information or advice please contact TORO or your local TORO irrigation dealer.

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From J. H. Arthur, BSc(Agric)
"The optimizing of thatch"

I read the article by Drs Hurto and Turgeon in the March issue of *Golf Greenkeeping* with increasing alarm and despondency, and also with great difficulty in disentangling the tortured grammar and pseudo-scientific jargon.

I write because I have been asked on several occasions as a result of the article how much thatch is acceptable. The answer to any thinking golfer or greenkeeper must be none at all!

Thatch, the commonest problem we are faced with today in the management of greens designed to carry golf for 365 days a year, is the chief cause of bad playing conditions, the closure of greens for long periods in the winter and of soft, soggy, easily footprinted putting surfaces all the year round.

What on earth does "optimizing the suitability of thatch" mean? If we discount the pseudo-scientific jargon about "the accumulation of surface biomass preventing light from striking the soil surface", what are we left with? Do the doctors think we play golf on bare soil or over sparsely covered putting surfaces where you can see more soil than turf?

I learn that the doctors have discovered that creeping bent is more prone to thatch than perennial ryegrass and tall fescue. In all my many years as an agronomist I have never even seen a fairway let alone a green of tall fescue, a broad bladed coarse grass of limited use even in agriculture. I cannot visualise any greenkeeper wanting a ryegrass green!! Yet there is not one mention of annual meadow grass, which is the biggest thatch producer of all turf grasses and often described as the commonest and most widely distributed weed grass in the temperate zones of the world.

The authors' claim that most of the water applied to thatchy greens is lost by downward movement into the underlying soil is palpable nonsense. In fact, the reverse applies, as any observant greenkeeper could tell these learned gentlemen! Water is trapped in the surface sponge, setting up a vicious spiral of more and more saturation increasingly stopping the organic cycle, the normal aerobic breakdown of dead vegetation,

thus building up more and more thatch, creating conditions reminiscent of a sewage farm, destroying the finer textured species — which happen to be deep rooting — and demanding crash action to correct the problem.

In fact, lack of aeration is one of the three main causes of thatch formation and only intensive aeration will get rid of it. However, it is surprising how quickly the thatch will go broken down by normal aerobic soil organisms once they are not drowned by surface water-logging.

The authors recommend that thatchy turf should receive more frequent fertiliser applications! In fact, more frequent dressings encourage annual meadow grass invasion — which although it is never mentioned in the article, is the most prone of all turf grasses to thatch formation.

I would wager a pound to a penny that the authors are neither golfers nor greenkeepers! Such articles, in my view, are exceedingly unhelpful and misleading and if read by a Chairman of Green Committee could have unhappy repercussions. I hope no British greenkeepers will be misled, even if they managed to struggle, as I did, through all the jargon and muddled thinking.

We must accept that thatch is the greatest curse of modern greenkeeping. It is indisputably caused by over-watering, over-feeding and insufficient aeration, all these terms being relative. Far too much mystery is created about it. I read articles in which statements are made that the causes of thatch are still not known!!! I am still struggling to put right odd greens lifted and relaid in an attempt to get rid of thatch, years after the other seventeen have been cured without such draconian measures. Thatch can be cured but the root cause must be identified and reversed. I advise the doctors to take a look at Hugh MacGillivray's greens at Sunningdale. After the 1976 drought, when they were soggy sewage farms with four inches or more of stagnant thatch, in less than two years of really intensive weekly deep slitting, and a drastic reduction in fertilisers and water, not to mention a lot of skilled greenkeeping, they are now fine firm and fast and rapidly swinging to pure *Agrostis* greens. Yet one still sees recommendations from those who ought to know better that the only cure is to lift and relay.

Apart from all the cost and interference to play and the time required to build up a true putting surface again, if you do not stop the treatments that caused the thatch then the thatch simply returns. If you do stop the bad habits, the thatch will go, as literally hundreds of courses whom I advise have discovered.

Thatch has become a common problem in a decade when pop-ups make it fatally easy (but not inevitable) that too much water can be applied at the turn of the dials; when all greenkeeping problems can be cured by some magic

mix out of the bag; and when increased play makes it much more difficult to give the greens the increased aeration which the extra play demands.

As a result of the combination of extra wear and tear, often reduced staffing levels and a fad now hopefully on the wane for "nice and green", soft, plugging target greens, the finer textured grasses have been replaced by annual meadow grass and then trouble is inevitable.

I venture to advise these learned gentlemen to go and look closely at some of the best American courses. They will not find much thatch on some of those lightning fast, steel hard putting surfaces, resilient enough, nevertheless, to hold a properly struck ball, as those who watched the Masters at Augusta will confirm. Please note that these greens were far from green but they were superlative putting surfaces.

I would therefore state categorically that there is absolutely no place for thatch on any golf green and my advice to the doctors is to go and take a good look at a few good greens before recommending tolerance of a lot of bad ones. The only possible explanation for this very misleading article is that the authors must mean something quite different from the rest of us when they talk about thatch. Were I to sit in judgement on them, I feel the appropriate sentence would be one year's hard hollow tine forking!

I hope your readers will be tolerant of my vehemence, but I hear more nonsense and see more stupidity written about what is a common and relatively easily cured problem, and find more clubs being asked to spend vast sums on quite unnecessary work, when all the wretched half-drowned greens want is air.

From Don Harradine
Switzerland

Recent work done at Ohio State University (Wilkinson and Miller) has shown non-wettable sand grains from golf greens to be coated with an amorphous organic substance interspersed with fungal mycelia. These researchers felt the hydrophobic coating may be derived from fungal growth that took place before the dry spots appeared.

However, they still feel that the best corrective measure is to prevent the dry spots from forming. The incidence of dry spots increases as turf water use increases. Therefore frequent inspection of greens during dry weather is necessary. Aerating or spiking, coupled with application of wetting agents followed by soaking, usually overcomes the hydrophobic condition.

I am still astounded how many Greenkeepers wait too long in spring before mowing their courses. It is a good idea to mow the grass a little longer than usual, to allow the grass to form new leaves, but it is very bad for the grass to let it grow too long and then mow it short, especially if a period of frost follows the first cutting.

LETTERS

From W. Jones
Southdown GC

I would like to hear from any BGGGA member, trade or otherwise, who can give some kind of an answer or idea or even express an opinion. I'm sure at times that Greenkeepers are looked upon as people who have no idea of the magnitude of the job they are doing and that it is best left to committees and advisers.

A Greenkeeper walks his course daily, even seven days per week, he sees irregularities on greens, weed growth, fungus, pests, etc, and he knows that it is vital not to let things slide. This is his living, he also has pride in showing his course off to his members and to great numbers of visitors, without that pride he would not be doing such a time consuming job.

From time to time we get visits from advisory bodies, both from machinery firms and turf advisory services. These people usually start by giving their ideas and by telling one what one should do, and when (forgetting weather, sickness or any other adversity). The Greenkeeper should be talked to, *not at!!* Many times he's left with a feeling that he is there to show the way around the course and that his opinion means nothing.

Nothing gets my back up more than a machinery salesman-cum-adviser who knows!! He has hardly seen your course, let alone inspected your turf, when he starts telling you what to do or voicing his opinion so that others can hear him.

Here's a case for you. We were dressing greens with topsoil and we use liberal amounts of top dressing, three

pulls over with the mat and a jolly good brushing, then a final mat. Late afternoon and a slight dampness in the air (not rain — just late moist air). We left this task and made plans to continue with it about mid-day the following day (Greenkeepers do have to make plans despite what some people may think). However, a trade rep had called on the Secretary about 10 minutes before we arrived to do the job, he told the Secretary that we should mat the green again. We were astonished at this and you may say the air was blue. You reps should stop trying to undermine the Greenkeeper's work and just get on and sell your wares, whatever they may be, the man on the job has to run his course and justify his position, he also has to be an ambassador, to listen to so many people giving advice. Anyone can see the obvious and so can the Greenkeeper, most Greenkeepers like to compare notes with people from other courses and with trade reps who are travelling around, but don't try and put one over on us to get in with the Secretaries.

One thing that has given me a few restless moments lately, "Fusarium Nivale". We have a particularly heavy attack of this disease and I may say, it did some damage. We dressed with "Fungicide" and had a fairly good result, but some mycelium growth escaped the net and became very active.

The greens were being played on daily despite very hard and continual frost, and in the soft condition of thaw I believe the mycelium thread of this fungus was picked up on players' shoes and spread around, this looks obvious as the worst areas are around the bins and walking on and off areas. I feel that to have closed these particular greens during treatment, and for a few days after, would have helped to control the spread.

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generator and ideal for TORO
gang mowers. For full details
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ATTERTON & ELLIS LTD.
Iron Works, Haverhill, Suffolk

Mushrooms were growing outside until late November early December, this, to my mind, was a pointer to fungus activity in all forms. One can control the growth of "Fungi" inside by a strict and disciplined drill in the use of "Hypene" dipping trays for feet, etc, surely if feet can spread disease inside, they must do so in the open. A load of nonsense one gets from various advisers is, weak parts of the green and weakness of growth or condition is the cause. We have a very strict drill, greens are switched daily and inspected for any disease, weakness, weeds or vandalism. I have, as my partner, a man who is 81 years of age, who has seen it all before, so with two sheeps heads, we stand a chance. All these years of experience between us must mean something and surely it is equal to book comparability, by that I mean taking a book around to compare various diseases, weeds, etc. It may seem to some people that I have a chip on my shoulders, not so, I have so many Greenkeepers asking me to bring forward these matters. Can or will anyone repudiate my findings? We should at least live up the letter section in the journal.

A day out with Parkers

On 2 May T. PARKER & SONS (Turf Management) LTD in conjunction with SISIS EQUIPMENT (Macclesfield) LTD staged a Field Day at Nevill Cricket Club, Tunbridge Wells, by courtesy of the Tunbridge Wells Borough Council, represented by their Director of Parks, Mr D. MacGuffog.

The occasion could have been marred by torrential rain which in particular flooded the Nevill Ground on the previous day and the rain continued for most of the night. Nevertheless, a full programme of demonstrations was carried out by improvisation and included grass cutting on an adjoining site.

The event was well attended by some 200 Greenkeepers, Groundsmen and officials and the whole day was thought by most to have been a complete success. In the photograph P. Brimmell demonstrates the Sisis Hydrator.



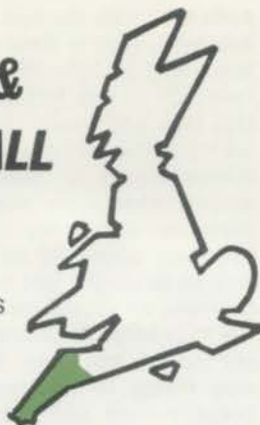
AROUND THE SECTIONS



DEVON & CORNWALL

Chairman:
D. SUTTON

Hon. Secretary:
Mr. J. SUMMERS
The Cottage
Saunton
Braunton
N. Devon



December with a good representation from both counties being well looked after by Robertson & Weir. At this meeting we were able to form a Committee and make tentative plans for our first AGM in early 1979.

We now began to realise just what a mammoth task we had undertaken. However, after much discussion, it was decided to hold our first meeting at Downes Crediton Golf Club on 4 April. Months of organised confusion followed until the appointed day dawned with a very sharp frost, to remind us that the worst winter for years was still with us. Twenty stalwarts arrived at various times of the day, some who could play golf and some who could not. Those who could play, enjoyed a round of golf on this very pleasant, new, parkland course which was in very good condition after such a harsh winter. Those who were not playing were given a tour of inspection of the course, machinery sheds and the bar. Hearty thanks to Head Greenkeeper, Bill Pile and his staff and also to the Steward and his wife for looking after the inner man. I would also like to thank the members of Downes Crediton for extending us the courtesy of their course.

Our first official round of golf was won by M. Symons (Tavistock) on the last 9 from T. Bennett (Trevose). I would like to thank Mr B. Flack (Sisis) and Mr P. Flegg (Stanley A. F. West) for the prizes they so kindly donated.

We also held a raffle with prizes donated by Mr P. Winter (Fisons) and M. Britton and P. Barnett (Robertson & Weir).

A Committee was officially elected as follows:
Chairman: D. Sutton (Teignmouth GC)
Vice-Chairman: I. Brown (Falmouth GC)
Treasurer: B. Pile (Downes Crediton GC)
Secretary: B. Summers (Saunton GC)
President: P. Barnett (Robertson & Weir)
Vice-Presidents: B. Flack (Sisis)

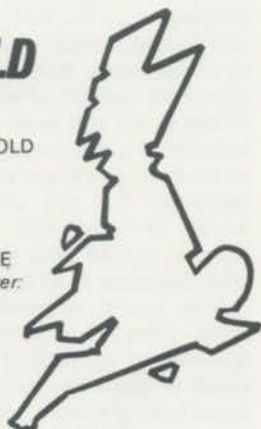
P. Flegg (Stanley A. F. West)

Finally, I would like to thank all those who have helped to make this venture possible, especially Mr Heeles and Ivor Scoones for all their practical help, the many clubs in Devon and Cornwall for their financial donations and all the firms involved for their support.

SHEFFIELD

President:
S. KENNETH ARNOLD
Chairman:
G. HERRINGTON

Comp. Secretary:
P. QUARTERMAINE
Hon. Sec./Treasurer:
B. V. LAX
15 Sheaf Place
Worksop
Notts S81 7LE



We held the Section AGM in the Artisan Clubhouse at Lindrick Golf Club on 26 April 1979. Twenty-seven members attended. At the meeting the following officers were elected:

President: Mr S. K. Arnold
Chairman: Mr G. Herrington
Vice-Chairman: Mr N. Maltby
Secretary/Treasurer: Mr B. V. Lax
Competition Secretary: Mr P. Quartermaine
Executive Committee Rep.:
Mr H. Herrington
Committee: Mr E. Palmer, Mr F. Frost,
Mr G. Mason, Mr B. Heaney,
Mr H. Muir, Mr H. Herrington,
Mr S. Platts

At the AGM it was decided that next winter's meetings would again be held at Lindrick Golf Club on the first Thursday of the month, the first one being on November 1 at 3 pm.

Our first golf fixture, our President's Prize, was played at Retford Golf Club on 16 May. It was the first time the Section had played at Retford and everyone enjoyed the visit. Many thanks to Retford GC for the use of their course, also to Chris Colton for his efforts not only preparing the course for us to play on, which was really fine, but also fixing up for us to be provided with some excellent food and refreshments.

The ones who enjoyed the day the most, the prize winners, were as follows:

First: G. Naylor Second: N. Maltby
Third: A. Tuck Fourth: B. Heaney

Will members please note that their subscriptions must be paid before they can play in the Section Annual Tournament or before the end of July.

We would like to take this opportunity of making ourselves known to you all. The idea for a BGGA Section for Devon and Cornwall was conceived at Saltford Golf Club, during the South West Section AGM, April 1978. I was invited to become a member of their Committee but I had to refuse on grounds of the travelling distances likely to be involved. It was then suggested that I should try to form a sub-section for Devon, I had plenty of time to think about this on my 100-mile journey home.

The following weekend I wrote to all the Golf Clubs in the area listed in Yellow Pages, and also spread the word to one or two trades people and service men who called at my club. The outcome of this was a meeting at Bude Golf Club in September 1978. We were able to play a round of golf for prizes donated by Mr B. Flack (Sisis), Mr P. Winter (Fisons), M. Britton and P. Barnett (Robertson & Weir) and the Secretary of Bude, Mr Reynolds. The initial reaction was favourable and Peter Barnett offered to organise an evening meeting in Plymouth for us and also to contact the remaining clubs in Devon and Cornwall. The meeting was held in early

Experienced Greenkeeper required by Brunswick G.C. Germany

There is an immediate vacancy for an experienced Assistant Greenkeeper with a sound knowledge of course upkeep and machinery maintenance. The club is willing to consider a short-term engagement from now until the end of November. However, there is also a requirement for a permanent position which could start now or on 1/3/80.

**Salary: Short-term £750 per month
Permanent £6,500 pa**

Both negotiable. Accommodation can be arranged.
Please write as soon as possible to:

A. Dollard, Dodds Lane, Pyrford, Woking, Surrey

NORTHERN

Chairman:
COLIN GEDDES
Moor Allerton
Golf Club

Hon. Secretary:
W. HEELES
7 Tentergate Close
Knaresborough, Yorks.
(Tel: 0423 863851)



AGM

The Section AGM took place at Moor Allerton on 24 May at 8 pm. Eighteen members were present.

Our Chairman Mr Geddes spoke with disappointment over the enforced resignation as Secretary of Mr W. Heeles. A letter was read out from Walter expressing his regret on having to retire. We understand that Walter is home from hospital and making steady progress.

Mention was also made about the fact that in spite of increased activity on the National scene Northern Section members were not involved as much as they could be; it was hoped that improvements would come about.

Mr Ken Mitchell took the chair for the election of Officers, the order of which is thus.

President: Mr W. Mountain —

Chairman: Mr C. Geddes —
W. Mountain & Son

Vice-Chairman: Mr D. Anderson —
Moor Allerton GC

Treasurer: Mr J. Scott — Wetherby GC

Committee: Mr M. Bryant — Strensall GC

Mr A. Robertshaw — Ilkley GC

Mr D. Roberts —

West Bowling GC

Mr D. Hannam — STRI

Mr I. Tomlinson — Scarcroft GC

Mr C. Garnett — Garforth GC

Mr S. Bailes — Kighley GC

Auditors: Mr W. H. Bartle, Mr D. C. Hannam
Points brought up in "any other business" included the subject of greenkeeper registration. In an attempt to make the greenkeeping fraternity a more integrated body a register is being compiled of professional turfmen. Apparently quite a number of greenkeepers are still not registered. In their own interests they ought to be. At the moment Head Greenkeepers, Assistants and trainee greenkeepers can enrol on payment of one pound, the only qualification needed is experience — three years for HGK, ten years for assistants. After 1980 greenkeepers seeking registration must hold a nationally recognised qualification in turf culture. Act now and help to strengthen your own position as well as that of your profession. Enquiries and £1's to Mr N. Bisset Greenkeeper Registration, Askham Bryan College of Agriculture, York.

Mr Sec.

Mr John Scott is at present in the secretary's chair. This is more through kindness than desire. If there is anyone out there who feels he could do the work of Secretary/Treasurer please come forward. John would like to know you and show you the ropes. For the time being John's address is:

16 Quarry Hill Lane,
Wetherby.
Tel Wetherby (0937) 61668.

Poor Sam

Our good friend Sam Bailes tells us that he isn't getting it! Never mind, Sam, old bean, we all have our problems. Please be assured that every effort will be made to see that you receive your journal regularly.

SOUTH COAST

President:
J. H. FRY
Chairman:
E. R. JAMES

Hon. Secretary:
Mrs J. STIMSON
Caretakers Cottage
Breamore House
Breamore
Fordingbridge
Hampshire SP6 2DE
(Tel: Breamore 277)



Our 1979 Spring Meeting was held at Hindhead Golf Club on 10 May and the only disappointment was the weather — it was overcast with a cold wind in the morning and then turned to steady rain in the afternoon. Thirty-five members took part in the 36-hole Medal Competition and the eventual winner was Alan Devlin of Dunwood Manor.

The prizewinners were: —

Best Gross score over 36: A. Devlin (Dunwood Manor) 146 pts. Tregunna Trophy and Copper Etchings given by Huxleys.

2nd Best Gross score over 36: R. Brown (Rowlands Castle) 156 pts. Holdall given by Roffey Bros.

Best Nett score over 36: C. Slater (Black Swan) 136 pts. Roffey Cup and Gold Watch given by Ransomes.

2nd Best Nett score over 36: M. Gould (Hindhead) 142 pts. Denyer Cup and Picnic Hamper given by J. T. Lowe (Longham) Ltd.

3rd Best Nett score over 36: T. Pipe (Hindhead) 144 pts. Golf Umbrella and Tumblers given by Marshall Concessionaires Ltd and Maxwell Hart Ltd Respectively.

Best Gross score morning: E. West (Broadstone) 77 pts and

Best Gross score afternoon: G. Darby (Worplesdon) 78 pts. Wine Glasses given by Section.

Best Nett score morning: J. Flavell (Queens Park) 70 pts and

Best Nett score afternoon: T. Watts (Puttenham) 71 pts. Motormate Lamp and Lighter given by Jim Fry and Pattisnons respectively.

Best Nett Score over 36 for 24 handicap: P. Nason (Southampton Municipal) 145 pts. Pewter tankard and Whisky given by Sisis Ltd and Parkers respectively.

In his speech at the prizegiving, Eric James expressed our very grateful thanks to Hindhead Golf Club for granting us the courtesy of their delightful course and clubhouse facilities. He congratulated Trevor Pipe and his staff on the good condition of the course, which in itself is a fine test of golf. Eric also thanked Mrs Pipe, Mr and Mrs Buttery and staff who provided cheerful, attentive service and marvellous meals. (I am sure it would have been an eye-opener to some wives to see their husbands readily waiting on themselves! Mrs Pipe is obviously well-accus-

tomed to catering for hearty appetites, the plates needed cardboard edges, and to those members who made unflattering remarks when yours truly passed by their table carrying two plates heavily laden with beef and Yorkshire pud, etc. I would say that Hon. Secs. like elephants have long memories!)

Eric also expressed our appreciation of the hard work undertaken by Eddie Fox and Allan Jeffery in organising the event; their efforts being hampered by the very late delivery of the April issue of the Journal. Eric also thanked those honorary members who had contributed so generously to our prize table, and then called upon the President of Hindhead GC, Mr Swanson, to present the prizes and also bouquets to Mrs Pipe and Mrs Buttery and yours truly. I would like to take this opportunity to say thank you very much for my beautiful flowers.

Although the Spring Meeting is specifically for greenkeepers, it was very pleasing that Ken Butler, David Craig, Peter Hampton, Richard Keatley, Jack Roffey and Brian Stephens (all trade members) took the time and trouble to spend part of the day with us. I would also like to say a special thank you to Ken Lodge, Mike Salter, Mike Standing and Allan Stow, who made the effort to attend the eighth Annual General Meeting of the South Coast Section which was held later that evening. A report on the proceedings will be submitted in a later issue but one important decision was taken viz. the subscription rate for Class E (honorary) members was increased by £1.00 to £6.00 per annum.

The majority of green staff members will be aware that their subscription rates have also been increased, following the meeting on 9 May at Leeds. Accordingly your Hon. Sec. will be pleased to receive your 1979/80 subscriptions as soon as possible. Defaulters after 31 July will be expected to pay an extra 50p penalty fee. The current subscription rates are: —

Class A (Head Greenkeepers)	£9.00 p.a.
Class B (First Assistants)	£6.00 p.a.
Class C (Assistants & Trainees)	£5.00 p.a.

A little bird has told me that Steven Barker is getting married on 21 July and we wish him and his bride every happiness in the future. Our congratulations to Mark Webb on his appointment as Head Greenkeeper at Hartley Wintney. Mark was previously First Assistant at Alton GC.

We are pleased to welcome J. Flavell (Queens Park) and C. Slater (Black Swan) to the Section and hope their association with us will be a long and happy one.

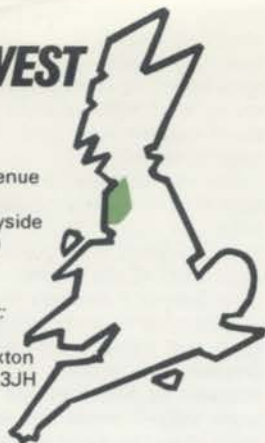
It would appear that this month's issue of the Journal (May) was almost dependent upon the contributions from South Coast Section members! It was rather nice to see so many familiar faces — J. Hamilton Stutt (an honorary member); Tom Watt; Eric James, Steven Barker and Tim Neighbour. Only one thing puzzles me with regard to the latter — how did the photographer manage to find more than two green staff at work on the same day at Parkstone? May I say I endorse the remarks made by Mr Tom Scott, and point out that this section has increased its membership from 30 to 120 in five years and, although my approach to the Hampshire Golf Club secretaries for an annual golf fixture was not successful some three years ago, we do find that those club officials who are asked by their green staff to be their guest partners at our Autumn Invitation Meetings thoroughly enjoy the day's golf and socialising afterwards, and book up for the next year's Summer Invitation Meeting which will be held at Stoneham. By the way this year's Autumn Meeting will be held at Brokenhurst Manor GC on Thursday, 4 October.

That's all, folks.

NORTH WEST

Chairman:
G. E. LLOYD
7 Shaftesbury Avenue
Birkdale
Southport, Merseyside
(Tel: 0704 69509)

**Hon. Secretary/
Treasurer:**
D. F. GOLDING
38 The Grove, Flixton
Manchester M31 3JH
(Tel:
061-748 8592)



Battle of the Roses Result

The first match between our Section and the Northern Section was a great success, it was held at Ilkley Golf Club on 10 May, my thanks go to Mr Adrian Robertshaw and his staff for giving us a most enjoyable afternoon's golf on their course. Considering the weather the course was in excellent condition.

Our thanks to the officials of Ilkley Golf Club for allowing us to play on their course and to Chairman. Colin for all the arrangements he made for us. I hope when we host the match next year it is as successful. Now for the results and as you will see it was a great win for us!

NW Section

E. Walsh & A. Scott	1
B. Moss & H. McAddey	1
L. Pithie & R. Janovskis	1
A. Millburn & S. Bridge	0
R. Lewis & A. Cross	0
B. Gregson & S. Arrowsmith	1
D. F. Golding	1
	4

v

Northern

D. Roberts & D. Spurden	0
C. Ramsden & P. Baume	0
M. Bryant & S. Bailes	1
P. Marshall & R. Lambert	1
M. Bottomley & C. Garnett	1
R. Barnes & C. Walton	0
C. Geddes	0
	2

Spring Tournament Heswall Golf Club

The sun really shone on 14 May for our Annual Spring Tournament at Heswall. Forty greenkeepers competed for the prizes and after the "if onlys" had settled, Peter Shaw was the winner, well done, Peter! Don't forget to let Mick have a look at what a cup looks like! Anyway back to the day itself, Bill Lawson and his staff had done a great job on the course and everybody connected with Heswall Golf Club had helped to make it a great day. The prize table was a picture as usual and my thanks to the donors will come later. My thanks to David Royle, Bryan Garnett and Roy Rigby for helping with the score cards, their help allowed me to play 18 holes with my guests which was great, as it helped me gather my thoughts after a miserable "Wembley Weekend". I think the less said about that the better.

27 Holes Medal

1st Nett	P. Shaw	108
2nd ..	G. Hall	111
3rd ..	J. Robinson	111
4th ..	R. Janovskis	112
5th ..	A. Darby	113
6th ..	S. Arrowsmith	114
7th ..	R. Vickers	115
8th ..	H. Walsh	116
9th ..	G. Moseley	116
10th ..	P. Pearse	117 CPO
11th ..	M. Dawber	117 ..
12th ..	R. Webster	118
13th ..	L. Pithie	119
14th ..	D. Berry	119
15th ..	M. Sheehan	120
16th ..	B. Gregson	122 CPO
17th ..	A. McMahon	122 ..
18th ..	R. Lewis	122 ..
19th ..	M. Holmes	123 ..
20th ..	D. Bastow	123 ..
21st ..	A. Cross	124
Best Gross:	P. Shaw	120

and Under 25s' Tankard

Over 55's: G. Hall

Visitors' Prize: W. Foulkes, 75 nett

Thanks to all the prize donors, hopefully I will remember them all. Retiring Section Chairman George Lloyd, Heswall Golf Club, Heswall's Professional Mr Alan Tompson, Rigby Taylors, Theo's of Clitheroe, Ransomes, Sutton's Seeds, Ockleshaws, Burrows, Alan Lewiss, Meors, Supaturf, Lawnmower Specialists J. Metcalf, Atco, Pattissons, Lloyds, Martins, Wilcocks, SAI, Trident, Cannock and the best nett prize from Sisis.

A final thanks to Heswall Golf Club for allowing us the courtesy of their course and clubhouse.

Minutes of the AGM held at Heswall GC

Secretary reported new subscription rates to meeting. The dinner dance will be held on Friday, 2 November at Dean Wood Golf Club (details later). The Annual Trip will be to Ransomes on 17 and 18 October. Subject to confirmation the Autumn Tournament will be at Warrington Golf Club on Monday, 8 October.

The committee were asked to look into the possibility of paying the team's expenses when they play the Northern Section. This was agreed.

A very successful year had been highlighted with some forty new members and another thirty nomination forms in for the coming year.

The new committee is: Chairman, Mr J. Robinson; Secretary/Treasurer: D. F. Golding; Vice-Chairman: Mr M. Holmes; Ex Officio: G. Lloyd, Messrs Vickers, Jowett, Cross, Berry, Arrowsmith and Jones. Mr E. Staniforth was unanimously re-elected as section President and I would like to thank him for all his help.

New Members

May I welcome the following into our section and hope they will have a happy association with us:

Mr T. Moon, Preston GC
Mr F. Grundy, Marple GC
Mr T. Reynolds, Southport & Ainsdale GC
Mr L. Harding, Mirlees GC
Mr J. Caldwell, Dunscar GC

Late News

Congratulations are in order to Stuart Bridge and his young lady who recently got married, about time too! That should slow his swing down!

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One pound of BenSun [A-34] sows 2,000 square feet (over 1,000 seeds per square foot) producing a dense green sward of turf.

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MIDLANDS

Chairman:
V. W. SMITH

Hon. Secretary:
A. KITE
17 Squires Croft
Walmley
Sutton Coldfield
W. Midlands



The Spring Tournament was held on 9 May at Whittington Barracks Golf Club and once again the weather was generous to us and it was a beautiful sunny day. This together with the hard work put in by the Head Greenkeeper Trevor

Morris and his staff helped to show this fine course off to its best advantage.

Both the service and meals from the clubhouse staff were excellent, we would like to thank the steward and stewardess Mr and Mrs C. Charlton in particular for all their help. Our thanks also go to the Captain of Whittington Barracks Golf Club Mr Jack Froggatt and all the members for giving us the courtesy of their course and clubhouse and also for the most generous donation which was given to us, a kind gesture which was very much appreciated. A final word of thanks to the trade representatives for their help with the score cards and various other paper-work and the raffle.

Scores and Prize Winners

Played over 27 Holes Medal Play

First Gross: V. Smith 119 (Sutton Challenge Cup, Wedgwood)

First Net: P. Grice 101½ (Ransomes Cup, Watch, Sweep)

Second Net: M. Hughes 109½ (Wedgwood Pottery, Sweep)

Third Net: D. Haynes 109½ (Jumper)

4th Net: E. Evans 110 (Bottle Whisky)

5th .. I. Beetlestone 111 (Wedgwood Pottery)

6th .. R. Pullen 112 (Wedgwood Pottery)

7th .. R. Pugh 113 (Cigarette Lighter)

8th .. D. Salisbury 113½ (Whisky)

9th .. A. Kite 113½ (Wedgwood Pottery)

10th .. J. Guest 115 (Wine)

11th .. A. Lewis 117 (Wedgwood Pottery)

12th .. T. Morris 118 (Secateurs)

13th .. A. Cutler 118 (3 Golf Balls)

14th .. S. Woods 118 (Golf Balls)

15th .. E. Thomas 119 (Golf Balls)

16th .. A. Boraston 119½ (Golf Balls)

Many thanks to the following prize donors:—
Ransomes Machinery Ltd, Cannock Fertilisers, Fisons, Suttons Seeds Ltd, Lloyds Machinery Ltd, E. T. Breakwell Ltd, Pattissons Ltd, Mommersteeg Seed Ltd, Sutton Motor Mower Services, Sisis Ltd, Ashfield Motor Mowers Ltd, Whittington Barracks Golf Club. Our sincere thanks and apologies to any prize donor we may have omitted to mention.

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Purchase the basic CUSHMAN TURF TRUCKSTER 18 H.P. Vehicle — then add as many of the modular accessories as you need for the work you have to be done. No need to buy another expensive vehicle. In

minutes you can attach the module you need by using simple pins that slide in and out. No need for tools.



TOP DRESSING

1 Green accurately in 10 minutes.
Mounts on Truckster Chassis



SPREADING

Spreads 40' wide



QUICK AERATING. 18 Greens in half a day.
Deep slicing, coring, or open spoons.



GREENSAVER AERATOR
with core collection. Ten times faster than other methods.



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1,000 lb. payload, hydraulic dumping

CUSHMAN travels at speeds up to 22 m.p.h. between jobs, and will pull standard set of three gang mowers.



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Precise spraying rates



SPIKING. 18 Greens in 2½ hrs.

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The Dean, New Alresford, Hants.
(Alresford 3222)

SOUTH WEST

President:
J. WILCOX

Hon. Secretary:
I. F. SCOONES
Failand Lawn
Failand
Near Bristol



On Wednesday 23 May at Westonbirt Golf Course we held a Greenkeeper-Amateur match. Twenty-five played and although we had had continuous rain all morning it managed to stay dry for the match. After the game we all adjourned to the Angel Sherston where Pat and Mike Bell laid on a very nice tea.

The results were as follows:

D. Cheetham and A. Hyde 62, Sham Castle
G. Saunders and T. Deware 63, Tewkesbury Park

D. Sims and E. Ham 63½, Burnham and Berrow

May I on behalf of the Section thank the Bursar, Mr L. Cooper, of Westonbirt School for extending the hospitality of the course to us and to Pat and Mike Bell for the help with the catering.

GOLF COURSE EQUIPMENT AND SERVICES

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"AJAX" brand bunker rakes, also traditional wooden grass and leaf rakes. From your local supplier, or T. Parker, or contact Whelneham Woodwork Ltd, Bury St Edmunds (028482) 630.

COMPLETE GOLF COURSE SUPPLY

T. Parker & Sons (Turf Management) Ltd, Worcester Park, Surrey. Tel: 01-337 7791. Contact: R. F. Cook.

COMPOST TOP DRESSINGS

Maxwell M. Hart (London) Ltd, Winnersh, Wokingham, Berks. RG11 5HF. Tel: Wokingham (0734) 785655.

COMPOST/PEAT PRODUCTS

Fisons Limited, Horticulture Division, Paper Mill Lane, Bramford, Ipswich, Suffolk IP8 4BZ. Tel: Ipswich (0473) 830492. Contact: *Recreational and Industrial Department*.

Humber Manures Ltd, PO Box 27, Stoneferry, Hull HU8 8DQ. Tel: 0482 20458. Contact: *Gerald Moxon*.

M.R. Peat Limited, 75 Main Street, Brampton, Cumbria. Tel: Brampton 2392. Suppliers of turf, seed and potting composts and high quality sphagnum peat at competitive prices.

Silvaperi Products Ltd, P.O. Box 8, Dept. 18A, Harrogate, North Yorkshire HG2 8JW. Tel: 0423 870370. Perlite, Turf Dressings, and Composts.

DRAINAGE TUBE AND PIPES

Lamflex PVC Flexible — 52mm, 60mm, 80mm, 110mm in 100-200mm lengths. Manfd by Critchley Bros Ltd, Brimscombe, Stroud, Glos. Brimscombe 2451.

FERTILIZERS

Joseph Bentley Ltd, Barrow-on-Humber, South Humberside. Tel: Barrow-on-Humber (0469) 30501.

Cannock Fertilizers Ltd, Cannock, Staffs. WS11 3LW. Tel: Cannock 2727.

Humber Manures Ltd, PO Box 27, Stoneferry, Hull HU8 8DQ. Tel: 0482 20458. Contact: *Gerald Moxon*.

Maxwell M. Hart (London) Ltd, Winnersh, Wokingham RG11 5HF. Tel: Wokingham (0734) 785655.

S.A.I. Horticulture Ltd, Hortus House, 3 John's Place, Edinburgh EH6 7EN. Tel: 031 554 5451.

Contact: *Sales or Technical Department*.

FERTILIZERS & TOP DRESSINGS

Chipman Ltd, Horsham 60341, Mr J. L. Collins. Derby 364271, Mr B. Roden. Harrogate 68658, Mr S. E. O'Donnell.

Rigby Taylor Ltd, Victoria Works, Garside Street, Bolton BL1 4AE. Tel: Bolton 389888.

Fisons Limited, Horticulture Division, Paper Mill Lane, Bramford, Ipswich, Suffolk IP8 4BZ. Tel: Ipswich (0473) 830492. Contact: *Recreational and Industrial Department*.

FLAGS

Bridges Pennants, 68 Southchurch Avenue, Southend-on-Sea, Essex SS1 2RR. Tel: 0702 612344.

Flags, PVC Flag Poles, Signs & Tee Equipment.
Maxwell M. Hart (London) Ltd, Winnersh, Wokingham RG11 5HF. Tel: Wokingham (0734) 785655.
Flag Poles, Hole Cups.

FUNGICIDES

Chipman Ltd, Horsham 60341, Mr J. L. Collins. Derby 364271, Mr B. Roden. Harrogate 68658, Mr S. E. O'Donnell.

GOLF COURSE ACCESSORIES

Autoturfcare Ltd, Sales: 2 Ladymead, Guildford GU1 1DL. Tel: 0483 38444.

Ransomes Grass Machinery (Scotland) Ltd, St Ninian's Road, Corstorphine, Edinburgh EH12 8AN. Tel: 031-334 2261.

GOLF COURSE ARCHITECTS

Members British Association of Golf Course Architects.

Hamilton Stutt & Co. 12 Bingham Avenue, Poole, Dorset BH14 8NE.

Donald Harradine, C.H. 6987, Caslano, Switzerland.

Hawtree & Son, Addington Court Golf Club, Featherbed Lane, Addington, Croydon, Surrey CR0 9AA.

Cotton (C.K.) Pennink Lawrie & Partners Limited, Marlow Place, Station Road, Marlow, Buckinghamshire SL7 1NB. Tel: 72555.

Fraser Middleton, 84 Dunchurch Road, Oldhall, Paisley, Renfrewshire, Scotland.

T. J. A. McAuley, BSc, FICE, Ardmar, 97 Clifton Road, Bangor, County Down, N. Ireland.

Peter Alliss, Dave Thomas Ltd, "Downings", Ashley Road, Ashley, Cheshire.

Coles & Dyer, Watermead House, Church Street, Epsom, Surrey. Tel: Epsom (03727) 40994, Cheltenham (0242) 23789.

GRASS MAINTENANCE EQUIPMENT

Allen Power Equipment Ltd, The Broadway, Didcot, Oxon OX11 8ES.

Manufacturers of Allen Mayfield, Allen Challenger, UK distributors National Mowers, Weed Eaters, Powered Top Dressers and Turf Cutters.

GOLF COURSE CONSTRUCTION

Comtec (UK) Ltd, Leyswood House, Groombridge, Tunbridge Wells, Kent. Tel: Groombridge (089276) 581 or 722.

Golf Construction Ltd, Golf House, Wood Street, Stratford-upon-Avon, Warwickshire CV37 6JE. Tel: Stratford-upon-Avon (0789) 69783 or 69292.

Golf Landscapes Ltd, Ashwells Bentley, Brentwood, Essex. Tel: Coptie Green 73720.

Land Unit Construction, Camden House, Kenilworth, Warks. Tel: (0926) 59241; also at Milton Keynes 510414. Contact Bob Blyth.

Leisure Golf Developments Ltd, Stockton House, Stockton, Rugby, Warks CV23 8LB. Tel: Southam 4626.

Stewart Landscapes Ltd, Carmunnock Nurseries, Pedmyre Lane, Carmunnock, Glasgow G76 9EL. Tel: 041-644 3523 (3 lines).

GRASS CUTTING EQUIPMENT

Sisis Equipment (Macclesfield) Ltd, Shoresclough Works, Hulley Road, Macclesfield, Cheshire SK10 2LZ. Tel: Macclesfield 26363.

Contact: *Mr G. R. Lackford*.

Sisis Centre in Scotland: 52/58 Causewayside, Edinburgh EH9 2PY. Tel: 031-667 0689.

GRASS MANAGEMENT EQUIPMENT

Autoturfcare Ltd

Sales: 2 Ladymead, Guildford GU1 1DL. Tel: 0483 38444. Telex: 859386.

Service & Parts: Faverdale Works, Faverdale Industrial Estate, Darlington, Co Durham. Tel: 0325 55101. Telex: 587182.

Sole UK distributors for Toro and Graveley.

Turf Machinery (London) Ltd, 65-67 Hagden Lane, Watford, Herts. Tel: Watford (0923) 26339 and 20480.

Sole London distributors for Toro and Graveley.

GRASS SEED

British Seed Houses Ltd, Bewsey Industrial Estate, Pitt Street, Warrington WA5 5LE. Tel: Warrington (0925) 54411.

Order and Enquiries Contact: Mr R. Saunders.

British Seed Houses Ltd, 37 Five Mile Drive, Oxford, Oxon. Tel: Oxford (0865) 50702.

Advisory Service and Enquiries Contact: Mr J. H. Franks.

Cannock Fertilizers Ltd, Cannock, Staffs. WS11 3LW. Tel: Cannock 2727.

Gerson Grass Seed, Grove Lane, Smethwick, Warley, West Midlands B66 2SE. Tel: 021-558 3551.

Contact: *Frank Gerson*.

Fisons Limited, Horticulture Division, Paper Mill Lane, Bramford, Ipswich, Suffolk IP8 4BZ. Tel: Ipswich (0473) 830492.

Contact: *Recreational and Industrial Department*.

Hurst Gunson Cooper Taber Ltd, Avenue Road, Witham, Essex CM8 2DX. Tel: Witham 0376-516600, Avonmouth 02752-3106, Glasgow 041427-4917, Lincoln 0522-63852, Warrington 0925-37321, Wetherby 0937-842976, London 01-205 8681.

Maxwell M. Hart (London) Ltd, Winnersh, Wokingham RG11 5HF. Tel: Wokingham (0734) 785655.

Miln Marsters Group Ltd

Chester. Tel: Chester 22345.

King's Lynn. Tel: King's Lynn 3911.

Mommersteeg International, Station Road, Finedon, Wellingborough, Northants NN9 5NT. Tel: Wellingborough (0933) 680674. Telex: 311234.

Rigby Taylor Ltd, Victoria Works, Garside Street, Bolton BL1 4AE. Tel: Bolton 389888.

Suttons Seeds Ltd, Hele Road, Torquay. Tel: Torquay 62011.

Contact: *R. W. Palin*.

GRASS SEED — WHOLESALE

Goldsmith Brothers Ltd, Bury St Edmunds. Tel: 3401.

Sole UK agents for Barenbrug Grasses.

W. W. Johnson & Son Ltd, Stells Lane, Boston, Lincs. Tel: 0205 65051.

Contact: *G. S. Taylor*.

J. Picard & Co. (Seed Merchants) Ltd, 34/35 Corn Exchange Chambers, Seething Lane, London EC3N 4BL. Tel: 01-480 5411. Also at Uckfield, Ellesmere Port, Avonmouth and Hull.

IRRIGATION EQUIPMENT

Cameron Irrigation Company Limited, Harwood Industrial Estate, Littlehampton, West Sussex BN17 7BA. Tel: 09064 3985. Telex: 877483.

Contact: *Mr Robin Hunter*.

Toro Irrigation Ltd, Unit 7, Millstream Trading Estate, Christchurch Road, Ringwood, Hants. BH24 3SD. Tel: Ringwood 6261/2.

LANDSCAPE CONTRACTORS

Comtec (UK) Ltd, Leyswood House, Groombridge, Tunbridge Wells, Kent. Tel: Groombridge (089276) 581 or 722.

Leisure Golf Developments Ltd, Stockton House, Stockton, Rugby, Warks CV23 8LB. Tel: Southam 4626.

Wrights of Trumpington Limited, 14, The Green, Rampton, Cambridge CB4 4QB. Tel: Cottenham (0954) 50114.

MANURES

Humber Manures Ltd, PO Box 27, Stoneferry, Hull HU8 8DQ. Tel: 0482 20458. Contact: *Gerald Moxon*.

MOWERS

Autoturfcare Ltd. Sales: 2 Ladymead, Guildford GU1 1DL. Tel: 0483 38444. Sole UK distributors for Standard Golf Equipment.

Autoturfcare Ltd. Sales: 2 Ladymead, Guildford GU1 1DL. Tel: 0483 38444. Telex: 859386. Service & Parts: Faverdale Works, Faverdale Industrial Estate, Darlington, Co. Durham. Tel: 0325 55101. Telex: 587182. Sole UK distributors for Toro, Gravely and Deodoe.

Turf Machinery (London) Ltd. Sales: 2 Ladymead, Guildford GU1 1DL. Tel: 0483 38232. Service & Parts: 65/67 Hagden Lane, Watford, Herts WD1 8NB. Tel: Watford (0923) 26339 and 20480. Sole London dealers for Toro and Gravely.

GRASS MACHINERY EQUIPMENT RANSOMES DISTRIBUTORS

Ransomes Sims & Jefferies Ltd, Nacton Works, Ipswich, Suffolk. Tel: Ipswich 72222. **Bartram Mowers Ltd**, Norwich Airport, Fifer's Lane, Norwich NR6 6ED. Tel: Norwich 44911. Contact: *Mr Alan Brooks (Home No: Great Yarmouth 64364)*.

E. T. Breakwell Ltd, 814 Stratford Road, Shirley, Solihull B90 4BJ. Tel: 021-744 4477. **Burrows (Grass Machinery) Ltd**, Wigan Road, Leyland, Nr Preston, Lancs. PR5 2VE. Tel: Leyland (07744) 21778.

Burrows (Grass Machinery) Ltd, Stafford Street, Newport, Salop. Tel: Newport 810900.

John Chaplin (Machinery) Ltd, Roseville Road, Leeds LS8 5DT. Tel: 459535. Also at 8/10 Lawrence Street, York. Tel: 52176/32587.

Henton & Chattell Ltd, London Road, Nottingham NG2 3HW. Tel: 0602 862161.

McKenzies, 6 Camden Quay, Cork, Eire. Tel: 021/502301. Contact: *Manager of the Grass Machinery Department, M. J. O'Shaughnessy*.

W. Mountain & Son Ltd, Bank Avenue, Morley, Nr Leeds. Tel: (0532) 531201-6. Telex: 557067. Contact: *A. C. Mountain*.

Paice & Sons Ltd, London Road, Felbridge, East Grinstead, Sussex. Tel: East Grinstead (0342) 24466. Also at Farleigh Hill, Tovil, Maidstone, Kent. Tel: Maidstone (0622) 65279.

T. Parker & Sons (Turf Management) Ltd, Worcester Park, Surrey KT4 7NF. Tel: 01-337 7791.

Rogers Engineers Ltd, Great Barford, Bedford MK44 3LP. Tel: Bedford 870201. Telex: P26527. Contact: *Mr D. Reeder, Ext. 46*. Also at Telford Way, Kettering. Tel: Kettering 82611.

D. Rowe & Co. Ltd, The Horner, Chichester, West Sussex PO19 4JW. Tel: Chichester (0243) 788100.

W. Wilcock & Sons (Preston) Ltd, Walker Street, Preston PR1 2PR. Tel: Preston 53068.

MOWERS - ROTARY

Victa (UK) Ltd, Rutherford, Daneshill West, Basingstoke, Hants RG 0GY. Tel: Basingstoke (0256) 50301.

MOWERS (SALES - SERVICE - SPARES)

Parker & Ballinger Ltd, 71 Hill Village Road, Four Oaks, Sutton Coldfield, West Midlands B75 5BH. Tel: 021-308 6888.

ORGANIC & COMPOUND FERTILIZERS

"Maskells" (Bark, Peats & Fertilizers) Ltd, Maskell Estate, Stephenson Street, London E16. Tel: 01-476 6321, Telex: GEEBEESEA 896823.

Contact: *Golf Course Section (Parks and Sports Grounds)*.

PEAT

Bord na Mona - Irish Peat Development Authority, 36 King Street, Bristol BS1 4DP. *Sphagnum Moss - All Grades*. Contact: *Douglas Bourne*.

Fison Limited, Horticulture Division, Paper Mill Lane, Bramford, Ipswich, Suffolk IP8 4BZ. Tel: Ipswich (0473) 830492. Contact: *Recreational and Industrial Department*.

PEAT - BULK

Banks Horticultural Products Ltd, 36 High Street, Market Harborough, Leics LE16 7NL. Tel: Market Harborough 64346.

SAND

Maxwell M. Hart (London) Ltd, Winnersh, Wokingham RG11 5HF. Tel: Wokingham (0734) 785655.

Martin Bros. Ltd, 1A Clifton Street, Alderley Edge, Cheshire SK9 7NN. Tel: Alderley Edge 584571/2. Contact: *Nick Gray, Sales Director*. *Bunker, White Silica and Horticultural Sands*.

SEMI-MATURE TREES

Eastcote Nurseries (Solihull) Ltd, Wood Lane, off Barston Lane, Barston, Solihull, Warwickshire B92 0JL. Tel: Hampton-in-Arden 2033/2034.

SEMI-MATURE TREE PLANTING

Eastcote Nurseries (Solihull) Ltd, Wood Lane, off Barston Lane, Barston, Solihull, Warwickshire B92 0JL. Tel: Hampton-in-Arden 2033/2034.

SEMI-MATURE TREE PLANTING EQUIPMENT FOR HIRE

Eastcote Nurseries (Solihull) Ltd, Wood Lane, off Barston Lane, Barston, Solihull, Warwickshire B92 0JL. Tel: Hampton-in-Arden 2033/2034.

SOIL CONDITIONERS

Alginate Products Ltd, Leyswood House, Groombridge, Tunbridge Wells, Kent. Tel: Groombridge (089276) 581 or 722. Contact: *Bill Visser*.

SOIL SIFTERS

W. Mountain & Son Ltd, Bank Avenue, Morley, Nr Leeds. Tel: (0532) 531201-6. Telex: 557067. Contact: *A. C. Mountain*.

SOIL STERILIZERS AND SOIL SHREDDERS

W. Mountain & Son Ltd, Bank Avenue, Morley, Nr Leeds. Tel: (0532) 531201-6. Telex: 557067. Contact: *A. C. Mountain*.

Terra Force, Replant Works, Pratling Street, Aylesford, Kent ME20 7DS. Tel: (0622) 78642. Telex: 965222. Contact: *John Brough*.

SPRAYING EQUIPMENT

Evers & Wall Ltd, Lambourn Woodlands, Newbury, Berkshire RG16 7RX. Tel: Lambourn 71444. Telex: 848658G.

Pressure Jet Markers Ltd, 152 The Arches, Stamford Brook, London W6. Tel: 01-748 9255.

TOP DRESSINGS - BULK

Banks Horticultural Products Ltd, 36 High Street, Market Harborough, Leics LE16 7NL. Tel: Market Harborough 64346.

TOP SOIL

Haverling Landscape Supply Co. Ltd, Haverling House, Thornwood, Epping, Essex. Tel: Epping (0378) 76171. Contact: *Philip Furner*.

TRAILERS

Buckingham Bawden Trailers, Courtburn Ltd, Windsor Road, Bedford MK42 9SU. Tel: Bedford 42566. Telex: 825280. All Types of Trailers for Golf Courses.

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TREES & SHRUBS

T. Hilling & Co. Limited, Chobham, Woking, Surrey. Tel: (099 05) 7101. Contact: *Robin Daborn, Tree Sales Manager*.

Notcutts Nurseries Ltd, Woodbridge, Suffolk IP12 4AF. Contact: *John Dyter, NDH (Tel: 03943-3344)*.

TREE TIES AND TREE GUARDS

J. Toms Ltd, 2/4 High Street, Chatham, Kent ME4 4ER. Tel: Medway 49450.

TRENCHING MACHINES

A. F. Trenchers Ltd, Gosbecks Road, Colchester, Essex CO2 9JS. Tel: Colchester 44411 (STD 0206). Self-Drive Hire Available.

TURF

Monmersteeg-Bravura Turf, Station Road, Finedon, Wellingborough, Northants NN9 5NT. Tel: Wellingborough (0933) 680674. Telex: 311234.

Rolawn (Turf Growers) Ltd, Elvington, York YO4 5AA. Tel: (0904) 85406. Ready grown sports and amenity turf.

TURF DRAINAGE/SAND INJECTION

Chipman Ltd, Horsham 60341, Mr J. L. Collins. Derby 354271, Mr B. Roden. Harrogate 68658, Mr S. E. O'Donnell.

TURF DRESSINGS & FERTILIZERS

"Maskells" (Bark, Peats & Fertilizers) Ltd, Maskell Estate, Stephenson Street, London E16. Tel: 01-476 6321, Telex: GEEBEESEA 896823. Contact: *Golf Course Section (Parks and Sports Grounds)*.

Suttons Seeds Ltd, Hele Road, Torquay. Tel: Torquay 62011. Contact: *R. W. Palin*.

TURF MANAGEMENT EQUIPMENT

Sisis Equipment (Macclesfield) Ltd, Shoresclough Works, Hulley Road, Macclesfield, Cheshire SK10 2LZ. Tel: Macclesfield 26363. Contact: *Mr G. R. Lackford*. Sisis Centre in Scotland: 52/58 Causewayside, Edinburgh EH9 1PY. Tel: 031-667 0689.

WEEDKILLERS

Joseph Bentley Ltd, Barrow-on-Humber, South Humberston. Tel: Barrow-on-Humber (0469) 30501.

Chipman Ltd, Horsham 60341, Mr J. L. Collins. Derby 364271, Mr B. Roden. Harrogate 68658, Mr S. E. O'Donnell.

Fisons Limited, Horticulture Division, Paper Mill Lane, Bramford, Ipswich, Suffolk IP8 4BZ. Tel: Ipswich (0473) 830492. Contact: *Recreational and Industrial Department*.

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