



products Hot

which offers great benefits when cutting around bunkers, as well as obstacles such as trees or under overhanging branches.

"By increasing the length of overhang, operators can keep the wheels further away from the bunker to prevent edges collapsing," said Toro Commercial Product Worldwide Marketing Manager Barry Beckett.

The new mower features Toro's patented three-wheel-drive system and, coupled with the machine's low centre of gravity, this gives it a remarkable hill-climbing capability. A 24hp diesel engine provides ample power to tackle the most testing terrain.

The new Greensmaster 3050 is Toro's lightest ride-on greensmower, to further ease greenkeepers' concerns about greens compaction and related problems. Weighing 165 pounds less than its predecessor, the Greensmaster 3000, and 80 pounds less than the 3100, the new mower also has an economy model price which makes it a more affordable option for budget-conscious golf courses.

The Greensmaster 3050 adopts many of the same, proven features of the Greensmaster 3100, the most successful ride on greensmower sold by Toro, such as the identical hydraulic system and 16hp Vanguard petrol engine.

Ransomes' new AR 250 articulating rotary mower boasts five fully-floating cutter decks, all of which glide smoothly over uneven surfaces, providing a cut of unruffled consistency and with precious little missed, whatever the terrain.

Though designed specifically for high output mowing of rough and semi rough grass on golf courses, along with sports grounds and general amenity turf areas, the AR 250 is certainly no cumbersome heavyweight. It zips along in transport mode at up to 23km/hr (14mph), is shod with wide, turf friendly tyres and is powered by an economical but powerful 28.3kW (38hp) water-cooled diesel engine. Each deck features Ransomes' twin blade 'Envirodeck' cutting technology, which mulches the grass it cuts before blasting it downward into the sward.

As part of Ransomes' continuous development programme, a new and comprehensive selection of cabs for its range of tractors is receiving final finishing touches before being shown for the first time at BTME.

Covering Ransomes' entire tractor range—from the 16hp garden tractor through to the all-conquering CT445—the cabs will offer convenience and comfort of an



exceptionally high standard.

Cabs for the CT325 to the CT445 incorporate roof-mounted heating and ventilation systems; complete with filtered air and comprehensive sound insulation. Laminated safety glass provides clear, uncluttered vision and, of course, the cabs are all ROPS certified.

Ransomes Cushman utility range boasts a complete stable of thoroughbreds, each vehicle performing and delivering exactly what is expected of it. The new, improved Cushman Hawk is an ideal choice for transporting people and loads.

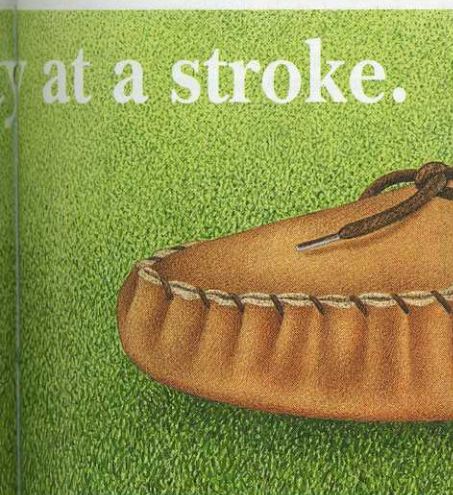
Tonick Watering has increased the warranty on all its Decoders to 5 years; this includes damage by lightning. The range includes guaranteed compatible replacements for Watermatation, Toro, CIC, Wraithrain, Primetime, Robydom and ISS Aquaflo.

New for 1998 is a versatile controller family.

First in the range is the unique, Tonick Translator enabling existing controllers to switch most types of decoder (for example, a Watermatation TW2 controller can switch Toro decoders).

Sovereign Turf can provide turf in 'Jumbo' rolls, 2' 6" wide by up to 90' in length (20m²). With a good root structure to provide speedy establishment, Jumbo Rolls are often preferred, as turf can be laid quickly and economically with fewer joins and gaps to fill.

For tees, tee extensions, around bunkers, reconstruction or pay and play courses, larger rolls can considerably reducing laying time. In addition whether a minimum order (850m²) is placed or a larger quantity of turf is required, Sovereign offers the benefit of a free Jumbo laying trolley.



at a stroke.

These three mixtures have been specifically designed for the golf course – from tee, to fairway to green.

MM10 is a mix of fescues and bents, with the slender creeping red fescue 'Mocassin', giving a dense, close knit, resilient turf for close mowing on greens and tees.

MM12's adaptable blend of species - also including 'Mocassin' - gives good colour and texture on tees and fairways, withstanding wear and giving excellent divot recovery.

And MM11, a traditional 80-20 greens mixture, fine in appearance and playing quality, offers a very stable sward with all-year-round performance.

For free technical advice on how you can take the lead with MM mixtures, or for your nearest distributor, call the Mommersteeg Main Line on 01480 459500.

Mommersteeg  **Number one seed.**

MOMMERSTEEG INTERNATIONAL, THE ANDERSON CENTRE, SPITFIRE CLOSE, ERMINE BUSINESS PARK, HUNTINGDON, CAMBS PE18 6XY.

John Hughes looks at the business of overseeding and passes on some useful and practical advice...

Sowing the seeds

Greenkeepers often receive unwarranted criticism, particularly over the conditions of greens, yet the public's insatiable demand for regular golfing has led to heavy usage for courses – often in conditions where grass has little or no chance of recovery.

Older courses still have a proportion of greens designed primarily for summer play only, with their construction allowing for the retention of moisture for periods of dry weather usage rather than in wetter winter conditions. Those courses constructed over recent years tend to have very high proportions of sand within the rootzone. Some greens are even constructed of pure sand, while others are simply poorly constructed. Greens therefore suffer from a host of problems from their original construction – let alone from heavy wear. These range from waterlogging and black layer, to rapid pH changes, nutrient imbalance and dry patch.

All this can be compounded by lack of irrigation, irrigation failure, lack of equipment and an inadequate provision for annual maintenance. Climatic variations in recent years have placed further strains on greens maintenance. Low rain levels and mild winters have led to drought damage and stress often followed by disease problems.

With playing surfaces suffering because of conditions often beyond the green staff's control, it is hardly surprising that greenkeepers must wage a constant battle against heavy odds.

Golfers frequently comment on how wonderful championship courses look on television. One sus-

pects that they would not be quite so keen on paying the fees required to maintain the quality of playing surface at such top line courses, or that they would give up their weekend round of golf because of tougher restrictions on playing in poor weather or more frequent course closure for maintenance, experienced at prestige venues. Quality greens come at a price – more money and more time invested in maintenance.

While some greens personnel may feel pressured into radical measures, even digging up the green to resolve problems with playing surfaces, there are various means by which golf course staff, even on less favoured locations, can gain the best from their greens. Chief among them is the underrated, yet highly practical option of reviewing the management of the greens and adopting autumn overseeding.

Evaluation

Due to the enormous variation in greens, their location, construction and usage, it is vital to carefully evaluate the prerequisites for, and the intended results of overseeding.

While the structure of the green, its populations of grass species and the conditions and proportions of these species are of prime importance, factors such as rootzone structure, drainage irrigation, staffing levels and budget requirements are also relevant.

Comparatively simple – if time-consuming – measures such as reviewing mowing techniques, or regular soil testing could reveal problems at an early stage. They allow remedial measures to be

taken ahead and even avoid the need for overseeding.

The final choice naturally rests with the greenkeeper, with his/her intimate knowledge of the course being invaluable, but it is always useful to discuss all the options and keep abreast of the latest developments from outside sources.

An agronomist or seed specialist can discuss the current management techniques and future strategies with the greenkeeper who can then communicate these to the club management and the wider membership. This can make members aware of the immediate benefits possible from improved management. Moreover, club committees appreciate the considerable savings which preventative measures over a period of years can make compared with costly remedial and structural work on affected areas.

Different greens - different problems

The overseeding of greens, particularly in early autumn is now an accepted annual operation. Various methods over the years have been employed to try to restrict the ingress of *Poa annua* and the logical follow-on is to re-introduce the most desirable grass species for the location and soil type.

Many greens, particularly on inland courses, are predominantly *Poa annua*. These are managed skilfully and effectively by greenkeepers to the extent that greens with smaller areas or discrete areas of *Poa* often present a less uniform surface, despite having a good proportion of desirable grasses. The



risk is that when weather conditions favour disease or drought conditions prevail, *Poa annua* suffers badly and the main part of the surface is rendered unplayable.

Greens constructed with high proportions of sand within the rootzone or free draining greens have their own problems. Dry patch, high water requirements and rapid loss of nutrient are common. Highly specialised greens of purely creeping bent surfaces require a different management to 'traditional' greens.

Creeping bent requires small, regular doses of nitrate-based fertiliser during growth. Overall fertiliser inputs are higher, as is the general moisture requirement. As a result, such greens require efficient irrigation systems to ensure correct infusion of fertiliser while coping with a freely draining rootzone. In contrast, links courses have generally higher populations of fescues, where their natural tolerance to drought and higher pH has favoured their establishment long term.

Management of creeping bent surfaces is also specialised. As a relatively aggressive species, it requires regular, close mowing during its growth phase to deliver a tight, dense sward. Grooming and verticutting is required to prevent thatch build-up.

Correct autumn maintenance is vital: if the sward is overfed, it will be highly susceptible to fungi, which can spread rapidly with a monoculture. The balance between stressing a relatively 'hungry' grass



The dense swards of *Agrostis canina* make it ideal for older, soil-based greens



Fine-leaved, dense-growing bents such as *Agrostis stolonifera* can be used for overseeding sand-based greens

and overfeeding can be quite fine.

Generally, where courses have creeping bent greens, the maintenance budgets tend to be higher than for 'traditionally sown' courses. Moreover, play levels are controlled at such sites – a situation which would benefit many other course types.

Even within courses, greens and their requirements may vary. Where greens are built on reclaimed or infill areas, or where different soil types are encountered, the populations of grass species can vary from one green to another within a single course. Heavy shade or lack of air movement can also hamper healthy growth on a playing surface.

Overseeding - the choices

As mentioned, full evaluation of the sward's components and its location is vital before a decision is taken. The actual objective, timing, grass species and method involved in an overseeding programme must all be considered.

Objective

In some cases, overseeding in isolation will not bring much benefit. Many greens suffer from structural problems, drainage failures, anaerobic or toxic conditions already described. Such problems must be resolved through consultation with agronomists and seed specialists, and revised management techniques tested before overseeding is attempted.

Timing

Many courses are involved in competitions and in heavy use well into autumn months. This often means overseeding is attempted too late and little success is experi-

enced and the staff pushed toward more drastic measures such as reconstructing the green. Greenkeeping staff and club officials must establish a space in the playing schedule for overseeding – and preparatory work – to go ahead. Again, the practical possibilities should be discussed with the relevant advisor.

The choice of grasses

If overseeding can be carried out at the optimum time, which grasses are going to be of long term benefit? The majority of greens, especially on inland courses, will certainly improve with the reintroduction of bentgrass. Greenkeepers are increasingly overseeding with pure bent or using higher proportions of bentgrass with fescue.

While golf course managers feel that bentgrass is costly, this species compares well, however, with a 'traditional' fescue/bent mixture, because bent is applied at such low sowing rates, a significant increase in the proportion of bent will create a massive increase in bent seed numbers. In any case, the more competitive bent will in time dominate the sward.

Fescues, both chewings and slender, provide a more rapid initial establishment than bent and are essential for the repair of 'take all' damage. In many greens however, fescues are of little long term benefit and in an overseeding operation can be a very costly 'carrier'.

As many greens are predominantly *Poa annua* and bent, it is logical to use bentgrass in the overseeding operation. There are several species of bent available:

Agrostis castellana, *Agrostis tenuis*, *Agrostis stolonifera* (var *palustris*) and *Agrostis canina*.

In general, *Agrostis castellana* is losing favour for greens because it is not as fine leaved, wear tolerant or disease resistant as the other bents.

Agrostis tenuis is used increasingly for the overseeding applications. *Agrostis stolonifera* is used to overseed greens where the species was used originally. *Agrostis stolonifera* has also been used in some older greens due to its quicker establishment and competitive growth characteristics. While thatch was an issue with early varieties, modern *Agrostis stolonifera* produces less thatch and is finer leaved than the older varieties.

Agrostis canina is used as a direct alternative to *Agrostis tenuis*. It has a much finer leaf and tremendous shoot density, providing exceptional wear tolerance.

Particular advantages of *Agrostis canina* are the dense swards produced despite low nitrate inputs and low moisture levels. These benefits make it an ideal choice for overseeding older, soil-based greens.

Overseeding techniques

As previously mentioned, an evaluation of the existing components of a sward should be carried out prior to overseeding to allow the most suitable technique to be adopted.

Surface scarification, seeding and top dressing can be effective, but tend to leave seedlings vulnerable to foot traffic, mowers and drying out. An alternative is overseeding using direct drilling, the seed delivered into narrow slits into the soil surface, with the slits then closed-in over the sown seed. This creates minimum surface disruption and has been used to great effect in many courses, particularly with

creeping bent. The effectiveness of overseeding is strongly enhanced with hollow coring. This method has the advantage of providing an ideal rooting medium for the seed and allowing a reasonable degree of growth from just below the green's surface.

In all these operations, key conditions must be in place to promote establishment.

The rootzone must be at a suitable temperature and moisture available. Mowing heights must be raised to allow development. If there are serious problems (eg. black layer) within a green, overseeding cannot be implemented until those problems are rectified. In most cases, it is preferable to close the green completely before overseeding.

Whatever the course type or location, don't be afraid to take independent advice on managing greens. While the majority of overseedings will involve fescue/bent combinations, most greens will benefit from the use of competitive bents over the longer term. *Agrostis tenuis* gives sound results, but *Agrostis canina* with its density and hard-wearing qualities in dryer conditions, can improve the playing surface, particular on older courses.

For sand-based greens, where overseeding with fescue/bent overseeding has not prospered, fine-leaved, dense-growing bents such as *Agrostis stolonifera* could provide the answer. Whatever route is taken, we must remember that the best grass in the world will not perform unless the green is managed to suit its own characteristics and the local ground conditions.

John Hughes is Senior Technical Advisor for British Seed Houses.

Wet, wet wet

In the past drainage on the golf course tended to rely heavily on agricultural practice, but the drainage needs of agricultural land is different from that required for a golf course and this is now recognised. Basically the golf course needs much faster response with rain required to be removed from the playing surface almost as fast as it falls, leaving minimal surface water, even after (or during) heavy rainfall – and this is particularly true for greens.

As any greenkeeper knows the demand is now for courses that are playable virtually all year round – and waterlogging is not acceptable. However, for the greenkeeper perhaps it is more important to know, and act on, the fact that waterlogged soil is detrimental to grass growth – and although most grasses are remarkably tolerant, you can be sure that waterlogging will discourage preferred species to the benefit of weeds and weed species.

While new courses are mostly designed with comprehensive built-in drainage there are many older courses and some 'farmer built' courses which have inadequate drainage, furthermore there are some new courses where drainage has been inadequate or has failed, often because of settling of landscaped features. In the view of Nigel Wyatt, of M J Abbott, one of the leaders in sports turf drainage, it is vital that the main skeletal drainage system should be in place early on in construction or upgrading. In other words that main streams, culverts and drains be put in before features, greens, bunkers and other details are installed. This can allow for a secondary phase of drainage once greens and features have settled and there has been a chance to see how the water runs. Putting in a skeletal system ensures that later work is undertaken to fixed reference points.

Retrospective installation and remedial work tends to be both disruptive to golf and considerably more expensive, however, Nigel

maintains that with proper planning and the right machinery disruption can be minimised, and justified by subsequent benefits.

Many modern courses have USGA specification greens with intensive underground pipe drains under geo-textile, a stone carpet and a sand base ensuring that water drains through very quickly. Fairways may be less intensively drained or even not drained at all but landscaped to give natural runoff while bunkers are likely to get individual treatment with specific drainage under the sand to a convenient ditch or main drain. Nigel commented that care is necessary to ensure that the bottoms of bunkers are higher than the point to which they must drain. Typically, main drains are put in at 900mm plus deep while the laterals which feed into them are likely to be from 600 mm deep with stone back-fill above them to within perhaps 150mm of ground level. At this depth the drain itself is unlikely to be damaged by mechanical aeration however such aeration is expected to encroach and cross the gravel layer to provide water channels to the drain from the surrounding area. Good aeration should fracture the soil so that water can drain laterally.

Only so much water can be removed from any area unless there is an effective system for getting it to a stream or storage and perhaps this is where the expertise of the specialist is most important.

The least expensive means of moving water may be via an open ditch or stream, however, these do need subsequent maintenance, furthermore there are limitations to their routing – water won't run up hill! So in some cases deep pipes may have to be laid. An alternative is to flow into a series of lakes, nevertheless spillway provisions will be necessary to take any surplus water away.

Following several dry summers there is growing demand for irrigation and the trend, with pressure

from the environmental agency (and others), is for golf clubs to store surplus rainfall for summer use. Such lakes are likely to make ideal course features nor are streams unacceptable to players, but considerable fore thought may be needed over siting. Empty lakes – after the water has been irrigated – cause comment and are not attractive, so it may be better to site the reservoir – of surplus water – safely off course, and securely fenced. If you drain into an existing water course this will not give you a right to extract from it later, although it may be possible to get permission to build a dam. Again the specialists know the answers. Tax implications can be extremely complex and inevitably require involvement of the club's own tax adviser. Certainly drainage, irrigation and water storage are major capital expenses which need prior consideration for their tax – and VAT implications. Getting advice to write in this feature quickly led to the conclusion that it needed thousands more words and still would not be comprehensive for all the tax positions of all clubs. In any case few greenkeepers wish to understand the complexities of tax – that can be left to secretaries.

Some areas of the country are (perhaps) blessed by having naturally draining soil and subsoil – and a sufficiently low water table to take the water away, however, there are many areas, such as London, Oxford and other clays which drain reluctantly, for these more active measures are needed. There are also areas where the underlying rock prevents water percolating away and others where the soil is easily panned so that it becomes impervious – and even those with a chalk or limestone base can find themselves in this position.

Although some clubs do undertake some drainage work themselves, more particularly cleaning out streams and water channels, the majority depend on specialist



contractors of whom there are several who specialise in sports ground and golf course work. The two most notable names have many years of experience having graduated from agricultural to turf drainage and developed specialist divisions.

There is a belief held by many that drainage once installed can be forgotten – this is a myth, drains do have a finite life. This life may be extended by regular maintenance, so it makes sense to inspect and review the workings of the whole system on a regular basis and to undertake remedial work at the first sign of deterioration.

Modern under drainage utilises mostly corrugated plastic pipe with slots through which the water percolates, the diameter of these pipes depending upon the water flow anticipated. Obviously it is vital to ensure that water can get easily and quickly to these pipes, which is why they are usually laid under a stone bed and sand, or if trenched into tees or fairways with the trench back filled with stone or gravel and sand. Nor should the use of geotextile be forgotten in the design as this is another way in which the drainage pipe can be protected against blocking or silting – silting is caused by finer sediment settling and building up where there is insufficient flow to discharge them downstream.

Other techniques which can be



used mainly to augment piped drainage are 'slitting' and 'sand banding'. Such methods are ideal to remove water from specific spots, furthermore they can be used to intercept water, such as from a spring, and channel it to a drain.

While slitting and sand banding are within the capability of greenkeeper most still prefer to employ a contractor. This saves capital expenditure and should take away any measure of uncertainty from the task. In simple terms it is just a matter of cutting a slot or trench and filling it with stone and/or sand. Unless there are significant variations in level the grade or fall for this is seldom vital - and the operation can be carried out by eye, in any case runs are usually short.

Under drains are generally closer spaced on a golf course in comparison to agriculture and often augmented by sand banding or slit trenches running across and over the drainage pipes.

Of course, aeration carried out regularly on a golf course contributes to drainage and soil water mobility, but to be effective for drainage, aeration needs to be carried out while the soil is relatively dry. Nevertheless aeration holes can be used in some cases to remove water from the surface - and particularly to get it through a compacted layer.

Another option to gravel bands or sand slits is to use an artificial medium such as the Hydray fin drain which comprises of a plastic core covered by geo-textile. This more expensive option may have better water conductivity, however, it is prone to mechanical damage so care is essential when aerating.

With agricultural under drainage mole ploughing is a vital and intrinsic part of most schemes and needs to be carried out regularly. With a golf course this is seldom acceptable and so mole drainage is not often used. Nevertheless it can be effective but it only works in clay soil - where the soil will hold a channel open. It may be ideal for specific quick drainage of a wet patch. It also requires that the mole is drawn when the soil is in a suitable 'plastic' state - in contrast to aeration where the soil needs to be more friable.

In the view of Nigel, drainage is largely common sense, with most drainage runs being reasonably obvious without the need for sophisticated level sighting equipment or technical knowledge, however there are traps into which the inexperienced can fall.

Experience will also provide a quick guide to what will work, and what are the options available for the prevailing circumstances.

#1 OCM S

British Turf & Landscape
Irrigation Association
Award of Excellence
Winner 1998

Rainbird International
Contractor of the Year
1998

Irrigation Excellence

Head Office	01460 241939
Midlands	01789 414604
Northern	01924 453102
Scotland	0131 220 2102

Ransomes deal goes through

Textron's proposed purchase of Ransomes plc, which was reported in December's magazine, was finally concluded on Monday, January 26.

In the lead up to the deadline day there was growing speculation that the required percentage of Ransomes' preferential share holders in favour of the deal would not be reached and that the deal would flounder but in the end sufficient numbers gave the thumbs up and the £137.1 million purchase was secured.

Textron currently owns Jacobsen and E-Z-GO as well as Cessna aircraft and Bell Helicopters.

The Scott's company purchases Levingtons

The Scotts Company has acquired Levington Horticulture and will integrate the company with its existing UK operations of Miracle Garden Care Ltd, which it purchased in '96, and Scotts Professional UK.

The new business will be part of Scotts International, headed by Robert Stohler, which operates in Europe, Asia, Australia and Latin America.

Levington Horticulture's Professional operations will be com-

bined with Scotts UK Horticulture and Scotts UK Turf/Amenity to form a new Professional Group and the existing sales and marketing agreement between Levington and Shamrock will be maintained.

"The Scotts Company is enthusiastic about the strategic opportunities presented by combining Levington with Scotts Europe Professional and Miracle Professional Care," said Robert Stohler.

"Levington's strength in peat-based growing media for the professional grower markets and its well known Greenmaster turf brand complement Miracle's product range in controlled release fertilisers and chemicals."

As Scotts Professional UK and Levington Horticulture are part way through a trading season they will continue to trade under existing company names and trading conditions.

THE RiteFeed CLASSIC

If every golfer in the country were to sit down and draw up a short list of potential venues for the final of a national golf event it is a sure bet that the venue eventually chosen to host the first National Final of the Ritefeed Classic would have figured high on most people's top fives.

The Gleneagles Hotel has a reputation for excellence both on and off the golf course and it is through being a slave to perfection which has seen it become regarded as one of the top resorts of its type - not just in Great Britain and Europe, but worldwide.

It is for a chance to represent your Region at this golfing Mecca that you will no doubt soon be playing in Section Qualifiers and further incentive to put in a bit of serious practice shouldn't be needed.

As was the case with the previous Hayter Challenges three qualifiers from each of the three handicap sections 0-9, 10-18 and 19-28 will win a place in the Regional Finals which are also being played at superb venues with the same three groups of three making up the team for the final.

June 11
Scottish Region - Royal Dornoch GC

June 29
Northern Region - Mere Golf & CC

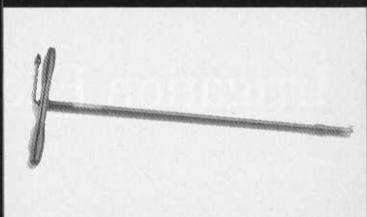
June 24
Midland Region - Stoke Poges GC

June 29
South East Region - Wildernesse GC

June 4
South West and South Wales Region - St Mellion Golf and Country Club

Oct 7
Ritefeed Classic National Final - The Gleneagles Hotel

IT'S HERE..... JAN - MARCH PROMOTIONS



Buy a Patisson Premier Hole Cutter with Reinforced Blades and receive a FREE Holecup Extractor and Rammer

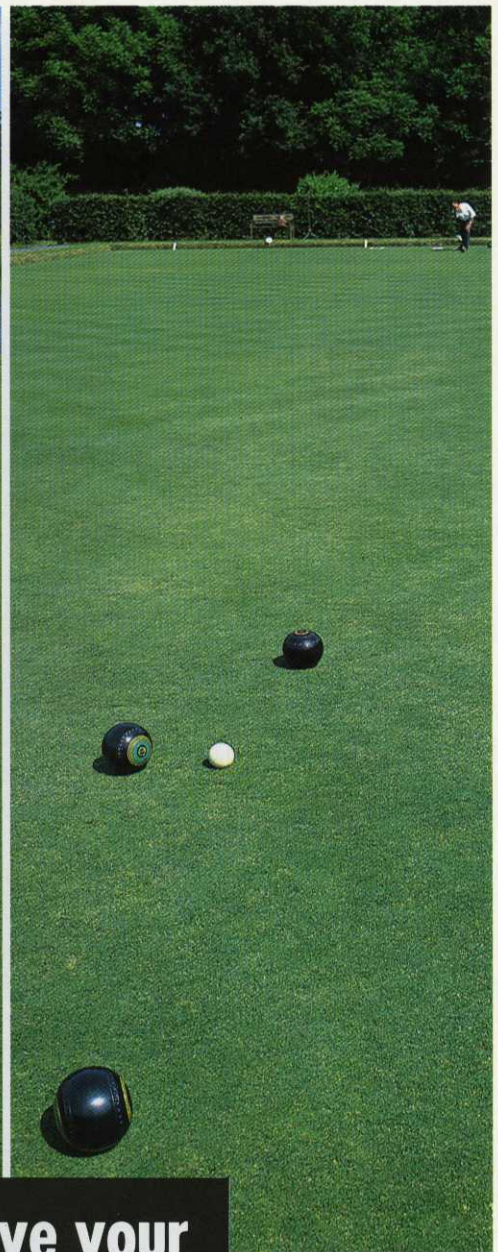
UK SALES DESK
TEL: 01494 79 46 46
FAX: 01494 79 47 47

IT'S HERE..... JAN - MARCH PROMOTIONS



UK SALES DESK
TEL: 01494 79 46 46
FAX: 01494 79 47 47

Buy a Set of Flag Pins & Flags & receive a set of Patisson's New Bogey Holecup FREE!



If 'Enforcer' can't help solve your moss problem, then nothing can

'Enforcer' liquid moss killer is a special chelated formulation of dichlorophen to enhance its performance. This enables the product to stay in solution, particularly in hard water areas, so ensuring a high level of efficacy.

'Enforcer' controls moss on golf greens, bowling greens and other amenity turf areas without blackening the turf.



It can be used at any time of the year, providing conditions are moist, and will kill moss and fungi on hard areas like pavements and car parks without damaging the surface.

And remember, empty 'Enforcer' containers can be collected and disposed of free of charge on the UK mainland using the Miracle Professional Collection Scheme on 0345 125398.

ENFORCER

FOR AMENITY TURF AND HARD SURFACES

Miracle Professional

Salisbury House, Weyside Park,
Catteshall Lane, Godalming,
Surrey GU7 1XE. Tel: (01483) 410210
Part of Miracle Garden Care Ltd.

The hard work's worth it



The work that Ian McMillan and Hankley Common undertook in support of their entry in the Toro Excellence in Greenkeeping Award became all the more worthwhile the moment Ian sat astride part of the prize, a Toro Reelmaster 2300-D, at a presentation just before BTME.

Winning the Toro Excellence Award completed a marvellous double for Ian and Hankley Common, one which will be extremely difficult for any club to repeat, as a week before winning the Toro the club also won the BIGGA Golf Environment Competition in association with Amazone and Rhone Poulenc.

As you read this Ian will be enjoying the other element of the Toro prize – a trip to the GCSAA Conference and Show in Anaheim, USA.



Picture shows J. K. A. O'Brien, Hankley Common Secretary; Michael Hunter, Club Centenary Captain; Ian McMillan and Peter Mansfield, of Toro Distributor, Lely UK.

SYMBIO

Faster Greens - Better Drainage - Less Disease - Fixed Budget

SYMBIO

Thatch Reduction Guaranteed!

Use Symbio Thatch Eater as part of your thatch reduction and cultural programme. If you do not see a reduction in thatch we will supply SYMBIO's biotech solutions free of charge for up to a year, until the thatch layer starts to disappear.

**TO FIND OUT HOW BIOTECHNOLOGY CAN WORK FOR YOU
call 01372 456 101**

SYMBIO

38 Bookham Industrial Park, Bookham, Surrey. KT23 3EU.

Fax: 01372 456 099 Email: Fineturf.Symbio@btinternet.com

SYMBIO

Hardi makes every drop count

Selecting the best spray chemicals for your turf is one thing, applying them with the required accuracy is another.

That's why at Hardi we don't measure the performances of our spraying equipment solely in terms of tank capacity, nozzle output and bar pressure. We measure it in your terms.

Uniform coverage, speed of application and effective results.



AM-PS Eagle
High specification sprayer. Tank sizes 300/600/800 litres. Fitting kits available for all turf utility vehicles.

For example, we know that your individual requirements, in terms of chemical choice, climate, terrain and turf condition, are unique.

AM-TR-2 600/800 Trailer Sprayer
High capacity spraying with large volume tanks and wide booms. Complete with PTO drive.



That's why Hardi offer a complete range of amenity sprayers to suit all situations with tank sizes from 100 - 1500 litres.

When it's the end result that counts you can always rely on us... no matter what the pressures.



We've got it covered

For more details or the name of your nearest Hardi distributor call

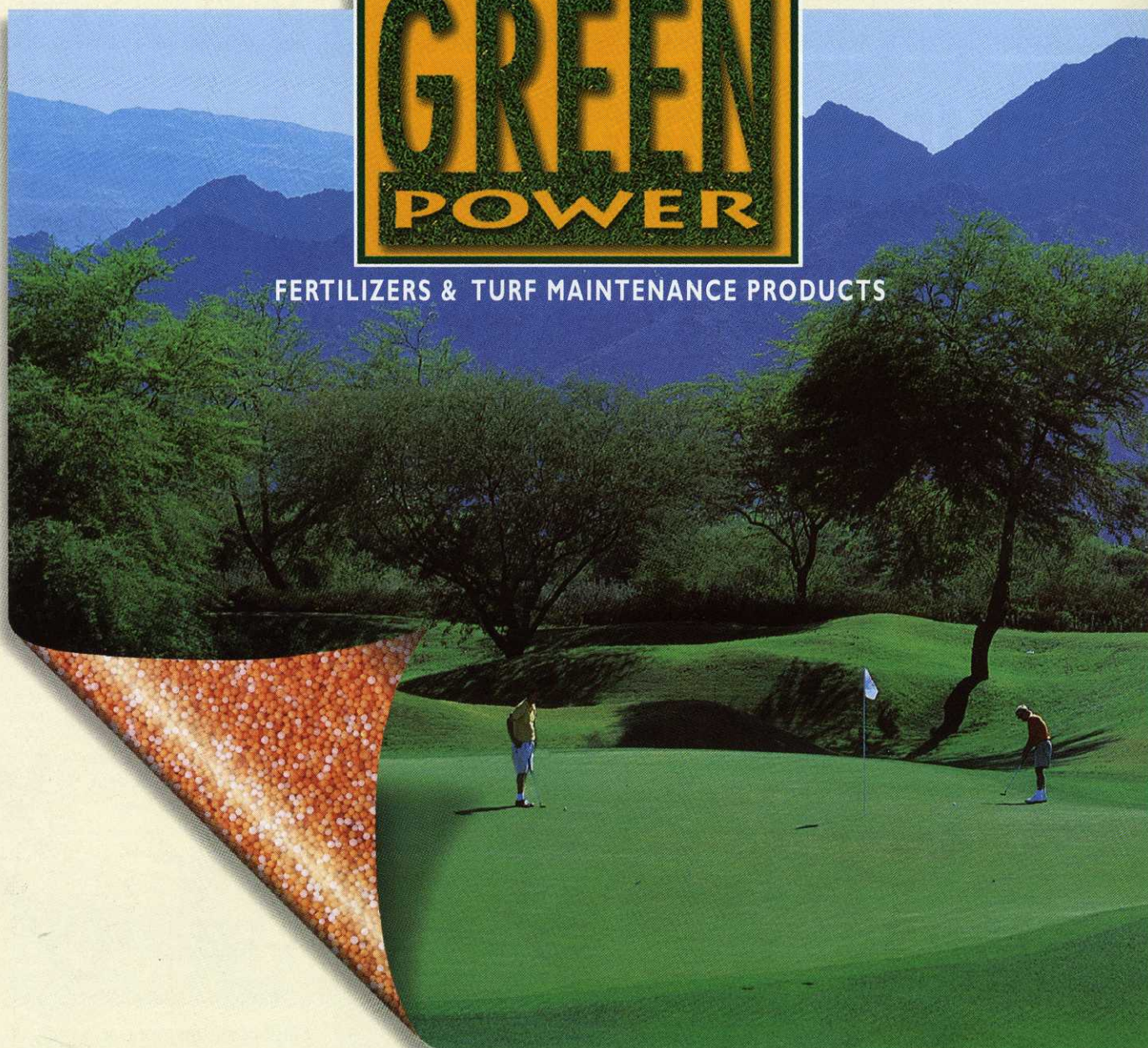
01455 233811

AD
REF
25





FERTILIZERS & TURF MAINTENANCE PRODUCTS



The Secret of Stronger Turf

Multigreen controlled release fertilizer for stronger and healthier turf.

- Continuous, balanced supply of nitrogen and potassium for up to 4 months.
- Polymer coated fertilizer (Multicote™) for steady release and reduced leaching.
- Potassium derived from potassium nitrate (Multi-K), the preferred source for fast uptake plus prevention and elimination of "black layer".

Green Power products are manufactured by Haifa Chemicals Ltd., the world's leading producer of potassium nitrate and other specialty fertilizers.

The Green Power range for professional turf management:



- quality controlled release N-P-K fertilizers.
- chlorine-free mini-primed potassium nitrate.
- water soluble N-P-K fertilizers.
- humus-based active soil conditioner.

GET THE POWER
FOR STRONGER, HEALTHIER AND FASTER TURF



Haifa Chemicals Ltd.  **Horticulture Division** P.O.B. 10809, Haifa 26120, ISRAEL, Tel: 972-4-8469632, Fax: 972-4-8469807

Hi-Chem (UK) Ltd. Tel: 0181-952-2552 Fax: 0181-952-0551 **Distributed by: Headland Agrochemicals,** Tel: 01799 530146 Fax: 01799 530229