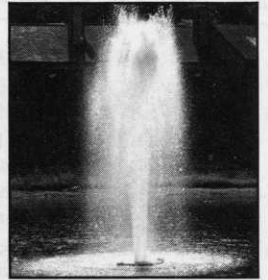
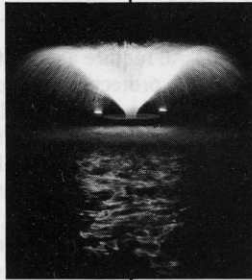


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'A natural appearance is really the main aim: a blending in with surroundings through careful construction, without civil engineering straights and angles...'



31 → as £1.50-£2 per m². All require a stone free base for laying. The edging or bank protection methods – referred to earlier as disguisers of drawdown levels – obviously serve another purpose, that of counteracting a wave action against banks, which can eat away soil at an alarming rate and undermine the structure. There are materials available which can be 'disguised' above water by grass, effectively providing a reinforced turf, whilst protecting above and below water level, eg. 'open' concrete blocks and plastic meshing. A natural appearance is really the main aim: a blending in with surroundings through careful construction, without civil engineering straights and angles, and with

plenty of opportunities for unique wet area habitat species to develop.

Indenting the shore-line and varying the depth on margins and planting will increase the rate of development and maturity of a new pond or lake. It is a good idea to deposit some of the original topsoil (or better still silt) from an old pond or marshy peat into the water feature to act as a pump-primer for this development process. Marginal plants can be planted directly into mud (marsh marigold, bur-reed, watermint), emergent plants in 150mm deep water (reed-mace, common reed, water plantain). Aquatics (floating, such as water lily, or submerged, such as water milfoil) are best planted with weighted Hessian sacking to anchor them at the right point. Temporary protection from wave action can be provided by anchored floating logs or a similar 'boom' type of arrangement aimed at breaking up waves. Insects and other wildlife appears very quickly in new ponds, thanks primarily to water pond, and with a bit of luck other more interesting fauna such as frogs and newts will appear, or in the case of a renovated pond, re-appear.

From then on it is a case of monitoring over the years and watching for tell tale signs of developing problems – dead fish, abundant algae, dominant water weeds – and taking action before the pond or lake system degenerates too far. This action includes tree pruning, dredging, controlling pollution and as a last resort, chemical control (following consultation with the NRA).

The result? A healthy stretch of water which will hopefully benefit the course in a variety of ways.

● The author, David Hemstock, is an independent consultant on golf course improvement.

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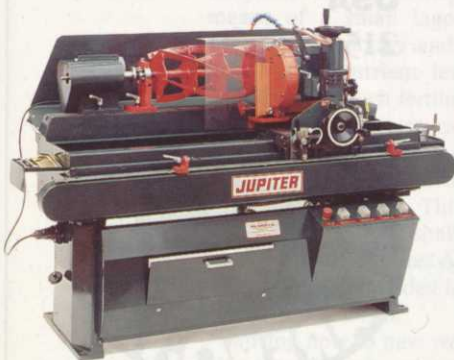
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Letters

■ Green issues contained ■ New course was 'great' ■ Saw point...

■ We write concerning a green issue which has come to our attention over the last few years, that of the use of plastic containers for the storage of organic based foliar feeds. As an eighteen hole golf course, we use 90 or more of these 25 litre drums each year, which we think could be refilled and used again by the manufacturers. It is an environmentally unsound practice to have to burn or dump the containers after use when they are perfectly capable of being used again.

We feel the sports turf industry should be setting standards for other industries to follow, for even our local council recycles plastic, glass, paper, etc. – and in this day and age every effort counts. We would welcome any comments from manufacturers, such as Farmura, or any greenkeepers that have views as strong as our own on the subject of the environment.

CONCERNED GREENKEEPERS

West Sussex GC, Pulborough

• Greenkeeper International asked Farmura for their comments, which are published below:

As a company manufacturing environmental products we share the concerns expressed by West Sussex – clearly a different attitude towards packaging has to come.

For a number of years we have from time-to-time refilled customer's drums and we would be pleased to publicise and extend this service to other Clubs. I would stress at this stage that this is a refill service and not an exchange – a trace of the wrong contaminant could do serious damage.

Apart from the 25 litre containers a cost effective option is the 210 litre drum which, apart from being refilled, can be sold as a water butt – have you seen what they cost in garden centres! These can be refilled but physical handling considerations need to be taken into account. Finally, on-site refilling of 1,000 litre mini-bulk tanks is another option we could offer.

With co-operation, a great deal can therefore be done, and with drum allowances refilling can also be cost effective as well as environmentally friendly.

We would be pleased to hear from anyone who is interested in discussing the above in more detail.

JONATHAN HARMER

Managing Director, Farmura Environmental Products, Ashford, Kent

■ Fellow greenkeepers and all who are concerned with pesticides use and application take note. I and four other BIGGA members attended the first of what I certainly hope is not the last course on pesticides. The course was presented to the highest professional standards and Mr Jon Allbutt, our lecturer, left us in no doubt as to our responsibilities toward those around us. We were groomed and manoeuvred in the direction of our certification in PA1 and PA2A with authority, care and

consideration. All five of us passed!

All this in the wonderful, relaxed atmosphere of Aldwark Manor, where food is a culinary delight... I digress.

I owe a debt of to the organisers – namely David Golding, Neil Thomas and, of course, Jon Allbutt. Thank you.

J STEWART MACINTOSH

Golf Club Beuerberg, Germany

■ I was privileged to be part of a team of five who were the guinea pigs on the first one week pesticide spraying course at Aldwark Manor. As one of those guinea pigs I would just like to say 'well done BIGGA' – you have come up with an other great course. Not only was the course excellent but the results at the end of it were equally so, for we all came away having obtained our PA1 and PA2A certificates.

I would just like to say a special thank you to Jon Allbutt, our lecturer for the week, who made it so interesting and enjoyable. I would also like to thank all the lads on the course; because the high morale and the team work certainly gave me the confidence to obtain my certificates. I would certainly advise any greenkeeper who is un-certificated (and I'll bet there's a few out there) to go on this course. What a week, well done BIGGA.

DON J WILSON

Dyrham Park GC, Barnet, Herts

■ Was I competent to use pesticides? I was not. But I found someone who was – Jon Allbutt!

In March I set off to Aldwark Manor with some trepidation to join other greenkeepers I had never met before, to take part in a course for the safe use of pesticides and to take the exams PA1 & PA2. These four men were just as dubious about the course and were to become my partners and friends in the week which followed.

Then it was our privilege to meet our tutor, the man who was going to get us through our 'exam' (a term we were to hear quite a lot during the week). Not only did Jon Allbutt get us through, but he opened up a whole new way of thinking and was a true professional.

After three days of doing everything together (well, almost everything) we walked into the exam room armed with ten times the knowledge we needed to pass the tests – and we all passed and received our certificates from Neil Thomas.

David Golding sat with us and asked us to look back over the week to see if we might change anything to improve the course. We all agreed that it had been first class, was fine as it was and was probably the best course we had attended and we had a lot of fun doing it.

My thanks to my greenkeeping partners, to David Golding for setting up the course and many, many thanks to the professional – Jon Allbutt.

PHILIP TAYLOR Alwoodley Golf Club, Leeds

■ The Royal Burgess GC took delivery of two Ransome 'GT' Classics last year and have been very pleased with their performance over ten months of cutting. We did, however, have a problem with the grooved rollers, which would collect grass from a dew soaked surface and therefore affect height of cut.

After much debate and several attempts at scrapers, the suppliers (not Ransomes) fitted scrapers that have so far proved to be the answer, keeping the grooves free from debris.

We would be interested to know if other 'GT' users have experienced the same problem, and if so, what was their remedy?

STAFF OF ROYAL BURGESS GC

Edinburgh

• Greenkeeper International asked Brian Mitchell, General Manager – Engineering, Ransomes, to comment: "Ransomes do have plans to develop a suitable scraper for grooved reels but these are not available at present. We are, however, aware of the needs for these in certain cutting conditions."

■ As we begin another season, how many greenkeepers, I wonder, have been using chainsaws throughout the winter without supervision and correct safety equipment? I am a head greenkeeper in Leicestershire and have just completed a two-day chainsaw course given by the Agricultural Training Board at Rothly Park, providing the student with valuable experience in both safety and correct usage.

It is very important to know your saw – inside and out – and our first task was to strip down the saw and get to know each part before putting it back – without any parts left over! The next session consisted of sharpening and the safety aspects of the guide bar, ie. maintenance properly carried out, which can save time and money.

Our second day consisted of on-site work, but before we could begin to saw, our safety equipment was inspected. I have to admit mine was pitiful: a pair of steel capped boots, a safety helmet and the all-important first aid kit. To continue the course I needed the correct equipment and this was hired from the examiner for a small charge.

On-site, the work consisted of felling trees some 20-25 feet high and 5-10 feet apart. This is where skill, expertise and experience comes into its own. Most important of all, however, was ensuring the safety of ourselves and others. The course was valuable experience and we all passed the examination successfully.

If and when the law changes concerning chainsaws and equipment, the careless user and his Club may face fines of up to £2,000. Can they afford this?

GAVIN ROBSON

Lingdale GC, Woodhouse Eve, Leicestershire

■ I wish to congratulate all those involved in the National Education Conference at Cirencester: not only to the speakers, but → 37

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■ Conference was a big success ■ Standard of speakers 'excellent'

35 • also to the staff at the college who looked after us so well, and to the BIGGA team who once again presented a very professional image, with the whole event running so smoothly.

The event lived up to my every expectation and how refreshing it was to hear of Bernard Findley's experiences and what he has learned from them. To me this was without doubt the most interesting forty minutes of the whole weekend. Before this we had Mr Jim Arthur preaching to us about the common sense attitude to greenkeeping, which parts of the industry would have us believe to be highly scientific. He also warned us of the realistic threat of certain elements of the game taking our jobs. If ever there was a rallying call for the profession to push ahead through education, this was certainly it.

Yes, I left Cirencester refreshed and enthused, confident in the fact that the profession is moving in the right direction and proud to be a member of the Association. Long may the Association give us the opportunity of attending such informative and value for money events.

Many thanks.

PAUL SEAGO

Head Greenkeeper, Royal West Norfolk GC

■ I must put pen to paper to write and congratulate everyone involved for a most enjoyable and successful three days at the National Education Conference at Cirencester. One can only imagine all the hard work that was put in by everyone at headquarters.

The standard of speakers was excellent – both from home and abroad – with three people who I feel must be mentioned by name and beginning with Bernard Finlay for his excellent paper on his experiences at Portstewart GC – it was good to see one of our own up there – well done Bernard! Secondly, Mr Patrick O'Brien, Director, SE Region, Green Section USGA, – what can I say? Only that I will remember (and giggle over) his presentation for many years to come. Finally, Mr Jim Arthur, who I do not agree with on many things but at least one knows which direction Jim is coming: head-on with both guns blazing (and usually in my direction!).

ROBERT GILBERT

Head Greenkeeper, The Wisley GC, Surrey

■ An article in the April issue of Greenkeeper International by Hugh Tilley, entitled 'Fertilisers', appeared with the following statement: 'Manganese, zinc, copper and iodine are all important at trace levels, and these and many

other compounds, vitamins and amino acids are found in seaweed. Thus the inclusion of seaweed meal or extraction in fertilisers and foliar feeds is a useful addition.'

This statement is incorrect. Iodine is not an essential trace element for plants, nor are vitamins used by plants in any shape or form.

I would also like to state that the STRI does not recommend the addition of calcium and boron in fertilisers for turfgrasses, as there is no scientific evidence for the addition of these elements creating any benefit to turfgrass generally.

DR PETER HAYES Director, Sports Turf Research Institute, Bingley

• *Greenkeeper International invited journalist Hugh Tilley to comment. This is his reply:*

My information was obtained from several major manufacturers, backed by my own years as a professional grower of (agricultural) grasses. Theirs is the statement that iodine and vitamins (et alia) are essential for healthy plant growth.

The feature did not suggest that the STRI recommended calcium or boron, simply that there was an 'indication' (from a member of their own staff) that there could be a benefit, even a need, for these on sand based constructions and on areas of acidic sand.

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Slow down

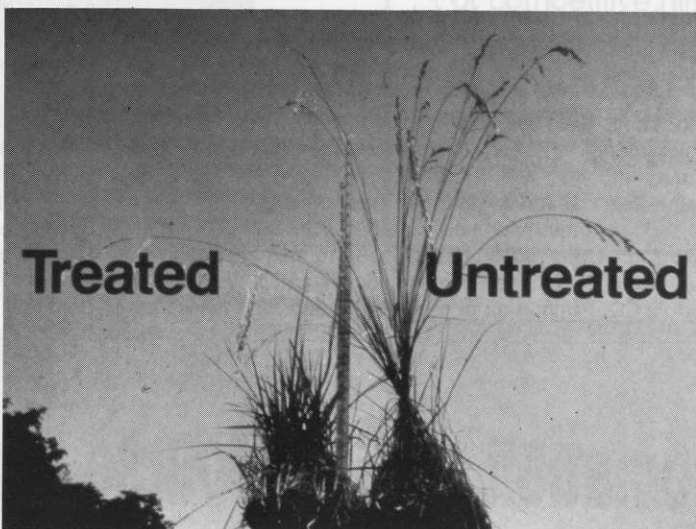
In the turfgrass context, a growth retardant is a chemical which in some way reduces or slows down normal grass growth, thus reducing the need for mowing to maintain a neat and tidy turfgrass area which is visually acceptable to golfers. When first marketed for amenity use, growth retardants were heralded as a panacea for the landscape manager, and even as a cure-all for the time-consuming and expensive process of grass cutting.

However, despite certain advantages which may be gained from growth retardants, currently only a small proportion of amenity grassland is being managed chemically by growth retardants. In this article, Neil Baldwin, of the Sports Turf Research Institute, explains the mode of action of growth retardants, describes the situations in which their use is appropriate and explains how to use them to their maximum effect.

The way in which growth retardants work, ie. how they influence plant growth, depends very much on the active ingredient they contain. One or more of the growth retardants currently available, are based on three active ingredients, namely maleic hydrazide, mefluidide and paclobutrazol. Maleic hydrazide works through foliar absorption, inhibiting plant cell division, thus producing a slower growing grass plant. Mefluidide, although distinct chemically from maleic hydrazide, also works via foliar absorption, and by slowing down leaf growth, but in addition it inhibits seed-head production of the grass sward. Paclobutrazol is effective in a completely different way, being root absorbed and it inhibits grass growth by preventing the production of the plant growth hormone gibberelic acid.

The effectiveness of growth retardants depends very much on the situations in which they are used. The growth retardation achieved by these chemicals may, in ideal situations, be considerable. In field trials, conducted by the Sports Turf Research Institute in the early 1980s, maleic

NEIL BALDWIN of the Sports Turf Research Institute examines turfgrass growth retardants for the golf course



Advantages

- Significant cost savings over conventional mowers for specific situations.
- Highly suited to difficult/dangerous areas to mow.
- Drought resistance of sward may be improved.
- Season long control may be achieved from 2-3 applications.
- Minimises yield of unwanted clippings produced by mowing.
- May be integrated with mowing to produce the desired effect.

hydrazide, mefluidide and paclobutrazol reduced grass growth by up to 25%, 60% and 45% respectively, dependent on the grass species present. The duration of grass growth suppression also varies according to the chemical applied. Both maleic hydrazide and mefluidide are con-

Disadvantages

- Trained and qualified operators needed for application.
- Unsuitable for high quality, fine turf or large open areas.
- Do not give the high quality visual appearance of mowing.
- No single growth retardant available to suit all situations.
- Lack of use experience by many amenity managers.
- Being classified as pesticides there may be opposition to use of chemical sprays.

sidered relatively quick acting with up to 12 weeks and eight weeks suppression of grass growth achievable respectively. Generally, little or no effect of paclobutrazol is observed 10-15 days after application, but growth inhibition has been recorded up to 14 weeks thereafter and occasion-

ally treatment effect is carried over to the following season. However, each growth retardant has differing effects according to the botanical composition of the sward. Maleic hydrazide tends to inhibit coarser grasses, leaving the finer species, in particular fescues, to thrive. Mefluidide has long lasting effects on annual meadow-grass, bents, perennial ryegrass and crested dogs tail and in the shorter-term, will suppress the growth of fescue, Timothy and smooth-stalked meadow-grass. Paclobutrazol tends to have lesser effect on deep rooted, coarser grass species. Thus, it is necessary to have an appreciation of the grasses present on the part of the golf course to be treated to achieve maximum results.

On the golf course, each area may be considered separately for its potential for controlling grass growth by application of a growth retardant. For large areas of grassland, such as golf fairways, gang mowing is often the easiest and most cost-effective way of restricting sward height. However, growth retardants have proved their worth in certain situations such as where the grass area in question contains many obstacles, for example such as around tree bases. Small, isolated areas, for example along fencelines, where mowing may be expensive and/or inconvenient are also suitable cases for growth retardant treatment. On low maintenance areas, such as embankments, growth retardants may be appropriate, as they are also for situations on the golf course, where mowing would be difficult or dangerous in practice. Also, growth retardants have a specialist use on erosion control areas where it is important to maintain a dense, uniform growth of deep rooted grass to resist soil erosion. Indeed, it is in these types of situations where growth retardants may be extremely cost effective. In comparative studies, reducing grass growth by spraying has been shown to be a quarter of the cost of maintenance using a rotary mower and one-fifth the cost of Flymo operation.

Potential use area of growth retardants

• Pictures courtesy of Rhone-Poulenc Environmental Products

Users of growth retardants will notice they are sometimes formulated together with herbicides and are also recommended both alone and in mixtures. This is because in situations where growth retardants are being considered, there is usually a range of grass species present, together with non-grass species, such as broad-leaf weeds. Whilst mowing trims all vegetation present instantly to the required height, growth retardants have varying effects, according to the botanical composition of the sward. Paclobutrazol is available only as a mixture with the herbicide dicamba (proprietary name Holdfast D) to inhibit both grass and broad-leaf weeds. To achieve similar aims maleic hydrazide is available as a mixture with the herbicides dicamba and MCPA (Mazide Selective), although there are several maleic hydrazide only products such as Mazide 25, Regulox K and Royal Slo-Gro, to name but three examples. Currently mefluidide (Echo, Embark and Mowchem) is not formulated together with a herbicide as this chemical does give some suppression of broad-leaf weed species, although in situations where broad-leaf weeds are a problem, they may be controlled by tank mixing with Approved herbicide formulations. Certain growth retardants may also be tank mixed, paclobutrazol plus mefluidide or paclobutrazol plus maleic hydrazide are recommended where coarse grasses, such as cocksfoot, are dominant or in situations where suppression of grass seed heads is important.

To get the best results from growth retardants it is critical to follow the manufacturers recommendations for use carefully to achieve acceptable results. With maleic hydrazide the application rate is critical as a small over application may lead to severe scorching, whilst if under applied effectiveness is markedly reduced. Consequently, when combined with climatic effects such as rain after application, growth retardation by maleic hydrazide may be unpredictable. In contrast, mefluidide

is overall very reliable, providing it is used correctly. Mefluidide should be applied when the grass is dry, ideally eight hours elapsing before rainfall. Best results are obtained when mefluidide is applied in April-May when grass growth is strong. Mefluidide tends to make the sward greener and more lush in appearance, although some discolouration may occur if applied in very dry conditions. Paclobutrazol has its greatest effect when applied in early spring (February to March) prior to onset of grass growth, or in August-September to reduce the autumn flush of growth. Paclobutrazol is relatively inactive in dry conditions, but acts reliably when soil moisture is high. Generally, paclobutrazol is leached slowly although heavy rain after application may negate effects.

There have been several recent developments in growth retardant technology. A review of USA journals and periodicals has shown that the three growth retardants available in this country are also the mainstay of those available and used on turfgrass world-wide. However, there have been recent developments, particularly in the use of growth retardant, for the selective inhibition of annual meadow grass in fine turf, although it will be some time before this is available to the UK greenkeeper. Also, research is in progress evaluating ways of minimising the scorch problems associated with growth retardant applications.

Further information on growth retardants can be obtained from The National Turfgrass Council in a booklet called 'Growth Retardants', NTC Workshop Report No 7.

For those interested in the technical information on growth retardants, much is published in Volume 62, (1986) of the Journal of the Sports Turf Research Institute, pages 59-64, 155-171, 172-181 and 200-203. A brief summary of growth retardants may also be found in the STRI's publication Sports Turf Bulletin (1986) 152, pages 2-4.



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Landscape Industries '92 is the right event attracting the right audience and, in light of the buying changes being experienced by the industry, it is at the right time of year.

Landscape Industries is the only event devoted to *all* aspects of the landscape and leisure industries and it has established itself as the major exhibition for the industry with over 250 exhibitors and 8000 visitors in 1991.

All the leading companies will present the latest technology, equipment and services to provide you with the most comprehensive range of exhibits.

A unique feature of Landscape Industries is its ability to present a truly working event. An extensive range of working demonstrations will cover equipment for landscaping, maintenance, amenity, forestry and construction. This gives you the ideal opportunity to

assess the equipment and allow the products to speak for themselves. Landscape Industries '92 is *right for the industry*.

Landscape Industries is more than just a trade fair, for the country's finest research, educational, advisory and training organisations will be at Landscape Industries '92, together with many exhibits featuring the practical application of specialist landscaping skills.

A series of half hour, informative discussion sessions will be held each day:

■ 10.30am - TRAINING NEEDS ANALYSIS COMPUTER MANAGEMENT SYSTEM

John Topping, Deputy Chief Executive BALI, John Pearson, Otley College.

■ 11.30am - TRAINING & CERTIFICATION IMPLICATIONS OF THE HSE GUIDANCE NOTE ON CHAINSAW USE

Terry Howard, Agricultural Training Board

■ 2.30pm - CONTRACT MONITORING, MAKING CONTRACTS WORK

Patrick Kilburn, Client Manager (Grounds Maintenance) ILAM.

TECHNICAL INFORMATION POINT

Expanding on the successful demonstration area in 1991, an information point in the heart of the exhibition will provide independent advice and information from key specialists: John Shildrick, NTC; Mike Canaway, STRI; Suki Pryce, University of Manchester and Peter Dury, Nottingham County Council on a range of topics including:

- turf re-inforcement materials
- turf for general purposes BS 3969
- grounds maintenance

- peat alternatives
- BS 7370
- organic waste recycling

TREE SURGERY

The Arboricultural Association will be demonstrating a variety of tree surgery and tree climbing techniques and the Agricultural Training Board will hold a chainsaw maintenance and operation training session alongside.

INTERPAVE

Interpave, the Concrete Block Paving Association will be staging working demonstrations of the correct procedures for installation of concrete block paving. These will be carried out by members of Interlay, the Association of Block Paving Contractors.

BALI / ATB TRAINING IN ACTION

The first stage of a 5 year development plan will be started at the 1992 event. Trainees from industry and colleges will undertake a project to construct a landscaped area by working in groups and having the opportunity to develop various skills. The demonstration highlights the types of training available to those in the industry.


BALI PENTATHLON

This light hearted competition shows practical landscaping skills when teams complete an obstacle course involving a variety of tasks which require everyday skills. Competitors are drawn from both professional landscaping companies and allied organisations.

FENCING COMPETITION

The aim of this new feature is to assess the ability of 2 man teams in erecting several different types of fencing, with the emphasis

FREE ADMISSION



JUNE 3/4
National Agricultural Centre
Stoneleigh Park, Warwickshire
The International Exhibition for the Professional Landscape and Leisure Industries

FREE CATALOGUE

It's right for the industry

THE RIGHT EVENT

THE RIGHT PLACE

THE RIGHT TIME

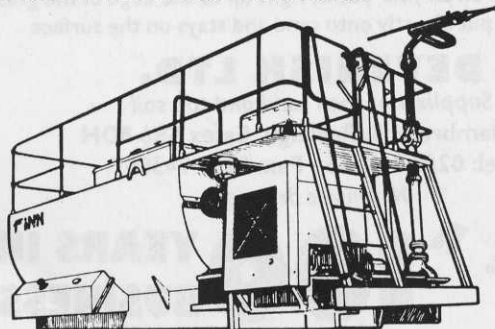
- All aspects of landscaping and related leisure services
- Over 200 leading companies at one venue
- Working equipment demonstrations
- Educational and training features
- Informative and topical discussion forum

... the only event which draws the whole industry together and provides the ideal business environment

Organised by
ROYAL AGRICULTURAL SOCIETY OF ENGLAND
BRITISH ASSOCIATION OF LANDSCAPE INDUSTRIES
INSTITUTE OF LEISURE AND AMENITY MANAGEMENT

For details contact
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Royal Agricultural Society of England
National Agricultural Centre
Stoneleigh Park, Warks CV8 2LZ
Tel. (0203) 696969

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See us on Stand EX B16 at the Landscape Industries Show