

Truly way out in front, the T44 is <u>the</u> self-propelled gang mower. The only choice you need to make is 10" fixed or 8" floating heads with 6,8 or 10 knives.

Ample power, advanced controls, weight transfer, four-wheel drive and differential lock combine to make this machine your perfect greenkeeper.

To proceed further in your quest for perfection, call us today for full details and to arrange a demonstration.



HAYTER Purpose built - Precision made



Viscount Whitelaw K.T., C.H., M.C., **BIGGA BOARD OF MANAGEMENT** 

Chairman: Barry Heaney Vice-Chairman: Dean Cleaver

**BOARD MEMBERS** Richard Barker Patrick Murphy Gordon Moir Robin Greaves George Barr Chris Mardon Gordon Child Harry Diamond

> **EXECUTIVE DIRECTOR** Neil Thomas B.A.

**ADMINISTRATION MANAGER** 

SALES AND MARKETING MANAGER Bill Lynch

> EDUCATION OFFICER Ken Richardson

### Where to contact BIGGA

Aldwark Manor, Aldwark, Alne, York, North Yorkshire YO6 2NF Tel: 01347 838581 Fax: 01347 838864



e official monthly magazine of the British & International **Golf Greenkeepers Association** 

### EDITORIAL

Editor designate: Scott MacCallum ADVERTISING

Sales and Marketing Manager: Bill Lynch Senior Advertising Sales Executive: Carol Dutton

Exhibition and Marketing Executive: Louise Lunn Telephone: 01347 838581

PRODUCTION

Design and Production Editor: Tim Moat, telephone 01904 610611

PRINTING

Hi-Tec Print, Unit 7, Universal Crescent, North Anston Trading Estate, North Anston, Sheffield S31 7NZ Tel: 01909 568533, fax: 01909 568206

Greenkeeper International: winner of Certificate of Merit in Magazine of the Year category, Editing for Industry Awards 1994 and 1995

Contents may not be reprinted or otherwise reproduced without written permission. Return postage must accompany all materials submitted if return is requested. No responsibility can be assumed for unsolicited materials. The right is reserved to edit submissions before publication. Although every care will be taken, no responsibility is accepted for loss of manuscripts, photographs or artwork. Opinions expressed are on necessarily those of the Association for used on the association of the association for used not accepted by the Association for taken any appear. Tructation is by subscription. Subscription magazine is also distributed to BIGGA members, solf clubs, local authorities, the turf industry, libraries and central government. Contents may not be reprinted or otherwis reproduced without written permission, Retur-

ISSN 0961 - 6977 © 1995 British & International Golf Greenkeepers Association





### **MAY 1995**

# Contents

## Going back to **golf** courses

Trevor Smith gave up an idyllic lifestyle to get back to where he belonged constructing and then managing two golf courses



amid the rolling Dorset countryside. He explains why, and how he's updated some traditional methods ..... Pages 20-21

### Weeds: keeping them away from trees

Successful tree establishment is all about weed control and vegetation management, says Eamonn Wall. The woodland architect discusses herbicides for the job ...... Pages 9-12

### You think you've got problems

A survey of the main problems facing American superintendents all sound horribly familiar to greenkeepers in the UK: we report on the top ten pitfalls.........Pages 14-18

### How to achieve the best dressed course

An automatic tee up playmat, powered by electricity and saving headaches for greenkeepers as well as golfers, is just one of the new products featured ......Pages 32-33

# **Regular features**

BIGGA in focus A subject close to the heart of every greenkeeper is the focus of Neil Thomas's column this month: salaries and wages......Page 4 News With 84% of available space taken up and still eight months to go, the 1996 BTME looks set to break even more records ......Pages 5, 7 Education The number of greenkeeper training courses continue to expand as demand increases. Ken Richardson looks at what's available ......Pages 26-28

Cover

A futuristic vista at Dubai Creek Picture by Phil Inglis



Greenkeeper Education and Development Fund The Fund provides the key to the future for greenkeeper, golf club and game. Individuals and companies can join the Golden Key Circle and Silver Key Circle. For details, contact BIGGA on 01347 838581. **GOLDEN KEY CIRCLE COMPANY MEMBERS:** Amenity Technology • ET Breakwell Ltd • Hardi Ltd Hayters PLC • Jacobsens • Kubota UK Ltd • Lely UK Ltd Massey Ferguson • Ransomes • Rhône Poulenc • Rigby Taylor BIGGA Toro Irrigation · Zeneca Professional Products **GOLDEN KEY** SILVER KEY CIRCLE COMPANY MEMBERS: and SILVER KEY Avoncrop Amenity Products • Fenchurch • Risboro' Turf • Sisis **CIRCLES** 

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

### FREE READER **REPLY SERVICE**

Use the post-paid **Reader Reply Card facing** Page 46 for further information on the products and services advertised in this issue. Just state the companies' Ad Ref numbers, post the card to us and we'll arrange for further information to be sent to you direct.

**ADVERTISERS' INDEX** a quick reference guide

	Ad Ref	Page
A&F Warehouse	407	29
Atterton & Ellis	7	34,35
Briggs & Stratton	225	19
Dixon & Holliday	214	8
<b>Grass Roots Trading</b>	479	46
Hardi	25	18
Hayters	90	2
<b>Headland Agro Chen</b>	nicals	
	486	8
Inturf	31	31
John Deere	103	6
Lely	61	10,11
Levingtons	102	48
LE Lubricants	481	19
Martin Bros	12	13
Netion	373	36
OSL	482	8
Pattissons	35	32
Rhône Poulenc	59	30
Rolawn	34	33
Sisis	176	47
Standard Golf	421	13
Supreme Mowing	57	16
Terralift	483	13
Times Mirror	462	36
Colleges	•	28
Buyer's Guide		38-42
Classified	•	43
Job Shop	•	43
Recruitment	•	43-45

ADVERTISING WORKS IN GREENKEEPER INTERNATIONAL:



Greenkeeper International on a regular basis during 1994 enjoyed a sales

increase of over 300% CARL CROME. Managing Director, Amenity Technology Ltd

FOR MORE DETAILS CALL: Bill Lynch, Carol Dutton or Louise Lunn at BIGGA HQ on 01347 838581





# WE SAY

# A fair day's pay?

Let me this month tackle the vexed issue of salaries and wages. Now here surely is a subject close to the heart of every greenkeeper and a central point of many a green committee discussion.

Since 1988 BIGGA has annually published a 'Recommended Minimum Salary/Wages Scale'. Note the use of the word "recommended" for we are a professional association and as such enjoy no powers as a bargaining body on salary levels. In any event it would surely be almost impossible to negotiate with over 2,000 golf clubs each independently structured and governed by its own circumstances as to what it can or is prepared to pay its staff. In the course of time over seven years our scale has come to be increasingly recognised by golf clubs as a yardstick in determining greenstaff salary levels. It is interesting to compare figures. In 1988 the recommended salary for a Course Manager/Head Greenkeeper was £12,650 for an 18 hole golf course, today it is £19,144. For an apprentice greenkeeper in 1988 we were seeking £70.77 per week, today that figure stands at £108.15. Whilst there are a good number of clubs in excess of the scale and too many still below it, it is encouraging to hear that many clubs who have yet to reach the scale do accept it in principle and are moving towards the scale recommendations through phased annual awards. It would seem that in the intervening years since 1988 BIGGA can justifiably claim that its scale has had a positive impact on salary and wages levels as well as on conditions of service. Such a statement is not to negate the very real concern for greenkeepers in certain pockets of the United Kingdom who remain grossly underpaid by their golf clubs and whose circumstances are such that they are prevented from moving elsewhere to better themselves. We will continue to seek to influence those clubs for the betterment of our members and in the course of time one looks to the establishment of a framework within the game of golf whereby the clubs, through the four home unions, will agree to implement scales either better than or in line with the Association's recommendations.

Linked to salaries and wages are the opportunities now avail-



able for trained and ambitious greenkeepers. Here most certainly the world has opened out since 1988 and particularly in Europe. This does not mean that every greenkeeper need look to Europe for a step up the ladder. Indeed he would be wise not to do so without a full assessment of his domestic situation and of the different and often difficult conditions to be experienced abroad as well as of his own aptitude for learning a foreign language. However, for those so-minded, there are many challenging opportunities abroad and each greenkeeper who moves on in this direction leaves a consequential vacancy somewhere in the United Kingdom. In 1995 greenkeeping is a profession which offers some excellent opportunities. As in other professions people must be prepared to move to take advantage of them. These factors combine to push up salaries, wages and conditions of service and from my experience if there has been one fundamental change since 1988 it lies in the growing realisation by golf clubs that once they have secured good staff they need to hold on to them - again improving the bargaining power of the individual employees. In the early days of BIGGA there was far more of a 'take it or leave it' attitude and many were the clubs rueing the fact that they had needlessly lost a good employee and finding it necessary to pay more to secure possibly a less proficient replacement.

Annual negotiations over salaries and conditions of service are never easy and many greenkeepers I know feel threatened by what they believe are groupings of golf club secretaries who, in comparing salary and wage levels for greenstaff in their clubs, seek to depress those levels to the lowest common denominator. I have no doubt there will have been past instances of this happening perhaps influenced by local circumstances. However, I recently discussed this matter with Ray Burniston, Secretary of the Association of Golf Club Secretaries, and in conceding that club secretaries do make comparisons he takes the

## New magazine editor appointed

Scott MacCallum, pictured, is the new editor of *Greenkeeper International*.

Hailing from Scotland where he worked on the Dundee

Courier and Advertiser, Evening Telegraph and Sunday Post, Scott subsequently worked as assistant editor on Golf Monthly before joining the PGA European Tour in 1990, initially as deputy director of comm u n i c a t i o n s

before being appointed director in 1991. Latterly he has worked for *Today's Golfer* as deputy editor.

In welcoming the appointment, BIGGA's executive director, Neil Thomas, said: "I am sure that Scott MacCallum will bring a new dimension to *Greenkeeper International* magazine. He has a wealth of journalistic experience within the



"I am delighted that he is joining the Association and feel sure that he will be making a substantial con-

tribution not only with regard to the magazine's development but also in terms of BIGGA's public relations function and developing relationships with other bodies and officials within the game."

view that generally this is to the benefit of greenkeepers. In other words that the highest common denominator will prevail. Ray pointed out that where there is evidence to the contrary he will be more than happy through his Association to take the matter up with the club concerned. If a member has a particular grievance in this regard please channel it through Headquarters and it will then be taken up through the AGCS. Remember, however, that some hard facts will be needed and hearsay will not be sufficient.

In looking up the 1988 scale, it was interesting to note the number of letters I sent out in August 1987, the month during which BIGGA commenced operations at the STRI in Bingley, in response to requests for a recommended salary/wages scale. These requests came not only from greenkeepers but also from the golf clubs themselves. I vividly recall the urgency with which the then Board of Management impressed upon me the need for such a scale. In seven years little has changed in that the scale is still greatly in demand. I believe it has achieved much for greenkeepers and continues to do so. To those for whom the achievement of the scale recommendations seems still a remote possibility I would urge perseverance. For our part within the Association we will continue in our efforts to break down intransigent attitudes seeking fair and proper recompense for those who manage the golf club's greatest asset. A scale such as ours cannot keep everybody happy all of the time and sometimes it is forgotten that the job is not just about salaries and wages in that various conditions of service need to be taken into account. Whatever the package never sign a contract unless you are happy with it and even then having it checked by a solicitor is likely to prove a sound investment.

Finally, we should recognise the golf clubs who now provide first class conditions of service for our members with consequent benefits for their golf courses and express the hope that those clubs still lost in the mists of time will come to understand that it is the former who represent the way forward and the future for the game of golf.



Working for the good of the fine turf industry

# BTME 96 proves to be Number One Choice

With over eight months to go until the doors open, BTME 96 is well on its way to being the biggest and best yet.

Exhibitors, eager not to miss out, have already snapped up 84% of the available floor space – even with an additional 25% added especially for the 1996 event.

Not only have many new companies booked for next year – including Clifton Special Products, Petroleum Products and Services Ltd and Fairway Credit – many existing exhibitors have reserved larger stands. Lely/Toro, for example, has booked 208 square metres – almost three times bigger than in 1995.

Anyone wishing to reserve space for BTME 96, which takes place between January 24-26 at the Harrogate International Centre, should contact Louise Lunn now on 01347 838581.

# More flexible

Richard Long Engineering Ltd has developed a 1.2 metre fully mounted version of its successful Flexispread topdresser.

The 4ft fully mounted Flexispread uses the same feed system as the larger, trailed 5ft model. Tel: 01773 520301.

# Digging in

Greenkeepers picking up the pieces after an excessively wet winter have meant good news for Huxleys Grass Machinery.

They report exceptional demand for their new soil reliever (pictured). Director Paul Huxley explained: "Waterlogged greens and fairways have led to courses being closed and loss of income. A lot of customers have ordered the soil reliever as an effective way of improving drainage and relieving compaction."





# **Janet makes her mark**

Chancellor of the Exchequer Kenneth Clarke congratulates Turfland's Janet Watmore on her success as winner of a Women Into Business award.

Janet, who set up the turf growing and turf machinery companies with husband Chris 30 years ago, was nominated in recognition of her work. Turfland and Turfland Professional Equipment employ over 20 staff on 600 acres in Cheshire and have an annual turnover in excess of  $\Omega$ .

Within the two organisations, Janet is responsible for business strategies, sales and marketing and general management.

The meeting with the Chancellor at 11 Downing Street is only one of her steps into the spotlight: Janet's company has also taken part in a "Challenge Anneka" TV programme.



# FLYING DIVOTS

Students at Reaseheath College in Cheshire are organising a vintage golf tournament – open to male golfers over the age of 70.

The third year HND golf course management students believe this inaugural tournament, to take place on May 17, is the only one of its kind exclusively for this age group. They hope it will become an annual event and will put Reaseheath Golf Club on the map.

Potential sponsors should contact Chris Ward on 01270 625131.

The numbers have finally been added up for the GCSAA show in San Francisco: a record 17,773 people attended the February event, including a delegation from BIGGA.

The attendance is up by over 2,300 on the Dallas show last year.

A new service has been launched for treating large ponds and lakes that suffer from algae in suspension.

Aqua Company Ltd, distributors of water treatment product O'Clear, offers to identify the problem and carry out a course of action to reestablish a balanced ecosystem. Costs depend on the size of the feature and amount of work involved.

More details from 01252 712307.



Barenbrug UK have appointed ex-golf professional Adrian Ellis as area manager for north England,

Scotland and Northern Ireland. He is also greens chairman at the Mellors and Townscliffe GC.

The Grass Roots Trading Company has entered a team of greenkeepers in the Top Gear European Pro Kart Challenge, which takes plce this month at Le Mans.

If you're interested in trialing for the team, contact Jamie Bennett on 01734 771185.

A single demonstration of a Ransomes Fairway 300 mower in Hong Kong has led to three top golf courses buying the machines. The demo was organised by Ransomes' Hong Kong distributor, Agribusiness Ltd.



# Where a Gator goes is your business

How you choose to use a John Deere Gator utility vehicle is entirely up to you.

For some, a Gator is meant to roam on the delicate turf of a golf course. Others view it as the ultimate caravan park vehicle. And there are those who believe it belongs in the muck and mud of a construction site.

Where a Gator utility vehicle can go is practically anywhere. Thanks to high flotation tyres, both the Gator 6x4 and 4x2 are equally at home in off-road and on-turf settings. With lower-than-low ground pressure, the Gators can get out of muddy situations. This also means they'll barely bend blades of grass.

Both Gators feature a low centre of gravity for better stability, plus hefty payload and towing capacities. Wet disc brakes and rack-andpinion steering contribute to their smooth and low-effort operation.

For more on the most versatile utility vehicle made today, see your local John Deere dealer.



NOTHING RUNS LIKE A DEERE



# Licentiateship holders are applauded

Four years of part-time study plus at least five years industrial experience has been rewarded for 16 greenkeeping and horticulture students at Askham Bryan College.

The Yorkshire college believe the 11 greenkeeping students are the first in the country to collect the top award in their City & Guilds course - the licentiateship.

Bob McLaren, past president of the Scottish Golf Union and chairman of the Greenkeepers Training Committee, praised the commitment the students have shown for staying with four years of demanding study whilst in full-time employment. He urged them to use their success to promote training amongst their colleagues.

The 16 licentiateship holders are pictured with their Askham Bryan course tutors, college principal Mike Pollard, and Bob McLaren.

# Spray drift problems can be cut by using adjuvant

Research by the University of Paisley confirms that spray drift can be dramatically reduced by adding a suitable adjuvant to the spray chemical before application.

The researchers, from the department of biological sciences, monitored spray drift following insecticide applications with and without the benefit of an adjuvant. Treatments containing the adjuvant showed a significantly confined spray pattern with greatly reduced drift loss.

The team, led by Dr John Thacker, used cabbage plants and strips of water-sensitive paper to monitor the spray drift which is now recognised as a major prob-



East Sussex National Golf Club was the venue for the first annual symposium of its kind of greenkeepers and golf managers.

The event was organised by Premier Golf Clubs, set up last year to promote standards of golfing excellence to match that of anywhere else in the world. Delegates discussed many topical issues including environmentally friendly greenkeeping, training and the development of golf management and course conditions.

Next year's event will take place at Turnberry.

• Some familiar faces are pictured amongst the attendees lem in the amenity sector. The plants were colonised with cabbage white butterfly larvae and ground beetles and placed at a series of downward distances, ranging up to 20 metres away and at right angles to the path of a sprayer. The field experiments were undertaken both in winter and spring so that drift patterns could be monitored under varying wind conditions.

Following spray treatments, the number of dead insects on each plant were assessed as an indication of the extent to which the insecticide had reached non-target plants. Larvae on plants as near as 1m away remained totally unaffected following the insecticide plus adjuvant applications indicating minimal spray drift. Conversely, the wide spray drift of the insecticide-only spraying resulted in some kill even as far as 20m from the sprayer.

These results – obtained using the adjuvant Headland Guard – were presented at the recent British Crop Protection Council conference.

"To achieve these benefits, the adjuvant only needs to be added at 0.1% of the total spray solution, adding very little at all to the overall cost of an application," said Headland Amenity manager Mark De Ath.

# **FLYING DIVOTS**

Deere & Company reports worldwide net income of \$138.4 million in the first quarter of '95 compared with \$87 million for the same period last year. This is the US company's sixth consecutive quarter of record earnings and the first time that earnings in the first quarter exceeded \$100 million.

Kings Horticulture Ltd has been appointed UK distributors for the Forum Floor Turf Protection System from Sweden. Tournament golf courses can use the product, originally designed to protect football pitches from pop concerts, to provide walkways behind greens. Tel: 01787 223300. The Sisis development team swung into action when reps brought back word that customers needed both jumbo and pencil-slim tines for the Technicore vertical aerator

As a result, the Macclesfield company now offer 22mm diameter hollow coring tines, for severe thatch problems, and 7mm solid tines for water percolation.

Sisis have also launched a "workshop on wheels" – a fully equipped service van joins their fleet.

■ Inter Seeds have published a new, ten section illustrated pocket guide to amenity grasses.

Corby-based plant growth stimulant manufacturer Maxicrop International has appointed David Evans as UK sales manager.

Previously regional sales manager for Timac covering south Wales and the south Midlands, Mr Evans has nearly 20 years experience in fertilisers and foliar feeds. A new company has been set up to act as agents for Q-Lawns' range of turf.

Jubilee Seeds & Turf report firms orders for the Q-Lawns turf, which is grown on a dark, free-draining top soil from highest rated grass seed cultivars.

JST also offer the Techni-Turf range of grass seed and wild flower mixtures. Renardine 72-2, from Roebuck Eyot, offers an "invisible fence" repellent for unwanted pests and pets, including dogs, cats, rabbits, foxes, moles and badgers.

# Walking the tightrope ... a helping hand

Some describe caring for a golf course as a balancing act. Users expect immaculate greens, but dislike downtime needed to keep them that way. Others want the benefits of sand-based constructions, yet may not know the drawbacks like the challenge of maintaining nutrient levels in the face of severe leaching.

Headland Amenity can give you a helping hand. A case of tipping the balance in your favour.

With a special interest in intensively managed leisure facilities, especially golf courses, the company has developed specialist products to save you time and money. Products which are easier to apply, or need to be applied less often. Or products which give better results at lower cost.

### **Healthy growth**

For example, the Headland Triazone range is based on a completely new - and better form of slow-release nitrogen. Releasing this key nutrient in a uniform pattern over 8 to 10 weeks these liquid fertilisers promote healthy, even growth.

As well as avoiding growth flushes they are significantly less prone to leaching and reduce the risk of scorch even in hot summer weather. What's more, the flexible range includes formulations with other vital nutrients such as phosphorus, sulphur and potassium. As liquids, they are compatible with many other treatments, allowing tank mixing and even greater savings in time and costs.

When you need a stronger dose of sulphur to correct pH, improve disease resistance, harden grass or to discourage wormcasts and annual meadow grass, then Headland Sulphur or Thio-Sul provide the answer.

Where leaching is a problem, an even wider range of nutrients need replenishing especially during times of rapid growth or when grass is under stress. Headland Vertex and Vertex Hi-N 34 fit this bill. Alongside NPK, they provide sulphur, magnesium, manganese, iron, copper, boron, zinc and molybdenum.

### Durability

Turf health, appearance and durability can also be improved with a range of seaweed-based products. Rich in natural growth stimulants - and with the option of added nitrogen for rapid green-up Seamac Greentec promotes root and shoot development. This gives more springy, dense and hardwearing turf, extends growing season the and improves soil structure. All this from a non-hazardous, nonpolluting spray which will not cause scorch and is suitable for tankmixing with many other amenity chemicals.

Seamac Turf Manager provides yet another option. A dry, pre-composted product, it stimulates the root zone, promoting efficient nutrient and water uptake and helping turf combat stress and disease.

The Headland range also includes pesticides and spray adjuvants which can greatly increase the cost-effectiveness of spray applications. Among these, for instance, is Headland Guard which, as well as reducing drift and improving coverage, renders sprays rainfast in less than an hour - a real bonus in changeable weather or on irrigated areas.



Approved Wright Rain Supply & Installation Wales & West South Wales Distributors for INTURF

# OSL GROUNDMASTERS Specialists in Sports and Recreational Ground Management



Irrigation, Land Drainage, Verti-Draining & Sand-Slitting.

Corneldu Mawr Farm, Heol-y-Cyw, Nr Bridgend, Mid Glamorgan, South Wales CF35 6HL Enquiries: 01639 886 916 Fax: 01656 863 865 Mobile: 0836 610137

AD REF 482



The unique *Hover Hood* gives the operator freedom and manœuvrability to cut steep banks quickly and easily. Knapsack design gives him the freedom and balance to mow even the most difficult banks.

With the hood removed and the blade changed the machine quickly becomes an efficient edge trimmer.

Knapsack design effectively removes the engine from flying sand so eliminates a major cause of wear and breakdown.





Eamonn Wall amid mixed broadleaves after two growing seasons, planted as 60-90cm transplants, weeded each winter with kerb granules

Weeds reduce both the survival and growth of trees by competing for light, nutrients and most important of all, for moisture – particularly in low rainfall areas.

Soil moisture deficits become greater under weeds than under bare soil because vegetation can lose moisture more rapidly and for a longer time before soil moisture potential limits transpiration. In comparison, relatively little moisture evaporates from bare soil before a layer of dry soil forms, restricting further moisture loss.

Weeds around trees also harbour small mammal pests such as mice and voles, and can induce mildew on some species. In some cases the physical weight of weeds can damage trees, particularly after heavy snowfall. For these reasons, effective weed control is vital to ensure good establishment of the young trees.

### What area do you weed?

The majority of sites where trees are planted both in the uplands and in the lowlands benefit from weed control during the establishment phase. However, regularly cutting or mowing weeds, especially grass, is of no use since it increases their rate of water use by maintaining them in active growth, allowing them to compete more effectively and for longer during the growing season. The most cost-effective method of weed control is through the use of herbicides.

Control of weeds need not extend over the whole site in order to obtain improved survival and early growth of trees. Maintaining a weed-free area either as a 1m<sup>2</sup> spot around the base of each tree or as a 1m wide strip down the tree row will give the required results, but strip weeding allows mechanisation through the use of adapted agricultural spraying equipment.

### How long do you weed for?

Weed control is only essential during the establishment phase, normally for the first three years after planting.

### **Mechanisation of Operations**

The maintenance of a newly planted woodland can be expensive and even impractical unless mechanisation is possible. If mechanisation is planned it is important to allow sufficient space between the trees and sufficiently large headlands to allow tractors or other equipment (ie. farm bikes) to turn.

However, there can be conflict between

# acking WEEDS before ev K Attention to weed control and vegetation management is the

Attention to weed control and vegetation management is the key to successful tree establishment on ex-agricultural sites. Eamonn Wall discusses the various chemical herbicides used in woodland management

planting to allow access to agricultural tractors and the production of quality timber which demands that the trees are planted at reasonably close spacing. If the primary objective is to produce high quality timber, then the options are either to plant trees at close spacing in the tree lines or to manage the interrow vegetation by use of small horticultural machinery or the expanding range of equipment that is now available for use with fourwheel drive farm bikes.

### **Types of herbicides**

Herbicides can be divided into three broad groups:

1. **Residual herbicides.** These products act via the soil where they are taken up through the roots of weeds. It is important that these herbicides are applied to damp soil and that rain allows application to move them into the top 2-3cm of the soil. If these products are applied to dry soil and little or no rainfall follows application, weed control will be poor. Residual herbicides must be applied to a firm fine tilth; if large clods are present at the time of herbicide application these will weather and crumble, exposing untreated soil allowing prolific weed growth eg. Kerb, Flexadour.

2. Foliar acting herbicides. These are absorbed through the point of contact on the leaf and stem and are independent of the condition of the soil. The timing of application will be determined by the growth stage of the target weed. Foliar acting herbicides give best results when they are applied to actively growing weeds eg. Glyphosate.

3. **Residual and foliar acting herbicides.** These are herbicides which have a combination of the two modes of action listed here.

# Tackling WEEDS before they kill the TREES

# Where long-term weed control is required, residual

### Pre and post planting use

Herbicides can be used effectively before or after planting. There may be opportunities to control perennial weeds in the previous crop, eg. use of selective herbicides in pasture or the use of glyphosate pre-harvest in cereals and other arable crops. Such treatments can reduce the subsequent vigour of weeds such as creeping thistle or couch grass. Foliar-acting herbicides, can be used to clean up undisturbed stubbles before planting.

Where long-term weed control is required after planting the use of residual herbicides is the best option. It is vital to match the weed control spectrum of the herbicide to that of the weed species on the site. Many residual herbicides generally only control weeds preemergence and must therefore be applied to bare earth. If bare soil is to be maintained all year round, treatment may be repeated in the autumn and the spring. However, in practice, weeds resistant to the residual herbicides (sometimes applied as a tank mixture) is needed. As an alternative to a year-round bare-soil system, some vegetation cover may be allowed to develop in the autumn and winter when it is not competitive and then be killed by a spring applied foliar-acting herbicide. A spring applied residual treatment will then delay reinvasion.

# Characteristics of the most commonly used chemicals

■ Propyzamide (Kerb granules/liquid): This is a soil acting herbicide which slowly volatises in cold soil and is taken up by germinating weeds and through the roots of existing weeds, especially grasses. A limited range of herbaceous broadleaved weeds are also susceptible from germination to the true leaf stages particularly grasses. Such weeds which emerge late in the season, however, will only be partially controlled.

Propyzamide slowly breaks down in the soil, lasting for 3-6 months. All commonly planted forest trees are tolerant. Application via granules (using pepperpots) and liquids (using knapsack sprayer, spot gun, etc.) can take place anytime between October 1 to January 31 north of a line from Aberystwyth to London and to December 31 south of this line. In practice it appears that few extra weeks

# WHERE'S THE STIFF OPPOSITION?

With the tightest turns in the business, these greenkeepers are enjoying the versatility of the highly manoeuvrable Reelmaster 216 mower and the compact, sure footed, Sand Pro. With 3-wheel drive and lightweight balanced design, nothing gives such an immaculate finish or handles better in tight situations. Around greens, tees and bunkers, they're examples of how we've worked to provide you with the precision engineered tools