

real growth occurs, generally mid to late May.

No greens topdressing will take place until ground temperatures rise and there are some indications of natural growth. Once the ground temperature reaches approximately 42 degrees and some real bent grass growth occurs naturally, a consistent and regular topdressing programme is initiated to within three weeks or less of the actual event, coupled with a light verti-cutting programme every 7-10 days. Scott Fenwick, the course's head greenkeeper, says the greens receive about eight topdressings – "fortnightly depending on the weather" – starting in April and using five parts sand, one part peat. All greens approaches receive similar treatment to the greens. Generally, the greens are hollow-cored in September, verti-drained in November and spiked from February onwards.

Fairways will be verti-cut and topdressed regularly, too. Peat is added to the high ridges.

One application of a slow release granular fertiliser at the start of the season is backed up with an early summer dressing of organic nitrogen applied six to eight weeks prior to the event and, thereafter, they use an organic nitrogen liquid feed coupled with a wetting agent and trace elements.

The height of cut on all areas will be gradually reduced. The greens, for example, will come down from 5/16th over the winter to 1/4in, to 3/16 to 5/32 then down to 1/8in. The greens are cut as required over the winter, maybe once a month. Once

growth starts they are cut twice a week. From about the end of April it is stepped up to three or four times a week, and during the summer it is daily. During the event they will be cut two or three times a day, depending on the speed. Greens like the 1st with severe slopes will miss a cut if they are too fast. "The idea is to get them all the same speed," says Scott. Speeds are monitored weekly from May onwards, and daily with a fortnight to go.

The tees come down from 5/16th to 1/4in, with the cutting stepped up during the growing season from three times a week to daily the week before and during the tournament. Fairways come down from 1/2in in winter to 3/8in in the summer. In the winter they're cut every 4-6 weeks. Once there is some growth they are cut weekly, then 2-3 times a week and from ten days out they are cut daily with a Jacobsen LF100. Divots are filled all season but the programme is increased from weekly to daily as the tournament nears. The green approaches are slightly shorter than the fairways at 3/16ths.

The rough is never cut and the semi rough varies from 1 1/4 to 2ins.

Seed head suppression of the *Poa annua* percentage within the sward is the greenstaffs' main concern prior to the event. They achieve this by limiting the pressure applied to the plant – as the height of cut is lowered, droughting is effected and nitrogen levels drop. A pre-tournament 'cocktail' liquid feed comprising 20 ltrs liquid Alginure, 10 ltrs Farmura Green and 5 ltrs Aqua-Gro mixed

in 250 ltrs of water per acre is prepared and sprayed, both to reduce seed head production and discourage dew on greens, tees and fairways.

The minimum amount of water is used, with the irrigation carefully monitored and any dry spots on the severely undulating greens hand-watered. Wetting agents are used monthly during the growing season.

As the competition approaches, the whole course is put under a microscope for prospective 'ground under repair' areas – the aim being not to use any white paint.

The bunkers are not only trimmed and re-sanded as required, but also 'pro-tested' which, in 1987, resulted in 22 greenkeepers working around the clock to take sand out of 110 bunkers. Now they aim for depths of 4ins of sand in the base and 2in up the faces.

The spectator crossing points and paths, which are regular verti-drained, deweeded, sprayed and edged during the season, are given a freshen up.

A month prior to the championship, play on the King's Course is cut back to about 60 per cent and totally banned between the hours of 3 and 6pm. In the evenings it is restricted to members and hotel residents only. The course closes completely for two days only prior to the first practice round.

During the competition the King's Course greenkeepers are backed up by the staff from the Queen's and Monarch's courses. The staff arrive on site at 4.15 for a 4.30am start and work until about 8am. After play they come

back at 5 or 6pm and work till 10 or 10.30pm. Greens are prepared by pedestrian mowers – Ransomes Auto-certex with brush attachments – each evening following play and each morning. Green approaches are done every morning, tees and fairways each evening using lightweight ride-on units and Triplex tee mowers.

All tee and fairway divots are filled with seed and sand mix each evening after cutting, to avoid smear.

"It can be a lot of hassle leading up to it but when it's all done it's all worth it. When you see what you've produced on the TV, it's quite satisfying," says Scott, who is preparing for his fourth Bell's Scottish Open.

If you want to know, look in the Bell's Bible

■ All the information relating to the competition and its aftermath is kept in a "Bell's Bible", formed by Jimmy Kidd given to all the key personnel at Gleneagles, including golf course superintendent Ross Monaghan and Scott Fenwick. The folder is divided into 31 sections, with separate sections for all the information relating to, for example, King's Course preparations, practice area preparation, wet weather systems and contacts, key contacts, floral decor, and tented village/build schedule/breakdown schedule. Everything seems to be in it, including details of tickets and pricing because golfers are just as likely to ask greenstaff how they can get a ticket and how much it will cost.

The King's Course preparation section includes a 'general tasks checklist' which includes appraising stairways, pathways, septic tanks, course furniture, spectator walkways, tees netting, bog mire, hole cups and TV compound, ordering what's necessary and putting dates down for when the work started and was completed. It also acts as a reminder to raise maintenance orders for the bridges, shelters and tee fences.

When you're holding a major event each year, it's easier to build up this information and these checklists. But it means nothing is overlooked or left to chance. And it means that the Bell's doesn't take its toll on the course or staff.

Investing in your future

This month's article continues on the theme of National Vocational Qualifications (NVQs) and Scottish Vocational Qualifications (SVQs), looking more closely at their effects on greenkeeper training and gives more details on the autumn's supervisory and management courses.

Industry Lead Body

When the National Council for Vocational Qualifications (NCVQ) established the framework for N/SVQs, the number of Industry Lead Bodies was limited to those industries with more than 20,000 workers, whilst those industries with less than 20,000 workers were grouped together with related industries. Hence, the ILB for Greenkeeping is the Industry Lead Body for Amenity Horticulture.

The Greenkeepers Training Manual

The Greenkeepers Training Committee (GTC) has produced a training manual which lists all the essential skills and knowledge

required by all golf greenkeepers, from apprentices to course managers, and provides a means of recording training and assessment. Hence, evidence can be collected for presentation to an approved assessor towards the award of Level 2, Level 3 and Level 4 N/SVQs.

Levels of N/SVQ

The Level 1 N/SVQ in Amenity Horticulture requires competence in a range of broad based horticultural skills. This level is not thought suitable for golf greenkeepers and there is no equivalent section in the training manual.

At Level 2, successful completion of a set number of tasks will lead to the award of an N/SVQ in Amenity Horticulture (Greenkeeping Option). In addition, completion of a series of extra tasks will lead to the award of the GTC Certificate in Golf Greenkeeping. This level is appropriate to assistant greenkeepers.

Similarly, completion of a specified set of level 3 units leads to the award of an N/SVQ in Amenity Horticulture (Sportsturf Option) and the GTC Certificate

in Golf Course Supervision. This level is appropriate to aspiring golf course managers and current head greenkeepers.

Completion of a specified set of level 4 units leads to the award of an N/SVQ in Amenity Horticulture (Managing Landscape Construction and Maintenance) and the GTC Certificate in Golf Course Management. This level is for aspiring estate managers.

Accredited Prior Learning

All training, including college courses, 'on the job' training, regional and section seminars, BIGGA in-house courses, National Education Conference, BTME seminars, the Master Greenkeeper Certificate and experience ie prior learning, can all count towards the award of an N/SVQ. Approved assessors consider evidence submitted in a portfolio ie. a collection of relevant material, and decide if sufficient evidence has been presented to grant a full N/SVQ or a number of N/SVQ units. Further training, at college, at work or at any other approved centre can then provide the skills and knowledge necessary to complete a particular qualification.

Assessment

Assessment will be conducted by 'approved' assessors at 'approved' assessment centres. Initially, only colleges will be used as assessment centres. However, during 1994, the GTC will be approving a number of leading golf courses to become assessment centres. Assessment centres will have trained assessors, who may be greenkeeping tutors or leading greenkeepers. It is envisaged that Course Managers/Head Greenkeepers will be used to assist candidates to 'gather evidence' for presentation to an assessor, using the training manual as a guide.

Why N/SVQs

N/SVQs are nationally recognised. They tell an employer what you can do not just what you know and lead to the award of a certificate by City and Guilds in England, Wales and Ireland and by SCOTVEC in Scotland. N/SVQs can be entered at any stage with credit being given for previous training and experience. Better trained greenkeepers means better golf courses.

Supervisory and Management Courses

Following the publication of the timetable for the 1994 Supervi-

sory and Management Courses, concern has been shown by some members that the new courses do not take account of knowledge gained on previously attended management courses. Moreover, some members are finding it difficult to decide which week or weeks to attend. In general, the following information should help members to choose the correct week, but some members may need to contact me for individual advice.

- Year 1 of the old management courses contained little information that can be related to the new N/SVQ based supervisory and management courses. Therefore, those members who have completed none or only 1 week of the old style courses should attend all 4 weeks of the new courses to gain all the underpinning knowledge requirement for a level 3 NVQ. Courses can be attended over 1 to 4 years and do not have to be attended in sequence ie delegates could attend week 1 followed by week 4, then week 2 and finally week 3 or any other sequence unless all weeks were attended in 1 year.

- Year 2 of the old management courses contained many elements that relate to the new 'Managing People' modules. Therefore, members who have completed years 1 and 2 of the old courses would be advised to complete weeks 3 and 4 of the new courses.

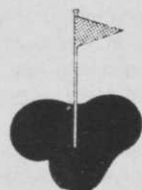
- Year 3 of the old courses contained many elements that relate to weeks 1 and 2 of the new courses and some limited coverage of weeks 3 and 4. Therefore, members who have completed years 1, 2 and 3 of the old courses would be advised to attend weeks 3 and/or 4 of the new. Members may need to discuss their individual needs with me.

Members who have completed all four years of the old courses may need some training to complete the underpinning knowledge requirements of an N/SVQ level 3 and those members may need to discuss their individual needs with me.

Each week of the new courses will have time set aside to discuss individual needs on collecting and presenting evidence to an approved assessor.

Ken Richardson, education officer

To book your place on a Management and Supervisory Course, see the card facing Page 54.



IRISH GOLF GREENKEEPERS' ASSOCIATION

SECOND TURF MAINTENANCE EXHIBITION

Last November, nearly 800 people – greenkeepers, golf club committee members, course managers, course designers, county council and corporation parks superintendents, developers, sports groundmen, students, etc. – attended the first ever **Irish Turf Maintenance Exhibition.**

Already half of last year's exhibitors have asked for space this year, but we want to increase the range of exhibitor – so if you are interested in participating, contact us now for further details.

**3 and 4 NOVEMBER 1994
ROYAL DUBLIN SOCIETY, DUBLIN**

Fairlink Ltd, 58 Clonard Court, Balbriggan,
Co Dublin, Ireland

Tel: + 353 1 841 1362 Fax: + 353 1 841 2934

SPECIAL INTRODUCTORY OFFER

★
**LIMITED
PERIOD
ONLY**

FREE

BIGGA merchandise vouchers
when you buy the following

Turfgrass Management books.

★ Redeem against any item in the
quality **BIGGA** range

★ Buy a copy of each of the books below
and receive **£55-worth of vouchers free!**



Management of Turfgrass Diseases

by **JOSEPH M VARGAS Jr**, Michigan State University.
Second edition. 1994.

Written by a leading international lecturer on turfgrasses and now completely revised and updated to include the latest information on maintaining a healthy turf and identifying turf diseases. Topics also include cool and warm season grasses, growing conditions and new diseases. With 72 colour photographs and over 100 illustrations in 336 information-packed pages. The essential handbook for greenkeepers.....**£52.50**

**FREE
£10
VOUCHER**

Golf Course Management and Construction

by **JAMES C BALOGH**, Spectrum Research Inc.
and **WILLIAM J WALKER**. 1992.

An excellent introduction to the concepts of "non-point source" environmental impacts of turfgrass management. A massive 976 pages containing technical and scientific research on the environmental effects of turfgrass maintenance. In addition to golf courses, the book also discusses turfgrass systems for residential and commercial lawns and parks.....**£61.00**

**FREE
£15
VOUCHER**

Handbook of Integrated Pest Management for Turf and Ornamentals

by **ANNE R LESLIE**. 1994. Volumes in the *Advances in Turfgrass Science* series. **James B Beard**, series editor.

This essential reference of 576 pages provides complete coverage of integrated pest management, with special consideration to golf courses. Including siting and design considerations; design management of constructed ponds; minimising environmental impact by golf course developments; and pest management strategies for golf courses.....**£61.50**

**FREE
£15
VOUCHER**

Landscape Restoration Handbook

by **DONALD HARKER**, The Earth Fund. 1993.

How to develop a natural landscaping programme for turf as an alternative to intensive management. Its 640 pages discusses water quality improvement • erosion reduction • lower maintenance • chemicals reduction • plant and animal species diversity.....**£65.50**

**FREE
£15
VOUCHER**

ORDER FORM

GI. 7.94

Please supply the following **Turfgrass Management** books from **Lewis Publishers**, and my free **BIGGA** merchandise vouchers:

..... (qty) Management of Turfgrass Diseases 2nd edition (1 56670 046 9).....**£52.50**
..... (qty) Golf Course Management and Construction (0 87371 742 2).....**£61.00**
..... (qty) Handbook of Integrated Pest Management for Turf (etc) (0 87371 350 8).....**£61.50**
..... (qty) Landscape Restoration Handbook (0 87371 952 2).....**£65.50**

Post and packing: Please add **£1.50** to your order.

I enclose my cheque made payable to **BIGGA** for £.....

Note: cheques will not be cashed until your book(s) are despatched.

Name:.....

Job Title:.....

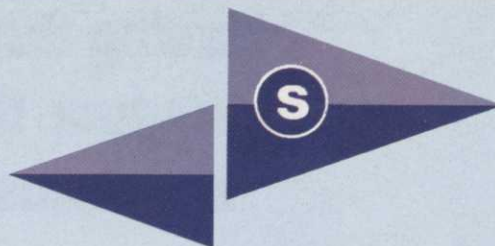
Address:.....

.....Post Code:.....

Telephone:.....

Send to **BIGGA**, Aldwark Manor, Aldwark, Alne, York YO6 2NF

Transfer these details to a plain sheet of paper if you don't want to cut up your magazine



STANDARD GOLF

WE RAISED THE STANDARD FOR GOLF



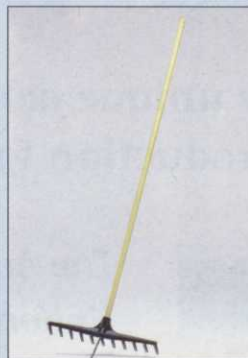
Our Professional Series Ball Washer is an improvement on the competition! Made from high grade space age plastic case and superior construction, its easy crank design and super ball cleaning action, it is able to wash up to four balls at a time. The Pro Washer can be mounted on our Tripod Ball Washer Stand, or attached to any 2-3/8" O.D. Post.
Available at £120.72 each

Dimple-T Markers:
plain, numbered or personalised. Rugged durability. Dimple-Ts are 5" in diameter with moulded-in, galvanised steel spikes for easy placement and removal.



Colours available:
Red, White, Blue, Yellow, Black.
Plain:
Numbered:
Personalised:

£6.22 each
£8.36 each
£8.66 each



Our Economy Rake is priced so low, you can order several for each bunker! The full-size 15" head is made from high-impact, molded plastic, and the 4' bright yellow handle is available in wood or long lasting fibreglass. NB: we no longer fit spikes as standard.

Complete rake w/Yellow Wood Handle:
£4.93 each plus VAT in packs of 12



SPECIAL OFFER

Green Ball Washer with 46" post @ £122 each

Ask for our full colour 1994 Catalogue and Price List.

Driving Mat "Divot Action" 1.5m x 1.5m guaranteed for 12 months @ £195 each (or £170 each for nine).

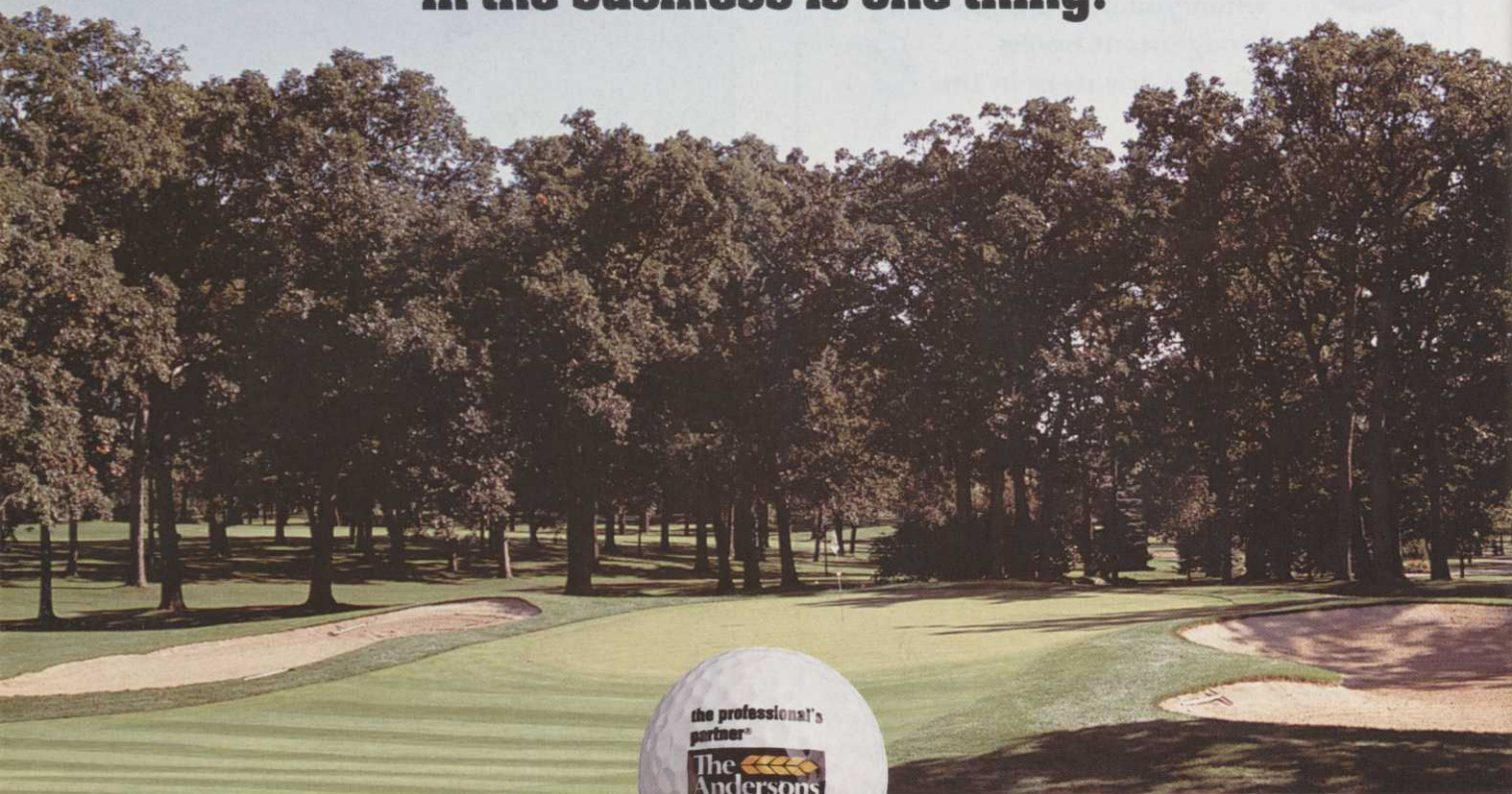
Ask for leasing details.

Contact Paula or Lisa at: Standard Golf (UK) Limited,
The Maxwell Hart Building, 612 Reading Road, Winnersh,
Wokingham, Berkshire RG11 5HE.

Telephone: 0734 788044. Fax: 0734 785805

AD
REF
421

**Having the technical expertise
to produce the finest particle size
in the business is one thing.**



**Applying that expertise
particle after particle, after particle,**

is an entirely unique achievement in advanced formula
product production for performance consistency



*The Andersons.
Uniformly the best in the business.*



Liquid Sod Ltd, Linden View • Redwing Road, Milborne Port • Sherborne, Dorset DT9 5DB
Telephone 0963 251129. Facsimile 0963 251168

Enthusiasm can be measured by the queues at new golf course

Ten days after the opening of the driving range at Rudding Park, near Harrogate, North Yorkshire, golfers were queueing up to use the facilities. Managing director Mark Mackaness hopes the golf course will meet with similar enthusiasm when it opens next June.

Designed by Martin Hawtree and constructed by John Greasley Ltd, the 18-hole 6,786-yard course is set in a mature, walled parkland estate.

Rudding Estate was bought by Mark's father, John, in 1972 and the house was turned into a prestigious banqueting and conference facility. Also on the estate is a caravan and holiday cottage park.

Work began on the golf course in June 1993. By September most of the construction had been done and all the greens, tees and the six holes outside the walled estate had been seeded. The fairways and roughs inside the walls already had suitable grasses on them.

A year on, the course is shaping



up nicely. John Greasley has handed over much of the maintenance and growing in to head greenkeeper Richard Hollingworth and his three assistants. Richard, 23, is the son of Graham Hollingworth, the head greenkeeper at Horsforth Golf Club, Leeds. Richard began his greenkeeping career at Moortown, Leeds, where he stayed for five years before joining Yorkshire Mowers as a rep. Six months later

he was back in greenkeeping with a short stint at Outlane GC, Huddersfield, before getting his first head greenkeeper position.

When we met him on the course he was standing near an overgrown cemetery which he will also have to tend. Fortunately the chapel in Rudding House hasn't been used for anything other than weddings for 40 years.

Lovers of statistics will want to know that 120 acres of the 200-

acre golf course site were seeded, 9,500 trees were planted, 400 trees were transplanted using a tree spade, 7-8,000 hedge plants were planted, and 20,000m of drainage pipes were laid. They have also planted thousands of aquatic plants in the three lakes and put up 100 nest boxes.

The greens are built to USGA spec and have been sown with 80% Freda, 10% Sabovil and 10% Highland.

John Greasley Ltd moved 60-70,000 cubic metres of soil during the construction, which isn't a lot by modern standards.

The most fascinating fact, we think, is that there are only seven bunkers and four of them are on the tree-lined 14th. This is because planners don't want the estate to look like a golf course - which is why they have stipulated that the rough can't be longer than 7.5cm.

This will make it a relatively easy - and enjoyable - course for the mid to high handicappers they are likely to attract to this "quality pay and play".

GRUNDON

NOW SPREADING IN YOUR AREA

TOP DRESSING

BUNKER SAND

ROOT ZONE

TEES DRESSING

ALL AGGREGATES

PATH GRAVELS

COCKLESHELL



NEW HOTLINE NO: Wicklesham (0367) 244078

AD
REF
437

G

**GOLF COURSE
EQUIPMENT**



NEW FOR 1994

USING OUR
EXTENSIVE
EXPERIENCE TO
SUPPLY THE
GOLFING
INDUSTRY
WITH QUALITY
PRODUCTS
FOR:
THE TEE
THE FAIRWAY
THE GREEN
THE
CLUBHOUSE
THE
GREENKEEPER
THE DRIVING
RANGE
THE PUTTING
GREEN
TURF
MAINTENANCE
EUROPEAN
SPECS

**PREMIER HOLE
CUTTER**

- ◆ 14" blades
- ◆ Zinc plated
- ◆ Lightweight

£95.00



**PEAR SHAPED
TEE MARKER**

- ◆ Colour impregnated solid resin tee marker, which makes it virtually indestructible

£6.90

**6 D PUTTING
FLAG**

- ◆ Complete with an aluminium die cast base, fibreglass shaft, but now with a swivel tube flag, for numbers or club logo

£9.25



ALL IN STOCK NOW

**H. PATTISSON & CO LTD,
342 SELBOURNE ROAD, LUTON,
BEDS LU4 8NU
TEL: 0582 597262
FAX: 0582 505241**

AD REF
35

very
**The VERSATILE Nikken
Knapsack mower/trimmer**

- Mows steep banks easily & safely
- Trims bunker edges quickly & neatly
- Also performs all the duties of a normal trimmer and brushcutter
- Hedgecutting and cultivating heads also available



which makes the Nikken Knapsack the ideal machine for every golf course

The unique **Hover Hood** gives the operator freedom and manoeuvrability 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.

Dixon & Holliday Ltd,

Unit 22, Bassett Down Industrial Estate,
Hay Lane, Swindon, Wiltshire, SN4 9QP.

Tel - sales: 0462 700547. works: 0793 845199. Fax - 0793 845191

AD REF
214



**GREEN HOUSES
IN NO TIME**

With our unique building system, we can construct a new green-keeper's store or workshop for you. In just 10-15 days.

There'll be little disruption for the golfers and minimal impact on the course. What's more, the finished building will blend beautifully with the green environment.

Send for our colour brochure.

Leofric Buildings Ltd.,
Dept. A01G1,
Leofric Works,
Ryton, Coventry,
CV8 3ED.



Leofric

BUILDING SOLUTIONS IN NO TIME

LEOFRIC SYSTEM BUILDINGS CALL 0483 426688

AD REF
425



King's Course, Gleneagles

Making your course 'greener'

◆
WORKING WITH
NATURE
◆

'Golf' and 'the environment' – words that are increasingly being linked.

With the Anti-Golf Group gaining worldwide publicity for its demonstrations in the Far East and now recruiting members in the UK, it's an issue that all courses need to tackle. In this special feature we look at three courses to see what they're doing and why.

LINLITHGOW GC

David Roy, course manager at Linlithgow Golf Club, West Lothian, explains how and why he got involved in golf course conservation, and how you can allay your club's fear of environmentalists.

My involvement with golf course conservation started in June 1992 when I responded on behalf of the club to an offer of a free species study to be carried out on the course. This study was part of a local initiative and the work was duly carried out by the Scottish Wildlife Trust (SWT) and paid for jointly by UK2000 and Scottish Natural Heritage (SNH).

It was during the species study that I found out that my knowledge of what was growing on the golf course was virtually non-existent. Merely walking round the course with the surveyors from the SWT I learned a great deal and I quickly became far more interested in finding out more about the local flora and fauna.

It was suggested at this point that this local initiative could be expanded into a national scheme promoting golf course conservation. This would take the form of each club in Scotland appointing a conservation officer to help the course manager draw up a wildlife management plan. The technical data necessary to produce a plan like this would come from the local Wildlife Trust or similar such body and once the plan was written it would be kept up-to-date and possibly modified by both the conservation officer and the course manager.

The honorary conservation officer at Linlithgow Golf Club at that time was George Anderson who I approached because he was already a member of the SWT. George worked very hard and collected a good proportion of the information required to draw up our management plan.

Unfortunately George retired to Southport but we were again fortunate in finding Crawford Smith who, like George, is a SWT member as well as being a member of the golf club. So with the combined efforts of Gill Smart from the SWT, George Anderson and Karen Morrison of SNH, we have created a conservation management policy for Linlithgow Golf Club which, if carried out correctly, will serve the club for many years to come.

It is interesting to note that the SWT have gained from the experience of working closely with a golf club and some long-held preconceptions have been broken down. It was common, for example, for environmentalists to suppose that golf courses used fertilisers and chemicals in the same manner and quantity as intensive agriculture.

I have now been involved with conservation for a little over a year and this time has just been enough for me to become acquainted with the necessary expressions that are commonly used by environmental bodies. For example, a species has various forms of rarity, and although northern marsh orchids may flower in profusion in many parts of the country, this plant may be classed as locally rare if found on your golf course. If it turns out to be the case



Linlithgow Golf Club

Photograph: Lorne Gill

that these orchids on your golf course are the only ones in a radius of 50 miles then this can count as a source of pride for the club as a whole.

There are many other apparently simple aspects to caring for the environment that will be learned from becoming involved in conservation, but most importantly it is the fact that wildlife habitats are disappearing all over the country and golf courses are a potential haven for many apparently 'common' forms of wildlife.

It is my opinion that Linlithgow Golf Club is representative of many clubs in Britain and the attitude of our committee to my involvement in conservation may well be similarly representative. Initially the committee only had to grant permission for the survey to take place, but when it became apparent that the club was a potentially important wildlife site the message to George and me was one of fear of the power of environmental legislation being used against any future expansion of the club. This initially implied to me that regardless of the rarity of the flora found on the course, this would willingly be sacrificed for the sake of some architectural tinkering with the design of the course.

It was at this point that I feel that we failed in bringing across the true meaning of what conservation means to Linlithgow.

Firstly, the legal power of environmental legislation is in reality minimal. Even the governmental quango, Scottish Natural Heritage, has to go through a complicated process of designation before there is any form of protec-

tion at all for endangered habitats and even then this is scanty to say the least.

Secondly, the very essence of this wildlife initiative is that by enhancing the wildlife of the course this will in turn increase the aesthetic value or "feel good" factor so often found on many of the great courses in Britain.

Thirdly, the cautious manner in which our committee approached the wildlife initiative simply highlights how important it is that the ideals of conservation are presented properly. It should be stressed that at all times the club has total and absolute control over the development of a conservation management plan. It is the club who will use the expertise of environmental bodies to improve the golf course. If there are areas of conflict between conservation and golf, the club will always have the last say in what happens in these locations.

At Linlithgow we have had to break down preconceptions on both sides of the fence, but the hard work put in by all involved will hopefully benefit not only future generations of golfers at our club but those wishing to follow our example.

I may add that my involvement with the Scottish Wildlife Trust has added a whole new dimension to my job which I enjoy immensely and I feel that many other greenkeepers would feel likewise.

TEMPLE GC

Here is an edited version of the 45-page environmental report prepared by local conservationists for Temple Golf Club, Maidenhead, and its course manager, Martin Gunn.

Following an ecological report on Temple Golf Club by the Sports Turf Research Institute, volunteers from local conservation

Dead wood supports many species. Many of the interesting beetles, including two notable ones, were found under old beech bark at Temple Golf Club



groups were recruited to conduct a year-long survey of the course.

The main aim of this was to provide a thorough record so that the effects of the management regime could be monitored accurately.

The volunteers from the Windsor and Maidenhead Urban Wildlife Group and the Berkshire, Buckinghamshire and Oxfordshire Naturalists Trust made more than 40 visits during 1992.

They found:

The predominant habitat, hardly surprisingly, is grassland. About 80 per cent of the 180-acre site is grassland of one type or another. Approximately 10 per cent is woodland, about 5 per cent is hedgerow and small stands of trees, and the remainder is the clubhouse, car park etc.

The grassland is over 50 per cent rough, 25 per cent semi-rough, 15 per cent fairways and about 2 per cent greens and tees. The rough is cut twice a year, in spring and late summer, with the cuttings removed to prevent the nutrient enrichment that encourages the more vigorous grasses at the expense of wildflowers. A few areas are left without any intervention. The semi-rough is cut weekly to about three weeks depending upon the growing conditions. They said these areas are "particularly species rich and form the most important feature of the course in nature conservation terms". They noted the fairways are cut at least once a week to keep the grass less than 2cm high, but artificial watering and chemical treatment are kept to a minimum. Seaweed extract and trace minerals are used to promote growth.

They found there were three main areas of woodland: Mungden Wood is predominantly mature beech wood; Badger Wood is more varied, has a much better shrub layer with an attractive line of hazel, wayfaring trees and other shrubs; Bypass Wood is predominantly mature beechwood and litter. Clumps of trees and some large single specimens dot the course. There is also a line of trees or hedgerow round most of the course, but this has become straggly and overgrown in places. Most of the old hedge has now been coppiced and the gaps replanted with suitable native species to provide a double hedge in future years.

Few birds were spotted, reflecting the lack of suitable habitat: hedges of low conservation quality and the absence of an understorey in most of the woodland. But 22 species of butterfly were recorded, which is excellent for this part of the country. The numbers and diversity of beetles and bugs was also good.

Several rare species of fungi were found, including *Coriolus hirsutus* and the first recording in Berkshire of the continental form of the Hoof fungus.

Over 200 species of flowering plant, mostly perennials, were recorded. The most amazing find was the number of orchids, both the number of species and the number of actual plants. "On the basis of the orchid population alone, parts of Temple merit scheduling as a site of special scientific interest," said the report. In the long rough more than 200 green-winged orchid plants were found, including a pure white variant. More good finds were made on the edges of the woodland areas – including several species of violet, wood spurge, spurge laurel and a few primroses.

No special study was made of mammals but evidence of badgers and foxes was found, although no badgers or foxes were actually seen.

The recommendations:

Essentially more of the same. The conservationists applauded Temple's minimal use of fertiliser and irrigation because the natural vegetation is adapted to dry and quick draining conditions, so excessive irrigation would only promote unnatural species and fertiliser runoff could alter the species balance in the roughs. Weedkiller treatment should be strictly limited, and a policy of spot weeding only if necessary should be used on the fairways.

They said encouraging birds will help control turfgrass pests and earthworms, and that the use of persistent and highly toxic vermicides should be avoided.

When the roughs and many of the semi-roughs are cut, the cuttings should be removed to prevent nutrient enrichment that would encourage the coarser grasses and weeds. A potential problem was noticed at the edge of some fairways where cuttings were left over an area rich in orchids.

They suggested omitting the spring cutting of some roughs to avoid damaging the cowslips and green-winged orchids. They were also concerned about the damage done by machinery and buggies to the orchid rich edges of some fairways. "If the fairway along the edge of Mungden Wood could be nar-

rowing by a metre or so and the cutting frequency decreased, the damage would be reduced. The present fairway width could be retained by extending its northern edge where the semi-rough is of less botanical interest."

A plan to leave an area of rough near the Bypass Wood uncut to allow the scrub to extend should be abandoned as the lower growing grassland there is considered higher in value than the potential scrub. Twice-a-year cutting should be resumed.

They also recommended more frequent but less extensive cutting of the leg of scrubby grassland running between the edge of Bypass Wood and an established scrubby copse beneath some pylons which was cleared occasionally by the electricity company, leaving helliborines overexposed to sunlight in the first season or two after clearance. The new regime, they say, "would provide a better balance between the needs of the plants and the utility".

As for the woodland, the report warned against being "excessively tidy" as a lot of conservation value comes from the dead and

• Few birds were spotted, reflecting the lack of suitable habitat... but 22 species of butterfly were recorded – excellent for this part of the country...•

dying trees and leaf litter. Grass cuttings left to rot under the trees may promote nettles rather than more varied woodland floor vegetation.

Unsuitable species in the copses, such as the turkey oak and sycamore, should be gradually eliminated and replaced with more suitable species, such as hawthorns and roses.

Some patches of nettles IN FULL SUN should be retained for butterflies. Some of each clump can be cut back in early June for tender regrowth to support second broods in July. Golfers are often more tolerant of nettles tucked away in shady places, where they will still support various invertebrates but they will not support butterflies.

Odd corners should be left unmanaged. Some rotting stumps or 'holey' trees should be left in woods near the car park and first tee for nesting marsh tits and woodpeckers.

Bird and bat boxes could be put on the buildings around the clubhouse and in Bypass Wood. But, remember, different types of boxes attract different types of birds.

GLENEAGLES

Gleneagles is cutting down nearly 200 trees – on advice from environmentalists. It's part of a plan to return the landscape to how it was when designer James Braid created the King's Course 80 years ago. Jimmy Kidd of Gleneagles Golf Developments explains what they've done and why.

At the same time as Gleneagles Golf Developments were putting together an environmental management plan for the estate and three golf courses, they were carrying out an 'historical audit' of the courses.

The objectives of the audit were:

- Identify alterations over the past 70 years, reasoning and timescale;
- Investigate possible weaknesses in the golf strategy and natural experience;
- Define current problems with regard to safety and maintenance;
- Examine the championship status and requirement;
- Propose possible improvements and alterations;
- Estimate costs;
- Indicate possible timescale for realisation of proposals.

The study of all available historical information indicated some fairly major changes in the length, par and golf strategy over the years.

It also became evident during the historical audit that vegetation had forced golf strategy



alterations. Encroaching and invasive species, such as broom, whin and gorse, which is exceptionally good to look at when it's in flower, was having a serious impact upon the golf experience.

A detailed examination of each hole then took place, taking into consideration the environmental management plan for the entire

830-acre estate. As part of this plan we:

- Identified all sites of special and scientific interest – (20 sites exist);
- Set up 'control' and 'experimental' botanical monitoring quadrants to assess changes in vegetation. (There are 13 selected sites with 2 sq m control plots and 2 sq m experimental plots alongside. A botanist analyses the

When James Braid designed the King's and Queen's courses at Gleneagles, the land was covered in grass and heather. It remained that way until about 25 years ago. Then the courses were opened all year.

So what? you're probably thinking. Opening all year meant not using it for sheep and deer grazing in the winter. The sheep and deer used to nip the heads off the alien broom, whin, bracken, rowan trees and silver birches, whose seeds were probably introduced by birds.

"I look back at aerial photos from ten years ago and there's nothing there, and I look at it now and it's just an absolute mass," according to Gleneagles' Jimmy Kidd.

Research shows that as close as 1958-1968 there were no rowan trees on the golf course, very little bracken and only a little gorse and whin. But in recent years it has gone out of control, altering the strategy of many holes. The 1st hole is a prime example

In 1921 it was a 355-yard par 5, dog-leg right to left with two bunkers on the right side of the fairway and two guarding the green on the left. It was a relatively simple opening hole with a very wide fairway. Sketches of the hole at the time show there was little or no scrub on the right

side. The strategic drive, therefore, was played to the right to open up the green for the approach shot.

By 1974 there was no longer a dog-leg, the bunker count had increased from four to nine, the length had increased by just seven yards and the par had decreased from 5 to 4.

Closer examination reveals much of the reasoning behind the major strategic alterations was due to the severe encroachment of invasive

broom/whin, gorse, rowan and bracken on both sides of the fairway. As a direct result of the loss of the dog-leg strategy on the right side of the hole, it was deemed prudent to incorporate THREE new bunkers on the left side as most golfers now preferred that route. This in turn forced strategic changes to the right side of the green and two extra bunkers were incorporated to catch the typical shot – slightly pushed out to the right.

A comprehensive environ-

mental plan and historical audit many years ago would have identified the problem and subsequent investment in construction and development of a new strategy would have been avoided, along with the extra daily maintenance burden of five new bunkers.

The removal of the invasive scrub, which is now being done, would have restored the original architectural concept. At Gleneagles, they now make it policy for everyone to understand James Braid's original concept. Not all of it is valid with the modern game, but only when you understand what the architect was trying to achieve on each hole can you say what is relevant today and what is outdated.

Says Mr Kidd: "You can only properly maintain a golf course if you have a perfect understanding of the architectural concept. I see too many green-keeping errors created because the superintendent doesn't have a good understanding of a) who the architect was and b) what his concept was. Once you understand that you can make up your own mind whether you want to retain it because it's useful or discard it because it's outdated. And at least when someone asks you why you're doing something you can explain it."

