



Figure 2. Superficial fairy rings on a golf green

by Kate York, STRI, Bingley

The development of turfgrass diseases is affected by numerous factors such as turf vigour, turf composition and environmental conditions; the greenkeeper may sometimes have an almost insurmountable job on his/her hands to prevent severe disease problems from affecting the playing quality of the turf. As with controlling any problem, the control of the symptoms and development of turfgrass diseases can be made easier by fully understanding the conditions likely to favour their occurrence. During the summer months, the main diseases that are likely to occur on golf courses in the UK are red thread, superficial fairy rings (thatch fungi) and take-all patch. The areas on which each of these diseases occur may differ and the factors effecting their expression will vary widely.

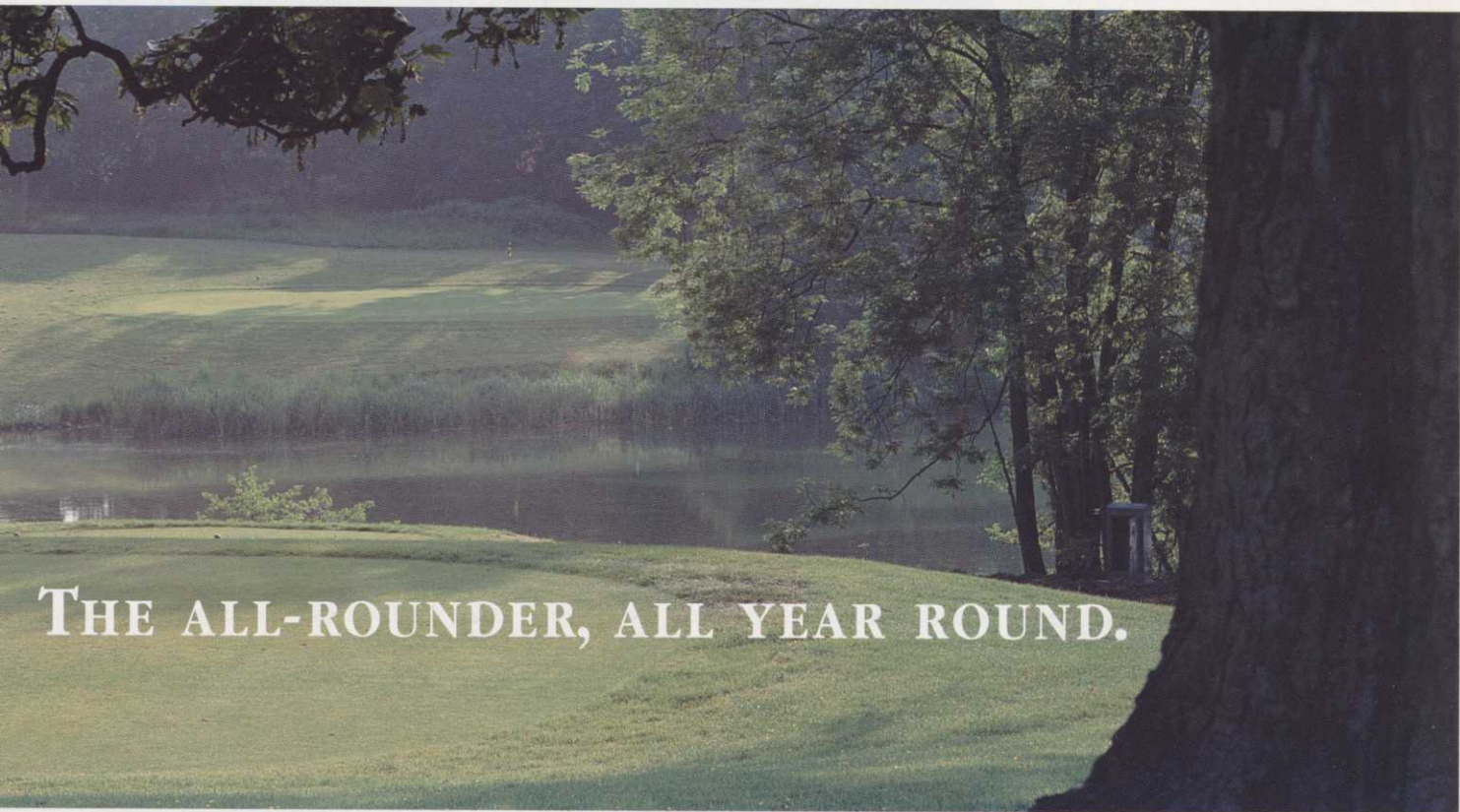
Red thread disease (Figure 1) can affect both coarse and fine turfgrasses equally by decreasing the visual quality of the turf surface. It can be found on golf greens but its

COMBATING SUMMER TURFGRASS DISEASES

effect on these highly maintained areas is usually minimal and will not generally warrant severe control measures. As a disease, red thread will only, in extreme situations, cause death of the sward. It will almost invariably cause a relatively superficial problem that can be controlled quite readily.

This disease is generally regarded as one which occurs on turf that is being maintained

under low levels of nutrition. This is not always the case as red thread disease can be seen on turf which has been highly fertilised. Although all turfgrasses can be affected by this disease, fescues and rye grasses are the most susceptible. The development of the simple or branched antler-like stromata or needles is a characteristic symptom of this disease which gives the turf its easily identifiable red



THE ALL-ROUNDER, ALL YEAR ROUND.

provide you with precision engineered tools for the perfect finish. Give us a call. We'd like to walk your course with you and recommend the best Workman to meet your precise needs. You can trust Toro quality.

For a Workman that will tackle anything simply telephone 01480 476971 and we will arrange for a local dealer to contact you.



*Bringing perfection
to play.*

COMBATING SUMMER TURFGRASS DISEASES

colouration. Since red thread usually only affects the leaf blades of the turf, addition of nitrogen will encourage grass growth allowing the affected grass to be mown and removed from the area. Boxing off clippings will reduce the amount of the fungus present within the sward and will therefore help to limit both the spread of the disease during the present year and the occurrence of the problem in subsequent years. Boxing off the clippings is usually impracticable on fairways where the disease is often most apparent but if a severe disease outbreak occurs, the problem can be readily controlled using any one of the approved fungicides currently available. Seed companies are also working on developing resistance to red thread disease in some cultivars of the most readily attacked turfgrass species.

Although red thread can seriously affect the visual quality of the turf, it has negligible effect on the playing quality of the sward. Other turfgrass diseases that occur during the summer months are noted more for their effect on the surface levels rather than on the appearance of the turf. This problem is due to superficial fairy rings or thatch fungi (Figure 2). The fungi that cause this problem live within the thatch. They decompose the organic matter present in this layer thereby releasing nutrients which they take up and use for their growth and development. As they develop, the physical presence of their white mycelium reduces the amount of water that is available to the roots of the grass due to its naturally water repellent nature. In effect, the growth of the fungi act as a barrier to water penetration and cause stress to the infected sward. This stress is often expressed as a slight yellowing of the turfgrasses which is often accompanied by the presence of surface depressions in affected areas. These depressions are simply due to the localised reduction in thatch caused by the activity of the fungi and will inevitably become more apparent during the summer months if the surface of the turf is allowed to become dry. Such symptoms can severely affect the surface levels of an affected golf green, particularly on greens that hold an excessive thatch layer.

The levels can be restored with careful applications of topdressing and severe outbreaks of superficial fairy rings can be controlled by applications of fungicide. It is recommended that if fungicides are to be applied as a control measure, the affected area should be opened up through spiking, slitting, hollowtining, etc. and treated with a wetting agent to ensure complete wetting of the affected turf prior to the fungicide appli-

As with all turfgrass diseases, early and accurate identification of the problem is imperative

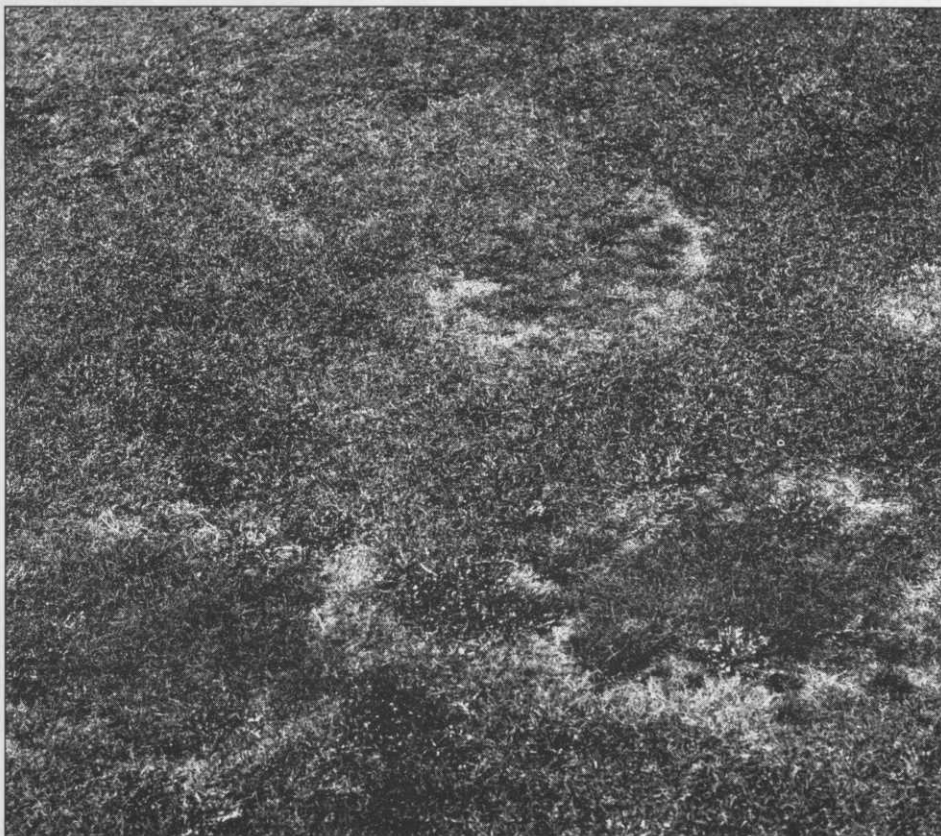


Figure 3. Symptoms of take-all patch disease

cation. It may be necessary to complete a second application of the fungicide to ensure product efficacy against the disease.

Certain turfgrass diseases can cause a reduction in both the visual and playing quality of the turf surface and perhaps the most problematical of all is take-all patch disease (Figure 3). The fungus responsible for this disease is a soil-borne pathogen that only affects the roots of bent grasses. The areas of turf affected by take-all patch can be quite extensive and the effects of the disease can remain evident on the turf surface for several years. There are currently no fungicides available that have approval for use against take-all patch disease in the UK. It is important to understand the factors that can lead to the development of this disease in order to minimise the possibility of its occurrence.

The pathogen that causes this disease is more suited to growing under conditions of higher pH than are the antagonistic soil micro-organisms which normally keep the levels of the pathogen below that required for disease outbreak. If the pH rises rapidly, even by a small degree, the pathogen will grow

more rapidly through the soil and initiate disease development before the antagonists have a chance to grow and limit the pathogen's effect. Free surface moisture will encourage the spread of the disease and therefore to limit the disease progression, the turf surface should be kept as dry as possible. Resistant turfgrasses, such as fescues, should be used to overseed the affected areas before the thinned sward is colonised by weed grasses and broad leaved weeds. Applications of acidifying fertilisers will encourage the growth and development of the antagonists and speed up the recovery of the sward from the disease attack.

As with all turfgrass diseases, early and accurate identification of the problem is imperative if the correct control measures are to be employed at a time when they can limit the extent and severity of the outbreak. Turfgrass diseases will almost certainly develop at some time on all areas of amenity turf but their impact on the quality of the surface will vary considerably depending on the specific pathogen and how early the disease development was recognised.

Ten on test by the people best qualified to judge – the greenkeepers

REAL WORLD TEST AERATORS GREENKEEPER INTERNATIONAL

No greenkeeping machine is as varied as the aerator, perhaps due to the diversity of requirement. While the definition of aerator must be “a means of aerating the soil” there are also important drainage requirements. Although the fundamental reason for aerating is to improve root growth and turf health there are a number of reasons why soil needs aerating and many ways of achieving it. Problems and non-permeable layers can occur at any depth from the surface down, one reason why differing machines suit specific needs.

The following examples look at a number of machines and relate what the course management is aiming to achieve with it. Greenkeepers were asked how reliable and effective the machines have been, and often about tine life and running cost. These costs can vary enormously and while operating conditions have the most profound bearing on wear and tear the variations are such that there must be other factors involved such as setting, usage and metal hardness. The units considered vary from self-propelled and tractor mounted mechanical tining implements to water and pneumatic injection systems. There are also screw drill systems available.

Sisis Technicore at Salisbury & South Wilts Golf Club

Course Manager Kerran Daly reckoned that the Technicore is one of fastest and most versatile machines on the market. It is a tractor mounted, pto driven, machine with a 4ft working width and a range of tines and adapters to enable it to core or spike at various width centres. Salisbury normally operate it behind a Kubota 33hp compact. The machine is now in its second

year and during that time it has not suffered any breakdowns or other significant problem. Changing tines is easy, solid tines are held with a pin and clip in a holder which is held by a screwed set stud. The club has several sets of holders which enables Nigel to change tines quickly and easily using a pneumatic wrench. The lubrication requirement of a few pumps of the grease gun every four hours for the main crank bearings is not considered onerous as the nipples are easily accessible. Bearings on the arms have an eight hour service requirement.

A set of hollow tines has been lasting for about 18 holes, wearing down from 5ins to 2.5ins during that operation and this was accepted as a fact of life without any comment. Mounting the machine on the tractor is extremely quick and simple with rear legs held with spring loaded catches to allow easy retraction or extension. Setting the working depth which is controlled by a single full width front roller is best with two persons, one each side working together as the rigidity of the unit prevents the two screw adjusters being more than a turn or two out of alignment, but this may be an advantage

as it prevents uneven working.

Greencare Coremaster 12 at Dudsbury GC in Dorset

There is a policy to elevate five year old Dudsbury to one of the best courses in the south of England, thus a fairly intensive programme of work is being undertaken.

Pete Lovell, course manager at Dudsbury, explained that he first hired the machine last year and was impressed by its performance so decided to purchase one. The club carries solid, hollow and quadratines. One of the features which Pete particularly likes is the fact that his Greencare 12 has automatic lubrication as this precludes the need to carry a grease gun or stop to grease round. Oil use is remarkably low, the level in the reservoir is visible so there is little danger of running out of lubricant. No problems or broken pipes have been experienced with the system. Tine wear is “acceptable”, but in any case the cost of about £55 per set of 24 is considered to be “peanuts”. In fact the club has yet to wear out any of its solid tines. Where Dudsbury has found wear is on the metal loops which retain the tine return springs, and it was suggested that

some modification or an insert would be an advantage.

Dudsbury's Coremaster 12 was purchased through Romsey Garden Machinery, and is available for hire to other clubs. The club also hires out its Toro Hydroject 3000.



The Toro HydroJect 3000 at Highpost GC near Salisbury

Lauchlan Millar at Highpost GC hired the Hydroject from Dudsbury. He has past experience with the machine which is unique in its use of high pressure water jets. His father is also a committed user, thus Lauchlan knew what he wanted and why he wanted to use this form of aerator.

Highpost is on chalkland, but the greens have built up a peaty layer and the turf was not rooting. There were also drainage problems on parts of the greens and furthermore shallow rooting was allowing the slitter to lift the turf. The club has a conventional aerator, a Ryan GA30, however this was not effective in getting through and into the chalk below to promote drainage, so Lauchlan decided to hire the Hydroject, which is currently too expensive to justify on the club's capital budget.

One common comment made to Lauchlan because the machine makes little or no marking or mess on the surface is that it isn't doing a “proper job”. Lauchlan carries a length of welding rod to insert into the holes which are just visible, so that he can show the sceptics the depth to which the jet is penetrating.

The machine is powered by a 24hp Onan twin cylinder engine which uses about a gallon of petrol per green, but if this seems excessive Lauchlan put it in per-



NEW

CONTINENT 400-3D from SABO-Roberine

A Winner for Mowing Tees and Bunker Surrounds

Rear-mounted 15hp twin-cylinder diesel; full hydrostatic drives; backlapping facility as standard

High driving position for all-round visibility and operator comfort

Excellent power-to-weight ratio

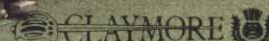
For climbing slopes the Continent 400-3D is in a class of its own

Rear-wheel power steering gives tight turning

Options include: grassboxes, 3-wheel drive, differential and cab



See the Continent 400-3D in action on your course. Book your personal demonstration today on 01789 490177



Send for details from:
CLAYMORE GRASS MACHINERY
Waterloo Industrial Estate, Waterloo Road,
Bidford-on-Avon, Warwickshire B50 4JH
Tel: 01789 490177 Fax: 01789 490170

AD REF 315 G.K.2

In 1995 St Andrews hosts the OPEN for the 25th time and

Watermation



celebrates

25

Years of excellence in
GOLF COURSE IRRIGATION

Watermation Sprinkler & Controls Ltd

Tongham Road, Aldershot, Hants GU12 4AA Tel: 01252 336838 Fax: 01252 336808

AD REF 33

spective by saying that it is probably less than the cost of tines. The water demand is stated by the maker as eight gallons a minute at 50 psi, which should be within the capacity of most irrigation systems. The machine trails a high pressure hose from the water supply, and at Highpost there are hydrants convenient to each green.

Highpost proposes to hire the machine again in July and September.

Weidenmann Terra-spike at Western Gailes GC

Western Gailes in Ayrshire is a links course which expects to be open all year round, thus it needs a versatile aerator which is able to undertake deep as well as shallow tining. Stewart Barr, course manager, said that the Terra-spike deep aerator provided him with the means of enhancing drainage as well as undertaking

his normal aeration and compaction programme. His is the 1.35m width machine which the course has now had for a year, and his comment was that it teamed well with their compact tractor.

Last winter's weather plus increased pressure of golfers strained the greens' ability to



recover and required additional aeration work to relieve compaction but more particularly to promote drainage during periods of intensive rainfall. Stewart illustrated its deep aeration ability when it allowed him to dry out a fairway after "the heavens opened", just before an important match. "It was", he commented, "an instant remedy to the two ponds which had appeared on 17th." Normally the machine is used mainly on greens, tees and walkways. Last winter's weather was open but wet, and if not typical at least not uncommon for Ayrshire.

There have been no mechanical problems with the machine, Stewart described it as simple and robust, tines are lasting "Okay".

Robin Dagger at Downes Crediton GC

Crediton has hired a Dagger "for



years" but only bought its own (second hand) machine last year. The Fuji Robin Dagger soil ameliorator, to give the full name, is a unique machine with a single tine, this is driven into the soil by vibration from the two stroke engine when a charge of compressed air is released to lift and shatter the soil from the tip of the tine. The machine is self con-

MULTI-CORE

The superb TM 1000 Tractor Mounted Aerator



- 1.0 metre coring width
- Variable spacing with a large choice of tine sizes. Hollow, solid or mini
- Productivity. Once acre per hour at 26mph
- Adjustable depth. Depth capacity to 5 inches
- Durability. Robust all steel welded frame
- No grease points. Fully sealed throughout
- Fits your compact tractor. From 16hp gearbox or hydrostatic
- TM 1500 1.5 metre working width also available.

MULTI-CORE

3 Hillside Close, Euxton, Chorley, Lancs PR7 6JB
 Tel/Fax: (01257) 231861

For Ireland please contact:

Croft Turfgrass Industries, Greencroft, Castlebellingham, Co. Louth, Tel: 00 353 427 2163

AD REF 347



COMPACTION? POOR DRAINAGE? POOR GROWTH?

Are you experiencing any of these problems with your Sports Fields, Greens, Cricket Squares, Landscapes, Trees?

Call for the Terralift • Use the Terralift Sub-Soil Restructuring Service

The Terralift also incorporates soil conditioners and root feeds trees. The probe can reach 1m or 1.5m depths.



C & P SOILCARE LIMITED, Unit 3, Bush Farm, Nedging, Ipswich, Suffolk IP7 7BL. Telephone/Fax: 01449 741012

Recommendations, demonstrations and free site visits available.

AD REF 46

VICTORY OVER COMPACTION

WITH TERRAVENT HAND PORTABLE

SOIL AERATORS

LOW PURCHASE COST

ENVIRONMENTALLY FRIENDLY

INEXPENSIVE TO RUN
AND MAINTAIN

USABLE IN ALL SEASONS

OPERATIONAL PRESSURE
BETWEEN 50 - 800 PSI



Made in Britain

GREENS • TEES • BUNKERS • PATHS • GULLYS • DITCHES • BANKS • TREE ROOT ZONES

AUTHORISED TERRAVENT DEALERS • AUTHORISED TERRAVENT DEALERS • AUTHORISED TERRAVENT DEALERS

A&F Warehouse

East and West Sussex
Tel: 01428 661767 - fax: 01428 661767

Abbey Mower Supplies

Warwickshire - Northamptonshire - West Midlands
tel: 01203 511255 - fax: 01203 511255

F.G. Adamson & Sons

Humberside - North Yorkshire - South Yorkshire
tel: 01482 631148/9 fax: 01482 631893

B.S. Mowers

Avon - Gloucestershire - Somerset - Wiltshire
tel: 01179 353588 - fax: 01179 353599

Balgownie Machine Centre Limited

Highlands - Grampian - Tayside
tel: 01224 485291 - fax: 01224 482344

Capital Grass Machinery

Central - Fife - West Lothian
tel: 0131 335 3783 - fax: 0131 455 7361

Eastern Tractors Limited

Essex
tel: 01245 256281 - fax: 01245 494966

Geo Henderson

East Lothian - Borders
tel: 0131 443 2474 - fax: 0131 455 7361

Haynes Agricultural (Kent) Limited

Kent
tel: 01622 755726 - fax: 01622 759106

Keith Morgan Mowers

South Wales - Hereford - Worcester
tel: 01873 880244 - fax: 01873 880838

Major R Owen Limited

North Wales
tel: 01766 770261 - fax: 01873 770261

Nairn Brown Limited

Strathclyde
tel: 0141 644 3563 - fax: 0141 644 3610

Par 4 Groundcare Limited

Shropshire
tel: 01588 660656 - fax: 01588 660657

Purdys Grass Machinery

Nottinghamshire - Derbyshire - Lincolnshire
tel: 01777 704257 - fax: 01777 705737

F.R. Sharrock Limited

Lancashire - Greater Manchester - Merseyside
tel: 01257 422710 - fax: 01257 422753

F.R. Sharrock Limited

Cheshire - Staffordshire
tel: 01477 500700 - fax: 01477 500650

Rickerbys Limited

Dumfries & Galloway
Northumberland - Durham - Cumbria
tel: 01228 27521 - fax: 01228 24402

Owen F. Baxter Limited

Southern Ireland
tel: (00353) 454 81655 - fax: (00353) 454 81539

Risborough Turf Supplies Limited

Berkshire - Buckinghamshire - Bedfordshire
Hertfordshire - Oxfordshire
tel: 01844 274127 - fax: 01844 274191

Stanley Pond Limited

Dorset
tel: 01258 451221 - fax: 01258 480185

Surrey Power Machines

Surrey
tel: 0181 974 1001 - fax: 0181 974 2241

Thurlow Nunn Standen Limited

Suffolk
tel: 01394 382801 - fax: 01394 384330

Toolhouse Limited

Hampshire
tel: 01428 608182 - fax: 01428 608282

C.R. Willcocks & Co Limited

Devon - Cornwall
tel: 01626 332444 - fax: 01626 332668



tained and has two wheels to enable the operator to move it from site to site.

Head Greenkeeper, Tony Blackburn, said that the Dagger was able to penetrate well into their stony brash and clay. Drainage is an important requirement at Crediton as much of the course is relatively low lying and has a stream running through it.

Trials with a conventional deep tine aerator had resulted in the machine failing to penetrate and ripping the turf. Occasionally the Dagger meets a stone which it cannot divert or shatter, and then it is a simple matter to re-site and try again. The machine is driven down to the full 20 in. depth each time and the aim is to aerate at 2 yard intervals. At this spacing it takes between three quarters and an hour on each green.

The Dagger is driven by a two stroke motor, and uses about a litre of petrol mix per green. Tony

has no criticism of noise level, parts back-up seems satisfactory for the strictly limited number of times that parts have been needed – a pipe and drill top breakage have been the only problems, and these occurred previously while the machine was on hire. Suppliers were P J Flegg Ltd of Ottery St Mary.

Ransomes Ryan GA30 at Filton GC

Filton's machine is relatively new to the course, replacing a machine of another make which was obsolescent. The GA30, possibly the best known of all core aerators, is a self-propelled ride-on machine with a 30 in. working width. It is powered by a Kohler Magnum twin cylinder petrol engine of 18 hp.

Kevin Green, Course Manager at Filton, said that they selected the GA30 for its speed and the fact that they were fully commit-

ted to a Cushman system with no suitable (compact) tractors at the club. In simple terms he felt it suited the course. Other important reasons for the purchase were to give flexibility.

The machine requires a minimum of servicing as all bearings

are sealed, thus no grease can be leaked onto greens. The most important point Kevin considered was to ensure that all tines are clamped tightly and that the steel turf guard fingers are not bent. Dealer support is excellent, but there is no service history yet to report. Kevin indicated regret that no diesel engine option was available, however fuel consumption is only about six gallons daily. The noise and vibration from operation is noticeable to the operator on the seat, and Filton insist that all operators wear ear defenders, however vibration is not considered a major problem as operation is for such a short period.

Operators have found the controls are very easy to use, and the machine is very easy to set up, in fact Kevin said it is virtually fool-proof. Lost or broken tines are easy to spot by looking back at the hole pattern.



GREENCARE



An Earth Shattering Experience gives you results that count...on 01455 233811

HARDI LTD • 4/5 WATLING CLOSE • SKETCHLEY MEADOWS • HINCKLEY • LEICS LE10 3EX • TEL 01455 233811 • FAX 01455 233815

ULTRA PLANT

Machinery for the professionals in sports ground maintenance



The U.P.60:
For all round top dressing - it's in use at Murryfield today



H.L.40 and U.P.40
Dual lift trailer cuts out double handling, feeding accurately into the fine turf top dresser

35 Farlough Road, Newmills, Dungannon Co. Tyrone,
Northern Ireland. BT71 4DU
TEL/FAX: (INT 44) 018687 47582

AD REF 473



GRASS ROOTS TRADING COMPANY

- | | | |
|------------------------------|--------------------|-----------------------|
| Course Furniture ✓ | Germination Aids ✓ | Power Tools ✓ |
| Grass Seed ✓ | Wetting Agents ✓ | Germination ✓ |
| Course Equipment ✓ | Turf Agronomy ✓ | Specialist Products ✓ |
| Spraying ✓ | Aggregates ✓ | Machinery Hire ✓ |
| Secondhand Machinery Sales ✓ | Computers ✓ | Storage ✓ Sands ✓ |
| Animal Repellent ✓ | Fertilisers ✓ | Soil Analysis ✓ |
| Servicing ✓ Tools ✓ | Flora ✓ | Shrubs ✓ Spares ✓ |
| Health & Safety ✓ | Flora ✓ | Lubricants ✓ |
| Fuels ✓ Netting ✓ | Flora ✓ | Line Marking ✓ |
| Books ✓ Clothing ✓ | Flora ✓ | Dressings ✓ |
| Course Accessories ✓ | Flora ✓ | Drainage ✓ Help ✓ |
| Construction ✓ | Flora ✓ | Pathway Materials ✓ |
| Soils ✓ Trees ✓ | Flora ✓ | Tools ✓ Tanks ✓ |
| | Irrigation ✓ | Line Marking ✓ |



"FOR ALL YOUR TURFCARE NEEDS"

Quality ✓ Value ✓ Choice ✓ Availability ✓ Service ✓

Operating hours Monday to Saturday 7am-9pm

**Grass Roots House, 34 Ashton Road,
Wokingham, Berkshire RG11 1HL
Tel: (01734) 771185 Fax: (01734) 785116**

AD REF 479

BUYING CAPITAL EQUIPMENT IS A PAIN ... BUT WE OFFER PAINLESS EXTRACTION!

The latest Diesel Walker 42" RIDER-PICKUP mower with its zero turning facility is guaranteed to do the work of three men with walk-behind machines.

However sometimes, even the prospect of saving real money is not enough to justify a major capital expenditure. Many Authorities, Golf Clubs and Landscapers, today find themselves in a financial cleft stick. Income is steady or even rising but finding a lump sum is just not on. So, what's to do?

Increasingly our Walker owners are using Leasing to make a cost and labour saving purchase possible.

A brand new 42" WALKER pickup mower powered by a water-cooled Kubota 16.5 h.p. Diesel (RRP £8900 + VAT) can be leased for as little as £300 per month + VAT over a period of three years.

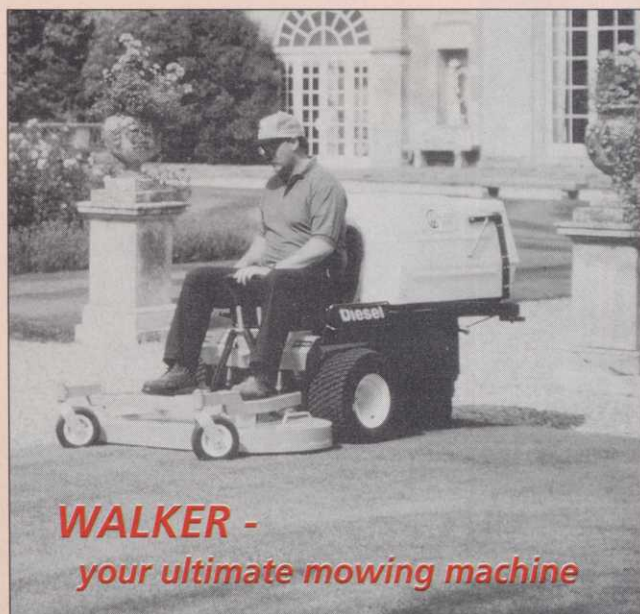
Of course we'll happily do special quotes for special circumstances ... just tell us the problem and we'll give you a solution. For instance, in some cases, if outright purchase is preferred, we'll accept 6 equal monthly payments **INTEREST FREE.**

FREE DEMONSTRATIONS COUNTRYWIDE.

Phone, fax or write for
Brochure and further details
and/or demonstration to
Dept GRI
Bob Andrews Ltd

BOB ANDREWS LTD

BILTON INDUSTRIAL ESTATE
LOVELACE ROAD - BRACKNELL
BERKS - RG12 8YT
Tel: (01344) 862111 Fax: (01344) 861345



WALKER -
your ultimate mowing machine

"The only way for a small company to enter an established market and stay there is to design products with unchallengeable superiority and uncompromising quality."

(Bob Walker, President WALKER MFG. CO.)

AD REF 381



Verti-Drain at Welcombe Hotel and Golf Course near Stratford on Avon

Welcombe has very heavy clay, therefore, says Head Greenkeeper, Malcolm Grout, they need a very heavy duty deep aerator which could cope with the work. As a result the course bought a large - 2.5m width - Verti-drain in 1991 which they use behind a MF375 on flotation tyres. While fully justified on the 18 hole course the outfit has also

been hired out occasionally.

Malcolm admitted that because of its size it would frighten many greenkeepers however he has no qualms although he does select his moments to work the greens. Virtually no lift is given to the tines and a mower is used as a roller to follow the operation.

Half inch diameter tines last for about 36 holes, while the larger ones "go on for ever," Malcolm said, "well perhaps a season, remember this includes acres of

fairway." Replacement is straight forward, a two spanner job, the set screw having a lock nut. Tine losses are minimal, while the occasional breakage is inevitable. Servicing consists of greasing round once a week, fairly sparingly so that no grease drops off, an occasional adjustment of the slip clutch and a seasonal oil change. The gearbox uses about a gallon of heavy (140 SAE) gear oil. Due to the weight of the machine and the fact that there

are no rear jacks built in attaching it to the tractor can be difficult.

Overall Welcombe is extremely pleased with the operation of its Verti-Drain. "It has been the saviour of our fairways," Malcolm said, "which have no irrigation, and as a result can dry out horrendously."

Multi-Cores with American Golf (UK) Ltd

All five American Golf course in UK have 1.5m Multi-Cores, all are under a year old and all have proved to be extremely satisfactory. All the courses are relatively new with USGA spec greens, and Director of Maintenance Laurence Pithie is adamant that it is a myth that these do not need aerifying.

Made in Australia, the Multi-Core is, according to Laurence, simple and very robust with few parts to cause problems. The machines mount easily on the



COMPACTION? POOR DRAINAGE? POOR GROWTH?

Are you experiencing any of these problems with your SPORTS FIELDS, GREENS, CRICKET SQUARES, LANDSCAPING AREAS OR TREES?

The Terralift was specifically designed to aerate around tree roots, reaching 1m depth as standard. The Terralift also incorporates soil conditioners in turf and also root feeds trees

**Unit 3, Bush Farm, Nedging, Ipswich, Suffolk IP7 7BL
Tel: (01449) 741012 Fax: (01449) 741012**

AD REF 46

**M
E
E
T
E
N
S**



INDUSTRIAL ENGINES LTD

For all your engine and spares requirements from stock

Tel: 0181-946 4244

Fax: 0181-947 2595

261-269 Coombe Lane, Wimbledon, London SW20 0RH

AD REF 151

back of a 24hp compact tractor which provides ample power and stability.

The machines have been supplied with 16mm (5/8ins) solid and hollow tines as well as with quadratines. Operation is quick and the finish is neat and clean.

"Pencil" hollow tines are also available, with a 0.25ins diameter and these will be used for partial coring work particularly in shaded areas where extra aeration is deemed necessary. It is expected that the operation will be completed by simply drag-matting behind the corer to spread the cores.

Standard coring is practised once or twice a year on greens while solid tine and more often quadratine aeration of greens, tees and approaches is performed as deemed necessary. Slitters are also used.

Laurence estimated that tine wear and cost is comparable with

other similar machines, about 36 holes from a set of hollows and 54 from the solids, the latter also being used on tees and approaches – so covering a greater area than the coring tines, which are only used for the somewhat smaller than normal greens. Maintenance requirement is minimal with sealed bearings used throughout, thus the main requirement is to adjust the drive belts.

The Terravent at Silvermere Golf Club in Surrey

The Terravent is a new British designed and built system for spot treatment of compaction using relatively inexpensive equipment with compressed gas from cylinders. Silvermere Golf Club invested in the system last year and Head Greenkeeper Mark Logan says that it has been "brilliant". It has been used for problem areas on greens, tees and in



bunkers or wherever there has been a problem with drainage. A particular advantage is that it can also be used on banks where no other equipment can be used and around trees or shrubs. Mark has found the use of several forms of aeration essential as the Terravent is not a machine which you can go out one day and aerate the whole course.

The Terravent system consists of a probe which is "hammered" into the ground manually to the depth required using the built-in slide hammer before the burst of gas is released through holes at the bottom of the probe. A 30m. hose connects the gas cylinder to the pressure valve and probe. The gas used is nitrogen which is available from compressed gas suppliers countrywide, many golf clubs already having a gas supply contract for their bar. The standard recommended cylinder has a 30 litre/200 bar capacity which should cost about £45 per year to hire and £11.31 per refill. Mark says that he has found it essential to carry a spare cylinder as he has run out in the past when part way through the job. Terravent has now fitted a gauge to check the contents. The supplier suggests about eleven hundred holes per cylinder, but this is at the lowest pressure of 10 bar, at maximum shot pressure of 50 bar there are about 250 shots.

While the tool works extremely effectively, often really lifting the

soil, and Mark issued the warning that it can be so effective that with excessive pressure it is possible to produce bumps on the surface. He recommended wearing goggles and gloves, the latter to avoid blisters from using the slide hammer.

C & P Soilcare – Terralift and Deep drill at Woodlands Manor GC – Sevenoaks

Soilcare operates a hire service which is complete inclusive of operators. Woodlands Manor course is 28 years old and built on clay/flint cap over chalk, as a result it has many sites including greens and tees which need drastic action to break through the cap to the chalk for drainage. The club has used Soilcare's services on a number of occasions, using both its Terralift machines which employ compressed air released from deep ground probes and the Deep Drill with its multitude of large masonry type drills. The former has a maximum depth of 3 ft. while the drills go down about 10 in. thus both have differing uses. Head Greenkeeper, Don Attfield, has been extremely pleased with the service and the results.

The Deep Drill has been particularly effective used in conjunction with a wetting agent to solve surface water flow problems. Its minimum disruption to the surface is a vital advantage, Woodlands Manor sweep up the spoil and then top dress with a 70/30 mix. Cost has been fairly high, particularly as all broken drills are charged, and with the flints these have been numerous. Nor is the operation particularly fast, on average taking between an hour and an hour a half per green.

The Terralift likewise is a minimum surface disruption treatment and it has been particularly effective at breaking through the clay cap to the chalk below. It has been used on a limited number of greens and tees where in the past they have become very boggy over winter. Although Don would not admit 100% success he did say that it had allowed greens to be brought back into play much sooner than would otherwise be the case, and with a three foot reach it can guarantee to fissures right down into chalk.

LE LUBRICANTS STAY ON YOUR MACHINES – NOT ON YOUR GREENS!

RECOGNISE THE PROBLEM?

Poor quality greases

Pounding out! – Washing out!

Damaging your precious greens!

THE LE SOLUTION!

LE's high performance Almagard greases

Don't wash out! – Won't pound out!

Providing complete protection to the equipment you rely upon!

FOR FURTHER INFORMATION OR TO ARRANGE AN ON SITE DEMONSTRATION



CALL FREE LUBRICATION SOLUTIONS 0800 716095