

GreenKeeping

Keeping the industry on course

• November 2019

ISSUE: 163 • £8.00



THIS WOMAN'S WORK

The head greenkeeper at Santo da Serra on the island of Madeira, **Telma Granja**, talks about why, in a profession in which less than two per cent of greenkeepers in the UK are female – and one in which she leads an all-male team of 11 greenkeepers – she has so much passion for her job



EAGLE

Design for Golf



ROCHESTER
COBHAM PARK
GOLF CLUB

STARTING RULES

Please 'check in' at the professional shop to confirm starting tee.

SLOW PLAY

Your place on the course is behind the game in front - not in front of the game behind.

DRESS CODE

Appropriate dress code is required on the course at all times.

ETIQUETTE

Please look after your course -
Replace Divots, Repair Pitch Marks
& Rake Bunkers - thank you



18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
----	----	----	----	----	----	----	----	----	---	---	---	---	---	---	---	---	---

18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
----	----	----	----	----	----	----	----	----	---	---	---	---	---	---	---	---	---



START TIMES

MONDAY - FRIDAY

2 BALLS	TEE
0800 - 0915	10th
0945 - 1130	1st
1130 - 1315	10th
1315 onwards	1st or 10th

3/4 BALLS	TEE
0800 - 0930	1st
0930 - 1130	10th
1130 - 1315	1st
1315 onwards	1st or 10th

SATURDAY, SUNDAY & BANK HOLIDAY

NON COMPETITION DAYS	
0730 - 0930	1st & 10th
0930 - 1130	TEES CLOSED
1130 onwards	1st & 10th

ON COURSE MAINTENANCE

- ALL TROLLEYS ALLOWED
- SUMMER RULES APPLY
- NO ELECTRIC TROLLEYS
- WINTER RULES APPLY

PIN POSITION GUIDE



1st TEE

PRACTICE FACILITIES

10th TEE

GET NOTICED

Keep your golfers up to date with the latest course information

EDITORIAL ADVISORY PANEL



DR JOHN DEMPSEY
BSc (Hons), PhD
Turfgrass scientist and former course manager at Royal Curragh Golf Club



PETER JONES
MSc, MBPR, RIPTA
Golf course consultant and former course manager
www.pja-golf.co.uk



NOEL MACKENZIE
BSc (Hons), MBPR
Turf agronomist and former golf course consultant and greenkeeper



JONATHAN SMITH
BSc (Hons) MA
Chief executive of the Golf Environment Organisation
www.golfenvironment.or



DR RUTH MANN
BSc (Hons), MSc, PhD, MBPR
Head of research at the STRI



DR KEITH DUFF
Advisory member of The R&A's Golf Course Committee and former chief scientist with English Nature



LAURENCE PITHIE MG
Europe's first Master Greenkeeper and golf course consultant
www.turfmasterone.co.u



DR KATE ENTWISTLE
CBiol, MIBiol, MBPR
Turfgrass pathologist and head of The Turf Disease Centre
www.theturfdiseasecentre.co.uk

regulars

- 02 Industry News
- 16 Seeds and Turf Buyer's Guide
- 20 Greenkeeper Profile: Telma Granja
- 30 Course Machinery Buyer's Guide
- 34 A Day in the Life: Damien Bowe

features

- 06 Dr Christian Spring: Mitigating the effects of reduced water for golf courses over the next decade
- 10 How to increase the life expectancy of a bunker
- 14 Tips on improving your irrigation system
- 25 Potential funding opportunity for environmental work
- 26 The transformation of a golf course – because HS2 is running through it
- 28 The redesign of Belvoir Park Golf Club's course



• Editor: Alistair Dunsmuir • Chief Sub Editor: Tania Longmire • Art Director: Alan MacKenzie-Morris
• Associate Publisher: Steve Eaves • Production: Tom Burnett-Godfree • Database Manager: Mile Budimir
• Publisher: David Rose • Chairman: Anthony Hawser • Email: greenkeeping@unionpress.co.uk

Published by Union Press, 69 Southwark Bridge Road, London SE1 9HH Tel: 020 7803 2453 Web: greenkeepingeu.com
Social media: @greenkeepingmag (Twitter) www.facebook.com/Greenkeeping www.linkedin.com/company/greenkeeping

Annual subscription: United Kingdom: £79.00 Europe: £122.00 Rest of World: £153.00

Recruitment and Subscription Enquiries: Lewis O'Sullivan, email: lewis@greenkeepingmagazine.com, tel: 020 7803 2427

Union Press Ltd. Printed and distributed by Buxton Press. All rights reserved. No parts of the contents of this publication may be reproduced or stored in a retrieval system or transmitted in any form or by any means electronic, mechanical, photocopying, recording or otherwise, without written permission of the

We had an average of **33** greenkeeping vacancies per day in October. Visit: jobs.thegolfbusiness.co.uk



Printed by Buxton Press, Winner, Print Week 'Printing Company of the Year' 2015 to 2017

'Horrendous damage' to two courses

Vandals have carried out 'horrendous' damage to at least two golf courses this autumn.

At Prestwich Golf Club in Greater Manchester a criminal drove an off-road buggy across the course and was seen performing 'doughnuts' on the greens.

The course was left badly damaged, with evidence of tyre marks and mounds of turf having been torn up.

The golf club estimates it will cost tens of thousands of pounds to repair the damage.

Golf course manager, Chris Harding, said: "The damage is horrendous, it has been completely shredded.

"It is going to cost a hell of a lot of money to repair."

A major remodelling of the



course, costing just shy of £1m, had been taking place at the club, which meant half the course had been closed for over a year.

Harding said the damaged section of course had only been laid down for three months and is yet to be played on.

Pictures uploaded to the club's Facebook page showed a great deal of damage had been carried out.

However course work by the greenkeeping team also showed

SISIS Machinery @SISIMachinery
 Awful news as vandals took a spade to greens at Willingdon Golf Club in what has been described as an 'extreme' and 'premeditated' attack. Read more here - bit.ly/2qcDLOb



that significant progress had been made at rectifying the vandalism within a few days.

Shortly afterwards, vandals took a spade to greens at Willingdon Golf Club in East Sussex.

Course manager Luke Turner said: "We put in a lot of work and time and effort into creating excellent surfaces and some person decides to come along

and vandalise and create damage.

"This is about the most severe I've seen in 10 to 11 years. It's very extreme and premeditated."

He added that someone had cut a hole in a fence and taken a spade or shovel and dug up large areas of three greens, at about four to five square metres wide.

"They have come equipped to do it," he said. "They have walked a considerable distance, almost a kilometre.

"It took about 25 hours to get the surfaces repaired enough to play on again. To get it back to the required high standard it will take most of the winter and into the spring."

So far it has cost around £1,500 to repair the damage, and has put teams behind schedule.

Golf club sees 25% increase in bird species



Ufford Park Woodbridge Hotel, Golf and Spa in Suffolk has seen a nearly 25 per cent rise in bird species that live at the venue in just eight years, according to a Royal Society for the Protection of Birds (RSPB) survey. The club is now home to 39 species and new residents include mistle thrushes and hawfinches.

Mistle thrushes have been scarcer in south east England because of drier summers in recent years, and sightings of hawfinches – the UK's largest finch – are increasingly rare because their breeding areas are in decline.

Malcom Key, of the RSPB, said: "One of the interesting things about Ufford Park is that

it is evolving and maturing as a habitat. This continuing development results in changes to the bird species that like being there which is why the number of bird species has increased so significantly in the last eight years."

Hotel boss Tarnia Robertson said as a result of conservation work, the venue was becoming a destination for birdwatchers and wildlife enthusiasts.

"Our 4,000 trees, gorse area and ponds are home to all kinds of wildlife and we work tirelessly to protect the species that have made their home here. Over recent years we have worked hard to expand our wildlife programme. Our greenkeepers do a wonderful job of maintaining the ecology of our grounds to not only preserve the habitats of the existing wildlife but also to make it attractive to new species.

"They have introduced a purely sustainable programme of management throughout the whole golf course from green to rough areas."

Call us today on:
01903 278240
Fax: 01903 278245



Visit our website at:
www.ttirrigation.co.uk
Email: info@ttirrigation.co.uk

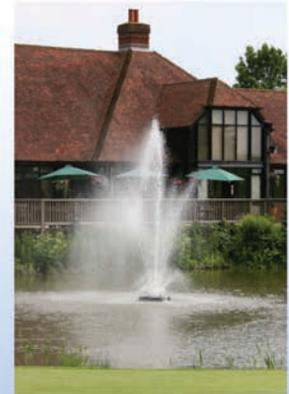


A well-established company, our team's experience and expertise are always on hand to oversee the irrigation process. We believe in providing a friendly and professional service, free from jargon and unnecessary hassle.

A design, supply and installation service is available for all new irrigation systems; in addition we offer bespoke services to all clients with new and existing systems for private gardens, recreational facilities, golf course and sports stadia.

Topturf have now expanded to designing, building, supplying and installing single or multi-pump pump sets.

Topturf are the leading agents for the supply and installation of Otterbine Barebo decorative and industrial aerators, providing quality aeration for the water management of all lakes and ponds.



Winter improvement work for Bedfordshire club

Essex-based Swan Golf Designs (SGD) is to create a schedule of autumn and winter improvement work at Aspley Guise & Woburn Sands GC, in Bedfordshire.

The family-owned practice has undertaken the initial assessment process for changes to the heathland / parkland course designed initially by 1902 Open champion Sandy Herd and then Robert Sandow – the first nine holes of which date from 1914.

The original course construction at the Milton Keynes-based club was carried out by Charles Willmott, who, uniquely, remained at Aspley Guise & Woburn Sands as the club professional for a remarkable 42 years.

Director and architect William Swan explained: "We've been appointed to design golf course improvements, with a view to begin implementation in the autumn and winter. This will likely see changes to tees, bunkers and green surrounds with additional focus on more effective tree and landscape management. It's a great honour to be asked



to 'improve' a course with such a unique history and one which is so highly regarded."

Aspley Guise & Woburn Sands' general manager, Simon Dennis, added: "I am pleased to be able to work alongside William and the team at Swan Golf Designs once more. My personal experience of the company is wholly positive and professional and we look forward

to reaping the benefits over the next few seasons."

Borne out of the collaboration between Sir Henry Cotton and Alex Swan, the family-owned Swan Golf Designs has more than 60 years of experience of designing and renovating golf courses in the UK, throughout Europe and beyond.

David Carpenter is new chair of IOG

David Carpenter has taken over as chair of the Institute of Groundsmanship (IOG) for the next three years.

"I see my role as being one of continuity and building on the excellent work of a great board," he said.

"And one of the ways forward is by utilising every aspect of market intelligence possible so that the IOG can continue to bang the drum for an industry that is highly-valued – in both annual turnover as well as in the worldwide reputations of those within it."

With a pedigree of success in his former roles with the Sports Council and the Lottery Fund, David – who has been an IOG board member for nine years – is certain he can make a difference.

"The 'Young IOG Board' has been a fantastic initiative, but we need to continue to lift the image and profile of a career in this industry, and work hard to promote the sector, especially to the younger generation.

"It is clear that job satisfaction is high – once people enter this sector they tend to stay in it – but we must do more to not only address salaries but, importantly, to also promote the high skill sets that are required to maintain our sports surfaces," he said.

"Today's greenkeepers can justifiably be called turf scientists and their work is essential to the success of sport.

"That is a message that we must drum home again and



again to the sports industry and to the general public.

"One of my main roles will be to champion IOG initiatives like the Pitch Grading Framework (PGF), the programme that highlights the skills needed to maintain every level of natural sports turf surfaces, alongside the appropriate education and training pathways. I am adamant that this framework needs to be actively accepted by our partners, by sports clubs and especially by local authorities which in particular have been severely hit by a skills' (and manpower) shortage.

"We have to improve the skills and knowledge of everyone involved in turf care. And we have to continue to raise the profile of the IOG and cement its status as the 'go-to' organisation for everything to do with turf care and playing surfaces. It will be a five- to 10-year programme."

Links effect restored at Nairn Dunbar Golf Club

Nairn Dunbar Golf Club has undergone a series of course improvements to restore the links effect at the Highland layout.

After receiving consistent feedback that holes 9, 10 and 11 had a more parkland feel, the club put a restoration plan in place to unveil as much of the natural dune systems and undulations as possible. Through sustainable management, Nairn Dunbar has also worked hard on producing more firm and fast greens for links golf and undertaken a rough, gorse and tree management programme.

Under the leadership of course manager Richard Johnstone, the club boasts an improved links test.

Director of golf Robbie Stewart said: "The course has long possessed all the essential ingredients of a thoroughly absorbing links layout and Richard and his team have brought that to the fore in recent years.

"With the autumn now here, we boast a superb all-year round links test at Nairn Dunbar."

The restoration plan has helped achieve the overall links experience, as previously there was a band of larch trees, gorse and broom running down the

right-hand side of the 10th hole that blocked the view of the Moray Firth and the natural dunes. With the addition of new teeing surfaces, the parkland feel has been lost.

Johnstone has also worked on the composition of the grass species on greens, introducing more fine leaved grass into the surfaces and reducing the amount of meadow grass content.

"We have also firmed up surfaces by regularly top-dressing with dune sand to dilute organic matter with significant changes to firmness on greens and approaches," he said.

The club also implemented a rough management plan to return the links roughs to their natural condition, allowing fescues to regenerate to a dominant position and leave a long, open and wispy rough. "This gives the course a better aesthetic effect but allows members and visitors to find their balls and help speed up play," added Johnstone. "We also introduced a gorse and tree management plan to return areas of the course back to its original dune landscape, with the removal of gorse, broom and other non-native species."



Sisis Rotorake TM1000 & Javelin Aer-Aid Aeration and Scarification with a difference

For more information
on our full range or a
no obligation demonstration
call **01332 824777**
or alternatively visit
www.sisis.com



sisis



World class turf maintenance equipment



PROUDLY
BRITISH

TRU-TURF

EXPERIENCE THE COMPLETELY NEW R50-11 GREENS ROLLER.

Building on their long history of industry leading design and innovation, Tru-Turf has incorporated more world firsts, making the industry leading roller even better!

GET WHAT YOU PAY FOR... AND MORE.



Leading the market in design and innovation Tru-Turf is the first choice for head greenkeepers and course managers at top golf courses across the globe.



UK DISTRIBUTION BY
DOUBLE A

CUPAR, FIFE: 01334 657602
ALTENS, ABERDEEN: 01224 392300
WWW.DOUBLEA.CO.UK

Time to test the water

Water is essential for maintaining a golf course but our changing human consumption, agriculture, industry and, of course, climate, means water is likely to become more scarce in the next decade. Dr Christian Spring looks at what can be done now in preparation

One thing is for sure, water is one of the most important molecules for a grass plant. Water has many critical roles for life within the plant:

- Water is the agent of transport of nutrients into and through the plant
- The pressure caused by water in cells, is what gives grass plant tissues their strength and allows leaves to remain upright. When plant water content is low it starts to wilt
- Water is the medium in which all of the plant's biochemistry takes place
- Water is one of the important fuels used in photosynthesis. It is the splitting of water molecules into hydrogen and oxygen, with the hydrogen being combined with carbon dioxide to form carbohydrates, the main building block of most plant tissues. The oxygen is released, which maintains life on earth as we know it.

Water is one of the key molecules to support life.

The turf

However, in a sports turf surface context, water also has other roles and impacts. The amount of water in the soil directly impacts on the performance and playability of sports surfaces.

Wetter surfaces tend to be softer and drier surfaces tend to be firmer. Wetter surfaces tend to become damaged more quickly through usage and can encourage shifts in the turf composition.

Drier surfaces increase the risk of plant stress and for contact sports, such as football or rugby, there can be player comfort and safety concerns.

Typically, our response to mitigating the

effect of water on the playing surface has been three-fold:

1. Improved drainage to allow excess water to be removed from the soil as quickly as possible.
2. Irrigation systems to apply water in a targeted fashion as and when it is needed.
3. Turf maintenance operations such as aeration, scarification, sand topdressing and use of wetting agents.

All these approaches have been shown to work and give turf managers a high degree of control over surface water content. However, there are other issues now coming to the fore which add another layer of complexity.

Climate change and water availability

The R&A has recently published its *Golf Course 2030 Initiative Water Action Plan for Great Britain and Ireland*. In this document, potential risks of water scarcity and water excess have been analysed, as well as outlining the next steps on how to tackle this issue. This is recognition of the critical role that water plays in managing our turf surfaces and the pressures we are going to have to overcome now and in the future.

Undoubtedly, climate change will have, and is having, a significant impact on UK

weather. The most recent predictions from the Met Office on the implications of climate change for the UK highlight that weather will become more changeable and less predictable, and this will occur differentially across the country rather than as a uniform effect everywhere. This will mean that at times, we will experience significant increases in rainfall and at other times, a higher risk of drought.

To add into the mix, the competition for water supply for human consumption, agriculture and industrial use will increase. This could be partially as a response to climate change pressure, but also regional demographic change across the UK. All this means the security of water for sports turf applications will come under significant pressure.

What does this mean for my sports surface?

The implications for sports surfaces are clear. We need to identify the risks at a regional and facility level, whether this is how we deal with excess water or situations where there is not enough. There is a need to build resilience into our sports facilities to account for both too much and too little water all in the same year.



Benefits

- Enhances visitor experience
- Minimises ongoing maintenance
- Enhances on course safety
- Anti-Slip surfaces
- Prevention of Ice formation in winter
- Eliminates standing water
- Provides value for money
- Minimises risk of third party claims

For further information visit
www.htncontracting.co.uk

Contact by phone 07919565001

Email info@htncontracting.co.uk

Twitter @ContractingHtn



FUTUREPROOF BUNKERS

Planning a Bunker Renovation Project?
Are natural aesthetics and long term
maintenance costs important to your club?
See our range of products and contract
options at ecobunker.co.uk and learn how
clients in 29 countries are now enjoying the
benefits of EcoBunker Ltd technology and
knowhow.

Speak to our team on
+44 (0)2920 397 472

Send us an email at
info@ecobunker.co.uk

The Valley GC, Munich

ECO
BUNKER
build it once

So, what does this mean? A starter for ten is to think more holistically about the water demands and the needs of our sports facilities. What are the challenges we face and do we start to implement plans now? We need to look at water use demands, drainage requirements and potential storage capacities of our whole sites, and not just focus on the sports surfaces. For example, how do we deal with drainage on wet areas of the golf course and how can we store and reuse that water on course?

Or how can grey water or rainwater from clubhouses be recycled for use on the course or landscape plantings?

We need to make sure that we have audited our water demands

and likely issues on site. Where is drainage the main issue and where is water availability most under pressure? Have we optimised our maintenance regimes to help mitigate, as far as possible, these issues?

One case in point that has struck me recently has been the programmed and early use of wetting agents. Again, we seem to have transitioned straight from winter into summer this year.

A dry April and early May led us to irrigate turf more frequently than normal at our research facility in Bingley. However, what was clear was that several trial areas where wetting agents had been tested last year (with no additional applications since the end of September 2018) fared much better in terms of drought stress reduction.



They also recovered more rapidly when rain came as water was able to enter the dry soil more rapidly and evenly. Food for thought!

We know how integral plant hydration and surface moisture management are to maintaining a quality playing surface. There are forces already at work that will require us to evaluate water resources and demands of our facilities much more closely. We cannot take water for granted. We must plan our water management now to ensure that when the crunch hits, our facilities are robust and resilient to these issues.

Plan for change now to safeguard the future.

Dr Christian Spring is the STRI's research operations manager



Missed us at SALTEx?
Visit our stand at BTME
Purple Zone
Stand 424



Technology at your fingertips. Tetraploid perennial ryegrass mixtures with Germin-8T and carbon lock benefits.

Double the number of chromosomes compared to diploid perennials, increased chlorophyll production, healthier plants with improved stress and recovery capability.

- Now contains *Trichoderma atroviride*
- Fast germination from 4°C
- Superior winter wear
- Increased chlorophyll production
- Stronger, deeper roots
- Great drought and disease tolerance
- Superb colour

Highly rated mixtures for every surface for the construction, renovation, transitional seeding and repair across a wide range of golf, sports pitch, and landscape applications.

Experience the difference.





Construction of a bunker at Singapore Island Country Club this October.

Getting into shape

Bunker renovation can be costly and the design life of a bunker is usually five to seven years. However, according to Richard Allen, the life expectancy can be considerably, and affordably, extended if just a few principles in the design stage are adhered to

A passing comment on social media about a long-lost treasure that has been searched for and never found has been adopted enthusiastically by a few golf industry professionals engaged in the art of bunker construction. The real Holy Grail may never be found, but the elusive solution to low maintenance, highly resilient golf bunkers is now available to any golf course. So how do you find the 'Holy Grail' of golf bunker construction?

The search must start with design. Good

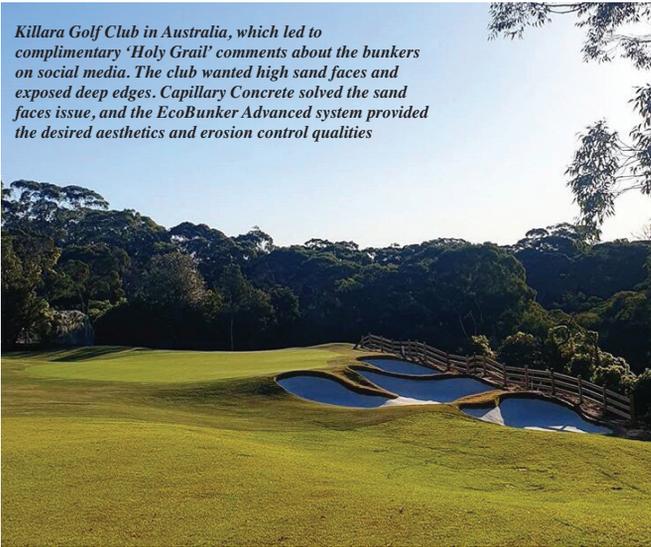
design, carried out by suitably qualified and experienced professionals is the best insurance policy you can buy.

Changes at the design stage cost virtually nothing to fix. Problems during construction, or worse still, after commissioning, are normally very costly. I got into the golf construction industry because of the crossover between my profession (a civil engineering designer) and my passion (all things golf). The classic engineering design process starts by understanding the

client's brief and budget, then studying the constraints and opportunities (for example ground conditions). The design process should finally produce documents which enable any competent contractor to deliver a project that matches the client's wishes, within budget, safely, compliant with relevant regulations and on time. Furthermore, the finished works should perform perfectly and be easily maintained during the 'design life'.

'Design life' is the key phrase here. I don't

Killara Golf Club in Australia, which led to complimentary 'Holy Grail' comments about the bunkers on social media. The club wanted high sand faces and exposed deep edges. Capillary Concrete solved the sand faces issue, and the EcoBunker Advanced system provided the desired aesthetics and erosion control qualities



think I'm out of line by suggesting that in general the golf industry accepts that the design life of a golf bunker should be five to seven years) or less on some exposed sites). Why? Is it the historic lack of resilient bunker construction products (see later)? The consequence is usually that after five to seven years the golf club cannot afford a new bunker renovation scheme. Nothing performs well beyond its 'design life' and bunker results are predictable: exponential maintenance increases and patch repairs. Bunkers quickly turn from assets into liabilities. So, find a longer design life (within your budget) and you are getting closer to the Holy Grail.

It may sound simple to do this, but until relatively recently, very few 'long term' bunker products and construction techniques were available to greenkeepers and course managers. Why did advances in bunker construction lag behind major advances in agronomy, irrigation and machinery? Perhaps bunkers were viewed as hazards (a valid viewpoint) that should not routinely present perfect playing conditions.

However, bunkers have increasingly been identified as the weakest area of most golf courses, and in response, a diverse range of new ideas and products have entered the market. First came geotextile (commonly referred to as fabric) liners followed soon by bound aggregate (such as Capillary Concrete) and rubberised options led by blinder. Then came improved drainage products such as Aquadyne, and finally attention turned to bunker edging and facing products, including in 2010, the innovation of using recycled artificial grass.

The 'Holy Grail' of bunker construction combines all these technologies to produce a bunker that drains perfectly, under the most severe rain, retains its shape (because edges resist erosion), preserves sand purity and holds that sand in place, resisting the dreaded washouts. Very often, this form of bunker system is referred to as fully sealed, but is perhaps better described using engineering terminology as 'tanked systems'. So what are the key drivers, features and benefits of a tanked bunker system?

Firstly the bunker edge. Traditionally bunkers have a natural soil edge, either flush with the sand, or exposed to varying height. Extreme examples are revetted (or sod wall) bunkers, although many heathland and parkland courses use a soil edge of four (100mm) to 12 inches (300mm). Soil



Selvatici Aeroking range of Vertical Drainage Aerators and Sandqueen Sand Dispensers



Exclusive UK and Ireland Distributors



Agri Market Insight & Access

www.agrimarketia.com

01363 82928



Sand contamination from eroding soil edges

edges are highly vulnerable to erosion. Fines enter the sand, compromising the bunker drainage systems' aesthetics and playability. Erosion commonly changes the shape of a bunker, occasionally exposing the bunker liner, irrigation system or becoming unsafe. A proven solution to extend the design life of bunker edges is to use stacked synthetic grass. Based upon evidence gathered over the past five years, the EcoBunker Advanced system appears to perform best, having resisted multiple Category 5 hurricanes (the ultimate test) with no damage.

Secondly, the bunker liner, or base of the tank. There is a bewildering array of bunker liners on the market. Only consider bunker liners that can keep the sand in place and clean, prevent washouts, protect any underlying drainage and allow easy bunker raking without damage. An added benefit would be the ability to condition sand to the optimum moisture content.

If we are looking to include all these qualities and increase the bunker design life to 10 years or more, that narrows the choice somewhat. The design process will help make the correct choice: budget, construction period, in-house or contractor install, local ground conditions, the bunker style and shape, locally available raw materials, long term maintenance capability, requirement of a warranty and so on. Apart from style and shape, this is primarily an engineering

design function, although many golf course architects are now becoming more familiar with the technicalities of bunker lining systems.

Finally, where can the Holy Grail be found? At EcoBunker, we have done multiple fully tanked systems across the globe, all using our bunker edging system. Successful results have been obtained with all kinds of liners; rubber crumb, bound aggregate and even geotextile options on courses where bunker design is conducive to that approach. However the first bunker project where the Holy Grail comment first appeared on social media was Killara Golf Club near Sydney, New South Wales, where EcoBunker edges were combined with Capillary Concrete. The club wanted high sand faces, and exposed deep edges (resembling the Melbourne Sand Belt).

Capillary Concrete solved the sand faces issue, and although local soils were unsuitable for a deep bunker edge, the EcoBunker Advanced system provided the desired aesthetics and erosion control qualities.

The path to the Holy Grail starts by employing a suitably qualified design professional, as I'm sure, Harley Kruse, the designer of the Killara renovation project, would agree.

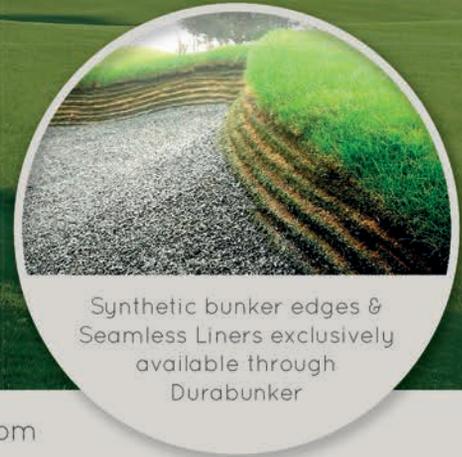
Richard Allen is an engineer and CEO of EcoBunker

**“THE ‘HOLY
GRAIL’ OF
BUNKER
CONSTRUCTION
COMBINES
TECHNOLOGIES
TO PRODUCE A
BUNKER THAT
DRAINS
PERFECTLY,
RETAINS ITS
SHAPE,
PRESERVES
SAND PURITY
AND HOLDS
THAT SAND IN
PLACE,
RESISTING
DREADED
WASHOUTS”**



Built To Last

- Synthetic Bunker Edging • Design & Build Service • Self Install Options
- Multiple Bunker Liners Including Rubber Crumb, Billy Bunker & Fabric
- Free Initial Consultation • Worldwide Client Base & Distribution



Synthetic bunker edges & Seamless Liners exclusively available through Durabunker

info@durabunker.com Tel:+44 (0)1656 336576 www.durabunker.com

ROTOMECH

a Cleveland Alliances product

  serving British & American turf care since 1977

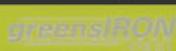
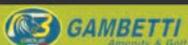


trailed mowers ~ 3 point hitch mowers ~ front mounted ~ rear mounted ~ flail mowers ~ rotary finishing mowers



premium heavy duty
outfront mower decks

3 year warranty*



01361 883418



www.clevelandalliances.com



Peter Corbett

Testing the water

Many golf clubs across the UK have irrigation systems that are just not working to their optimal abilities. This doesn't necessarily mean the irrigation systems are inadequate; in many instances they may just need some fine-tuning, writes Peter Corbett and Peter Robin



Different nozzles for diverse situations

One of the cheapest methods to make your irrigation system work better, and one that's almost always overlooked, is to check your sprinkler nozzles. You wouldn't spray those expensive chemicals onto your turf without making sure you had fitted the correct spray boom nozzles for the job in hand and that they were checked for wear, so why ignore the nozzles in your irrigation?

Every pop-up sprinkler on the market has a range of nozzles you can install into it. Take the Rainbird Eagle 751 for example. It will arrive with a standard #40 orange nozzle, but there are eight different nozzles to choose from in the standard range, plus a further three wind-tolerant nozzles, so the chances that your standard nozzle is correct for your system are low. Did anybody actually figure out what nozzles you needed in the first place?

To find out which sprinkler nozzle you should be using, the best way is to start with a nozzle performance chart. You should be able to download one for your sprinkler model off the web. You will notice on the chart that each nozzle will throw the water a different distance depending on how much pressure it is receiving.

Questions to ask. Are your existing sprinklers 'dumping' large droplets out onto

the green, and are you having problems with dry patch (often occurs about four to six metres away from a sprinkler incidentally)? Can you see gaps in the 'rain curtain'; the water falling to the ground from your sprinkler? If so, it could be that the nozzles in your sprinklers are too big. To help rectify the system and potentially make it more effective, simply look on the chart and select a nozzle a couple of sizes smaller.

A smaller nozzle can often make a big

difference. When you install the smaller nozzle you will inadvertently reduce the flow rate; this in turn will often help the irrigation pump deliver a higher pressure, since flow rate and pressure have an inverse relationship for most centrifugal pumps.

This increased pressure will often throw the water further across the green; it will help create smaller droplets and will potentially create the 'rain curtain' that each sprinkler should be achieving.

This is because the sprinkler requires a good pressure to disperse the water uniformly out of the nozzle.

This is often the cheapest way to make a big difference to the effectiveness of your irrigation system. A new nozzle might cost a few pounds, so replacing a whole golf course will still add up to a few hundred pounds, but compared with the cost of sprinkler replacement or upgrading your pump system,



Golf Rotors
Rain Bird® 751 Series Rotors

Metric Performance Data

Base Pressure (bars)	3.4			4.1			4.8			5.5			6.2			6.9				
	Radius (m)	Flow (l/s)	Flow (m ³ /h)	Radius (m)	Flow (l/s)	Flow (m ³ /h)	Radius (m)	Flow (l/s)	Flow (m ³ /h)	Radius (m)	Flow (l/s)	Flow (m ³ /h)	Radius (m)	Flow (l/s)	Flow (m ³ /h)	Radius (m)	Flow (l/s)	Flow (m ³ /h)		
#20 - Gray	11.3	9.8	0.40	1.59	11.8	9.8	0.49	1.77	11.9	9.8	0.53	1.91	12.5	10.4	0.56	2.02	—	—	—	
#22 - Red	12.2	12.2	0.52	1.89	13.7	12.2	0.60	2.16	13.7	12.8	0.64	2.32	13.1	12.5	0.68	2.45	—	—	—	
#28 - White	16.8	15.8	0.96	3.45	17.4	16.8	1.06	3.82	18.0	17.1	1.14	4.11	18.0	16.8	1.22	4.38	18.0	16.8	1.29	4.66
#32 - Blue	18.0	18.0	1.08	3.88	18.6	18.6	1.17	4.22	18.6	18.6	1.26	4.54	18.6	18.6	1.35	4.86	19.2	18.9	1.42	5.11
#36 - Yellow	18.6	18.3	1.21	4.34	19.2	19.2	1.31	4.72	19.8	19.8	1.43	5.13	20.4	20.4	1.51	5.45	21.0	21.0	1.61	5.79
#40 - Orange	19.2	18.9	1.37	4.93	20.4	19.8	1.50	5.41	21.0	20.4	1.62	5.81	21.0	20.4	1.73	6.25	21.6	21.3	1.82	6.56
#44 - Green	—	—	—	—	19.8	19.8	1.66	5.97	21.0	21.0	1.79	6.43	21.6	21.6	1.92	6.90	21.6	21.6	2.03	7.29
#48 - Black	—	—	—	—	—	—	—	—	21.0	21.0	1.98	7.13	22.3	22.3	2.13	7.65	22.9	22.9	2.25	8.11

Base Pressure (bars)	3.4			4.1			4.8			5.5			6.2			6.9		
	Radius (m)	Flow (l/s)	Flow (m ³ /h)	Radius (m)	Flow (l/s)	Flow (m ³ /h)	Radius (m)	Flow (l/s)	Flow (m ³ /h)	Radius (m)	Flow (l/s)	Flow (m ³ /h)	Radius (m)	Flow (l/s)	Flow (m ³ /h)	Radius (m)	Flow (l/s)	Flow (m ³ /h)
#16 WTN - Gray	—	—	—	18.3	0.99	3.57	18.9	1.05	3.79	18.9	1.12	4.04	19.5	1.19	4.27	20.1	1.29	4.63
#18 WTN - Red	—	—	—	19.2	1.19	4.27	19.2	1.26	4.54	19.8	1.35	4.86	20.4	1.43	5.16	20.4	1.51	5.45
#22 WTN - Black	—	—	—	—	—	—	19.8	1.74	6.27	19.8	2.26	8.13	20.4	2.37	8.54	21.6	2.59	9.33

Nozzle performance chart

rainbird.com/golf



Peter Robin



Rain Bird 'rain curtain'

we're talking peanuts. It might just be something worth thinking about before next season's hot weather arrives.

OK, all well and good so far.

You've checked your nozzles, consulted the charts, checked pressures and done a visual assessment of the quality of your 'rain curtain'. Important yes, but it does not tell the whole story and that is the primary requirements for the intelligent use of water is knowing how much you require on your turf surfaces to achieve the desired standard.

Water content in the soil can be measured in different ways. A tensiometer sensor measures the matrix water potential, or soil moisture tension in the root zone. However, such equipment is suitable for use on fixed irrigation monitoring equipment but not for moving around multiple greens on a golf course.

On an 18-hole golf course, greenkeeping requires knowledge of, and be able to measure the, volumetric water content (VWC), expressed as a percentage, in many different areas of the course and, on a range of constructions. This can be achieved using equipment that can measure the dielectric impedance of the soil and return a reading in a VWC percentage. There are a number of moisture meters that use this technique but many have to be calibrated in order to give correct readings.

Greens have very variable moisture levels depending on a range of factors. Traditional methods of moisture measurement, as indicated above, sample the same area and



POGO allows you to measure, record and react to the information provided

monitor how levels change over time using a grid system. This all requires calibration to give correct readings, requiring time consuming manual recording of information and manual interpretation.

What is the alternative?

The POGO uses the unique HydraProbe

sensor, which has four measuring prongs and does not need calibrating. It has a built-in GPS detector, so it knows where it is anywhere on the course, using a novel app via Bluetooth. This automatically saves the data to a mobile phone to be collected and recorded without the need for pen and paper.

- Sample position
- Soil moisture
- Surface temperature
- Soil EC
- Soil salinity.

A major feature of the POGO system is its ability to connect to the 'Cloud', which becomes your internet-based filing cabinet and report writer.

The Cloud holds all your data and contains the interpretation software so it can be presented as maps, tables and graphs. Data collected can be over-laid onto maps and presented pictorially, like the moisture map, along with other important information including the area of the green.

The GPS system used by the POGO can also provide a GPS map of all your course assets; sprinkler pop-ups, irrigation infrastructure, paths, electrics and so on. The system can also be used to record any numeric value used to measure criteria, for example ball speed, uniformity, firmness. Also, the system can record the historical positioning of pins and produce a pin sheet for tournaments which can either be printed or posted on the club website.

Peter Corbett and Peter Robin are Rigby Taylor product management specialists. For more information, visit www.rigbytaylor.com



POGO water management moisture map on a golf green

► seeds, turf and fertilisers buyer's guide

Toro

It was word of mouth and recommendations from nearby customers that saw Upminster Golf Club opt for Toro irrigation.

When Andy Cracknell assumed his new post as course manager at Upminster Golf Club two years ago, one of his first projects was overseeing the installation of a new irrigation system, all he had to do was choose who to go with.

"By the time I came on board the decision had been made that the system needed to be replaced but it had not yet been decided who would be best to deliver on our objectives, which included a high degree of control to advance the turf quality on the fairways and approaches in particular."

And it was fellow golf clubs in the vicinity of the club in Essex that made a potentially difficult decision straightforward, says Andy: "Some neighbouring clubs in the M25 area were using Toro irrigation and getting great results. The ground here is London clay and can be particularly difficult to work with, which meant I paid close attention to their experience using Toro irrigation, mainly the Lynx central control system. Everyone was raving about how effective it was."

This is thanks to the level of control the Lynx system offers, as well as the option to choose sprinklers such as Infinity that can be accessed from the top down to prevent the messy, difficult and time-consuming process of digging up the sprinkler body for maintenance and servicing.

Clay soil needs to maintain a steady moisture level – if it gets overly wet or dry it's easily damaged when dug up or walked on – hence the reason why Infinity sprinklers appealed so much to Andy.

"It was so important to have a system that offered us the ability to irrigate specifically to



our soil's unique needs," he says. "We had moved past the point where it was okay to be irrigating in units of minutes, we needed to get down to the millimetre. When treated in the right way clay-based soil has the potential to be really fertile and we're starting to see the positive difference this level of control is bringing to the quality of the soil."

"We have 150 Infinity sprinklers on the greens, surrounds, approaches and three of the fairways and there's just no comparison when it comes to adjusting in the field, they're so easy to use."

The club also has T5 and T7 sprinklers fitted to specification on the tees and because says Andy "he wanted to keep everything all Toro".

Apart from ease of use and better-quality turf, Andy says the benefits for going with Toro don't stop there: "We've been using the system for seven months now and we're definitely making a saving on the amount of water we're using. We used to use about 70 cube of water a night on the greens but we're using around 30 now. When you're irrigating off the mains that's significant"

Hopefully though it won't be long until Upminster has a degree of self-sufficiency to its irrigation, as Andy explains: "We have a river we can do more with. It can certainly be turned into a feature as an aesthetic benefit to the course, but more importantly we can irrigate from it too. That's one of our next projects."

Upminster Golf Club's irrigation system was installed by Full Circle Irrigation and organised by Reesink Turfcare, the sole Toro distributor in the UK for golf and sports fields equipment and irrigation products, and Andy says "it's been an excellent experience. We've had four or five site visits from Cevan Edwards from Reesink and everything has been very smooth."

Web: reesinkturfcare.co.uk

DLF Seeds

A change in career is a daunting prospect, but it can often be made easier with training and support from new industry peers. For Max Sandford, a joiner by trade, he is swiftly learning 'all things turf' after taking over as head



groundsman at Exeter Chiefs Rugby Club 18 months ago. One of those trusted contacts is Ian Barnett of DLF Seeds who has supported Max with the Johnsons J Premier Pitch, in use across the club's stadium and training facilities.

"The world of grass seed was very new to me" Max explains, when he accepted the top job in early 2018. "Ian, our regional DLF Technical Manager, together with my local distributor have spent a lot of time going back to basics, looking at cultivars and mixture qualities which has given me a much better understanding. The support has been invaluable and has certainly given me enough of an insight to see that the Johnsons mixtures are doing a fantastic job!"

A combination of J Premier Pitch and the ProNitro coated version, J Nitro Premier Pitch, have been used across the site for the last seven years. "We carry out a full renovation on both pitches each year after the final game and overseed roughly every six to eight weeks, depending on the time of year and pitch usage."

"I am very impressed with the germination, the density of coverage and the strong colour we achieve year on year. The wear tolerance is a major factor for rugby, especially in the scrummaging areas, but the J Premier Pitch holds firm which is testament to the strength of the rooting." On the back of Ian's advice, Max is looking forward to trying Johnsons J 4Turf mixture for the first time this winter, to deliver deeper rooting and rapid establishment even under low soil temperatures.

Max concludes, "I enjoy reading about what other groundsman are using and when

I see Johnson's mixtures used at leading facilities around the country, I feel confident that I'm sourcing the best products I can for the club. Ultimately, I've found if you ask the right people the right questions, you will get the right answers!"

Web: www.dlf.co.uk

Headland Amenity

When head groundsman Stuart Lambert joined Gloucester Rugby in the summer of 2018, a brand-new hybrid pitch installation had just been completed at the club's Kingsholm Stadium. Having no prior hybrid experience, Stuart turned to his trusted suppliers to help him formulate a new maintenance programme. Top of the list was scrapping the existing nutritional regime and switching over to a full liquid and granular programme from Headland Amenity.

Stuart has used Headland products for over 10 years, including during his time at Worcester Warriors where he was part of the award-winning 'Professional Rugby Grounds Team of the Year'. "I knew what I wanted to achieve so called on the advice of Headland's Adi Masters, who helped me formulate a plan that would be able to work on the faster-leaching hybrid surface. To achieve optimal results, we're using a combination of liquid and granular applications."

Because of the free draining nature, one issue they worked on was moisture retention. "Adi recommended TriCure Ad™ which we applied once a month throughout the summer to hold onto what little rainfall we received - this worked really well. Coming out of that dry summer and into a wetter winter, we then had a few problem areas retaining water, mostly due to compaction from the installation process. For this, we applied Terafirm™ soil penetrant once every four weeks between October and February which effectively moved the water away."

They were also one of the first customers to use the 15-5-12 formulation of Headland's new controlled release fertiliser, H-Cote™ Mini. "We'd had some games back to back and I was looking for something to give the pitch a bit of a boost so we applied H-Cote™ and the colour response, in particular, was fantastic. It



Headland Amenity

delivered results that transformed the appearance of the pitch, making it a staple in my summer feeding programme."

Stuart concluded, "The hybrid pitch has given us stability in many ways, but in terms of the nutritional inputs required it's been a bit of a balancing act. Adi has provided fantastic support, and our combined knowledge and experience is ensuring we're achieving the best results we can by applying the right nutrients."

Web: www.headlandamenity.com

Rigby Taylor

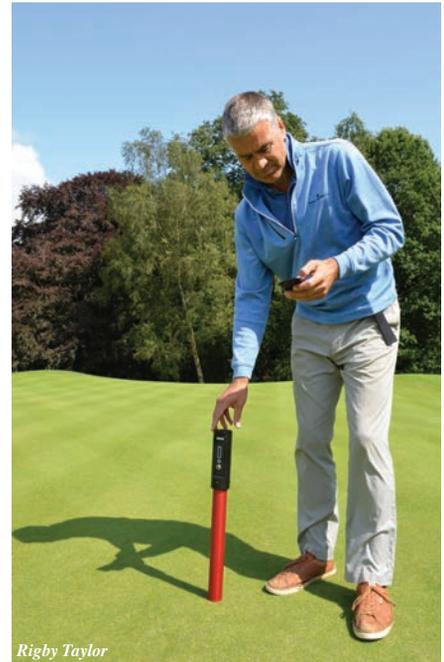
With Royal Norwich Golf Club investing £15 million in its newly established 18-hole course, the cost of its Rigby Taylor POGO Pro soil and turf management meter pales into insignificance. But, says estates manager Peter Todd, "the value of the benefits that POGO brings are priceless".

He adds: "POGO has been indispensable in helping us to establish and maintain these new greens at a level to create a benchmark golf facility in the region."

Peter - who joined Royal Norwich in 2017 with a course construction pedigree that includes experience at Gleneagles and the London Golf Club - has an obvious biased opinion of the course sited a few miles from the club's original home that was established in 1893 by, among others, Sir Jeremiah Colman, of Colman's mustard fame.

The course has been over two years in construction and aside from Peter's initial agronomy work, for instance, its creation has also involved collaborative discussions, and decisions, with course architect Ross McMurray (European Golf Design) as well as course construction contractor M J Abbott and irrigation specialist Rain Bird.

After their deliberations, and the use of around 11,000 tonnes of sand to construct the



Rigby Taylor

tees, greens and bunkers - on a site characterised by a predominantly sandy-loam profile - the result is a stunning 18-hole, 7,239-yard course that many will agree justifies Peter's views.

The USGA greens are accompanied by a six-hole academy course, constructed to the same exacting USGA standards, complemented by a 10-bay practice range, and there are restaurant areas and other 'customer experience' facilities that would not be out of place in a luxury leisure complex.

Course design is very sympathetic to the existing landscape with, for example, many of the holes being designed around age-old oak trees and with due consideration to the incumbent wildlife.

"While golf is certainly at the heart of the club's new development, we've deliberately designed the facility with the aim of attracting families to the 330-acre estate," says Peter. "It is all about creating the perfect leisure-lifestyle experience for everyone."

The complex will be maintained by a team of 13 greenkeepers including an in-house workshop technician, with all the team housed in a modern Turf Care Centre of Excellence boasting a state-of-the-art mower blade grinding/sharpening area and including a training room where visitors (even club members) can

► seeds, turf and fertilisers buyer's guide

learn about all aspects of the course and its operation – including the benefits being obtained by the POGO Pro turf meter.

Peter's enthusiasm for the potential of the site is also reflected in his views about POGO Pro and how the course – and its players – will benefit from the system's ability to measure the most influential variables governing turf performance; moisture, salinity, canopy temperature, nutrition and turf stress / disease, for example.

"Moisture management is critical on USGA greens so I needed a tool that would give me unquestionable and ultra-reliable data on the greens, which we gather daily. POGO Pro gives me exactly that. Importantly, the system is not just about enabling us to establish and maintain consistent playing conditions. It's also about helping us to manage our water usage much more efficiently and we will see the real rewards from that in the future."

POGO Pro also connects remotely to any Apple or android device and its integrated GPS features include precise location, geospatial condition analysis, cup placements, sprinkler positioning and patterns, area measurement and custom mapping. Maps can also be created of the dry and wet areas, and graphs will show the history of each green (all greens) so that users can make informed decisions on watering and feeding programmes.

"The system is so user-friendly," adds Peter, "and its data collection ability is a powerful tool and has helped us establish these first-class greens."

"While I fully expect that within a few years, using cloud-based technology, the data we collect will be able to be imported directly into the irrigation system – to enable us to automatically manipulate individual watering heads according to the specific 'local' irrigation needs – for the immediate future, I am totally satisfied that POGO Pro has proved a major asset in helping us establish a course that sets a new benchmark for golf in the region."

Web: www.rigbytaylor.com

Eagle

It is that time of year for many clubs when the

Eagle



fixture and events diary will start to go into production.

New for 2020, Eagle has completely revised and updated the diary template that will now make it easier than ever for you, the golf club, to complete your all-important fixtures and events.

Once you are done, simply send it back to Eagle, which will do the rest. This will help to get your diaries signed off quicker and into production faster. Its staff are there to help and support in any way they can, but this new template system certainly will help ease the strain in producing the annual diary.

With the new Word document templates, you are in control.

The benefits include:

- Easy to use
- Detailed instructions and full support
- Edit text
- Colour coding events

The templates can then be used to generate your diary. There are a variety of options available from wire bound to staple bound or fixture books branded to your club.

Additional pages containing variable information can be added, for example:

- Club details / personal data
- Club rules / etiquette
- Committee / members' list and telephone numbers
- Competitions' summary
- Competition rules
- Club constitution
- Handicap allowances
- Social events
- Sunrise and sunset times
- Major events – past winners
- Handicap / score record
- 2021 calendar.

Web: www.eagle.uk.com



EcoBunker

One of the largest golf developments in the world is underway in the Pakistani city of Multan. And Welsh-based synthetic bunker edging specialist EcoBunker is playing a key role.

The Rumanza course, currently under construction, and designed by the practice headed by six time Major champion Sir Nick Faldo, is part of a 9,000 acre new community being developed by DHA Multan, an offshoot of the Pakistani Ministry of Defence.

Faldo Design lead architect, Andy Haggard, said: "This is a vast development on land that has historically been used for agriculture, and is rather flat. On part of the site, fruits, notably mangoes and oranges used to be grown, while elsewhere the land was used for cereal crops. The development will be a key centre of excellence for golf in Pakistan and a Sir Nick Faldo Signature project. This is our premium design service and includes a great deal of personal attention from Nick himself, as well as the involvement of our friends at the Golf Environment Organisation, who are working with us to ensure the project is designed and built to internationally recognised environmental and sustainability standards."

"Any design has to work with the local environment and obviously on a flat site that can be difficult to find. From my first visit, I latched on to the 'deras' – vernacular mud brick dwellings, surrounded by walls which form a courtyard. The walls are rendered with the same mud mix so you don't see the bricks. These were dotted around the site, and I immediately thought 'We have to use these'. The golf course is mostly cut into the ground, so a significant part will provide a quarry-type setting for a number of holes. Elsewhere the golf course will further utilise the natural sand to give more of a desert feel, with an area of retained fruit trees providing a third playing environment."

"Once we had scraped off the top surface of material we found pure sand that seems

to go on forever. That's why we chose a linksy shaping theme, and hence the revetted bunkers.

"Obviously given the location, it is a warm season turf project, and it's difficult to revet satisfactorily in warm season grasses, or at least I've never seen it done well, which is why we got EcoBunker involved. The bunkers will not be wholly revetted – I want a revetted edge in the line of play and grassy edges elsewhere, and there are also waste areas that are edged with EcoBunker."

EcoBunker founder and CEO Richard Allen said: "We are supplying material to contractor Desert Group and their subcontractors, and also providing training. Construction manager Llewelyn Matthews will go out to Pakistan in November to coincide with Sir Nick's next visit, spending a week there building several bunkers of different shapes and sizes, to train the team.

"This is a major project, in terms of scale, right up there with other EcoBunker projects like Dumbarnie Links, Secession, The Medalist and Singapore Island Country Club. Only TPC Sugarloaf was bigger, and that was 27 holes, so this is a nice logistical challenge for our new operations manager, Ryan Jarman!"
Web: www.ecobunker.co.uk

Bayer

The recent addition of Roundup® to Bayer's amenity portfolio complements its new residual herbicide Valdor® Flex and provides contractors with the complete package when it comes to weed control.

Lewis Blois, Bayer national account manager, said: "We can now offer the whole solution when it comes to broad spectrum weed control and our full treatment programme works on a wide range of surfaces from open soil to gravel, fence lines and railway ballast," he adds.

"We're always working hard to bring new innovative formulations and sustainable solutions to the amenity sector, and recent changes will help contractors to continue to successfully manage weeds at a time when many products are being lost from the market."

The new product portfolio for the amenity sector includes Valdor® Flex, Roundup® and



Ecoplugs, offering a wide range of solutions to the sector.

"Valdor Flex is a residual herbicide offering four months weed control. It can be applied as a pre-emergent herbicide or in post-emergent situations with Roundup®, which provides the initial knock down, while Valdor® Flex offers residual control, preventing subsequent weeds emerging.

"Ecoplugs, which can be inserted into tree stumps to avoid re-growth all year round, also join the Bayer portfolio," he says.

"At Bayer, we're continually investing in research and development to ensure we can provide our customers with a wide range of innovative solutions when it comes to weed control and recent updates to the product portfolio will provide many benefits to amenity contractors," concluded Lewis.

Web: www.environmentalscience.bayer.co.uk

Htn Contracting

Htn Contracting entered the golf maintenance industry in 2017 when it launched its innovative H-Flex recycled porous surfacing solution for golf course pathways. Since then Htn has also developed a range of solutions using H-Flex materials to overcome some long standing maintenance issues. These have included H-Flex Safe-Step and H-Flex Bunker-Base. Over the next few issues, *GreenKeeping* will be working with Htn to raise awareness of the benefits of H-Flex solutions to a wider industry audience.

H-Flex Surfacing uses a blend of aggregate, dense recycled rubber and high tensile binder. These are blended on site by skilled teams to meet the specific on-site conditions. H-Flex offers many benefits to help course managers. The durability and porosity of the H-Flex material is remarkable especially when used with an appropriate stone base. Using



H-Flex, course managers can provide all year round dry pathways for buggies and players on foot, in the most difficult of conditions. H-Flex can also be laid over most existing stone pathways.

H-Flex offers a wide range of unique benefits:

- Eco-friendly 2.5 recycled tyres per m²
- Extremely porous and free draining
- Prevents ice formation
- Durable and hard wearing
- Long life comparable with conventional surfacing
- Quick to install.

John McLoughlin, course manager at Warrington Golf Club, said: "I have worked with David at Htn for the last three seasons and have been delighted with the H-Flex Surfacing and the all-round service. Using H-Flex we have successfully addressed several long-standing problematic pathways. We have installed H-Flex on significant inclines, overcoming safety concerns for buggies and foot traffic. The H-Flex Safe-Step solution has transformed many of our old timber steps, providing dry, non-slip surfaces. Our members are extremely pleased with the improvements. I am happy to endorse Htn and their H-Flex processes."

In the next issue we will explain how H-Flex Safe-Step can transform old timber steps with remarkable results.

Web: www.htncontracting.co.uk

Telma Granja



This woman's work

Less than two per cent of greenkeepers in the UK are women. However, there is growing female interest in the profession, as was seen at the Solheim Cup in September – and there are women like Telma Granja, who leads an all-male team of 11 greenkeepers at a Portuguese golf course that's 2,200 feet above sea level, who are inspiring this new trend

When James Brown opined, in his inimitable fashion, that 'This is a man's world', he was talking in general terms, not, specifically, about greenkeeping.

But he might well have done, for, let's be frank, the number of times the average golfer will meet a female head greenkeeper can probably be counted on the fingers of one

James Brown, with enough left over to carry a brand new bag.

But there are some who are leading the way and acting as an inspiration for the next generation of young girls who fancy a career in turfgrass science or management.

At the vanguard of the movement in Portugal is 39-year-old Telma Granja, who leads an all-male team of 11 greenkeepers at

Santo da Serra, on the island of Madeira.

It's impossible to know whether her obvious passion for the job has been enhanced because she's a woman succeeding in a 'man's world' or not – but, what is undeniable, is that she can clearly inspire young women to follow a similar career path.

Granja has been head greenkeeper at the



► Greenkeeper profile

“IT [CAN BE] COLD, HOT, WINDY, DRY OR WET, THE HOURS ARE LONG – YOU COME IN WHEN IT’S DARK ... [BUT] I LOVE MY WORK AND AM DEDICATED TO IT, TRYING EVERY DAY TO IMPROVE. I DON’T SEE MYSELF BEING SO PASSIONATE ABOUT ANY OTHER JOB”



spectacular Santo da Serra since 2013, and insists she has not experienced any sexism since she started out in the industry in 2005.

She said: “I do not remember ever feeling a difference, not between co-workers nor on the team I coordinate. It is important we all work with the same focus, to do more and better work, always learning from each other. We work equally well and are equal. Although, of course, men are stronger!

“Although greenkeeper is a position held mostly by men, there are five or six women doing it in Portugal. I cannot say that something in particular inspired me to do the job. I felt this was the way to go, a job where I could learn and evolve professionally. And it remains a constant learning experience because we are dealing with a living entity with a level of evolution.”

Having completed her agronomy course in 2005, Granja started her career path with an internship at the relatively new, Donald Steel-designed Santo Estêvão Golf, near Lisbon.

“I took an immediate liking to that area of the industry and decided to specialise,” she recalled.

“I gained a lot of knowledge at Santo Estêvão through study and working on the course. The director there, Luís Catarino, was one of the biggest influences on my career. He was extremely demanding and dynamic, which

required me to learn a number of skills, display professional competence, dedication and a willingness to learn.

“After the internship, I applied to be assistant to the head greenkeeper at Quinta da Marinha, in Cascais. I learned a lot there, also. I worked as assistant to Nuno Moura who has extensive knowledge and is a wonderful leader – he is one of the best head greenkeepers in the country, I have no doubt. He was a huge influence.”

In 2013, the opportunity arose to move from the mainland to Madeira, a Portuguese territory in the Atlantic, a little more than 300 miles from the African coastline. This time the position was as head greenkeeper at Santo da Serra Golf, and, despite the near 1,000km distance, she admits she “did not hesitate”.

She added: “Santo da Serra Golf is a nationally prestigious course, part of the European Tour circuit for many years, and currently hosts the Madeira Golf Trophy, a very important tournament for tourism in Madeira, which, consequently, makes it a very demanding greens’ course.

“I find its unique location and landscape – with the breathtaking views of Porto Santo and the bay of Machico, where Portuguese navigators first landed in 1419 – acts as an inspiration for me.”

The course – which dates originally from



NOS

7

Empress

► Greenkeeper profile



1937 – was redesigned in 1991 by Robert Trent Jones Snr, who created a spectacular 27-hole complex. The Machico and Desertas nines form the 6,825-yard championship course, on which the European Tour's Madeira Islands Open was held on 10 occasions – Mark James winning the inaugural 1993 tournament.

The third and fourth on the Machico are regarded as the signature holes, sitting atop impressive cliffs more than 2,200 feet above the Atlantic, while the 3,193-yard Serras course offers a delightful alternative, with lakes and mountain views along flatter terrain. Small wonder Granja finds inspiration in the environment.

Female greenkeepers are on the rise across Europe. The volunteer greenkeeping team at the Solheim Cup at Gleneagles in September included eight women alongside Gleneagles' own Laura Campbell.

"The greenkeeping profession is particularly male-dominated and the number of ladies in the industry is reflected in our membership, where less than two per cent are female," said Jim Croxton, chief executive of BIGGA (the British and International Golf Greenkeeping Association).

"It's my belief that as schemes such as Women & Girls Golf Week, which coincided with the British Women's Open, raise interest

in golf among ladies, we'll see the knock-on effect of more women choosing to pursue a career in greenkeeping.

"Those ladies who are members of the association invariably tell us that they enjoy the lifestyle that greenkeeping affords them, both in terms of having a physically-active role and working outdoors. They'll tell you that there's nothing a man can do out on the course that they can't and they are, of course, absolutely correct.

"At the Women's British Open in July, I was delighted that courses manager John Clarke extended an invitation to every female member of BIGGA to join the volunteer team, with seven answering the call. These ladies had a fantastic time and in addition to gaining invaluable tournament experience themselves, they also acted as incredible ambassadors for the profession and my thanks go out to them all."

But, as with any job there are pros and cons, and good and bad days ...

"The best thing about my job is that we can see the result of the hard work we put in out on the course. It's as if the grass is appreciating the special treatment we give it – it's thanking us for the special care. I love to tell my team 'Well done, our grass is happy,'" says Granja.

"Bad days? We all have bad days, I'm no

different. Sometimes, I just worry about personal and professional growth like everybody does. But they are normal and healthy ambitions," she smiled.

"One of the biggest problems I face is water management. We suffer from a huge water shortage in the summer and our irrigation is quite old. And, like most golf clubs, we have very small teams and very small annual budgets."

The club uses both Toro and Jacobsen equipment, with Stihl blowers and brush-cutters for the smaller work.

Having showed she can succeed in a man's



world, Granja has some advice for any young women – or men for that matter – considering following in her footsteps in greenkeeping.

She said: "I think you have to feel that

you like it a lot. It is necessary to like it very much, because the work is outdoors, whether it's cold, hot, windy, dry or wet, while the hours are long – most of the time you come in when it's dark. I think it would be unbearable if we weren't really passionate about it.

"If you love it and are dedicated to it, then that is where you find the satisfaction and pleasure. Personally, I love my work and am dedicated to it, trying every day to improve and get better and better. I don't see myself being so passionate about, or doing any other job as well. The only way to do great work, is to LOVE what you do.

"However, if I had to do something else ... I don't know what it would be, but it certainly would have to be outdoors. I find nature extraordinary, inspiring and full of positive forces."

Although Granja is wholly dedicated to her current role at Santo da Serra, she did allow herself a brief pause to contemplate her professional ambitions. After some thinking time, she said modestly: "I would find it interesting to be head greenkeeper of the European Tour."

Now that really would be something for young women to look up to...

▶ the environment

The FairWays Foundation, the purpose of which is to fund local and global projects that advance the conservation, stewardship and education of the challenges that we face in our environment, has progressed in several areas, including its non-profit status.

As of October 2019, The FairWays Foundation is officially 501 (C)(3) accredited,

meaning it is officially licensed as a standalone non-profit organisation.

The grant submission process for The FairWays Foundation is being developed to enable grant applications to be received in 2020. This process will be communicated to the industry at BTME and GIS trade shows in 2020.

In addition, Aquatrols has a sponsorship

agreement with Audubon International that will help support The FairWays Foundation.

There are ways that you can get involved with the foundation. It is currently looking to interview golf course superintendents and greenkeepers who are implementing conservation-focused projects on their courses. If you are interested, please email info@thefairwaysfoundation.com.





Back on track

Whittington Heath Golf Club is undergoing a redevelopment including the building of new holes and the reworking of existing ones, as the HS2 rail line is due to pass through it. Detailing what's happened so far this year is course construction specialist John Greasley Ltd

It was a busy and productive first half of 2019 for John Greasley Ltd, starting the new year on a very interesting heathland redevelopment project at Whittington Heath GC in the West Midlands with golf course designer Jonathan Gaunt.

Phase one commenced in early January with the reconfiguration of existing holes involving tee, fairway and green alterations along with the complete reconstruction of all bunkering on the 13 holes that are to remain after the HS2 line is constructed. We managed to bring forward works programmed for this autumn and complete more than anticipated before April, helped by the dry winter. Feedback has been fantastic and both the project team and members were pleased to have all the reconstructed bunkers returned back to play at the start of June. A new and updated irrigation system also formed part of our contract during the same period, designed by Irritech and installed by Irrigation Control.

As well as installing part of the system to the new features to enable an efficient and successful establishment, they were tasked with a complete new ring main, new green and tee irrigation, most of which was seamlessly installed between January and the end of March.

From mid-March works have concentrated on the construction of five new holes being created within 70 acres of adjacent arable land. One of the key parts of the project is the formation of substantial swathes of new heathland which are being predominantly formed out of the sandy subsoil areas of excavation. Earthworks are nearing completion with the holes at their final stages of preparation for seeding.

As is now quite typical, but nevertheless



*Top: The reconstructed 11th green at Whittington Heath Golf Club.
Middle: The 4th green.
Here: The reconstructed 15th green.*

enthralling, we utilised Jonathan Gaunt's three-dimensional CAD designs in conjunction with GPS surveying and machine control systems during all aspects of the topsoil strip, earthworks and shaping. To have the ability to install the latest 3D model onto suitably equipped dozers and scraper boxes was paramount to the effective implementation of Jonathan's design, without the need for a team of full time surveyors, assistants, hundreds of pegs, boning rods, tapes, ranging rods and head scratching! We decided to use a number of GPS-controlled, low ground pressure tractors and scraper boxes to excavate, haul and spread material to the design levels. Each machine is able to cut, load and haul significant distances and discharge fill material in layers as the design model intends. With the right operatives and methodical planning, it has been a deceptively efficient and accurate way to carry out the bulk earthworks, whilst being sympathetic to the ground.

John Greasley has also harvested and spread 'grass cores' over the new USGA-style constructed greens instead of the more

New holes during the construction



conventional seeding or turfing of putting surfaces. This has involved hollow coring all 18 existing greens every six weeks to provide sufficient cores to cover two new

greens which are then topdressed and oversown with pure bent.

This relatively new and pioneering technique was specified and orchestrated by the club's agronomist, Bruce Jamieson, who's also overseeing the agronomic aspects of the project. The new landscape created by Jonathan's vision and guidance is formidable.

For more information, visit www.johngreasleyltd.co.uk

Jonathan Gaunt on the Whittington Heath project

In 2010, Whittington Heath Golf Club was informed by HS2 that the High Speed 2 railway line would be routed through the centre of the golf course, car park and clubhouse. The future looked decidedly bleak.

However, the club took on the challenge with determination – members and club officials worked together and, through careful negotiation and forward-thinking commitment, found a solution to the problem. This exciting solution will enable Whittington Heath, established in 1886, to continue to operate successfully as a golf club (post railway line construction) for, hopefully, another 130 years.

In 2012, Gaunt Golf Design was appointed as golf course architect and, after numerous masterplan iterations, the final designs were granted planning permission by Lichfield

Council in September 2016. Construction work finally started two and a half years later, in January 2019 – beginning with significant modifications to the existing holes. Since starting, John Greasley has barely stopped for breath, and this is partly due to the free-draining nature of the site, but more to do with the excellent working relationship and understanding we've established.

Key to the success of the project is the development of five new holes and practice facilities on 25 hectares of undulating farmland adjacent to its existing site, to the north-east. This land is essentially denatured lowland heath, with a sandy subsoil beneath so, perfect for re-creating a heathland golf course in the style of the original Harry Shapland Colt design.

Ecology has been an important element in

this project, and specialist consultant, Johns Associates, has worked alongside us every step of the process.

While the new golf holes will be constructed to reflect the traditional heathland environment, there is also 10 hectares of heather and acid grassland, four eco-ponds, additional hedgerow and native woodland to establish.

The status of the ecological (mitigation) land is preserved by a binding agreement and the golf club is responsible for maintaining it as such on behalf of HS2.

Construction of the new holes will continue through to spring 2020 with a tentative opening date being expected in spring / summer 2021. HS2 railway line construction is anticipated to begin in 2022/2023.

► course design

A pinch of Colt

Regarded as one of the best inland golf courses in Northern Ireland and designed by the same man who put Royal Portrush together – Harry Colt, Belvoir Park Golf Club is in the process of having its course updated – and that means shaping modern reconstructions while maintaining Colt’s concepts. [Tania Longmire](#) explains how the club is achieving this



It's a big year for golf in Northern Ireland, with the Open Championship returning to the Harry Colt designed Dunluce Links at Royal Portrush Golf Club for the first time in 68 years. Two years before he laid out his plans for Royal Portrush, Colt created an inland masterpiece at Belvoir Park in South Belfast.

Belvoir Park Golf Club, founded in 1927, is widely regarded as the finest parkland course in Northern Ireland. The course is located just two miles from Belfast city centre but situated in the tranquility of 163 acres of mature parkland.

On accepting his commission at Belvoir Park, Colt reported: "I consider that it will be possible to make a course affording an excellent test and, at the same time, one that will give the maximum of pleasure to players." Golfers at Belvoir Park will recognise many of Colt's design traits, such as the small but simply-contoured putting surfaces closely guarded by deep

greenside bunkers. The short 8th is a great example of this where, despite only measuring a little over 40 yards, any wayward shot will be quickly gathered into one of the bunkers, swales and hollows that surround the raised green.

Swan Golf Designs has now been charged with updating the course while maintaining the concepts and spirit of Colt's original designs, and it is this same aim of producing a golfing challenge and an enjoyable game that guides the ongoing work. Since his appointment in early 2018, William Swan has undertaken renovations on the 4th, 8th, 11th, 13th and 18th holes, working in close collaboration with course manager Aaron Small. These works have included new bunkering, reconstructed tees and reshaped green surrounds, with the new features all having been brought back into play in time for the start of the competitive season in spring 2019. In addition, the practice ground has

seen extensive reconstruction over the winter to implement Swan's new design and to allow club professional, Michael McGivern, to make full use of his innovative objectively-measured practice system.

The project team is now in the process of finalising plans for the 2019/2020 winter works, with a view to completing the renovation of all remaining holes and practice facilities over the next three to five years.

It's not only at Belvoir Park that Swan Golf Designs has been tasked with updating and restoring the work of the 'golden age' architects. The company's work can also be seen at the likes of Colt designed Barton-on-Sea, James Braid designs at Thorpeness and Workington, the Old Tom Morris and Henry Cotton layouts at Moray Golf Club, as well as the recent restoration of Herbert Fowler bunkering at Huddersfield Golf Club.



► machinery and equipment buyer's guide

SISIS



John Deere

Seaton Carew Golf Club near Hartlepool will be celebrating its 150th anniversary in 2024 and the club, which is the 10th oldest in England, is determined to make sure its course is in the best condition possible for those celebrations.

A team of six well-trained greens staff led by acting head greenkeeper Ian Stewart work tirelessly to ensure these championship links are kept in the best condition, and the club has recently invested more than £200,000 in the latest advanced technology from John Deere to ensure they can achieve those goals.



A new John Deere Financial lease package arranged by local dealer Greenlay of Cramlington in Northumberland includes a ProGator utility vehicle with HD200 low-profile amenity sprayer, an HPX Gator utility vehicle, a 4049R compact tractor, three 220SL walk-behind greens mowers, a 2653B utility tees & surrounds mower and a 2500B triplex greens mower, plus ancillary equipment.

"With our previous lease arrangement coming to an end, we decided that a one-stop shop approach, with all the new kit, advice and back-up coming from one business, would potentially make a better deal for the club," says greens' chairman Jonathan Beaumont. "The equipment and finance package from Greenlay, who helped us to work out the deal based on a mix of new and ex-demonstration machines, proved to be just what we were looking for.

"Dealing with Alastair Briggs and Paul Hodgson of Greenlay was the best decision the club made. Their all-round service and communication throughout the process was first class, and we've established a very good relationship. Having worked in horticulture before, I knew John Deere's reputation for quality equipment. When Ian and I made the

recommendation to the golf club, they liked what they saw as well and the finance committee agreed the budget, so there was a proper consensus all round."

Web: www.JohnDeere.co.uk



Toro

After receiving two grants alongside fundraising efforts from its members, Wick Golf Club in Scotland has purchased a new Toro Greensmaster TriFlex Hybrid 3420 to help improve its course and the environment.

And not only did the GR3420 impress head greenkeeper Dougie Thorburn, but its sustainability credentials were key in securing grants to make the purchase of the machine possible. The club received grants from the Caithness and North Sunderland Fund and Beatrice Caithness Windfarm Fund, both of which support projects that develop or maintain community assets and achieve environmental improvements.

Dougie explains: "Wick Golf Club is the oldest in the Highlands with our 150th anniversary next year. The machines we'd been using weren't keeping the course up to the standard we wanted.

"Our last greensmower was suffering from hydraulic leaks. Not only was this causing damage to the turf, but we have a lot of ditches on the course that lead to the ocean, so it's possible for oil leaked on the course to run off into the sea. We needed something that would be more reliable."

And it was the Toro Greensmaster TriFlex Hybrid 3420, with its advanced technology meaning hydraulic leaks are almost eliminated, that was able to provide high-quality turf maintenance and peace of mind for Dougie.

"It's a brilliant machine, simply put," he says. "It's reliable and provides us with an excellent quality of cut. I've got nothing but good to say about it."

Web: reesinkturfcare.co.uk

SISIS

Aeration is a key process to improve drainage, reduce turf compaction and thatch build up. With three models in the SISIS range, with different working widths and varying maximum depths to suit any tractor and most applications – the Multislit, Maxislit and Megaslit are tractor mounted deep slitters which offer deep, clean penetration with minimal surface disturbance.

The Multislit is available in 1.2 (Multislit 1200) and 1.5 (Multislit 1500) metres wide options featuring a choice of interchangeable slitting tines to suit different ground conditions. This machine produces excellent underground cultivation (working depth of 6 or 8 inches) due to the angle of the tines and spiral design of tine shaft which assist penetration. Recommended tractor power requirement is 15-25hp.

The SISIS Maxislit is a 1.8 metre wide tractor mounted deep slitting aerator suitable for golf course maintenance, with deep, clean penetration. It can also be used for football, rugby and cricket pitches, with a working depth of 7 or 9 inches. The Maxislit comes complete with a set of heavy duty tines. Recommended tractor power requirement is 25-35hp.

The SISIS Megaslit is a tractor mounted deep slitting aerator which gives deep, clean penetration – ideal for golf course fairways. This machine can also be used for football, rugby and cricket pitches. It has a working depth of nine or 12 inches. The 2.5m wide deep slitter, featuring 32 heavy duty tines, achieves maximum underground cultivation due to the angle of the tines and spiral design of the tine shaft assists penetration. Recommended tractor power requirement is 40hp and comes complete with a set of heavy duty tines.

These machines are simple in their design and low maintenance. Their thin sharp blades cut through the turf and root zone leaving only a slit on the surface while giving a deep optimum sub soil disturbance.



Regular slitting encourages strong, healthy root growth of the grass plants, improving tolerance to drought conditions and promoting more rapid recovery after damage in play – that’s why SISIS deep slitters are used on golf courses around the world including The Belfry. *Web: www.sisis.com*

Bernhard and Company

There aren’t many golf clubs that would give their new course manager a ‘war chest’ of £200K to spend on new machinery in their first 12 months in the role – in addition to purchasing a set of Bernhard grinders. But this is exactly what happened to Darrell Crowley when he rejoined The Bradford Golf Club a year ago, thanks to its forward-thinking board of directors.

But what clinched the deal was the opportunity to purchase a new Bernhard sharpening system on zero per cent finance over five years – an offer simply too good to refuse.

Machinery-wise the club relies on mostly Toro for cutting equipment, with a variety of other tractors and implements.

These days there’s not a lot to choose between mowers and tractors; it largely comes down to what you’re used to as well as the site-specific purpose of each piece of equipment, especially on an undulated course like the one at The Bradford Golf Club.

“Having the correct tools for the job helps us produce the course to the standard which is expected,” said Crowley.

The sales process for a set of grinders normally takes two or three years to go through the committee system. Not so with Bradford Golf Club where the decision-making was much smoother and quicker. This was partly because the money was already available, but also because of the board’s forward-thinking attitude. After having recently spent £200K on new mowers that need looking after, it recognised that it would be protecting that investment while improving the course.

Nor is this the first time that the club has invested heavily, as this is its third machinery replacement programme since 2005.

Web: www.bernhard.co.uk



Charterhouse Turf Machinery

Andy Garland, course manager at Hertfordshire’s Centurion Club, is working on improving course-wide surface drainage with a little help from his new Verti-Drain 7521. Focussing on the fairways, his latest bit of kit from Charterhouse Turf Machinery, will be fundamental as club preparations ramp up to host the 2020 UL International Crown event.

Televised to millions, 2020 will be the fourth edition of the tournament and the first time it will be hosted in the UK. Andy and his greens team of 12 are already well into preparations to ensure the course is fit for a worldwide audience. “When it comes to aeration, we have a small machine for use on the greens, but we had been hiring in a unit for work on the fairways” he explains. “The trouble with that was, the effectiveness of the work conducted was very much at the mercy of the weather and the resulting ground conditions on that day.”

With previous experience of Verti-Drains, Andy spoke with his local dealer Browns and had a demonstration of the 7521 model. “You know what you’re going to get with a Verti-Drain – the ability to use different tines to work at good depths and build quality that can handle compacted soils.” Having taken delivery of his new machine complete with different head options in August, the 7521 has been busy on the fairways, together with some deep aeration work on the greens.

“We equipped the Verti-Drain with 1” tines and aerated all of the fairways which instantly improved surface drainage. Water dispersal has been so much better which is crucial as we head towards the winter period. We hope to get one more round done on all 18 holes before the tractor gets put onto renovation projects over the winter. This should help us emerge in spring ready for full tournament preparation.” Andy concludes, “By having our own Verti-Drain we can be flexible around the weather conditions and the maintenance schedule to maximise its effectiveness. It will



be a key tool as we get ready for our big event next summer.”

Web: www.charterhouse-tm.co.uk

MTD

To support their continued expansion, MTD Specialty Turf Products has announced the appointment of Oliver Hall into the territory sales team. Oliver joins as sales manager for the Midlands region, a role which will see him providing sales support to dealers and a wide variety of customers, across both the Cub Cadet INFINICUT® and TMSYSTEM™ product ranges.

Oliver first’s step into the industry was as a school groundsman, a position he held for six years, before more recently becoming a sales manager with a leading line-marking supplier to the sports turf sector. He joins MTD with a wealth of industry experience and know-how and is well placed to offer technical advice, backed up by a number of accreditations including IOG, NPTC and LANTRA certifications.

“The opportunity to join MTD was one I just couldn’t turn down” Oliver explains. “I have long admired the design and engineering prowess of the INFINICUT® and TMSYSTEM™ products, as well as their emphasis on environmentally-friendly technology. The battery-powered market is one that is moving forward pretty quickly and it was something I was keen to get involved in. The beauty is that while the brands are making waves worldwide, the company remains family-orientated at its core making it a pleasure to work for.”

Outside of work, Oliver enjoys sports and the great outdoors, and can often be found walking and cycling around his local area with his family. He is also a volunteer at the Nene Valley Heritage Railway.

Web: www.advancedtt.com

► machinery and equipment buyer's guide



Durabunker

Waterlooville Golf Club, an England Golf Championship Venue in Hampshire, recently became the latest course to commission Durabunker to carry out a complete renovation of all its bunkers. A Henry Cotton design, the club has entrusted a full 'design and build' into the hands of Durabunker as principle contractor for the project.

All bunkers have been remodelled, some filled in, others re-positioned and some new bunkers also added to enhance the strategic element of the golf course.

Chris Marker, course manager said: "Our bunkers were a disaster really. Almost every one would flood and hold water for days. Washout and sand contamination was a huge problem for us and the bunkers had lost their shape and just looked ugly. They needed a complete refurbishment and despite the atrocious weather conditions and the challenges that brings, Durabunker have done a fantastic job. New drainage has been built into every bunker, Durabunker's rubber crumb liner installed and their synthetic bunker edging has sealed the entire system. We experienced huge amounts of rainfall during the project and the difference in performance between old and new bunkers was staggering."

Rhydian Lewis, co-inventor of the design patent associated with synthetic bunker edge technology, commented: "The objectives of the project were clearly defined before commencement, reducing sand areas significantly, providing fast draining and low maintenance bunkers, enhancing aesthetics and playability and safeguarding designs over the long term.

"We set out some design ideas and presented these to a members' forum prior to contracts being agreed, the benefits of our synthetic bunker edge system combined with a seamless liner, to produce a fully sealed bunker system, was clearly explained to the membership, who subsequently voted over-



whelmingly in favour of the project. Through a combination of appropriate product, good design, an exceptional team and a supportive client, we have achieved the objectives we set out pre-commencement, despite all that nature threw at us over the course of the project."

Web: www.durabunker.com

GripClad

"Here at Oake Manor Golf Club we last used the GripClad flat sheets back in 2014 to prevent slip trips and falls on slippery sleeper steps around the golf course," said James Williams from Oake Manor in Somerset.

"One bridge in particular which had a slope up and slope down needed attention and GripClad's flat sheets were chosen as an ideal product to help prevent this. Back in 2014 we initially installed the 3000x1220mm flat sheets through the middle of the bridge as we thought that golfers would use the bridge one at a time, but as the years went on it was noticeable that they were using the bridge walking side by side and practically missing the GripClad anti-slip surface altogether.

"Because of the longevity of the product we were able to reuse the original GripClad flat sheet strips and purchase more from Barry at GripClad to relay and cover the whole of the sleeper thus eliminating the risk of slips.

"The GripClad flat sheet strips are so easy to put down with glue or screws and the strips that we put down five years ago still look like new.

"We will definitely be using GripClad on all our problem areas and on and new projects that we build.

"Barry is great to deal with, he knows his product and gives help and advice when needed; delivery of the order was very fast which enabled us to get the problem areas fixed fast.

Contact Barry and the team on 023 8040



6796 or 07803 848819, and see the advert in this magazine

Toro

Versatility is a long-cited reason for many Toro machinery purchases, and that's certainly the reason for The Mere Golf Resort's decision to opt for the ProLine H800 in its latest Toro fleet deal which sees the brand's relationship with the club reach 30 years.

Course manager John Quinn explains: "We've stayed with Toro for so long because they provide the most versatile and robust machines on the market, and whatever the terrain, the performance is always excellent. That's why we decided to look at the ProLine H800 to help tackle leaf collection across our busy parkland course."

The 18-hole, 6,882-yard, par 71 Championship course was created out of 150 acres of Cheshire parkland by James Braid in 1934. Now the surrounding mature trees provide not only considerable charm but a considerable amount of leaves to clear up!

Having been recommended the ProLine H800 and then seeing it in action, John requested a demonstration of the high-volume collector, which was organised by Cheshire Turf Machinery, and where the ProLine H800 certainly impressed.

"We have a tree lined course here, and as such we get a lot of leaves that need collecting. Particularly in winter when it's wet, it can be a lot of work to clear up everything by hand," says John. "We gave the ProLine the toughest test it will have here and organised the demo to take place in winter to see how it would cope in difficult conditions, and it really impressed us all.

"I've used a cut and collect machine before, but not one with enough capacity and power to pick up large piles of leaves, which was no issue for the ProLine. Plus, it will serve us well for core collecting after aerating and

is agile enough to easily manoeuvre while cutting in and around the trees."

The ProLine H800 is in good company in the club's new fleet which includes five Workman GTX utility vehicles, three Reelmaster 3575-D mowers, and Greensmaster TriFlex Hybrid 3420. And the new fleet couldn't have come at a better time with the club turning its focus this year to improving the playing surface and plant health.

"Last year was particularly trying with the weather," says John. "This year we're going to be doing everything we can to ensure the ultimate health and condition of the turf so no matter what conditions the weather throws at us, the turf is in the best position to cope and deliver the best play possible for our members. There was no doubt that in helping us do that would be Toro."

And it's not just versatility that appeals to The Mere in its enduring relationship with Toro, longevity of the machines is an attributing factor too. "We have some of our machines from the last fleet that we're keeping," says John. "They're still in mint condition and working excellently, as a result we haven't had to upgrade them which shows the value that Toro provides."

Tel: 01480 226800

GreenMech

Constructed around one of the highest points in the area, Cornwall's Looe Golf Club enjoys panoramic views across the peaks of Dartmoor and the English Channel. Because of its location, the part heathland / part parkland course often falls victim to strong winds leaving head greenkeeper Mat Edwards to clear up any destruction in its wake – a much easier task now thanks to his CS100 woodchipper from GreenMech.

"Because of the number of trees around our course and the vulnerability of our high position, it was becoming quite costly calling firms in to deal with storm damage," he explains. So, assisted by his team of three greens staff, Mat decided to invest in the necessary equipment to tackle the clear-up themselves. "Our local dealer Vincent Tractors & Plant recommended the GreenMech CS100 as its size and usability would meet our requirements, so we had a



demonstration and – after ruling out any alternatives – took delivery of one roughly three years ago."

With the CS100 at their disposal, Mat has also increased the amount of routine woodland maintenance they conduct. "Once the leaves have fallen and the birds have finished nesting, we'll be out with the CS100 on a weekly basis, between November and February – removing any low hanging branches which helps to reduce shade problems on the greens. The chip we produce is then redistributed around the trees and shrubs which has helped to tidy the appearance of these areas."

Offering a 100mm chipping capacity, but with a working width of just 760mm, the manoeuvrability of the CS100 has proven ideal for on-the-spot chipping. "It is really convenient for us to hitch up to our 4x4 and you can take it wherever you need to go. It's simple to use and everything is accessible, including the blades which can be easily sharpened. Three years on, we're still using the original set of blades and these are still going strong."

Powered by an 18hp petrol engine, it can process large volumes of brashy material with minimal shredding / reducing.

Web: www.greenmech.co.uk

Agri Market Insight & Access

Agri Market Insight & Access (AMIA) based in Devon, is the exclusive distributor for the UK and Ireland of Selvatici Amenity Machinery. The range of machinery offered by the Italian manufacturer includes the Aeroking vertical drainage aerators and the Sandqueen sand dispensers.

Selvatici has been manufacturing in Italy for over 100 years. It has been manufacturing professional vertical drainage aerators for several decades which are now re-entering the UK and Irish markets after originally selling a number of units during the 1990s and early 2000s. Since then there have been a lot of innovations and improvements to the machines such as a new and more robust gearbox, completely renewed bodywork and a double lever for the



front roller which ensures an easier lift.

AMIA Selvatici product specialist Beth Williams-Nichols says: "Selvatici's range of aerators can be seen working at the majority of Serie A football clubs in Italy due to their excellent performance and reliability."

Selvatici manufactures nine different models of the Aeroking vertical drainage aerator ranging in sizes from a working width of 1.2m up to 2.5m with a good variety of additional extras such as self-levelling conveyors for cores when having used a hollow tine option.

Giulia Dal Fiume from Selvatici says: "We are delighted to be re-entering the UK and Irish markets as we believe our machines are a great option for groundcare professionals."

The Selvatici Aeroking 300.50 features:

- A lever-shift three speed gearbox
- Front roller with water ballast for depth adjustment
- Patented toolpath guiding system that limits the thrust on the edges of the holes
- A working width of 1.2m
- Two different tine options (golf green and golf fairways)
- Weight 510kg (approximately).

As well as the Aeroking aerators, Selvatici manufactures the professional trailed and self-propelled Sandqueen Sandspreader range. The Sandqueen spreaders come in four different sizes and come with a number of attractive features and benefits. Selvatici also manufactures hydraulically and PTO driven 'Post Hole Augers'.

AMIA is also the exclusive UK and Ireland distributor of the GL&D range of professional woodchippers. The range includes trailed woodchippers which feature a unique turntable design to allow for easy use without having to get into difficult positions. There are also 3pt linkage models to suit all requirements as well as a range of self propelled woodchippers which feature two engines with the first engine being to drive the machine and the second one to power the actual woodchipper.

Web: www.agrimarketia.com. Tel: 01363 82928. Email: beth@agrimarketia.com

► A day in the life

Damien Bowe

is the course manager at **Canons Brook Golf Club**. The Essex venue, designed by Sir Henry Cotton, features little rough, but many bunkers



• What time do you arrive at the club?

In summer our day starts at 6am and during winter we start at 7am. I always try to get in half an hour earlier than the rest of the team to make any changes to our plans, if needed.

• Can you describe your morning routine?

My morning routine starts with me giving the three Arsenal fans in our team a bit of grief (especially on a Friday!) Then we'll see if any changes are needed to be made to the day's schedule – this is always an important time as the lads can add their input to the day ahead.

• How many people are there in your team and is it a fair number for your collective workload?

We recently increased to five full-time members of staff with the addition of an outstanding young apprentice to our team. The difference in attention to detail we have now is superb with the members very happy with the team's efforts. I would still love to have an extra person though, so we could really push the presentation of the course on to another level.

• Do you share tasks?

Yes we do, that way the quality of their work is always to a high standard.

• How do you motivate your colleagues?

A truly motivated team is the best way to get the results you want out on the course. I always welcome ideas and give the lads the freedom to express themselves when they work – especially if it's an

improvement to the current way things are done. We have improved the quality of the course steadily in the past few years with each member of the team contributing. Rightly so, they have enjoyed the accolades received from members and guests alike.

• What's your favourite season of the year and why?

Since I have been managing clay greens with very little drainage, I'd say that spring is now my favourite as it is the time we can start to dry the greens out and produce some quality surfaces after a long, hard winter. Before I came to Canons Brook, I would have said winter as that was always when we would get stuck into various course projects to improve the course for years to come.

• What aspects / functions of your job gives you the greatest satisfaction?

I think that, as greenkeepers, we always love to see our course looking great and playing well, with golfers enjoying the efforts we put into producing the course to a high standard. But I do also take a great deal of pleasure from seeing a team of greenkeepers enjoying and taking pride in their work, as no one wants to work hard in a place they don't like.

• And what part of it gives you the least satisfaction?

That's easy... autumn - leaves, leaves, leaves everywhere! You spend all day clearing them up then one gust of wind and it's like you've done nothing for the past few hours.

• Have you attended any courses recently?

My deputy Petr and I re-took our first-aid qualification earlier in the year. We also always attend the London and Essex BIGGA seminars as a team, as I think you always come away from them with something which makes you think. The event at Gerrards Cross Golf Club this year had an excellent presentation on mental health amongst greenkeepers, something which I believe is a big issue in our industry due to the amount of time we can spend working alone.

• Do you have a feeding programme for your fairways?

The fairways recovered nicely from the tough summer of 2018, so we proceeded with a granular feed in April and overseeded the worst affected areas. I used to then apply a granular fertiliser again in the autumn but this year we decided to try something different. In June, after we had a couple of wet weeks, I decided that we would look to apply a liquid fertiliser / iron mix to try to keep the fairways strong and healthy as we approached late summer.

We achieved fantastic results using Headland Amenity's Xtend 21-0-0 and Elevate Fe, and with some advice from Headland's Peter Blackaby, we added some Clipless NT growth regulator to this tank mix. We have achieved fantastic results on the fairways this year, especially on some of our problem areas that have a history of drying out, with TriCure AD. We applied this at a rate of 2.5L per hectare, which seemed to enhance the germination we achieved from the overseeding carried out earlier in the year.

• How would you improve the greenkeeping industry?

If I had a magic wand, I would make everyone appreciate the time and effort that greenkeepers put into their job. I would also love to see the pay reflect the hard work and diversity of the job we all do. I have seen

so many excellent greenkeepers leave the industry due to poor pay, which is not only heart-breaking but it also weakens our industry.

• **Has a golfer ever deliberately directed a ball at you?**

No, but to be honest most of the golfers I know struggle to hit a bit of turf 500m² so hopefully I'm safe!

• **Have you ever had any mishaps with lakes on the course or had to undertake a rescue of a daft golfer?**

We regularly have to pull out trolleys or buggies from the brook, but in the past we have had a sofa and a garden shed flow past the 18th green following a heavy spell of rain!

• **What is the most interesting animal you have seen on your course and how do you support wildlife?**

Around the 13th hole we always see a buzzard flying around early morning, though he never lets us get close enough for a good photo. We also have a beautiful egret which can be seen around the brook on the 17th hole.

• **Are you seeing any evidence of climate change?**

I don't think anyone except for President Trump can question if climate change is real! I have been in the industry for 27 years and I can say I've noticed the winters being warmer and the summers also getting both warmer and drier – we have only recorded 270mm up to September this year.

After we lost a lot of turf coverage on our fairways in 2018 the autumn didn't provide any recovery and we went into November in a poor way. Surprisingly though by the time we got into January, they had about 75 per cent recovery.

With more and more chemicals being removed and the possibility of golf courses having to use less water in the future, I believe we will have no choice but to look at encouraging bents or even fine ryes into our greens to make them more sustainable.

• **What advice would you give to a young greenkeeper starting out today?**

Don't be afraid to ask questions, nobody knows everything. Try to visit other courses and speak to other greenkeepers, there are many ways to run a golf course.

Take pride in what you do and enjoy the job.

Attend as many courses as you can and listen during the seminars as there is always something to take away that will help you out in the future.

• **How do you spend your leisure time?**

Greenkeeping is a job which tends to involve some long hours so when I get some spare time, I spend it with my family to remind them of who I am! I try to play five-a-side once a week and spend most weekends during the football season moaning about Spurs.



CapillaryConcrete



- Improves Drainage
- Improves Playability
- Reduces Maintenance
- Minimises Washdowns
- 10 Year Insured Financial Guarantee
- Get a Return on Investment from your Bunkers

Mortonhall Golf Club
Edinburgh

For more info visit www.capillaryconcrete.com

or contact Border Sports Services : 01228 561982 Email : info@bordersportsservices.co.uk

THE GOLF BUSINESS

Recruitment

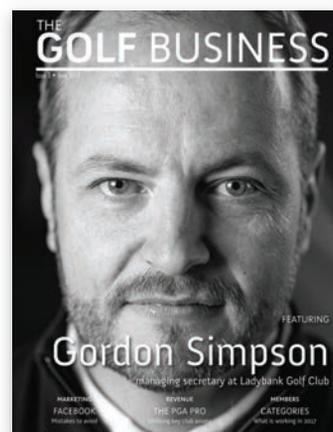
Are you looking to hire
in the golf industry?

Whether you are looking for a new club manager, greenkeeper or PGA professional, ensure your vacancy is listed with the **most read** golf industry publication in the UK and Ireland.

Our audience

- **Print magazine:** Circulated to the club manager and management committees at over 97% of golf clubs in the UK and Ireland
- **Email newsletter:** We have 11,000 subscribers to our weekly email newsletter, golf job alert email and monthly digital magazine
- **Website:** We have over 36,000 unique monthly visitors on thegolfbusiness.co.uk
- **Social media:** We have 26,000 followers on social media

Online listings will appear on The Golf Business website, across social media and within our weekly email newsletter and golf job alerts.



For rates please contact Lewis O'Sullivan on 020 7803 2427
or email lewis@unionpress.co.uk

GreenKeeping



A small selection of jobs available on the website:

Greenkeeper – Benton Hall Golf & Country Club

Greenkeeper – Fairmont St Andrews

Greenkeeper – The Club Company

Greenkeeper – Deane Golf Club

Greenkeeper – Leatherhead, Surrey

First Assistant Greenkeeper – De Vere Hotels

Assistant Greenkeeper – Almarose Hotels

Junior Greenkeeper – The Royal Automobile Club

**To apply for these and many other jobs,
or to post your own vacancies, visit:**

jobs.thegolfbusiness.co.uk or call 020 7803 24 27

AERATION

Sisis Rotorake TM1000 & Javelin Aer-Aid Aeration and Scarification with a difference

For more information on our full range
or a no obligation demonstration call
01332 824777 or alternatively
visit www.sisis.com



sisis

World class turf maintenance equipment



ANTI-SLIP PRODUCTS

PROFESSIONAL SAFETY FLOOR SOLUTIONS
GRIPCLAD
ANTI-SLIP STAIR & FLOOR SURFACES

Can you afford to ignore
the slip dangers on
your golf course?



Contact us for further details:
Tel: +44 (0) 23 8040 6796
enquiries@gripclad.co.uk
<http://gripclad.co.uk/golf/>

APPS

Golf Club App
EAGLE for all smartphones



eagleapp.mobi

The Golf Club Managers Website:
www.thegolfbusiness.co.uk

BUNKER DESIGN

BUNKER EDGING REDEFINED



Reduce your operating costs
by up to 28k per annum and
enjoy consistent, attractive
bunkers that last.

Visit www.ecobunker.co.uk
to see our range of tried and
tested products including our
newest innovation, AquaEdge.

**ECO
BUNKER**
build it once

CLOTHING & FOOTWEAR



Greenkeeper
Wear

www.gkwear.co.uk

Shop Online
Register Now
For Unbeatable Prices
FOR FREE CATALOGUE
Phone 01334 653733

COMPOST TEA



ProBio supplies the Biology
Biology grows healthy soil
The soil grows healthy grass

Tel: 01404 200031
info@xlprobio.co.uk

COURSE CONSTRUCTION

JOHN GREASLEY LTD

Specialists in Golf Course Construction
Green, Tee & Bunker Reconstruction,
Drainage Schemes, Lakes & Reservoirs,
Practice Facilities



HYLINE

HEAVY DUTY, TRIPLE LAYER REINFORCED LINER
www.johngreasleyltd.co.uk
Tel: 0116 269 6766

COURSE EQUIPMENT



FOR BITS-FREE TEES
YOU NEED TO USE THESE
DUAL PURPOSE TEE MARKERS



LESS MAINTENANCE
LESS DOWNTIME
SAVING TIME AND MONEY
Tel: 01633 861 441

www.brokentmarker.com

COURSE MEASUREMENT



www.eagle.uk.com

DEALERS



SALES • SERVICE • PARTS

Ivychurch TN29 0AL Stockbury ME9 7RD Framfield TN22 5FN
01233 225775 01795 643250 01825 691111

BURDENBROSAGRI.CO.UK

Need another option when looking for the right person?

Greenkeepers, assistant Greenkeepers & Course Managers

GreenKeeping magazine's recruitment
section will help you match your
needs with the right individual.

**For more details & rates call
020 7803 2427**

DIVOT BAGS



Need a practical solution to the problem of divots?

The introduction of divot bags is simple and has enormous cost and labour saving benefits.

tel: **01926 484299**
or **07500 957711**
info@divotbag.com
www.divotbag.com



DRAINAGE

Golf Course Drainage

Survey / Design / Installation
Greens / Fairways / Bunkers /
Complete Courses

Plastic Pipe / Turfdry Drainage System



For fast and friendly
Nationwide Service

Contact Melvyn Taylor:
01283 551417 / 07836 259133 / melvyn@turfdry.com
www.turfdry.com

The **Golf Business**

www.thegolfbusiness.co.uk

DRAINAGE

SPEEDCUT

CONTRACTORS LTD

SPORTSTURF & GOLF COURSE

- Construction
- Drainage
- Renovation

Oxford 01865 331479
www.speedcutcontractors.co.uk

ENVIRONMENTAL CONSULTANTS



Leaders in
*Sustainable Golf
Course Management*

- Ecology and water
- Environmental advice for course design & remodelling
- Support and verify clubs achieving GEO Certified™ ecolabel



Call Matt on +44 (0)1225 723652
www.johnsassociates.co.uk

FUEL & WATER STORAGE

Southern Tank Services Ltd

- Diesel fuel storage
- Rainwater Harvesting
- Water tanks and Bowsers
- Pressure washers
- Petrol & Hazardous Chemicals



01722 714514

www.tankservices.co.uk

GOLF CARS

New and re-conditioned.
Petrol and electric.
Purchase and hire.



Units A2 - A3, Kingswey Business Park,
Forsyth Road, Woking, Surrey. GU21 5SA

01932 358095 - 07768 436529
will.scotson@yamaha-motor.co.uk



www.yamaha-motor.eu/uk
www.golfcars.co.uk

GRASS SEED



GRASS EXPERTS
SINCE 1904

www.barenbrug.co.uk

join the conversation
BarenbrugUK

The **Golf Business**

www.thegolfbusiness.co.uk

IRRIGATION



THE INTELLIGENT USE OF WATER™



Tel: 0845 459 2403
Email: rbuk@rainbird.eu

www.rainbird.eu

Sharpen
your instincts
with the Toro® Lynx™
Irrigation Control System



toro.com/lynx

Intelligent Watering

Practical Impartial
Comprehensive Advice



07889 006812

irrigation@intelligentwatering.co.uk
www.intelligentwatering.co.uk

LWS IRRIGATION
the one stop shop

For all your golf, sportsturf and
landscape irrigation needs.



Buy online at www.lws.uk.com

Telephone 0345 230 9697

Call us today on:
01903 278240
For more information visit:
www.tlirrigation.co.uk

Topturf Irrigation is one of the leading irrigation
companies in the UK, with:

- Skilled installation team
- Discounted Trade Counter
- Fully equipped service vans
- Rapid emergency response



Hunter
The Irrigation Innovators



Visit our new website and view our discounted online shop



Call now to book space in next month's
Products and Services
guide or to discuss any of your display
advertising requirements

Call Steve Eaves on
020 7803 2453

▶ products and services

MOWERS

Dennis Razor Ultra
Superbly balanced
mower that's easy
to manoeuvre

For more information or a
no obligation demonstration
call **01332 824777** or
alternatively visit
www.dennisuk.com



DENNIS



World class turf maintenance equipment



MACHINERY REPAIRS



TURF CARE MACHINERY SPECIALISTS:

EFFICIENT AND COMPETITIVE SERVICE
OFFERED FOR YOUR MACHINERY
REPAIR, SERVICING AND REGRINDING.

CALL TODAY...

07590 849 507 | 01606 835 582
peter@middlewichmachinery.co.uk
www.middlewichmachinery.co.uk

SCORECARDS



Eagle has the widest range of branded collateral

www.eagle.uk.com

SIGNS



Every kind of signage requirement - from the driveway
entrance, around the clubhouse, to the tee and fairway.

www.eagle.uk.com

SPRAYING



from
£425

The ideal sprayer for
grass court venues,
golf greens, bowling
greens and cricket
squares, along with
artificial pitches and
domestic lawns

Quality results for
turf care professionals

- Positive displacement pump
- Simple and light to use
- Low ground pressure
- Wheel driven pump
- Consistent application rate
- Robust damage proof boom
- 25L tank
- Bout marker wheels

T: 01353 862044
E: info@techneet.co.uk
W: www.techneet.co.uk



SPRAYING



TEAMDEMOUNT PRO

new design features

British designed
and proud of it.

team-sprayers.com
Tel.01353 661 211

SURFACTANTS

The first name in
soil surfactants.



The last you'll
need to know.

Aquatrols®
aquatrols.com

TINES



**STEELMASTER
PRODUCTS**

Extensive range of tines for all
leading makes of machinery

Tel: 01241 853639
Email: sales@steelmaster.co.uk
www.steelmaster.co.uk

WATER MANAGEMENT



MORE

Want healthy, more
attractive lakes and ponds?
Use Otterbine water
management systems



Member of Royal Reesink

reesinkturfcare.co.uk

**Need
another
option when
looking for
the right
person?**

**Greenkeepers,
assistant
Greenkeepers &
Course Managers**

GreenKeeping magazine's
recruitment section will
help you match your
needs with the right
individual.

We will combine
advertising in the
publication and
website coverage for
one combined price.

For more details & rates call
020 7803 2453

PETROL TANKS



**THE PETROL TANK
COMPANY LTD**

Above Ground Petrol Storage Experts
Affordable • Safe • Compliant



☎: 01283 820213
sales@petroltanks.com
www.petroltanks.com

ROLLERS



**CLS
SELFDRIIVE**

A Division of Cleveland Land Services

Nationwide
distributor for
SALSCO greens rollers

☎ 01642 488328
www.cls-selfdrive.co.uk

Call now to book space in next month's
Products and Services

guide or to discuss any of your display
advertising requirements

Call Steve Eaves on
020 7803 2453

excellens

Marqués de Cáceres



91
POINTS

**The Podium
Best Value
Rosé of the Year**

92
POINTS

TIM ATKIN MW
RIOJA 2019 SPECIAL REPORT



THE ULTIMATE ANTI-SLIP SOLUTION

SCREWED DOWN CUSTOM SAFETY TREADS THAT WILL LAST FOR YEARS

IMPROVE THE PRESENTATION OF YOUR COURSE WITH OUR SIMPLE AND TIDY PRODUCT

CALL TODAY FOR ADVICE & A QUOTATION

Over 700 Golf Clubs now use GripClads product



Contact us for further details:
enquiries@gripclad.co.uk
<http://gripclad.co.uk/industries/golf-industry/>
Tel: 023 8040 6796

