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Welcome



I've loved the Ryder Cup from when my father took me to the 1985 matches when I was still at school. The scale of the event was a very different to today, but both teams were full of global golfing stars.

I watched Sam Torrance hole the winning putt and had no real idea at that time how historic an occasion the European win was. One match I've always wished I could've attended was the 1981 edition at Walton Heath when the Americans assembled what is widely regarded to be the best team ever with 11 of the 12 players capturing major titles during their career.

Imagine my thrill upon joining BIGGA to discover one of my new colleagues, Clive Osgood, had been in charge of the golf course for that match. Clive will be well known to very many of you for one or more of his important roles in the industry; a leading course manager, chairman of BIGGA in 2001 and latterly regional administrator for the South East since 2004. Sadly Clive has been sidelined through ill health for a couple of years and has taken the decision to retire from his role.

He has devoted his whole



Chief Executive Jim Croxton

life to greenkeeping and greenkeepers and I'd like to pay tribute to him as he is undoubtedly one of the most influential members the Association has ever had.

He has been unbelievably supportive of all the things we have tried to do for our members over the years and I know he intends to continue to keep a close eye on matters in retirement; he has three great passions, Sutton United FC, punk rock music and greenkeeping!

I know Clive was delighted with the success of last month's Continue to Learn programme. The event received great reviews from the hundreds of members who took part. I was particularly pleased to see so many teams of greenkeepers

engaging with the Conference as a group. I know the various sessions provoked a lot of tea room discussion and that was exactly what we had hoped for. I would like to thank the many speakers who contributed by providing presentations for the conference, our key sponsors, in particular The R&A for supporting the event, and my team, in particular Sami Strutt, who conceived of and managed the project brilliantly.

A highlight of the event was the ecology chat room and it is fitting that in this edition we celebrate the contribution to golf course ecology made by Bob Taylor. He was undoubtedly the catalyst for the focus on ecology in our industry and it is fantastic that our very own James Hutchinson and so many members have been inspired to ensure golf courses are valuable contributors to biodiversity and habitat creation.

As the COVID vaccine programme gains momentum I hope all our members remain safe and are coping with the challenging climate, whether their courses are open or not.

WHAT'S INSIDE...

Editor's Notes

Greenkeeper International editor, Karl Hansell



How have you been using the long, dark evenings during this latest lockdown?

It seems like time has become a pretty fluid concept at the moment and days are defined by whether I'm sat at my desk or on the sofa. Honestly, anyone who knows me will tell you that I don't like to sit still for too long and I know that it's just as difficult for you guys, many of whom got into greenkeeping because it allows you to be outside.

The boredom has been offset significantly by the fact I became a dad in November and I also took the decision to study towards a Masters but boy, do I just want to play some golf.

That's a thought that in 2020 was shared by what we're led to believe was a record number of people in the United Kingdom and the statistics we've seen suggest there were many positives to take away from this whole, horrible situation.

But what did the increased interest in the sport mean for the nation's greenkeepers? We spoke to the guys at Sports Marketing Surveys who have researched just how many extra rounds each golf course hosted last year and they uncovered some pretty incredible statistics that you can read about on page 46 of this magazine.

You guys did amazing to facilitate the vast number of people who returned to the sport or gave it a go for the first time, particularly at a point when you were overcoming your own personal anxieties and professional uncertainties. But my question is, how do we keep that momentum going? Seriously, I'm asking you. What do we do to make sure the increased interest in golf is sustained and how do we make sure that greenkeepers are recognised for the part they play?

I'd urge you not to wait for someone else to do this for you. Now is the time to be proactive and to share ideas, so get in touch and let's see what we can do.

From your Association

Welcome: An association update from CEO Jim Croxton

Across the Board: BIGGA
President Colin Webber of
Portmore

Membership: Launching the Toro Student Greenkeeper of the Year Awards for 2021

Around the Green: Your local and national member news

Turfworld: We meet Coley
Penrose of Sankaty Head in
Massachusetts

History of Greenkeepers'
Associations: Meet St
Andrews' prisoner-of-war
head greenkeeper



Education

Talking Points: Considering climate change: Should we take greater care of out-of-play areas of our club?

Learning and Development:
Reflecting on the first ever
online Continue to Learn

Apprentice Corner: Do you know the Code of Practice for greenkeepers?

Ecology: James visits Royal Porthcawl and its heather management

Talking Points

Get involved with Greenkeeper International by telling us what's on your mind and you'll get a £100 education voucher and be in with a shot of winning our grand prize with Campey Turf Care Systems.

Practical Greenkeeping

Richard Andrews: How much is your use of fertilisers contributing to your carbon footprint?

NEW People Power: The first in a six-part series looking at leadership skills

Member Interest

Clive Osgood: The former
Walton Heath head
greenkeeper and BIGGA
Chairman steps down from his
role with the association

Greenkeeping through the pandemic: We all know golf experienced a boom last year, but what did that mean for greenkeepers?

THE INTERVIEW Bob Taylor:
Following his retirement from the STRI, we look at the man who revolutionised golf course sustainability

In-Depth

Insight: Investigating methods of effective soil moisture management

Driving ranges: Tim Lobb tells us his thoughts about what makes a good practice area

Spring interaction: Rigby Taylor's Andrew McMahon addresses early season root development

Futureproofing irrigation:
Rain Bird explain why hybrid
systems are helping clubs
upgrade at their own pace

Nitrogen sources: Geoff Lloyd of Indigrow compares differing nitrogen sources as spring starters

Box-on-the-wall irrigation:
Reesink Turfcare discuss an apparent surge in requests for this solution to irrigation problems

76 Industry News: What's happening across the greenkeeping industry?

Useful information

Buyer's Guide: Useful contacts for all your greenkeeping needs

Recruitment: The latest job vacancies

With thanks to our contributors

Each month Greenkeeper International is put together with the help of our industry contributors. This month we have features from:



Shaun Cunningham

Shaun is first assistant at Mortonhall and win's this month's £100 education voucher



Phil Helmn MG

Phil is renowned for helping BIGGA members become better leaders and he discusses how you can identify personality types



Bob Taylor

Bob redefined golf course ecology and he talked to us about his favourite projects from a stellar O-year career



Tim Lobb

Vice president of the EIGCA, who better to talk to about creating effective practice areas to boost your course reputation?

DON'T FORGET: You can claim CPD credits for reading this edition of Greenkeeper International. Head to the CPD section of the BIGGA website to log your credits.



TALKING POINTS

Do golfers want more than just a good golf course?

Is it just as important to maintain your non-playing areas if players are to enjoy a round at your golf course? Shaun Cunningham, Mortonhall



Do you have a topic that you'd like to discuss? Submit your article to commsawards@bigga.co.uk to be in with a chance of winning a week in Florida!

What do you think? Have your say by emailing karl@bigga.co.uk

If you'd asked me six months ago about the importance of the areas that lie within a golf course site that are not playing surfaces, my response would have almost certainly have been that the golf course comes first and we will tidy up the other areas if we have time.

But this opinion has changed quite dramatically over the past few months after undertaking an online college course about non-turf areas on a golf course and changing my job role.

Although I still appreciate that the playing surfaces are the most important aspect of a golf club, I now have a broader view of how other areas contribute to the golfer's experience and enjoyment, beyond playing their round.

When my work role changed to estate manager, I thought the best place to start was to appraise all the non-turf areas throughout the course, moving away from focusing on the golf course and its playing surfaces and instead concentrating on the wider picture, such as infrastructure, first impressions, ecology, health and safety and design layouts. Once I gathered all the information together I could pinpoint which areas of the course could be improved and build a plan of action to achieve the end vision.

The objective of appraising areas throughout the course was to ensure





short- and long-term issues were planned for with the vision to develop Mortonhall, hopefully leading to:

- / Enhancing the reputation of the club
- / Maximising financial returns of the club
- / Increasing sustainability and longevity to the club
- / Enhancing the environment and protecting on-site diversity
- / Conserving and enhancing the club's character and historic features
- / Maintaining and improving health and safety awareness on all areas of the golf course
- / Enhancing the enjoyment, interest and experience for all golfers and visitors

Although all clubs are different and we could easily focus on areas such as practice facilities, golf course structures, health and safety and car parking. I determined the following areas at Mortonhall required the most attention:

Entrance and clubhouse surrounds

The entrance to the golf club must deliver a good first impression to all visitors, with a mixture of tidiness, colour and professional features. I've always said you only get one chance to make a good first impression and I see no difference when it comes to a golf club. These areas should deliver a neat and professional appearance at all times and provide interest and talking points to the golfers.

Turf areas should be treated, where

possible, just as importantly as greens and fairways with regular mowing and maintenance. Flower beds and planters should be maintained frequently and have seasonal planting to give coverage and year-round colour.

Another important point is to give golfers an initial feel for what the course





has to offer. If your golf course is best known for its gorse-lined fairways or undulating contours, why not showcase these characteristics around the clubhouse or en route to the first tee, giving golfers a taste for what is to come.

Course furniture

There is a wide variety of course furniture located around any golf course and it is important to pay great attention to it, to deliver a professional standard in terms of aesthetic appeal and function. The upkeep of items such as flagsticks, bins, bells, signage, tee markers, ball washers and vardage markers does not always come out high on greenkeepers to-do lists, but every golfer comes into contact with these items during each hole of their round so care must be made to have these in a good condition. To deliver course furniture to a professional standard might only need slight tweaks to your daily routine, such as taking out a cloth to wipe down pins and cups every time you change holes or taking a tin of paint with you to touch up any imperfections when moving tee markers. I know some of this may seem a bit excessive but these small details really do make a big difference. And it will limit the emails from the membership complaining that the out of bounds post at the 18th is squint or the distance marker at the 13th is dirty. >>



Paths

Given the high levels of footfall, paths have become one of the most problematic areas greenkeepers have to deal with, especially if you are situated on an inland golf course. With no alternative routing, all golfers use course paths and we greenkeepers need to deliver pathways that are sustainable, visually appealing, cost effective, hard wearing and safe to users, especially in winter months. In an ideal world we would all go out and install the material that best suits your course, such as gravel, astroturf or rubber resin,

As greenkeepers it is our duty to work with nature to maintain. conserve and enhance an environment that will promote biodiversity on the course

but unfortunately that is not always feasible due to it being too expensive to purchase the sheer volume of material required. If I did have any advice, it would be to produce a phased schedule for the renewal of path surfaces, targeting areas that are in the most need of attention. In the meantime, make the best of what you have with regular repairing and levelling along with improvements to drainage or tree cover if required.

Historic features

If your course contains any historic or interesting features these can be a great asset and where possible should be used to their full potential to create important landscape features, character and visual appeal. Modern day golf course architects design or redesign courses to blend into their surroundings and create features that are talking points for visitors, both golfing and non-golfing. If you are lucky to have features such as dry stone dykes, natural water features, sand scrapes or ancient trees you should really make the most of them. This could sound quite time consuming and expensive but it really doesn't need to be. Basic repair work on these features, clearing of surrounding vegetation or future proof work planning is all that is needed to preserve and enhance your on-course features to retain the site's characteristics and history.



Woodland

Much attention must be made to ensure that your wooded areas are used to their full potential. If you have woodlands on site they can define how the golf course is played and be a great asset. From a golfing point of view, they can provide visual interest, hole separation and focal points.

Ecologically, woodlands and copses provide corridor habitat that enables species to move uninterrupted through the site. Mature woodland should be pretty much left to its own devices to encourage a wide range of bird, wildlife and flora populations, unless it becomes dangerous to golfers.

When it comes to future planting, always plant with your mind on the future and provide variety (colour, size and age diversity), sustainability (shade, leaf fall and playability) and benefits (natural drainage, safety and character). Also give a thought when planting to what you want to achieve and over what timescale. The area and cost of plantings will dictate to some extent to which route you take; smaller trees will be cheaper and guicker to plant but will take much longer to provide any effect, so it may be a case to



go the extra yard and buy in a mature tree. For example, if you want to deliver a focal point or improve safety by introducing a tree to make a hole more of a dog leg, it would probably be a better idea to plant a more mature tree for instant effect.

Biodiversity

Golf courses have in the past been criticised for their negative impact on their surroundings with chemical usage, water inputs and loss of habitats to name a few of the issuess. In my opinion golf »



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courses play a vital role in preserving our natural environment. Take my club, for example, which is situated very close to a densely populated urban area where more and more green belt areas are being lost to housing developments. This has resulted in the golf course almost unintentionally turning into a refuge for plant and wildlife due to its stable habitat and highlights the important part Mortonhall plays in the local environment and biodiversity. As greenkeepers it is our duty to work with nature to maintain, conserve and enhance an environment that will promote biodiversity on the course. With this in mind, greenkeepers should be looking to create a natural setting for golf by increasing areas of unmown grass, providing habitat via bird boxes and bug hotels, managing water bodies, creating wildflower meadows and other conservation ideas. By doing this you will probably find you will raise the character of the site and improve the golfer's experience along the way by keeping them interested with the diversity on show, even when they are not playing well.

The subject of non-turf areas on a golf course is limitless, however I feel it is becoming more important in regards to a golf club's success and longevity, as the modern golfer's expectations have increased somewhat and they now need to be impressed and catered for from the minute they enter the car park until they put their golf clubs back in the car. When you think of it, there is no point in a team

of greenkeepers working in unison to deliver firm, consistent greens, manicured fairways and perfectly raked bunkers for a golfer to slip on a worn pathway or lose their ball through a hole in the practice net before they even reach the first tee. Rightly or wrongly, that is what they will be talking about when having a pint following their round.

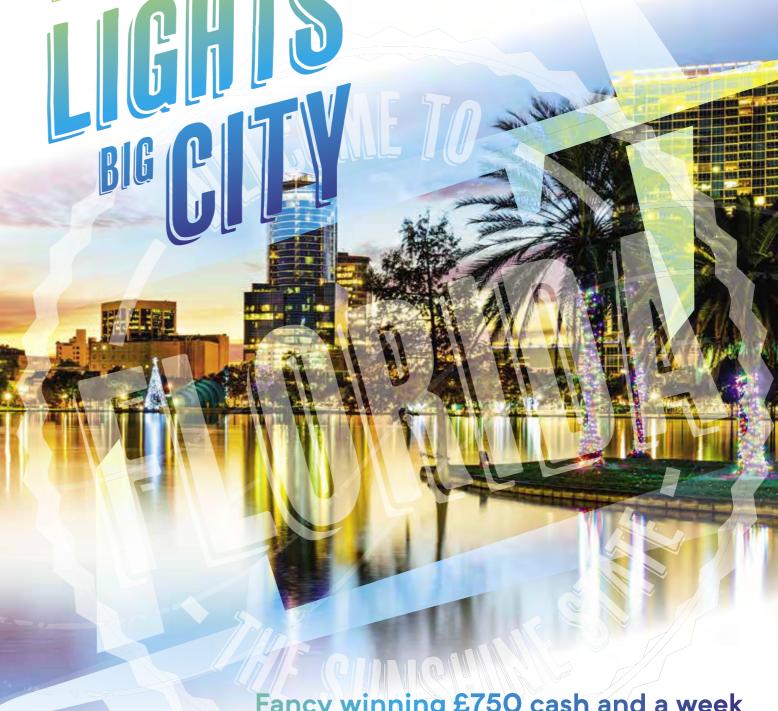
Continue the conversation: Shaun is on Twitter at @ShaunC_1888











Fancy winning £750 cash and a week in Florida, when travel restrictions allow?

Submit an article for GI and receive:

CPD Credits for every piece you write A chance to win a £100 Continue to Learn voucher each month Entry into an annual prize draw to win £750 and an all-expenses paid trip to Florida

For more information visit bigga.org.uk or email commsawards@bigga.co.uk



ACROSS THE BOARD

Colin Webber | BIGGA President | Portmore Golf Centre

As if it didn't already feel like Groundhog Day, here I am embarking upon the second year of my one-year spell as president of BIGGA!

Last year was such an extraordinary set of circumstances that myself and Gordon Moir, in his role as vice president, have offered our services for an additional year, giving the Association one less thing to worry about.

This lockdown feels like déjà vu in a number of ways. Here I am in Portmore with the entire team furloughed, aside from myself and our mechanic. The course is closed and we're doing minimal maintenance and machinery work ready for when we are able to reopen.

Unlike during the lockdown last spring, the reason we aren't doing much work is because the course is just too wet to get out on it.

We've actually modified a bunker bike by adding a frame to carry three hover mowers because it's the only thing that is light enough to get across the saturated ground. Our greens mowers with slick tyres don't stand a chance.

I've had to furlough my team again and that hurts. I just hope the guys are motivated to get involved again when they can come back to work. We at BIGGA are going to have to step up and put on some great stuff for when we can all meet up again. The Festival of Turf should be one of those events and let's hope the world



We've modified a bunker bike by adding a frame to carry three hover mowers because it's the only thing light enough to get across the saturated ground

opens up again so we can all get together in June for a brilliant few days.

I struggled during the first lockdown, but for whatever reason this one has been even worse. Like many of you, if I'm stressed or struggling I tend to go quiet. My biggest thing is I don't sleep properly and I can go to bed at midnight, wake up at 2.30am and then be awake until 6am. I watched a programme on TV recently that suggested probiotics to boost your gut biology would help and that seems to be working as I had my first full night's sleep in a while at the end of January, with none of the anticipated side effects!

I know this lockdown is harder than the previous ones in so many ways but let's keep going. Golf courses have been forced to close but I've got to be honest and say that even if that wasn't the case, our course is so wet that I would have shut it anyway!

Let's be sensible and take this opportunity to make sure that when we do reopen, we're firing on all cylinders.

I know our greens are enjoying not having anyone play on them at the moment and they are completely free of any disease, aside from some turf that I laid recently to cover rabbit damage. I haven't sprayed a fungicide

since 2001 and I don't plan to now. The turf will look after itself and the biology that's in my existing greens will go in and sort the disease out. I realised years ago that the less I did, the less I had to and I don't put anything on the course that isn't organic.

One example, and this is purely anecdotal with no basis in scientific fact, is that we have fescue on our USGA-spec greens, despite being a parkland course. At first I had tried to grow bentgrass but Take All patch came in and, well, took it all. I left it for a week or so and noticed that fescue was growing in its place.

I began to study fescue and I think it thrives because the only products I use are seaweed and organics. We know fescue predominantly thrives on links courses by the sea, so I wonder if there's something in that?

Although my first year as BIGGA President was a bit of a write-off, I'm glad I was able to bring my business acumen to the National Board and I could offer some advice during a tricky time for the association.

I hope beyond words that this is all soon behind us and that the next time I write to you, in three months, a semblance of normality is returning to life.

I have missed so many of my friends across the Association and I look forward to seeing you all again in person and in the near future

HELPING US TO HELP YOU



BIGGA's Partner Programme aims to provide an array of career enhancing and defining opportunities for our members. Through their relationship with BIGGA, the leading companies in the industry are able to support our members through education, initiatives and awareness.

























The support we receive from our Partners is critical in providing the significant series of benefits open to our members. Head to www.bigga.org.uk to find out more and to get involved.

Meet your Membership Administration Team



MORE OPPORTUNITIES FOR A FLOURISHING CAREER

TORO STUDENT GREENKEEPER OF THE YEAR AWARDS 2021

Win a once-in-a-lifetime Toro Scholarship with the Student **Greenkeeper of the Year Awards** 2021.

The Toro Student Greenkeeper of the Year Awards are committed to offering greenkeepers of all ages, backgrounds and experience levels a chance to excel.

Career-defining opportunities await the winning greenkeepers to further their career and network with influential industry leaders.

Closing date for applications is 28 May 2021. Apply today www.bigga.org.uk/education

PRIZE

The Toro Student receive: an eight-week all expenses paid Toro scholarship, including a six-week residential turf the University of Massachusetts, a trip to the to the Toro factory.

The runner-up will receive: a trip to Continue to Learn at BTME, including four days of education, five nights' hotel accommodation, travel and £125 expenses, plus a Toro training voucher for a course of their choice.

Student endorser prize

and show accreditation.

YOUNG STUDENT AWARD PRIZE

The Toro Young Student Greenkeeper of the Year Award will receive: a two-week all expenses paid work experience placement at the exclusive Vidauban Golf Club in the South of France, plus a trip to Continue to Learn at BTME and a Toro training voucher for a course of their choice.

The runner up will receive: a trip to Continue to Learn at BTME, including two days of education, three nights' hotel accommodation, travel and £75 expenses, plus a Toro training voucher for a course of their choice.

Young student endorser prize

The endorser of the Toro Young Student Greenkeeper of the Year will receive: a trip to Vidauban Golf Club for the last two days of their student's placement, including flights and hotel.

WHO CAN APPLY?

Any greenkeeping student who is undertaking one of the listed qualifications below (at the time of application):

- / Level 2 Work-based Diploma - Greenkeeper/SVQ
- / Level 2 Certificate in Golf Greenkeepina
- / National Certificate (NC)
- / Level 3 Work-based Diploma - Greenkeeper/SVQ
- / Level 3 Advanced Golf Greenkeeper
- / Higher National Certificate (HNC)

Young Award students must be aged 21 years or under at time of application.

IMPORTANT DATES

Closing date for applications: Friday 28 May 2021 Regional interviews: 5 to 16 July 2021 Final: 6 & 7 September 2021

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South West & **South Wales**



Tracev Walker 07841 948 110

Full Members Personal Accident Helpline 0113 393 6300

Greenkeepers Legal Assistance 0808 181 9194

Lifestyle Counselling 0333 000 2082

Human Resources (HR) 01698 758 179 BIGGAmembers@ xactgroup.co.uk

STUDENT AWARD

Greenkeeper of the Year will management study course at Golf Industry Show and a visit

The endorser of the Toro Student Greenkeeper of the Year will receive: a trip to the Golf Industry Show in the USA, including flights, hotel, education

HOW TO APPLY

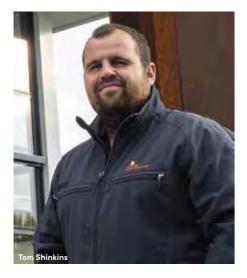
Students can nominate themselves forward for the awards with college tutors, assessors or employers endorsing their application. You can submit your application online by visiting at www.bigga.org.uk/education



AROUND THE GREEN

GKB Machines offers education support

National



BIGGA has welcomed GKB Machines as its latest Educational Supporter.

GKB Machines was founded in 2015 and offers sustainable, reliable and robust maintenance machinery for natural, synthetic and hybrid turf. A part of the GKB Group, the family-owned company has a commitment to sustainability, which it backs up with the production of energy neutral machinery.

BIGGA Head of Business Development Lauren Frazer said: "The efforts of the GKB Machines team mirror many of the priorities that BIGGA and its members are striving towards, with an emphasis upon sustainability and more efficient working practices and an awareness that the only way to achieve these aims is through education and a proactive broadening of knowledge. Our two organisations share

significant synergy in these and many other ambitions and I am delighted that we are able to welcome GKB Machines on board as our latest Education Supporters."

During 2020 and onwards, continuing professional development became more important than ever and BIGGA hosted

professional development became more important than ever and BIGGA hosted significant opportunities for education for the greenkeeping industry through various online formats, including the Continue to Learn Extra webinars, National Regional Conference and, most recently, the Continue to Learn education programme that took place as an entirely-online event across two weeks during January.

These opportunities for BIGGA members to develop their professional skills and knowledge despite the ongoing coronavirus health crisis are made possible thanks to BIGGA's Education Supporters and Partners.

Head to the BIGGA website to find out more about GKB Machines and its commitment to sustainability.

Cumberwell Park acknowledges ecology champ Jon

Take part in sprayer survey for the sector

National

The Government is funding a major survey of the amenity sector to increase its understanding of the total amount of plant protection products used, their modes of application and the reasons for use and BIGGA members are being asked to keep an eye out for an email inviting them to take part.

The Amenity Forum has appealed for the sector to support this work as it will form the basis for future policy and strategic decisions and it will provide valuable information for use across the sector.

Professor John Moverley, independent chairman of the Amenity Forum, said: "2020 was an unprecedented year, bringing with it personal tragedy and impacting on all our lives not just now but for well into the future. It has shown how vitally important is the work undertaken in amenity management. This survey will help provide really important information to guide future policy and I urge everyone to participate if approached."

A similar survey was conducted in 2016 but participation was low, which reflected badly on the sector. BIGGA members can receive one CPD credit for taking part in the survey.

Gordon Peebles

Scotland - South West Scotland



Affiliate member Gordon Peebles has died following a short illness.

Gordon was a sales

representative in the industry for companies such as John Letters Golf, Swilcan Golf, Tacit and Pinseeker.

He was a member of Fereneze Golf Club in Paisley for many years and was a keen Pollock Football Club fan.

Gordon was an affiliate member of BIGGA and was known to almost everyone in the industry across Scotland. Out thoughts are with Gordon's family at this time.

Essex AGM

South East - Essex

The North West committee recently held its AGM, where 2020 was reviewed and plans for 2021 put in place.

The Section hopes to host a number of virtual and in-person events throughout the year. The mental health of everyone is absolutely crucial as we look for a light at the end of the COVID tunnel. If anyone is struggling or would like to chat about any issues, please get in touch." Get in touch with our local Membership Services team

Scotland & Northern Ireland



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Northern



Chairperson
Jack
Hetherington



Sandra Raper 07866 366 966 sandra@bigga.co.uk

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Chairperson Andrew Smith



Roger Butler 07525 593 359 roger@bigga.co.uk

South West & South Wales



Chairperson Lucy Sellick



Tracey Walker 07841 948 110 tracey.walker@bigga.co.uk

South East



Chairperson Peter Smith

Joe Barnes steps in at Fairhaven

Northern - North West

Joe Barnes has taken up the course manager position at Fairhaven.

Joe was previously deputy course manager at Royal Lytham & St Annes and paid tribute to his predecessor, Peter Simpson, who recently passed away.

"It's obviously sad circumstances why the position became available," said Joe, 35. "Peter battled illness for some time but I do hope to do him proud. He was a true gentleman and built a great team at Fairhaven who constantly produce a great golf course."

Joe began his career as an apprentice at Lytham Green Drive in 2006 and has since

worked at Penwortham Golf Club and then Royal Lytham since 2008, where he was promoted to first assistant in 2013 and then deputy head in 2017. During his time at Royal Lytham the club hosted two British Women's Opens, a Senior Open and the 2012 Open Championship.

In 2018 he was selected for the John Deere TPC Sawgrass Volunteer Programme, which he said taught him a large amount about looking after a large team. Joe explained: "Staff welfare over there is on another level and it opened my eyes. It's all about including the team, from apprentices right up through the ranks."



Farewell to Gaudet Luce's Alan Harper

Central England - Midland



BIGGA was saddened to hear of the passing of Gaudet Luce founder member and retired greenkeeper Alan Harper.

Alan, 79, was a retired member of the association and was a popular figure at Gaudet Luce.

Course Manager Andy Laing worked alongside Alan and said: "Alan's love of nature was an inspiration to all of us and he will be missed greatly by all who knew him.

"No doubt he will be shouting down from above, telling us all where we are going wrong!

The thoughts of everyone at BIGGA are with Alan's family at this difficult time.

"Rest in peace mate."



During December, Cumberwell Park's head of conservation, Jon Keepen, was named winner of the STRI Golf Environment Award and the club has moved to recognise his incredible achievements.

Head Greenkeeper Matt James said: "We are delighted for Jon and he fully deserves this recognition. We aim to develop and enhance the habitats on the golf course and Jon has played a major role in this drive over the last eight years."

Jon's flagship project is managing the bird boxes on site, in particular supporting the resident birds of prey. This has led to significant success including the breeding of barn owls, little owls and kestrels. The project involves maintaining the nest boxes and liaising with registered bird ringers who record the specimens on site.

Matt added: "The awards are nationally recognised and it highlights how highly Jon is thought of across the country."

New members

Scotland & Northern Ireland

Craig McKinlay, East Renfrewshire, GK; Nicholas Thompson, Gullane, GK; Saul Walls, Longniddry, AGK.

Northern

Emma Beggs, STRI, A; Ben Whitehead, Blackburn, App; Martyn Walton, Hurlston Hall, App; Neil Mitcham, Hurlston Hall, App; Thomas Scurfield, Billingham, App; Vincent Price, Myerscough College, CA; Andrew Burrell, Rockliffe Hall, GK; Robert Myatt, Bromborough, GK; Robert Walton, Sand Moor, GK; Spencer Morgan, JCB Golf and Country Club, GK; Cameron Bruce, Halifax West End, AGK; Andrew Kirkman, Blackwell Grange, AGK; Joseph Thompson, JCB G&CC, AGK; Thomas Hunter, Caldy, AGK

Central England

Simon Tunn, Wycombe Heights, CM; Freddie Bendall-Brown, Bayer CropScience, Ed; Nikki McKenzie, John Deere, Ed; Tim Peeling, Bayer CropScience, Ed; Adam Johnston, JCB G&CC. GK: Benjamin Cotton. JCB G&CC, GK; Chris Keeler, JCB G&CC, GK; Emily Gammon, JCB G&CC, GK; Greg Jones, JCB G&CC, GK; Josh Wilkins, JCB G&CC, GK; Michael D'Allesio, Old Fold Manor, GK; Norman Joiner, Bedford, GK; Ryan Jaffray, Luffenham Heath, GK; Thomas Molloy, JCB G&CC, GK; Harry Blackwood, Watford Football Club, G; Edward Keech, Kettering, AGK; Joel Smith, Heythrop Park, AGK.

South East

Matthew Warren, Malden, FA: Alexandru Lungu, Reigate Hill, GK; Steve Brown, Malden, AGK.

South West & South Wales

Haydon McCance, Honiton, App; Scott Duff, Bovey Castle Hotel, HGK; James Stratford, Broome Manor, AGK; Keiran Dewberv. Naunton Downs.

International

Daniel Dingman, Birmingham Country Club; Fredrik Seeger, Swedish Golf Federation; Jeremy Boone, Springdale at Cold Mountain; Sean McHugh, Shawnee Hills: Stefan Nilsson. Swedish Golf Federation.

Groundsper DCM Deputy Course Life Member Mechanic Student Membe

Members join Syngenta in running for stress relief and charity funds

BIGGA Partner Syngenta hosted a virtual 5k run during Continue to Learn that raised funds for the Greenkeepers Benevolent Fund.

For everyone who signed up to run or walk 5km, Syngenta pledged to donate £10 towards BIGGA's charity, which offers support to BIGGA members and their families who encounter financial

Syngenta's Dan Lightfoot MG said: "It's been incredible to see the all activities of so many greenkeepers and people from across the industry involved with the Hicure Run Club, and raising money for such a good cause in the Greenkeepers' Benevolent Fund.

"The level of interaction

back in the greenkeeper's shed with all the banter. which is exactly what we need to support each other now.

"Let's keep the Run Club moving and get even more people involved."

Syngenta set a target of raising £1,000, with members joining in with the Hicure Run Club from Portsmouth to the Isle of Islay in Scotland. Here are some of the pictures taken by BIGGA members after taking part.

Thank you to Syngenta for organising the event and to everyone who took part!

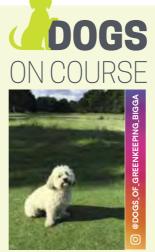


Kerran Daly South East - Essex



BIGGA has offered its thanks to past chairman Kerran Daly, who has stepped down from his volunteer role as a Master Greenkeeper officiator.

Kerran has donated time over a number of years to deliver Master Greenkeeper workshops at Continue to Learn and everyone at BIGGA extends our gratitude for his commitment and expertise.



Name: Bomber Age: 4

Breed: Bichu

Owner: Sam Bethell Course: Chipstead

Favourite treat:

Spaghetti bolognese

Naughtiest moment: When he dived into the

washdown sump. He was black and green from the neck down and stank for a few days!

Favourite spot on the course: The passenger seat of any vehicle

My dog is happiest when... Chasing the

THE SAVINGS SOON ADD UP





Each month BIGGA Extra Benefits offer you hundreds of pounds in savings on life's everyday essentials and more.

£50 to spend at Virgin Wines with FREE Prosecco & Delivery!

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availability. For the latest offers visit the Apple EPP store. BIGGA Xtra Benefits is managed and run on behalf of BIGGA by Parliament Hill Ltd.



TURFWORLD THE INTERNATIONAL SECTION

Each month we meet a BIGGA member who works outside the United Kingdom to find out more about working practices in other countries. This month is the turn of:

Coley Penrose | Sankaty Head | Massachusetts, USA

Location: Sankaty Head



How would you describe the style of course you manage and what is your club's claim to fame?

Sankaty Head Golf Club is a links-style course on Nantucket Island, the easternmost point of the USA. Sankaty was founded in 1921 and was designed by Emerson Armstrong. Since 1930 it has operated one of the last remaining Caddie Camps in the world.

How does greenkeeping in your country vary from the UK?

Actually, Sankaty is more similar to coastal UK courses than the majority of USA courses, which are inland and more parkland in nature. In America there is a greater variation in climate, with cool grasses in the north, transition grasses in middle America, and warm season grasses in the southern regions

How does the weather affect your work?

Being on an island 30 miles out at sea has its environmental impacts on the turf

and on our decision making on maintaining the links. Wind is probably our biggest challenge as it affects irrigation usage and the application of fertilizer/plant protectants.

How does the availability of resources such as chemicals or machinery impact what you are able to achieve at the course?

Sankaty has a healthy maintenance budget so equipment replacement is not

an issue and helpful resources are available. However, being an island, everything has to be shipped over on the ferry so costs of resources and equipment is higher and the timing of getting what is needed is a factor if ferries are delayed due to weather.

What turfgrass species do you grow on your course and how are they impacted by your climate?

- Greens: Poa/Bent
- / Tees: Bent/Rye/Blue/Fescue
- / Fairways: Bent/Fescue/Poa
- / High rough: Fescue/Little Blue Stem Nantucket has all four seasons. Our springs are usually on the colder side due to the Atlantic Ocean being cold that time of year but we make up for it in the Fall with warm temperatures extending into December.

What is greenkeeper training like in your country and how does that impact recruitment?

Training in the US is excellent, from our top universities to placement training



If you're an international member we'd love to hear from you. Email lorna@bigga.co.uk to get involved in your magazine!

at some of the best golf clubs in the world.

What interaction do you have with golfers at your club and how are you perceived by them

Sankaty takes great pride in being a family golf club and that extends to how the club's staff is perceived. The membership understands how special

Sankaty is and appreciates the hard work that goes into maintaining the course in peak condition.

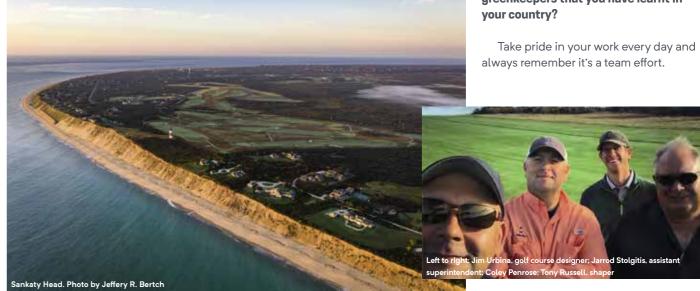
Why do you choose to be a BIGGA member?

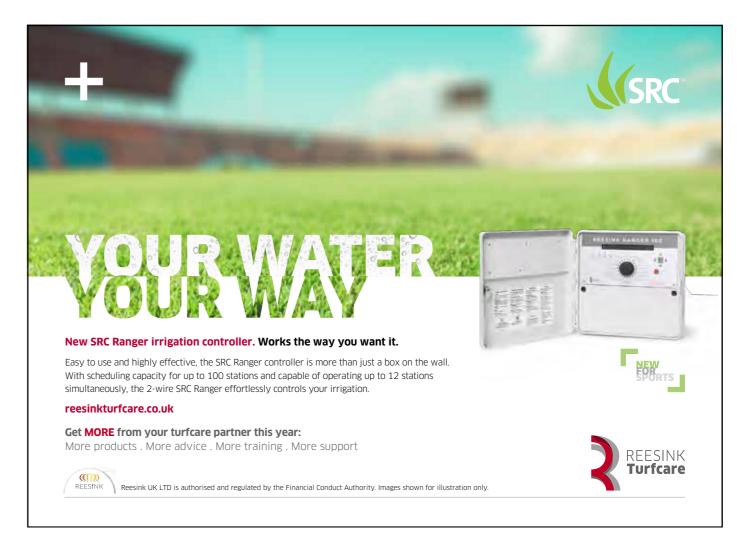
I wanted to expand my networking channels within the industry and have the ability to interact with greenkeepers that maintain links golf courses similar to what my team and I maintain at Sankaty.

What have you learnt through being a member of BIGGA?

I haven't had too much interaction to date so I was looking forward to attending my first BIGGA conference this year but looks like I will have to wait due to COVID-19.

What one tip would you give British greenkeepers that you have learnt in your country?







Sami Strutt Head of Learning and Development sami@bigga.co.uk





Fiona Lyttle L&D Executive (GTC) ona@the-gtc.co.uk



One of the main functions of BIGGA is to provide a place for our members to develop their knowledge, learn new skills and interact with each other to discover new ways of preparing the course.

For more than 30 years, one of the highlights of the education calendar presented by BIGGA has been the Continue to Learn education programme, that runs alongside BTME in Harrogate each January.

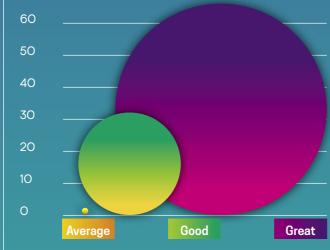
Sadly, the coronavirus pandemic threatened to put a stop to that, as it did so many events we were looking forward to during 2020 and 2021. However, the association was able to host a two-week education spectacular on a digital format, where members, speakers and BIGGA representatives could interact

When asked what delegates enjoyed most they said:

Easy access, fun and ideal for international attendees who may not be able to travel to future events



HOW DID YOU RATE THE CONTENT OF THE SESSIONS?



and attempt to recreate the

spirit of Harrogate Week.

and BIGGA is proud to

report that the event was a

tremendous success. More

than 230 BIGGA members

days of the Continue to

tuned in for each of the three

as far afield as America

and Eastern Europe. while the following

week saw smaller,

focussed classes

achieve fantastic

out of 27 classes

selling out and

more than 300

tickets sold.

The event took place

across two weeks in January

Supported by The R&A and with sponsorship from ICL, Rigby Taylor, Syngenta and Aguatrols, Continue to Learn featured a number of online talks on a wide range of topics including presentations from various stakeholders

involved with The R&A's

Golf Course 2030 initiative The following week and smaller "classes" enabled attendees to interact with speakers and these featured practical subjects such as Ian Sumpter of MowSure, whose classes proved so popular that additional »

The ability to decide

what content you wanted and to chat with the



It was a welcome break from my hectic schedule of daily work and it covered many areas of interest to me that were also very educational

It was very easy to access top class education with no travelling, although I did miss the social aspect

Continue

to learn

syngenta.

Continue to

Learn 2021

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DANIEL RIGBY, GREENKEEPER AT CHIGWELL

"I sat in a number of seminars talking about diseases and using

advantages of using them and when to use them. If we can learn more about nematodes and use them to

convince your club that you

Harrogate and although you

Experience The Difference



www.the-gtc.co.uk

/greenkeepers trainingcommittee



DO YOU PLAN ON **IEWING THE SESSIONS AFTER THE EVENT?**

WHAT DID YOU THINK?

opportunities to be added a week ahead of the event.

The Continue to Learn 2021 sessions will now sit on the BIGGA website alongside a library of electronic resources dating back years, ensuring members can continue to develop their skills to achieve their personal and professional ambitions and enabling you to learn at your own pace.

Moving forwards and BIGGA is proud that so many of its members have embraced these new ways of working, with the ease of logging on to a computer to gain access to education opening up the incredible opportunities on offer to more members than ever before.

Although we're hopeful that in the near future we'll be able to host in-person

HOW DID YOU FIND THE RANGE OF TOPICS FOR THE **CONFERENCE SESSIONS?** Just right loo many Not enough

Interacting with

riends I haven't seen

or spoken with

in a long time

events once again, where BIGGA Sections and Regions can meet up for a chat, it's fantastic that we

have developed these new platforms that have made continuing professional development more accessible than ever before. We anticipate that Continue to Learn will return in its usual format in 2022, but are exploring opportunities to take advantage of this new-found confidence in online learning to enable us to support our members in new and exciting ways.

> We look forward to seeing you back in Harrogate for Continue to **Learn 2022**

I hope the format continues (excuse the pun) and we don't have

to wait too long before it happens again!

0 0 0 1

Well done BIGGA,

Direct conversation and education for my level

TOM WESTON, DEPUTY HEAD GREENKEEPER AT SALE GOLF CLUB

"I got very good vibes from Kevin Fish's talk because he spoke about a lot of things that rang true about the way I have been thinking about the industry over the past 12 months. He talked about how the priority for members is the golf course itself and the other data he gathered was really informative.

"I also listened to Tyler saying about team building, which is quite relevant to us at Sale. It's been a difficult year and morale is guite low relevant. We used to have three team meetings a month, but due to COVID we haven't been able to have one for a while. We months, we've been pretty

The opportunity to ask questions and

There was a great deal on offer and it was impossible within the timeframe available to attend all the sessions I wished to. However, there will be time to catch up afterwards. That you provided Continue to Learn to us with everything going on. A role model to all on how to adapt. Well done!

THANK YOU FOR YOUR SUPPORT

BIGGA WOULD LIKE TO THANK THE FOLLOWING **COMPANIES FOR THEIR SUPPORT**

Continue to Learn 2021 was supported by



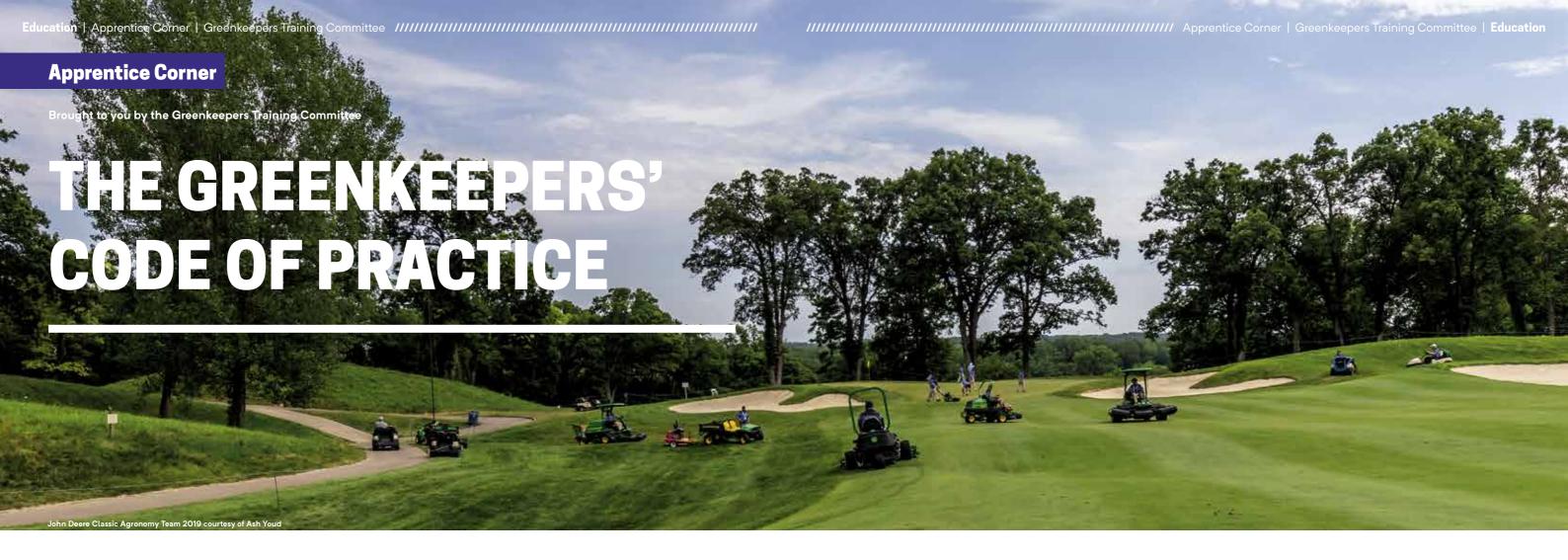
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Experience The Difference





It is important to understand these guidelines at the beginning of your greenkeeping career as this code of practice is an important part of the professional aspect of greenkeeping.

Greenkeepers should be polite and considerate to colleagues, golfers and the general public

Examples might include:

- / Acknowledging golfers when they are on the golf course
- / Turning off machines when players are playing a shot
- / Answering questions from players on course maintenance politely or, if you are unable to do so, refer the player to the correct member of staff
- / Offer to assist a colleague to carry out a task
- / Do not play loud music from tractor cabs etc.
- / Do not drive in a manner that may be dangerous to yourself and others or likely to damage the turf

Greenkeepers' work clothing should be safe, tidy and presentable

This is important for several reasons that include:

- / For safety no loose parts, fits correctly, tidy and presentable, steel toe caps are not damaged
- This promotes a professional image of the industry, helping us gain a higher level of respect from players

Be aware of the movements of players on the golf course

It is important to ensure you are always aware of the position of players while you are carrying out work on the golf course. This will:

/ Ensure your own safety

- I Ensure you do not get in the way of play and spoil the experience of the players
- Increase the respect of the players for your profession

Acknowledge approaching players when you are working on the golf course

- / It is important to acknowledge approaching players when you are working on the golf course so they know you have seen them and it is safe for them to play a shot
- / It is also polite and promotes a professional image of greenkeepers
- / Try to schedule work to limit disruption of play
- / Do not upset a player's concentration as they are about to play

Work against the direction of play where possible

- / It is better to work against the direction of play, such as when mowing greens, as this avoids disturbing play more than once in a player's round
- / When cutting a teeing ground, position the markers back on the tee as soon as the task is completed
- / When cutting fairways try to position yourself and the machine safely to allow golfers to play through. If it is not possible, stop your machine until all golfers have played. Be aware of any golf balls in the line of cut
- / When cutting a green, replace the flagstick as soon as possible

Ensuring your work does not interfere with the Rules of Golf

For example, you should not move hole positions during competitions as it:

/ Is against the Rules of Golf and may unfairly disadvantage or be an advantage to players

- / Would invalidate the competition
- / Never change a hole during a stroke play event, except when directed by the committee, or when golf balls are on the green
- / On competition days, work should be planned to ensure there is no interference with play

Communication in the workplace

It is important to report any unexpected findings back to your course manager so they can deal with them. The reasons might be:

- / To ensure the health and safety of everyone
- / To ensure the course quality is not compromised (in the case of diseases and pests)
- / To enable them to know about problems such as complaints from players and to deal with them quickly

This information is taken from the GTC's Level 2 Learning Materials, available to purchase on the GTC website. The GTC produces Learning Materials to support apprentices with the knowledge required to achieve their qualifications. These materials are not exclusive to apprentices and are available to all golf clubs to help with best practice. Head to www.the-gtc.co.uk for more information.





Congratulations to the following members who achieved CPD Approved status this month:

Stefan Carter, Wentworth; Richard Johnstone, Nairn Dunbar; Daniel Rigby, Chigwell; John Milne, Dufftown; John Hockley, Royal Cinque Ports; Mark Crawshaw, Hallamshire; Reece Dabbs, Enville

Congratulations to the following members who achieved their CPD Milestone this month:

Alan Fitzgerald, Ledgerock

Keep your CPD record up to date: www.bigga.org.uk/ member-homepage/continuing-professional-development Congratulations to the following BIGGA members who have achieved their Level 2 Certificate in Golf Greenkeeping

Alexander Ashwin, Burghley Park Golf Club; Kit Gregory, St Annes Old Links Golf Club; Nathan Hart, The Belfry Golf Club; Kevin Keenan, Filey Golf Club; Nile Lilley, Lindrick Golf Club; Daniel Neild, The Belfry Golf Club; Jamie Whale, Sonning Golf Club; Joseph Wilby, Lytham Green Drive Golf Club Ltd





If you missed the 2020 National Regional Conference or want to re-visit some of the sessions, head over to the BIGGA website to access them on demand.

Sponsored by ICL

STRONG **TOGETHER**





FUNDING YOUR FUTURE

BIGGA's Learning & Development Fund supports a vast array of educational opportunities for BIGGA members. From subsidies, scholarships and refunds of fees to seminars, workshops and conferences, the funds generated by BIGGA Education Supporters improve education in the greenkeeping industry every single day. We ask BIGGA members to continue to support those companies that are committed to supporting you on your career journey.



















































Individual Contributors: Steven Tierney MG | Andrew Campbell MG CGCS | Richard McGlynn | Jaey Goodchild Frank Newberry | Greg Evans MG | Jon Kiger



ECOLOGY ROUNDUP

James Hutchinson | Membership Services Manager (Ecology & Sustainability)



During a recent iaunt to one of the most scenic courses you're likely to find, I came across heather management of the highest order where gorse, Yorkshire fog and other invasive organisms give way to probably the UK's best-loved low growing floras.

Managed by Ian Kinley, Royal Porthcawl in Mid-Glamorgan is home to large expanses of land where wildlife is abundant — I was only there for a short period of time but managed to record stonechats, pipits and many other goodies which can only be related to the first-class greenkeeping skills the team has, and by that, I mean both the agronomy and the heather management they are

Take this example — the photo shows heather growing freely in what was once

scrubland. Yes, I know scrubland is important too, just not so close to a playing surface. What the team did was to remove the scrub and then scrape away the top soil to expose the underlying heather bank of seeds in the dirty sand. Heather seeds can remain dormant and viable for 50 years or so. But do you know what? That didn't work - Yorkshire fog grew back. So, not resting on their already top-notch laurels, the team didn't accept defeat and

seeds started a-popping with the latest result being what

to manage the heather you may have on your course. Burning is one, but you need a licence to do that and unless you have burned in the past, I'd avoid that as it is a tricky business unless you have a lot

carried on removing the top layers of sand until bare, natural, fog-free sand was exposed. A bit more time passed and bingo! Heather

There are many other ways



of experience and anyway, the area is possibly too wet to burn anything.

Hollow tining around existing stands of heather works a treat, as does deep scarification. These are not as invasive as stripping or burning and often give the same results. Cutting and collecting is an age-old method, but be sure to save the arisings by drying them out and then scattering them onto bare areas for new growth of heather plants.

Whatever you decide to do, remember I am always here for a return email or chat over the phone regarding anything eco. If I don't know the answer. I'll know someone who does.

Ecology Roundup is kindly sponsored by



Don't forget You can read more from James on the BIGGA website. Visit www.bigga.org.uk/about/green/ecology-bulletin.html or scan the QR code





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Location: Heartfodshire



The good bit

In the latter part of the 19th Century, the race was on to find a way to fix nitrogen from the air by chemical means. However, even though the smallest bacteria are quite happy fixing nitrogen in the soil, the chemical process is complex and requires lots of energy and expense. Techniques were developed in the United States and Sweden but neither was commercially viable.

Then in Germany in 1909, Fritz Haber found that nitrogen could react with hydrogen to synthesise ammonia — and this would provide the basis for the manufacture of many compounds that included nitrogen. While Haber had managed this huge leap forward on his table at home, Carl Bosch developed the techniques required for mass production and his first

fertiliser factory (soon to be making explosives for The Great War) opened in 1913.

as it is now known, is

The Haber Bosch Process.

considered one of the most important discoveries of the 20th Century. It has provided the nitrogen that feeds the crops that feed the world. Indeed, the agricultural explosion from around 1950 would not have been possible without the freely available nitrogen that has maximised yields and fed a global population that is now around eight billion. Nitrogen is a constituent part of DNA and a significant part of the nitrogen in our bodies is said to be derived from the Haber Bosch Process - as well as the nitrogen in innumerable synthetic products like plastics and medicines. The enormity of the process is clear: it is now the most widely used chemical process in the world.

Of the total ammonia produced with the Haber Bosch Process, it is estimated that around 80% is used to synthesise mineral fertiliser and while this fertiliser has fed the world, it has also provided the nitrogen for the grass on our golf courses.

The bad bit

Seventy-nine per cent of our atmosphere is nitrogen: abundant, odourless, colourless and very stable. The fact that it is such a stable element makes transforming it into a source of nutrition for plants very expensive. The Haber Bosch Process needs high temperatures (around 500°C) and very high pressures amounting to 300 atmospheres (100 atmospheres is the pressure 1,000 metres below sea level) so large amounts of fuel are needed. These four short statements emphasise the

The Haber Bosch Process, as it is

now known. is considered one of the most important discoveries of the 20th Century. It has provided the nitrogen that feeds the crops that feed the world.

enormous impact the manufacture of mineral fertiliser has on the planet: / it uses approximately one

- per cent of all energy generated / it is the third biggest
- industrial emitter of CO. / it emits almost 2% of all global CO₂ emissions
- / it emits up to 500 million tonnes of CO₂ every year

greenkeeping?

As a greenkeeper, I have to say I am a little conflicted. I like to think that I have worked quite hard over almost 30 years for the advancement of a better golfing environment but it's apparent that some of the stuff we greenkeepers do is unsustainable and bad for the planet.

We have all heard of greenhouse gases and climate change and we can see that our weather is becoming more extreme with droughts and floods on the golf course, early springs and mild winters. Even rising plant parasitic nematode populations have been attributed to climate change.

On a global scale we also know that climate change is already causing habitat loss, reduced biodiversity, acidification of the oceans, thawing permafrost, melting glaciers, melting icecaps and so many other negative

Of course, golf courses are but a small player in a very large industrial world. In the UK they occupy only around 1% of the land, so the question is do we have a »



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in a position to reduce emissions and that includes the golf industry

responsibility to safeguard the planet?

The Golf Environment
Awards point to some kind of
custodianship and collective
responsibility, but that is on a
scale that is site specific.
Mostly, golf courses are net
carbon emitters and this is
because the manufacture and
use of mineral-based nitrogen
fertilisers contributes so much
to their carbon footprint.
There is an important
distinction between grassland

and intensively managed turf: the former is a carbon sink (where more carbon is absorbed than released) whereas the latter is a net emitter. I can't help thinking that is wrong.

In addition to the environmental impact of the Haber Bosch Process, there are other sources of emissions directly attributable to fertiliser use:

- / 1% of all nitrogen fertiliser is emitted as nitrous oxide (N₂O) — a greenhouse gas with 296 times more global warming potential than CO₂
- / More nitrogen equals more clippings – and decomposing clippings release N₂O and CO₂
- / Excess nitrogen fertiliser not used by the plant is emitted as N₂O

What next?

The world realises that the Haber Bosch Process is both

hugely beneficial but also enormously damaging. Efforts to find new ways to fix nitrogen and reduce the associated CO₂ emissions continue, together with ongoing research to create "green ammonia" from the air.

But perhaps we cannot wait for scientific a breakthrough. On a global scale, the energy sector is by far the biggest emitter of greenhouse gases with agriculture second and golf coming way down the list. But every industry is in a position to reduce emissions and that includes the golf industry – and I would suggest that we have a responsibility to act to protect the environment.

If that means leaving a few bags of fertiliser in the corner of the sheds gathering dust, or substituting mineral fertiliser with organic, then perhaps that is just what we should do.



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Discover the benefits of Micronised Silicon

Aquaritin Foliar[™] is proven to deliver exceptional Plant Health through the action of Micronized Silicon and 12 Essential Nutrients absorbed on Nano Silica.

When applied to golf and sportsturf, it promotes cell wall strength, plant rigidity, root development, water efficiency and colour response that does not look manufactured. Under biotic and abiotic stresses it presents barriers to environmental stresses and limits the susceptibility to pathogens and insects.

What is Aquaritin Foliar™?

Aquaritin Foliar™ is an advanced Nano Scale foliar spray which combines a balanced mix of 13 plant nutrients in a single formulation. It contains primary nutrients (P,K); Secondary nutrients (Ca,Mg,S); Micro nutrients (Fe,Mn,Zn,Cu,B,Mo); and, in addition, Silica and Cobalt. The particle size is between 1 and 30 nm and each nutrient is absorbed on to nano-silica molecule preventing them from bonding with each other, with water, or the atmosphere. Nano particles allow for easier dispersal and integrated suspension in the tank and with micro droplets offer better coverage during application. Aquaritin Foliar tank mixes easily with other Fertilisers, Fungicides and PGRs and is absorbed by the plant through the leaves within a few minutes of application. Significant benefits noticed by Turf managers when applying Fungicides.

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Applications

Maintenance Rate: 0.5ltr per Hectare once every week to once every two weeks on greens and once every month on fairways and sportsfields.

Recovery Rate: 1ltr per Hectare two to three times a week until desired results are achieved.



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In this series of articles-Phil Helmn MG discusses leadership strategies with greenkeepers across the country and how they're successfully adopting them in their workplace

PEOPLE POWER What personality type are you?

Toro Student Greenkeeper of the Year 2019 Jason Norwood discusses the DISC model of personality identification

Phil Helmn MG

Location: Harrogate



Jason Norwood, 32, is an assistant greenkeeper at Rudding Park, one of North Yorkshire's finest 18-hole Hawtree design courses.

Jason recently made a career change, joining the team as an apprentice greenkeeper only a few years ago. However, Jason's thirst for development soon had him achieving his NVQ qualifications in rapid time and in 2019 he was announced as the winner of the highly prestigious Toro Student Greenkeeper of the Year title.

I had the opportunity to discuss in detail with Jason his newfound knowledge of the importance of understanding others and how it's translated into real life work experiences, personal development and the creation of a winning working environment with his colleagues.

Before we go into the detail, I think it's important we understand the background first. In the sportsturf industry budget funds are typically categorised into four main segments: manpower (labour); machinery; materials; and management. You would think these four budget types would command roughly the same amount of annual funds. Research has shown that actually, most of our annual money is allocated towards labour, with the average being a whopping 65%, see figure 1. In other words, you and your staff are your golf club's



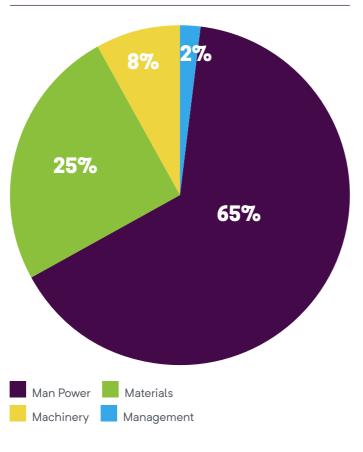
biggest asset.

So, why is it important to invest so much time and energy on understanding the individuals in our team? Put aside for a moment the money spent simply to get the job

done and it's only by understanding others that you are able to create a positive working environment that improves productivity, innovation, morale, performance and a whole tidal wave of other benefits.

Jason said: "I had Phil's Power of People book bought for me for my birthday and the more I read, the more the concept of people's characters and how they behaved made utter sense. I began working really hard on trying to understand people more and I began to listen to what and how people were

Fig 1: Annual Budget



speaking and acting. I particularly used the Marston DISC theory, which breaks down people's characters into four colours."

I think it's fair to say that we understand how we're all the same but also different, if that makes sense? Everyone feels the same emotions, but the way they express their opinions, feelings, expressions, understandings, wisdom and humility are the facts that differentiate one person from another. Genes account for between 30 to 50% of the determination of personality. The rest of our character is made up of our life experiences, which shape the way we view the outside world.

Marston's DISC model populated a theory of human behaviour and works by measuring four fundamental factors and then translating them into colours — red, yellow, green and blue, see figure 2. We can use these factors to determine not only our personality type but also those around us. This allows us to adapt the way we communicate to get the best result out of our discussions or negotiations.

Reds are very direct and target driven and so when speaking with a red, be direct and concentrate on bullet points because they don't like to waffle.

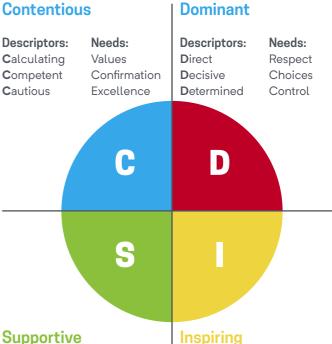
Yellows are very sociable and generate lots of enthusiasm and ideas. Yellows like to be listened to and recognised for their creativity. By seeking a yellow's advice, you will make them feel valuable.

The greens are very steady and caring. When speaking with a green make sure you appreciate their desire to maintain positive relationships and that they care about the wellbeing of their teammates.

Blue characters are all about detail, terms and conditions and formality. When talking with a blue be sure to do the research in advance. Wherever possible give blues the reassurance that

Understanding the different traits of each colour has helped me have a much better grasp of the importance of how to listen and talk to everyone in my team.

Fig 2: Marston's D.I.S.C of personality types



Descriptors: **S**table Steady

Needs: Security Approval Appreciation **Descriptors:** Influencina Interactive Involved

Needs: Affirmation Popularity Recognition

your ideas have been tried and tested (and succeeded) elsewhere.

Jason added: "Understanding the different traits of each colour has helped me have a much better grasp of the importance of how to listen and talk to everyone in my team. I guess I began to become more aware of myself as well as others. As a result, my listening skills are developing and I'm pleased to

say my teammates feel they can open up to me, which I find rewarding. This level of awareness has also helped when I have needed to discuss ideas with my managers. For most of us, communicating upwards can sometimes be challenging, but by using the DISC model I've been better equipped, mentally and emotionally, to communicate with my managers. It's been a real game changer and I believe that developing my ability to spot the trademarks of each person's colour type can only stand me in good stead for the future.'

There are a few different assessment models you can use, but it's important to reiterate that everyone is entitled to be different; there is no right or wrong type and differences should be embraced. Teams consist of many different personality types and it's tremendously useful to take the time to understand them. I have come to the realisation and appreciation that great teams require a healthy mix of all personality types. Understanding people will, without doubt, help you and your team reach many successful outcomes. What colour are you?

The book 'The Power of People' is available to purchase from www.philhelmn.com

Continue the conversation

Phil is on on Twitter at @HelmnPhil



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Member Interest

SURREY'S FINEST

BIGGA looks back over the career of Clive Osgood Karl Hansell, BIGGA

Location: Walton-on-the-Hill,



Former Walton Health head greenkeeper Clive Osgood formally left his role at BIGGA on 31 January following a stellar career that saw him host a Ryder Cup and five European Opens at the Surrey venue.

Clive, 69, is a native of Walton-on-the-Hill in Surrey and has lived in the vicinity of Walton Heath his entire life, aside from a two-year spell at Boxhill, a heady two miles away.

Joining the Walton Heath team as an apprentice on 1 August 1966, Clive recalled how he didn't get much work done that first day as it was the day following England's victory in the World Cup. "It was a happy day and I didn't really think about the work!" said Clive.

Like many, Clive turned to greenkeeping after realising he would not be able to become a professional golfer.

He had got into the game through the local Artisan Section as a junior and, reaching a handicap of four, he represented Surrey at Colts, Youth and Artisan levels.

Joining the Walton Heath greenkeeping team, Clive worked under head greenkeeper Fred Dulake, who was famous for riding around the course on his bike and

who he would succeed in

Walton Heath has always held important golf events, such as the big money matches held between James Braid — the five-time Open champion who was professional at the club for 46 years — and his great rivals Harry Vardon and JH Taylor. It was also the host venue for one of the oldest professional



South East Region



That really was the highlight of my career and it goes without saying that it was a privilege to prepare a course for a Ryder Cup

tournaments in the world, the News of the World Matchplay. But it was the Ryder Cup in 1981 that brought the club global fame and the opportunity to present Walton Heath to the world came just a year into Clive's tenure as head greenkeeper.

"That really was the highlight of my career and it goes without saying that it was a privilege to prepare a course for a Ryder Cup," Clive recalled.

The American team has been described as among the best ever assembled for the Ryder Cup, with all except one being Major winners. For the Europeans, the team constituted a crop of youngsters who, although soundly beaten that time out, featured players who would forge hall of fame careers including Nick Faldo, Sandy Lyle, Bernhard Langer, Sam Torrance and Mark James.

A highlight of the week for

the greenkeeping team was Lee Trevino wandering into the shed and asking if he could borrow an axe to break into the clubhouse as he wanted to change his shoes so he could hit some balls. "It made everyone's day when he came over," said Clive, who recalled how the weather was poor for the event but the course held up well and he received a number of letters of thanks from the players afterwards.

During his time at Walton Heath Clive would host numerous professional and amateur tournaments including five European Opens. Walton Heath has a long history of holding its greenkeeping team in high regard — a portrait of the first head greenkeeper, Thomas McNiece, is on display in the clubhouse — and in 1997 the team enjoyed the luxury of a new maintenance facility, opened by the local mayor. Speaking at the time, Clive said: "For us it really was a case of from stable block to modern facility. We didn't

I often think back to Fred Dulake and wonder where he would have parked his bike

have power or hot water until 1996 and sitting here with our computers and security cameras, I often think back to Fred Dulake and wonder where he would have parked his bike."

A lifelong Sutton United fan, Clive has previously acted as vice president of the

football club. He also supported BIGGA throughout his career and in 2001 was appointed chairman of the association at a time of growth, with the membership at an all-time high of 7,150.

His year as chairman coincided with the Foot and Mouth outbreak, which

caused significant strain for the nation's greenkeepers and comparisons can be drawn with the current coronavirus health crisis. Then, as now, Clive noted how BIGGA members rose to the challenges presented them.

During an eventful year as chairman, Clive attended the





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I enjoyed working at BIGGA at the end of my career

Canadian Golf Superintendents Association, where he was caught up in an earthquake. Running outside the hotel, he was grabbed by a local news crew and interviewed about what had happened. "Buildings were moving about a foot up and down and it really was quite frightening," he recalled.

Clive added: "I enjoyed my year as chairman and I met some lovely people." Writing in his monthly column at the time, he joked how he scheduled difficult work such as aeration for when he would be away from the club on BIGGA duties.

In 2005 Clive joined BIGGA as regional administrator for the South East region. "I enjoyed working at BIGGA at the end of my career," he said, adding his disappointment that health issues prevented his being more involved in recent years. "I only wish I could have carried on a little longer."

In 2016 Clive was awarded life membership of the association and said that despite his stepping down from his role with the association, he remains available to speak to anyone who would like to chat about

any matters. He added that he is also looking forward to getting some sun on his back, enjoying his garden and cheering on his beloved Sutton United when crowds are allowed back into Gander Green Lane.





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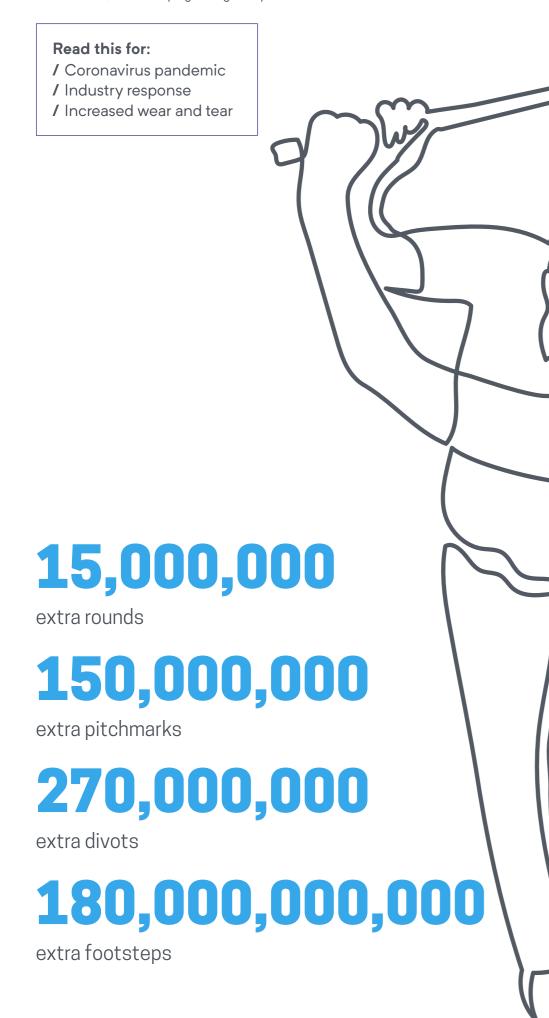


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GREENKEEPING THROUGH THE PANDEMIC

What has been the impact of the 2020 golf boom on your course? Karl Hansell, BIGGA

The results are astonishing, with 15 million extra rounds played on golf courses across the country during the summer, amounting to more than 180 billion extra

Golf experienced a boom in

for the nation's

greenkeepers?

2020, so what did that mean

BIGGA recently worked

footfall on golf courses when

they reopened in the summer

understanding of the extra

to quantify the increased

of 2020, to gain an

courses.

strain on the UK's golf

with Sports Marketing Surveys

a terrible crisis for the country the upturn in golf's

a welcome positive. Our members have struggled through some difficult times over the past year and the recorded boom in player numbers will have provided much-needed revenue to golf clubs. A recent survey conducted by Contemporary Club Leadership quizzed 25,000 golf club members and revealed that the number one priority among golfers is the quality of their golf course. That data clearly suggests that the priority of any club

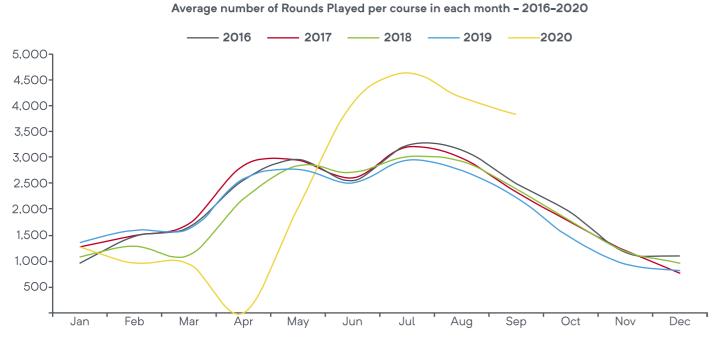
should be in ensuring the golf course is as good as it can be and the greenkeeping team have the tools available to enable to work efficiently and effectively.

The golf boom in 2020 was clear for all to see, but what exactly did it amount to? John Bushell is managing director of Sports Marketing Surveys, which is a specialist market research consultancy that provides comprehensive analysis in more than 100 sports across Europe and the United States. »



footsteps. During what has been popularity is

Figure 1: Rounds played in the UK during 2020



Key statistics

May to October 2020, based upon research conducted by Sports Marketing Surveys

Per course per month

- / 1,000 extra rounds
- / 12m extra footsteps
- / 18,000 extra divots
- / 10,000 extra pitchmarks

UK total, May to October

- / 15m extra rounds
- / 180bn extra footsteps
- / 270m extra divots
- / 150m extra pitchmarks

take a step back and offer a little context. At the start of 2020 we were already seeing golfer numbers in the UK back up to 3.1m, which was the second consecutive year of growth. We'd seen almost 500,000 people joining the game since 2017. We'd also seen big growth in female participation by 18%, up to over 450,000 golfers, which is back to 2011 levels." With the first UK lockdown

coming into force in March 2020, an SMS survey discovered that 11m adults began doing exercise at home, so people's behaviours were changing as a result of the pandemic. John added that golf

John said: "I'd first like to

wasn't the only sport to see an increase in participation when the world began to open up. He explained: "Cycling, for example, saw sales in April to June rise 63% on the last year and when you look at market data reports for January to November, total sales are up by 46% in cycling. The sports that thrived were ones that

can be done on your own and socially-distanced.

"Golf has really benefitted from that and not just in the UK. In America we've seen that rounds played, as reported by Golf Datatech, were up 13% by the end of November. Public courses increased 12% and private courses were up 19%, and we're seeing that UK rounds played by the end of quarter three — having had a shutdown for most of March and April — were showing a growth of about 7% year-on-year. That's an incredibly strong boost back, which is showing that golf has managed to benefit more than many sports from the COVID-19 situation and we're in pretty good health."

In May 2020, BIGGA conducted a survey among its members that asked for information about how golf clubs had utilised the UK Government's Coronavirus Job Retention Scheme. The average number of

greenkeepers furloughed per golf club was 3.5. With greenkeeping teams on average featuring 6.5 members, that amounted to more than half of the greenkeepers in the country - more than 9,000 individuals — asked not to come to work for an extended period of time.

Placing 3.5 members of the team on furlough amounts to the golf course losing more than 130 hours of work each week and even when golf clubs reopened, an average of 1.9 greenkeepers remained on furlough. With the Government's Job Retention Scheme extended until April 2021, many clubs are still running with a smaller team than normal.

This loss of labour on the golf course was offset to some degree by the closure of golf courses to the public and during 2020 a total of 295 days was lost to enforced closure at golf clubs in the four nations of the United Kingdom. However, that also means that

More footfall means more people playing, more traffic and less time for people such as members of BIGGA to get out there and repair the golf course."

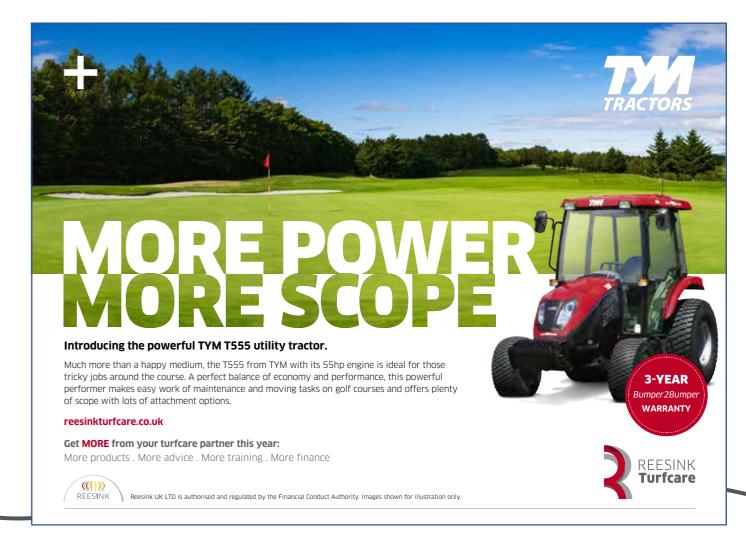


the 7% increase in golfer numbers was focussed on an even smaller period of time, increasing the pressure on golf courses and their teams.

Richard Payne is director of SMS and he explained what

that meant for individual golf courses. He said: "You have to bear in mind that last year we had a pretty appalling January, February and March just in terms of the weather, let alone then coming into the

pandemic, so when we started 2020 we were already down in numbers going into the lockdown. If you just take the figures from the point when we came out of lockdown in May to October, golf courses »



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A TIMELINE OF UK COURSE CLOSURES

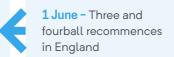
23 March - Golf courses in England and Scotland close

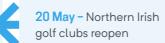




29 May - Golf courses reopen in Scotland

13 July - Three and fourball from different households allowed in Wales



















2 December - Golf clubs in England open



11 November - Golf clubs in Scotland remain open but travel is discouraged



19 December - Golf clubs in Wales close. Clubs had been due to close on 25 December



26 December - Golf clubs in Northern Ireland close



were on average 6,000 rounds up."

To gather this data SMS spoke to 250 golf courses from all around the United Kingdom and discovered courses hosted an average of an extra 1,000 rounds of golf per month compared to the previous year. Accepting that the number of steps taken by a player during an 18-hole round of golf is approximately 12,000, that amounts to 12 million more footsteps on golf courses per month since the end of the spring 2020 lockdown

Richard added: "Now obviously more footfall means more people playing, more traffic and

less time for people such as members of BIGGA to get out there and repair the golf course. You have to consider not only the number of footprints, but the more golf is played the more divots will be taken or pitchmarks that are created.'

Richard estimated that a golfer will make around 8 to 10 pitchmarks per round, which adds up to between 8,000 and 10,000 extra pitchmarks per month. Likewise, a par golfer will hit on average 18 shots into the green, leading to 18,000 extra divots that must be repaired.

"So actually." concluded Richard, "For BIGGA members, we can see that increase in golf, in terms of increased footfall and in terms of the boom we're describing, it has actually led to a huge increase in the amount of work that greenkeepers have had to do."

Put another way, an extra 1,000 rounds of golf per month on a golf course is approximately 32 extra rounds every day or the equivalent of 16 twoballs, 11 threeballs or eight fourballs. To accommodate this, between

one and two additional hours of start times would be taken up every day, meaning an increase in the maintenance required but a reduction in the time available to do it, coupled with the ongoing reduction in staffing numbers as clubs took advantage of the furlough scheme.

Over the coming months BIGGA will be doing what it can to raise awareness of these numbers to make golfers aware of the situation and how the presentation of the course may be impacted as a result.



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Member Interest

THE MAN WHO REDEFINED GOLF COURSE ECOLOGY

Upon his retirement after 30 years with STRI Group, Bob Taylor tells us his story

Read this for:

/ Grassland management/ Tree management/ Sustainability After 31 years I have finally made the break and retired from the STRI Group.

My whole purpose there was to serve golf through the delivery of best practice guidance to improve understanding of the natural world that forms such an important part of golf. This is something that is much clearer now than it ever was when I first started.

I set up an ecology service against a backdrop of negativity and stigma being directed at golf and at a time when ecology was a little-used word. Golf courses in the late 1980s were seen as very selfish land users. They were viewed as massive areas of land given to the privileged few that cared little for the impact of chemical use or the overuse of fertilisers and water.

Criticism was voiced almost daily, both in the national press and from conservationists given to protecting our country's



diminishing natural resources.
The flames of negativity were being fuelled by the desire to create more golf courses, including the diversification of farmland into golf courses.

Such deeply entrenched stigma was not all one-sided and it manifested itself in a very different way within many an unenlightened golfer. I think it's fair to state that golf clubs at the time gave scant regard to wildlife interests and I would regularly be faced with golfers arguing that a golf course is not a nature

reserve. Golf clubs saw managing for the benefits that nature can bring as a luxury, something that was made very clear during the 2010 economic crash and what may return during the COVID-19 situation as clubs prioritise their finances.

My goal has been to educate and refocus attitudes to encourage management that helps wildlife while at the same time delivering real and tangible improvements on the golf course.

I set up the Golf »





Environment Awards to provide a much-needed, visible platform, from where I could shout about all the good work that golf clubs were starting to take on

Environment Awards to provide a much-needed, visible platform, from where I could shout about all the good work that golf clubs were starting to take on. The awards also enabled inclusion and discussion, encouraging more clubs to include rough management in their everyday working practices.

Today, most golf clubs recognise that the landscape in which they are played is fundamental to the health and wellbeing of players. I used to describe it as a subliminal feeling of wellbeing and the benefits have since been explored and acknowledged widely. But what about golfer frustration at having to play from unmanaged wildlife rough?

This is where our ongoing commitment to appropriate management comes in. Rather than leaving the rough, we need to adopt some form of management. Many of you will have heard me speak of the fringing rough, that area of grassland of varied rough that is situated beyond the offline rough that is cut, scarified and

managed to maintain more open conditions for ball retrieval and play. Golfers may believe "the grass is leaner on the other side of the fence" or. in this case just down the road, but perhaps it isn't. Perhaps it is just that the club they are referring to is actively managing to thin and improve their fringing rough to enable



I only see myself as a cog within a large gearbox

better ball retrieval and playing conditions. Perhaps such management is giving that club a competitive edge!

At this year's Golf

Environment Awards I was

called to the stage to receive

a plaque that Rowan Rumball and Sophie Olejnik had arranged for me and which read "For protecting the natural soul of golf". I was speechless (for once) and so stumbled over a few words. What I should have said is that I have been a major player over the years in redirecting the way we manage our golf courses, but I only see myself as a cog within a large gearbox. If I was the only cog, I would simply be a cog in a big, empty space! Over the years, as greenkeeping interests in nature have developed, I have been able to work together with so many other cogs to form a functioning gearbox that is allowing a heavy flywheel to turn. Such is the current momentum that the flywheel is rotating at great speed and it will be very difficult to slow it down. Collectively the greenkeeping industry should be proud of the achievements that have been made in creating a stronger future for the game, but also for the wildlife that benefit if each and every golf course becomes a nature reserve.

Thank you to all of you for allowing me onto your golf courses over the years and for trusting the advice that I have given.

My favourite ecology projects from a 30-year career

Let's begin by considering trees. All landscapes are trying to move toward the

woodland state, through what we call succession. It can be a real problem in some instances, particularly within the links environment where open coastal grasslands tend to be given priority conservation status. On many golf courses I have emphasised the need for scrub removal. Royal Birkdale for example is just one course with a perennial scrub problem and although the club works annually to keep it in check, there was still a major scrub clearance programme required in advance of the last Open.

Scrub is the first part of the successional processes that lead to woodlands forming naturally. This is an important process but one that generally requires some degree of management on the golf course. One ecologist I met a number of years ago at West Middlesex GC suggested, "rather than tree planting to develop a woodland, just rope the area off and leave it for 50 years and you will have a woodland". True but hardly practical in the golf world!

Tree planting is always important, but equally tree removal is also necessary, even on parkland courses. Trees are often planted in inappropriate locations or they may be inappropriate to the site and I have visited so many courses to recommend the removal of poplar, leylandii and sycamore. I have had many a golfer approach me arguing that my actions are akin to the destruction of rainforests and the loss of trees is always difficult, but it is also necessary. Providing appropriate compensation can help soften the problem and this is something that is a feature of every management plan I have written, even if restoration of open grasslands remains the main course of action.

One of my standout projects relating to tree removal was several years working with Sunningdale. >>







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I was simply asked what would I do if 'let loose' on the golf course. I said somewhat flippantly 'I would take all of your trees out for a start'!

Stuart Zuill was the secretary and he would stand on the fairway while I squirted dots on the trees being identified for removal. He would consider each tree by rolling his tongue around the inside of his cheek. We were both well aware of just how the trees were compromising the status of the underlying heath. Similar projects have been ongoing through many of the Surrey heathland courses including Hankley Common, where massive annual tree removal has led to a balanced landscape of extremely high conservation importance.

Further north, Alwoodley Golf Club supports significant patches of remnant acid heath within an area dominated by the surround housing and Leeds conurbations. In the old days the course was run by a longstanding committee and I was summoned to one of their meetings, where several representatives sat around a large oak table in the old clubhouse. I was simply asked what would I do if "let loose" on golf course. I said somewhat flippantly "I would take all of your trees out for a start"! After a short period of

consideration, I was summoned back and told to "get on and do it then"! What trust and what a privilege, to be given such responsibility on a course as prestigious as Alwoodley. Over the next few years trees were removed to reinstate the openness, especially the views east from the 5th and 17th tees. Gorse was introduced to soften the edges of the retained woodlands and thinning took place through woodlands with replanting to strengthen the structural diversity of the woodlands for future conservation and golfing interests. Tree removal importantly led to

programmes being put in place to reinstate and expand the remnant heath, which today is one of the more memorable and overriding features of this course.

Other courses I think of affectionately with regard to tree management that has massively improved the status of the courses include Hallamshire in Sheffield and Ulverston in Cumbria. At these courses, directed management has been key to enabling light and air flow over the main putting surfaces, which has improved playing quality while increasing habitat diversity for wildlife.



What is interesting on all of these courses is the way they are perceived by the players. They see these courses as if they have always been like this, that if left without management then things will stay the same — they won't! Without active intervention sight lines will be lost, views compromised, play affected and wildlife displaced. For example, skylarks on links courses will not tolerate trees. Scrub and tree encroachment will cause them to move on and we'd lose one of the most distinguishable sounds of summer. Management need to be directed as appropriate through all areas of your working.

You may be aware that rough grasslands on your course are subject to nutrient enrichment from atmospheric pollution. This may be as high as 7kgN/ha per year.
Grasslands are thickening and we need to manage them to counter this. It would be

inappropriate to manage all areas of rough, so what about that outer bit, the intermediate or fringing rough? By managing this to increase the finer grass compliment, you not only allow golfers to find their shots but you stop unnecessary trampling through areas further off line. This helps reduce impacts on the wildlife residing within these grasslands. Our golf courses support some of our rarest wildlife, some of which is almost exclusive to these sites. Examples include Silverdale in Cumbria, which is one of the very few places where the ladies' slipper orchid can be found, or Royal St George's, which supports most of the country's lizard orchids. These place an even greater responsibility on the golf clubs to manage appropriately, including the targeted use of fertilisers and water, no pesticides within the rough and management to halt succession and maintain

species diversity.

I have been privileged to travel widely through my career, travelling as far afield as Australia. I have precious memories of my trips around Europe, including places like Tyrifjord, Oslo Golfklubb and Oppegard Norway. I have been privileged to work with Golfclub Hösel outside of Dusseldorf and with Ryun Holden in improving the ecology of GolfClub Wylihof in Switzerland.

in Switzerland.

It would be remiss of me not to mention our own world class venues and one that stands out is Royal West Norfolk (Brancaster), which is two courses in one, depending on the tides, and with superb views back to the small fishing hamlet of Brancaster Spa.

Carnoustie is another must visit set of courses. I have spent considerable time there over the last 25 years and since 2020 have been involved in a large offshore energy project. Ballybunion is a course I will remember for the population of chough, a rare coastal crow with red beak and legs. The Renaissance is a stand-out course on the East Lothian coastline that has grown out of a plantation woodland, but which now supports superb coastal interests.

Finally, Trevose must be mentioned. This club, back in the early 1990s, was the only course that was ever mentioned in golf publications for its superb coastal grassland flowers and wildlife interest. The club today has taken on significant projects to redress succession and reinstate the dune nature of the course.

Continue the conversation

If you want to contact Bob directly his contact details are Email: bobtaylor.ecologist@ outlook.com Tel: 07306140088 Twitter: @striturf_bob



WE GAVE PEOPLE WHO KNEW BOB THE CHANCE TO QUIZ HIM...

Colin Webber. Portmore:

Congratulations on your retirement. You have inspired so many (of which I am one). What can greenkeepers do to reduce the carbon footprint of their business?

This is a difficult question and one where it would be easy to suggest changing light bulbs and stopping waste. However, it is much more complex than that and I would suggest that every golf club uses the GEO Foundation's OnCourse assessment as a basic way forward. By filling in the different elements of the programme you will realise your club's strengths and weaknesses. The OnCourse programme covers your supply chain which includes carbon miles, waste procurement and energy use. It importantly includes resource utilisation and community involvement and interaction.

Darran Marshall, Loch Lomond:

What environmental project on a golf course, that you have overseen from start to finish, has given you the most satisfaction?

Blimey, there have been so many, but relatively few are successfully monitored through to completion and beyond, which is a major issue. It would be great to see golf clubs monitoring the ecology following completion of larger projects for at least five years, but due to costs this doesn't usually happen.

I supervised and monitored the course changes required to enable The Open at Royal Portrush and I was key to the 3-hole coastal extension at the Renaissance Club, which I did manage to monitor over five years. Other very successful projects include the 3-hole extension at Royal County Down, the remodelling of the Buddon at Carnoustie and the remodelling of holes at Royal St David's. More importantly, those clubs have retained my services, which has allowed for progressive ecological improvements over time. Working on an ongoing, smaller scale is generally far less impacting on wildlife and allows enhancements to be built in gradually as circumstances change.

Sophie Olejnik, STRI Group: What has been your most embarrassing moment

whilst out on a golf course?

I think for any ecologist the worst thing is misidentifying the wildlife we are viewing. It's not so bad if it's a tiny little brown thing with a long Latin name that no one knows, but it's bad when it's two swans on a channel on the Hague out in Holland. The club had invited me out there and we were walking the course when I suddenly said "wow look at those ducks". It was an error that I didn't live down for a while!

Richard Owens, Tillers Turf: Which species of animal, plant or other living organism gave you your first "wow" moment?

My best wow moments have been finding snakes, wherever that may be. I saw a grass snake on the Hotchkin at Woodhall Spa and a slow worm and grass snake at Hankley Common. I remember fondly finding round-leaved sundew beside one of the elevated tees at Gleneagles, which demonstrated that even our top clubs are not overusing chemicals and fertilisers. Sundew are insectivorous plants and would be very sensitive to any nutrient loading or polluting effects.

James Hutchinson, BIGGA: What does the future of

What does the future of sustainable greenkeeping look like?

Golf is in a great position to help with wider sustainability issues. The industry is already taking the lead in this respect. Unfortunately, golf clubs all too often remain inward-looking. Golf needs to recognise how it sits within the countryside and clubs should communicate with other landowners and managers so that management can be tied in with what is being done offsite. We need to take on a landscape approach so as not to remain isolated and fragmented and to become a part of the community. A great starting point would be to follow the Golf **Environment Organization's** quidelines, which will

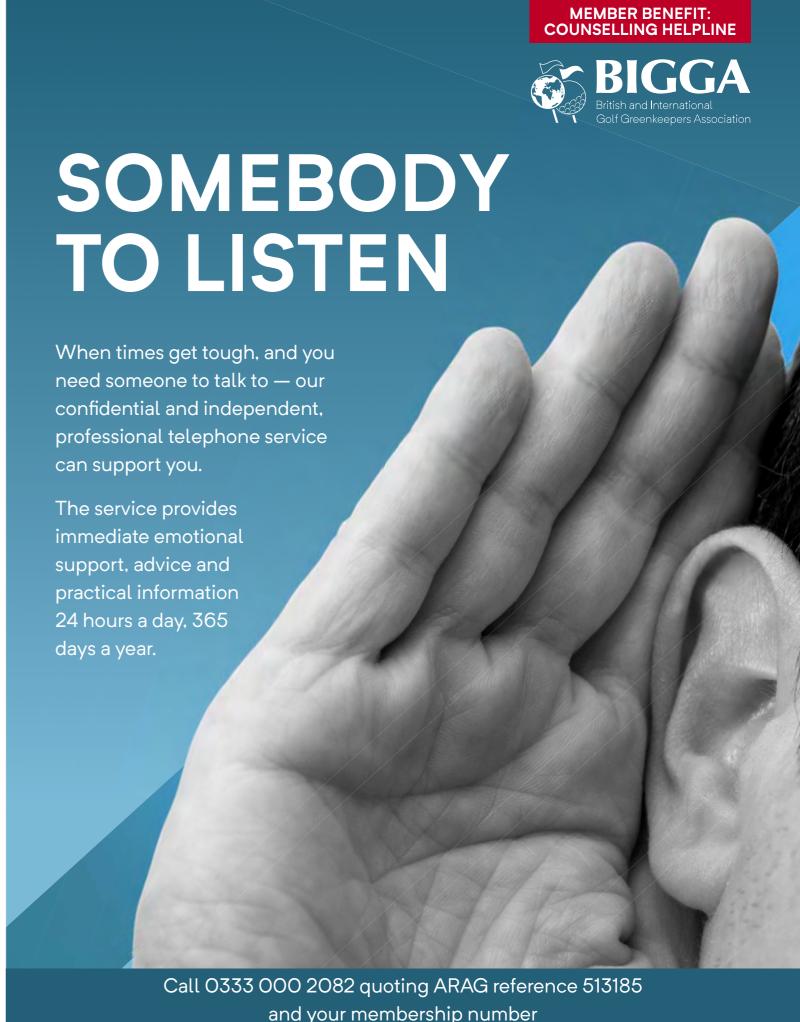
stimulate thought towards resource utilisation and community inclusion.

Amanda Dorans, Dundonald Links:

How many years ahead of The Open does the ecological assessments and planning begin and what are the most common considerations?

At Royal Portrush the first ecology assessments started in 2014 to enable planning consent to be secured for the course changes. All venues over the last 20 years have received a site visit geared to assessing course condition and to monitor wildlife interests. This allowed us to pinpoint where the wildlife hotspots are so we can work to avoid them at the time of the event. For Royal St George's, The R&A, through my monitoring, are aware of the position of the lizard orchid populations. This will allow careful spectator routing and cordoning to ensure their protection. I tend to undertake an early season pre-Open inspection to finalise ecology protection measures and will visit just before the event to make sure everything is in place.





GET AHEAD OF THE DRY DOWN CURVE

Every year it's easy to get caught out when conditions tip from too wet, to too dry. Effective soil moisture management can ease turf through the transition.

Glenn Kirby, Syngenta Turf Technical Manager UK & Ireland



Last winter experienced some of the wettest conditions on record, vet by mid-March soil moisture deficits could be seen putting turf under stress.

It is very easy to get caught out by just how fast conditions dry out, and how quickly the stress of moisture deficits start to impact on turf health.

Soil Moisture Deficit (SMD) is calculated from the amount of water coming in from rainfall; less the amount going out from evapotranspiration of vegetative cover; with an allowance for the water holding capacity of the soil.

For turf, the variables of irrigation, artificially free draining sand constructions and the management of cutting height all have significant influence on the SMD and its implications for plant vigour.

rainfall minus evapotranspiration rates, or effectively the dry down curve, for Coventry over the past six years. It highlights how, as evapotranspiration rates ramp up with the onset of growth and longer days, we pretty much always go into

The data in Fig 1 shows

stage over the spring - the challenge is identifying just when that is happening and how quickly it will hit turf stress and quality. Physiologically, when

evapotranspiration exceeds

available water, turf plant

the steep decline at some

leaves begin to wilt within

Roots matter

The issue is exacerbated since, as soils dry out, they heat up faster to greater depth. Research at the University of Massachusetts has indicated the optimum soil temperature for roots of cool season grasses is just 10 - 18°C - which is some 6°C below the optimum for foliar growth. It is one of the key reasons we frequently see rapid root mass decline, resulting in greater susceptibility to moisture

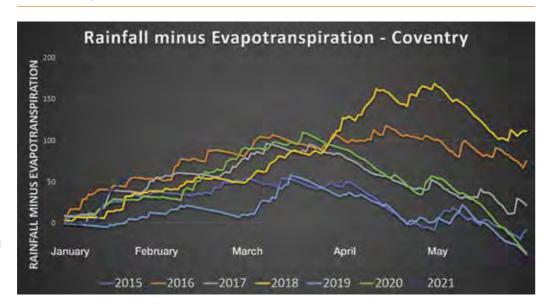
deficit and multiple other stresses

The work showed that the better soil moisture could be consistently retained in the soil profile, the less the effect on turf rooting and the improved retention of turf quality.

Understanding a green's dry down rate is really important. Each green, and every area of that green, will dry down a slightly different rate. Syngenta trials undertaken last spring, to evaluate soil moisture probes, highlighted on three different greens on the same course, as one approached the target 30% soil moisture, two others were six to eight days behind.

Utilising wetting agent technology can help to even out these dry down rates to your target moisture content, and achieve more consistent surfaces. Starting these programmes early in the season is vitally important to dry the surface out slowly. Where moisture contents have been high all winter, a sudden dry down won't be welcomed by the plant and can easily lead to

Fig 1: Dry down curves over recent years pinpoint when evapotranspiration starts to exceed rainfall, and tips the risk



hydrophobic areas of soil that won't show signs of stress until temperatures rise.

Importantly for the spring season, as we initiate dry down management, STRI research with Qualibra wetting agent has shown that it did successfully hold optimum moisture in the root zone for longer in drying conditions. Furthermore, when high rainfall incidents were simulated with heavy irrigation, the treated soils did not hold any excess moisture. That can help to assure both turf health and playing surface consistency.

To get the best out of any wetting agent, the soil profile needs to have good even moisture at the time of application for the product to spread through. It also benefits from water to push the product into the profile. Waiting too long can result in less than optimum results.

Tracking dry down

Moisture meters are an extremely valuable first step to and tracking service to tell you exactly how turf is responding to prevailing conditions at any time. If you start to regularly take and record readings, then it builds up a picture of the progression of dry down.

Add to that a scouting recording tool on your phone, that will GPS where you take the measurements, whilst at the same time recording observations of the impact on turf, and you can create a picture, or map, of the interactions. Do that over several years, and you build up a really valuable asset of how individual areas around the course respond to soil moisture deficits.

With that knowledge, the next step could be the

installation of soil moisture probes to continuously record data remotely. Then you can start to see what is happening precisely on your course, and predict how other areas will change and perform over the coming days and weeks.

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IN ACTION

Having the ability to use trend data. to forecast how things are drying out, is exceptionally powerful to aid decision making. Now, the

GreenCast website is set to launch a new weather modelling map changes in key aspects affecting turf management - including soil temperature; rainfall and active evapotranspiration data. It will give a clear picture of potential soil moisture deficit conditions in real time and forecast.

Armed with that information you can start to see problems before they occur and to take proactive decisions to tailor moisture management across the course and, with improved root retention, set turf up to better withstand the stresses of the summer

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Find further insights at www.greencast.co.uk





Afterthought or centre piece?

Karl Hansell, BIGGA

You've just arrived at a golf course that you've never played at before and ahead of teeing off, you decide to head to the nets for a bit of a warm up and putt, just to shake off some of the rust.

Arriving at the nets, you find they're hanging loosely off the frame, with holes in them, while the putting green is covered in disease. It's a bad start and you haven't even made it to the first tee.

More and more golf clubs are identifying

how driving ranges and attractive and useful practice areas can help drive revenue streams at the golf club.

First impressions are important and Tim Lobb, vice president of the European Institute of Golf Course Architects (EIGCA) and founder of Lobb and Partners, offered some insight into how you can ensure golfers can have a positive impression of your course before they even set foot on the first tee.

GI: The first question is a simple one with no doubt a complicated answer... what makes a good practice area?

Tim Lobb: I don't think there is a single answer for this as the best practice area will utilise the available land the best. I guess as putting takes the smallest land area and probably accounts for 40% of all golf shots, then this is the starting point to get right.

GI: Is it fair to say that at too many clubs the practice facilities are an afterthought?

TL: I think the practice facilities are a vital ingredient to the overall success of the golfers' experience. Those clubs who don't invest in their practice facilities seem to maintain the status quo or even see a drop in enthusiasm by the membership.

GI: What role do practice facilities play in the customer journey?

TL: Practice facilities are the precursor for the playing of a golf round, but probably more importantly they are the mechanism for improvement to one's

game. Like all human beings I love to monitor my progress and good practice facilities that encourage me to practice and get better play a vital role in the customer journey for that day, but also for my entire golfing career.

GI: Should you treat the maintenance of practice areas the same as you do the rest of the course?

TL: The maintenance of the facility should try to replicate the golf course experience, but in reality, they might be slightly different. As you have a high »



At Carya we did more than 6,000m² of practice putting green to accommodate these large groups with a double-ended driving range. Teaching professionals can teach every shot in the book and have the space to do so.

concentration of people and foot traffic at a practice facility, it would require more aggressive measures to keep the turf healthy and vibrant. This might include slightly harder-wearing turf species with a quicker divot recovery rate and bunker construction that can take a lot more play than a normal course bunker.

GI: What's the best practice area you've encountered?

TL: There are some amazing practice facilities in the US and I would say in general they are more advanced than in Europe. In Turkey (Belek) there are some

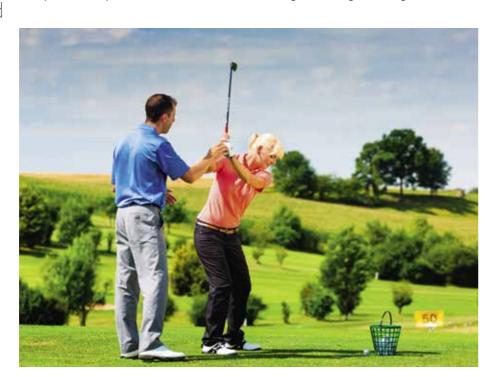
great practice facilities, including our course at Carya, as the clubs have really set themselves up for group tuition by visiting club professionals with their members. At Carya we did more than 6,000m² of practice putting green to accommodate these large groups with a double-ended driving range. Teaching professionals can teach every shot in the book and have the space to do so.

GI: How much space and budget do you need to invest if you're thinking of building a really good par-3 course to get beginners introduced to the game?

TL: I would say an area of 10 to 20 acres will give you a chance to do an excellent par-3 nine-hole golf course. This doesn't just have to be a regular little course but should be designed in such a fashion to offer a number of different playing options. With multiple teeing options it would allow a course to be set up with differing lengths and play directions according to that daily course set up. Having a multi-functional facility will surely add to its appeal. You may even be able to consider having a footgolf layout on the same footprint of land.

GI: Fun facilities such as TopGolf are rapidly gaining in popularity, bringing a fresh spin to the driving range experience. Should clubs be looking to introduce some of these fun, alternative aspects to their practice facilities?

TL: Absolutely, the introduction of fun practice or fun golf ideas should be part of the golf offering. If it brings more



Sometimes it is difficult to have everything we need as we cannot fit a square peg into a round hole. I would suggest that practice putting greens and short game areas always be considered first

golfers or at least diversifies the golf offering, then it is a great advantage.

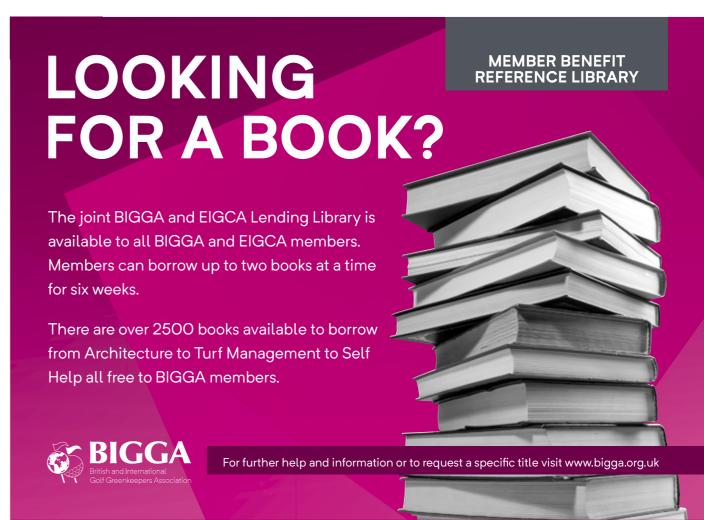
GI: Can you provide some tips to maximise the customer experience of your practice facilities?

TL: Wherever possible, think about the process of the practice routine, from leaving the clubhouse to making it to the first tee. Making the facilities as close as possible to each other is fairly fundamental to the ultimate success of the customer journey. Also, we have found it pretty beneficial to have the practice putting green within visual sight of the first tee as it also helps with the smooth flow of golfers arriving to the first tee on time.

GI: Can you strike a balance between these suggestions and the requirements of the course?

Sometimes it is difficult to have everything we need as we cannot fit a square peg into a round hole. I would suggest that practice putting greens and short game areas always be considered first as they are the smallest land use and account for more than half of the game. With enough space and some clever redesign, full length driving ranges can be developed. Alternatively, we are seeing an increased popularity in indoor training centres or fully netted and smaller driving ranges. I think both are great options if space is a bit restricted.





AMS ROBOTICS (UK)

The robot technology designed by Belrobotics and offered by AMS Robotics (UK) forms a fully autonomous grounds maintenance solution used by thousands of private and public facilities across Europe.

Golf and sports clubs have proven to be the most popular facilities that utilise the robotic systems however they are widely used to manage council grounds and private gardens.

A full driving range maintenance system includes a BigMow robotic mower, a BallPicker ball collector and an automatic wash and return system.

BigMow RTK continuously cuts, managing an area up to 50,000m² five times per week. Weighing 71kg, stress to the outfield due to heavy machinery is completely eliminated, enabling cutting to proceed in wet conditions.

BallPicker operates in a similar continuous way on the same size outfield. It will collect until its tank is full, deposit them in the pit and automatically head back out to continue collecting. The pit transports the balls to the wash and return system, where the balls are automatically cleaned and returned to the dispenser.



BallPicker has features that allow high density areas to be recognised at peak times and will subsequently focus its collecting on them.

When batteries run low, both BigMow and BallPicker take themselves back to charge automatically, then return to work as normal. Both machines are connected to a web portal that allows them to be fully controlled and monitored anywhere and everywhere.

Steven Gray, head greenkeeper at Melville, said: "Our outfield on the driving

range has looked fantastic all winter compared to the mud field we usually have using tractors and ball collectors. and our greenstaff have time to get on with more important jobs. The support from AMS is second to none."

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Badcock is a UK manufacturer for all driving range machinery.

With nearly thirty years' experience in the industry, we pride ourselves on our expertise to ensure your success. Our large range of solutions can be tailored to your individual requirements, from small practice grounds to large ranges.

Choosing Badcock ensures reliable UK-based service with high-quality equipment, all designed and hand-crafted in our factory in Kent. With our dedicated

24/7 customer service team, you will have peace of mind all your needs will be processed quickly and efficiently.

We are always striving for continuous improvement. Listening to the challenges you face and staying up to date with the latest trends guarantees you will always receive the highest quality products and customer support.

To view all our driving range products including golf ball dispensers, collectors & washers along with range mats and

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Thank you for being a valued customer, we look forward to hearing from you soon.



EGM GROUP



During the current and unprecedented situation, the importance of personal and collective wellbeing has never been greater.

Physical activity and sports participation contribute greatly to this; especially those played safely outdoors.

At EGM, we are proud to have served our customers through a vibrant and busy summer, as both the social and health benefits of the sport have been realised and embraced by veterans and newcomers alike.

There has never been a more important time to support each other and grow together.

Even though everybody has encountered unique challenges, we have helped many clubs to develop or refurbish practice facilities, as well as supplying high quality consumables to keep up with increased customer footfall during the year.

The EGM Group consists of European Golf Machinery, Rangeball UK and EGM Products. Combined, we aim to be a

one-stop shop for our customers. We specialise in developing, manufacturing, and sourcing solutions for every

Talk to us today to discuss your project — we will be happy to listen and advise. www.rangeball.co.uk

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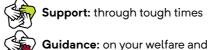


There to lend a helping hand

The official charity of BIGGA provides assistance to its members and their dependents, offering financial assistance and practical help during difficult times.



Help: when you need it most



Support: through tough times

development



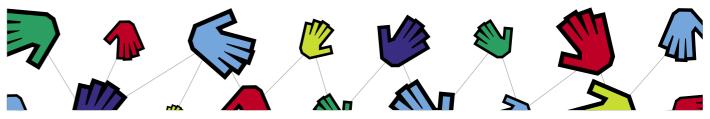
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Care: because YOU matter

For more information on how the BIGGA Greenkeepers Benevolent Fund can help please call 01347 833 800 or email benevolentfund@bigga.co.uk





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Spring interaction!

Andrew McMahon, fertiliser product manager for Rigby Taylor

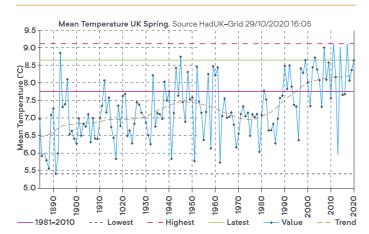
We are all aware of the significant impact global warming is having on the sea levels, the ice caps and temperatures and the Met Office graph to the right shows how UK spring temperatures have risen over the last 50 years.

Encouraging root development early can help with nutrient and moisture uptake going forward, and as root growth begins at approximately 5°C, the Met Office data shows this temperature is being reached in late winter or early spring.

There are many fertilisers that can help with root development, especially those that contain a bio-pack, which includes lignite and seaweed. A bio-pack is an excellent source of humic and



Figure 1: Mean Temperature UK Spring



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fulvic acids, auxins, cytokinins, gibberelins, betaines and complex carbohydrates. Root development, both length and root is improved, and stresses, both biotic and abiotic, are reduced. If there is a calcium deficiency, root

development will be compromised and this is particularly pertinent in soils with a pH level of less than 5.0 and in sandy soils and rootzones with a low Cation **Exchange Capacity** (CEC). Calcium deficiency will also increase disease pressure so ensuring the levels are adequate is very important. Aeration, undertaken when

conjunction with

these products, will

ensure optimum development and in fact is the most important job on any sports surface. The Rigby Taylor Fineturf BiO range of fertilisers contains a bio-pack that delivers the equivalent of eight applications of a standard liquid seaweed when applied at 35g/mt², as well as

autumn as the plant uses this energy for root and shoot development. Spring recovery is starting earlier due to a rise in temperatures, but also the requirements and expectations of members mean they demand the highest surface playing quality earlier than ever. Potassium plays a key part in carbohydrate storage, but is very mobile within the soil profile, so deficiency can be a problem, especially after a wet winter as it impacts upon carbohydrate storage.

calcium, magnesium and iron.

conditions is limited by the amount of carbohydrates the plant has stored in the previous

Spring recovery from winter

Potassium is also involved in the uptake of CO₂ in photosynthesis by regulating the opening and closing of the stomata. Any reduction in this essential process impacts on the production and availability of ATP, see figure 2.

This means that the transport of sugars (using ATP) around the plant in the phloem slows down, and since more sugars are left in the leaf, photosynthesis is reduced and light utilisation in the darker months is affected

Applying the correct nitrogen sources in late winter/ early spring will also help with encouraging some growth, and assist with the recovery of

Figure 2: Adenosine Triphosphate (ATP) is the energy source that drives all metabolic activity of plant cells

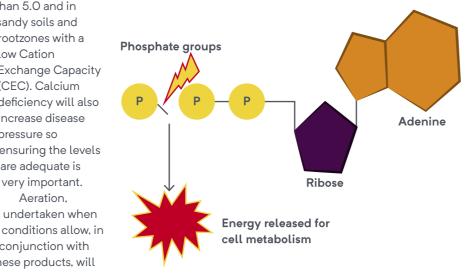


Figure 3: Nitrification process - relies on soil bacteria. nitrosomonas and nitrobacter.



disease scars. Nitrogen is only available to the plant in nitrate and ammonium forms but mainly nitrate. Depending on the source, it will have to go through a process to become available.

Nitrification is the process by which sulphate of ammonia becomes plant available. This is the oxidation of ammonia or ammonium to nitrite, followed by the oxidation of the nitrite to nitrate, see figure 3.

The optimum working temperature for this process is 27°C (80°F). The colder it gets, the more this process slows down. Below 15°C (59°F) nitrification falls rapidly and at 12°C (54°F) it is reduced by more than 50%, see figure 4.

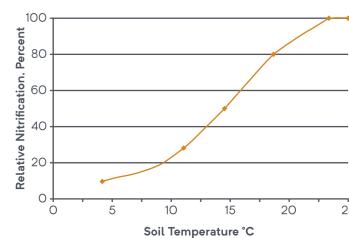
The optimum working temperature for urease is 16°C, but enzyme activity slows the colder it gets, so not only will it take longer for the urea to be converted, it also has the same problem during nitrification for becoming plant available. The conclusion, once again, is that urea will work at lower temperatures, but the availability to the plant is greatly reduced in cold conditions, see figure 5.

Nitrate however only needs to be solubilised to be available to the plant; once solubilised it can be taken up by the roots and the healthier the root system, the more availability. However, there are some limitations as the plant needs to be photosynthesising and the ground can't be frozen. This indicates that nitrate is the perfect nitrogen source for cold conditions, certainly below 7° to 8°C, when ammonia is slowly converted to become plant available.

However, high inputs of nitrate can encourage soft growth and heighten disease pressure. A formulation of nitrate with ammonia, or nitrate with ammonia and urea should be the preferred options. These formulations allow for temperature fluctuations, while still giving an initial quick response from the nitrate, followed by the uptake of the ammonia, or ammonia/urea mix. These true 'cold start' fertilisers are perfect for applying when topdressing as they will encourage growth through the dressing, thus reducing disease pressure.

Fertilisers containing iron

Figure 4: This graph indicates that although ammonia will eventually be plant available at cooler conditions, does it make it the ideal cold start nitrogen source?



and magnesium will also help produce the surfaces required.

The iron will give an almost instant visual response once applied, as it is required to produce chlorophyll. Iron will also help to harden the plant against early season disease pressure, reducing the chances of scarring. One thing to be aware of with high iron analyses is that they can cause blackening and damage to any moss in the sward, see figure 6.

Magnesium, unlike iron, is part of the chlorophyll structure, and is in fact key to chlorophyll production and so essential for photosynthesis, see figure 6.

This will have a three-fold benefit to cold-start fertilisers containing nitrate and iron: the plant takes up nitrate when it is photosynthesising, even at cold temperatures, so by adding magnesium will ensure optimum uptake; it will also provide natural colour and has the added bonus of increasing the plants ability to

utilise iron. Producing the surfaces required and expected at such an early time of the year is difficult, but there are now multiple options available, many that will address the points outlined here, plus other products that will help.

Figure 5: Nitrogen Conversion Process: Urea relies on the enzyme urease for the oxidation into ammonia, after which the nitrification process begins.

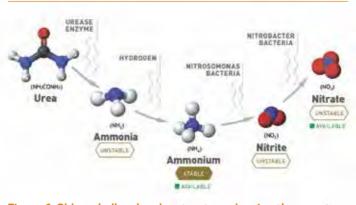
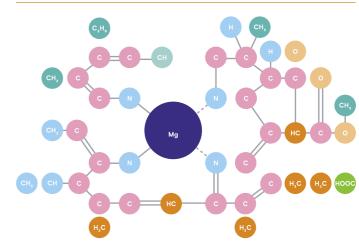


Figure 6: Chlorophyll molecular structure showing the magnesium atom



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FUTURE-PROOF IRRIGATION:

Why hybrid systems are helping clubs upgrade their infrastructure at their own pace

It's a common misconception that altering, extending or redesigning areas of a golf course always requires ripping out and replacing most, if not all, of the existing irrigation system.

A hybrid option offers clubs the freedom and flexibility to plan system upgrades and course changes on a hole-by-hole basis.

With over 30 years of international irrigation industry experience, Stuart Tate has worked on some of the largest irrigation projects in the UK and mainland Europe. He outlines the benefits that many courses can realise from a hybrid solution unique to Rain Bird.

"Let's talk about what's already in place first. Any Rain Bird irrigation system can be upgraded. It's as simple as that. It doesn't need to be ripped out and completely replaced. Our technologies available from the 1980's right up to the

present day — satellite (hard wired), satellite decoder, decoder and IC - can be upgraded independently and yet still be controlled from the same central control software on one PC. New technologies will improve the efficiency of any system, saving water, labour, time, energy and money. A review will uncover any weaknesses and identify where upgrades will add value."

The launch of the Rain Bird IC System a decade ago heralded a new era in irrigation technology. Simple and expandable, with no satellites or hubs (so therefore up to 90% less wire), and no decoders, it revolutionised the way water is managed on golf courses.

"Every golf course is different, but hybrid irrigation solutions suit almost all situations. There's a huge financial advantage in carefully phasing renovations as it's less disruptive to play

and allows costs to be spread out over a longer period. The best approach is to think about any renovation project in discrete phases. Course areas can be altered or extended and you can upgrade a number of holes to an IC System while retaining existing decoders.

> "Timeless Compatibility means all Rain Bird Golf products use the same wiring, valve technology and communication protocols. The benefit for the system user is having the ability to upgrade specific course areas no matter what's in place and then easily run all the different technologies from one PC. They don't have to worry about running different PC's and programmes independently, which is more complex and time consuming."

Links hybrid plays major role in sustainability strategy

A hybrid system at Ballybunion Golf Club in Ireland is enabling Course Manager John Bambury CGCS to deliver the club's vision for sustainable links management. In 2018, an ageing decoder system on the Old Course was upgraded to an IC System with Nimbus II Central Control, which operates alongside the decoder system on the Trent Jones

Adrian Mortram and installed in phases by OCMIS, includes targeted watering to fairways, tee areas and walkways, back to back rotors on the greens surrounds, and new infrastructure, including pump station, tanks, boreholes and wells, to meet the needs of both courses.

The Central Control running the IC System wasn't located where the old PC running the decoder system was, so the two were centralised to run all 36 holes on one PC through a remote fibre-optic link.

John said: "We are incredibly focused on managing our golf courses in the most sustainable way possible. When our irrigation technician, Shane Kenny, and I were researching the project, we wanted to partner with a company that understood our commitment to sustainable links management.

"The upgrade has expanded our ability to irrigate areas of the course while using less water, by applying it in an economical and environmentally sensitive manner. Our triple row fairway design ensures we are not throwing excess water into native rough areas and helps promote a finer sward of deep rough. On the rest of the course we can

apply moisture to surfaces with incredible accuracy, which promotes finer grasses, such as fescue. Our management is centred on wetting agents and seaweed products and having the right irrigation infrastructure helps us get the most from our low-nutrient programme."

Having one central control and one pump station has delivered efficiencies across both courses and provides scope for the upgrading of the Cashen Course at a later time.

Technology making a real difference

Stuart Tate says the flexibility the hybrid system offers has given clubs the opportunity to approach renovation projects with greater confidence,

something that is likely to become an even more important factor in uncertain

"Once you have an IC System in the ground, the irrigation technology is future-proofed. The control of many other course features can be brought into it and automated with a remote-control facility, including transfer pumps, aeration and lighting.

"Taking the latest irrigation technology to any size of project is going to offer every course tangible advantages for the short term and for many years to come."







Comparison of differing nitrogen sources as an early spring starter fertiliser

Geoff Lloyd, Technical Director, Indigrow Ltd

Early season fertilisers are of great importance to turf managers the world over, with extra importance placed on them in colder climates.

With so many different products on the market, comprised of a variety of different nitrogen sources, Indigrow decided to trial a series of products to establish which nitrogen source is most beneficial as an early season, spring starter, fertiliser.

We began our trial work in Sweden in 2018. We selected a series of our own products, along with a range of commercially available alternative products, all of which had different nitrogen sources. All products were applied at a recommended rate of 25g/m² (See figure 1).

Against general assumptions, it was found that the source of nitrogen had no effect on sward density as measured by NDVI (normalised difference vegetation index). The statistically determining factor was the amount of N applied. Many of the products had mixtures of N source, so it was difficult to determine even any underlying effect of N source.

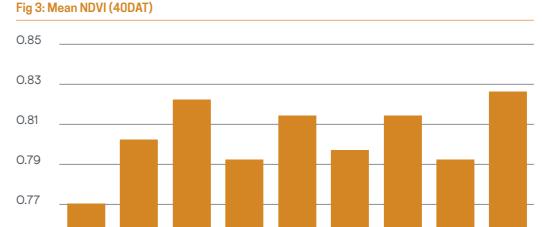
We therefore changed our strategy in 2020, with the objective of the new trial to select products with distinct nitrogen sources (predominantly only one) and compare them at the same

Fig 1: 2018 Trial data

Product	Analysis	Forms of Nitrogen	
Comparison Product 1	4-0-14+2MgO+2Fe	4% NH ₄	
Indigrow Impact Perk	4-0-14+10Fe	4% NH ₄ , 2% Urea	
Indigrow Impact All Round	5-5-15+4Fe+3MgO	5% NH ₄	
Comparison Product 2	11-5-5+8Fe	5.6% NH ₄ , 2% Urea	
Indigrow Impact Accelerate	14-0-12	14% NH ₄	
Comparison Product 3	18-5-10+2.5MgO	13% NH ₄ , 5% NO ₃	
Indigrow Humik N25	25-0-0	15.7% NH ₄ 9% Urea 0.3% NO ₃	
Indigrow CGF	25-5-10+2MgO	10.4% Poly Urea, 13.4% Urea, 1.2% NH ₄	

Fig 2: 2020 Trial data

		Product g/m ²	kg/ha N
T1	CONTROL	Nil	Nil
T2	CAN (Nitrate)	25 g	35
ТЗ	CAN (Nitrate)	50 g	70
T4	UREA (Urea)	7.6 g	35
T5	UREA (Urea)	14.8 g	70
Т6	AMS (Ammonium)	25 g	35
T7	AMS (Ammonium)	50 g	70
T8	Humik N25 (50/50 Ammonium/Urea)	14 g	35
Т9	Humik N25 (50/50 Ammonium/Urea)	28 g	70



Urea 70

AMS 35

AMS70

HumlkN 35 HumlkN70

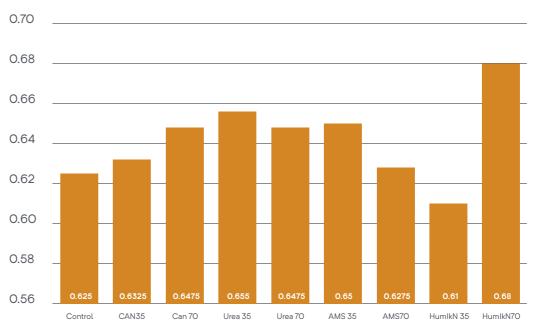
Urea 35



Control

CAN35

0.75



rate of kg/ha nitrogen rather than the same g/m² of product.

All products were applied to give a dressing of 35 kg/ha N and 70kg/ha N (see figure 2)

Multiple NDVI readings were taken at regular intervals after application, and averages calculated. The graphs show the Mean NDVI readings at 40 and 69 days after application (see figurs 3 and 4).

Sixty-nine days after application, all of the NDVI readings were lower than at 40 days. This was to be expected, given the choice of nitrogen sources used.

As a result of these trials, we were able to conclude that in practise, contrary to common theory, raw material source of Nitrogen has no significant effect on performance as measured by sward density and that the total amount of nitrogen applied in kg/ha is the determining factor.

More information on our trials can be found on our website, or by contacting us on growth@indigrow.com

Working in partnership with



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WITH SRC

The full-blown PC control system versus the box-on-the-wall debate is an age-old, ever-evolving issue, so what brings it back into conversation now and what has driven enquiries for this irrigation solution with distributor Reesink Turfcare to a new high?

Decoder systems have been around for many years, but 2020 was the year that changed a lot of golf club management practises. The

pandemic hit budgets, changed the way we work, delayed plans and reduced teams, and with an anticipated drier than normal summer predicted, perhaps that's why so many are now looking for a cost-effective way to upgrade and improve their irrigation system over time without big hardware changes.

Box-on-the-wall systems have lots of advantages, most of which we're all aware of: minimal cabling setups and

don't want all the additional features and gizmos. They want simple irrigation that's easy to use

easy system expansion (simply splice into the communication line and add additional decoders).

But perhaps what's most appealing to greenkeepers and golf club managers in 2021 is the control and independence it affords. Cable faults of such a system are easy to diagnose and there's minimal fault-finding equipment needed. The diagnostics assist with fault-finding and reduce the time taken to pinpoint the problem.

There's also the cost to consider. It's got to be one of the most cost-effective irrigation solutions around. The cabling price for a box-on-the-wall system is much more affordable per metre than traditional systems and the total project costs are lower even after factoring in the decoder costs. The installation of a 2-wire system takes less time, it's often up to a third less time-consuming than installing a multi-wire system and this also contributes to reducing the total cost.

A box-on-the-wall isn't without its limitations though, probably not an unexpected realisation though, given its cost in comparison to a PC control system. Future irrigation expansion is in general restricted to 100 or 200 station capacity. Flow management is manual which means that you need to tell the system what to do with a precipitation calculation you've worked out yourself. For some though, that's a blessing, says Robert Jackson, water division sales manager for Reesink: "Some people just don't want all the additional features and gizmos. They want simple irrigation that's easy to use and highly effective. They know the area they want irrigating back to front and are happy to key in the time manually for station 15, which they've worked out is the third green, front right sprinkler.

"But really, the deciding

Knowing that your irrigation system works for you, your time. club. responsibilities and skills is really important, especially when we don't know what's round the corner."

factor, especially in these uncertain times, should be based on your management style. Knowing that your irrigation system works for you, your time, club, responsibilities and skills is really important, especially when we don't know what's round the corner."

Boxes-on-the-wall offer a web-based management platform through mobile or PC devices for great results, which is why Reesink brought two new products from SRC to the UK last year.

The SRC Ranger Controller 4000 D has a scheduling

capacity of 1-100 stations with 10 programmes and can operate up to 10 stations simultaneously and run 10 programmes concurrently. It's a web-based management platform for mobile and PC, or as a stand-alone unit. With less cabling installation it is straight-forward, but there's the option to expand later if needed giving the product longevity. It has ET capabilities with local and remote weather stations and has flow sensor capability including various alarm options.

The SRC Grower 6000 D meanwhile has a scheduling capacity of up to 200 stations and can operate up to 15 stations and five pumps simultaneously and run 10 programmes. It has flow sensor capability including various alarm options and can be used via a mobile or PC. Six solenoids from a single six-way decoder can be controlled. In addition, the small size allows for an easy fit within any installation.

Both products are stocked for immediate dispatch, contact Reesink on 01480 226800, email info@ reesinkturfcare.co.uk, or visit reesinkturfcare.co.uk.



Working in partnership with Reesink Turfcare



INDUSTRY NEWS

STRI Group makes director appointments

Following a period of strong growth, STRI Group has appointed two new company directors to its board.

Gareth Walters and Dr Ruth Mann have been appointed as finance director and director of research from January 2021, with both continuing to manage their existing departments. Gareth will lead the group finance function, ensuring effective processes and controls are in place across STRI Group, and will work closely with the Board to drive through strategic growth.

Ruth will be instrumental in ensuring STRI remains at the forefront of innovation and technological developments in the sports infrastructure and environmental industries.

Ruth said: "It is very exciting to be involved with researching and developing future solutions to challenges in the sports turf and environmental industries. The range of national and international partnerships and projects STRI is involved with demands a wide range of technical expertise and I am looking forward to supporting the continued expansion of services."

Gareth added: "STRI Group has grown in recent years to become a multi-disciplinary solutions provider in the sports turf and environment markets with a global reach.

"With two strategic acquisitions made last year, 2021 represents an exciting



time for the group and I look forward to joining the board to support this growth."

STRI chief executive officer. Mark Godfrev, said: "STRI has continued to expand at a rapid pace over the past 12 months.



"Ruth and Gareth have been important senior figures at the company for several vears and are helping drive change and growth across new markets and I'm delighted to welcome them to the board."

Germinal launches bentgrass mixture

Germinal has launched a grass seed mixture designed specifically for golf greens.

Tour Leader is a 50:50 blend of OO7 DSB and new cultivar Tour Pro (GDE) and Germinal claims it offers seasonal adaptability, high disease resistance and vivid colour retention.

Tour Pro (GDE) is the latest creeping bentgrass to join Germinal's class-leading portfolio and has achieved the highest mean score (6.8) for creeping bentgrasses as a new cultivar on table G1 of the 2021 BSPB list. It has also been awarded the highest score for shoot density (6.6) and visual merit (7.0) for a creeping bentgrass.

"Tour Pro (GDE) was

selected as the next variety to join our creeping bent portfolio thanks to its low input requirement," explained Richard Brown, amenity sales manager for Germinal. "This enables greenkeepers to demote Poa annua by implementing management strategies which place the latter under stress, thereby allowing Tour Pro (GDE) to gain the upper hand and dominate the sward.

"By pairing Tour Pro (GDE) with 007 DSB we have created a seed mixture with enough genetic diversity to ensure golf greens remain in good condition all year round irrespective of the weather."

As part of its ongoing commitment to promote the



By adding non-native species to its General Landscaping (Urban Meadows) Wild Flora range, which contains 100% wildflower mixtures and ready-to-sow wildflower and complementary grass seed blends, Germinal is offering pollinator-enhanced 'near

native' mixtures.

Richard said: "Research carried out by the Royal Horticultural Society into how best to support pollinating insects such as bees, butterflies and hoverflies has shown that planting a mixture of native and non-native flowers can extend the flowering season and therefore boost pollinator populations by providing a more abundant and longerlasting source of nectar and pollen."

Bayer stays CALM with mental health aid for greenkeepers

IN SUPPORT OF

CAMPAIGN

AGAINST

LIVING

MISERABLY



Bayer and CALM have teamed up to promote mental health within the turf industry

Amid growing concern around mental health in the turf and amenity sectors, Bayer has teamed up with suicide prevention charity Campaign **Against Living Miserably** (CALM) to raise awareness of the support they can offer to anyone who is struggling.

Bayer's Alan Morris highlighted the alarming fact that suicide is the biggest killer of men under 45 in the UK. He added: "In an industry that is largely maledominated, which by its nature often results in isolated working conditions, the turf and amenity sectors present some big mental wellbeing challenges.

"We believe CALM is the

right fit for the industry because it not only offers independent support, but it also provides positive practical solutions that resonate with practicallyminded people.

"In a world where 6,500 people die by suicide in the UK every year, with 75% of those being male, this collaboration could help those who are going through tough times."

CALM runs a free, anonymous helpline and webchat from 5pm to midnight seven days a week for anyone who needs to talk about life's problems.

For more information visit www.thecalmzone.net

Terafirm Granular launched by Headland Amenity

Headland Amenity has announced the introduction of a granular version of the penetrant wetter Terafirm.

Terafirm is a nonphytotoxic soil penetrant, which works by reducing the surface tension of water to facilitate accelerated water movement and drainage. As a result, Terafirm also acts to

speed up surface drying and open up pore space within the soil profile during dry down by improving soil contraction.

The launch of Terafirm granular, in addition to the existing liquid formulation, means it can be applied in even more areas and in different conditions than was previously the case.

Anthony Asquith appointed to Consolidate Turf

Consolidate Turf has appointed experienced agronomist Anthony Asquith as technical manager.

Anthony was educated at Askham Bryan College and has been in the turf industry for over 20 years, with experience in both a practical and advisory capacity. For the last 12 years, Anthony has worked as an independent turf agronomist, advising golf courses, sports grounds, schools and other facilities.

Managing Director Paul Benson said: "Anthony joins Consolidate Turf as a well

connected and respected individual with a good history and a vast technical knowledge. His mantra of an all-round holistic approach to turf management fits well with our customer ethos and principles and we look forward to him applying this with our customers.

Anthony joins Technical Sales Manager Rob Welford in covering the UK and Ireland, providing advice to all turf facilities on their range of products, as well as good agronomic practice to aid in achieving better surfaces.

Turf Rewards 2021

ICL and Syngenta have expanded the Turf Rewards family to bring budget and time saving rewards for 2021.

Turf Rewards provide the opportunity for customers to earn points from purchases that can then be exchanged against a selection of agronomic or turf-related items and learning opportunities. Over recent years greenkeepers and turf managers have praised the scheme for providing them with an opportunity to improve turf management and business performance at no

The scheme allows users to claim tools and equipment

that may be difficult to stretch to when working to a tight budget. Turf Rewards can make these items accessible and affordable.

Rewards added to the programme for 2021 include:

- / A range of wildflower mixes suitable for links, parkland and heathland areas
- / Accupro 1000 and Accupro 2000 spreaders
- / A waste collection and recycling service from Chemastic
- / TDR150 and TDR350 moisture meters
- / iMac 21.5-inch desktop computer

To find out more, visit www.turfrewards.com

Campey mourns David Briggs



Campey Turf Care Systems has paid tribute to David Briggs, who died in December.

David joined Campey Turf Care Systems in 2000 and retired in 2017.

He was a successful product specialist for Southern England and was instrumental in establishing an effective dealer network for

Campey chairman Richard Campey said: "He was always

Campey in Southern Europe.

a popular and muchrespected member of the team. David was also highlyregarded and well-respected among his colleagues and customers alike. We offer our condolences to Diane and all the family at this sad time.'

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Greenkeeper **Appleby Golf Club**

Appleby Golf Club is a moorland course located in the beautiful Eden Valley, frequently rated as one of the best courses in Cumbria.

We are looking for a highly motivated and enthusiastic person to join our greenkeeping department. The successful applicant will work closely with the head greenkeeper and will assist in the day-to-day maintenance of the course.

We seek someone with the relevant skills to take responsibility for decision making in the absence of the head greenkeeper. Qualified to Level 2/3 in greenkeepin

is desirable. The successful applicant will receive a competitive salary based on qualifications and experience.

To apply, submit a CV together with a covering letter to

enquiries@applebygolfclub.co.uk

Assistant Greenkeeper Wentworth Club

Wentworth Club is one of the world's finest private members golf and country clubs. famous for its championship golf courses in addition to a luxury tennis and health club.

We are currently looking for assistant greenkeepers to help us maintain our courses in ristine condition throughout the year. The successful applicant will work closely with the head greenkeeper to assist in day-to-day maintenance and will have a desire to build on their technical greenkeeping and agronomy skills within a professional team environment.

If you can demonstrate a sound knowledge and application of health and safety and are hardworking, reliable and highly motivated, we would love to hear from you. To apply, please forward your CV to careers@wentworthclub.com



Qualified Assistant Greenkeeper Berkhamsted Golf Club

Berkhamsted Golf Club is looking to recruit a qualified assistant greenkeeper to join our existing team.

The course is bunker free with grass hollows and mounds and is rated in England's top 100. It is set out on Berkhamsted Common with heather, gorse and woodland to challenge our

We are looking for a qualified greenkeeper (NVQ Level 2) with a minimum of two ye

The successful candidate will be motivated and work well in a team.

To apply please send your C.V. to Gerald Bruce at gerald@berkhamstedgc.co.uk.



Assistant Greenkeeper Dunham Forest Golf and Country Club

We are looking for an assistant greenkeeper to help maintain our 18-hole parkland course.

The candidate would preferably have the following attributes:

/ NVQ level 2 or equivalent / A full UK driving licence

/ A minimum of one to two years on-course experience

/ Be highly motivated

/ Able to work as part of a team or alone

/ Able to work to a high standard / Have a strong desire to be the best and

take pride in their work. Opportunities to train in skills required to progress within the industry,

Salary based on 37.5 hours/week Compulsory overtime available some weekends

Please apply by email with a C.V. and covering letter to David Lippiatt, course manager at dave@dunhamforest.com



Assistant Greenkeeper Abridge Golf Club

Abridge Golf Club is a proactive members club that is an Open qualifying venue and has held other prestigious events.

This year the club is hosting the Essex Amateur Championships. Abridge is a high quality presented parkland course. The last few years the club has invested in full Irrigation, a new clubhouse and presently one year into a five-year drainage plan. We are looking for an assistant greenkeeper, ideally qualified, who is enthusiastic, flexible, hard working and a team player.

A salary will be paid based on experience and qualifications with spraying and chainsaw certificates a benefit.

To apply please submit a CV with a covering letter to geoffabridgegolf@gmail.com by 28 February. www.abridgegolf.com

Abridge Golf & Country Club

The role of senior assistant greenkeeper is to contribute effort necessary to achieve this goal. The job will involve the skilled

Levland Golf Club employs a

team of greenstaff to maintain

and improve the golf course for

the benefit of members, quests,

and visitors.

Senior Assistant

Greenkeeper

use of appropriate tools and equipment, including pedestrian and ride-on mowers, tractor mounted implements and hand-tools.

Regular tasks will include tee. green, rough and fairway mowing, hole-changing and bunker raking. The job will also involve aeration, top-dressing and fertiliser application. Quality of finish and attention to

detail are of paramount importance.

greenkeeper will report to the course manager for daily tasks and issue management. Appraisal will be carried out

twice per calendar year and this will inform training and Uniform and PPE will be provided.

Hours of work: / Mon-Fri, 40 hours per week. / 6am to 2pm during main season, 7.30am to 3.30pm during winter.

/1x half hour break, halfway through day.

Person Specification Essential:

/ Self-motivated and enthusiastic / Committed to Health & Safety

/ NVQ II Sportsturf or equivalent, e.g., ND Sportsturf / PA1, PA2A, PA6 spraving

certificates Desirable:

/ 3 years+ experience in similar role.

/ CA30/C31 Chainsaw qualification How to apply

To apply please send your CV and a covering letter by email to Scott Reeves, course manager, at scott@leylandgolfclub.co.uk

Closing date: 19 February 2021

eyland Golf Club



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For more information call 01347 833 800 or email info@bigga.co.uk



HISTORY OF GREENKEEPERS' ASSOCIATIONS

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A year on from the production of the first British Golf Greenkeepers Association (BGGA) magazine and the editor, Mr G A Philpot, reported reasonable success.

However, he added that not enough firms were advertising, which meant the magazines had to be cut to suit the level of income.

1938

Proposals were put forward, firstly to initiate a superannuation scheme for members and secondly to consider either forming or joining a union.

Superannuation would have seen a company pension scheme put in place for the benefit of members.

Unfortunately, after much consideration and discussion, it was resolved that the financial state of the association didn't lend itself to superannuation. On the question of forming a union, it was also decided that this would not be workable.

At the AGM Sir Robert Webber resigned as president and he was succeeded by Lt

Col Brabazon.

At the end of this year a letter was received from the North of England Greenkeepers' Association regarding amalgamating with the BGGA. A letter had also been received from a Mr R G McRae asking that the BGGA form a North of Scotland section and also from a Mr George Lister regarding the forming of a section in the West of England. Gradually, more and more areas were looking to join the association.

1939

This year saw the formation of a South West Section.

However, everything was not all good news as a letter was received from Mr R B Dawson, head of the Board of Greenkeeping Research (BOGR) — later the STRI — stating the Welsh Section had not paid a bill of £3–17/4p.

Investigation showed the Welsh Section did not have enough funds to pay the amount and it was decided the General Fund would settle the debt.

A three-day tournament and symposium was held at Ayr Belleisle Golf Club. In 1988, the first BIGGA three-day tournament and conference would also be held at the same venue.

World War Two curtailed activities in all aspects of life and greenkeeping was no different. During the war, food parcels were sent via the Red Cross with contributions from the greenkeeper associations to any greenkeeper in the prisoner of war camps. One such recipient was John Campbell, who eventually became links superintendent at St Andrews. Later, as a consultant, he wrote articles for magazines and was well-known for his humorous cartoons about greenkeeping and golfers.

When John first joined the Scottish Golf Greenkeepers

Association (SGGA) in 1935 he recalled that assistant greenkeepers had their own separate golf tournaments from head greenkeepers.

Even in those days, trade firms were involved with SGGA. In previous articles we have mentioned Stewarts of Edinburgh and the Forbes family, who through J L Forbes were involved from the beginning.

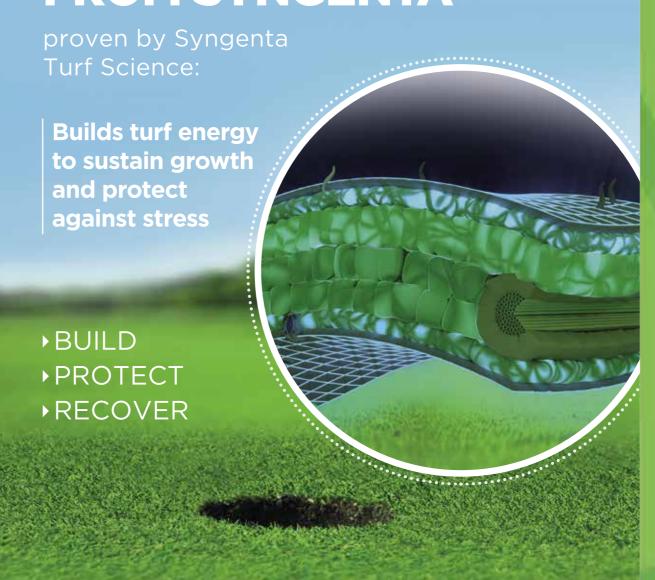
J L's son, lan, and grandson, Graeme, were extremely well-known throughout the greenkeeping fraternity, with both speaking regularly at seminars and lectures. Others at the time were Ransomes and the Morton Engineering Company in Edinburgh. In the West, the firm of Austin McAuslan was well-known to greenkeepers. This company later became another great supporter as Richard Aitkens, with first Dick Aitken Sr and then his son Richard at the





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To continue the story visit the 'History of Greenkeepers' Associations' section of our website



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