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Greenkeeper International



Team Hoylake

The Royal Liverpool greenkeeping staff discuss the challenge, excitement and special responsibility of preparing a course for the Open Championship

■ Members

Master Greenkeeper Janne Lehto shares a glimpse of a golf course from the future

■ Greenkeeping

Dr Ben McGraw on the biology of earthworms and how to control them

■ Careers

What it's like to be in charge of the host venue for a Ryder Cup contest in the USA

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The magazine for BIGGA members
Greenkeeper International exists for you, our members. Since 1987 BIGGA has helped thousands in golf greenkeeping to progress their careers, find inspiration and get involved in our varied and vibrant community. This magazine aims to reflect the passions and preoccupations of our members and we'd like you to be involved. Please drop us a line, send us a picture or post on our social media pages.

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Welcome

We launched the Future Turf Managers Initiative, supported by Jacobsen, back in 2012 and I felt strongly then, as now, that the target audience was critical. Ambitious greenkeepers looking to step up to a senior role were under-served educationally, yet the jump to a course manager position is easily the biggest and most difficult in our industry.

The first class of FTMI delegates, who gathered at Jacobsen HQ in Ipswich in 2013, featured several BIGGA members who have gone on to high-profile jobs. Names like John McLoughlin (Wallasey), Leigh Powell (Windlesham) and James Parker (Machrihanish Dunes) are all familiar. But perhaps the most meteoric climb is that of James Bledge, who will shortly become the first FTMI graduate to host the world's greatest golf tournament when The 151st Open Championship takes place at Royal Liverpool.

Having been involved from the very first discussions that led to FTMI being instigated, this is a moment of huge pride and I know as I look at the list of subsequent delegates, that this is not going to be an isolated incident.

**“ Opportunities
BIGGA are able
to offer have positively
influenced countless
careers**

BIGGA exists to support greenkeepers and we focus a huge amount of our attention on just that. But the opportunities we are able to offer, often with valuable support from our trade partners, have positively influenced countless careers.

I can't wait to see The Open unfold and I'm also looking forward to attending the Women's Open at Walton Heath. It's a great privilege to be involved in both events with our traditional Open Support Team and a brilliant Women's Support Team. Congratulations to all our members who are actively involved with the initiatives we offer.

If you aren't yet but are wondering where to start, head to our website to learn more.



Jim Croxton
BIGGA Chief Executive

Here to support you when you need us

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BIGGA's activities are underpinned by the generosity of our industry partners and supporters. BIGGA's various activities, initiatives, learning and development opportunities and member benefits are made possible due to the ongoing commitment shown by these companies, organisations and individual donors. From our supporters all the way up to our premium partners, our thanks go to all of them for their dedication to BIGGA and its members.



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**SCAN
ME!**

First Cut



All you need to know from around our industry in a digestible form

- Revealed: The FTMI Class of 2023
- A greenkeeper's best friend: Meet Boots the lab collie cross

Read the digital version of Greenkeeper International magazine online

BIGGA members are now able to read our monthly magazine online in an interactive format.

The digital version contains all of the content from the magazine and means you can access Greenkeeper International when you are on the move.

Perhaps you might wish to refer back to an educational feature while you are out on the course, or you find five minutes to read about a fellow member during your lunch break – the magazine is always available at your convenience on the device of your choice.

An added benefit is that back issues will remain available within the portal should you ever need to revisit some content from a past issue.

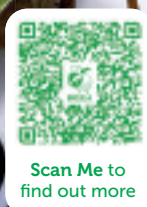
The digital version of the magazine is free for you to access now and is housed on the BIGGA website.

The BIGGA Calendar

Above: Picture taken by Adam Clark, Castle Royle Golf & Country Club

• Enter this year's BIGGA Annual Photography Competition now – turn to page 18 for more details

Download the desktop calendar:



Scan Me to find out more

July 2023

| | | | | | | |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
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Thetford send Gould off in style

A BIGGA member has retired after serving for over a quarter of a century at Thetford.

Head greenkeeper Paul Gould received his official send-off at the first 2023 meeting of the East Anglia Section which was held at the end of April at the Norfolk club.

The day was attended by over 50 members who enjoyed a course that was presented in exceptional condition by Gould's successor, Martin Turna and his team.

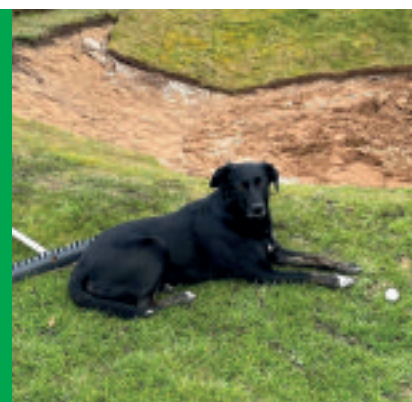
The winner on the day was James Raines, who carded 37 points.



A greenkeeper's best friend – Boots

Name: Boots
Age: 5 years
Breed: Lab collie cross

Favourite treat: Pigs ears.
Favourite spot on the course: The tunnel at the burn on the 2nd.
Naughtiest moment: Pinching a player's golf ball.
My dog is happiest when: She is sitting on the gator enjoying the sunshine and rolling in foxes poo.
Owner: Caroline Munro, Bonar Bridge & Ardgay Golf Club.



What's on this month



Dates for your diary

5 July 2023

BIGGA South Coast Ecology Course Walk
– Corhampton Golf Club

6 July 2023

BIGGA L&D Roadshow Birchwood
– Birchwood Golf Club, WA3 7PB

6 July 2023

BIGGA South East Region Golf Day
– Royal Ashdown Forest Golf Club, RH18 5LR



Royal Ashdown Forest

13 July 2023

BIGGA Yorkshire Section Summer Golf Day
– Shipley Golf Club

18 July 2023

BIGGA Devon & Cornwall Summer Golf Day
– St Mellion Estate, Saltash, Plymouth PL12 6SD

27 July 2023

BIGGA Scotland / SGCMA Managers Trophy
– Kilmarnock Barassie Golf Club

27 July 2023

BIGGA West Scotland Golf Championship
– Hamilton Golf Club

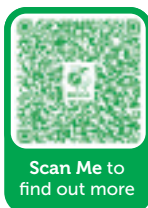
28 July 2023

BIGGA Sheffield Section Summer Golf Day
– Abbeydale Golf Club

Myerscough's Deaf Championship spot

A Stoke by Nayland apprentice will compete in the European Deaf Golf Championship in Finland next month.

Michael Myerscough is currently trying to fund his £1,200 trip with the help of his employers and a Go Fund Me page. If you would like to donate, scan this QR code:



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The Toro Student Greenkeeper of the Year Awards enable BIGGA, Toro and Reesink UK to celebrate the next generation of talented and dedicated greenkeepers.

The first stage saw candidates undertake an interview in front of judges comprising representatives of BIGGA and Reesink UK, with 54 nominees narrowed down to the final 12. The finalists will now vie for the titles of Toro Student Greenkeeper of the Year and Toro Young Student Greenkeeper of the Year at Carden Park in Cheshire on September 4 to 6. Head to the BIGGA website for details of the incredible prizes on offer.

Nick Lush is sports turf tutor at Myerscough College and nominated Caleb Overhill. He said: "Caleb's dedication to his college work has been exceptional. The greenkeeping industry is in safe hands when we have young learners like him coming through."

David Byron, course manager at Thorndon Park, nominated Ben Murchie and said: "I'm absolutely thrilled to bits for Ben."

"He's come a long way and I couldn't be happier for him. This is

the cherry on top that proves all the hard work was worth it."

Further reaction can be viewed on the BIGGA website.

Toro Student Greenkeeper of the Year finalists

Edoardo Fauro

Deputy head greenkeeper at Walton Heath and student at SRUC Elmwood

Joe Garner

Assistant greenkeeper at Wentworth and student at Myerscough College

Tyler Holmes

Assistant greenkeeper at Ganton and student at Askham Bryan College

Craig Jordan

Apprentice at Ashley Wood and student at Sparsholt College

Shawn McBride

Assistant greenkeeper at Hillside and student at Myerscough College

Michael Russell

Assistant greenkeeper at Ormskirk

and student at Oldham College

Toro Young Student Greenkeeper of the Year finalists

Daniel Martin

First assistant at Farleigh and student at Hadlow College

Ben Murchie

Apprentice at Thorndon Park and student at Berkshire College of Agriculture (Windsor Forest)

Sam Norman

Apprentice at Abbey Hill and student at Myerscough College

Caleb Overhill

Apprentice at High Post and student at Myerscough College

Jake Rose

Apprentice at Moortown and student at Askham Bryan College

Sam Trott

Apprentice at Weymouth and student at Bridgwater & Taunton College



**TORO****STUDENT
GREENKEEPER
OF THE YEAR
AWARDS
2023**

"We're thrilled to bits" – delight in calibre of student awards finalists

BIGGA and co-founders Toro and Reesink UK have named the finalists of their annual awards, which seek to uncover the UK's leading student greenkeepers

BIGGA and Jacobsen reveal the 20 ambitious members who will form the Future Turf Managers Initiative (FTMI) Class of 2023

Each year FTMI co-founders BIGGA and Jacobsen invite 20 up-and-coming association members to participate in the intensive training programme, which has been credited with developing some of the greenkeeping industry's most influential course managers and head greenkeepers.

FTMI was first hosted in 2013 as a two-day education event and since then has expanded around the world, with similar schemes being introduced in Spain, Portugal, Australia and New Zealand. The event is aimed at up-and-coming greenkeepers who are not yet in course manager or head greenkeeper positions. Focusing on personal and professional development, rather than agronomy-based subjects, FTMI utilises the expertise of leading course managers, dynamic trainers and industry experts to mentor and

educate the next generation of industry leaders.

Sam Evans MG was previously an FTMI graduate and now mentors on the initiative. The course manager at North Hants said: "FTMI is a great way of proving to the industry that you want to kick on and that you realise it's not going to be put on a plate for you. Everyone wants to help each other out and that's one of the reasons I enjoy being a mentor. Hopefully, a few years down the line some of these guys will be mentors themselves."



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find out more

JACOBSEN

Meet the FTMI Class of 2023

Jack Ashall, Knowle
Will Barnes, The Berkshire
Kevin Butcher, Walton Heath
Dan Fisher, North Foreland
Jack Hall, Northampton
Oliver Kirk, Bury St Edmunds
Stephen Mancini, Prestwick
Christopher Naughton, Gleneagles
George Nock, Enville
Scott Patrick, R&A Lethamhill
Aaron Peacock, Horsham Golf & Fitness
Levi Pethick, Stoneham
Samuel Richards, Sherborne
Michael Sparke, King's Hill
Shane Stannard, Aldeburgh
Craig Swindells, Chipping Sodbury
Nicholas Thorley, Saunton
James Walker, St Andrews Links Trust
Jack Wellings, JCB G&CC
Bradley White, Wentworth

Reduce, reuse and recycle



Roddy Williams
joined GEO
Foundation for
Sustainable Golf in
2021 after more than
two decades with the
European Tour and
Ryder Cup

Community impact and social value is at the core of sustainable golf and there are plenty of greenkeepers supporting the cause

When it comes to promoting sustainability in golf, the focus often falls on nature and the environmental benefits, but this is only part of the story. Sustainable Golf is much more than that – it is about fostering nature, conserving resources, taking climate action, and strengthening communities.

Community impact is sometimes overlooked but social value is central to sustainable golf, from jobs and economic value, education and partnerships, access to healthy recreation and a welcoming and inclusive environment, and at the heart of the sustainable golf communities around the world are the thousands of greenkeepers dedicated to the responsible stewardship of the land in their care.

Through their expertise and commitment, greenkeepers not only preserve the beauty and long-term health of the golf course but also act as leaders in championing sustainable practices to a much wider community.

Janne Lehto, course manager at Hirsala Golf, is one such Sustainable Golf Champion, and it was wonderful to see him recognised by BIGGA as Finland's first certified



Master Greenkeeper last month (see our feature on him on page 32). Under Janne's leadership Hirsala Golf, a venue GEO certified four times, has become established as one of the most forward-thinking and environmentally conscious clubs in the world.

Janne is like so many greenkeepers who actively engage in

course management to both members, fellow professionals and other partners beyond golf.

As advocates for the golfing community in wider environmental discussions, greenkeepers often actively participate in local and regional initiatives aimed at promoting sustainability and conservation.

Through collaborations

“Greenkeepers not only preserve the beauty of the golf course but also act as leaders in championing sustainable practices.”

continuous learning and professional development, keeping abreast of the latest advancements in agronomy and technologies, setting an example for others and encouraging the adoption of sustainable practices at all levels.

This, in turn, serves as a valuable resource within the community, providing guidance, advice and practical insights on sustainable

with environmental organisations, government agencies, and other stakeholders and sharing best practices and implementing measures that benefit local ecosystems, greenkeepers are able to demonstrate the commitment of the golf industry to environmental responsibility and sustainability and act as valued ambassadors for the golf sector.

Hirsala Golf is a shining example. A collaboration with Helsinki University, WWF Finland and Finnish Greenkeepers Association studied aquatic biodiversity in golf course ponds and developed new best practices for golf courses to manage and build golf course wetlands and ponds. The study indicated that the majority of the ponds in golf courses, if well maintained and constructed, are richer in biodiversity than, for example, protected ponds in Helsinki city that were used as a benchmark.

Through organised events, workshops, and educational programmes, greenkeepers have opportunities to engage with golfers, local residents and schools, fostering an understanding of the positive impact golf can have, dispelling misconceptions and showcasing the golf course as a valuable green space that contributes to biodiversity, responsible resource use and community well-being.

Hundreds of examples shared by golf courses and tournaments from around the world can be found at Sustainable Golf Highlights, an open-source resource for the industry, so have a browse and add your own highlights to inspire others.

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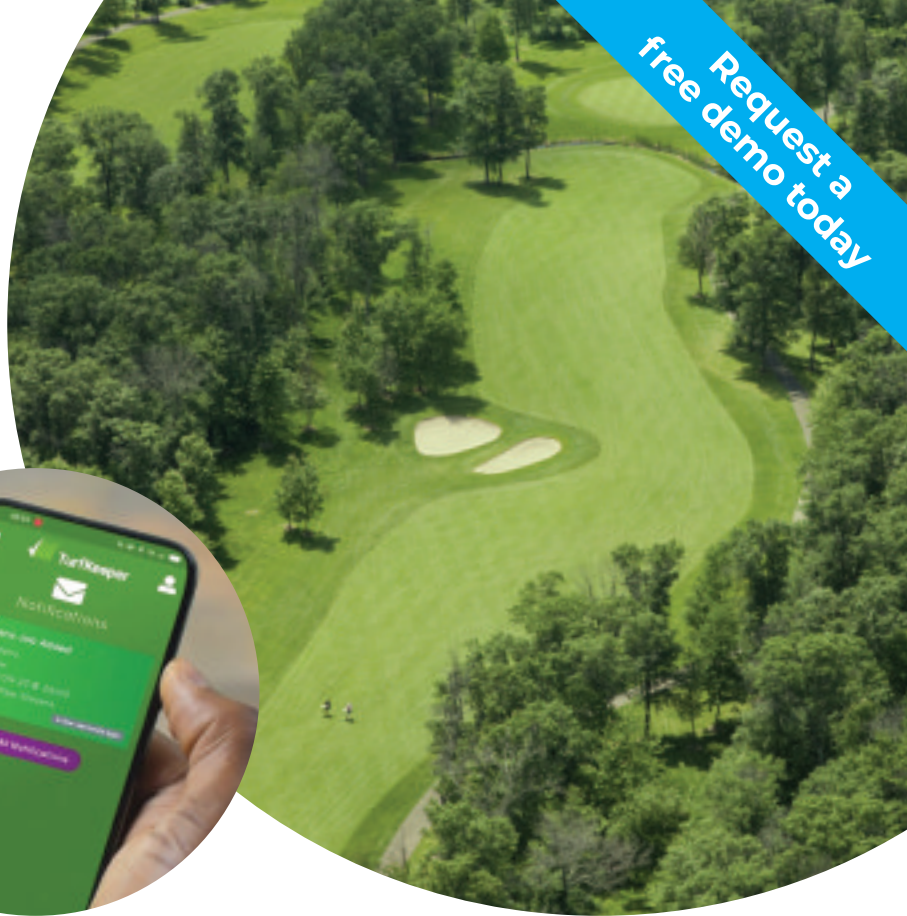
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Find out what BIGGA's staff and volunteers are working on

- Apply for a superb trip to GCSAA 2024 in Phoenix, Arizona
- Welcome to all our new members

“ If you are thinking of applying to be part of the next delegation, do it. The competition is tough, because what it gives you back is worth the extra time to put your all into it” – Jeremy Ward, Renishaw Park. See page 22

The BIGGA National Board is comprised of the following members who volunteer their time to support the association:
Stuart Ferguson MG, Jack Hetherington, Antony Kirwan, Andrew Laing, Iain Macleod, Lucy Sellick and Richard Whyman
BIGGA President Andy Smith, BIGGA Chairperson Steven Lloyd

Welcome to our new members

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| Northern Ireland Jon Crawford Royal County Down | | GK | | | |
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| Scotland Kane Alison Alyth | | | APP | | |
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| Dean Chapman Robert Kennedy Paul Livingstone Ben Mcdowall Ralston | | GK | GK | DH GK | GK |
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| Fraser Clacher Strathaven | | | DH GK | | |
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| Dan Garn Bruntsfield Links Golfing Society | | GK | | | |
| | | | | | |
| Callyn Lindsay The Gleneagles Hotel & Golf Courses | | GK | | | |
| | | | | | |
| Gordon Mcphee Ranfurly Castle | | GK | | | |
| | | | | | |
| Kieran Richmond Turnhouse | | GK | | | |
| | | | | | |
| Iestyn Winn UHI North Highland | | ST | | | |
| | | | | | |
| Northern Brandon Bailes Paul Pennington Chorlton-cum-Hardy | | GK | FA | | |
| | | | | | |
| Stephen Bowden Andrew Scott Northop | | GK | GK | | |
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| Michael England Paul Jordan Beverley & East Riding | | GK | GK | | |
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| Robert Gibbs Saltburn | | GK | | | |
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| Jonathan Marriott Disley | | GK | | | |
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| Sam Maxey Matlock | | GK | | | |
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| Reon Mckenna Paul Smith West Derby | | APP | APP | | |
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| Jarrold McPhee Burstwick Country Golf | | APP | | | |
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| Joe Middlemass Birley Wood | | GK | | | |
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| Carl Pigott Retford | | HGK | | | |
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| Liam Potts Durham City | | GK | | | |
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| Ashley Upton Upton-by-Chester | | GK | | | |
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| Central England Callum Allsop Leicester City FC | | CM | | | |
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| Jamie Clare Luke Kenney Weybrook Park | | GK | CM | | |
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| Matthew Evans Matthew Evans | | A | | | |
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| Matthew Hardman Moor Park | | GK | | | |
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| Tom Marshall Bedford & County | | GK | | | |
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| Jason Martin Kidderminster | | GK | | | |
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| William Meakin Ben Wookey Morley Hayes | | GK | GK | | |
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| Michael Page Gedney Hill | | DH GK | | | |
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| Cameron Percival Carden Park | | APP | | | |
| | | | | | |
| Luke Phythian Moor Hall | | GK | | | |
| | | | | | |
| Chris Tanner Advance Grass Solutions | | A | | | |
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South East

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Beaverbrook

Leonard Crew GK
Beauport Park

Charlie Fitzgerald GK
Tyrrells Wood

Duncan Gilchrist GK
Ellesborough

Lewis Hollings ATP
Plumpton College

Alexander Newton GK
The Warren Golf & Country Club

Josh Tobin GK
Langdon Hills

Gareth Watmore GK
Farnham

South West & South Wales

Gerald Ayliffe GK
Staddon Heights

Tommy Clist GK
Danny Stock GK
Clevedon

Danny Guy APP
Matt Woodland APP
Bovey Castle Hotel

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APP Apprentice
ATP Approved Training Provider
CA College Assessor
CM Course Manager
DCM Deputy Course Manager
DH GK Deputy Head Greenkeeper

FA First Assistant
GK Greenkeeper
G Groundsperson
HGK Head Greenkeeper
HG Head Groundsperson
I International Member
L Life Member
M Mechanic

P Partner
R Retired Member
RP Regional Patron
S Supporter
ST Student Member
SUP Superintendent

The lessons I've learned from our survey



Steve Lloyd
BIGGA Chairperson

The pandemic has helped us to realise the importance of work-life balance and understand that our jobs can be done equally well with greater flexibility

I enjoyed reading about Master Greenkeeper Janne Lehto (on page 32) and his innovative techniques over in Finland. I've been experimenting with some similar solutions myself here at The Worcestershire.

For example, I first spoke to Husqvarna about robotic mowers five years ago. It interested me both for saving man hours, allowing our skilled labour to concentrate on other jobs, and also as a move towards greater sustainability. I tried it first on small sections of the course like parcels of rough and it worked really well.

Last year, we trialled robot mowers for six weeks on our fairways. The question is always whether it will evenly cover the area but it proved itself 100 per cent and didn't wander off or anything untoward during the night.

On golf courses with uneven fairways, the mowers can struggle with bumps and dips but it works perfectly in the rough. Practice areas are also ideal for robotic mowers – they are always hard to get in and mow so

it's a great addition for that. Robotic mowers obviously require a substantial up-front investment and necessitate a new kind of training and set-up, so they aren't yet accessible for every club.

With robots, it's all about being portable and battery-powered. It's a sustainable approach. Plus, using lithium rather than diesel makes it very quiet.

It's another tool for us – and especially useful if you are struggling with staff levels, which remains a challenge for many of us.

As I reflect on our survey that we released a year ago, where the headline news was lots of colleagues thinking about leaving the industry, I do think that some lessons have been learned.

Lots of clubs have actually increased their staffing levels coming out of the pandemic so this is a two-sided story: clubs were

looking for more people and some people were leaving.

With my own team, I am being much more flexible when I'm recruiting. It doesn't have to be five days a week, 6am to 3pm, plus every other weekend.

What if someone can only do four days? Some staff want to work from six to 11 in the morning and then go and play golf

who are in their second careers and if we can offer them a bit of flexibility they can be great assets. For example, I have taken on two summer casuals this year for the first time. One is back from university for the summer and does three days a week. It is giving me the help I need when I most need it.

That's really important, because while we are

“What I love about this industry is that when a challenge arises we find a solution and we share it with our colleagues. We try to speak to each other and help each other. That's something I'm very proud of

because they are semi-retired.

I think we are all recognising work-life balance more now following the pandemic.

We're learning that you shouldn't overlook the right person just because they don't want to do a full-time role.

I also believe that we haven't always blown our own trumpet and shouted about the many benefits of being a greenkeeper as often as we should.

I speak to a lot of people

all being increasingly restricted from using various pesticides and fertilisers, golfers' expectations continue to rise.

What I love about this industry is that when a challenge arises we find a solution and we share it with our colleagues. It can be a lonely role, especially at course manager level, but at BIGGA we try to speak to each other and help each other. That's something I'm very proud of. **GI**



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Daniel Spencer, Letchworth Golf Club

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The show takes place
in Phoenix, Arizona
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find out more

“If you are thinking of applying to be part of the next delegation, do it. The competition for this delegation is quite rightly tough, because what it gives you back in terms of experience is worth the extra time to put your all into it”

Jeremy Ward, Course Manager, Renishaw Park



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BIGGA

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- We meet the team putting the final touches to Royal Liverpool
- Master Greenkeeper Janne Lehto tells us how Hirsala Golf in Finland is embracing modern technology

“ Hoylake is such a special place and I would love that to come across. I feel that if I can get into the clubhouse, speak to members, play golf and be part of the club, then I can educate them more – James Bledge

Team Hoylake

For the past 18 months, James Bledge has been the Links Manager at Royal Liverpool, leading a group preparing for the greatest week on the golfing calendar. We asked them to share their experiences





For one week this month, the eyes of the golfing world will be on Royal Liverpool for The 151st Open. At the heart of the operation will be James Bledge and his team. The Scot's route to Hoylake began at Dumfries and Galloway before working on the continent in Norway and Sweden and the links classics of Gullane 1, Kingsbarns and Royal Cinque Ports where he was the course manager for seven years. All of his experience has led him to this most special week.

What were your initial thoughts when moving from Kent to Royal Liverpool?

I joined on January 31, 2022. I'd been at Royal Cinque Ports for nine years and I felt that I wanted the next big challenge and an Open course is the highlight of any greenkeeper's career. Moving five hours closer to home was huge as I've just been so focused on my career and I've missed out on a lot of stuff from my friends back home. My wife Jenny and I have brought up the kids without any help at all and she was really up for it as well; she had her hen do in Liverpool and the Beatles are her favourite band.

I spoke to quite a lot of people about it, including Martin Ebert, who I worked with a lot at Deal and we discussed how this job would suit me. A friend of mine, Sam Cooper, got in touch and said that this was the perfect job for me. He had been impressed with the work we had done at Deal and was keen for me to move up, it was nice to know that I'd know someone. He also mentioned about starting a podcast, which is now called Golf Badgers and it's been great fun.

Was there an intimidating factor of working on an Open course?

No, I felt ready. I'd done R&A tournaments, boys amateurs and Amateur Championships and half a dozen Final Qualifying events for The Open. I'd also worked with Alistair Beggs who was the head of agronomy with them back then. He's a member at Hoylake and he was the captain when Rory McIlroy won in 2014. It seemed like it had to be. I would never want this to come across as being cocky but you know when something is yours, it's too good.

What are the similarities with Royal Cinque Ports?

Deal gave me a genuine quality of life.

Our Open week responsibilities



Luke Denny

Assistant greenkeeper and junior mechanic

I moved to the club in February, which was a big learning curve having previously worked in teams of five or six, but I feel like I've settled in very well working among some great individuals who are always happy to help. I have been involved in near enough everything, from standard course set-up to machines that I hadn't previously used (with the correct training of course). My Open role will be on the fairways team so obviously that takes a lot of teamwork and communication.



Luke Charnley

Assistant greenkeeper and junior mechanic

We all get the opportunity to do all of the jobs that are required as part of the preparation which helps us all keep up to date with the standard that is required for each job.

In preparation, I have been helping Phil the mechanic with the machinery in the afternoons, ensuring the units are sharp and cutting to the best standard available and making sure all the machines themselves are running smooth and there are no issues.



Matt Williams

Ben Tynan

Luke Denny

Luke Charnley

Adam Fitzsimmons

James Bledge



Jamie Beattie

Assistant greenkeeper

I'm the newest recruit, coming from Formby. Having the Open on the doorstep, my first intentions were to get my name down for the volunteer support team. Then a job advert appeared – what a privilege to be a member of staff. As a team we really do pull together and standards of work are set high. I've been undertaking snagging work to add the finishing touches. I'll always hold on to this experience which will hopefully help me with my career ambition of being a course manager.



Chris Trimble

First assistant

My main roles are running the team on a day-to-day basis with the deputy, Paul. We have a great relationship and he's got so much experience.

My other main roles include liaising and working with R&A staff and performing a lot of the snag and detail work. You are constantly critiquing the course so there's always something on the list.

My other main role is overseeing the preparation of the practice facility.

Members of the Hoylake team detail their job lists for championship week



Paul Gardner
Deputy links manager

In my 36 years at Hoylake I have worked with three incredible and knowledgeable course managers who have all helped my development; Derek Green, Craig Gilholm and now James Bledge. The bunkers were a challenge but, to get 45 done just before Christmas, was a sterling effort. But for the snow and frost we would have got the 50 all done. Chris Trimble has been a great support and all the jobs are on the white board – we will work out our strategy and relay it to the team.



Phil Turner
Mechanic

My role is to maintain our fleet of machinery and I've also been heavily involved with organising the tournament support machinery, from specification, numbers and arrival dates. I will start grinding at the start of July with the help of Ian Robson from ProSport and Luke, my apprentice. Gary Burgess from Wallasey will help out in the workshop and there will also be representatives from John Deere and Reesink. My son will also be joining me.



Peter Lewis
Irrigation technician

In October 2022, upgrades were made to our irrigation system including new back-to-back heads, swapping out certain existing fairway heads which we had identified in our course audit from full circle to part circle heads, enabling us to target water to the desired areas. We also installed new pipes to incorporate extended areas. We have the Rain Bird IC System and have just upgraded to the latest Cirrus Pro software. I personally have felt very well supported by Rain Bird.



Jonny Bentley
Senior greenkeeper

As I enjoy the wildlife and ecology side to the job, I've been involved in cutting out areas of gorse and tree work allowing for the building of the infrastructure. We'll sort a regeneration programme for the wildlife areas such as the gorse, marram and sandscapes after the Open. I have also been working alongside the Cheshire Wildlife Trust on the SSSI reed beds on the periphery of the course and I have even been on a natterjack toad handling course with James.

The Deal members were my family because they took me in and I played a big part in the club making some big strides, I even had my name in gold leaf for winning competitions. I was invited to all the black-tie dinners. Steve Collins, an ex-chairman at Deal, said that Hoylake was his favourite club apart from Deal and that I would just love it here and he was right. It has the same culture, is very relaxed, no snobbery, is very inclusive and it just really is an awesome club. I had some guests up recently from Deal and you should have seen the lunch they put on for us – it was silver service and I'm a greenkeeper! It just shows you how much we've come on. I get these privileges but I will give them it back tenfold with my effort and passion. That is why it is such a special place and I would love that to come across to people. I feel that if I can get into the clubhouse, speak to members, play golf and be part of the club, then I can educate them more.

How many of your team have worked on previous Opens?

Four or five worked on the last one in 2014 and three have done both. There are a lot of Open virgins in the team, myself included, but all the guys are ready for it.

How different is the preparation to a non-Open year?

Royal Liverpool is much like Deal. You would go there as a visitor and expect to have Open conditions for as many days of the years as possible. The only things that are different are things like the rough being roped off and mats are used, otherwise the fertiliser and cutting regimes and the moisture management are the same. You'll also have a lot more divots and people might be pulling their trolleys through the rough and there will be no infrastructure.

What's it like to have your course invaded by all the infrastructure?

I live on site, so it literally is my garden! The place looks off the scale right now. You're playing through a city, the place is class. I live by the Open 9th hole and, when we open the kitchen blinds, we can see the corner of the yellow scoreboard for the Open on the 18th. Try explaining that to some American golfers, it would blow their minds.

How have you found working with The R&A's agronomists?

I am very used to working with Alistair because I worked with him for years at Deal. It has been seamless. It is a democracy and we will work on a plan together. It's all about communication. Alistair is a member so he might play with his kids on a Sunday night and he'll text me and I'll walk a few holes with him. And that helps put your mind at rest. So there are little checks here and there so there are no big surprises. Alistair is quite relaxed about everything because he knows that we have a plan in place and we hope it stays like that because nobody likes stress. The things that can change are if the weather is severe and we haven't seen this golf course with any crowds.

How has the weather treated the course?

I've had a baptism of fire here weather wise. In my first year we had the cold, dry spring and nothing grew at all and then I had the driest summer in history. So we didn't have any rain until the end of the year and then we had loads. This year we had a really good spring and the course knitted in well and the rough began to grow because we lost a lot of it last year. We had Sheep's Fescue growing through and we had clumps which made for awkward lies. Then we went into a six-week dry spell so it has been tough. We spent a lot of money on the irrigation system last year and that has been really fruitful, but you can't beat actual rain.

What's the ideal weather in the final build-up to The Open?

We really could do with an immediate rainfall between now and The Open. If we can get to 10 days before, then we can start to control it and decide if we want to speed things up. The key is the firmness and that is what we have been concentrating on. We have been working with Alistair on getting the organic matters down on the greens and firming them up. Even after the recent rain they still weren't pitch marking. They have got a great coverage thanks to all the work that Craig Gilholm did over the last decade. They're really beautiful surfaces.

What would a successful Open look like?

A great winner and a safe Open with



Hoylake's facilities and machinery

We have a split of machinery so we have John Deere and Toro and we buy the best machine for the job. We have just taken delivery of a lot of John Deere



utility vehicles, they have all been renewed. Everything for The Open will be hand cut so the greens and tees will be hand cut, approaches will be triple cut and there will be a lot of attention to detail and hand cutting. We will have 12 guys, six teams of two, working on the greens. We have very good machinery at the club and we have spent a lot of money making sure we have everything that we need.



“I felt ready. I’d done R&A tournaments, boys amateurs and Amateur Championships and half a dozen Final Qualifying events for The Open”
– James Bledge

no dramas and everyone walking out having had a really good day. Agronomy-wise, the team have a great time, learn a lot, make new friends, network and we walk away with a big smile on our faces and saying we are better greenkeepers. And to have all the thousands of spectators on site putting Hoylake on their bucket list.

What does the plan for the week itself look like?

I started putting this together months ago. I have my volunteer team and I know where they’re all coming from. We have all their accommodation sorted and we have sponsorship for their jumpers, T-shirts and waterproofs. We know where they will be parking and we even know who will be staying in which rooms together. We’ve got everyone’s strengths and what they will be doing. I’ve just put together a welcome pack and they will have a hard copy which details absolutely everything.

Do you hand-pick the team outside of the one at Hoylake?

I have hand-picked the best team that I can but I also wanted guys in the

early stages of their careers so we had this competition where people answered five questions and I picked the best answers. So we have a guys from Prestwick, King’s Lynn and Abbey Hill and the latter two couldn’t be further away from The Open.

What an opportunity for these guys. Their bosses have had them out there practising. I’m so excited for these three youngsters who are going to be hand-cutting greens and raking bunkers, working with the likes of Lee Strutt from Cabot Cape Breton. They’re going to be working with the likes of John McLoughlin from Wallasey and Matt Plested from Stoneham, so some of the best greenkeepers in the country and they will be sharing all their knowledge. I have a vision that Sam from Abbey Hill will be phoning up Lee in Canada and picking his brains. That is what is so beautiful about greenkeeping, everyone is always willing to help each other out and we are giving everyone that opportunity.

What did you do at the 2022 Open in terms of learning what happens at an Open week?

I ‘work shadowed’ Sandy Reid for

two days last year and we watched everyone do what they’re doing and I was called into what I labelled the Cobra meetings every night with the R&A and the weather people.

I’m not going to treat it any differently from an Amateur Championship because they were good practice runs.

A lot of the basics are still the same; we do the planning, keep level heads, give everyone their jobs and look after each other.

How many greenkeepers will you have working on site?

We’re going to have 47 which compares to, say, a team of 18 at Final Qualifying. That is quite a lot, although by American standards it is about half what they would have had at the US Open.

When I was at the Ryder Cup they had about 100 people hand-cutting approaches. But it is enough, when I built the volunteer team I looked at how many we wanted, how fast we wanted to get it done, what level we were hand-cutting or triple-cutting and everyone agreed that this was a good number. **GI**



Does BIGGA's latest Master Greenkeeper work at the golf course of the future?



BIGGA's Karl Hansell listens to Janne Lehto explain how Hirsala Golf in Finland is embracing the opportunities presented by modern technology at a course that is covered in snow for four months of the year



The Nordic countries conjure up thoughts of clean energy, new technology and cold weather – so why should their golf courses be any different?

Master Greenkeeper Janne Lehto's grandfather and parents are both members at Hirsala and so when he opted to pursue a career in greenkeeping, that was naturally where he began. A desire to create a lasting impact took him around the world, but all the knowledge he sought was gained for the purpose of improving his home course.

Lehto attended university in Germany before joining David Cole MG's team at Loch Lomond. A season at Woodlands in Melbourne, Australia, followed before he returned to Hirsala in 2016, taking on the course manager role in 2017.

Beyond work, Lehto is in his sixth year as chairperson of the Finnish Greenkeepers Association. There are 300 members and the annual conference attracts up to 120 people. Golf in Finland is a growing sport and although Helsinki, the oldest course, dates to 1932, many of the courses were built in the 1980s. There are now 140 clubs in Finland with the majority located in the south. Further north, the lack of daylight restricts the playing season to just four months, although during summer it isn't uncommon for rounds to tee off at midnight.

Permanent snow cover begins early December and can last until April. With Finland a member of the European Union, there are growing concerns about the availability of products that protect the course during winter.

"In Finland we have two seasons: winter and preparing for winter," said Janne. "And there's a bit of golf in between."

Monitoring turf health becomes a priority when the course is undercover and the sward composition has a huge impact on how it copes under such extreme conditions.

"We have creeping bentgrass greens and that can last up to three months under ice," explained Janne. "But if you have Poa greens, which most of the clubs in southern Finland have, they only last for two weeks before the Poa dies."

With that in mind, a key management strategy is to keep the turf as pure creeping bent as they can as it gives the club a headstart over others that must wait until the seed bank reactivates in spring.

"Other courses need to react much quicker to prevent the spread of disease and accumulation of ice," said Janne. "At your older clubs, which normally have a seed bank of Poa, they might just leave it and not do anything over the winter. Then if it dies, it dies. They are always going to activate the seed bank in the spring and then by mid-June you will have good greens. But newer courses that have mixed Poa greens will need to keep them ice free all winter."

The process of keeping greens free from ice coverage relies upon being able to remove the snow layer and then applying pigments, sand or fertilisers to melt it down. If that's not possible, mechanical removal can be attempted by crushing the ice and pushing it away.

A tool that helps keep turf healthy while under ice is Medallion, the contact fungicide from Syngenta. Under the cooler temperatures the product can remain active in the plant for much of the winter. The potential withdrawal of this and other products will threaten the health of courses and so Janne is working alongside the Finnish Golf Union to lobby members of parliament and the European Golf Association.



Becoming a Master Greenkeeper

Janne's ambition to achieve Master Greenkeeper status was delayed by the pandemic preventing a course inspection – which must be completed by two existing Master Greenkeepers – taking place.

That meant when he finally completed the final stage of the certification earlier this year, it wasn't a moment too soon.

"I was pretty thrilled," said Lehto of the moment he received a phone call from Deb Burnett telling him he had become BIGGA's 89th Master Greenkeeper. "It was a great feeling to get the process done because I started over two years ago. I started greenkeeping in 2011 and I'm always looking to develop myself and progress in my career, so this was the natural next step."





“When we started the programme, I didn’t want to give up any of the greenkeeping staff we have”

“It’s really going to hurt us badly if the fungicides are gone,” said Janne. “We only apply them to 1.5% of the whole surface area of the golf course, so in general we’re talking about a tiny piece of land. I know the EU Pesticide Regulation is focused on human health, but we’re mainly doing these applications when the course is closed. We are hoping to gain special permission for winter applications on the greens. Then in the summer, we just need to cope.”

While much of the talk is on products that are being lost, innovations in other areas have the potential to support the activities of the greenkeepers. The team uses a John Deere fleet that is powered not by diesel but by fuel produced from waste products. As the cost of fossil fuels increases, this has the potential to be a viable alternative.

The club is also working with the Scandinavian Turf Research Foundation (STERF) to explore the use of autonomous machinery on the course. The fairways and 80 per cent of the rough at Hirsala are now maintained by 34 Husqvarna Automower robotic mowers. The electric machines are fuelled by solar power drawn from panels on the clubhouse and the maintenance facility roof and they can operate 24 hours a day, meaning mowing can take place at night, when there are no golfers to disturb.

“We’re seeing direct test results and the cutting quality is on par with the traditional mower on the fairways and it’s actually better on the roughs because it’s cutting regularly, whereas otherwise it would only be twice a week with a traditional mower.

“When we started the programme five years ago, it was in my mind that I didn’t want to give up any of the greenkeeping staff we have. We all know there is plenty of stuff we can do, we’re just allocating the hours differently. Not mowing fairways and rough is freeing up a lot of time to do hand work like hand cutting greens and tees, hand watering and data collection.”

Being lightweight compared to a traditional mower operator means the robots are reducing compaction and the soils are performing better. They’re also able to safely navigate undulations and areas that could prove unreachable by a human-operated machine.

“One of the things we lose is we aren’t doing any patterns, striping or half and half or whatever. But we did some trials, asking players which holes were cut with robots and which were with traditional mowers doing a 50/50 shade and the players didn’t know which was which. So it could be that it’s mainly for greenkeepers that we’re doing the patterns, not golfers.”

With ongoing difficulties regarding recruitment, the opportunity to use clean energy and the changing costs of purchasing robotic machinery compared to traditional mowers, operations at Hirsala could be providing an insight into British course maintenance in the near future. **GI**



Best practice at Hirsala

The golf course at Hirsala is a mixture of woodland and farmland, with pine trees, heather and exposed rock faces. Janne and the team are keen to enhance the ecology credentials of the site and have achieved GEO Certification. A further three hectares of the site have been designated as an environmentally protected area and wildlife that can be found in the area includes deer, lynx, moose and wolves.

At over 1.5 tonnes and six feet tall, it is the moose that most make their presence known around the course.

"Obviously they are heavy, massive animals, so they can do some damage on the greens if they go there," said Janne. "One year, one fell on his side on the green and left a small hollow that we had to fix! But they're really relaxed and when the golfing season starts, they move on to other sites."

Like other places, Finland's younger generation has a heightened awareness of the environment. Janne is no different and the team has worked with WWF Finland to produce a book that provides advice on wetland management.

The club has previously donated €5 of every green fee for the WWF Baltic Sea conservation project and in 2019 worked with WWF Finland and K-Kalapolut to restore a natural brook to better serve trout rising to spawn.

"I think it's key to get people from those kinds of organisations involved in a discussion about how good golf can be because if they're not involved, they expect it to be quite bad. Once they get involved, they get excited that we are doing really good things. Then once they start thinking that way, they spread the word out to the public."

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Careers



Jobs, expert advice and peer-to-peer support

- **My new job: Wendy O'Brien**
- **All the latest greenkeeper vacancies**

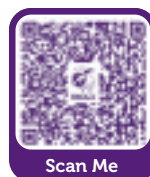
Featured CPD opportunity: The BIGGA L&D Roadshow, Birchwood

Birchwood GC | 1000-1530, July 6

This roadshow is an opportunity for BIGGA members to meet a range of industry experts and ask questions about the future of turf maintenance in a local setting.

Participants will include - Agrovista, Indigrow, Aitkens, Campey Turfcare and Redexim.

The session is supported by BIGGA's network of Regional Patrons which standardise learning opportunities and give all members the same access to networking and educational events. Scan the QR code to book your place.





Wendy O'Brien

Wendy O'Brien took her first steps in agronomy at Aldersey Green, in Cheshire, in the mid-1990s while she studied for a BTEC in Rural Land Use Management. She then worked as a gardener before joining Carden Park as assistant greenkeeper in 1998.

In 2001, she attended the Ohio State programme, working at Kingsmill Resort and then spent a year at Augusta National. Since then, she has returned every year to support the team at the Masters.

"I returned to Carden Park, completed my NVQ 3 and worked my way up to deputy," said O'Brien. "In 2007, I moved to Spain as superintendent of La Torre and in 2010 returned to the UK as a work-based tutor for Myerscough College.

"But after six years I missed course management, so I returned to Carden Park as first assistant.

"In 2017, I went out as the super to complete the grow-in at Jurmala Golf Club, Riga, Latvia. I joined the Beaverbrook team as course manager in 2022," she said.

being well supported in my position. Nowhere is perfect and you will always face challenges. I have always committed myself to the team, course, and company. I believe that if you are only thinking of where you will be next, then it's hard to settle.

What skills have you found vital to your job?

Organisation. I break things down step-by-step. I'm a list maker! Planning helps to clear the mind and set things out, from budgets and cashflow to training, record-keeping and agronomy plans. Planning in the winter helps you during the busy summer months.

What's the best thing about your new job?

Everyone has been incredibly supportive and positive about my appointment. The team have been great – they're open to changes and trying new things, so we are developing and moving forward. I'm looking forward to visiting my neighbouring golf courses.

“Our industry is small so build your reputation, keep network contacts, decide where you want to be and go for it”

Tell us about your new role

It involves agronomy, budget planning and management, team development, co-ordinating and communicating with our directors, other departments and all areas on the estate.

What do you hope to achieve in the role?

To develop the team and involve them in the running of the course, preparing them for future roles either with the club or elsewhere in the industry. I want to implement sustainable management, while continuing to prepare, present, and develop the course.

How does it fit into your career path?

I am not thinking past Beaverbrook. It's a great club and I am

What do you wish you'd known at the start of your career?

I had a fixed line of thought on where I wanted to be and positions I wanted, but as time went on I opened my eyes to all the varied opportunities we have in this industry. By doing so, I have been fortunate to work at some great courses around the world with great people.

What has been your best career break?

I can't really pick just the one. It could be my parents asking our local club if I could do work experience. Or Andy Campbell and Justin Cheung offering me a position at Carden Park. Or the Ohio State Internship programme. Or Sylvain Duval hiring me in my first supers role and then giving me the opportunity in Latvia. **GI**

The course manager at Beaverbrook, in Surrey, has remarkably worked at 20 Masters tournaments during a career that has also included two spells at Cheshire's Carden Park



Wendy at Augusta



Busy at the Ryder Cup

Wendy on applying for a new job

Briefly describe the recruitment process for your role at Beaverbrook.

I was contacted and asked if I would like to apply for the position. I was visiting the UK and was able to interview in person. I returned for a course visit and second interview, after which I submitted a review of the course's current condition and my plan for the future.

What do you think set you apart from other candidates?

I think it was my previous experiences in creeping bentgrass, irrigation systems, creating agronomy programmes, budgeting, planning, communication and working with other departments. My experiences at high-profile courses and tournaments also helped, where playing surfaces are presented to an extremely high level. It felt as if a lot of my career came together for this role.

What advice would you give to fellow members applying for a new job?

Keep your CV up to date and make sure to adapt it to the role you are applying for. Get advice on your CV and read it aloud – your eyes can lie but your ears won't. A portfolio of achievements can be extended by social media, so, if you are able to then do it. Showcasing your work, your team, and your course can have more of an impact than a written document. Our industry is small so build your reputation, keep network contacts, decide where you want to be and go for it.

"A person should always be doing something. If you're a student, get an internship. An intern, aim to be an assistant. Then, as an assistant, become a superintendent"

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Chris Tritabaugh, superintendent at Hazeltine, tells Phil Helmn about the responsibility of being in charge of the course for a Ryder Cup and how he gained the experience and skills to be ready for the role

Minnesotan native Chris Tritabaugh had the honour and great responsibility of preparing a course for the Ryder Cup back in 2016 when Hazeltine was the host venue. The conditioning was widely acknowledged as impeccable and the week is remembered for the yards of putts that were holed – which is a testament to the quality of the greens. In what was the 41st Ryder Cup, Tritabaugh also had the satisfaction of seeing the American team lift the trophy – they led all week and eventually ran out as 17-11 winners.

Tritabaugh's career has never actually taken him beyond the boundaries of his home state – yet before he turned 40 he had enjoyed the honour of a lifetime in seeing a Ryder Cup held over the course he was responsible for.

What got you into greenkeeping?

All through middle and high school I was the student manager for the American football team. I eventually did this for two years at the University of Minnesota. My first paying job was picking the range at my local golf course, St. Cloud in my hometown of Albany. From there, I became the clubhouse gopher, which turned into a job on the course before moving to The Town & Country Club in St Paul as an assistant. In 2007, I moved to take up the post of superintendent at Northland, again in Minnesota. In 2013 I successfully achieved the role of superintendent at the world-famous Hazeltine National in Minnesota and still enjoy my job to this day.

What advice do you have for someone new to the industry?

Be curious and ambitious. One should always want to know why something is the way it is. A person

Chris's CV

- Golf Course Superintendent, Hazeltine National Golf Club
- Golf Course Superintendent, Northland Country Club
- Assistant Golf Course Superintendent, Town & Country Club
- Assistant Golf Course Superintendent, St. Cloud Country Club

should always be striving for something. If you're a student, strive for an internship. An intern, aim to be a great assistant, then as an assistant aim to become a superintendent. That's a basic outline, and not everyone may want to become a superintendent, but at the same time, one should never stop striving for something beyond their current situation.

What is your guiding ethos for greenkeeping?

Be a lifelong learner. Always strive to learn things we don't know and even more, learn about those we already do know but need to expand. At Hazeltine, we hosted the Ryder Cup in 2016, by any measure the realisation of a career goal, but I was only 39 years old. What fun would it be if I were to just stop learning because I achieved such a goal?

What did you study?

A BSc in Environmental Horticulture from the University of Minnesota. Many of the professors I had were world-renowned experts. It was a wonderful place to study, and I wish I'd realised it more at the time.

What skills did you develop early in your career?

I learned organisation skills very quickly. If you looked at my office, you might not think so, but I have a highly organised mind and can put together complex scenarios in my head well before they need to be executed. I'd say visualising a result and then putting the pieces in place to make it happen.

What skills have you found vital to your job?

The number one skill that can take anyone to the top is observation. What do you see and why is it happening? A famous turfgrass professor always used this one question on his final exams: You pull up to the 1st green – what do you see? There are lots of skills vital to my job, but observation is one I believe has potentially served me better than any other.

What mistakes did you make early in your career?

Lots, and I continue to make some every year, but learning from them is the key. Everyone makes mistakes, the difference is whether a person learns from them.

What would you do differently if you could go back in time?

I've spent my entire career in Minnesota. Does it hurt me? Probably not, but there is part of me that wishes I had explored other regions.

What should fellow turf professionals do to enhance their career prospects?

I would recommend three things: 1. Be ambitious; 2. Ask great questions; and 3. Meet great people. **GI**



The Ryder Cup trophy at Hazeltine

“ At Hazeltine, we hosted the Ryder Cup in 2016, by any measure the realisation of a career goal, but I was only 39 years old. What fun would it be if I were to just stop learning because I achieved such a goal?



Master Greenkeeper Phil Helmn's key takeaways

- It's proven that the benefit of lifelong learning increases our confidence and self-esteem, helps us become less risk averse and contributes to enjoying a more satisfying life.
- All great managers are great planners! This is a skill that can reduce stress, increase productivity and help you achieve more of your goals.
- You can learn so much from mistakes. It teaches us resilience. We all face life difficulties, and how we deal with these challenges defines us as people.



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For more information or to book please contact us on
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Greenkeeper Training

The Greenkeepers Training Committee maintains a list of GTC Approved Training Providers (ATPs). These colleges and training centres offer Government-approved greenkeeping courses and qualifications that have been developed by the GTC and other relevant organisations.

To achieve ATP status, a training provider must fulfil a strict criteria, which is available to view on the GTC website.

If you are in doubt about which training provider, course or qualification is correct for you, please contact the GTC to discuss your options.



Askham Bryan College



Askham Bryan, York, YO23 3FR

Contact: Apprenticeship Department

t: 01904 772277 e: apprenticeships@askham-bryan.ac.uk

w: www.askham-bryan.ac.uk

Askham Bryan College is a specialist land-based college and university centre offering a large range of courses from foundation to degree level and beyond, which will set you up for a career doing what you feel passionate about. In addition to Level 2 Golf Greenkeeper, Level 3 Advanced Sports Turf Technician, Level 3 Advanced Golf Greenkeeper and Level 5 Golf Course Manager Apprenticeship Standards, we can offer specialist short-course training and bespoke CPD events based on your business need. Askham Bryan college is a great place to study and is graded as 'good' for teaching and 'outstanding' by Ofsted for its care provision and accommodation. The college prides itself on making all students feel welcome and providing a great learning experience.



Hadlow College



Hadlow, Tonbridge, Kent, TN11 0AL

Contact: Anthony Stockwell

t: 01732 850551 e: AnthonyStockwell@northkent.ac.uk

w: www.hadlow.ac.uk

Hadlow College is delighted to be offering the new level 5 Golf Course Manager Apprenticeship standard. This eagerly-anticipated qualification will expand your management knowledge, expertise and maximise your career potential. If you would like to find out more about this new and exciting qualification, Hadlow would love to hear from you. Hadlow college also successfully runs the new apprenticeship standards for Level 2 and Level 3. For a full list of courses please visit www.hadlow.ac.uk.

For further information and advice please contact AnthonyStockwell@northkent.ac.uk, WayneSyres@northkent.ac.uk or stuartfranks@northkent.ac.uk



Myerscough College and University Centre



St Michaels Road, Bilsborrow, Preston, Lancashire, PR3 0RY

Contact: Course Enquiries Team

t: 0800 652 5592 e: enquiries@myerscough.ac.uk

w: www.myerscough.ac.uk

Myerscough College and University Centre is the pioneering centre for sports turf and golf course management education in Europe. Courses are available at all levels, from introductory practical skills training to the postgraduate Masters Degree in Sustainable Golf Course Management.

There are options for full time or part time online study.

The foundation degree, honours degree and MA programmes are available online and have students enrolled from across the globe. Work based apprenticeships delivery is across England and includes Golf Greenkeeper Level 2, Advanced Golf Greenkeeper Level 3 and the new Golf Course Manager Level 5 Apprenticeship standard with flexible start dates across the year.

Plumpton College



Ditchling Road, Plumpton, East Sussex, BN7 3AE

Contact: Plumpton Business Services

t: 01273 892127 e: business@plumpton.ac.uk

w: www.plumpton.ac.uk

Plumpton College is a leading land-based further and higher education provider of apprenticeships and specialist training and assessments, supporting golf clubs and greenkeeping professionals across the South of England. The college delivers Golf Greenkeeping Level 2 and Advanced Golf Greenkeeping Level 3 alongside a suite of LANTRA and NPOTC-approved industry courses and assessments delivered either at the main college near Brighton or onsite with the employer. Training is delivered by expert tutors and assessors with extensive experience of working in a commercial industry setting with excellent results in ensuring a successful outcome for apprentices and learners. Plumpton prides itself in its partnership with employers to design and develop the most appropriate learning programme to meet their business needs.



Sparsholt College



Westley Lane, Sparsholt, SO21 2NF

Contact: Danielle Fancourt

t: 01962 797322 e: Danielle.Fancourt@sparsholt.ac.uk

w: www.sparsholt.ac.uk

Our stunning 450-acre campus boasts all the facilities students need. The college cares about the environment and is well on its journey towards carbon neutrality.

We have a team of industry experts to deliver and assess the Level 2 Golf Greenkeeping and Level 3 Advanced Sports Turf Technician Standards as well as the Level 2 Horticulture, Landscape Operative and Level 3 Landscape & Horticulture Supervisor standards.

Our assessing and teaching team has experience that enables them to support with the End Point Assessment. In addition to this the college offers short courses in horticulture, landscaping and arboriculture, such as pesticide application, safe use of brush cutters and strimmers, first aid and more.



As a member of the Greenkeepers Training Committee, BIGGA strives to enhance professional education through various means, including local and national workshops and conferences. We also work closely with training providers that enable greenkeepers to achieve the qualifications required to progress their careers. Across these pages are detailed a selection of educational organisations who offer training opportunities for golf greenkeepers. Get in touch if you'd like find out more.

Berkshire College of Agriculture (BCA)



Hall Place, Burchetts Green, SL6 6QR

Contact: Rob Phillips

t: 01628 824444 e: Robert.Phillips@windsor-forest.ac.uk

w: www.bca.ac

BCA offers a range of apprenticeships and work-based diplomas in golf greenkeeping, sports turf management, landscaping, arboriculture and horticulture. Taught by industry experienced assessors, delivery is either class based or online. BCA also offers short courses including PA1, PA2 and PA6 chainsaw courses, brush cutters, tractor driving, first aid and more. Based on the edge of Maidenhead in a stunning 400-acre campus, BCA has been delivering land-based and vocational education training since its establishment in 1949.



Get in touch by emailing landbasedtraining@bca.ac.uk or visit www.bca.ac.uk

Capel Manor College



Bullsmoor Lane, Waltham Cross, Enfield, EN1 4RQ

Contact: Derek Mason

t: 07774 113894 e: derek.mason@capel.ac.uk

w: www.capel.ac.uk

Capel Manor College is delighted to announce that it is offering all three of the greenkeeping apprenticeships including Level 2, Advanced Level 3 and the recently-approved Level 5 Course Manager Apprenticeship. Heading up the delivery of the courses, Capel has successfully recruited the services a very experienced and qualified former golf course manager in Derek Mason. If you're thinking about a career in greenkeeping or wishing to train further and obtain higher qualifications, then Capel is here to help you achieve your aims. For further details of any of the courses on offer, including related short courses such as the use of chainsaws, pesticide application and first aid, please see the website, www.capel.ac.uk. For further information or advice please contact derek.mason@capel.ac.uk or employerservices@capel.ac.uk



Oldham College



Rochdale Road, Oldham, OL9 6AA

Contact: Phil Lomas

t: 07912 485436 e: Phil.Lomas@oldham.ac.uk

w: www.oldham.ac.uk

Oldham College is the first choice college for work-based greenkeeping apprenticeships in Greater Manchester and the surrounding areas developing strong links with employers across the region. The college offers the Golf Greenkeeping Apprenticeship Level 2 Standard and the new Advanced Golf Greenkeeper Level 3 Apprenticeship Standard. Short course provision, such as a pesticide application course is included in the portfolio to meet the needs of your business. Teaching and assessment professionals have vast experience in the greenkeeping sector keeping up-to-date with current practices and technologies to ensure high quality provision is delivered. The team also has first-hand experience of the End Point Assessment process so can guarantee your apprentice will have the best possible experience.



Pershore College



Avonbank, Pershore, Worcestershire, WR10 3JP

Contact: John Colclough

t: 0330 135 6940 e: employerenquiries@wgc.ac.uk

w: www.wgc.ac.uk/apprenticeships

A national centre for horticulture situated on a 60-hectare site near Evesham. Pershore College (part of WCG) offers the very best in land-based learning. Land-based apprenticeship standards available at Pershore College include:

Arborist (Level 2); Crop Technician (Container Based Level 3); Golf Greenkeeping (Level 2); Horticulture Supervisor (Level 3); Horticulture Operative (Level 2); Landscape Operative (Level 2); Land-based Service Engineering (Level 2 Engineer, Level 3 Technician); Sports Turf Operative (Level 2)

Pershore College also offers short courses in landscaping and horticulture as well as pesticides training: PA1, PA6 and more.



SRUC Elmwood



Carslogie Road, Cupar, Fife, KY15 5YT

Contact: Anja Boehme

t: 01334 658800 e: anja.boehme@sruc.ac.uk

w: www.sruc.ac.uk

SRUC Elmwood is based in Fife just 10 miles from St Andrews. The college offers a range of work-based block release and online options in Sportsturf studies and golf course management.

For those seeking an entry level qualification we offer Modern Apprenticeships at VQ Level 2. For those looking to develop their managerial careers the college offers SVQ Level 3 in Sportsturf as well as an online Higher National Certificate/Diploma in Golf Course Management.

The SRUC curriculum has a global perspective which is accessible, and market focussed. We aim to be responsive to the diverse range of challenges across the golf sector and arising in the emerging natural economy.



Suffolk New College



Rope Walk, Ipswich IP4 1LT

Contact: Apprenticeships

t: 01473 382600 e: apprenticeships@suffolk.ac.uk

w: www.suffolk.ac.uk

Our Suffolk Rural campus, at Otley, is located in the heart of the countryside and benefits from a range of general college buildings alongside extensive specialist vocational workshops and outdoor facilities. We offer a range of 40+ established apprenticeship standards across the region of East Anglia, linked to this campus and our campus in Ipswich. Delivery is classroom or workplace based and supported by our specialist team. Our most recent addition is Advanced Sports Turf Technician and our industry experts also deliver Countryside worker, Sports Turf Operative, Golf Greenkeeping and Horticulture or Construction Landscape Operative routes. In addition, we offer a range of commercial short courses including chainsaw, pesticides, novice tractor, telehandler and first aid.





Head Greenkeeper

Royal Worlington & Newmarket Golf Club, Suffolk

An exciting opportunity has arisen for a Head Greenkeeper to lead the team. Essential: Possess very good technical greenkeeping and agronomy skills; Competent in the use of a wide variety of machinery, machine maintenance and procurement; Deliver high standards and install this culture within the team; Competent operating a computerised irrigation system; Budget management; Programme Management; Level 3 and 4 qualifications in turf management or equivalent; PA1, PA2, and PA6 spray qualifications; First aid at work certificate; Chainsaw certificates (desirable)

Salary between £38,000 - £55,000. Deadline: July 3, 2023.

To apply, email Mark Allcorn: secretary@royalworlington.co.uk. Or post: Royal Worlington & Newmarket GC, Worlington, Suffolk, IP28 8SD.



Assistant Greenkeeper

Sunningdale Golf Club, Berkshire

Sunningdale Golf Club are recruiting for an Assistant Greenkeeper. The successful candidate will be working as part of a world-class team benefiting from ongoing training and support. You will contribute to the maintenance and development of the golf course, its practice facilities and the surrounding estate and be part of our Tournament teams. Sunningdale is widely regarded as having two of the best and most beautiful courses in the British Isles, both ranked in the world top 100. The club has a proud history of hosting tournament golf, having recently held the Seniors Open 2021, with several major events scheduled including the Curtis Cup in 2024.

Email: jobs@sunningdalegolfclub.co.uk or visit sunningdalegolfclub.co.uk/careers



Greenkeepers

The Royal St George's Golf Club, Kent

Two exciting opportunities have arisen at The Royal St George's Golf Club. The relevant persons would join our team at one of the world's finest golfing venues. The first role will need someone responsible for the management of an extensive irrigation installation and the clubs water resources. The other role will be ideal for the career-minded greenkeeper looking to develop the skills and knowledge required to produce a links course of the highest standard of presentation and performance.

To apply, please email a CV and covering letter for the relevant position to Graham Royden, Deputy Head Greenkeeper at: deputyhg@royalstgeorges.com



Assistant Greenkeeper

West Byfleet Golf Club, Surrey

Salary from £31,300 dependent on qualifications & experience. An exciting opportunity has arisen to join the team at West Byfleet Golf Club. The Club has invested heavily on the course in recent years and has just completed a five-phased Course Review program. The ideal candidate will have the following: Minimum NVQ Level 2 or equivalent; Minimum 3 years greenkeeping experience; Will play and have an interest in the game of golf.

The salary is based on a 40-hour working week, with weekend work on a rota basis and paid overtime for Sundays.

Interested applicants should send a CV and covering letter addressed to Stewart McMillan, Head Greenkeeper, to greenkeepers@wbgc.co.uk



Syngenta Turf & Landscape R&D Trialist

UK

Syngenta Turf & Landscape is seeking a dedicated field trialist to test and research the company's expanding portfolio for exciting new products, including innovative chemical controls and pioneering biologicals and biostimulants, as well as the digital tools to optimise their use and maximise performance of Integrated Turf Management strategies.

The successful candidate will have a pivotal role within the inspiring and highly respected Syngenta Turf & Landscape team across the Europe, Africa and Middle East region. The work will be based in the UK, supporting the Syngenta technical team and working with leading independent researchers, along with greenkeepers, turf managers and the landscape industry.

If you want to be involved with instigating and developing practical and sustainable solutions to the complex challenges facing today's turf, landscape and tree care specialists – based on solid science and renowned R&D – this will be the role for you to make a real difference.

Ideally, we're looking for someone with knowledge or experience of turf management practices and working in the turf or landscape industries.

It's an incredible opportunity to be part of the fast-moving developments in sustainable turf and landscape management, and to create the technologies that will make it happen.

For more on the role and to apply, scan the QR code.



For further information or to arrange to discuss the role, contact david.piggott@syngenta.com

Syngenta Professional Solutions, CPC 4 Capital Park, Fulbourn, Cambridge. CB21 5XE
Tel: 01223 883400 Email: golf.syngenta@syngenta.com

Practical Greenkeeping



Refine your skillset and expand your knowledge

- Integrated leatherjacket control – Syngenta's Sean Loakes
- Dr Ben McGraw on managing earthworms without chemicals

“The way to approach non-chemical control is having a great familiarity with the biology, understanding the weaknesses that these organisms have and why they're causing issues”
– Dr Ben McGraw

Integrated leatherjacket control mapped out

Adopting and tailoring strategies on specific areas can make a difference



Working in partnership with

syngenta®

Leatherjacket populations can have a catastrophic effect on turf surface playability and economic viability of golf courses

Find further insights at
www.syngentaturf.co.uk

Leatherjacket larvae pose one of the most severe challenges to turf quality on affected courses. Not only does the feeding action restrict roots and disrupt surface smoothness, but the foraging of predators for larvae can cause catastrophic damage.

The full approval for the insecticide Acelepryn announced earlier this year, after successive seasons of Emergency Authorisation, has brought some security and advantages for the product's use. However, there are also limitations on the area that can be treated annually.

Increasingly greenkeepers and agronomists need to be looking at Integrated Turf Management (ITM) strategies across the course that can focus the insecticide use on surfaces where it will have the greatest gain, along with a full package of beneficial nematodes, cultural controls and agronomy practices that will best mitigate pest damage on all areas.

An integrated strategy of Acelepryn followed by NemaTrident beneficial nematodes provides two modes of action on leatherjacket pests. Trials have shown it enhances the overall consistency and reliability of turf soil pest control.

Focus on surfaces that stand to gain most from leatherjacket control

One of the key first steps would be to identify areas of the course that are at highest risk, along with areas of greatest importance for playability that cannot be compromised. Then pinpoint where leatherjackets have historically had damaging effects and the extent of the damage they

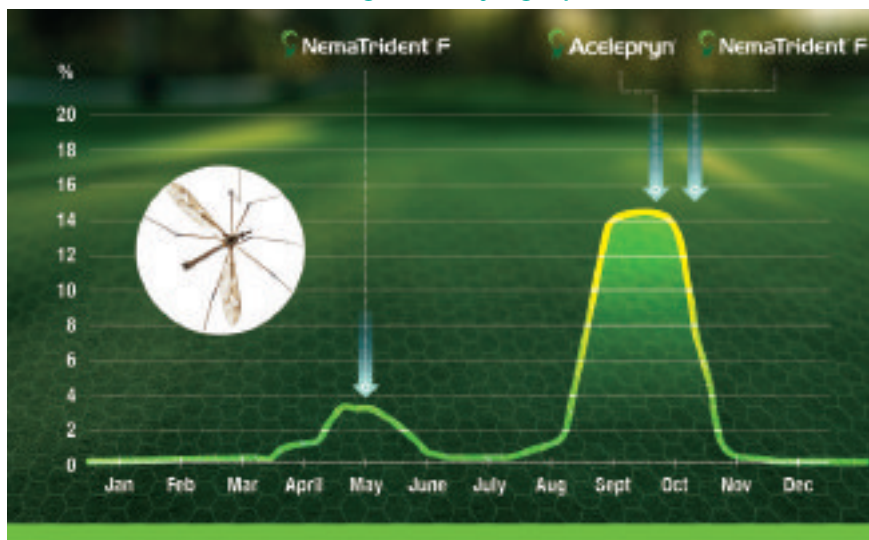
caused. That will immediately help to focus which surfaces are critical for action, and which other areas stand to gain the greatest protection from Acelepryn application within the 10% limitation.

Mapping affected areas will build up a picture of damage over several years. That can include highly accurate GPS location, but even marking areas on a course map, or using Google maps, will give a good guide. The advantage of digital mapping is that it allows the m2 of any areas to be precisely calculated, helping to work out where Acelepryn can be used to its maximum level.

Furthermore, areas can be colour coded, e.g. red, orange, yellow or green, for the severity of leatherjacket damage – which can focus treatment and enable any changes to be identified year on year, to adapt ITM strategies accordingly.

Across all affected areas of the

Seasonal target crane fly flight patterns



Studies of key crane fly species' peak flight indicate optimum timing for control strategies

of a well-timed Acelepryn application, followed by NemaTrident within a week, is more effective than either of the two products used individually.

Leatherjacket ITM research in 2022 – in a relatively high-pressure situation with 100 larvae per m² in the untreated – showed a 65% reduction in larvae population with the NemaTrident F, along with 89% control from Acelepryn alone; where the two components were used in sequence the trial resulted in complete larvae control.

The Syngenta cost-effective recommendation for this integrated approach is for one application of Acelepryn at 0.6 l/ha, followed by NemaTrident F at a rate of 2.5 billion nematodes per hectare. However, where NemaTrident is being used alone, without Acelepryn, two applications should be made 14 days apart, to total five billion nematodes per hectare.

Nematode research has highlighted the requirement for soils to remain moist through the control period. Soil moisture is necessary for nematodes to survive and to move through the surface film to seek out leatherjackets, along with creating conditions where leatherjacket larvae will move and come into contact with more nematodes.

That can be specifically aided with the use of NemaSpreader, which should always be applied with NemaTrident and has been shown to enhance results by up to 30%, compared to the nematodes alone. Furthermore, wetting agent strategies and irrigation can help to create the optimum conditions for nematodes to perform.

No two courses will require precisely the same approach, but adopting and tailoring integrated strategies for leatherjacket control on specific areas can ensure the optimum use of Acelepryn and NemaTrident on the most appropriate surfaces, along with the most effective overall results across all the course. **GI**

course. and alongside any treatment strategies, agronomy measures that encourage stronger root growth and improved plant health will help to limit the effects of direct feeding damage by leatherjackets.

Well proven techniques include a Primo Maxx II programme that has been shown to promote better rooting and root retention over the summer, along with an effective Qualibra wetting agent programme to encourage deeper rooting. All underpinned by ensuring adequate nutrition to promote roots and help plants compensate for leatherjacket activity.

At the same time, cultural techniques including sheeting and mowing height, along with aeration timing and techniques, are being researched as a means to minimise the effects of leatherjacket damage – which could see practices adjusted and tailored according to the severity of pest pressure on specific areas of the course.

However, cultural ITM measures will only reduce the impacts of leatherjacket activity by a certain amount. That might be acceptable for some areas of the course, but not sufficient on greens or approaches, for example, or on more severely affected areas. Furthermore, cultural controls do not, by themselves, reduce the larvae pest population – which still leaves the turf particularly susceptible to damage from foraging predators, including badgers and corvids.

Acelepryn is the single most effective option to reduce larvae numbers. However, with the extended duration of leatherjacket life cycle on some sites creating mixed sizes of larvae to be tackled, along with the limitation to only one application per year, research has shown the consistency and overall reliability of results can be enhanced when its use is integrated with NemaTrident beneficial nematode applications.

Research studies in the US have shown that where pest larvae are weakened by an Acelepryn application, they are then more susceptible to attack and being overwhelmed by applied beneficial entomopathogenic nematodes.

That is particularly important for larger later instar larvae, which may be able to recover from the effects of an Acelepryn application or withstand a background soil population of nematodes, but not the combined effects of both the insecticide and the NemaTrident together.

Trials have consistently shown that together, the sum of the combination

Read this for:

- Optimising available Acelepryn use
- Achieving consistent and reliable results
- Integrated control strategies



Author: Sean Loakes, Syngenta Turf Technical Manager UK & Ireland

Managing problematic earthworms without chemicals

Dr Ben McGraw discusses the research currently being conducted at Pennsylvania State University to find solutions to discouraging earthworm casting in fine turf through cultural practices



Earthworms aerate the soil, decompose organic matter and thatch layers and increase the availability of nutrients for plant uptake through deposition of nutrient-rich faecal matter within the soil profile. However, their casts can be the bane of many turf managers' existence.

As one of the most poorly understood group of soil macrofauna, with no natural or synthetic compounds registered for their control, only cultural practices remain to decrease their casts, making the management of earthworms a very real challenge for greenkeepers.

Why earthworms are considered a problem

Earthworms cause trouble for greenkeepers for a variety of reasons. As well as stripping nutrients from the soil and impacting the soil structure, their casts clog mower reels, requiring constant cleaning and causing damage to reels and bedknives.

Golfers also dislike the visual impact of earthworm casts, as well as the practical impact of not being able to play from a tight lie.

However, I believe the most important issue is when we have casting and material deposited on the surface, it creates soil patches that block out sunlight from the underlying turf and after we wipe it away we can see pockmarks. Earthworms are then going to come to the surface and pull that foliage down into their burrow with them.

Our work at Penn State

We do a great deal of testing on different biological control projects in our laboratory and we also look at a lot of chemical insecticides.

In the USA, like in the UK, we do not have any legal means of controlling earthworms, as there isn't an available pesticide that we can put down on a golf course to control them.

Historically, there were some incredibly effective products for controlling earthworms – some treatments might have offered five years' control, but, since the creation of the Environmental Protection Agency in 1972, those treatments are off-limits for direct treatment.

The way to approach non-chemical control is having a great familiarity with the biology, understanding the

weaknesses that these organisms have, when they're going to be problematic at certain times and why they're causing issues.

Problematic earthworm species

The first thing to say is that we must understand that not all earthworms behave, or look, the same, yet we still tend to lump them all into one stereotype about how they are going to behave.

They are particularly nuanced and I would argue they are the most misunderstood large macro fauna that we have in the soil.

Any child could pull one out of the ground and tell you that it is an earthworm, but there are very few people who study them closely.

Earthworms are not a native species and typically when we discuss invasive species we are looking to remove them from the environment, but they actually provide some great benefits for agriculture.

The greatest difference between the various species is their tunnelling behaviour and some of their feeding patterns, and we only have two types of ecological groups that are problematic – epigeic and anecic species.

Epigeic species are a concern because they either move horizontally and sever the root system and pretty much strip the soil of nutrients and anecic earthworms are problematic because they cast their faecal matter above ground – a trait shared with epigeic earthworms.

Knowing our enemy really involves knowing something about the biology of these organisms and the first thing to look at is the life stages, which affects the time of the year that they are present and whether we're going to see more or less casting.

In America we see increased activity in spring and autumn, as the extreme weather during the rest of the year sees earthworms essentially hibernate.

In those windows we see a lot of cocoons hatching and becoming juveniles, which begin rapidly consuming food to help them reach reproductive maturity and that increased consumption leads to greater egestion of faecal matter on the surface.

In the UK, you're likely to see more continuous reproduction due to the temperate nature of the climate, meaning more year-round casting.

We have adopted the idea that we don't want to eliminate them entirely from a golf course as they are offering benefits like recycling nutrients and providing greater air and porosity in that soil, but we must have some idea about thresholds so that we can take cultural approaches to managing them at an acceptable level.

Development of predictive models to determine environmental conditions and timings conducive to casting

The way we work at Penn State is we compare trial areas against untreated control areas and what we see is that casting is erratic, even in spring and autumn.

We might have heavy casting one week, nothing the next.

We've spoken to turf managers and asked, 'what is acceptable to you?' and we have settled on five casts per square metre.

We have metre square plots in dedicated areas that we look at year after year. We'll apply different cultivation treatments and then we make weekly cast counts.

The impact of topdressing on casting severity and trial findings

Several years ago, we decided to start developing cultural solutions to move away from chemical solutions and committed to a multi-year study.

This coincided with an increase in topdressing around the golf courses in our area, which is expensive as that sand needs to be trucked in. We wanted to know if, from an earthworm management perspective, it was worth it.

Our application rates were based on what those courses were attempting to do with a heavy topdressing.

The plan was to deliver four applications of sand, which we thought might suppress casting on the surface.

We compared four applications in a year of 2.5cm and 1.25cm and a control of doing nothing at all.

In the first year, casting went up 17% over doing nothing on the low application site and 23% in the high application.

In year two, both applications saw an increase of 33% in casting over the control zone.

By the third year, the high application area was experiencing 40% more casting and the low zone



Why are earthworms so hard to control?

As well as enjoying stable population growth, the species that we want to control are nocturnal, so we're not seeing them on the surface during the day. If they were there would be lots of opportunities to corral and remove them.

They are also very sensitive to vibrations, so even if they are cruising on the surface, and we come by with a piece of machinery, it might not come into contact with them.

was also up 10% over the control.

We looked at spring and autumn independently, but, whichever way you break it down, topdressing was always less effective in controlling earthworms than doing nothing.

Noticeably, there was also a considerable short-term increase between a week or two after the application. One theory as to why, is that these creatures feed on organic matter, so if you're diluting that with sand, the juveniles will have to consume more to get the same nutrients, which means more egestion.

The impact of different fertilisers on casting

We have heard theories that the acidity of the soil on certain styles of course are keeping earthworms away.

Links courses, in particular, are mentioned so, although I've seen plenty of castings on seaside courses, we tested the thinking that if we could

just lower the pH we'd do away with earthworms. We ran a fertility treatment using acidifying fertilisers and applications of ammonium sulphate – two tests of 12.5 and 25 kilos per hectare – were being made every three weeks.

What we saw was almost identical to the topdressing, which was basically no effect at all. In fact, once we'd crunched the numbers, we saw between a 17% and 24% increase in casting.

We also ran a trial with iron sulphate, which we closed early due to reports of dangers of human exposure to iron applications on golf courses, but we weren't seeing any effects in that trial either.

Cultivation impacts on earthworm cocoon abundance

At this point, it was not looking good for the simple things that we can do on the golf course, but we asked ourselves, if we could somehow

control the cocoon stage, does that hold the key to a drop in these things?

We had realised we're not going to control the cocoon with chemicals – they seem to be impervious to interventions, but maybe we could do things with cultivation, where we could remove them from the soil or disrupt them and make them move elsewhere on the golf course.

We wanted to track the different life stages of earthworms by taking a census and seeing what depth these different stages were found at.

Similar to our long-term studies, we looked at these creatures in the same plots week after week, we're pulling a core and stratifying it at two centimetre increments.

We went through each layer and hand sorted the stages to see what there were and then we tracked them over time.

It was hard to see any trends in the data, but we did get some information that I think is going to help us in the long term.

Looking at the stratified levels, cocoons and juveniles were mostly found in the top six centimetres, which was encouraging for where we wanted to go next, which was to ask: how does non-chemical disruption affect populations and casting?

We tried hollowtining, with a 2.5cm core and 5x5cm spacing to a 7.5cm depth, which is right in that zone where we hoped to see maximum impact. We also tried verticutting as well as just stripping the turf completely.

The most effective treatment was the hollowtine zone that had been left open – we didn't backfill with sand – and we saw a good reduction in casting for about 21 days. Perhaps it was greater disruption, or more airflow meaning it could be a little bit drier in the profile, but it had a big impact on earthworms.

I was surprised by the results and as I was trying to wrap my head around what could possibly be going on I noticed something at my local golf course. We have heavy soils and they carry out a late non-backfill hollowtining programme in December and I noticed something that I've also seen since on courses in the UK.

It appears that while they didn't reduce the earthworms, they created an area for them to produce their casts into. It may not be practical to aerate large areas several times

applications: 1 per year
 tion: 30th September **31 OCTOBER 7**
 required to protect aquatic life
 ated in after application
lication
 the 1st and 2nd instar stages.



“ Whichever way you broke it down,
 topdressing was always less effective in
 controlling earthworms that doing nothing”

throughout the year, but it is at least a short-term solution, and I would say those reductions in casts on the surface are in the range of most of any illegal, unethical treatments of earthworms that may be going on around golf courses.

Unconventional means of removal

So, where are we going next in our laboratory?

We have recently started some new trials, and we're interested in a new product that's coming to America from a company called Lisi Global, who have done some shocking new research, and I mean that literally.

They have developed a unit with solar panels that you can tow around the course. It's 48 inches wide and it looks somewhat like aerification equipment.

Knives go down into the soil and, in

between the knives, they blast directed energy that goes up through the rhizosphere and exits through the plant, in effect basically zapping whatever is in the soil.

They're looking at fungi and plant parasitic nematodes, and they're having great success in agricultural crops, with plans to bring it to the turf market.

With something as large as an earthworm, I think it's quite likely that they would get some mortality and they have some proof-of-concept videos.

People already use electricity to drive these things out of the soil, so it's not that far-fetched and I think it has a lot of promise.

We're also going to continue with our cultivation research, looking for solutions that are accessible for all types of operations. **GI**



About Ben

Dr Ben McGraw is Associate Professor of

Turfgrass Science at Penn State University

Ben's research programme focuses on understanding the biology and ecology of turfgrass insect populations to improve current management practices and develop novel, more sustainable management and monitoring programs. Given the heavy reliance on chemical controls in many managed turfgrass systems, little is known about the ecology of many soil arthropod pests and communities. Ben has used the annual bluegrass weevil, a severe and widespread pest of intensely managed turfgrass, as a model to explore many questions that he has regarding insect ecology.

Apprentice CORNER

A cut above

Checking the height of cut on a cylinder mower

When a cylinder mower sits on the turf, it is resting on its front and rear rollers. If we place the mower on a workbench and place a metal straight edge along the two rollers we can measure the distance between the straight edge and the point at which the cylinder crosses the bottom blade. This is the height that the mower will cut. This height of cut can be adjusted as required.

Checking quality of cut and height of cut

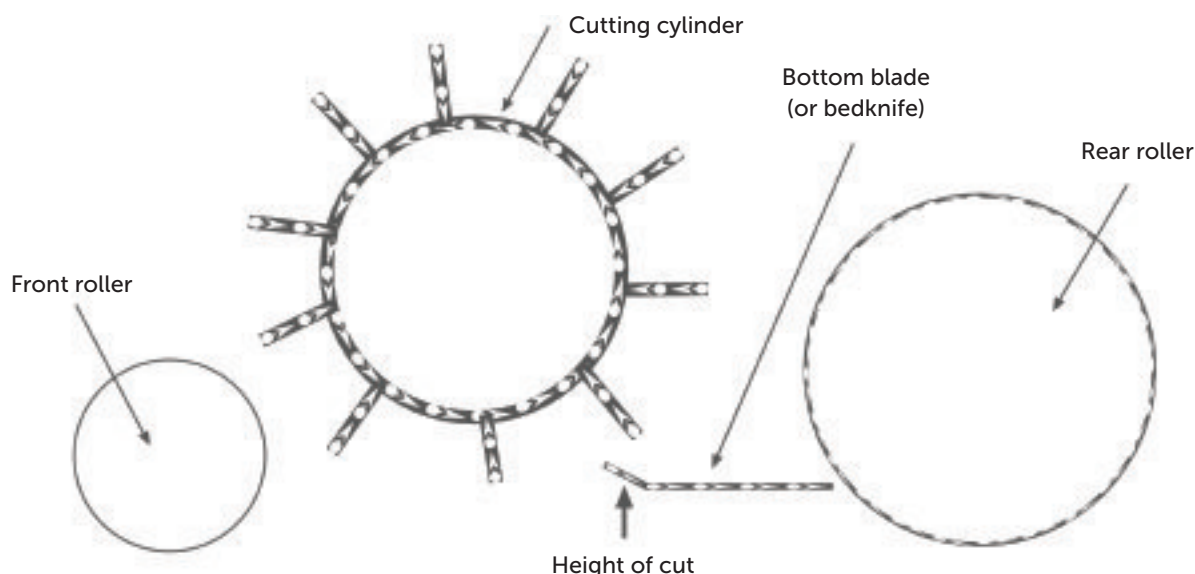
Important – mower blades are sharp. The cylinders should

not be turned by hand, instead turn the cylinder with a short piece of wood or a stick.

Before checking the cut, ensure the machine engine is switched off. Also check that the key, or on small mowers the HT lead, is removed.

Methods of setting the height of cut (HOC) on a cylinder mower

The operator should use a height setting gauge to check height of cut (HOC). The HOC is read from the gauge that can be seen halfway along the height bar.



Wood or metal straight edge, this represents ground level

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.

Congratulations to the following BIGGA members who have achieved their Level 2 Certificate in Golf Greenkeeping:

Owen Wood, Mid Kent
Thomas Smith, Aldeburgh
Fynley Wells, Pyecombe
Damien Bateman, West Kent

Samuel Trott, Weymouth
Harvey Finch, West Essex
Steven Gunner, Chigwell
Reiss Evans, Chigwell
Harry Hunt, Hankley Common
Harry Ayrton, Bracken Ghyll
Abigail Laker, Frilford Heath

Marathon® ALGAE fertiliser confirms its effectiveness

Thanks to its hybrid formulation and patented technology, Marathon® ALGAE fertiliser – developed by Olmix – provides perfect, long-term turf nutrition with significant action on soil microbial activity. It's sure to win over greenkeepers and sports ground managers.

Nitrogen release comparable to fertilisers containing IBDU or urea formaldehyde

The XSER® complexation technology contained in Marathon® ALGAE organo-mineral fertiliser enables nitrogen release kinetics over four months, equivalent to those obtained with slow-release formulations containing isobutylidene diurea (IBDU) or methylene urea [Figure 1].

This feature of Marathon® ALGAE fertiliser means that it can be used to feed turf over the long term, with a technology that has a better environmental profile than chemical formulas. As the nitrogen is released slowly, it does not cause the grass to grow too quickly, necessitating frequent mowing. The risk of loss through leaching is reduced, as is the risk of scorch to foliage and roots.

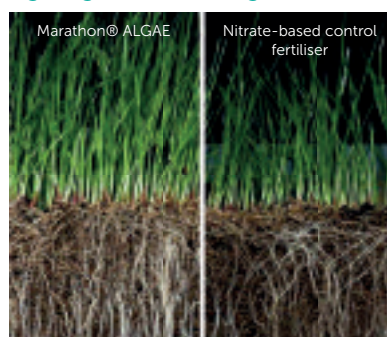
Encourage root development and grass density rather than growth

Progressive, balanced nutrition in the form of ammonium nitrogen rather than nitrate nitrogen enables grasses to develop a highly-branched root system and to establish their tillers more

effectively (see picture). That's why Marathon® ALGAE fertiliser promotes a high grass density per square metre for a thick, resistant turf.

Studies carried out in partnership with the university of Hohenheim in Germany have highlighted the increase in root biomass with Marathon® ALGAE compared with a nitrate-based control fertiliser: +50% after 100 days.

Fighting thatch building, the other



Source: Hohenheim University

action of Marathon® ALGAE

One of the factors causing deterioration in the quality of turfs is the accumulation of dead organic matter from mown grass residues. The formation of thatch blocks the circulation of water, air and nutrients to the roots and exposes the turf to fungal diseases. To prevent this build-up, it is necessary to stimulate the soil's microbial activity so that it can break down this organic matter quickly.

At Amersfoort in the Netherlands, three years' monitoring of two sports fields fertilised with Marathon® ALGAE

demonstrated the effect of fertiliser on accelerating the decomposition of organic matter [Figure 2].

As well as reducing the amount of thatch, this accelerated decomposition of organic matter is accompanied by the mineralisation of its nutrient compounds. This action releases more minerals, which are then available to feed the existing turf. On the two sport pitches monitored, the quantities of bioavailable nitrogen in the soil increased by 27 and 30 kg/ha respectively between year N and year N+3.

Fertilising golf courses and sports fields is a key factor in managing the quality of grassed areas. The choice of fertiliser to use is crucial, as it determines the intensity and regularity of the turf's growth, its quality and its resistance to trampling and shearing. Marathon® ALGAE organo-mineral fertiliser and its patented XSER® technology combine the benefits of a slow-release fertiliser for gradual, long-lasting action, with the stimulation of the soil's biological activity essential for maintaining conditions conducive to the development of high-quality turf. **GI**

For all Marathon enquiries, contact:
Collier Turf Care Ltd. 01328 700600.
sales@collier-turf-care.co.uk



Figure 1: Nitrogen release kinetics

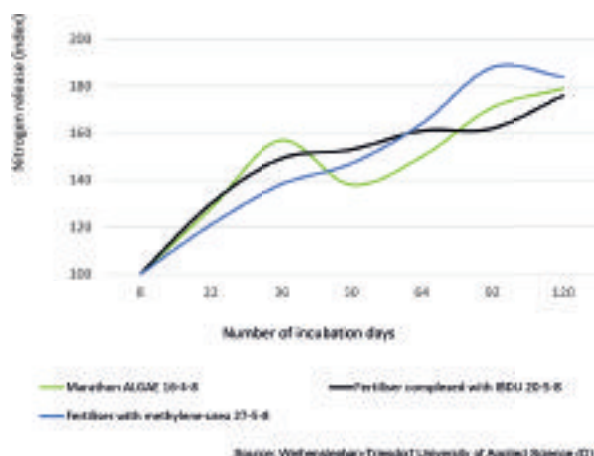
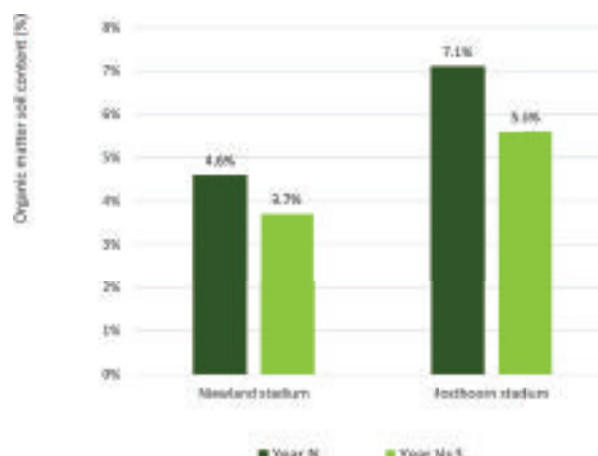


Figure 2: Effect of Marathon® ALGAE on the decomposition of organic matter





Worcestershire Golf Club celebrates market-leading results with Husqvarna Ceora™

Worcestershire Golf Club, established in 1879 and one of the oldest clubs in England, has recently put new robotic technology to the test – Husqvarna's CEORA™ coupled with its new low-cut deck. The parkland golf course located in the picturesque Malvern Hills, trialled the pioneering robotic innovation over a two-month period to experience the market-leading mowing results for themselves.

The golf industry has faced multiple challenges over the past year, with the whole market facing increasing material and operational running costs making it more important than ever to make sure all operations are as cost and time effective as possible. As a 700-strong members club, Worcestershire Golf Club has invested a significant amount into the course over the last eight years to ensure that its

golfers are still able to enjoy the unique location and the unmatched experience it offers.

The Husqvarna CEORA™ is the second trial Worcestershire Golf Club has enjoyed, with the club trialling the Husqvarna Automower® 450 on the course four years ago. Speaking on this trial, Steve Lloyd, course manager at Worcestershire said: "When we were given a trial of the Automower® 450, we knew this was a great opportunity to dip our toes in and try out a smaller residential robot in a commercial environment and put its features to the test. We instantly saw the benefits that robotic mowing technology could provide by having our Automower® operating on a nightly basis. In no time at all the density of our grass was improved and was growing at a much higher quality."

Since then, Husqvarna have developed an increasingly



wide portfolio of robotics specifically designed for professional use, so when they were offered a trial of the Husqvarna CEORA™ and its new low-cut deck four years later, it was a “no brainer” added Lloyd.

“When it comes to robotic mowing, for us it’s not about lowering staff costs, but about alleviating the workload of our staff to allow for more skilled and rewarding labour tasks to be completed. The CEORA™ is fantastic for time-saving and the technology has definitely proved itself and its benefits.

“This is the first machine we have used with EPOS technology so it was a learning curve for us to learn about navigation, but we are pleased we took on the challenge. We set up the CEORA™ on two adjacent fairways, first, alternating nightly cuts and second, mowing on the same

night to compare results. The whole team agrees that the robotic mower passed with flying colours.

“We have complicated terrain on our fairways so faced a few challenges, however, we are working closely with Husqvarna to find ways around this to make the cutting results of CEORA™ and the low-cut deck even better which is great.

“Overall, the Husqvarna CEORA™ has been invaluable in managing our workload at the golf course and has provided us with not only brilliant cutting results but more time to spend focused on our members and our unrivalled services.” **GI**

For information on Husqvarna and its CEORA™ with the new low-cut deck, visit www.husqvarna.com/uk.

Jacobsen has perfected its claim as leader of lithium mowers in the golf market with the release of the new SLF1 ELiTE.

Sixty million hours of ELiTE lithium use on fine turf facilities has helped create an industry defining five-reel mower that makes no compromises on performance.

Users get up to seven hours of operation per charge with Jake's leading 500 plus amp-hour Li-ion battery, which is powered by Samsung SDI lithium technology. This run time ensures no lithium mower can cover more of a golf course on a single charge.

The machine offers convenient on-board overnight charging that fits with existing universal electrical infrastructure, making it as simple as plugging it in at the end of the day.

Practical convenience is at the forefront of the SLF1 ELiTE with virtually maintenance-free next-gen components and the introduction of an advanced on-board and remote-ready monitoring system. With this in place, machine diagnostics can be analysed to give you the solutions you need to keep cutting.

The control centre, located on an adjustable swing out console arm, features lockable speed and Jacobsen's trusted frequency of clip controls to guarantee a consistent and exceptional finish every time on fairways, large trim and surround areas or terrain with undulations.

With the SLF1 ELiTE, Jake's signature quality of cut comes with new operator benefits. Lithium power provides near-silent cutting with minimal vibration which reduces operator fatigue and increases productivity. Near-silence means cutting when you want to. You can mow the course whenever you need to regardless of your surroundings.

Ultimate productivity is cutting where you want. The SLF1 ELiTE was tested in wet conditions and challenging slopes to ensure the power goes where you need it. The specialized agile cutting units allow the SLF1 to cut in undulations where other machines can't. The hydraulic-free design rounds off a proven and powerful machine that is leading the way for lithium mowers in range and cut quality. **GI**



Jacobsen launch lithium-powered light five-reel



Scan Me to
find out more

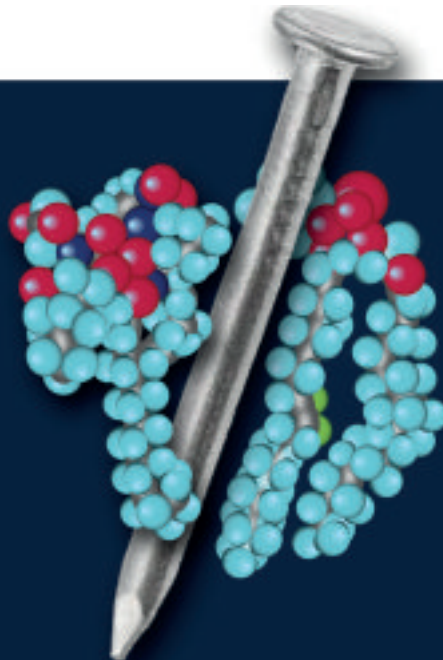
atches first red super mower



Turning tides to biological control

Lipopeptides act like nails that penetrate the plasma membrane of phytopathogenic fungi. Fungal cells lyse and die

envuTM



Over the years we have seen many different approaches to prevent, mitigate, or control pests, weeds and diseases – beyond good agronomic and horticultural practices, practitioners often rely majorly on chemical pesticides and fertilisers.

All professional grounds operatives and managers are required by law to comply and work within the guidelines of the UK Sustainable Use Directive; an agreed national framework to achieve sustainable use of pesticides by reducing the risks and impacts of pesticide use both on human health and the environment.

This is achieved by promoting the use of Integrated Pest Management practices along with new alternative approaches or techniques such as non-chemical alternatives to pesticides. Here we investigate more about bio-controls and new solutions available.

What is a bio-control pesticide?

High performance turf surfaces suffer frequent attacks and high mortality rates from various pests (weeds, insects, and fungal diseases), collectively called “natural enemies.”

Bio-control or biological pesticides use natural enemies or agents to manage these pests. The ultimate goal of bio-control is to suppress or reduce pest population and damage with reduced synthetic pesticide use. Natural enemies are utilised differently depending on the target pest, host, environmental condition and pest life cycle. Bio-controls are products derived from nature that contain living organisms

such as bacteria, fungi, or viruses, that control or reduce pests or diseases. They can also help support the health and resilience of plants.

A bio-control pesticide, first and foremost, must have a direct effect on the pest (i.e., fungicidal). They can also work in secondary non-direct ways such as colonising the plant or soil, so outcompeting or antagonising harmful organisms, or by stimulating the plant’s natural defense mechanisms.

A First In Turf

In response to the market, Envu UK has this month launched Harmonix® Turf Defense, a revolutionary bio-control fungicide for the natural control of disease in managed amenity turf.

The first registered biological product of its kind, Harmonix® Turf Defense answers the call from greenkeepers for sustainable options following synthetic product withdrawals and a growing desire to manage turf in line with environmental aspirations.

Perfect for the treatment of Microdochium Patch, Dollar Spot, Anthracnose and Brown Patch, Harmonix® Turf Defense offers a versatile and effective solution against disease, whether as a direct replacement for synthetic products, or as part of a wider integrated approach.

Phil Logan, National Account Manager, Envu UK & Ireland, explains: “Expectations for turf are shifting alongside environmental concerns, and with the end of synthetic products in sight, we are at the dawn of a new age in grass

care. Biologicals are the future of turf disease management.

Re-shaping turf management strategy is key and multi-site products like Harmonix® Turf Defense offer a more economical and sustainable pathway as, longer-term, pathogens are less likely to become resistant to natural, biological formulations.

We have already achieved an impressive guaranteed efficacy level for a biological product with Harmonix® Turf Defense and as a company we are committed to further R&D in this area."

How does Harmonix® Turf Defense work?

As a natural Bio-control turf fungicide, Harmonix® Turf Defense uses the power of a unique patented strain of *Bacillus amyloliquefaciens*.

This naturally produces bioactive compounds that have fungicidal activity through direct contact with plant pathogenic fungi.

Lipopeptide compounds are produced during the manufacturing process and are present in the finished product in order to have immediate activity from the moment of spraying.

On contact, these lipopeptides physically disrupt the cell membranes of the pathogen, resulting in the physical breakdown of its cells.

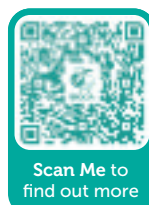
Mode of Action – Multisite Fungicide

- Harmonix® Turf Defense produces Lipopeptides during the fermentation process
- Lipopeptides are active biological compounds
- Three classes of Lipopeptides in Harmonix® Turf Defense are complementary in their mode of action – iturins, agrastatins and surfactins
- *Bacillus amyloliquefaciens* induces the natural defenses of plants by activating their defense genes
- It also acts by competition space/nutrition by creating a protective biofilm at the roots

Lipopeptides are like tiny nails that can puncture and penetrate the plasma membrane of fungi.

The lipopeptides in Harmonix® Turf Defense are made up of fatty acid tail and peptide head. The fatty acid tail is hydrophobic (meaning it repels water) and the peptide head is hydrophilic (meaning it attracts water). This unique combination allows lipopeptides to insert themselves into the fungal cell membrane by forming a tightly packed ring-like structure that can pierce through the membrane.

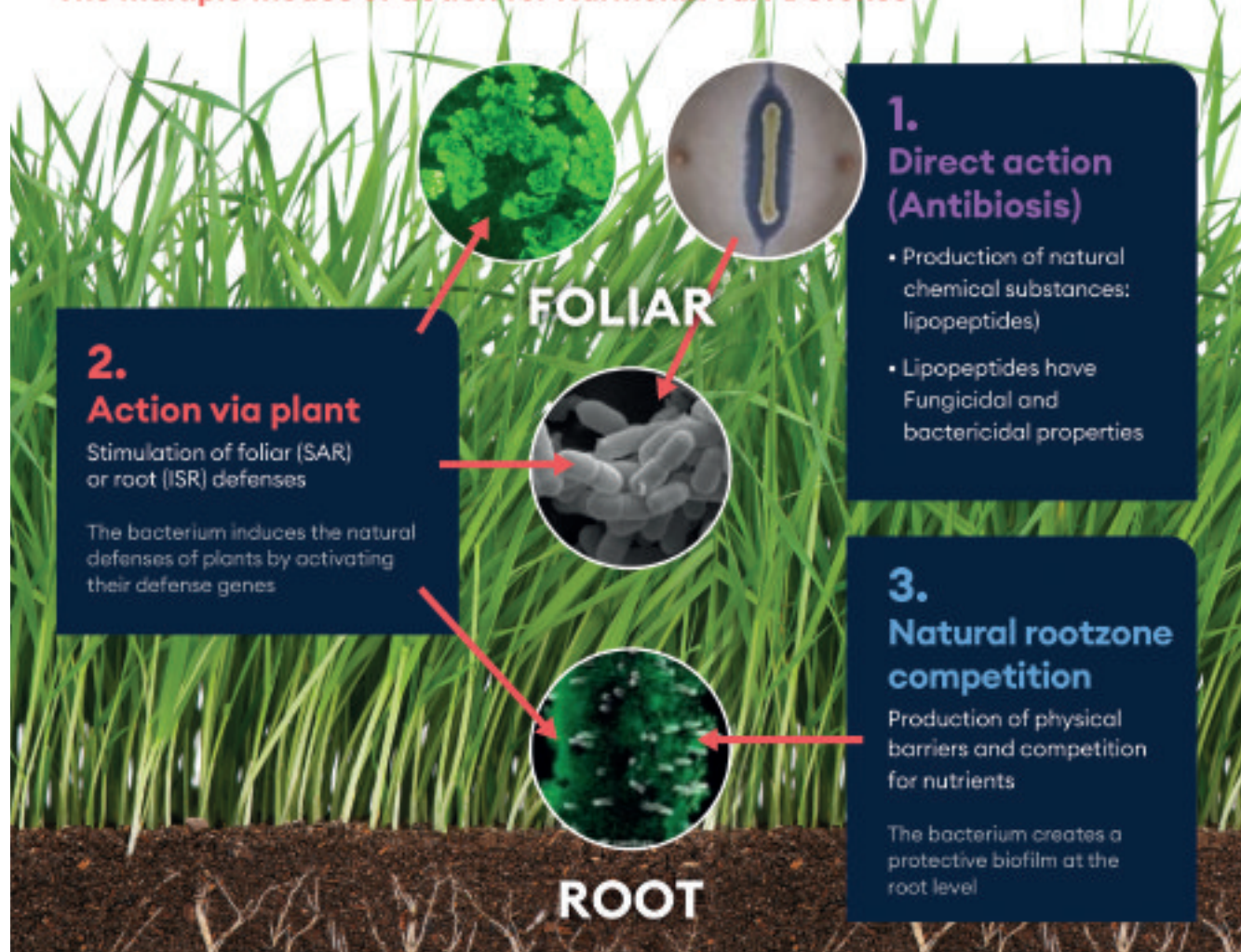
Once inside, the lipopeptides disrupt the normal functioning of the fungal cell membrane, causing it to leak and eventually leading to the death of the fungus. **GI**



Scan Me to find out more

Mode of Action – Multisite

The multiple modes of action for Harmonix Turf Defense



Managing greens mindfully to support those sustainable species

Vinny Tarbox, of Advanced Turf Technology, explores how the Ultragroover can manage issues as part of a more sustainable maintenance programme



“The ability of the UltraGroomer™ to remove debris and lateral growth also helps to prevent excessive organic material developing

Well-groomed greens are on every greenkeeper's wish list, providing an optimum playing surface while promoting robust, healthy turf. Offering fineness of leaf, dense growth but requiring lower inputs is bent grass – but achieving bent dominant greens can be a challenge, with over management risking displacement of the finer species and creating opportunities for invasive species such as Annual Meadow Grass (*Poa annua*) to take hold.

Developments in grass breeding has seen the incorporation of cultivars that are designed to thrive in poorer growth conditions, requiring less nutritional and water input, into many popular greens mixtures. While varieties may be changing, the unabated desire for lower heights of cut means that density – and issues associated with that, such as organic matter accumulation – remain, and continue to be managed mechanically.

While verti-cutting has long provided a solution to managing the density and removing organic debris, equipment has not necessarily kept pace with the challenges posed by newer grass varieties, with traditional verti-cut reels spaced at 10mm more suited to work on less dense surfaces.

Verti-cutting will likely be employed regularly throughout the growing season, but perhaps with little consideration of the detrimental impact the invasive operation will be having on the composition or health of the sward. For those pursuing a more sustainable management programme with less artificial stress and fewer inputs, we should be looking at how we can create an environment conducive to supporting finer species. This will be hampered by aggressive verti-cutting – not only subjecting the plants to considerable stress but opening up the sward to *Poa annua*.

Finer grasses, such as bent, prefer a more stable environment so greenkeepers aiming for bent dominance want to be considering how to keep disturbance pressure or damage to a minimum. 'Disturbance Theory' is not new, however the emphasis on sustainable management has sparked fresh interest in its principles. *Poa* will primarily grow in gaps created in the turf which, in modern day greenkeeping with high levels of mechanical intervention, provides plenty of opportunity for ingress and once there, will creep and outcompete the grasses we actually want to be the most dominant.

This doesn't mean that we should never groom or verti-cut the greens, but instead we should be mindful of what we're using, at what intensity and how often it is 'required' to minimise disturbance and support the finer grasses.

Part of the TMSYSTEM collection, the UltraGroomer™ cassette features over 80 1.3mm tungsten carbide tipped blades spaced at 5mm which means more surface area of the blade is in contact with the turf which, combined with working at a shallower depth, reduces plant stress. The ability of the UltraGroomer™ to remove debris and lateral growth also helps to prevent excessive organic material developing.

If *Poa* is present, a pass with the UltraGroomer™ can help to control it by grabbing and pulling out the seedheads, minimising the opportunity for seeding. It can also extract *Poa* plants, while leaving the finer rooted Bents intact. In addition, greenkeepers can use the UltraGroomer™ to control grain, either on sloping greens or where shade encourages the grasses to grow in the direction of the light.

Where intensive verti-cutting is best suited to removing a build-up of organic matter, the UltraGroomer™ can be employed alongside cultural techniques to manage or even prevent it from accumulating in the first place. There is a strong link between applications of nitrogen and the amount of thatch, therefore controlling feeding programmes to maintain health without encouraging excess growth should be a key consideration. Irrigation, soil pH and other nutritional inputs should also be reviewed for potential benefits to plant health, sustainability and budget.



Finer species exhibit better stress tolerance than *Poa annua* which means that together with tools like the UltraGroomer™ and careful cultural management, greenkeepers can also gain a helping hand from mother nature. The droughts which are becoming a more frequent occurrence can accelerate eradication of *Poa*, which will quickly struggle when water is limited, compared to finer grasses in good health which can withstand short periods of drought.

Working with the environment and controlling stresses can create the right foundation for longer-term sustainability and see those finer species flourish. **GI**

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Tackling sustainability together



Paul Woodham is The R&A's Head of Agronomy Europe

Water scarcity: A global issue for golf and what we can learn from Europe

Irrigation systems had certainly been idle up until the start of June following long periods of wet conditions in the UK. This was similar through regions across Northern Europe with many courses feeling they were at least a month behind with growth and course conditioning. The weather finally improved in the UK taking many by surprise by how quickly management needed to shift towards irrigating the course. Turning irrigation on should not be taken for granted and the wet winter conditions should not divert attention away from the water scarcity issues fast approaching.

Despite a winter of replenishment, UK authorities have sent strong signals of impending reduction to abstraction licences. Mandatory reduction of abstraction is a reality already at some clubs, with reports of courses receiving early warning 70 per cent reductions – or even more – in regions where the water network is severely stressed. It is unlikely golf will be given much leeway in this regard as it is a topic now very much under the microscope of public perception.

Water scarcity is a global issue, which, until recently, has been below the greenkeeping radar in our islands. But we need only look abroad to see the warning signs of this major impact of climate change.

The Spanish Weather Agency, AEMET, declared a weather drought situation in January 2022 lasting until April 2023 and classified December 2022 and April 2023 as the warmest months since their weather records began. Irrigating golf courses with reclaimed rather than mains potable water is already mandatory in many regions in Spain. In areas not yet impacted by legislation there is intense competition for sources of irrigation and the strain on water resources has increased dramatically as a consequence. Permission to use agricultural, well or surface water for golf course irrigation is likely to disappear soon, leaving many Spanish courses in a delicate situation.

Drought pressure in northern Europe is not as critical as in the Mediterranean regions but remains a concern as legislation tightens and public and political scrutiny of how courses manage water increases. Activists

vandalising two golf courses in France hit the headlines last year. This was during a period when courses were already complying with restrictions allowing just 30 per cent of the usual water budget and night-time watering only as per agreement as part of the national framework.

Countries in Europe and elsewhere are actively revising their national frameworks. In Germany a new national weather strategy was adopted in March, prompting fresh regulatory focus on water use. As a recent Golf Sustainable article, 'Golf and water: plan ahead instead of waiting' explains, "the changes in strategy are new insofar as there have been no uniform regulations on the subject of water in Germany up to now".

The State Office for the Environment in Germany reported that groundwater recharge has tipped into negative values, with the annual water recharge deficit in Germany now at around one-sixth. The headwinds

for further restrictions on water are gathering strength. Golf courses are, of course, not exempt, and the warning is that "changes are often many and varied, but similar in one respect: they come quickly and often unannounced". In one example, permits for the abstraction of drinking water, such as those still in place in Munich, were, with little to no notice, stopped altogether.

We are seeing similar swift changes from business-as-usual to new mandatory compliance requirements in the UK. Mains water supplies, even where available, are not the most sustainable choice for irrigation and are increasing in cost for other applications. We need, as an industry, to look to more holistic solutions and best practices, starting with cultural management to reduce irrigation requirements. We also need to continue to educate golfers and the wider public about changes coming to golf courses as we adapt to water scarcity. **GI**



Our monthly column from The R&A's Sustainable Golf team shares news and insights on agronomy and sustainability themes. For more information on The R&A's Sustainable Agronomy Service please contact sustainablegolf@randa.org



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