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regulars

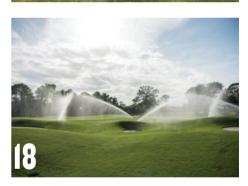
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Inquest: Greenkeeper's death was an accident

A 35-year-old greenkeeper died after a poplar tree he was cutting fell on his head and fractured his skull, an inquest has heard.

His girlfriend and her father later found his body.

Father-of-one Martin Davenport, probably died instantly when the tree hit him in Christleton, Cheshire, in January last year.

A jury inquest at Warrington Coroner's Court was told that Davenport suffered a fractured skull and brain haemorrhage.

His body was later discovered by his girlfriend Megan Grindley and her father when they went to search for him.

A jury inquest is required by law if a death occurs following an accident at work.

Davenport worked as a

greenkeeper at Eaton Golf Club but was acting as a self-employed contractor when he was hired to cut down poplar trees.

Health and Safety Executive inspector Simon Bland said the tree involved was leaning, causing it to act like a 'spring' with compression on one side and tension on the side nearest Davenport.

The trunk then split and kicked

Bland said: "Unfortunately Martin was in the vicinity of where that tree kicked out at the base so he received a blow to the head."

Bland said he was happy with the tree felling training Davenport had received through his golf club job and the equipment he was



Eaton Golf Club head greenkeeper Gavin Clarke described him as "a great worker" with "a really good skill set".

The jury found Davenport suffered a fatal blow to the head because the tree fell and split in 'an uncontrolled manner'.

With the direction of Cheshire area coroner Claire Welch, they

concluded Davenport died from an accident.

Welch told the family: "I offer you my heartfelt condolences. It's clear to me from the evidence that I heard during the course of the inquest today how loved and liked Martin was, seemingly by all those who knew him."

Davenport is survived by his parents Kathy and Shane, sister Sian and his nine-year-old daughter Isabelle.

He had remained friends with her mother Laura, from whom he was separated.

Kathy Davenport, who gave evidence, said: "He was a busy, hard-working young man who adored his little girl and was always trying to support her as best he could."

Greenkeepers praised for extensive winter work

The outstanding Adare Manor in Ireland has reopened its fairways for the new season after an extensive and thorough maintenance programme throughout the winter months.

The work was to ensure the course continues to play in first-class condition to members, guests and hotel residents throughout the season.

A year since the course was opened following its redesign, the greenkeepers at Adare Manor have left no stone unturned in the first round of maintenance.

The putting surfaces have been shown special attention. Carefully scrutinised to identify and handpick any poa annua has helped achieve the desired pureness of putting surfaces. While to further ensure greens are in pristine condition, the staff having been plugging, by hand, old pitch marks and imperfections to then replace them with plugs from the turf nursery.

The greenkeeping team has also been



carefully adjusting the sand depths of the 42 bunkers to achieve the desired level of three inches on the faces and four inches on the bases, that will produce consistent and uniform lies in bunkers across the golf course.

Alan McDonnell, superintendent at Adare Manor, commented: "There has been a huge commitment by the whole greenkeeping team this winter to ensure the course is in great shape for the season ahead.

"We are exceptionally proud of the conditioning we are able to maintain here at Adare Manor.

"The Irish winter is not always kind and it can make for a challenging time during maintenance to keep the standards we have become used to. However, the hours of hard work and dedication of the team has really allowed the quality of the golf course to shine through."



Kings Norton invests £600k in its course



Kings Norton Golf Club in Birmingham has announced it has invested more than £600,000 in its course.

As it bids to become one of the premier clubs in the region, Kings Norton has spent more than £360,000 alone on machinery to improve and maintain its 27 challenging holes.

And after one of the hottest and driest summers on record the club is also investing £58,000 in a brand-new greens' irrigation system.

Add to this further investment of £190,000

to be spent over the next three years remodelling and improving all of the 85 bunkers, it is clear that Kings Norton Golf Club is positioning itself for the future.

Since the appointment of new course manager, Neill Smith, in August 2018, the 27 holes at Kings Norton have seen a rapid transformation, quickly gaining a reputation as one of the best conditioned golf courses in the Midlands.

Smith has overseen the investment in a brand-new fleet including greens' mowers, a top-dresser and utility vehicles alongside enhanced staff training.

To keep the machinery in premium condition the club has engaged Oakley Groundcare and its Toro-trained engineers to provide a full maintenance service for the new equipment, ensuring it is able to provide the best possible putting surfaces and smooth consistent greens all year.

Kings Norton has also appointed Steve Dougan, PGA fellow professional, director of golf and experienced club manager to oversee the day to day operations at the club. Dougan will be working closely with the board of directors, course manager, head professional and caterers to grow and improve all aspects of the business as well as members' and guests' experiences at the club.



Spanish club reopens after significant work



Club de Golf Alcanada in Spain has reopened following an ambitious winter revamp.

An extensive £600,000 renovation project took place over the winter to replace all 18 greens, upgrade the irrigation, renew all sand in the bunkers and various other improvements.

Director of golf, Kristoff Both, said: "As well as the greens, we have also renewed the entrances to the greens — around five metres of new turf. It's not the ideal time to plant Bermuda grass because it is dormant in the winter so it looks a little yellow but then becomes green again as the ground temperatures are rising."

Both insists the vast majority of the early feedback has been overwhelmingly positive about the upgrade – especially from those who might occasionally be quick to point out any failings.

He said: "We hosted a tournament for the staff

members of the other golf courses in Mallorca. It was a good test for us to have these people who would never be too shy in being critical about us! We had some of the local club pros, restaurant workers, maintenance workers and directors of golf. It was great fun.

"These people all know golf and they all know how hard it is to maintain a golf course. They were all saying 'Wow. You guys did a great job this winter'. It was very positive for us and the professionals who played thought the greens were amazing.

"The course is a living animal. It is already really good but will only get better and better in the next few weeks and months as we add more finishing touches.

"The greens are playing very, very well and they look awesome. The last hole was only turfed recently and they are just a little slower than we are used to — they are around 9.5 on the Stimpmeter when we are usually at around 10.5 to 11. But they will get quicker in a matter of weeks. Most of us know that the number one priority on a golf course is the greens and they are absolutely cracking."



Charterhouse and Rigby Taylor announce deals with BIGGA

Charterhouse Turf Machinery has agreed to provide educational opportunities for golf course professionals nationwide for the British & International Golf Greenkeepers — Association (BIGGA), while Rigby Taylor has also announced a major sponsorship package.



In its new capacity as 'education supporter' for the association, Charterhouse will provide professional development opportunities for BIGGA members.

For over years, Charterhouse has been a leading provider of professional maintenance machinery to keep both natural and artificial surfaces in a first-rate condition. The company distributes the Redexim range of aerators, overseeders, topdressers and scarifiers for natural turf. To complement this, the Graden range of pedestrian verticutters and the BLEC range of specialist landscaping and turfcare products, are also available.

Charterhouse sales manager Nick Darking said: "We have been a supporter of BIGGA for many years, in many different guises. We are proud to now be working alongside BIGGA as an education supporter, helping to provide valuable professional development and educational opportunities to those in our greenkeeping industry."

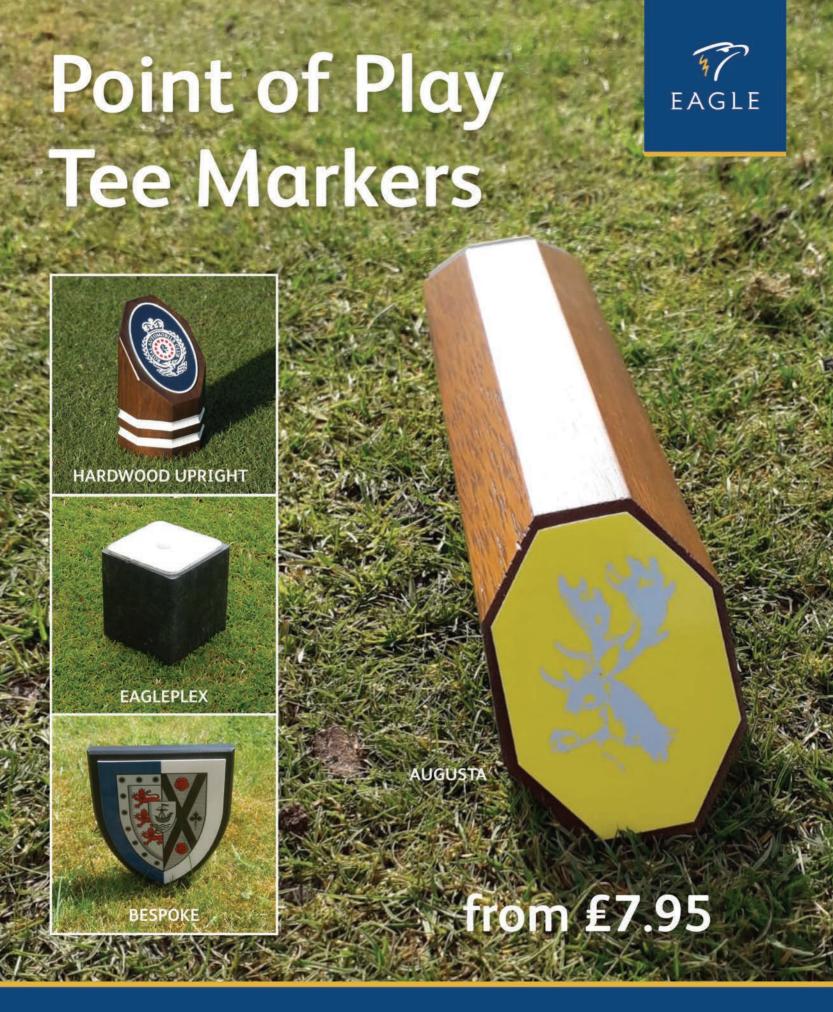
Meanwhile, Rigby Taylor is to sponsor BIGGA's three annual golf tournaments, the National Championship, the Golf Management Trophy and the Greenkeepers Benevolent Fund Golf Day.

Rigby Taylor will also be involved in all qualifying matches for each tournament and offering further support through the involvement of its key suppliers. In addition the company will provide technical advice on tournament preparation and product support.

Richard Fry, Rigby Taylor's marketing director, said: "Our sponsorship of the tournaments is the company's expression of confidence in the industry and a vehicle for gaining closer ties not only with golf course managers and greenkeepers but also their greens' committees and other key decision-makers."

Jim Croxton, BIGGA CEO, added: "These events bring together all levels of the golf club structure, helping to build stronger relationships within teams and across barriers."







Spring into action

What fertilisers should you use on your golf course between winter and summer? Here, Noel Mackenzie takes us through the science that shapes the answer to this question



n my travels as an agronomist I am regularly surprised at fertiliser choices on golf courses. Sometimes it seems like some recommendations or buying choices for fertiliser inputs resemble NPK lottery number selection than a logical fertiliser choice exercised with good science and reasoning.

Fertiliser is defined as 'a chemical or natural substance added to the soil to increase fertility usually to increase growth and yield of the crop present growing in that soil'.

We apply fertiliser to grass to maintain its condition and health and unlike, our agricultural and horticultural colleagues, are not interested in higher yields; indeed we are generally interested in exactly the opposite! Ecological niches of our desired fine leaved grasses are adapted to growing in impoverished environments such as sandy

soils on heathland or links areas where low nutrient retention in the soils and, sometimes, atypical soil pH values (acidity / alkalinity) limits the availability of nutrition elements / molecules available to the plant.

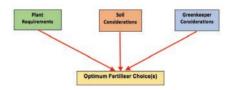
As greenkeepers we know that the plant must be helped to an extent, especially in high wear areas or places where the plant is put under stress. Greenkeepers are always courting disaster because the mortality of grass plants in the sward will increase as cutting heights are lowered. At the point where the number of deaths of plants in the sward exceeds their ability to regenerate, the sward, and therefore surface, begins to fail. When we mow or verticut we put the plant under physical stress (damage, reduced leaf area, removal of photosynthetically productive tissue and so on) and also we remove chemicals that have been made by the plant that have gone into creating its living tissue -

in cutting we therefore remove both living chemistry and increase demand by the plant to obtain more chemicals needed for growth. Consideration of the table below indicates some of the major nutrient contents in plants and it is important to remember that the largest component of elements in the plant are: carbon (44 per cent), oxygen (44 per cent) and hydrogen (five per cent) which are held in organic molecules created by photosynthesis.

Chemical/nutrient (Symbol)	Typical Form available to the plant in Soil solution	Concentration in the topsoil (%)	Typical approximate concentration in grass (%)
Nitrogen (N)	(NH _a +, NO ₂ -)	0.05-2.0	2.5-3
Phosphorus (P)	(H ₂ PO ₄ -, HPO ₄ ² -)	0.02-0.1	0.3
Potassium (K)	(K+)	0.1-3.0	1.5-2
Calcium (Ca)	(Ca2+, CaCO ₁ , Ca5O ₄)	0.1-2.0	0.3-0.5
Magnesium (Mg)	(Mg ¹ +)	0.1-1.5%	0.2
Sulphur (S)	(SO ₁ ² -)	0.02-0.2%	0.1-1.0

Typical chemical percentages of macronutrients within the plant

So in considering fertiliser we have already identified that there are choices to be made relating to the soil, the plant and the greenkeeper and the three parts need to be understood before determining what to buy / apply.



Optimum fertiliser selection interrelates to three overall factors

The requirement to replace materials available to the plant relates to the three criteria in different ways as shown in the examples below.

Plant

- Nutrients required by the plant how much nutrient is in, or needed, by the plant?
- How much wear and damage needs to be repaired?





fertilisers

• What type of grass is it and how does this impact on its needs?

Soil

- Status of soil fertility how much nutrient is in the soil?
- How available nutrient is in the soil CEC, clay content and type, Clay:Humus complex, soil pH.
 - How much organic matter is present.
- Drainage rates how much nutrient tends to leach out?
- Irrigation inputs how this helps to make nutrients soluble in the soil and how much it might wash out nutrients the plant needs?
 - How salty is the soil already?

Greenkeeper considerations

- How good do I need it to look?
- How quickly / slowly do I need it to take effect?
 - How easy is it to put on?
 - · How expensive is it?
 - How much do I need through the year?
- Can I apply it in a way as to minimise player disruption and play interference?
- If it is a granular / pelleted how large are the pellets / prill? Are they uniform in size?
 - Will it release nutrient when I want it to?
 - Are there any side effects?

As can be seen it is not actually an easy process. Indeed, even just the plant and soil element is complicated, but throw in the human element and it gets far more complicated. This complication is added to by some non-technical elements which impacts on buying decisions, which is a whole other ball game!

The intent now is to focus on spring so the key things to remember in spring are:

- Plant needs are low to moderately low but increasing to high in the next few months with nitrogen usually the crucial limiting nutrient. It is therefore essential that the plant is not compromised by lack of nutrient.
- Soil condition is unfavourable in the spring because soil temperature is likely to be low / cold this is crucially important because the bacteria, mycorrhiza and roots are cold therefore their metabolic rates are slow and their activity severely limited.
- Furthermore the soil may be wet or even waterlogged thus pore spaces are filled

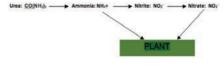


more with water than air, so oxygen availability may be severely limited and some accumulation of toxins may exist as a result (high CO₂, hydrogen sulphide H₂S and so on), which compound the low temperature effect with further limiting factors on soil microbial activity.

- As a consequence complex nutrients such as urea, organic nitrogen sources and ammonia-based N sources applied in early spring are not readily available to the plant therefore nitrogen needs to be applied in a form that is easily available to the plant that means nitrate (NO₃-) based fertiliser (potassium nitrate, ammonium nitrate, sodium nitrate) that is immediately available to the plant.
- Greenkeeping many considerations factor on greenkeepers and, ultimately, putting on fertiliser while cutting heights are still up a little makes choices less critical than in pre-tournament times.
- In spring I would argue that the key driver is temperature!

Temperature is critical because soil bacteria seldom function well at low temperatures and even less well when the soil is also wet and has limited oxygen availability.

The nitrogen sources all require breaking down by the soil bacteria as would happen naturally in the nitrogen cycle.



For cold soils the choice of fertiliser is therefore critical – you could apply tonnes of urea but if there is no soil biological activity there is no breakdown of the molecule into ammonia that will be available to the plant and still no further breakdown through nitrite to nitrate. Therefore in cold conditions the plant needs nutrients it can immediately access and nitrate is the ideal candidate.

However, as spring progresses, the fertiliser needs to have other nitrogen sources available. To this end either apply a nitrate based feed only and follow on with another product with more balanced release later or use a product with an element of nitrate and other ingredients to prolong nutrient release.

Important considerations abound when buying fertiliser – greenkeepers are bombarded by sales approaches, some good, many not so good, and in recent years the marketplace has contained some products plugged as cold temperature specific when it has not been. Fertilisers loaded with iron (Fe) will darken a turf as all greenkeepers know but nutritionally some of these products provide virtually no nitrogen until the soils warm up considerably – by which time the greenkeeper may have put a second application on and then be cutting down a grass factory by May time. It is not enough to simply ask what the numbers are on a bag, an NPK analysis can be utterly valueless, there are other more important questions. In this respect greenkeepers sometimes don't know the questions to ask and rely too greatly on the salesman for advice without thinking about what they are buying. So ask questions and seek a second opinion if necessary there is never such a thing as a dumb question. If you don't understand the justification or the sales pitch take a step back and consider it carefully!

One last point, freely available nitrate based fertiliser is great in the winter and early spring ... it is not so great in summer. when it can produce very fast flushes of soft growth that are disease prone. It's better to use other materials at this time and optimise the results obtained on your course.

Noel Mackenzie is a member of Greenkeeping's editorial advisory panel and is the principal consultant at Sports Turf Consulting. Tel: 07739 505862 or email info@sportsturfconsulting.co.uk



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Pressure! What pressure?

Following lessons learnt from last year's record summer heatwave, Peter Robin looks at practical ways of improving irrigation uniformity and water coverage

any golf courses and sports clubs in the UK have irrigation systems that just can't quite manage to keep up with the dry weather conditions we experienced last summer. If we have a repeat this year and the budget is available for a new irrigation system - all well and good - but what options are available to prevent a long summer behind the hand-hose?

Assuming you have an in-ground irrigation system, which is leaving you with a whole lot of dry patch, is there any way you can make it better at an achievable cost, and without getting the committee involved?

Dry patch in turf is often caused by inadequate sprinkler coverage. Often the dry patch is about five to six metres from a nearby sprinkler. This might seem odd; how could the surface be dry when it's so close to the sprinkler? Well, to me, it's a sign of inadequate water pressure in your irrigation system. Is there anything you can do to alleviate this annoying and debilitating problem, apart from applying truck-loads of wetting agents?

The simplest and cheapest way might be

by just changing the nozzles in your sprinklers. While this might not sound particularly technical, the reduction of a nozzle size in all your sprinklers can have a profound effect on an irrigation systems' performance; providing better water coverage, a decrease in drypatch, reduced over-watered patches (ironically) and a much more uniform playing surface.

It's quite simple. Take a look at the nozzles in each sprinkler; find a product chart that shows the nozzles and their flow rates (available on the sprinkler brands' website), and find a smaller nozzle. For example, if you have a Rain Bird Eagle 751 and it has a green (number 44) nozzle, you can change it out for a blue (number 32) nozzle, which discharges a much lower flow rate. Whereas the smaller nozzle, in a theoretical world, might not throw as far, its lower flow rate will cause several changes in your irrigation system. To start with, you'll have gone from about 1.7 litres per second flow rate for the green

nozzle down to around 1.1 litres per second for the blue nozzle. By multiplying this reduction by the number of sprinklers that turn-on simultaneously, you will have made a big saving in the systems' flow rate.









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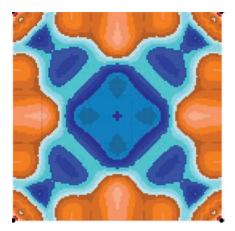
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irrigation



A densogram indicates digitally the uniformity of an irrigation system on a given area of ground

To continue the above example: If you have two sprinklers operating on a green together (that is two solenoid valves operating four sprinklers on each green), then the flow rate has been reduced by 1.2 litres per second; that's a 35 per cent reduction!

But what difference does that make, I hear you ask. Well, it causes several hydraulic changes. Firstly, the quoted example means that your irrigation pump needs to push 35 per cent less water out every second.

With irrigation pumps, the flow rate (that is the volume of water per second) is often inversely proportional to the pressure (how much energy is in the water) the pump can deliver. In other words, as one goes up, the opposite one goes down. So when we reduce the flow rate by 35 per cent (at the sprinkler nozzles), the pump can put more pressure into the pipeline. This extra pressure makes it all the way to the sprinkler, creating a better throw, improved uniformity, increased coverage and less dry-patch; It might sound too good to be true but it really is that simple.

But wait, there's more! A lower flow rate also has an effect as it travels through all the pipes to get to the sprinklers. The more water being pumped per second (that is the flow rate), the faster it must travel through the pipes. This makes perfect sense of course; if you have a very low flow rate the water can dawdle down the pipes, but a large amount of water must travel faster to get through the same sized pipes. As the velocity increases, so does the amount of pressure that is lost through friction against the pipes' walls. This is



called 'head-loss'. Slower traveling water has a lower head-loss because there is less friction being created on the pipe walls, so there is less pressure lost along the way, and therefore more pressure remaining when it gets to the sprinklers. More water under greater pressure arriving at the sprinklers will be thrown further out of the sprinkler nozzle and the systems' uniformity will be much better too ... again meaning less dry patch and better playing surfaces.

So if you are having problems with water uniformity and all its implications from your sprinkler system, just changing the nozzles in your sprinklers could have a profound result. For more information feel free to contact your local Rigby Taylor area representative.

Sometimes of course the sprinklers or pipes are just beyond repair. In this case if you purchase new sprinklers, remember to consider the nozzle selection before you or your irrigation contractor installs it into the ground, and if you're having new pipes installed, make sure someone with experience in irrigation confirms the correct diameter is being installed to cope with your irrigation systems' flow rate; a bigger diameter pipe can again save some head-loss and give your sprinklers more pressure to work with.

Ultimately not every golf course or sports club can afford a new irrigation system, and

the lost productivity from having a member of staff standing all day hand-watering is difficult to justify, but a few small changes in your existing irrigation system can make all the difference. New sprinkler nozzles should cost a small amount and changing them is something you should be able to do in-house to save extra cash.



Peter Robin is the UK irrigation manager for Rigby Taylor, the UK's Rain Bird Golf Irrigation distributor

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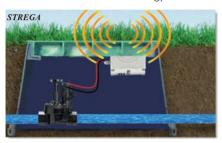


seeds, turf and fertilisers buyer's guide

STREGA

A device that can control irrigation valves from more than 10 miles away has been launched for UK golf clubs.

The STREGA Wireless Smart-Emitter for irrigation valves has been "designed to provide a seamless ultra long-range wireless capability to most common irrigation and sprinklers valves," said STREGA sales director Dominic de Changy.



The battery-operated device connects directly to the valve while providing wireless connectivity from up to more than 10 miles away, including through obstacles and even if the valve is buried below the ground surface, from a control room.

"This can help golf clubs reduce their installation costs by avoiding the use of dedicated wires to control the valves from the control room and even bypass the use of irrigation controllers," added de Changy.

"An obvious benefit of wireless components is that they can be installed in situations where wires would be a major hassle to put in. This is particularly true in the case of retrofitting an existing built space. Some locations



have plenty of water, but no power: wireless technology is the solution to the problem. This technology allows valves to go where no

valve has gone before."

Using LoRaWAN technology - a Low Power, Wide Area (LPWA) networking protocol – installation of the wireless sensor takes less than 10 minutes and only one is necessary to

cover the entire golf course.

"The cost of the emitter is far less expensive than the cost to dig and bury wires. It is more cost effective to replace buried wire systems with a wireless solution than to continuously repair wires that have been chewed by varmints or damaged by earth-moving equipment," said de Changy.

"The emitter can store scheduled watering programmes and open / close the valve. It can even stop watering if, for example, a certain flow has been detected.

"It uses ultra-low power consumption and the batteries last more than five years. The wireless data is also fully encrypted with a unique identification key for secure open / close control."

The STREGA Wireless Smart-Emitter is compatible with DC latching solenoid valves from all the major irrigation equipment suppliers including Toro, Rainbird and Hunter. Web: www.stregatechnologies.com (click on products)

DLF Seeds

Maintaining a strong, healthy and dense sward over a wet winter period is a headache for any turf manager, but for head groundsman at Warwick Racecourse, Guy Woodward, that challenge is further exacerbated by the impact of horses pounding the flats and taking the jumps. For Guy to achieve any germination and recovery, he needs a seed mixture that can perform under some of the most challenging growing conditions. Guy has turned to new tetraploid technology in the Masterline ProMaster 79 mixture, to deliver just that.

Since the decision was made in 2014 to covert to an all-jumps race programme, Warwick Racecourse has established itself as one of the leading, small National Hunt racing



courses. "Our season runs from the end of September to the end of May, with fixtures right through the winter," explains Guy who heads up a grounds team of four. "In a normal season we will backfill with a combination of soil and seed after every meet, as well as moving the hurdles to give the horses fresh ground and helping us spread the wear and maintain coverage.

"When it comes to making my decision on seed mixtures, the key criteria is a seed that can germinate late and early in the year. I spoke with Ian Barnett of DLF Seeds and he recommended the ProMaster 79 mixture from Masterline."

PM79 contains 50 per cent Double 4Turf tetraploid ryegrass, in combination with 20 per cent Platinum and 30 per cent Esquire diploid ryegrass to offer germination through the tough winter period.

"Though we don't expect to achieve masses of growth, if we overseed whilst carrying out our post-meet repairs means we know the seed is there when the time is right, and if we do get any peaks in temperature, we may get some growth."

Last year, the months of early rainfall, which left areas of the course badly waterlogged, were followed by warmer temperatures which saw the PM79 mixture once again working well. "We achieved the germination I look for and all of the overseeding we did through the winter is showing on the racing lines. It's thanks to DLF that we seem to have a mixture that's working for us and our requirements, helping to maintain strong cov-



erage even when mother nature does her best to stop us!"

Web: www.dlf.co.uk

Headland Amenity

In what was a challenging year for greenkeepers up and down and the country, course manager at Abridge Golf Club, Geoff Smith, had no complaints with the way the course emerged from the prolonged period of hot weather in 2018. The fairways, in particular, came out looking better than ever, which he puts down to the timely installation of a new Perrot irrigation system, and his tried and tested nutritional programme from Headland Amenity.

Geoff joined Abridge, a Regional Open Qualifier 2009-2013, as an assistant green-keeper 17 years ago, on the back of learning his trade at The London Golf Club. "When I took charge 12 years ago in the autumn of 2006, I found out within my first three months at the helm that we were going to be hosting a large national tournament in the summer of 2007, which was a daunting challenge to say the least! I decided to call on the expertise of some trusted industry contacts — one of whom was Claire Harley of Headland Amenity.

"All those years ago she recommended we apply Multigreen® 28-3-15 temperature-controlled release fertiliser on the fairways, a programme we still follow to this day." Multigreen® is the only long-term fertiliser where nutrient release is governed by soil temperature only and not affected by other factors such as moisture, pH or microbial activity. Ideal for use on fairways, coarse turf or winter sports pitches, the prills contain their nutrients within a permeable resin-coating to prevent severe leaching loss.

"Abridge can be a bit of a grass factory but with the controlled release of Multigreen®, we get a consistent, healthy growth on the fairways that continues for months. Last year was a great test for our nutritional programme and we've emerged with flying colours!" Geoff applies Multigreen® once a year, and compliments this with a tank mix of TriCure and Elevate Fe, applied in September/October, to help in the management of Dollar Spot — another recommendation from Claire.

Geoff adds, "I have a great working relationship with Claire and know she's always on the end of the phone if I need help or guidance. Undeniably, the Multigreen® feeds, together with a verti-drain and scarification programme, has helped me to produce fairways that our visitors and members describe as carpets! They love to play on them and that's really what counts."

Web: www.headlandamenity.com

Germinal

Germinal has launched an organic based phased-release fertiliser which provides up to five months' worth of nutrients and trace elements from a single application at a budgetfriendly price point.

GSR Tri-Phase is an 18-3.5-8 NPK fertiliser which also supplies one unit of MgO plus trace elements including copper, zinc, boron, manganese and molybdenum.

Recommended for use on all fine grass swards including golf greens, tees and fairways, sports pitches and all amenity areas, GSR Tri-Phase's mini-granular (1-2mm) formulation delivers a cost-effective and consistent supply of nitrogen and potash over a period of 16-20 weeks.

Richard Brown, Germinal Amenity sales manager explains: "We recognise that, for many landscapers, local authorities and golf, rugby and football clubs, grass and groundcare budgets can be very tight. We have therefore developed our own phased-release fertiliser which is as good as anything else on the market but at a more affordable price. It can be used either as a base feed as part of a wider fertiliser programme, or, where budgets are severely restricted, as a standalone, single application product."

GSR Tri-Phase contains three forms of nitrogen to provide three phases of nutrient release into the rootzone: an initial hit of quick



release nitrogen gives way to methylene urea which is subsequently followed by a final release of organic based nitrogen. In addition, potash is also released slowly throughout the growing season to regulate water uptake and to ensure nutrients and trace elements remain mobile and available for uptake.

"This not only reduces plant stress throughout the growing season, but also enhances the sward's ability to withstand drought conditions," Brown adds. "A single application of 25-35g/m² in the spring – typically in late March or early April – will instigate good early season growth and recovery and provide the necessary nutrients required by high performance grass swards for the majority of the growing season and certainly through until August or September. During this time GSR Tri-Phase will release a slow and steady supply of available nitrogen ensuring a consistent rate of grass growth with no intense bursts of activity." Web: www.germinalamenity.com

Rigby Taylor

Rigby Taylor has expanded its product management team of industry product specialists with the appointment of Peter Robin as UK irrigation product manager.

Peter will spearhead the company's expansion into the irrigation market as the UK distributor of Rain Bird's golf, sports pitch and landscape products.

Peter, a New Zealander by birth, has a bachelor of horticultural science degree and over 20 years' experience across a wide range

seeds, turf and fertilisers buyer's guide



of irrigation market sectors and installations, 10 years of which have been spent in the UK.

Peter lives in York but has a nationwide brief and can be contacted by email (peter.robin@rigbytaylor.com) or by 'phone on 07741 665679.

Web: www.rigbytaylor.com

EAGLE

Rochester and Cobham Park came to EAGLE for a new large entrance sign. It was at that point, when reviewing the logo to be used, that not only did it fall short visually of how Rochester and Cobham Park wished to be perceived as a club, but also that there was no relationship between the icon and the title meaning that the logo was not versatile across a number of different formats and layouts. It was, therefore, decided that the club required a re-brand and identity upgrade before investing in a signage and print collateral project in order to move forward and maintain their status.

Starting from square one, a full audit took place at the club as the management plotted the route to prosperity. At the time, the club did not own a high-resolution logo, have a colour palette to work with and the website was not mobile-optimised. Of course, with a limited budget, there is a tendency to be lured into schemes that promise to cut corners and provide short term investment, but the experienced team saw past this, realising that the first step was to implement solid and authentic foundations before any progress could be made.

Rochester and Cobham Park briefed EAGLE that the new look must be something that was fresh, appealing and recognisable.



EAGLE leveraged the already recognisable essence of the old logo and modernised it for the 21st century. EAGLE's signage team conducted an audit of the premises deciding that a full course signage upgrade as well as a customer journey signage project was required to enhance the experience when playing at the course.

There is now a tangible sense of positivity at the club. With a new responsive website and consistent identity, it now has all the foundations in place to market itself effectively. Rochester and Cobham Park is planning an intensive marketing campaign that includes strategic partnerships with local clubs and communities, digital marketing and social media campaigns. John Aughterlony, club manager of Rochester & Cobham Park Golf Club. commented: "When we took the decision to enhance the quality and consistency of our signage, we chose EAGLE as we wanted to ensure that the Rochester & Cobham brand and visual identity would be first class. We wanted to define our customer journey for both our members and visitors and in working with the design team at EAGLE, we were able to deliver this. The feedback we have received has been tremendous and I would recommend EAGLE to any club that are looking to enhance their appearance or re-position their branding."

Web: www.eagle.uk.com

Charterhouse Turf Machinery

Norfolk's Sheringham Golf Club has called on a duo of seeders from Charterhouse Turf Machinery to help their aim of achieving 'continuous development'. With advice from course consultant Gordon Irvine, the club has undergone a transformation in recent years, one of the biggest changes is the push towards increasing fescue cultivars into the greens and fairways.

Head greenkeeper, David Childs, has been at Sheringham for 23 years and is supported by a team of six greenkeepers. "Our sward



conversion programme has been in place for three full seasons and was kickstarted along-side investment in new machinery" he explains. "We went for the Redexim Verti-Seed 804 for the greens as we were impressed with the gear system which meant we could easily and accurately control the amount of seed the machine was putting out. For fairways, we chose the larger Redexim Overseeder 1275."

The current regime involves a double pass on the greens, in August and October. "The Verti-Seed is a really simple machine to set-up and leaves a nice smooth finish, which is key for the work on the greens. Because the seed is delivered straight down into the soil profile, we've been achieving fantastic uptake, even in the drier conditions. Following the work, the surfaces look great again in as little as a week which, as September is a very busy time for us, is important." Two passes are also conducted with the Overseeder on the fairways, however, this tends to be later in the calendar, to capitalise on the increased moisture content therefore helping to maximise uptake"

Web: www.charterhouse-tm.co.uk

The Petrol Tank Company

Most media currently demonises fossil fuels and their daily use, stating that our future is based in electric vehicles and machinery.

But are these reports looking at the bigger picture?



The United Kingdom's electricity supply is currently made up from 33 per cent renewable energy.

So are petrol and other fossil fuels as we know them doomed to the history books?

Fortunately, engine production for petrol and diesel machinery has advanced in leaps and bounds during the last five years and modern engines are cleaner and more efficient than ever before.

In comparison, electric motors are less repairable and with a shorter life span than their combustion counterparts.

A recent investigation found that the production of batteries (which involves the mining of lithium) will emit up to 74 per cent more carbon dioxide than the production of an efficient modern petrol engine.

This coupled with a battery's short lifespan in comparison with a combustion engine shows that the environmental impact of battery machinery is not the environmental saviour we are led to believe it is.

Batteries play an important role in our work machinery but the future of batteries powering our machinery is not all it's made out to be.

The best way to invest in our future is to maintain and look after your existing machinery. Cleaning and maintaining will prolong the life of it and using quality fuels stored in your own above-ground petrol tank or petrol caddy will offer the convenience of being able to keep your machinery fuelled with no charging time.

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Tel: 01283 820213

EcoBunker

Royal Guernsey, located at L'Ancresse on the Channel Island, between England and France, has completed the first phase of a multi-year rebunkering using the EcoBunker Advanced synthetic edging product.

The project started in December 2017, when EcoBunker construction manager Llewelyn Matthews travelled to Guernsey to build a test bunker on the club's short game practice area. The success of this trial project convinced Royal Guernsey to sign up for a three-year project to rebuild all 31 bunker on the golf course, as well as adding some new fairway traps in the last phase (winter 2020-21). Matthews returned to the L'Ancresse links – also home to the L'Ancresse Golf Club – in November 2018 for a 'refresher' training exercise

Course manager Marcus Hamon says: "These bunkers needed to be right as they would be around for a long time. Llewellyn didn't let me down and the rebuilt bunkers look great and sit nicely in the undulations of the golf course. The service from Richard and the team at EcoBunker was first class from the very first telephone call to the end of phase



one. I look forward to working with them on phases two and three and wouldn't hesitate in recommending them to anyone in the future."

EcoBunker CEO Richard Allen says: "The success of the Royal Guernsey project is a testimony to the effectiveness of our EcoBunker Advanced process, which reduces the weight of turf required to build a bunker by the use of cantilevering and a cement modified backfill. This both strengthens the bunker wall, and dramatically reduces the shipping costs of the product. Had we been forced to use our original method, with wider tiles of artificial turf, the shipping to Royal Guernsey would have required two full trucks. Instead we only needed one; a saving to the club of £2,500." Web: ecobunker.co.uk

GripClad

Cavendish Golf Club, dubbed 'the course that inspired Augusta', lies in the north of Derbyshire, designed by the famed course archi-



During recent course improvements, new wooden steps (sleepers) were in-

stalled on the first tee and therefore created a need to have anti-slip protection fitted.

GripClad (inset, the old steps

The greens' committee looked at various options using different materials but decided that GripClad plates would be the correct material to install.

Located in an area that can experience very inclement weather and above average rainfall, longevity of whatever the club chose to be fitted was of paramount importance.

One of the other main reasons why Cavendish selected the GripClad product was the fact that it could be quickly installed with no other preparation work necessary. Once received, the 1.8m x 500mm plates were installed within the hour! They have enhanced both the appearance of the new steps and give full anti slip protection for all those using them.

In early 2015 Cavendish had installed the product on the steps to four other tee boxes accessed by steps constructed using sleepers. The results have been excellent – despite a few harsh winters, the GripClad plates are the same as they were on day one; no signs of wear or deterioration and they continue to provide a great anti-slip system.

Over the years other products have been used to cover the steps on the course without long-term success, but now a real cost saving benefit has been found that will last for many years to come.

Web: gripclad.co.uk/industries/golf-industry Tel: 023 8040 6796 or 07803 848819 (Barry Eagle)

environmental legislation



Two years interest free from Waste2Water

With environmental awareness and recycling on the agenda, Tim Earley looks at how Waste2Water's cost effective course machinery wash-off system benefits golf clubs

hen we installed the first Waste2Water Recycling Wash System 19 years ago, the need to recycle was just being introduced. Now most households have a green bin / blue bin / brown bin / black bin and so on, and recycling is a big issue with large fines for non-compliance. Environmental awareness has come a long way since the turn of the millennium!

Environmental legislation

Environmental stewardship is now a legal requirement enforced by legislation. With the

recent extensive publicity I'm sure that everyone is aware it is a criminal offence to allow certain substances including mineral oils, detergents and chemicals to enter surface drains, watercourses or soakaways, causing groundwater pollution. Large fines of up to £50,000 and even imprisonment can now be levied in the event of a serious pollution incident.

EU Water Framework Directive

A raft of legislation has been recently introduced to reinforce this message, including the EU Water

Framework Directive which has now been fully implemented.

So, if you have not already installed a dedicated wash area to avoid the risk of pollution now is the time to act to ensure your course is environmentally compliant.

Waste2Water two-year interest-free finance

Hundreds of golf courses have installed our system but what if you are keen to make sure you are compliant but are unsure about financing the investment? With investment in a recycling wash system now an urgent priority to ensure environmental compliance, we are delighted to offer our in-house **two year interest-free finance package**. We fund the scheme ourselves so it couldn't be simpler!

- In-house scheme so no finance to apply for or forms to fill in!
- Just 8 x quarterly payments!
- Spreads the investment cost over up to three accounting years!

Waste2Water ensures environmental compliance

Installing a Waste2Water Recycling Wash-Off System provides a superb equipment wash facility and ensures compliance with the environmental legislation.

Equipment wash-off, refueling, degreasing, chemical mixing and any other potentially polluting activities can all be undertaken on the pad, removing any risk of groundwater pollution from routine activities.

Better still, the recycling wash system continuously re-uses the same water, reducing wash water usage by more than 90 per cent!

Waste2Water Recycling Wash System approved on Water Technology List (WTL)

Inclusion in the Water Technology List (WTL scheme) provides a very handy cash flow boost with a 100 per cent first year Enhanced Capital Allowance (ECA).

This gives full 100 per cent tax relief against taxable profits in year one – instead of the standard reclaim period of eight years! It sounds a bit complicated but rest assured your accountant will be delighted!

Installing a Waste2Water Recycling Wash System

Installing a Waste2Water system could not be easier, often easily retro-fitting into an existing area. The recycling system ensures environmental compliance, reduces water usage by a massive 90 per cent and tidies up one of the worst aspects of golf course maintenance.

Our above-ground system is very easy to maintain and you can see what's going on, ensuring there are no undetected underground leaks. The above-ground dirt settlement tank allows easy removal of the dirt from the recycling system at no cost! You don't need expensive specialist waste contractors to empty the tanks, as with underground systems!

Tim Earley is the managing director of ESD Waste2Water. If you would like further information on the Waste2Water System or a copy of the Pollution Prevention Guidelines please call. Tel 01782 373 878 / E-mail: info@waste2water.com



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Greenkeeper profile





The world of Goodwood

The Goodwood Estate in West Sussex has a cricket pitch, an airfield and a horse racing track, among other activities, in addition to the two 18-hole golf courses that make up the Golf at Goodwood brand. *GreenKeeping* speaks to Goodwood's general manager of Sports Turf, Grounds & Gardens, Phil Helmn MG, about overcoming these unique challenges

he 12,000 acre Goodwood Estate has two historic 18-hole courses at its heart, providing the opportunity to combine a round of golf with one of the many other activities on offer, including the world-famous Festival of Speed, Goodwood Revival and Glorious Goodwood. The estate has been in the Duke of Richmond's family for more than three centuries and in recent years has received credit for its flexible membership options to golfers, which have proven to be very popular.

GreenKeeping caught up with Phil Helmn MG, general manager of Sports Turf, Grounds

& Gardens - Goodwood Estate, to find out about him - and the work that goes into maintaining this unique and varied venue.

GreenKeeping: What was your path to greenkeeping, where did you study and how long have you now been at the Goodwood Estate?

Phil Helmn MG: Since leaving college in 1987, where I gained my diploma in sports turf science with honours, I have lived and breathed golf and greenkeeping all my life. I have worked hard to rise up through the greenkeeping ranks, starting my career as a trainee at Morecambe Golf Club in Lancashire at the tender age of 18, and became a Master Greenkeeper (one of 74 worldwide) in 2001.

My father was the local golf pro at Morecambe GC and that greatly influenced my early career. I have always worked in the propriety-owned golf course world and have gained 30 years of valuable experience working with tight budgets and the need to get the best out of all resources available. I have managed large teams on a wide range of soil types both in the UK and Europe, and have used these experiences to fine-tune my mentoring and common sense management



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style. When my busy work schedule allows, I continue to support local colleges by lecturing in sports turf, giving me the opportunity to give back to the industry.

I joined Goodwood in January 2013 and have progressed to my current role as general manager of Sports Turf, Grounds and Gardens. This role calls upon my management skills to lead the various teams responsible for all the sports turf areas on the estate.

I oversee two 18-hole golf courses, cricket pitches, motor circuit areas, grass airfields and the extensive grounds and gardens around the historic Goodwood House, set in the idyllic countryside of West Sussex on the beautiful south coast.

GreenKeeping: What is the number of your overall team for the management of the estate

and how do you apportion resources to the venue's two golf courses: the Park and the Downs courses?

Phil Helmn MG: We have an overall full-time team of 30, with five working on the Park Course and eight on the Downs. There are also eight in the gardens team and a further eight working on the grounds and cricket pitches. Helping myself and my six line managers to keep everything ticking along relatively smoothly is one very busy administrator. During the growing season these teams are supplemented with a further 15 casual staff in order to deliver the attention to detail required from such a prestigious site.

GreenKeeping: What would you say are the biggest challenges you currently face and how does this impact on the daily maintenance?

Phil Helmn MG: Maintaining standards is always at the forefront of our minds. Expectations continually increase and so do the demands for perfect conditions throughout the year. We are constantly striving to deliver above and beyond our customer expectations and this can be very challenging at times for the teams.

GreenKeeping: What aeration and topdressing programmes do you run, what equipment and processes do you use on the varying areas of the courses, when do you undertake the work and how far in advance is your programme planned?

Phil Helmn MG: We attempt to set out our programmes at the beginning of the year and try to schedule these around an ever-busier customer diary.



aerator.

Throughout the year we also lightly sorrel spike our surfaces which helps us prior to liquid feeds.

We aim to apply around 100 tonnes of sand topdressing to our greens' surfaces throughout the growing season on each course and we find this hugely beneficial to good strong growth, aiding faster ball speeds and creating smoother surfaces.

Phil Helmn MG: We use seed from across DLF's Masterline and Johnsons ranges throughout the site, with the majority of our surfaces being predominantly ryegrass. In recent years we have used various mixtures on the two courses but have now unified this to use the same mixtures on both the Park and Downs courses. On the greens we're on a bent grass overseeding programme with the Johnsons J All Bent mixture. The 50/50

J Rye Fairway mixture, and on the tees we have recently switched, with success, to the J 4Turf Tetraploid mix.

GreenKeeping: How long have you been using the Johnsons mixtures and how important was the research and trialling of their mixtures in your decision to use their varieties? Phil Helmn MG: I have been using Johnsons Sports Seed mixtures for many years. It was

Greenkeeper profile





important to me to be reassured that their background expertise comes from years of trials and research and that their underpinning knowledge and support is always there to help in my decision making. I have always been impressed with their desire to continuously raise standards, ensuring only the highest quality seed is incorporated into their mixtures, providing a level of security when it comes to selecting new varieties.

GreenKeeping: Are you using the Johnsons range across other surfaces on the estate? Where have you had particular success or challenges that have been overcome with the choice of seed mixtures?

Phil Helmn MG: When it comes to choosing mixes for the more unusual, challenging areas of the estate, the fact that the Johnsons mixtures have been tried and tested is a hugely beneficial starting point.

Products from their range are used across the site including J Premier Wicket on our cricket wickets and J4Turf on our light aeroplane airfield areas. We recently invested £1.3m in re-grading, re-levelling and redraining our runways, which are home to an academy of three Spitfires.

We're confident that DLF's tetraploid J4Turf perennial ryegrass mixture will be better suited to withstand the aggressive take-offs and landings. We also use Johnsons mixes to help our grass areas recover following major events such as our Festival of Speed and Goodwood Revival.

GreenKeeping: You've put in place a bunker renovation programme. What were the reasons for this, will there be any redesign and what results have you seen to date?

Phil Helmn MG: The Downs' bunkers were redesigned four years ago by golf course architect Tom Mackenzie of Mackenzie and Ebert and re-built by Abbotts sports contractors.

Our five-year plan is to re-line the bases, reedge all 66 bunkers and, at the same time, take the opportunity to change the sand type.

This is just good house keeping and as such is nothing out of the ordinary.

The sand change follows trials of various sands and we will change to a slightly coarser sand to try and reduce drying out in the summer months.

The Downs, being located on the top of the

chalk-based South Downs hills, gives us particular problems when the weather becomes too hot and dry.

The Park course's 60 bunkers will also be renovated in the same timescale and the emphasis here is to keep the same sand type (as it's on a more sheltered part of the estate) but take the opportunity to reduce the overall size, making them more maintenance-friendly.

GreenKeeping: Golf At Goodwood's greenkeeping team has realised its ambition of gaining the coveted GEO (Golf Environment Organisation) certification, for its commitment to sustainability across both courses. Congratulations! What were the initial reasons for undertaking this, what was the process and what does this mean for the courses?

Phil Helmn MG: Goodwood has many environmentally conscious initiatives across the estate. We have vast conservation areas, sustainable woodland management practices and as such it felt right that the two golf courses did their bit for the planet. We were proud to take part in the GEO award scheme and delighted that we were successful. We haven't stopped there — it's given us the drive to continue to find even more ways to become planet friendly. It's very exciting to see the team's efforts towards this goal.

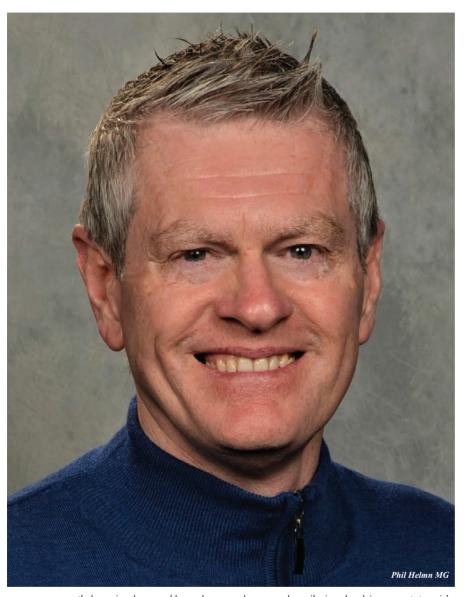
GreenKeeping: Following last year's hot summer and increasing costs, water management continues to be a focus for many. What irrigation system set up do the





Greenkeeper profile





"EDUCATION IS KEY TO SUCCESS COUPLED WITH A CAN-DO. **POSITIVE** ATTITUDE. IN AN **EVER-MOVING** WORLD. STANDING STILL IS ACTUALLY **MOVING BACKWARDS**"

courses currently have in place and how does the wider estate currently manage water use? Moving forward, what measures are you looking to put in place to increase efficiency and effectiveness in an effort to drive down costs?

Phil Helmn MG: Last year was a particularly challenging year for us across the estate generally. Our current irrigation system is very old and only just coped with the business demands. It has highlighted for us the need to take a comprehensive look at our current system and, to that end, we have formed a group to explore what the future needs to look like for the estate. Recently I have become heavily involved in an estate-wide water usage exercise and, as such, irrigation, abstraction, storage and conservation are all hot topics for us. Future-proofing water management on the estate for the next century is top of our list.

GreenKeeping: The estate has a good number of trees, what woodland management / replacement programme do you have in place, who undertakes this and when?

Phil Helmn MG: We are very fortunate at Goodwood to have a completely separate woodland team consisting of 10 tree surgeons. The estate is vast (approximately 12,000 acres) with extensive commercial woodlands within. We have the luxury of being able to call on help at any time. That said, we have in our team four guys who are qualified to fell and cross-cut small trees, so we do have the ability to carry out minor works ourselves.

GreenKeeping: What machinery fleet are you currently using on the courses?

Phil Helmn MG: The majority of the fleet across all departments is Toro. These range from the smaller greens' hand mowers to the larger wide area mowers capable of mowing the entire airfield in a day (that's approximately the area of rough found on a small 18-hole golf course). Our utility vehicles are all diesel Toro Workmans and only a couple of specialist pieces of equipment are non-red.

We are experimenting and trying hybrid models now in readiness for when our fleet changes in a couple of years, as we realise the future has to be more conservation friendly. The initial costs are a little higher but through crunching the numbers this should be more than outweighed by lower on-going running costs.

GreenKeeping: Training and education are key to developing a good team, what do you do to ensure you are investing in raising the standard of practice and performance from team members?

Phil Helmn MG: We have a comprehensive training budget and endeavour to keep training at the forefront of our work ethic. We have a significant in-house training programme run by our own human resources team.

These courses either last for a couple of hours or one to two days depending on the content. These courses include topics such as understanding stress, time management, difficult conversations, health in the workplace and how to communicate effectively, to name just a handful.

The team attended over 75 training sessions last year, as well as some external, more traditional qualifications associated with the industry. Learning and developing ourselves has been terrific to help us achieve a far better work culture within in our team.

GreenKeeping: How does the weight of membership and players affect the ability of the team to keep the playing surfaces and presentation of the courses to such a high standard and how do you work around the membership for renovation projects?

Phil Helmn MG: Getting the right balance between improvement work and presentation work is always a challenge. We have a full membership of 2,000 at Goodwood (with a waiting list) and so the golf course is always busy. I think we have been able to achieve a relatively happy balance, and innovative communication has definitely helped us educate our membership and keeps the grumbles to a minimum. We have filmed videos of our work, produced blogs and newsletters, held members' barbecues with seminars and hosted course walks — all have done a great job in helping us to get out on the course and carry out the necessary work needed to keep standards high.





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Greenkeeper profile

GreenKeeping: The pressures on the course manager to deliver a better product are growing year on year and the level of professionalism is rising with this. What do you think are the qualities now needed to meet the requirements and demands of golfers by someone in your position and how does this help contribute to the business of golf?

Phil Helmn MG: Communication and knowledge are key to success. The ability to keep moving forward, exploring and embracing new technologies is the only way to stay ahead of the game.

GreenKeeping: What currently gives you the greatest satisfaction from your job?

Phil Helmn MG: I tend to get tremendous satisfaction from seeing team members develop their skills. This may be anything from how to cut a green superbly to delivering a presentation to a group of members with style

and knowledge. I particularly get great satisfaction from seeing initiative and contagious enthusiasm in someone's work. When I see this, at any level, I know our overall team's vision is working and our can-do culture is being realised. I very much enjoy working with all our team, but particularly enjoy sharing our team goal and vision with my line managers who have done a terrific job in raising standards. Together we have all helped to create a great team culture. They are Simon Berry (head greenkeeper – Park), Rob Dyer (head greenkeeper - Downs), Andy Boxall (head groundsman), Georgina Page (head gardener), Adrian Gale (head mechanic) and Richard Geffen (head groundsman). Without their help, support and passion, none of this would have been possible.

GreenKeeping: With your many years

experience, what advice would you give to youngsters starting out and wanting to pursue a career in the profession?

Phil Helmn MG: This one is quite simple – learn as much as you can.

Education is key to success coupled with a can-do, positive attitude. In an ever-moving world, standing still is actually moving backwards.

GreenKeeping: What changes do you think need to be made to benefit the industry sector and profession of the greenkeeper?

Phil Helmn MG: There has been so much great work being done over the last couple of decades, certainly since I joined the industry at the tender age of 18. I think continued emphasis on education, innovation and recognising greenkeepers as true professionals will help our industry build on the successes already achieved.





A man with a plan

Aquatrols' technical support and European account manager, Michael Fance, shares his thoughts on how to work with the weather with a well thought out turf action plan

hroughout my European travels, the only consistent trend I've observed regarding the affects of the weather on sports turf maintenance is its inconsistency!" Michael says.

Michael has spent his 36-year career advocating a proactive approach within an integrated turf management programme but, using his experiences, and the extensive database of research acquired throughout Aquatrols 60-plus years of research and development in the industry, his thoughts have been refined to a more tailored approach. Whilst still recommending working to a programme, there is more emphasis now to make reactive decisions within the 'Turf Action Plan' to help mitigate the unpredictability of the weather.

The proactive approach

The first approach suggested is that of carrying out a simple water drop penetration test (WDPT, Letey, 1969). "If the soil cores exhibit a low level of repellency, or if it is discovered that moisture levels are greater than ideal at the surface, an application of Dispatch Sprayable can be very beneficial as well as economical as its patented formulation facilitates the infiltration and penetration of water," says Michael.

If rootzones are identified as highly water repellent, an application of Aqueduct Liquid can be used as a pre-treatment tool to address the problem before starting a regular preventative programme.

Michael continues that irrespective of prevailing weather conditions, starting Revolution or Zipline programmes early will help optimise airto-water ratios in the rootzone for a better growing environment and healthier turf. Both formulations have the ability to perform well in extremes of wet or dry weather in a wide range of soil types.

Last year saw many situations that required investment in curative applications and renova-

Proactive Programmed Approach	Reactive Requirements	
Perform a Water Droplet Penetration Test	Rehydrate where required with Aqueduct	
Start your surfactant programme early based on your turf health / soil conditions. Revolution or Zipline are designed for this.	Aid water conservation and penetration with Dispatch Sprayable	
Consider Fifty90 for greens and tees within the programme	Treat localised dry spot with Aqueduct Flex	
Review as season progresses	Remain flexible to adapt to unseasonal weather	

tions that could possibly have been avoided. Zipline and Firmway both have variable rate op-

tions which provide the turf manger with a proactive, economical approach that will help to mitigate any challenging conditions thrown up by the weather.

If the site-specific issue relates to low moisture retention capabilities, then a proactive wetting agent approach would be advisable. Primer Select is the preferred technology Michael advises as it creates a matrix flow — a uniform wetting front to prevent the development of water repellent conditions.

Reactive moisture management options

In wet conditions, Dispatch Sprayable can be very useful, however, trials have shown that low rate applications of Fifty90 have also proven to significantly increase water penetration times and therefore retain playability of sports surfaces in extremely wet conditions.

Having discussed the merits of Aqueduct Liquid within a proactive strategy, the product is more often referred to as the 'fire extinguisher' of curative soil surfactants for treating hydrophobic soil. Its use enables many turf managers to re-

hydrate soil and therefore induce turf recovery when heat and drought have taken their toll.

Healthy turf for all seasons

In addition to a well-managed turf action plan for water management, Michael also advocates ensuring that turf is kept healthy at all times. Recently launched Attain containing AquaVita Technology (which is also contained in Zipline) has been proven in independent trials to improve a number of aspects of turf health and per-

formance. Unlike traditional biostimulants, this biocatalyst technology is not compromised by soil temperature or chemistry issues therefore helping as part of a turf action plan to mitigate the weather.

Michael summarises by saying: "I feel that the inclusion of reactive strategies within an overall proactive programme is the best way for managers of natural turf surfaces to prepare for whatever the weather throws at them."

For more information, visit uk.aquatrols.com















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machinery and equipment buyer's guide



GreenMech

Running GreenMech woodchippers since 1999, Powerline Services MLJ and director Ben Jones have recently taken delivery of their latest additions, two ArbTrak 150s. A loyal customer to the tracked units since Green-Mech launched its first model in 2003, the new machines on their fleet effortlessly traverse all terrains reducing transport time and increasing productivity.

Herefordshire based Powerline Services offer safe, effective and efficient removal of trees and vegetation from powerlines - serving as a sub-contractor on the Scottish and Southern Energy, National Grid and Western Power contracts. "Our woodchippers are our core piece of machinery" explains Ben, "and for the majority of sites we're operating on, the work calls for a tracked chipper. We've always had tracked units from GreenMech but as requirements and the type of materials we're handling change, we're constantly reviewing that our fleet is fit for purpose." So impressed with the Arborist 150 road-tow chipper already on the fleet, the delivery of the two ArbTrak 150's from Tallis Amos at the end of 2018 came without the need for a demonstration.

"The ArbTrak 150's are a perfect size to handle the brashy material that makes up a large percentage of our projects. We can quickly and conveniently track them to the area of work meaning no time is spent transporting material to the chipper, therefore improving efficiency for my teams." The highly manoeuvrable tracked chassis of the ArbTrak 150 provides high ground clearance of 274mm and a tracking speed of 3kph. Fitted with a 34hp diesel engine, it is a popular choice with contractors and those maintain-

ing difficult terrain, requiring maximum traction and minimal ground pressure.

Not only are Ben and his teams on the road hugely impressed with the quality and performance of the woodchippers, they're also reassured by the after-sales service. "We've had experiences with other manufacturers in the past where they offered us a good deal, but the support we received after we'd taken delivery was very poor. In my opinion the back-up support from GreenMech is unbeatable, and when you've got contracts to deliver on, that's invaluable."

Web: www.greenmech.co.uk

Dennis and SISIS

The Dennis and SISIS groundcare seminar took place at St Albans School, Woollam Trust Playing Fields, on Tuesday, February 19, with delegates all claiming it was a huge success.

For a number of years, the Dennis and SISIS pre-season indoor seminars have toured the country and have successfully seen over 1,800 ground staff in attendance. As they continue to grow in both size and reputation, the seminars are continually evolving with the people of the industry in mind.

Designed to educate those involved in groundcare on a variety of sports turf topics, this seminar signalled an exciting new chapter in the series and it certainly didn't disappoint the two hundred and fifty strong audience which consisted of volunteers and professionals representing schools, sports clubs, local authorities and contractors.

The seminar was well supported by the industry and welcomed a number of key sponsors which included Bernhard and Company, Consolidate Turf, CricketWorld.com, Garside Sands, Harrod Sport, Headland Amenity, Limagrain UK, Poweroll, RT Machinery and SIS Pitches.

After an introduction from Dennis and SISIS' Robert Jack, former rugby union star Kyran Bracken, arguably best known for his heroics in England's victorious 2003 World Cup win, took to the stage to relay some highly interesting and humorous stories about that memorable campaign in Australia.

It was then straight to business with backto-back presentations from key speakers Rob Kendle (ATB Sports Solutions), Dr Iain James (TGMS) and Alex Vickers (IOG consultant).

Rob started proceedings by discussing best practice in renovating and rejuvenating a surface; lain followed with a plethora of advice on how to get the most out of a sportsground construction project and Alex gave the audience a fantastic insight into drainage on sports pitches.

A complimentary lunch signalled the halfway point and attendees had the opportunity to network with one another and discuss individual projects with event sponsors.

Once refreshed, delegates settled into their seats for an afternoon feast of knowledge served by Chris Wood (ECB pitch consultant) and Keith Kent (RFU head groundsman, Twickenham).

Keith drew on his wealth of experience as a groundsman to explore the transformation of winter sports pitches into cricket outfields and Chris reflected on 50 years in cricket groundsmanship in which he focussed on vital techniques before discussing emerging trends which could become essential in the not too distant future.

The day concluded with a special recogni-



tion award by Tim Lamb, former chief executive of the ECB, to Chris Wood for his outstanding contribution to the game of cricket over the past 50 years, which also saw a standing ovation from the crowd.

Web: www.dennisuk.com / www.sisis.com

Charterhouse Turf Machinery

When it comes to cleaning an artificial surface, many turf managers have found the little and often approach to be the most effective. Most material that will end up on the surface is natural debris and detritus, which if left will invariably get trodden on and broken down into the surface. Removing this as and when it occurs is the most effective way to prevent this material reaching the bottom of the carpet, which can ultimately cause issues with compaction and drainage.

The Verti-Clean from Charterhouse Turf Machinery will pick up surface debris with a rotating brush, powered by ground wheels, and throw it onto a vibrating sieve. The sieve filters any infill material back on to the playing surface, whilst retaining the debris and collecting it in a lightweight hopper, that can easily be removed for emptying.

The finish is a revitalised surface with clean infill.

A Verti-Clean 1500 has been used as part of the synthetic maintenance programme at Scotstoun Stadium since September 2017. The hard work of Head Groundsman Paddy Ferrie was recently rewarded as he was crowned the winner of the 'Best Maintained Artificial Surface' category at the IOG Awards. "On the synthetic surface, I conduct regular brushing to stand the fibres up, redistribute the crumb and improve the appearance of the pitch prior to matches" explains Paddy, who has been at Scotstoun for two years.

"Because of the pitch's surroundings, at certain times of year we get a lot of leaf-fall and



debris on the surface, for which I needed something that would conduct a more thorough clean. With this machine I can work at a nice steady pace, collecting any leaves or debris before they become embedded into the pile."

Web: www.charterhouse-tm.co.uk

Cub Cadet

Home to Ik Oddevold and Rössö IF, Sweden's Rimnersvallen Stadium has purchased a Cub Cadet INFINICUT® 34" mower from local dealer Grasvardsmaskiner. In use on the main stadium pitch, including before matches, Rimnersvallen grounds manager Robert Adamsson has been particularly impressed with the improvement in the quality of cut and appearance produced.

The multi-use stadium, which played host to Pele's first World Cup match in 1958, is currently under redevelopment with the changes including taking delivery of their INFINICUT® in spring last year. "Ivan came over and did a demonstration and we liked the mower straight away" explains Robert, who is supported by a team of three groundstaff. "The first, and perhaps the most important thing for us, is that it runs on battery power making the mower very quiet which means we can get out and mow early in the morning." Featuring an athletics track in addition to the main pitch, the quiet operation of the INFINICUT® means that mowing can take place at any time, including when the facilities are in use by children from the local school.

"The whole team use the INFINICUT® and have been impressed with how easy it is to use, and how simple it is to adjust the cutting position. The quality of the cut it produces has dramatically improved the appearance of the pitch, which hasn't gone unnoticed by the players and the fans."

The Cub Cadet INFINICUT® has been specifically designed to offer the operator the ability to alter geometry and working parameters to ensure sward consistency is retained regardless of the time of year or conditions encountered. Plant health can only be augmented by choosing the correct equipment set-up for the circumstances that prevail at any given time. Setting the mower with an attitude



angle that is too aggressive can weaken the plant during times of plant stress allowing pathogens to more easily 'take hold'. Frequency of clip (FOC) is important in ensuring the correct quality is achieved for the specific height of cut as an incorrect FOC can mulch the plant leading to an unclean cut and an increase risk of disease.

Web: www.cubcadetturf.com

Toro

The latest Toro fleet, which includes greens, tees, fairways and rough mowers as well as utility vehicles, for Celtic Manor marks a relationship spanning a quarter of a century.

And the reason why is because Toro is "head and shoulders above the competition", says director of golf courses and estates management, Jim McKenzie MBE. "We originally chose Toro in 1993 because it was the only machinery manufacturer that could deliver us a full fleet of machines, or the closest to it anyway. That sums Toro up, it has always led the way and been market innovators, and that's why the relationship has lasted."

Machinery was replaced as and when, but in the main every three years from 1993 to 2008 when Jim decided it was time to agree to a five-year partnership agreement: "Toro and Lely, as Reesink was then, were our preferred suppliers for many years. And the timing was right to formalise the deal in 2008 with us hosting the Ryder Cup in 2010, to have the back up and support that being in such an agreement brings as we took on one of the world's biggest sporting events.

machinery and equipment buyer's guide



"Our Toro fleet is as complete as it's possible to be. We have literally hundreds of bits of kit. And the reason for that is because Toro holds its value and ages well. Toro is part of our image. They look good for many years, and as a result we tend not to sell on the older machines as we replace them. They continue working on estate developments and with the gardening team."

With so many machines at his disposal and his experience of using them over the years, is it possible to pick a favourite? Jim says yes. Step forward the ProCore 648 aerator. Favoured by Jim for its versatility across the three world-class championship courses, the golf academy and the nine-hole municipal course Caerleon Golf Club: "The ProCore is excellent for all fine turf aeration applications. The club is built on old farmland and is well drained, and hollow coring with the ProCore helps ensure the ultimate condition of the turf."

Web: reesinkturfcare.co.uk

CLS Selfdrive

When time ran out for Cinque Ports Golf Club's longstanding greens' roller, course manager James Bledge had to act fast.

Flying high in England's top 100 courses, the Kentish links venue hosts an international tournament in spring and the clock was ticking to prepare pristine greens with minimal fuss. With the old roller on its last legs, James set about combing the market for a replacement. "I was searching for the right machine for the task and when Lee Strutt [RAC Club course manager] tipped me off about the Salsco HP11-III, I viewed it at BTME and was so impressed I bought it straight off the CLS Selfdrive stand."

Cinque Ports hosts the Halford Hewitt tournament at the end of April – "our biggest event and the world's largest amateur golf competition with a field of 640. The Salsco greens roller saved us valuable time and trouble in preparing for it".

Lying in undulating links land, the 18-hole championship course boasts 1.7 hectares of greens and "some insane slopes" presenting "particularly challenging conditions for underpowered machinery", James notes.

"Our old greens' roller vibrated a lot, dropped material and was slow. Rolling was a two-man job — one riding the machine, the other following up to switch the green and pick up debris."

"The HP11-III completes the job in around three and a half hours, a full hour faster than our previous roller and requires only one man," he says.

"Rear brushes keep rollers clean, breaking up debris to prevent it dropping on the surface in clumps. The previous machine was okay but could end up stuck at the bottom of a slope, especially on dewy mornings. The Salsco's surface traction is unbelievable and the roller tackles inclines with ease."

Rolling is key here," James explains. "The traditional grasses in the greens demand heavy upkeep and we don't want to cut too short. A mix of fescues, bents and Poa, with some refined ryes are very old school and tricky to maintain, so when we're not cutting, we roll."

Time savings mount up, he adds. "We're rolling probably 70 times a year, so the Salsco saves us 70 hours and only one man is needed."

James and his team of ten have taken the Salsco to their hearts. "The HP11-III is comfortable and smooth in operation. When you come to the end of a pass, you have a nice slow stop with no juddering. The powerful



LED light on the roller lets us work later or earlier too.

"The distributor, CLS Selfdrive, stay in regular touch and stock a large range of Salsco parts so I'm more than happy with service level and reliability," he says.

CLS sales executive Peter Stanley notes: "With all three rollers on the HP11-III independently powered, traction up slopes and banks is exceptional in wet or dry conditions. That's clearly proved a major benefit for James and the team at Cinque Ports."

Web: www.cleveland-land-services.co.uk

Otterbine

Portsmouth based family business, Water Garden, has won the prestigious 2018 Reesink Turfcare UK Otterbine Contractor of the Year award.

The company achieved the highest Otterbine sales figures for 2018 thanks to their knowledge of the product, belief in the brand and support from Otterbine and its UK distributor Reesink Turfcare.

Andy Staves, managing director of Water Garden, explains: "We were delighted to hear we'd won the award as the whole team has been working really hard this last year. We pride ourselves on having an expert group of staff who have a deep technical understanding of all the products we deal with. Customers can trust we know what we're talking about and having quality products to back that up is vital.

"We don't deal with the cheap and cheerful, we want the best, which is why Otterbine is the principle supplier for our aerating fountains," he says. "Anything else simply doesn't come close to the quality they offer."

Even with such a dedicated sales team, the company can only go so far without the right back up and support from the manufacturer, says Andy: "We have a really close relationship with Reesink and Otterbine, in particular Reg Varney, the international region manager, who's really helpful. Any issues we've had, they've been tackled head on without hesitation, and resolved quickly, allowing us to give the best possible service to our customers. It's imperative we get the support we need, when we need it, and that's what Otterbine and Reesink provide."

Water Garden has recently benefitted from Otterbine water management and product training courses, adding to the company's extensive knowledge of the brand.

Reesink's national sales representative for Otterbine, Pete Newton, comments: "Water Garden Ltd is incredibly deserving of this year's award. It is a delight to work with them and particularly rewarding to work with a company who recognises the importance of quality products and who has expert knowledge in the



industry. We hope our close partnership continues for many years to come."

With such a successful year for the company, it's hard to reflect upon just one stand out moment says Andy: "We've had so many great installations this year, particularly with the larger fountains. We have a lot of customers who want not only quality water aeration but also stunning visual centrepieces for their golf

course, private estate or wedding venue. Everyone has been delighted with the results – we haven't had a single complaint, and we intend to keep it that way."

Tel: 01480 226800

Dennis

The Dennis Razor Ultra 560's development was fine-tuned using feedback from green-

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

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

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











machinery and equipment buyer's guide



keepers following 'out in the field tests' and was the first product which utilised the company's CAD system back in 2009. The mower has been designed for a high quality cut on greens and tees with its eleven-blade dedicated cutting cylinder offering a 560mm (22in) cut width.

Continual advances in design technology play a key role in the company's ongoing product strategy, helping them to get high quality products to the market quicker with a consistently high finish – something that Dennis has become renowned for.

The Dennis Razor Ultra 560 incorporates many key features including an 11 bladed cutting cylinder, ultra short wheelbase for undulating surfaces, tungsten tipped groomer, compact handle design for extra manoeuvrability, click height adjusters and stub free transport wheels for easy transport from site to site.

For increased durability the mower has high impact resistant acrylic guards, and offering extra user protection, the stub shafts have been designed within the side guards as the mower features a quick release powered transport wheel kit with kick stand.

As ever the operator is high on Dennis's list of priorities, with easy adjustment of cut height using the 'click adjust' system, while the proven easy start Honda Q9 engine offers low noise, low vibration technology. The Razor Ultra 560 is an extremely versatile mower and will provide a top quality finish on a variety of surfaces and will be of particular interest to greenkeepers maintaining golf greens & tees to a high standard.

Also available is the superbly balanced, easy to manoeuvre Dennis Razor fine turf mower, which is a similar model to the Razor Ultra 560, but comes without the tungsten tipped groomer. An 11 bladed cutting cylin-



der ensures an ultra-fine finish and has an ultra-short wheelbase for undulating surfaces. The machine also encompasses the simple 'no tools required' click height adjustors and the low noise. This machine is also available with seven bladed cutting cylinder.

Web: www.dennisuk.com

Cleveland Sprayers

Cleveland and its sprayer brand Gambetti lead the way with GPS technology into UK golf courses with the ARAG brand of precision golf equipment.

The first system was installed five years ago. Since then the technology has advanced at a very fast rate. It started with the ability to turn nozzles on and off when the boom passed over treated or untreated areas. This was done by the sprayed and unsprayed areas being plotted by satellite. Five years on, and they are now more precise, more efficient and far more reliable with the ability to save maps and perimeters of greens and fairways. A new generation of GPS receivers are ready which give 3cm of accuracy pass to pass, without satellite drift.

This new system is called TERRASTAR and it is exciting technology that will improve GPS performance on golf courses dramatically. So, the sprayers have new controllers, new software and new ECUs on board. Apart from improving accuracy and reliability, it allows you to use the same control box on other vehicles. Take the screen off the sprayer, fit it into a tractor or another truck and use it for auto steering when top dressing, or spreading fertiliser, or even into your tractor you use for mowing.

Cleveland is now in a position to fit its GPS systems to any vehicle. This means you can have a sprayer control box, which does far more than control the sprayer. This technology is not new, it is something it has taken from agriculture, but Cleveland has adapted it



for golf and amenity, to make a unique system that is right for the tree-lined golf course.

Cleveland offers a full installation service. It collects the vehicle, installs the system so it can be easily attached to that vehicle when required. Cleveland then returns it and gives full training to the operators. Contact Cleveland on 01361883418 for more information. Web: www.clevelandsprayers.com

Bernhard and Company

Bernhard and Company is delighted to announce that Scott Forrest has recently joined as its new turf technologies territory manager.

Scott has a vast experience in the turf industry. Throughout his 30 plus years at Ransomes Jacobsen he developed and created new business opportunities in the UK, Europe and around the world, including India, Scandinavia and Russia to name but a few.

"We are delighted to have Scott Forrest on board," says Scott Purdy, sales manager for Bernhard and Company.

"Scott's wealth of experience will strengthen our ability to reach our customers and business partners. Thanks to the turf technologies portfolio he will be able to help customers with projects through from conception to completion, offering expertise and assistance all the way."

Scott Forrest added: "I have worked alongside Bernhard and Company closely for many years. I am very excited to be joining a passionate team and looking forward to developing the turf technology business for the company."

Web: www.bernhard.co.uk

Toro

The state-of-the-art greenkeeping facilities and workshop at Royal Norwich are complete, meaning Toro now has a home at the new site to work and live.

Only the second all air-conditioned facility in the country, the building was reclaimed from an old refrigeration warehouse and now houses a team room with pool table, stylish meeting rooms for business meetings, state-of-the-art workshop and parts storage, a 'boot room' with washing machine and dehumidifier, showers, every convenience has been thought of, confirms Peter Todd, director and estates manager, including its green credentials:

"It's completely insulated, so will be highly efficient. 100 percent of its daytime power is generated from the solar panels on the roof as well as supplying 40 percent of the clubhouse electricity needs."

The facility has been home to a loan fleet of



used Toro equipment, compiled to accommodate the growing-in phase of the courses, but now it welcomes the beginning of Peter's Toro fleet.

Reesink's Trevor Chard who has worked with Peter for more than 18 years, first at The London Club where they introduced of a new Toro fleet of machinery and now at Royal Norwich, says: "There are so many different requirements when tending new and growing-in turf. For example, it's pedestrian mowing to start with to prevent bruising the grass and only once the grass is more established that rideons will be required. It's tough, unforgiving work for the fleet, there's a lot of dust and

stones to contend with as the earth moves and settles into its new formation."

Here, Peter takes over again: "If my time in construction at Gleneagles taught me anything, it's that you can never predict what a new course will throw at you. One thing I didn't envisage was using rotary mowers on the tees for example! But dwarf perennial rye grass in a blend with fescue took hold and grew so quickly in those early days, we needed to get on top of it fast and only a rotary would do."

It's clear to see then, why a loan fleet of used equipment made economic sense! Now joining that loan fleet which has worked so hard in the early stages are four Flex 2120 pedestrian mowers for hand cutting the greens, the Greensmaster 1600 is Peter's top choice for the tees and the Groundsmaster 4500-D and Groundsmaster 3500-D are taking on the initial mowing of the fairways and semi-roughs.

Web: reesinkturfcare.co.uk

GreenKeeping

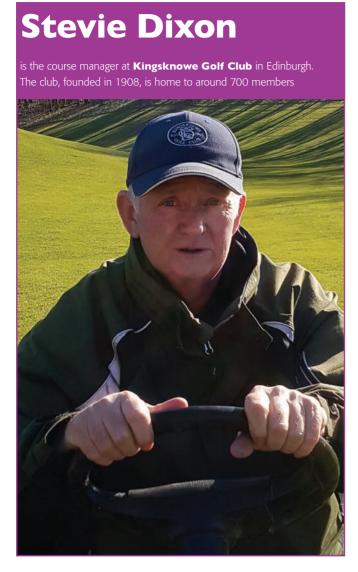
A small selection of jobs available on the website:

Golf Course Operator – The Warren Golf Club
Golf Course Operator – Arrowe Park Golf Club
Greenkeeper – Inchmarlo GC
Assistant Greenkeeper – Ilkley Golf Club
Assistant Greenkeeper – The Drift Golf Club
Assistant Greenkeeper – Norfolk
Assistant Greenkeeper – Surrey
Summer Greenkeeper – Warrington
Apprentice Greenkeeper – Beacon Park Golf Centre



To apply for these and many other jobs, or to post your own vacancies, visit: jobs.thegolfbusiness.co.uk

A day in the life



• What time do you arrive at the club?

I arrive roughly 40 minutes prior to the golf start time, all year round.

• Can you describe your morning routine?

My morning routine starts by grabbing a cup of tea and a chat with my team. We'll then set up and discuss the tasks for the day ahead. Once the guys are on their way, I'll check and answer any emails and messages, and send out the daily tweet on the course conditions.

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

At the moment there are five of us in total on the greenkeeping team which is a good number, but one more would be ideal for additional summer help.

• Do you share tasks?

For me, sharing tasks is vital to the smooth running of the course. It helps to ensure continuity when people are off or on holiday, and it also breaks any boredom of work.

· How do you motivate your colleagues?

Motivation comes from within a happy team member. I pride myself on treating my staff almost like family and I get a motivated team in return.

- What's your favourite season of the year and why? My favourite season has to be summer as, being in Scotland, it's a long
- What aspects / functions of your job gives you the greatest satisfaction?

After all the hard work that goes into it, I get the most satisfaction from seeing the course set up and ready for tournament play.

- And what part of it gives you the least satisfaction? Vandalism of any kind.
- Have you attended any courses recently?

I haven't had the chance, unfortunately, to attend any external training courses, however I have attended a number of internal courses including first-aid, fire safety and defibrillator training.

• What piece of equipment would you say is the most popular and frequently used by you and your team?

One of the most popular pieces of machinery we have is a Rink DS800 topdresser from Charterhouse. It has a great spread pattern, is nice and easy to set up and is virtually clog-free. It is also quick and easy to clean after use

- How would you improve the greenkeeping industry? I feel we still need to push the importance of education. The industry has come a long way, but the training of staff, especially for older members of a team, is something we shouldn't relax on. Perhaps the introduction of more, short, refresher classes would be beneficial.
- Has a golfer ever deliberately directed a ball at you? Not to my knowledge, but there is still time!
- Have you ever had any mishaps with lakes on the course or had to undertake a rescue of a daft golfer? We don't have any lakes or ponds here so, unsurprisingly, no!
- What is the most interesting animal you have seen on your course and how do you do support wildlife?

We have a wide variety of wildlife around the course, including badgers, deer and buzzards. We also have a pet fox who likes to rob golf bags of Mars bars!

• Are you seeing any evidence of climate change?

Yes, I would say climate change is a problem. The seasons are merging, to the point where I can hardly remember the last time I'd say we really had a period you could call spring.

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

My advice to a young greenkeeper would be to study hard, and don't be afraid to travel if you're given the opportunity to do so. Look, listen and talk to other greenkeepers. Joining BIGGA would also be something I'd recommend.

• How do you spend your leisure time?

I spend a lot of my free time with my family and enjoy following the football, in particular Hibernian FC. I am also a chairperson at my local football club, Dalkeith Thistle Community FC.

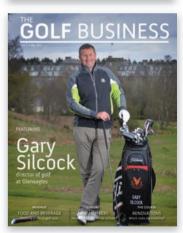


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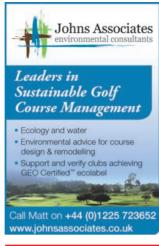
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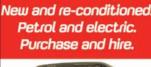
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