lation of a new $\pounds 1.25$ million irrigation system and reservoir.

"I am very proud to say that The Berkshire is now totally self sufficient for water with all water that comes off the clubhouse and the course being collected in the reservoir, while we have our own bore hole for use in the summer months. We don't rely on outside water at all and are saving approximately $\pounds 40,000$ a year by not having to use mains water. With the reservoir costing us in the region of $\pounds 180,000$ it doesn't take long to get your money back and it means you are ticking all the right boxes for the environment."

The vast majority of the woodland management work was carried out in-house and the legacy that has left the club is a group of staff who are trained and qualified in the use of chainsaws.

"It was something we could really

get on with at times like last winter when we couldn't get on to the golf course."

But don't run away with the idea that Chris and his team spent so much time in the woods they were on first name terms with the nation's picnicking bears.

They have also built a fantastic practice ground, importing half a million tonnes of soil.

"It was previously landfill and we made the club money from it as well as producing a wonderful facility and short game area."

With Chris moving on his successor will be left to carry out the next project which is a bunker programme.

"We are assessing the bunkers with Thomson, Perrett and Lobb with the aim of getting greater consistency, design and playability. That's the next big project and I'm







Win a car, courtesy of Rigby Taylor!



Rigby Taylor is sponsoring a fabulous prize at this year's BIGGA National Championship, sponsored by Kubota

and Charterhouse, where entrants who achieve a hole–in-one on selected holes during the two days of the tournament will win the **new**, **2010 BMW Mini Countryman worth £20,000!**

The holes selected during this year's tournament at The Berkshire are the par 3, 221 yard 16th on the Red Course and the par 3, 199 yard 10th on the Blue course. Any player who achieves a hole-in-one on these holes will win a car, an example of which will be on display during the tournament.

"It is difficult to say what October will bring weather wise – the Championship starts the day after the Ryder Cup finishes; hopefully we will be reaping the benefit of a dry summer"

very envious that I'm leaving my successor this as I really wanted to get stuck into it."

As a former winner of the BIGGA National Championship, clinching the crown at Cox Moor and Hollinwell in 2004, Chris can talk passionately about the event.

"Hollinwell went straight to the top of my list of favourites after that and I hope the players who come here get a similar experience to the one I got at those two wonderful golf courses.

"It is difficult to say what October will bring weather wise – the Championship starts the day after the Ryder Cup finishes and everyone is expecting that to be a foggy dark affair but hopefully we will be reaping the benefit of a dry summer and should still be nice, firm and fast."

The two courses carry very worthy reputations.

"The Red is unique in this country as it has six par-3s, six par-4s and six par-5s and I don't think you will find six finer par-3s anywhere. They are incredible," said Chris, echoing the words of Sir Michael.

"The Blue is a sterner test of golf

and the better golfers prefer to play Medals around it as they know that the weaker golfer will struggle. If you score well around the Blue you should feel very satisfied while the Red is a little more comfortable and you can open up your shoulders a bit, especially on the par-5s... but beware of those par-3s."

The two courses are regarded as equals, no-one at the club openly expresses a preference, and are both managed in exactly the same way.

It is with a tinge or regret that Chris will not be in position when BIGGA rolls into town.

"I was thoroughly looking forward to the prospect of 80 greenkeepers coming and playing the golf courses and experiencing that sort of examination but that will be done to the new Course Manager now. I had planned to peak the courses for the BIGGA National Championship and I would have loved to have had that challenge.

"The new guy can always shrug his shoulders and say it was all Chris Lomas' fault anyway...or take the acclaim as well. It doesn't really matter," he laughed. A former winner of the BIGGA National Championship, he clinched the crown at Cox Moor and Hollinwell in 2004



Breaking barriers to better turf.

Chris will remain a Golden Key BIGGA member and will encourage the greenkeeping staff at Worplesdon to consider the Association if they do not already do so.

"I'd never force anyone to become a member but I'd like to think that they'd want to be BIGGA members as education is hugely important."

The Berkshire's Secretary, John Hunt, is also a big supporter of BIGGA and encouraged Chris to go for Master Greenkeeper status, something he achieved in 2006.

"It is really down to John Hunt that the Championship is being played here. He really pushed for it and is looking forward to welcoming everyone.

"Being a Master Greenkeeper made me comfortable that I was doing things correctly and didn't have any glaring omissions from a greenkeeping sense," added Chris.

He is not sure if he will make an appearance during the Championship but you can be sure that wherever he is at the time his thoughts will be with his old club and the greenkeepers who are tackling his two favourite courses.

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As time goes by

Jonathan N Knowles delves into the archives

Advances in the developing and forward thinking sports turf industry is important. Nevertheless, sometimes it's good to stop, think, stare into a distance point and think where we've journeyed from and reflect. After all, there may be something worth getting back to the basics for.

In 1942, the song As Time Goes By, from the film Casablanca, delivered the poignant lyrics - 'The fundamental things apply, As Time Goes By'. Around the same time, many turf, lawn and greenkeeping publications were being printed. Are these texts still relevant in the 21st century? Do the same fundamental things apply, as time goes by in turf care?

Chosen are a selection of seminal industry texts from the time of around seventy to a hundred years ago, including; 'Golf Greens & Green-Keeping' edited by H. G. Hutchinson, The Seeding and Care of Golf Courses' by O.M. Scott & Sons, The Lawn' by H.B. Sprague and 'Turf for Golf Courses' by C.V. Piper and R.A. Oakley.

In the 1917 publication Turf For Golf Courses', it contains information on climate for turf, soils, fertilisers, nutrients, identification, lime, purposes of turf, care, machinery and interestingly, scientific experimental work. In the experiment chapter, the authors Piper & Oakley cite the work of J.B. Olcott, a recognised early pioneer of turf. The 'Olcott Turfgrass Garden' also known as the 'Connecticut Experiment Station' was said to be located at Olcott's home between 1885 and 1910. Olcott studied thousands of grass species and their uses in sports turf. He collected 'mats' of turf from across the US, Hawaii, NewZealand, Australia and Europe, propagating and caring for the turf in his garden of plots. This was a pioneering search for the 'perfect



turf. Olcott published his work and is paraphrased as stating the finest, highest quality turf in New England to be Creeping Bent grass and Red Fescue.

When Olcott died in 1910, the legacy was up taken by F.W Taylor, who purchased the plots and transplanted them in Highland, Philadelphia. Like Olcott, Taylor himself was a Turfgrass pioneer. Taylor was the first to identify the need for a standard approach for constructing a putting green. Taylor fundamentally identified the need for a rooting medium or 'Foundation' that had to have a high water holding capacity that, at the same time, provides the perfect drainage. These are still relevant fundamentals for root zone specification and construction today. Taylor also theorised and pioneered what could be described as an early form of hydro-seeding.

In the 1917 book, Piper & Oakley clearly depict Taylor's work in detail with care but, at the same time, analysing some of Taylor's methods. It's insightful to see these early INSET ABOVE: Olcott's Turfgrass Garden in 1910, Located in Connecuticut. He had been collecting mats of grasses from around the world since 1885. It was noted that few recognised the significance of his work or indeed appreciated fine turf in those early days. (Source: The First Turf Garden in America by C. V Piper, USGA article February 1921)



or Annual Blue-grass (Poa Annua), described in 1917 as "a weedy little grass that produces blossoms even at the lowest of clips."

ource: Piper and Oakley, 1917)



pioneers questioning each others methods. Even in those early days, the use of lime as a soil additive was opposed by Piper & Oakley, while many promoted ground limestone. Taylor had suggested the use of lime and multi-laying a foundation incorporating peat-moss and bone-meal when constructing a putting green. While Piper & Oakley dismissed the use of lime for growing turf, as they had observed that the lime encouraged weeds and discouraged Red Fescues - a fundamental against the use of lime that is still widely observed in greenkeeping today. However, at the time, many other authors such as Harry Colt, Herbert Fowler, Fred Taylor and, indeed, Howard Sprague were recommending lime. It should be noted that Oakley was the pioneer of the infamous 'Acid Theory'. Indeed, some authors, such as Sprague, dismiss the 'Acid Theory' as failing to suppress weeds, making the soil infertile and losing its permeability to rainfall. Personally, I place the 'Acid Theory' as an over-theorised piece of science of the time, when



root zone, plant nutrition, irrigation and pesticide technologies were in their infancy.

The alternative British text to the Piper & Oakley technical manual was the 1906 publication 'Golf Greens and Green-Keeping' edited byHoraceHutchinson.Experiences and entrees are made on subjects such as; 'the formation of turf', 'the treatment and upkeep of seaside links', 'light inland soils', 'heath land', 'pine forest courses', 'chalk downs' and 'laying out and designing the links'. Authors of the book include; Harry Colt, Herbert Fowler, James Braid and Hutchinson.

Whether American or British, all the old texts refer to Agrostis vulgaris, now known as Agrostis tenuis, as the desirable bent grass. In 1906, the author H.Hamilton describes the best varieties for the golf green as Agrostis vulgaris, as he had experienced 'unerring and true putting qualities at St. Andrews'; he had noted it to be present on the east side of the fifth and thirteen greens and northern side of the ninth green, adding that he knows not of any better wearing variety. Further recommended grasses and plants include: crested dog's tail (Cynosurus cristatus), vernals (Anthoxanthum spp), varrow (Achillea millefolium), and wild thyme (Thymus vulgaris or could be in reference to Veronica serpyllifolia), and the small leaved clover (Trifolium dubium). It's not uncommon to read in these old texts the recommendation for a seed blend to include clover and yarrow. Surprisingly, the best tee surface to the author's mind is that of Mat-grass (Nardus stricta) and Brown Bent (A.vulgaris). Colt, in the 1906 publication describes how he had observed a mixture of smooth-stalked meadow grass (Poa pratensis), crested dogs tail and red fescues (Festuca rubra ssp.) had been seeded at Sunningdale across a ridge in the land. He observed and noted how the fescues had become predominant on the dry ridge, but in the rest of the nursery the grasses were growing more equally, highlighting the difficulties to establish similar species on

"Worthy men and excellent growers of tomatoes and cucumbers, but possibly without any experience in greenkeeping" Harry S. Colt

> all greens without variation to the pace. Hopefully, Colt, too, could see that the importance here was not just to apply a standard seed mixture, but also implement a standard root zone and drainage capacity, as addressed later by Taylor. The notorious Harry S. Colt offers the ultimate advice to Head Greenkeepers regarding club membership;

> "Worthy men and excellent growers of tomatoes and cucumbers, but possibly without any experience in greenkeeping. These golfers believe any silly fool can grow grass. The Head Greenkeeper should therefore be prepared to hear criticism from every member of the club and have his methods discussed in every corner of the smoking-room. But

construction in the early 1900s (Source: Turf For Golf Courses. Piper & Oakley (1917)

MAIN ABOVE: Golf Cours

this will not matter much so long as he retains the confidence of the Greens Committee and is allowed to persevere."

Rolling has for a long time been regarded as a necessary task to provide a quality putting surface. The advice given by Colt is clear, only roll on free draining soils, light rolling of around a hundredweight is permissible, heavy roll has been acceptable in the past, but never in access or in the establishment of a new green. And incorrect rolling practices, as Colt identifies rolling as the greenkeepers' commonest fault, will lead to death of the surface.

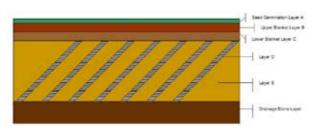
These bygone turf professionals knew the limits of rolling and its use. The damage and bad reputation of rolling we have seen in the past has come from incorrect implementation and use. As rolling has seen a renaissance in these past many years, we should continue to take heed to prevent history repeating. Rolling is a friendly method for providing the quality surface and should continue to be with the correct implementation and ensuring a 'porous' soil is obtained prior to any rolling.

How do you work your topdressing in? Drag-mat, drag-brush or not at all? Colt recommends;

"On Monday mornings, brush the dressing in carefully with new birch brooms, on Tuesday sweep off what is left. Thus, by Wednesday or Thursday there will practically be no inconvenience."

What's insightful here is the importance of brushing in by hand, and look to apply more dressing in the hollows. How often these days do we apply an even blanket of topdressing on hump or hollow? Does this application method exacerbate the difference in hollows? Working the dressing in by hand will allow the opportunity to manipulate the dressing carefully across the green in to portions that require different quantities.

Understandably, not a favourable manual task, however, we should question again does a handcrafted top-dressed green perform better than a mechanically dressed one? - Perhaps a workable approach is combining the old with the new? Sprague writes in 'Better Lawns' (1945) that the top-dressing should be spread over the entire surface and then worked into the low spots; he also makes an early reference for the recommendation and use of a steel door mat on a rope to drag in dressing.



ABOVE: Taylor's recommendation for Golf Green Construction from 1917. Layers A, B & C are said to be made up of large quantities of peat and manure with seed. Layer D the 'moisture and food slant' made up of three parts clay to one part cow manure, this is said to be moulded into flat pans of one and a half inch widths and then installed at around 45 degree angle. Layer E the 'deep rooting layer' is a 12 inch layer made up of chopped cow manure and decayed peat moss at nine parts to one. With copious quantities of organic matter for nutrition, water holding pacity while having soalled 'excellent drainage qualities'. Not a method that has lasted the test of time and very different from the current STRI and USGA specification. [Adapted from Piper & Oakley 1917]

The American methods of greenkeeping have long influenced greenkeeping in the UK; in the 1906 publication there is a quote of an 'Americans' opinion of St.Andrews dry turf.

"If we had a links like you have at St.Andrews, I guess we should keep the grass properly watered, if it took a pipe made of gold to convey the water out to the end hole."

Does this sum up an age-old American view that British Greenkeeping is under-resourced? Does it suggest that if the Old Course was State-side, vast amounts of cash would be pumped into maintaining the verdure 'properly'! If so, then the statement arrogantly disregards the Scottish Greenkeeping intention of maintaining firm, dry and fine turf. However, the quote in context is a recommendation for British seaside golf courses to have

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an irrigation system. The author proposes that laying a 3-inch pipe with a hydrant to all greens, will see less wear, little seeding, less feeding and less re-turfing. If it was suggested that the present British golf green is over-watered, we could not blame the education by American turf management methods.

But clearly, the Americans' techniques have maintained their influence on British Greenkeeping over the years. Although, in the American 1922 handbook 'Seeding and Care of Golf Courses' By O.M Scott and Sons it does state 'little damage caused by over-watering', but again, this is in the context of the American turf. Are, or have we been taking these Americans out of context?

In case you were wondering, O.M Scott & Sons is the same company that still exists as 'Scotts'.

When it comes to greenkeeping practices, there are ranging and interesting concepts from all the early influential texts. The technical turfgrass information has clearly been borne in the States. The technical and descriptive detail in the 1917 book by Piper & Oakley and the later lawn care book Better Lawns' by H.B. Sprague (1945) is magnificent for the time, and the influence on the following technical text books and scientific papers is clear. In 1945, Sprague details the excessive use of nitrogen fertilisers, that stimulates top growth to the expense of root development, and how close mowing restricts root development, diminishing the ability to obtain moisture, nutrients from the soil, capacity to withstand heat, drought, disease and insect attacks.

In these contemporary times of over-feeding and excessive close mowing, are we forgetting these immovable fundamentals? It goes on, Sprague continues, with the affliction of springtime close mowing, identifying it as particularly harmful, since root development is limited by removal of top-growth, leading to the grass being limited to utilise soil resources for the remaining growing season.

For turf establishment, it can be tempting to apply a disproportionate amount of seed; Sprague identifies this as initial heavy seeding, and he clearly explains it is a flawed practice as it produces such competition between the plants, that there is little opportunity for any to develop strongly, until many have died in the struggle. This accounts for slow development of a vigorous healthy sod, in comparison with thinner sowing rates.

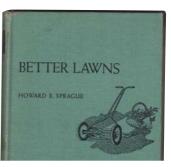
My final comment comes from 1945, whereby Sprague offers what could be described as the Holy Trinity for turf care, as they are three fundamentals that will remain no matter what duration of time goes by:

Sprague's three fundamentals for vigour and growth:

1. Provide adequate leaf area to receive sunlight by controlling the mowing height and controlling the leaf area

2. Supply of adequate moisture, adequate root development and soil moisture levels

3. Supply of carbon dioxide; this is abundant and inexhaustible from the atmosphere.



RIGHT: Sprague's 1945 Seminal Technical Turf Manual





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The Toro Student Greenkeeper of the Year Award is one of the highlights of BIGGA's calendar. Meet the 2010 finalists

The challenge of identifying the Champion Student Greenkeeper of the Year gets under way later this month with the final of the Award taking place.

Eight highly talented and motivated greenkeepers will descend on BIGGA HOUSE for the 22nd Toro Student Greenkeeper of the Year final.

Each year the standard of the finalist rises and to reach the final attaches a beacon to a CV drawing its attention to potential employers.

Last year Rhys Norville, from Newport Golf Club, in South Wales, was the man who made that final push to claim the title, but such is the standard of finalist now it could have been any one of the eight.

"Winning the award has been a unique experience which has enabled me to learn lots, meet some fantastic people and has helped me to understand more about the industry," said Rhys.

"Every stage of the trip to America was more than I ever expected and I have to thank Toro and Lely for putting on such a fantastic trip. This award has helped me to realise that you can achieve whatever you set your mind to," he added.

This year the finalists will arrive at Aldwark Manor in Sunday. September 12, when they will meet up with the judges and get to know each other before they start what could be one of the most significant events of their careers.

Dinner with fellow finalists and the judges should tee up

Monday just nicely for the candidates, when they will be set a project for the day and interviewed by a panel comprising Peter Mansfield, of Lely; Chris Sealey, Chairman of the BIGGA Learning and Development Sub Committee; Bruce Jamieson, of Toro, and Sami Collins, BIGGA's Head of Learning and Development.

TORO,

The winner will win an eight week trip to the United States beginning next January, which includes a six week study course at the University of Massachusetts and a trip to the GCSAA's Golf Industry Show, in Orlando, Florida, and Toro's Californian HQ.

The runners-up will receive an expenses paid trip to the Continue to Learn Education programme in January.



INSET ABOVE: Last year's winner, Rhys Norville sits proudly with his trophy

MAIN ABOVE: Toro's Californian HQ



Andrew Stanger, Horsforth Golf Club & Askham Bryan College

Andrew, 24, began as an apprentice at Calverley Golf Club and was Student of the Year at Askham Bryan College before being placed at Liberty National

Golf Club, New York, as part of the Ohio State Program. From there he worked at Augusta National on the "Hole Care" Team initially on holes 8 and 9 and later on 11 and 12 on Amen Corner for the 2009 Masters.

A keen keep fitter, he returned to join Horsforth, filling in as Head Greenkeeper during sick leave on a three week contract which was extended to three months, before taking over full time in June of this year.

He has just completed his NVQ Level 3 in Sports Turf Maintenance.



Robert Mills, Sunningdale Golf Club & Merrist Wood College

Robert, 23, became interested in greenkeeping at the age of 7, as his father was Deputy Head Greenkeeper at The Manor of Groves GC (now Head Groundsman for Bishop's Stortford FC), and use to take him to work on weekend mornings, where he

developed a love for dew covered early morning golf courses. He started for real at nine hole Briggens Park at the age of 17 and just a few months later took over as Head Greenkeeper for three months.

Under a new Head he attended Oaklands College and when Briggens Park closed in 2006 he moved to the 18 hole Whitehills, before arriving at Mill Ride, following time spent as a seasonal worker at The Buckinghamshire. He has since made the move to Sunningdale working alongside a previous Toro winner, Murray Long.

A keen cricketer, he is also an animal lover with two dogs and two cats, and is currently studying at Merrist Wood College.



Craig Boath, Carnoustie Golf Links and Elmwood College

Craig, 30, is Deputy Head Greenkeeper at Carnoustie Links. Having spent 15 years at the famous Open venue – initially during his October school holidays and again the following Easter before he started as a youth trainee in June '96.

He has worked on two Open Championships; 10 Dunhill Links Championships; one Scottish Open; a British Senior Open and numerous other amateur events.

He has set up the Greenkeepers' Blog for Carnoustie which can be found on the BIGGA Central Section Website as well as the Facebook page for Carnoustie Golf Links. He is a keen golfer, playing off 7 and enjoys football.



Gavin Moore, Launceston Golf Club & Duchy College

Gavin, 29, has been a golf lover since the age of 10 and was Junior Captain and Club Handicap Champion of Holsworthy GC. He started work at a nursery and achieved Level 2 in Amenity Horticulture before

moving into greenkeeping at his old club, Hosworthy. After five years he moved to Launceston where he still works. An active BIGGA member he is a regular at Devon and Cornwall Sections meetings and played in the BIGGA National Championship last year.

He is a keen football fan and recently became a father.



Sebastian Cavilla, The Manor House Hotel and Golf Club & Cannington College

Sebastian, 25, spent two years as a gardener and one as a Racecourse Groundsman before finding, "his true vocation". He has worked at The Manor House since 2007 and in

that time has been studying for a Foundation Degree and increasing his knowledge base while working on environmental clearance work on the golf course. His ambition is to become a Course Manager.



Tom Hayward, Frome Golf Club & Bridgewater College

Tom, 19, has a great love of the outdoors and considered a career in Countryside Management but having been a golfer since the age of eight, and having asked his local club if it had any summer work he was bitten by the greenkeeping bug immediately.

He has just completed his NVQ Level 2 at Bridgewater College and is actively considering Level 3 and possibly a degree. He has completed his Duke of Edinburgh Gold Award and has just taken up mountain biking.

He also plays guitar and designs websites.



Sean Borrett, Ellesborough Golf Club & Myerscough College

Sean, 29, arrived at a greenkeeping career having first gained a Honours Degree in Business and Finance from Oxford Brookes University and a job within the finance department of McCormick's (UK) PLC. A part time job raking bunkers at Ellesborough

sparked the desire for a change of path.

He has completed his NVQ Level 2 at Myerscough via distance learning and has ambitions to become a Head Greenkeeper on a links course and to add a degree and the Master Greenkeeper Certificate to his CV.

Initially he did have ambitions to become a professional golfer and still plays Category 1 golf. He has also played squash to junior county standard and has rowed for Great Britain at junior level.



Stephen Thompson, Bearsted Golf Club & Hadlow College

Stephen, 36, started out as an agricultural engineer and became interested in greenkeeping while working on equipment as Weald of Kent Golf Club was being constructed, and became friendly

with those working on the course.

Following redundancy he worked on Langley Park Driving Range in Maidstone for seven years and moved to advance his career to Bearsted as an Assistant in 1999 and he is currently in the process of completing his Level <u>3 at Hadlow College</u>.

Engaged, with a child on the way, Stephen is a keen walker and cyclist.



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