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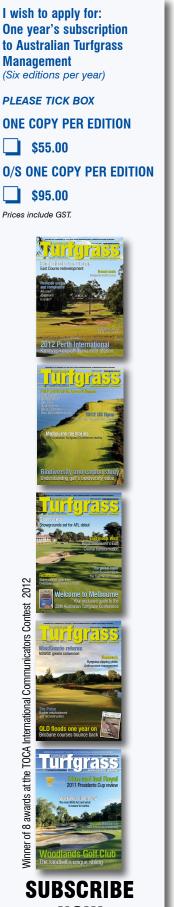




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Production: Editor: Brett Robinson Ph:(03) 9548 8600 brett@agcsa.com.au

Art Direction & Design: Jo Corne Ph: (03) 9548 8600 jo@agcsa.com.au

Advertising: Peter Frewin Ph:(03) 9548 8600 peter@agcsa.com.au

AGCSA

Suite 1, Monash Corporate Centre 752 Blackburn Road, Clayton, VIC 3168 P: (03) 9548 8600 F: (03) 9548 8622 E: info@agcsa.com.au W: www.agcsa.com.au

AGCSA Board President: Peter Lonergan Directors: Darren Wilson Tony Fogarty Brett Balloch

General Manager Peter Frewin peter@agcsa.com.au

Events and Education Manager Simone Staples simone@agcsa.com.au

Membership and Administration Lyndel Conway info@agcsa.com.au

Administration Allison Jenkins admin@agcsa.com.au

Accounts Philip Horsburgh philip@agcsa.com.au

AGCSATech Andrew Peart andrew@agcsa.com.au

John Geary jgeary@agcsa.com.au

HR & Best Practice Manager Daryl Sellar daryl@agcsa.com.au





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COVER 2012 World Bowls Championships: The World Bowls Championships heads to Adelaide for the second time in its history from 24 November-9 December 2012.



COVER STORY: The Worlds at their feet – 2012 World Bowls Championship preview

Australia has a proud history at the World Bowls Championships and come late November/early December the green and gold will be aiming to again claim victory, this time on home soil. Over a fortnight Lockleys and Holdfast Bay bowling clubs in Adelaide will be the stage for the 2012 World Championships, with the former hosting the event for the second time. ATM editor Brett Robinson catches up with greenkeepers Brad Porter and Kevin Lewis to look at their preparations for the game's premier event.

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FEATURES

Redevelopment boon for 'The Doon'

Hidden gems

Course superintendent David Scaife looks back at the first and most significant stage of Bonnie Doon Golf Club's current redevelopment project which was completed in May.



Tony Ireland takes U19 centre stage

20 For the second time in the event's history, Australia played host to the ICC's Under-19 World Cup during August. A total of 48 games were played across six venues in Queensland with Townsville's Tony Ireland

Stadium hosting the final. Curator Paul Sanson

In June, a group of Melbourne course superintendents went on a 25-day study tour of the US, the UK and mainland Europe. Rob Halsall, Glenn Stuart, Ian Todd, Hayden Mead and Rod Tatt look back at their journey of a lifetime which saw them stop by some of the game's great courses and opened their eyes to different course management techniques.



Lake Karrinyup a cut above

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Lake Karrinyup Country Club returned to the tournament spotlight in October hosting the \$2million co-sanctioned ISPS Handa Perth International. ATM catches up with superintendent Trevor Strachan and snaps the crew in tournament prep mode.







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Indooroopilly's cutting edge

By instituting no-mow zones and incorporating spray out areas, Indooroopilly Golf Club has slashed its maintenance of out of play areas by half over the past four years.

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AGCSATECH UPDATE

Saturation point

Andrew Peart looks at the issue of managing saturated profiles and stresses the importance of renovations, adequate drainage and choosing the correct construction material.

OPINION

Keeping the troops in order

Internal conflict between staff and staff ill-discipline within a small team such as a turf maintenance crew can be debilitating and have a huge effect on morale and productivity. The Pulse asks how course superintendents deal with such issues.

GRASS-ROOTS WITH JOHN NEYLAN Don't get stung 42

In his latest column, turf expert John Neylan looks at nematode management, the benefits of soil moisture monitoring and the value of conducting trials on your golf course to ascertain the effectiveness of new products on the market.

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Contributors to Australian Turfgrass Management Journal Volume 14.6 (November - December 2012)

Michael Bradbery (Manly GC); Barry Bryant (SAGCSA); C hris Chapman (STA NSW); Glenn Cross (Mt Lawley GC); Ben Evans (Bardwell Valley GC); Andy Fraser (County Turf, UK); Peter Frewin (AGCSA); Charlie Giffard (Indooroopilly GC); Tony Guy (STA WA); Rob Halsall (GB&S); Steve Hewitt (VGCSA); Dean Hopper (Camden Lakeside GC); Danny Hull (STA ACT); Ryan Irwin (NZGCSA); Charles Knight (SMPImages.com); Kevin Lewis (Holdfast Bay BC); Peter Lonergan (GCSAQ); Ian McKendry (STANZ); Hayden Mead (Kingston Heath GC); Craig Molloy (NSWGCSA); John Neylan (Neyturf); Jim Novak (Turf Producers International, US); Andrew Peart (AGCSATech); Brad Porter (Lockleys BC); Des Russell (GCSAWA); Paul Sanson (Tony Ireland Stadium); David Scaife (Bonnie Doon GC); Tony Smith (TGCSA); Trevor Strachan (Lake Karrinyup CC); Glenn Stuart (Metropolitan GC); Rod Tatt (Woodlands GC); Wayne Tickle (Ballina GC); Ian Todd (Victoria GC); Nathan Tovey (STA VIC); Tony Webster (Worrigee Links); Kurt Wheeler (Greens Beach GC)

A great deal

We stern Australian professional Greg Chalmers, one of the more down to earth and genuine nice guys on Tour, made a very interesting comment during the recent inaugural ISPS Handa Perth International held at Lake Karrinyup Country Club. Having just fired an opening round four-under 68 to be in contention for the first major event of the season and describing Karrinyup's turf conditioning as "phenomenal", he went on to make the following remark: "Most Lake Karrinyup members think it's the Augusta of Perth. It's a fabulous golf course and... (the members), paying so much to be a member here, and relative to where I play my golf, they are getting a great deal."

Golf in Australia is cheap in comparison to overseas and the product that the Australian golfer gets is, on the whole, very good. Australian golf course superintendents are world renowned for producing great surfaces with limited resources, yet most would agree that some members, committees and managers do not fully appreciate what they are getting relative to what they pay.

Having talked to a number of superintendents in recent times, it is exasperating to hear the ongoing battles many are continually facing, especially in regards to the unrealistic expectations being placed on their maintenance operations by ill-informed members/ committees/management. In most cases it is a vocal minority that are the antagonists but the nature of golf clubs being as they are, these individuals can become highly influential and as we have seen played out many times the superintendent is often a target.

It is worrying as an industry to see the number of high profile superintendents who have departed the industry in recent times and having heard what some current supers are having to put up with don't be surprised if more follow suit.

At the end of the day it comes down to a few key things – being honest, respecting boundaries, communicating effectively and education. For the members, committees and managers its letting the experts do what they do best, which in the case of course maintenance is the superintendent implementing a management programme that aims to produce the best possible surfaces within the limitations of budgets, staffing numbers, climate, soil types, grass types etc... As soon as you get members, committees or general managers dictating matters on course and wanting what their competitor has down the road, that's when the trouble starts. For the superintendent it comes back to education and communication – aspects that most would admit they could do better at. Such components are critical in banishing misconception and getting across what you are trying to achieve.

Perhaps everyone just needs to take a trip to Scotland, as Victoria Golf Club's lan Todd and a group of fellow Melbourne superintendents did back in June, to get a bit of perspective. In their article in this edition Todd makes the following observation:

"The tour confirmed that there may be too much emphasis placed on producing pristine turf here in Australia. Courses in Scotland such as St Andrews, Dornoch, Castle Stuart, North Berwick and Brora offer turf which would be considered sub-standard when compared to numerous courses in Australia. This, however, did not detract one bit from the golfing experience. In fact I found it refreshing! The common theme among all the courses across the UK and Europe was how much emphasis is placed on making visitors feel welcome, and at times special, so much so that when leaving I felt a real sense of fulfilment. I suppose it was the relaxed nature in which the course was presented which helped this feeling and that the 'game' itself is the most important thing, not the turf it is played upon."

Enjoy the read ...



Brett Robinson, Editor



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Budget cuts to shape future of Australian turf industry



A s I sit here and write this edition's Foreword Thinking, it is interesting to think just how quickly time goes by. I like the AGCSA have grown a year older and while the association has just 'come of age' so to speak, I have a few more years under my belt. I always thought that 50 was such an old age but as you get older it's interesting how your perceptions change.

It is hard to believe that a year has passed since I started as general manager of the AGCSA and what a year it has been! There have been changes at both Board and staff level, we had a great conference in Melbourne and Australian Turfgrass Management

Most employment issues can

be traced back to a lack of

documentation either in the form

of an employment contract, a

detailed position description or

simple minutes/notes from a

meeting.

continues to be the flagship publication of the Australasian turf industry. There have also been some lows, such as the ongoing EPA investigation in NSW and budget cuts in some states that will impact on how the turf industry is shaped going forward.

Many that read this journal will have been trained in the TAFE system in some way, shape or form. This training may have been via the apprenticeship system (like me) or perhaps even a short course to gain a qualification

to improve your employment opportunities or hone a skill that you already had. The TAFE system has been the 'go to' place for vocational training for many years and has served the turf industry well.

In recent times many state TAFE providers have suffered major funding cuts across the board. Where these cuts fit in regarding the provision of

turf management training is still to be determined, however, it will no doubt impact on how and where turf training will be carried out in years to come.

With this in mind the AGCSA is investigating ways to ensure that quality turf training is available for future generations of turf managers. Many industries have taken this type of opportunity to develop their own training organisation and programmes (the dairy industry for instance) as a way to ensure continued quality outcomes in training, an option the AGCSA is also considering.

Another organisation that has also recently felt the sting of the razor is the Redlands Research

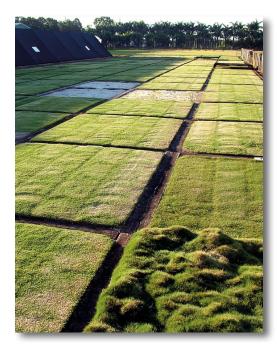
Station which is part of the Queensland Department of Agriculture, Fisheries and Forestry based in Cleveland. While all will feel for the 25 staff that will potentially lose their jobs following the announcement in the 2012 Queensland State Budget that the facility will close, there is also another potential loss that could result from these cuts.

The Redlands site is home to the 'Living Library' where over 130 different turf varieties that have been collected from Australia and around the

world have been planted and are being maintained under Australian growing conditions. This facility, developed in 2000 through the efforts of then principal scientist Dr Don Loch, is a great tool for the turf industry and I hope all in the industry get behind Redlands turf research head Matt Roche to ensure that this great asset is not lost.



AGCSA MEMBERSHIP



Turf's 'Living Library' at Redlands Research Station is under threat following the announcement in September that the facility is to close due to government funding cuts

TAKE NOTE

In closing, I would like to touch on an issue that is of great concern. In my first year with the AGCSA I have been surprised at the number of calls we receive from members seeking advice on employment issues.

Most of these issues can be traced back to a lack of documentation either in the form of an employment contract, a detailed position description or simple minutes/notes from a meeting. If you do not have a current employment contract or a position description, I would strongly suggest you look into it as soon as possible.

The other thing is to ensure that any contentious issues that may arise in a meeting are noted in the minutes or you document the issue in some manner. This could be as simple as a diary note or email as these facts can, over the course of time, clear the air on a difference of opinion and could ultimately be the difference in being employed or unemployed.

The AGCSA has some excellent resources on our website www.agcsa.com.au (available within the members' area – another reason to join the association!). The AGCSA also has an excellent HR and Best Practice manager in Daryl Sellar and he is only a phone call away, so if you have an issue don't hesitate to contact the AGCSA office and we can put you in touch with him (again this service is available only to current AGCSA members).

I trust the warmer months will treat you well and as always please feel free to contact me on 0418 593 072 or peter@agcsa.com.au should you have any issues, suggestions or feedback on the AGCSA and its services. I look forward to catching up when our paths next cross. ^{Ju}



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The eyes of the bowls world will be on the Lockleys and Holdfast Bay bowling clubs in Adelaide come late November/early December when they act as dual hosts of the 2012 World Championships. ATM editor Brett Robinson catches up with experienced greenkeepers Brad Porter and Kevin Lewis to look at their preparations for the game's biggest tournament, which will also see one of the turf industry's own flying the flag for the green and gold.



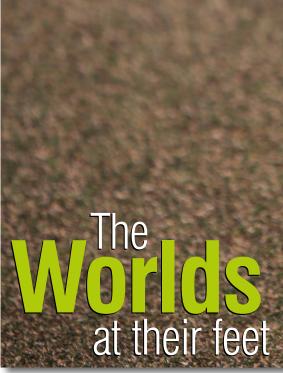
S econd chances are rare, especially in the turf industry. Getting the opportunity to prepare surfaces for a major international event may only come along once in a turf manager's lifetime, but for Brad Porter, greenkeeper at Lockleys Bowling Club in Adelaide, come late November/ early December he will get another crack at an event which first time round left an impressionable young greenkeeper's ego slightly dented.

Back in March 1996, a rather wet behind the ears Porter made bowls history when, at just 23, he became the youngest greenkeeper to prepare greens for the World Championships. Having started at Lockleys as an 18-year-old in 1990, by 1993 he had taken over the top job following the departure of his boss Barry Weckert and with it the rather exciting, if not daunting, prospect of hosting the 'Olympics' of bowls just a few years later.

Under the watchful guidance of local bowling legend Jack Houston, the 1996 World Championships was a baptism of fire that would ultimately steel Porter in a number of ways. Despite gaining enormous experience preparing greens for such a high end tournament and the immense personal satisfaction that came with the product he produced, a few sought to take the shine off of what was primarily a positive two weeks by knocking the speed of the Lockleys greens.

For an up and coming greenkeeper who had put his heart and soul into preparing his turf for the world's best, such criticism, albeit from a tiny minority of players and one member of the media, cut deep. Combined with a yearning to shake the 'apprentice' tag which had lingered ever since he took over from Weckert, just three months after the 1996 worlds Porter departed Lockleys to find himself in a greenkeeping sense. Initial two-year stints at Payneham and Adelaide bowls clubs saw Porter continue to hone his craft and then, after some time out of the industry, he took on the top job at Somerton Bowling Club.

A major announcement in May 2007, however, would set the wheels in motion for Porter's eventual return to Lockleys. Bowls Australia confirmed that Adelaide had been chosen as host city for the 2012



World Championships, beating challenges from Victoria and NSW. Lockleys was to be the primary host alongside Holdfast Bay Bowls and Croquet Club, ironically one of the clubs Lockleys had pipped to host the 1996 worlds.

Two venues were needed to host the 2012 event because for the first time at the 2008 World Championships in New Zealand both the men's and women's competitions were staged concurrently. Lockleys and Holdfast Bay fitted the bill perfectly – Lockleys had proved a popular venue back in 1996 for the men's worlds, while the clubs' proximity to Adelaide airport and ample accommodation, not to mention each other (they are five minutes apart) were significant advantages. The South Australian government too had put its full support behind the bid.

Shortly after that announcement, Porter, who by now had developed a reputation as one of the state's most accomplished greenkeepers, fielded a call from Lockleys asking whether he would be interested in returning to the club to get their greens up for the World Championships. Getting another opportunity to prepare greens for the game's most prestigious event proved to be a no brainer and Porter soon found himself leaving Somerton and heading back to familiar turf.

As Porter (now 40) comments nearly four years on "it was like coming back home" and since then he has set about getting Lockleys back on track and



Australia has a proud history at the bowls World Championships and come late November/early December the green and gold will be aiming to take home the spoils on the Tifdwarf greens of Adelaide's Lockleys and Holdfast Bay bowling clubs

ready for the big stage yet again. From 24 November to 9 December, 27 nations are set to converge on Adelaide for the 2012 World Championships and Porter, along with his experienced Holdfast Bay counterpart Kevin Lewis, will prepare a total of eight Tifdwarf greens.

TURN AROUND

Upon his return to Lockleys, Porter quickly discovered he had his work cut out. The greens were in decline – turf health was deficient and pace inconsistent – while the state of the greenkeeping machinery mirrored that of the turf.

As is often the case, a lack of surface renovation was the principal reason behind the greens' average state, so Porter wasted little time ripping the guts out of them, scarifying four ways down as much as 5mm and coring with 3/8" tines. A heap of organic amendments were added before topdressing and after about nine weeks the long road to improvement had begun.

Lockleys boasts four Tifdwarf greens – A, B and C, which are located directly out the front of the expansive clubhouse, and D green, which is on the western side of the clubhouse. All were constructed with native dune sand when the club relocated to its present site in 1965 and over the years various grass varieties such as bentgrass and saltwater couch were used before switching to Tifdwarf hybrid couchgrass in the early 1980s.

While A, B, and C green all behave similarly, D green is Porter's 'special child'. It is heavier than the others, holds on to a lot more moisture despite being on sand and has competition from an enormous gum tree on the club's western boundary. Turf growth on D is significantly slower compared to the rapid lateral movement of the Tifdwarf on the other three. As a result Porter has had to completely alter his fertilising practices since returning to Lockleys, going out with a much higher rate of phosphorous on D green to promote lateral growth.

During the winter months when bowls is played three days a week on A, B and C (bowlers play eastwest instead of the traditional north-south direction), invariably D green will be taken out of play because of its inability to handle wear and tear. Porter has to nurse D green through winter and into the Smooth as... volunteers Geoff Ellis (left) and Daryl Cowling roll Lockleys' B green ahead of the recent Trans-Tasman series. That event was the last major hitout for the Australian and New Zealand teams before the World Championships





Porter fertilises A green as the Australian and NZ teams contest the Trans-Tasman Championships in mid-September. Lockleys' four Tifdwarf greens will be in play for the duration of the worlds with D green to host the finals of the singles, pairs and triples spring, yet come the summer months it's the club's standout green, generating far greater pace and not drying out as quick as the others. As such, despite its more finicky management requirements, come this December D green will be used for the grand finals of the singles, pairs and triples (the fours will be contested on B green).

Once the greens were back up to a level, Porter has since set about instituting a meticulous greens management programme, taking in all facets from major renovations (which take place on each green about every two years), scarifying (each spring, up to 3-4 times each direction), cutting, rolling, watering and grooming regimes during the summer months, as well as fertiliser, amendment and chemical (fungicides, wetting agents, iron, growth regulators) applications. One significant change that has occurred since Porter's return to Lockleys has been the club hooking into the Glenelg-Adelaide Pipeline, one of the first bowls clubs in the city to do so. This now enables Lockleys to pump Class A recycled water (referred to as GAP water) from the Glenelg Treatment Plant into two 40,000-litre holding tanks, thus reducing the club's reliance on potable water. Lockleys received a grant from the SA Government to assist with the project and has now been connected for the past 12 months. At the same time as tapping into the GAP supply, the club also upgraded its old sprinklers to Toro 835S Series sprinklers.

"Going onto GAP water has meant significant savings for the club," says Porter. "We can switch between GAP water and mains water and I will go four weeks on GAP before switching to mains for a week to flush the profiles. The GAP water is about 1200ppm and I conducted my first soil test this year and the sodium levels in the greens were fine and we have had no adverse effects at all. We have obviously increased the amount of gypsum we apply, but to date it has been working really well."

PUT TO THE TEST

With the World Championships a constant presence on the horizon, Porter's greens management programme got its first test when the club, along with Holdfast Bay, hosted the 2011 Asia Pacific Championships, the traditional lead-in tournament held a year out from the worlds. Porter was more than

WHO'S CALLING WHO FAT?

B owling greenkeepers affectionately dub it the 'Fatboy' and if you talk to Brad Porter and Kevin Lewis, who will be preparing their Tifdwarf greens for the upcoming 2012 World Championships, it's the one piece of equipment they wouldn't be without. Along with the other mainstays in their greenkeeping arsenal, such as the Scott Bonnar Queen electric mower and Smooth Roll rollers, the Fatboy shaver/dethatcher has become an integral part of preparing the Lockleys and Holdfast Bay greens during the summer months in recent years.

Lewis, who has been at Holdfast Bay coming up to 25 years next May, can lay claim to being the first greenkeeper in Adelaide to trial the Fatboy when it hit the market some eight years ago and such was the noticeable difference it made, it quickly gained popularity among the greenkeeping community.

The Fatboy is essentially a 30-inch grooming reel with multiple stainless steel brushes (as the photo right shows). Used from late spring through to the start of autumn, it has become a key tool for many bowling greenkeepers and combined with applications of Primo Maxx (trinexapac-ethyl) helps to generate a smooth finish to the surface and plenty of pace.

"I have seen a number of changes over the years – better fertilisers, fungicides – but the Fatboy has been a huge introduction," says Lewis. "I was the guinea pig here in Adelaide and trialled it on one end of one of our greens and quickly realised that it would be a fantastic addition. Most guys would have one now I reckon.

"When I first started using it we would be double cutting greens

six days a week over summer, but now using the Fatboy along with Primo Maxx we have reduced the amount of mowing by almost half. You have to have the grass there to do it, so generally I will only go out with it once every two to three weeks from late October through to until mid-March.

"You have got to be very careful with your set up. It has to be perfect or else you can rip the guts out of the green. It is great for keeping pace in the greens and if set up right you can get beautiful lines. It's surprising how much grass it takes out and I find that I use it much more than our conventional grooming reels."



The Fatboy shaver has become a key part of greens preparation at both Lockleys and Holdfast Bay bowling clubs. Essentially a 30-inch grooming reel, the Fatboy contains multiple stainless steel brushes

happy with his structures for that 15-nation, 10-day tournament and has taken a similar management programme heading into the worlds.

Lockleys also hosted the Trans-Tasman Championships in mid-September, the last major hit out before the worlds, and again Porter was satisfied with the product. More importantly Australia won both of these key lead-in events, so the players were happy too!

Following the recent Trans-Tasman, all of Lockleys greens were given a granular fertiliser application and then lightly scarified with 2mm blades set at inch spacings down to 3mm. Porter was particularly pleased with how the greens came through what was a cold and wet Adelaide winter (see more on this below) and the use of his newly acquired Procore 648 10mm solid tines, with the decision to get them as thick as possible heading into winter paying dividends come spring.

In early October cutting heights were dropped from a 'tight 20' (in bowling parlance that refers to the height of a 20 cent piece, or about 2mm) to a 'tight 10' (10 cents or 1mm) which will be maintained right through until the end of the worlds. Six weeks out the greens were again fertilised with Noculate Complete 17.1.14 while an application of iron and Primo Maxx was made about five weeks out to inject some colour and pace.

From there it has been an intense regime of daily cutting with the Scott Bonnar Queen 30"



electric mower and rolling with a 220kg six-foot Smooth Roller interspersed with an occasional groom using the 'Fatboy' shaving reel (see bottom of opposite page for more on this unique piece of equipment), with the aim of having the greens in worlds condition a few weeks out.

As the sole greenkeeper at Lockleys, Porter relies on a core group of volunteers led by evergreen greens director Geoff Ellis, but for the worlds will have some extra assistance coming on board from the start of November through until the end of the tournament. Having nearly "killed" himself preparing The Lockleys and Holdfast Bay greens will be a 'tight 10' (1mm cutting height) for the duration of the World Championships with speeds between 14-17 seconds

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WORLD CHAMPIONSHIPS



The Holdfast Bay team of Kevin Lewis (seated) and second year apprentice Max Kleinig. Lewis has been greenkeeper at Holdfast Bay coming up to 25 years

all four greens every day at last year's Asia Pacifics, the additional help will be very welcome.

"Come the start of November we will be in the throes of preparation and really fine-tuning the surfaces with constant cutting, rolling, grooming and syringing," says Porter. "Official practice starts on Wednesday 21 November so on the Monday before we'll give the greens a final groom two ways with the Fatboy to get that criss-cross effect and then follow those lines when we cut to burn them in. The idea is to have them as flat as a table, a nice 'tight 10'."

HOLDFAST BAY

As Porter reaches the peak of his greenkeeping career, for his counterpart at Holdfast Bay Kevin Lewis, the upcoming worlds will be a swansong of sorts. The 63-year-old will be retiring in two years' time and hosting the worlds in the twilight of his career not only caps it off perfectly but also provides a perfect springboard for promising second year apprentice and champion pennant, state and Australian second tier squad bowler Max Kleinig who Lewis is grooming as his successor.

Lewis has been greenkeeper at Holdfast Bay since 1 May 1988, joining the club after a decade as a local cricket wicket curator which included a stint



at Adelaide Oval. What Lewis doesn't know about the Holdfast Bay greens is frankly not worth knowing and like his Lockleys counterpart Porter took over at the club at a time when the greens were in some dire need of attention.

An intense management programme which essentially involved aggressive renovation, levelling the ends and weed management during his initial years saw the greens get back to a strong base and as the years have gone on his Tifdwarf surfaces have now become regarded as among the finest in the state.

In recognition of that, the club has been the stage for some of the game's major national and international events, including three Australian Sides Championships (the premier state teams event), last year's Asia Pacific Championships and the recent six-nation SA International Series.

Like Porter, Lewis has to finely balance the management of his greens, three of which – A, B and D – are some 90 years old. Formed in 1928, Holdfast Bay is located on an old railway yard site and the greens were constructed with the heavy in-situ soils. C green, by contrast, was constructed about 18 years ago after the club lost one green due to a road reconfiguration around the club, with a metre of Mt Compass sand used for the new greens profile.

Having three older, heavier textured greens with "shitty old dirt" does have its pluses and minuses. During summer Lewis can go for extended periods without needing to water those greens and, for example, at the upcoming worlds he will more than likely get through the entire two week playing schedule without needing to water. C green, however, will need at least a couple of waterings.

The drawback, however, is winter and with the advent of winter bowls which can see play up to three times a week, Lewis has to ensure his greens are in as good as health as possible before nurturing them through winter in order to get them back the following spring. Then there is also the constant battle with moss and algae developing on the surfaces.

Management of the greens this past winter, particularly the amount of traffic on them, has taken on extra significance with the worlds just around the corner and as luck would have it the weather gods did Lewis few favours. The Adelaide Airport BOM weather station recorded 114mm for June, the third wettest June since records began in 1955 and the wettest since 1981. The winter period saw a total of 196mm while mean temperatures barely crept above 15.

As a result, Lewis had to be somewhat ruthless in his demands to club management and called off play on numerous occasions, cutting winter play back by almost half. The result though is four very happy greens that have come into spring in the best possible condition, ready to be tweaked in preparation for the worlds.

Like Lockleys, Holdfast Bay boasts four Tifdwarf greens, three of which are 90 years old "I was very happy with the way they came out of winter last year and how they played for the Asia Pacifics, but I'm even happier now with where the greens are at heading into the worlds," says Lewis. "Because I have heavier soils compared to Brad's at Lockley's, I tend to have a thinner surface which during winter can become a problem. Fortunately the club was very supportive keeping the play off those three greens and it has shown in how they have come out in such great condition.

"We renovated all four greens last year with the worlds happening this year, Verti-draining them, heavily scarifying and laser levelling them and they came back really well. This spring we scarified the greens in late September/early October and then fertilised. We have continued to monitor traffic on the greens and with Night Owls starting in mid-October we have been playing them east-west so as to keep them off the ends.

"Basically it's then just cutting and rolling, cutting and rolling through until the tournament. A month out we'll put an application of Primo Maxx which we have been using for about 3-4 years now and is fantastic for providing a tighter and stronger sward. That will coincide with another fertiliser application and if the grass starts to get a bit too thick we'll run the Fatboy over them. For the worlds we'll single cut the greens every day and go hard on the rollers prior to the start of each day and then, if time permits, during lunch as well."

HECTIC SCHEDULE

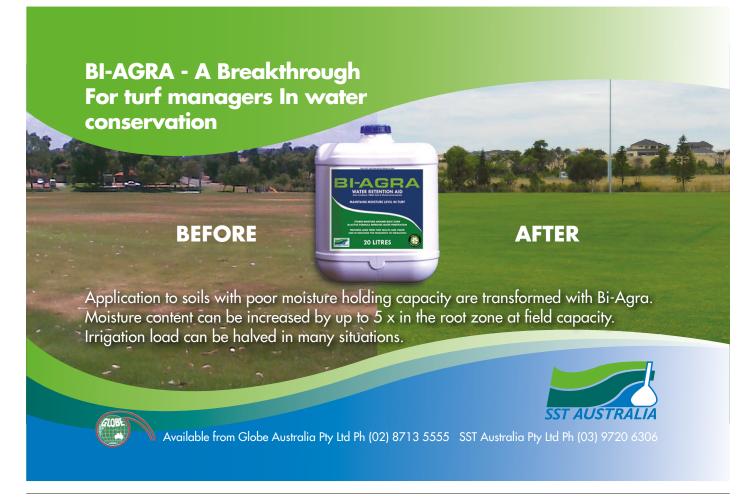
Twenty-seven nations have qualified for the 2012 World Championships with 24 in both the men's and women's competitions. Australia heads into the event as defending women's teams champions after emphatically collecting gold (in the fours), silver (triples) and two bronzes (pairs and singles) at the 2008 worlds in Christchurch. Despite winning two silvers (singles and fours) and a bronze (pairs), the Australian men finished second overall to New Zealand. While Australia and New Zealand will be the bookies' favourites, strong challenges are also expected from Malaysia (third overall in 2008), Scotland, England and South Africa.

A total of 24 rinks will be in use at both Lockleys and Holdfast Bay for 10 days from Saturday 24 November through until the start of the finals on 4 December which will all be held solely at Lockleys. (There are also three official practice days from 21-23 November).

Rinks will be international size – 5.7 metres wide – which is half a metre wider each side than a standard pennant rink, which allows for just six rinks per green instead of the usual seven. As such the number of rink movements (i.e.: side to side movement) after each match will be reduced which means the ends (from the 2m mark to the ditch) will come in for a pounding. As mentioned, Lockleys' D green will be used for the major finals matches, with the rink closest to the western boundary and the



A total of 24 international size rinks - 5.7m wide - will be used daily across both venues





The speed of a bowling green is measured by the number of seconds it takes for a bowl to travel 90 feet

main tournament grandstand, which seats around 900, to be used, as it was in 1996.

Porter and Lewis have been in constant contact over the past year to get a handle on each other's preparations and techniques all with the goal of providing near identical surfaces for the worlds. While the Australians and New Zealanders would prefer quicker greens (up around the 16-18 second mark), the worlds committee has stipulated speeds of around 14-17 seconds for the event.

While golf course superintendents have the much maligned stimpmeter to determine the speed of their greens, bowling greenkeepers have something far more instinctive – their hand. The speed of a bowling green is measured by the number of seconds it takes for a bowl to travel 90 feet, something which the tournament umpires will measure daily.

Although the pace of the greens will be similar, it will be the unique conditions of each venue which will really test the players' shot-making abilities. The Lockley's greens are generally known for their greater pace, whereas Holdfast Bay's greens tend to have a wider draw. Lockleys is also far more exposed to wind, something which those who contested last year's Asia Pacifics came to appreciate as 60kph south-easterlies buffeted Lockleys for the duration of the tournament. Holdfast Bay, by contrast is more sheltered, although as Lewis and Kleinig are quick to point out the wind swirls more on their greens which provides its own unique challenges. "I think I can speak for Kevin when I say we are really excited about the event," sums up Porter, a former pennant and SA representative bowler himself. "It's a great time of year to be hosting it and with no other major events on in Adelaide we are hoping for good crowds. Ticket sales have been great and the local pennant competition will stop for the duration to encourage more spectators.

"It will be a huge challenge for both Kevin and me, in particular ensuring good turf cover and uniformity of pace across all four of our greens and also between the venues. But you're there to produce the best product you can and with the experience we have on these greens I'm pretty confident that the plans we have put into place will have them in optimum condition for the worlds.

"I really enjoyed the experience back in 1996, especially meeting all the different people from around the world, and that's something I'm looking forward to again. From a greenkeeping perspective, 1996 was a huge learning curve, but having been away and experienced other clubs and different conditions since and then coming back, it has certainly put me in good stead for the event.

"I think the most satisfaction I'll get from it will be to see the results from all the hard work that has gone into getting everything up for these 19 days. This event has been two-and-a-half years in the planning. I don't think the worlds will be back in Australia for a long time after this so to get a second bite at the cherry is pretty special."

HOME TURF ADVANTAGE MORE THAN JUST LITERAL FOR RUEDIGER

hile Brad Porter, Kevin Lewis and Max Kleinig will have their hands full preparing the Lockleys and Holdfast Bay greens for the upcoming 2012 World Championships, they'll be sure to have one very close eye on the scoreboard and one name in particular when the Australian men take to the greens for their matches

Wayne Ruediger, the sole South Australian in the five-man Australian men's team, is also greenkeeper at Adelaide's Grange Bowling Club and a former apprentice of Lewis's at Holdfast Bay, and will be making his first appearance at the World Championships after winning selection to the 'Jackaroos' team earlier in the year.

With an exemplary pennant, state and under-25 Australian career already to his name, the 36-year-old current South Australian state skipper was one of four international debutantes named in the Australian squad for the six-nation SA International Series held at Holdfast Bay back in May.

Having impressed during the Australian Sides Championships the month prior (the Sides is the premier state bowls teams event), Ruediger was given the nod by the Australian selectors to contest the triples and fours. He didn't disappoint, helping guide Australia to a gold medal in the triples with a convincing 22-9 win over New Zealand, with Australia going on to win the overall team gold medal.

That form put Ruediger in strong contention for the worlds and in late July following a four-day selection camp at Warilla, NSW he was confirmed in the 10-strong (five men, five women) Australian team for the worlds. Ruediger's inclusion was one of just two changes from the team that turned out for the 15-nation Asia Pacific Championships last November (the main lead-in event for the world championships a year out) and it will be one of the youngest Australian bowls teams to take to the greens for an international event, with an average age of just 30.

Ruediger will contest the triples alongside former world champion Brett Wilkie and reigning Australian Open champion Mark Casey, with

Australia's 'International Bowler of the Year' Aron Sherriff joining them in the fours. The fours begin their campaign on the opening day of the tournament (24 November) against South Africa, while the triples start five days later with a blockbuster against perennial rivals New Zealand.



The Grange Bowling Club greenkeeper Wayne Ruediger (centre) will represent the green and gold in both the triples and fours at the upcoming 2012 World Championships in his home town of Adelaide

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RECONSTRUCTION

Stage 1 of the Bonnie Doon Golf Club redevelopment has seen the redesign of five holes and construction of two new holes and a practice facility. One of the key elements of the redesign has been to add character to the greens complexes as well as change turf composition from *Poa annua* to Mackenzie creeping bentgrass



Redevelopment boon for The Doon'

Bonnie Doon Golf Club course superintendent David Scaife looks back at the first and most significant stage of the club's current redevelopment project which has seen the redesign of five holes and construction of two new holes, a practice facility and installation of a new irrigation system.

O ne of the reasons I applied for the course superintendent position at Bonnie Doon Golf Club back in 2002 was the opportunity to be part of the major course redevelopment that the club had proposed to undertake. This would include the redevelopment of the old holes and the construction of two new holes to be located on a spare 6.5 hectare tract of land that was previously a rubbish tip and separates the club from neighbouring Eastlake Golf Club.

Bonnie Doon lies on medium-to-fine dune sands that vary in depth of up to 16 metres, at which point the aquifer we utilise for watering starts. This sand has always been the subject of great interest and in several sections of the course and immediate surrounds sand mining has historically taken place.

The course has been on its current site in Sydney's eastern suburbs since 1935 and was originally designed by Lance Giddings with input from Eric Apperly. At that time, it was known as New Metropolitan Golf Club, but by 1950 Bonnie Doon Golf Club had moved from its previous site at Kogarah and has operated as this site ever since.

Since that time, various changes to the course have been made with most of the work conducted

in the 1990s under the supervision of Ross Watson. In 2010 Michael Clayton Golf Design (MCGD) was given the opportunity to develop a new master plan for the course, incorporating the additional 6.5ha of land. Over the ensuing months, MCGD also underwent change of its own and after agreeing to terms to develop a new master plan it was dissolved and Ogilvy Clayton Golf Design was born. The new association with Geoff Ogilvy was obviously exciting for the club and he has been on-site several times over the past two years.

The master plan was approved by the Board in September 2010 and at that time the first stage of the redevelopment was also agreed to. This would see the redesign of the old 1st (which would become the new 10th), 2nd (new 12th), 3rd (new 13th), 4th (new 9th) and 8th (new 18th) with two new holes (14 – a 505m par five – and 15 – a short, uphill 120m par three) and a new practice facility built on the area of the old tip.

TRANSFORMATION BEGINS

After almost 10 years of preparatory work, the ground work started on 5 May 2011 with Mike Cocking and Ashley Mead from Ogilvy Clayton on site every week and Jason McCarthy, the one man shaping team, slowly changing the face of Bonnie Doon.

The first and most obvious issue that was discussed at the outset of the project was tree removal, with particular attention paid to exotic species which were not suited to the site. Over 150 trees were removed in total, most of them *Pinus radiata*. The removal of trees has given the course a



feeling of space that previously was not present and a higher percentage of native trees which give the course a more natural look and feel.

The old kikuyu fairways, *Poa annua* greens and irrigation system all were well past their 'use by date' and the decision was made to continue with the couch replacement of kikuyu that had already started on several holes years ago. The transition to couch started in 1993 with the first of Ross Watson's work, however, over the years kikuyu had infested the planted couch. Over a three year period, through irrigation management and the use of Monument herbicide, over 95 per cent of the couch had been recovered.

The new turf species would be washed Windsor Green couch maxi-rolls for the tees and surrounds, with stolons planted for the fairways. Mackenzie creeping bentgrass was the choice for greens and the old Rain Bird single row irrigation system would be replaced with the new ICM value-in-head system. Native sand was used in all of the new bunkers.

Greens surfaces on the new holes have increased by about 50 per cent compared to their old equivalents and short-cut turf (tees and fairways) has increased by some 300 per cent. These increases may seem enormous but the course historically did not feature a lot of short grass or greens space. The new expanses of short grass have therefore made a significant impact on the look and playability of the course. Undulating greens and fairway surfaces blend in to the new holes and the tree removal has opened up fantastic views and given the course an expansive feel.

The old *Poa* greens were flat, circular and uninteresting with the new large and undulating greens providing a complete transformation. The green complexes and couch surrounds make the greens feel even bigger. This season will see a better blending of surrounds and greens as renovations tighten up the couch and the greens complexes will become a very big part of the new course. The maintenance of these new areas has necessitated large operational changes with new machinery, particularly spray gear, fairway mowers and greens mowers being required to prepare the new holes.

In order to cap the former rubbish tip site, over 30,000 cubic meters of sand was imported from local development sites over a three month period. A further 30,000m³ of sand was relocated from other sections of the existing course to enable the former tip site to be capped with at least one metre of sand. Stringent testing requirements were employed to ensure that all imported sand was free of contaminated material and was close to the profile of sand that was native to the site.

The practice facility and two new holes (pictured is the 505m par five 14th), were constructed on a 6.5ha tract of land which had been previously used as a rubbish tip





When the excavators ripped into the old greens, the existing profiles, like the 1st green pictured here, were quite a sight sitting on top of the native dune sand It was also decided that the native sand would be used to construct the new greens, resulting in significant savings in the development budget by avoiding going down the path of a USGA construction profile. When the excavator started to remove the old greens surface it was certainly interesting to see what was underneath and as the photo of the old 1st green profile above shows what we uncovered was a veritable archaeological reference book!

The new greens were hydroseeded with Hydromulch 1000 to bind the seed given the windy nature of the site and the time of the year. Dynamic Lifter pellets at 100kg/100m² were spread over the finished surface and bunker-raked in with a wheel roll to provide the seed bed.

The Mackenzie seed was spread at 600g/100m to all greens, however, there was initially very uneven germination across the new holes despite the methods we employed. Once established, liquid fertilisers and a combination of organic liquids where applied to the greens and we were lucky enough not to experience any disease problems during the grow-in phase.

Rough on the new course is based on the famous Melbourne sandbelt and UK heathland



courses. Native grasses were to be the overall cover with plantings based on the Eastern Suburbs Banksia Scrub species list to highlight specific areas. Over 40,000 tube stock plantings have been established throughout the new works which will give the course a whole new look when they mature.

The establishment and maintenance of the native seed continues to be very trying as the germination is sporadic. One reason for this is that that sand profile lacks any real body. The success where we have had it is fantastic but the cost and amount of seed that has been sown is frustrating given the limited amount of successful germination.

It was decided to use a PGG Wrightson 'Out of Bounds' blended fescue mix to replace the native seed, which has produced a very good outcome for the time and dollars expended. It will be interesting, however, to see how the summer treats these areas.

Fairways were established using deep fowl litter at 50m³/ha tilled in before stolonising and then using the Cambridge roller to roll the couch into the sand followed by a smooth roller to contact the stolons and sand before being watered.

Unfortunately, the growing season in Sydney was not ideal with temperatures well below average, overcast conditions and record rainfall. During the construction and grow-in phase, over 1400mm of rain fell with the months of November, December, (2011) January, March and April, (2012) the wettest in my 10 years at the club.

This obviously meant the establishment and supply of couch grass was trying, while the windy conditions also meant our pumps were really tested as we tried to not only grow grass but keep sand in place on about 10ha of exposed land.

IRRIGATION EFFICIENCIES

Another key component of the redevelopment has been the installation of a new irrigation system. Australian Turf Projects (ATP) successfully tendered for the installation of the new system which was designed by David Hanby of Hydro Pumping Controls based in Queensland.

Our problem at Bonnie Doon is the high incidence of lightning strikes that occur during storms and being sand based it is almost impossible to achieve good earthing. The resulting damage from storms often meant days without irrigation as we tried to locate blown decoders and wires.

We chose the Rain Bird ICM-operated sprinklers to assist with achieving good earthing and also faultfinding with the reduced amount of wire needed to operate the system. David Hanby has extensive Asian experience and that knowledge, especially in preventing lightening damage, has resulted in no damage since installation despite several storms hitting the course. The installation of a copper bonding cable in conjunction with the Maxi cable to secure lightening surge protection rods allowed us

CONTINUED ON PAGE 18

The Ogilvy Clayton team of Mike Cocking and Ashley Mead (foreground) with shaper Jason McCarthy (background)

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Over 40,000 tube stock plantings, based on Eastern Suburbs Banksia Scrub species, have been incorporated into the new landscape, however, establishment has been long and difficult

1000
NO ENTRY
GREEN HAS BEEN SEEDED
DEENGEEDED

The new Mackenzie bentgrass greens were hydroseeded at 600g/100m with initial germination uneven despite the methods employed

The old *Poa* greens were flat, circular and uninteresting with the new large and undulating greens, such as the par three 15th pictured, providing a complete transformation

CONTINUED FROM PAGE 16

to achieve a respectable ohms reading to manage any strikes.

All irrigation installations were overseen by our irrigation technician Martin Dyball, whose job was made a lot easier than anticipated given the quality of the installation by ATP.

POSITIVE START

In regards to the specific design and routing of holes, Ogilvy Clayton has given the club something that truly fits the land and has introduced a far more strategic and enjoyable element to the new-look holes.

The old 1st and 4th holes where almost identical, both being short par fives played in the same direction over similar land. Ogilvy Clayton redirected the 4th (now the new 9th) to play from south-to-north to make a very interesting short par 5 with deep bunkers around the green. This hole will play directly into the north-east summer wind and will be sure to test all golfers alike.

The new uphill short par three 15th has created plenty of interest with the rotation of tee markers making the hole play anywhere from 80m to 120m. With severe undulations in the green, this hole has produced the most holes in one with over 10 already since opening.

Stage 1 works were opened to the members on 1 May 2012 and work is now underway finalising plans for Stage 2. As part of the redesign to date, the



The new fairways were stolonised with Windsor Green couchgrass. Due to below average temperatures, overcast conditions and record rainfall, the grow-in period was very challenging

club has retained the old 16th and 18th holes which together with our spare par three – 6a – means we have three extra holes at our disposal which will enable us to maintain an 18-hole layout and reduce disruption to members during the next three stages. At the completion of the redevelopment we will have a 19-hole layout.

Stage 2 will see the current par three 11th (old 5th), 16th (old 6th) and 8th (old 7th) redesigned with the balance of the northern paddock being completed the following year as Stage 3. The development of Stage 4, which includes the five holes on the southern paddock, will see the completion of the master plan, with this work projected to take place within five years.

Stage 1 represented the biggest part of the redevelopment and special thanks must go to my assistant Tim Allen and the Bonnie Doon maintenance staff for the long hours that they put in. Likewise to foreman Brad Glen whose job it was to maintain a 15-hole course for members with a skeleton crew.

This project has been nearly 10 years in the making but to work with Ogilvy Clayton and see what has come out of these old sand hills so far has been fantastic. Mike Clayton, Geoff Ogilvy, Ashley Mead and Michael Cocking have been a real pleasure to work with and to see their concepts come to life and have member acceptance of the finished product has meant an unbelievably positive start. Roll on Stage 2!

Editor's Note: A full copy of the Ogilvy Clayton master plan for Bonnie Doon Golf Club can be found on the club's website www.bdgc.com.au.



A test plot with Santa Ana couch planted in a fairway of GRAND PRIX couch.





Race results so far...

Cameron Sutherland from the WACA and Cameron Hodgkins formerly from the MCG selected Grand Prix for their test pitches which produced excellent results over the past 2 years.

Both curators observed a significant improvement in wear resistance and recovery when compared to other commercially available couch grasses with the extensive rhizome system of Grand Prix assisting with the stability of the pitch surface.

Grand Prix continues to demonstrate superior performance on the base lines at Kooyong Tennis Club where a turf cover is maintained in the highest wear areas.

Grand Prix has also been specified for all fairways, light rough areas and tees for the new golf course being constructed by Eastern Golf Club in Victoria and the grass is performing to expectations on many sports grounds around the country.

For improved wear resistance, high density and a substantial reduction in seed head production, Grand Prix offers advantages over other couch varieties that curators and turf managers from all sports should consider.

Grand Prix's superior characteristics are supported by extensive scientific testing that was conducted by the Department of Primary Industry in Queensland under Dr. Don Loch.

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ICC U19 WORLD CUP

Townsville's Tony Ireland Stadium was opened in 2007 with a capacity 10,000 crowd watching a Twenty/20 clash between Queensland and Victoria. The 2ha oval is Conquest couch with a sixwicket block, three of which were used for the U19 Cricket World Cup in August

Tony

Since opening in 2007, Townsville's Tony Ireland Stadium has hosted a number of major cricket matches, but none bigger than the recent 2012 International Cricket Council's Under-19 Cricket World Cup. Curator Paul Sanson looks back at his preparations for the event which saw the game's future stars descend on Queensland for two weeks in August.



takes U19 centre stage

or the second time in the event's history, Australia played host to the International Cricket Council's (ICC) Under-19 Cricket World Cup during August. Having staged the inaugural Youth World Cup back in 1988 as part of Australia's Bicentenary celebrations, Australia was chosen by the ICC to again host the tournament in 2012, with a total of 48 games played across six venues in Townsville, Brisbane and the Sunshine Coast.

Front and centre for the two-week tournament was Townsville's Tony Ireland Stadium (TIS), which would host a total of 10 games including the final. Officially opened in December 2007, TIS is built on the Ross River and forms part of Townsville's impressive Riverway complex. The two hectare stadium oval is built on a complete sand profile and has six Conquest couchgrass turf wickets.

The list of major events TIS has hosted since opening is starting to look impressive for a regional venue and along the way we have prepared the oval for a Twenty/20 game between Queensland and Victoria, two Australia A Series against Pakistan A and Sri Lanka A and a Ryobi Cup game between Queensland and South Australia. It has also hosted warm-up matches and acted as a training venue for North Queensland Fury (A-League).

I took over as head curator at TIS in late October 2009 after spending nearly a decade at Lavington Sports Club in north Albury, NSW. My journey as a curator began at a young age growing up in the small central NSW town of Lake Cargelligo where for many years our family had the task of preparing the town's two turf wickets. Dad began the tradition and then each of his four sons (I was third in line) had a go and it was here that I developed a passion for turf industry. Moving to Albury after finishing school I completed my apprenticeship at Hume Country Golf Club and Wodonga TAFE and was fortunate to secure the head groundsman position at Lavington, looking after two Tifdwarf bowling greens and the sports oval which hosted local AFL and cricket.

I held this position for nine-and-a-half years until the local football and netball club sold the ground to the Albury City Council and I was made redundant. After a very short stint as an apprentice plumber, a random phone call alerted me to the opportunity at TIS and after a quick trip there I was soon moving my beautiful family to Far North Queensland so that I could continue my love affair with preparing turf.

WORLD DESCENDS ON TOWNSVILLE

Not long after Australia won its third U19 Cricket World Cup title in New Zealand in 2010, it was announced that the defending champions would be host nation come 2012. When the draw was released in February 2012, TIS was fortunate to be named as primary host with all 10 scheduled games (including five pool matches, two quarter-finals, two semis and the final) broadcast to more than 180 territories around the world.

Preparations for the event began in Easter when Townsville hosted the U19 Quadrangular Series between Australia, New Zealand, India and England. This was basically a test run for the teams and for the grounds crews at both venues in Townsville (the nearby Endeavour Park would also be used for the World Cup).

The series started just four days after the local cricket grand final so from a wicket point of view there wasn't a great deal of extra preparation required. With a day's break between games, we



hosted five games on just one wicket which seemed to get better as each game passed.

The Quadrangular Series was a huge confidence boost and the amount of positive comments we received from players, officials and spectators was reassuring and confirmed that we could produce a venue that not only met, but exceeded, expectations.

With that series behind us, the next challenge was to manage the wicket block through the local AFL season so that I had some grass to work with come August. This proved to be difficult at times with colder than expected weather, well cold from a Townsville perspective at least. One day in late May we had a top temperature of just 19°C (mean temperatures are normally in the mid-20s at least), while overnight temperatures consistently dropped below 10°C. Not surprisingly the couch on the wicket block slowed right down and coupled with a heavy footy schedule (Wednesdays and Saturdays from late April to late July) the ground quickly started to show signs of wear.

The early plan for the World Cup was to use wickets No.1 and No.6, rotating use between them as required (we would end up using a third – half of Nos. 3 and 4 – for the tournament as well). The AFL centre circle fitted between No.1 and No.6 and was moved up and down the block to manage the wear. Each Monday after weekend footy we'd put an Evergreen turf cover over the entire block to try and maintain as much grass cover as possible before removing it lunchtime Wednesday. This routine continued up until the end of footy on 21 July and during this period we applied numerous fertilisers to keep growth ticking over as well as manage small patches of ERI. We also solid tined high wear areas around the oval.

DIALLING IN

Once football had finished we had a three week break in which to get the oval and wickets ready for the World Cup opening match between Australia and England on 11 August. On 23-24 July the oval was verti-drained to a depth of six inches, the first time it had been aerated to this depth since I started.

The following day (25 July) the wicket block was fertilised with 80kg of blood and bone and washed in (three weeks earlier we had fertilised the block with a bag of Andersons 31:1:7). Oval mowing height was adjusted down to 20mm with clippings caught and placed in the shed to dry for later use on the wickets.

The lack of grass on the wickets at this stage was a little concerning, but I was still confident that while there was no traffic they would recover in time. In saying that, I helped things along by spraying the block with Green Lawnger (10I/100I water). The TIS crew (from left) Rohan Brown, leading hand Richard Shannon, curator Paul Sanson, U19 tournament curator Ross Harris, Mathew Smith and Kenji Steele





India claimed its third U19 World Cup title by defeating hosts Australia in the final played at TIS. TIS hosted a total of 10 matches during the tournament

Wicket No.6 on the TIS main oval ahead of the tournament's opening match on 11 August between Australia and England



Remembering that the oval had been verti-drained earlier in the week, I found that even the Medivac was leaving wheel marks so I rolled the entire ground using both our Mentay 2000s.

With the oval still lacking colour from winter traffic, the cooler than normal winter and knowing that I was going to have to drop mowing heights another 8-10mm, that Friday (27 July) the oval was sprayed with 60I of Coron and 1I of Primo Maxx.

Two weeks out we dropped the oval mowing height down to 12mm and double cut without catchers. As you can imagine there was a fair bit of scalping but I had to get the height down and hope it recovered in time. Fortunately the weather was getting slightly warmer.

On 30 July the wicket block was mowed at 8mm then fertilised with half a bag of Andersons 31-1-7 and watered in. The following day the practice wicket block was scarified lightly, mowed at 8mm and fertilised as well. The oval was again double cut without catchers and a few bare areas on the edge of the wicket block were Turf Doctored out.

Still chasing colour, on 1 August we sprayed the oval with Dispatch at 50l/400l water and washed in. We were actually supposed to put out Aquaforce at 50l and with Dispatch supposed to be applied at a rate of 10l/oval I was very nervous about it causing burn. Thankfully it didn't.

Once the oval was dry enough to mow it was double-cut again (1 August) but this time with catchers. We kept all the clip (there was a mountain of it) which would be used on all wickets at TIS and Endeavour Park. This was beautiful clip too as it had dried on the oval for two days. It was very fine and had already changed colour so it didn't require as much work in the shed to help it dry evenly. The ground was then fertilised with 400kg of Greentop K (32.8:0:11) and washed in and the Evergreen growth mat put over the wicket block.

Nine days out from the tournament we started on the four practice wickets, giving them an even watering and mow at 6mm. Practice wickets 1 and 3 were to be used first so we rolled between two and three times over the next few days for between 30-35 minutes and covered them with hessians at night. The oval was sprayed with 50l Aquaforce and a dual application of 60l Coron and 2.5l Vision Pro (colourant) was made as we continued to strive to get some colour back.

Work on wicket No.6, which would host the opening match, began in earnest on Monday 6 August. After string-lining it, mowing it at 6mm and watering it the afternoon before, it was rolled three times for 45 minutes and covered with hessians for the night. That would be our rolling regime on No.6 for the next three days.

On Tuesday the next wicket – half of No.3 and No.4 which would be used for the following Monday's Australia v Nepal match and the 26 August final – was string-lined, mowed at 6mm and watered. While not normally ideal to do this, using the two halves gave me an even gap from the middle wicket to the outside two and we had plenty of recovery time before local cricket started again. The following day this middle strip (No.3) was clipped, sealed and rolled 3 x 45 mins.

Two days before the tournament start the No.6 and No.3 wickets were again rolled 3 x 45 mins each. At this time the scaffolding was being erected for the run out cameras, so we had to set up the front (popping) crease for the whole block. No.1 wicket was string lined and mowed to 6mm then

watered, ready to be worked on for its opening game on 12 August. By this stage all wickets were now being fully covered at night with hessians on all.

The first official practice day was Friday 10 August and it was here that we had our first and, thankfully, only hiccup. While the practice wickets were fine, we had to move the Australia and England teams off our training oval due to wet conditions and onto the main oval (in runners).

With just a day to go, the main wicket block was getting plenty of attention. No.6 was mowed at 2mm, broomed and mowed again in an effort to remove the green stuff and then rolled 3 x 45 mins. No.3 was rolled similarly, while No.1 was clipped, sealed and also rolled 3 x 45 mins. The oval had its final trim and all field restrictions were marked and boundary rope put out. Two hessians and a canvas were put on No.6 that night and one hessian on No. 3 before the block was fully covered.

GAME ON

It was an early start (6am) on Saturday 11 August as the tournament proper kicked off with a blockbuster opener between Australia and England. The following is a diarised account of our wicket preparations throughout the tournament. It was certainly a hectic period but one we will all look back on in time as an experience to remember

Day 1 (11 August): Australia v England

No.6 mowed at 2mm, rolled for 20 mins. The wicket was a little greener than I'd hoped, but rock hard. There would be a lot of life in the wickets each morning as play started at 9am. No.1 and No.3 were rolled for 30 mins each. At the end of play, No.6 was cleaned, mowed at 2mm, rolled for 20 mins then re-marked ready for Game 2. All wickets covered for the night. Oval mowed. Australia wins by six wickets. **Day 2 (12 Aug): India v West Indies**

A little less crazy today as we were using the wicket from the previous day. Wicket mowed at 2mm, then

•



rolled for 30 mins to try and close up some of the cracks which were starting to get quite large. No.1 and No.3 both got 30 mins before play with No.3 rolled during lunch. At the end of play, No.6 was cleaned with the Honda mower, then a wet hessian was applied to try to close the cracks. No.3 was rolled for 20 mins and then marked up for the next day. No.1 broomed, mowed at 2mm, lightly watered, clip applied, then sealed again for 30 mins.

Day 3 (13 Aug): Australia v Nepal

Meaning no disrespect, as a grounds crew we were hoping for a short day. Completed our normal morning routine, then No.3 was rolled with the pedestrian roller so it didn't crease. No.1 rolled for 40 mins with the heavy roller. At lunch No.3 was rolled with the pedestrian roller and No.1 with the heavy roller for 30 mins. After play No.3 and No.6 were watered lightly, as was the rest of the block, except No.1. It was rolled for 30 mins and then marked for day four play, including changing fielding restriction markings. Wickets covered.

Day 4 (14 Aug): India v Zimbabwe

Once covers removed No.1 rolled for 30 mins with the pedestrian. The best part of today was that I got the opportunity to sit in on Cricket Australia's Curators Conference which was being held during As well as the three main oval wickets, four practice wickets at TIS were prepared and rotated throughout the tournament

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AQUA-TECH

the event. Sitting in a room with some of Australia's and the world's best curators was a huge thrill and a bit surreal. It was also a real buzz for the crew when most of them came out to the middle after play to inspect our handy work. With a day's rest coming up, the wicket block was given a heavy water and foot holes filled in. Covers applied, no hessians.

Day 5 (15 Aug): Rest Day

Although no game, the nets were still in use and we switched to using practice wickets 2 and 4. Practice wickets 1 and 3 were watered then covered with hessians. Main oval sprayed with 50l Aquaforce. Wicket No.1 on the main oval was to be used the next day so it was clipped, rolled 3 x 45 mins and re-marked. Covers placed on all wickets.

Day 6 (16 Aug): England v Nepal:

No.1 rolled with the pedestrian. After play all wickets plus the block were watered. Only half the block was covered as we now had a two-day break before the quarters. The nets were all watered as we had a day's rest on them too.

Day 7 (17 Aug): Rest Day

Clipped and rolled wickets No.1 and No.6 for 3 x 45 mins, mowed the oval, watered the rest of the main wicket block, then sprayed with 80l Special FeX and 60l Coron. All wickets covered.

Day 8 (18 Aug): Rest Day

Continued rolling No.1 and No.6 for 3 x 45 mins

each, mowed the oval and marked up No.1 for the next match. Hessians and covers put on both.

Day 9 (19 Aug): England v South Africa (QF1)

No.1 rolled with the pedestrian. Covered No.6 with a wet hessian until closer to play. Our routine was getting a lot easier now. After play was completed we cleaned No.1, mowed No.1 and No.6 at 2mm and rolled both for 30 mins. No.1 was marked up for the next day, a damp hessian put on No.6 and the block then covered. SA wins by 102 runs.

Day 10 (20 Aug): India v Pakistan (QF2)

No.1 rolled for 20 mins and No.6 for 45 mins. Today there was a little bit of pressure as it was two huge rivals playing and the TV audience was tipped to be around 1.2 billion (never had that many people look at my handy work before!). With this in mind I decided to use the same wicket as yesterday to avoid any problems. At the end of play, No.1 was cleaned and watered (it was finished), No.6 mowed at 2mm then rolled for 30 mins before being marked up. India wins by one wicket.

Day 11 (21 Aug): Australia v South Africa (SF1)

Semi-finals time. No.6 hand broomed, mowed at 2mm then rolled for 40 mins. At the end of play it was cleaned and rolled for 10 mins then lightly watered. The rest of the block was watered heavily then covered, with hessians on No.6 only. Australia wins by four wickets.

QUEENSLAND VENUES SHINE AT ICC U19 CRICKET WORLD CUP

while Tony Ireland Stadium was the focal point for the recent U19 Cricket World Cup, five other venues throughout Queensland were also used to host the event. Townsville's Endeavour Park hosted a total of 14 games on its No.1 and No.2 ovals, with three ovals in Brisbane – Allan Border Field, Peter Burge Oval (Redlands) and WEP Harris Oval (University of Queensland's St Lucia Campus) – staging a combined total of 18 pool and playoff matches. Maroochydore Cricket Club's John Blanck and Kev Hackney Ovals also hosted four pool matches.

Newcastle City Council groundsman and AGCSA member Greg Askew was fortunate enough to secure placement as a



Allan Border Field hosted seven U19 World Cup Matches

to secure placement as a volunteer at Allan Border Field in Brisbane, working under head curator Dave Sandurski. Allan Border Field is home to Cricket Australia's Centre of Excellence and would host seven U19 World Cup matches including the Plate Championship final.

"It was fantastic to be involved in the tournament and helping prepare international class wickets," says Askew. "My role was to help out where needed across the facility, whether it was hauling covers, hessians and moving sightscreens, through to cutting the outfield and rolling wickets.



Greg Askew at Allan Border Field in Brisbane which also hosted matches at the U19 ICC World Cup. Below: David Sandurski

"I took a heap away from the experience. It was great watching others at their craft and picking up little things from them, as well as working in a different climate and work environment. It also helped to reinforce the knowledge and processes that you implement in your daily turf management practices. Dave and his team made me feel very welcome and it was clear that without



their passion and dedication this facility wouldn't be able to operate in such a clockwork manner."

Shortly after the tournament, it was announced that Sandurski would be departing Allan Border Field after being appointed as the MCG's new curator. Sandurski replaces Cameron Hodgkins who left in early August to take over as curator at Brisbane's Anglican Church Grammar.

Day 12 (22 Aug): No game

No.6 was rolled for 3 x 45 mins then re-marked. Work begins on No.3 for the final, which was clipped and rolled for 3 x 45mins. Oval mowed, covers.

Day 13 (23 Aug): India v New Zealand (SF2)

No.6 mowed at 2mm then rolled for 30 mins. No.3 rolled for 40 mins in the morning, 30 mins at lunch and 30 mins after play. No.6 was cleaned after play and watered heavily, as was the rest of the block, excluding No.3. India wins by nine runs.

Day 14 (24 Aug): No game

No.3 mowed at 2mm then rolled for 3 x 45 mins. During the day it wasn't looking as good as I would have liked so it was watered reasonably heavily and clipped again. We then just continued rolling, hoping to push as many clippings in as possible. The oval was mowed then sprayed with 10l of Dispatch and watered that night. All covers were used.

Day 15 (25 Aug): No game

No.3 mowed at 2mm, hand broomed and mowed again then rolled for 3 x 45 mins. Wicket marked up ready for the final. Oval double cut in two directions, striping up a treat. The hessian, canvas and covers were put on and we were ready to go.

Day 16 (26 Aug): Final - Australia v India

No.3 mowed at 3mm (so as not to make any scalp marks), then it was rolled for about 15 mins. The result was out of our hands now! After play was completed, wicket cleaned and the block flooded. India wins by six wickets to claim its third U19 title.



TEAM EFFORT

The tournament from my point of view was an amazing success. The amount of positive comments we received during and after has given us heaps of confidence in the fact that we can produce an international standard venue. My team worked their butts off during the tournament and while the long hours were a little foreign, the guys handled it well and I was extremely proud of their contribution to the overall success of the event.

The next challenge for us is to host an AFL pre-season game and maybe a pool match of the main World Cup when it ventures to Australia in 2015. Sometime in the future we would love the opportunity to host a Test match and given our achievements with the U19 tournament I believe we would be more than capable of doing so.

Despite chasing colour for much of the lead-up to the tournament, the oval was looking a treat for the 26 August final



STUDY TOURS

As well as visiting Scotland and England, the study tour group also visited a number of courses on mainland Europe, including Royal Hague Golf Club in The Netherlands (pictured is the magnificent short par five 18th)





G olf course superintendents by nature are inspired by cutting edge course management techniques and the romance of some of the great courses and legendary golf course architects. With these ideals in mind, the 'Hidden Gems' study tour was born and after more than 12 months planning Rod Tatt (Woodlands Golf Club), Ian Todd (Victoria Golf Club), Glenn Stuart (Metropolitan Golf Club), Steven Hughes (Peninsula Country Golf Club), Hayden Mead (Kingston Heath Golf Club) and Rob Halsall (GB&S Australia) embarked on a 25-day trip to the US, UK and Europe in June.

The key objectives of the tour were to obtain a better understanding of global turf management techniques and to gain an enhanced appreciation and awareness of some of the great courses and architects throughout some famous golfing destinations. By the end of the trip we had realised these and so much more and what follows are some impressions gleaned from of our travels.

UNITED STATES

Our first stop was the United States, or more specifically the north eastern pocket, where we couldn't have picked a better place to begin our tour – The National Golf Links of America. Located in the exclusive Hamptons region of New York State, the Charles Blair Macdonald-designed masterpiece was inspired by famous British courses including St Andrews, Royal St Georges, Prestwick and North Berwick.

The recent implementation of a course masterplan has seen the strategic removal of more than 3000 trees which has exposed and highlighted the original design works. An oversowing programme on greens with 'new generation' bentgrasses has been initiated to encourage better putting surfaces in readiness for amateur golf's 2013 Walker Cup.

Next door to The National resides the world's No.3 ranked course Shinnecock Hills and we were given a tour of the complex by superintendent Jon Jennings. Bill Coore and Ben Crenshaw are overseeing minor course works prior to Shinnecock hosting the 2018 US Open, including extensive tree removal and restoration of original green shapes which have been lost over the years.

Course management programmes at Shinnecock currently include applications of trinexapac-ethyl and ethephon to reduce *Poa annua* seedhead issues. Later in the season the 'rusty red'





Pictured outside the Royal Zoute Golf Club clubhouse in Belgium are (from left) Rob Halsall, Rod Tatt, Steven Hughes, Glenn Stuart, Hayden Mead and Ian Todd

fescues become a major feature of the golf course, with red fescue, hard fescue and an unidentified native fescue adorning the expansive roughs.

Travelling from New York and into New Jersey, the world's number one ranked Pine Valley was next on the list. Sometimes when expectations are high you can invariably be let down, but this wasn't the case at Pine Valley. We were gobsmacked with the classic layout, design and the incredible aura of this wonderful course.

With 50 on staff, much of the maintenance work is carried out on Mondays when the course is closed. Greens are dusted with kiln-dried sand and sprayed with a fungicide weekly. Sandy wastelands and a plethora of bunkers (including Hell's Half Acre) require extensive maintenance. Although George Crump is credited with the original design, the golf course is really a celebration of the golden age of golf architecture as names like MacKenzie, Ross, Colt and Tillinghast also contributed to the finished product.

Across the border and into Philadelphia we called into Merion where the 2013 US Open will be held. Superintendent Matt Shaffer took time out to outline his preparation programme over the next 12 months. He has been instructed by the USGA to 'make the course more difficult' by lengthening holes and reducing fairway widths. The roughs along fairways, around bunkers and throughout immediate green surrounds were luxuriant with the Aurora Gold hard fescue providing a spectacular seedhead. The blend of six different bentgrasses provided an excellent putting surface where the new *Poa annua* control herbicide methiozolin was successfully being trialled.

A short flight south into Raleigh, North Carolina allowed us to reacquaint ourselves with two

gained an enormous amount of technical knowledge from the USA leg of the trip, particularly on weed control after meeting with Professor Fred Yelverton and Travis Gannon. It was interesting to gain an insight into the USGA's and The R&A's tournament requirements on courses such as Merion, Shinnecock Hills, St Andrews and Royal Lytham St Anne's, particularly regarding green firmness and speed.

The concept of sustainability was the strong focus throughout Europe with limited access to product use, something we may have to adapt to soon. I enjoyed experiencing the golfing culture from all ages, particularly in Scotland, and it was inspiring to see how much the game means to their communities. Protection of great course design was really prevalent in France and something that I will utilise for the benefit of our club.

Glenn Stuart - Metropolitan Golf Club

STUDY TOURS





Pine Valley failed to disappoint with its sandy waste areas and dramatic landscape reinforcing why it is perennially ranked the world's number one golf course



extensive NCSU tur and trial site

Golfing heaven – Royal Dornoch

world renowned grass and weed specialists Fred Yelverton and Travis Gannon. The North Carolina State University turf research facility is located within the precinct and is predominantly a trial site for new grasses and herbicide research. We had a four hour round table discussion session with Fred and Travis followed by a tour of the research facility.

Our field trip revealed a new trend throughout temperate climates - ultrafine bermudagrass used in putting greens. The trial site at NCSU consisted of Miniverde bermudagrass which was not too dissimilar in appearance to some of our bentgrasses. Rather than oversowing these areas through the dormancy period, green dyes are used to maintain colour. Other trial sites of interest focused on the ability of different grass species to tolerate shade and low irrigation levels.

Within the precinct there is also an Arnold Palmer-designed championship golf course where Fred and Travis work closely with superintendent Mickey McCord, one of the more passionate superintendents we met during our travels. To assist in the prevention of disease, 5hp fans are located on most greens to create air movement. Mickey has also had great success preventing dry patch and associated problems by mixing Cascade wetting agent with Duplex soil penetrant.

Our final course visit in the USA was the Carolina Country Club located in suburban Raleigh. The private club was built in 1910 by Tillinghast and had similar grass specifications to our own in

he tour confirmed that there may be too much emphasis placed on producing pristine turf here in Australia. The courses in Scotland such as St Andrews. Dornoch. Castle Stuart, North Berwick and Brora offer turf which would be considered sub-standard when compared to numerous courses in Australia. This, however, did not detract one bit from the golfing experience at these locations. In fact I found it refreshing to say the least!

The common theme among all the courses across the UK and Europe was how much emphasis is placed on making their visitors feel welcome, and at times special, so much so that when leaving I felt a real sense of fulfilment. In essence, I suppose it was the relaxed nature in which the course was presented which helped with this feeling and that the 'game' itself is the most important thing, not the turf it is played upon.

Ian Todd - Victoria Golf Club

southern Australia with A1/A4 bentgrass greens and bermudagrass fairways. Poa annua was being suppressed with bensulide and trinexapac (greens) and prodiamine (fairways). A new pre-emergent herbicide (Specticle) has recently been trialled with great success on fairways. The new practice fairway with a line of synthetic turf was particularly impressive.

SCOTLAND

Onwards to the home of golf and the first course we visited was Cruden Bay. The rolling links epitomised the idea that the landscape should dictate the golf course. While we didn't have the opportunity to play the course, superintendent Alister Matheson took us on a majestic guided tour through the dune land. We all loved the quirkiness of the lavout the consecutive par three's, the numerous blind shots and the iconic 'bathtub green'. The revetted greenside bunkers were a real feature, while the greens were oversown annually with fescue and browntop bentgrass.

CONTINUED ON PAGE 30



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Tribute



The Tom Doak-designed Renaissance Club in Scotland which opened in 2009

The iconic rock walls which are a unique feature at North Berwick

CONTINUED FROM PAGE 28

Just down the road in Aberdeen, we had our first opportunity to play golf on our trip at the very private Royal Aberdeen Golf Club which was founded in 1780. Upon arrival we were confronted with two clubhouses – one for the gentlemen and one for the ladies! Despite the heavy 'Haar' (fog or sea mist) which rolled in just after we teed off, our first taste of golf in Scotland was unforgettable as we traversed along the rugged shoreline of the North Sea (the front nine is regarded by many as the finest in the world.)

The next port of call was always going to be one of the great days of our trip and it was with much anticipation that we entered the hallowed confines of St Andrews. Director of Greenkeeping for the St Andrews Links Trust, Gordon Moir, was on hand to greet us on a blustery, Arctic-like morning. Our discussions continued with Gordon throughout the morning in the staff conference room and substantial maintenance facility.

A visit to the recently completed David Kidd Castle Course, situated just a short drive out of town, revealed another outstanding layout and a great addition to the St Andrews Trust. Following a quick lunch it was a very overawed, nervous group of Australians who walked to the first tee of the Old Course. Four hours later it was comforting to see Gordon greet us again, this time on the 18th green. Further stories were told and more history revealed as we enjoyed the comfort of the St Andrews clubhouse.

Heading further north through the snow-capped Grampians, we discovered another iconic golfing region where Royal Dornoch is the centrepiece. Rated as the world's 'most natural course' and the course where legendary designer Donald Ross began his career as a greenkeeper, it was located on the most dramatic site we had seen. With great revetted bunkering, the yellow gorse in full bloom complimented by superb fescue roughs framing each fairway, it was golfing heaven!

Despite having only three on staff and a very low

budget, Tain Golf Club was a pleasure to play. We met superintendent Ian Macleod on a cold, frosty summer's morning and really enjoyed our golf and the Tain story as we played 18 fabulous holes. Ian has worked at the Old Tom Morris-designed Tain since 1976.

We had all read and heard about the natural beauty of Brora Golf Club acknowledged as James Braid's masterpiece. Brora is a step back in time with sheep roaming the course, necessitating the electrical wire fencing around each green. Thanks to the sheep, there is no real rough on the course.

Opened in 2009, Castle Stuart has already been rubber stamped as a classic Scottish links. American architect Gil Hanse has draped generous fairways atop sandy links land that are spiced with wild and woolly bunkers and panoramas of Moray Firth and the Scottish Highlands. Indigenous heather was sourced from nearby farms during the construction phase. Superintendent Chris Haspell has previously worked on courses throughout Scandinavia and Germany (where chemical use is banned on golf courses) so he is well credentialed to deal with ongoing sustainability concerns. Haloxyfop is used to control *Poa annua* on the pure fescue site.

Another new Scottish course opened that same year is the Tom Doak-designed Renaissance Club. More than 80 hectares of deciduous trees were

Throughout the tour the most common word that was spoken by clubs was sustainability of the game. The minimalistic management practices was an indication of how they were making it possible and the results many were achieving with limited budgets was very impressive.

I never had an understanding before of how many great golf courses there were in the UK and Europe. Even the small country courses had some fantastic hole designs. The golfing culture too was an eye-opener. The whole town gets involved in their local golf courses and there is a lot of free golf for juniors!

Hayden Mead - Kingston Heath Golf Club

removed to create the golf course which has 6ha of greens and surrounds. Greens, tees and surrounds are all cut at 4mm.

Another highlight of our trip was the afternoon spent at North Berwick Golf Club. North Berwick is a golf mad town where a community putting green is maintained adjacent to the foreshore for 'young laddies and lassies to be indoctrinated'. Golf was first played in the area in 1604 and North Berwick is the 13th oldest club in the world.

North Berwick superintendent Stuart Greenwood maintains his fescue/*Poa annua* greens at 4mm which stimp consistently at 9. Fungicides have not been used for four years. Our round of golf took us along the North Sea coast (where the beach is in play) with iconic holes incorporating original rock wall fencing and burns.

ENGLAND

Heading further south and back into England, we had the opportunity to visit Royal Lytham and St Anne's just before the 2012 Open Championships. Superintendent Paul Smith was in full tournament mode but took time out to show us around. The 11 full-time staff were complemented by 24 extras from local clubs and a further 70 from around the UK. The course's 205 bunkers are revetted every three years and fairways have not been fertilised for 10 years.

A true hidden gem which we discovered next was undoubtedly The Berkshire. The club's two courses were both laid out in 1928 by Herbert Fowler (who also designed Walton Heath and Cruden Bay) and are considered to be the finest examples of 'follow-the-land' style courses. We were privileged to play the Blue Course and really enjoyed the slick *Poa annua* greens, attractive undulating layout and abundance of heather.

Another classic Surrey heathland course is Worplesdon where the groundstaff cut and prepared the entire course especially for our visit. We enjoyed the signature hole – a short par 3 across Bridley Pond to a green surrounded by striking rhododendrons in full bloom.

We saw a number of classic heathland courses but perhaps the finest was Swinley Forest. Much has been written about the tranquil vibe of Swinley Forest What was most evident on tour was the way in which management practices were in harmony with Mother Nature, especially those courses in Scotland, England, France, Belgium and the Netherlands. The grasses being managed grew well in those particular environments and the playing surfaces consisted of a mix of grasses rather than monostands of turf.

Sustainability seemed to be the overriding factor in many course management programmes. Chemicals were not relied upon to produce quality surfaces, rather correct cultural practices which ensured the golf courses played well. Course closures at some clubs on a regular basis allowed general maintenance and course improvements to be undertaken more efficiently, something that we have also adopted at Woodlands on a monthly basis.

Rod Tatt - Woodlands Golf Club

with its proliferation of heather framing each pictureperfect hole. It was probably no coincidence that golfing legend Tom Watson was also an interested visitor to Swinley that afternoon. Designer Harry Colt famously once described Swinley Forest as 'my least bad course'.

Looking to evaluate turf management and tournament preparation from another perspective, we decided to visit the All England Club at Wimbledon. We arrived just one week out from the tournament with the Olympics to follow shortly after.

With the cooler than normal summer in London persisting, head groundsman Neil Stubley had experienced some trying times in the lead-up to the tournament. However, he was a seasoned pro and in full control of preparation and management of the 41 grass courts. The club employs 17-full time staff and has 15-20 extras during tournament time.

The courts, which consist of a 25 per cent clay content soil, are sprayed out each year and reseeded with ryegrass at 10kg/100m². A mixture of soil and pre-germinated seed is used to assist in the recovery of heavy wear areas during and at the conclusion of the tournament. Courts are cut daily at 8mm.

THE NETHERLANDS, BELGIUM AND FRANCE

While typical destinations for European golf trips normally include Scotland, Ireland and southern England, very few would consider heading across to continental Europe. Feeling a bit like trailblazers, we



St Andrews Links Trust director of greenkeeping Gordon Moir holds court

The Berkshire's two courses are considered by many to be the finest examples of 'follow-theland' style of design





After suffering badly during German occupation in WWII, Kennemer G&CC in The Netherlands resurrected design archives to slowly nurture the course back to its original glory

boarded a plane bound for Amsterdam with much trepidation and excitement. We had all heard of the Harry Colt and Tom Simpson legacy through The Netherlands, Belgium and France and we were all keen to see their famed work.

Colt's first project in The Netherlands was Kennemer Golf and Country Club located in the dune region of Zandvoort. It was some of the best golf course land we had witnessed on our trip. The golf course suffered badly during German occupation in World War II and at one point there were 122 German bunkers on the property as well as anti-tank walls. The course maintenance facility is still located in one of these bunkers! After the defeat of the Germans, the club resurrected archives of Colt's old letters, hole descriptions and diagrams and slowly nurtured it back to its original glory.

Kennemer is rightly proud of its rich history and regularly hosts the Dutch Open. The 8th hole is regarded as one of the finest par threes in Europe and the turf quality across the whole site was excellent, particularly the fescue/Poa annua greens. A flock of more than 500 sheep is released onto the golf course for a short period each year to control the abundant rough. Due to strict environmental regulations, chemicals are rarely used on the golf course with fungal disease controlled through applications of sulphur and copper.

Our next visit to The Royal Hague Golf Club coincided with a European Seniors Tour event. The golf course is the oldest in The Netherlands and is situated on a magnificent, undulating exposed coastal dune landscape. The tournament promised to be a great success with players faced with glassy Poa annua/bentgrass greens, tightly cut fairways and spectacular sandy wastelands. We particularly loved the reachable par five 18th with the iconic clubhouse as a backdrop (see photo page 26/27).

Another course severely affected by World War II was Royal Zoute which is located just outside of Brugge in Belgium. The clubhouse was occupied by the Germans during this period and the 1st fairway was remodelled into a shrapnel wall. Following an enjoyable round of golf and an eerie tour through the clubhouse, superintendent Mark Lewis took us on a guided tour through the historic city of Brugge. Heading into France, set in an unassuming rural location with the door firmly shut on visitors lies the very exclusive Morfontaine Golf Club, regarded alongside Ballybunion and Royal Lytham & St Anne's as one of Tom Simpson's finest works. Superintendent Jon White has great passion for the course and its history and despite "not knowing a word of bloody French" when he arrived he has managed to learn the language and had the course looking in great shape. The fescue/colonial bentgrass greens provided an incredible surface and an abundance of heather, particularly through the tee carry areas, complimented the breathtaking layout beautifully.

Chantilly would be the final course we visited on our amazing study tour. Built by Simpson in 1906, the 36-hole layout has survived two World Wars and hosted the French Open an unprecedented 10 times. The classic vigneron course was designed as the 'continental version of St Andrews'.

Superintendent Remy Dorbeau outlined his vision for the golf course and how through aggressive cultural management practices and continual oversowing with Highland bentgrass, the putting surfaces, which 10 years ago were 100 per cent Poa, have improved dramatically. Fairways also provided an excellent surface and they are continually oversown with Sheeps and Slender fescues and have not been fertilised for 10 years.

UNFORGETTABLE

Our 25-day study tour left an indelible mark on all of us, presenting an unforgettable insight into global golf course management techniques and instilling a greater understanding of some of the classic courses and architects. Our time in north eastern America was a fascinating journey through some of the world's highest ranked courses and the two days spent at NSCU were invaluable.

We still marvel at the classic course design and incredible golfing culture we were fortunate to experience in Scotland and the warm hospitality bestowed upon us by our northern hemisphere associates. The opportunity to view preparations for the Open and inspect some of the great heathland courses in southern England also inspired, while the recurring theme of sustainable golf in continental Europe was very thought-provoking.



Morfontaine's fescue/colonial bentgrass greens were impressive





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Profiles are generally wet due to a number of issues including poor surface shape, excessive thatch and poor drainage rates

Saturation point

After years of droughtlike conditions, some turf managers around the country have been caught out by recent wet weather. AGCSATech senior agronomist Andrew Peart looks at the issue of managing saturated profiles and stresses the importance of renovations, adequate drainage and choosing the correct construction material. D uring some inspections of playing surfaces over the last four months, issues with profiles remaining too wet have regularly been encountered.

The drought conditions in the south east of Australia during the early 2000s have been well documented in the pages of ATM over the years and many sporting organisations maintaining natural turf surfaces have implemented various water harvesting and storage options, from the installation of water tanks through to complex aquifer storage and recharge systems.

While the drought had less of an impact on those with heavier soil types or poorer draining profiles, the emphasis on adequate renovation may also have been forgotten as wet winters or indeed constant rainfall events were not witnessed. However, with the rainfall experienced through the last two years, particularly in Melbourne and Victoria, wet profiles have again become a management issue.

Table 1 below highlights the change in annual rainfall in Melbourne from 2006 onwards. While this year to date may not be as wet as that experienced in 2010 and 2011, the late summer and autumn rainfall this year in Melbourne had many soil profiles at near saturation prior to the start of winter.

Profiles generally become wet due to a number of issues that may be confined to one or more of the following:

- Poor surface shape;
- Excessive thatch layer;
- Poor drainage rate;

Year

Rainfall (mm)

- High moisture retention;
- Profile too shallow; and
- Lack of subsurface drainage.

2006

438.4

¹ To the end of September. Source: www.bom.gov.au

2007

448.4

Many older golf greens for example are constructed from poor soil types devoid of subsurface drains. Having surface fall to enable surface water shedding is their only way of remaining relatively playable during the wetter months. It is the lack of surface fall on these types of constructions that is their major downfall in periods of wet weather.

Figure 1 (opposite page) illustrates five different examples of greens profiles and surface fall at a regional Victorian golf course in June. Greens 1, 5 and 8 are all very flat putting surfaces and have reached saturation as recorded with a Fieldscout TDR300 moisture probe. The moisture retention is greater than 50 per cent for the readings with the 38mm and 120mm probes. The 4th green, however, has much better surface fall and the moisture readings are less with 46 per cent at the 38mm range and 40.8 per cent at 120mm.

While the above four greens were constructed with the in-situ soil, the putter has been constructed from a turf sand. Figure 1 shows it is holding an excessive amount of moisture in the top 38mm, due to significant thatch accumulation, but at the 120mm range the moisture retention is a much more acceptable 24 per cent.

The photograph opposite clearly illustrates that band of thatch evident within the putter profile. While this amount of thatch may not have posed a significant problem during the drier years, it is now something that must be addressed with far more regular coring and ideally dusting in these changed climatic times.

Generally on sportsfields the same issues can develop especially on older, poorer constructed grounds that have used in-situ soils. The reliance

2011

832.4

2012

503.8¹

2010

780.2

TABLE 1: MELBOURNE ANNUAL RAINFALL (2006-PRESENT)

2009

464.8

2008

449.4

Analytical, Diagnostic and Consultancy Services

on good surface fall is paramount. This last winter has been very harsh on many local sportsfields constructed with sandy loam soil or heavier soil types which have inherently slow drainage rates. Without surface falls of greater than 1:100, if not 1:80, waterlogged and muddy conditions will develop.

Even with the inclusion of subsurface drainage the necessity to have surface fall direct water to the drainage line is imperative. The photo on page 36 illustrates an example where even drains placed at 2.5 metre centres are ineffective at removing surface water if isolated depressions prevent the water from being able to move to them.

While subsurface drainage is a very effective way of removing excessive surface water, it is important that prior to any drainage works being undertaken that the surface has been adequately topdressed to ensure no undulations are present. Following the installation, it is then important that the surface of the drains is not sealed with finer textured soils. This can firstly occur if washed sod is not used to re-turf the drainage lines or the ground is not topdressed often enough to ensure in-situ soil is not smeared over the drainage lines.

SAND PROFILES

While the above examples have generally illustrated situations with in-situ or finer textured soils, slow draining profiles or profiles that hold onto too much moisture have also been witnessed on sand constructions. In theory, sand profiles should have less reliance of surface fall, however, as mentioned earlier thatch accumulation can have a debilitating impact on the ability of a sand profile to efficiently drain and retain excessive moisture.

Sand profiles in theory are excellent at facilitating the movement of free water (that which is not held by the particles themselves) through the profile and into a drainage system. The rate of this water movement is primarily governed by the particle size distribution of the sand and the amount of resultant macropores coupled with the depth of the profile.

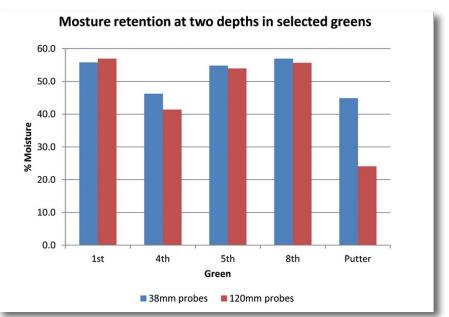
When choosing a sand for construction purposes the hydraulic conductivity (drainage rate) must always be known, but it is not the only characteristic that must be identified. Volumetric water is the second consideration which identifies how much water will be retained within the soil profile once the free water has drained. This water is available for the plant to use. It is often said that a sand that drains too quickly will be too droughty, however, while there may be some correlation this is not always the case.

TABLE 2: USGA PHYSICAL CHARACTERISTICS (2004 REVISION)

•	Test

Saturated hydraulic conductivity	>`
Total porosity – 30cm tension	35
Volumetric water – 30cm tension	15
Aeration porosity – 30cm tension	15

Specification >150mm/hr 35-55% v/v 15-25% v/v 15-30% v/v



When testing sands for construction purposes ideally it should conform to the physical characteristics as outlined in Table 2 below, irrespective of its particle size distribution.

It is interesting to note that the most recent revision to the USGA Recommendations for Putting Green Construction (2004) altered the recommendation for saturated hydraulic conductivity. The 1993 version specified two ranges: a normal range of 6-12 inches (150-300mm/hr) and an accelerated range of 12-24 inches (300-600mm/hr). The 2004 version no longer carries an upper limit which would tend to indicate that while it is still imperative that the volumetric water (moisture retention) is within a prescribed range, the drainage rate of the sand only has to meet a minimum requirement.

The 2004 revision also permitted the use of inorganic amendments to be incorporated with the sand to meet the ranges for volumetric water. Previously it was just organic amendments such as peat moss that were allowed. The only other stipulations with inorganic amendments were that when incorporated, the sand blend still had to meet the USGA particle size criteria and that they were mixed through the full depth of the profile.

Figure 1. Moisture retention at two depths

Thatch accumulation, which is clearly evident at the top of this profile, can have a debilitating impact on the ability of a sand profile to efficiently drain and retain excessive moisture



AGCSATECH UPDATE

An example of a sportsfield holding water where isolated depressions inhibit surface flow



While the use of inorganic amendments has increased in recent years it is recommended that they are only incorporated in response to low volumetric water results obtained following soil analysis and not simply as part of a recipe where they are added irrespective of the sand's physical properties.

The construction of profiles which are too shallow can also lead to profiles remaining unduly wet for extended periods of time. Again these tend to be imported sand-based constructions rather than older profiles constructed from in-situ material.

The USGA recommendations state that a 300mm profile should be placed over a gravel

drainage layer. In some instances, however, there is a tendency to construct profiles at a shallower depth. During the drought it may well have been a conscious decision to construct profiles shallower as a way of maintaining a higher level of moisture within the profile. Unfortunately for whatever reason, if a profile is too shallow it will always hold onto an excessive amount of moisture. The excessive moisture will lead to a reduction in aeration which may lead to possible issues of black layer, algal formation and softer surfaces.

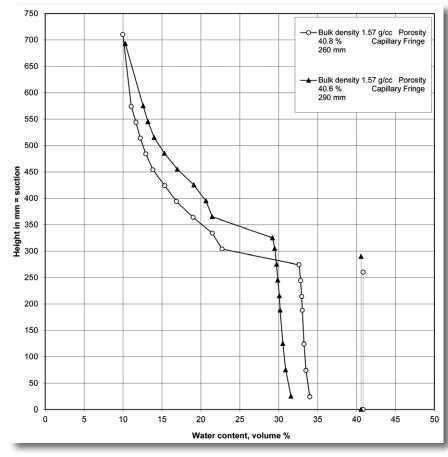
While different sands will have different moisture retentions, if the intention is to construct a profile less than 300mm in depth, a moisture release curve should be undertaken to evaluate if this is plausible. Figure 2 (left) shows the moisture release curve of a sand that was used in a profile where construction depth was only 250mm.

As the chart demonstrates, the capillary fringe or air entry point of this sand is on average 275mm. In general, the construction depth is calculated by adding 100mm to the capillary fringe and subtracting 50mm for the suction of the gravel drainage layer. In this instance the ideal construction depth would be 325mm which is far deeper than the 250mm to which it was constructed.

With lower levels of rainfall during the drought the impact of this would be less noticeable, however, with increased rainfall the profile remains substantially wetter for prolonged periods of time even with excellent drainage and low levels of thatch accumulation.

For any turf manager, the reason for the playing surface being wet must be ascertained so remedial action can be taken. Spring is the ideal time to undertake renovation practices such as coring and topdressing on cool-season grasses, while over summer is the ideal time to undertake similar practices on warm-season grasses. Drainage works should also be undertaken in the drier months so that any re-turfing that may be required has time to establish prior to the colder months.





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Firstly it is important to make a few points clear. Bioremediation is not new technology – it has been used for decades particularly in de-contaminating water – and ESD were not the founders. Waste2Water is simply the best closed loop wash system application of its type in the world.

HOW IT WORKS:

The **ESD Waste2Water** system is a patented fixed film biological treatment system that utilises specially engineered microbial blends for the breakdown of hydrocarbon based organic contaminants including oil, grease, petrol, diesel, herbicides, insecticides, fungicides, etc; into carbon dioxide and water. Odour is controlled through an oxygen rich water that does not allow the water to go septic - producing a clear, odourless water for re-use.

FEATURES:

- Waste or wash water is delivered to the treatment system from the collection sump in the wash pad. Additional sumps can be connected to the system to collect contamination arising from re-fuelling and/or chemical mixing in other areas.
- Grass clippings have the same nutrient content per kilo as animal waste. These are separated using a special hydro screen, diverted into a mobile cart for easy removal before entering the system.
- Two separate solids settlement tanks allow any residual 'fines' to settle and be purged out before entering the main bioreactor.
- Primary treatment is performed in the 3-stage bioreactor that is designed so that the waste water stream travels up and down through the baffled tanks, maximising water circulation through the treatment process.
- The genetically "fingerprinted" microbe blend is provided fresh monthly and is exclusive to ESD Waste2Water.
- The patented fixed film ESD biomedia used for breeding the "good bacteria" increases the capacity of the bioreactor up to 10-fold allowing longer contact between the microbes and any contaminants.
- The increased surface area also creates a longer path for air to flow, creating a smaller bubble and improved oxygen transfer. The warm air blower continually operates to oxygenate the bioreactor, maintaining an ideal environment

for the microbe colony to breed. Biological growth and digestion of organic contaminants is greatly increased in this environment.

- Water flows to the finish tank where it is "polished" and sterilised using high output ozone producing clear, odour free water.
- The treated water is available for re-use via hose connections on the side of the unit, delivering up to 50psi high pressure high volume flow.
- A liquid float level is used to maintain a constant water level throughout the system, replacing any water lost through evaporation and drive-off.
- A pressurised bladder tank is utilised to provide a buffer for the pressure pump and ensure a constant pressure flow.
- The entire tank system is constructed of marine grade aluminium and carries a 10 year warranty.
- Maintenance, service and inspection is simple with access to all components at ground level.
- The latest auto purge valve system is used to clear sludge daily from the settlement tanks. Critically, though, this has a manual over-ride to either open or close the purge lines for both safety and function.
- ESD Waste2Water provide CAD drawings for the complete wash bay and this can be incorporated into a complete Environmental centre with re-fuelling, chemical mixing, chemical storage and leachate handling.





"Sounds good... but does it work?"

The simple answer is YES. Often well beyond expectations. Fortunately, Australian facilities equipped with ESD Waste2Water units have not (yet) had any catastrophic incidents that would provide the ultimate test. Let's hope this continues – but others have, putting the supplier's claim to the test.

FUNGICIDE AT BADGEMORE PARK GC, UK

Lindsay Anderson, course manager of Badgemore Park Golf Club, Henly-on-Thames, recently had an outbreak of fusarium. Preparations were made to spray the disease with a well known fungicide (active ingredient chlorothalonil). The sprayer was part filled with 150 litres of water and 15 litres of chemical added through the induction bowl as normal – only to discover the product beginning to congeal in the tank despite adequate agitation. He decided to abandon the mixing procedure.

Remembering the claims of **Waste2Water** when they installed his new wash-off system earlier in the year – that the system "eats" chemicals – Lindsay put the system to the test and emptied the complete contents of the sprayer onto the pad and into the **Waste2Water** system.

The only slight problem was that although the system readily ingests (eats) these contaminants, large quantities should normally be metered in over a reasonable period to avoid overwhelming the microbe colony. To play safe, particularly as the system installed is the smaller capacity Model 750, **Waste2Water** UK recommended that the system should not be used for 7 days and the recirculating valve be opened to the maximum. An additional 2 x 0.5 litre containers of ESD microbes were added to ensure sufficient microbes were present to thoroughly clean the water.

A week later a water sample was taken from the main body of the bioremediation tank to evaluate progress and this was assessed visually before packaging it for independent analysis. The water in the container was crystal clear and had no odour. Very promising. The question, though, was whether the unseen pollutant was still present in the water.

Twenty-four hours later they had the answer. The water sample fully complied with the UK Drinking Water Directive. The analyst further tested the sample to the highest possible level and could find no trace of chlorothalonil or other contaminants to a range of less than 0.01 parts per billion.

Pretty impressive! Or, as Lindsay put it, "Absolutely amazing. I don't plan on doing this regularly but this incident has given me full confidence in the **Waste2Water** system to cope with whatever we throw at it. This is a serious piece of equipment which has proved invaluable. I don't know what I would have done without it and if you have not already installed one I strongly recommend you install a **Waste2Water** ASAP".

DIESEL SPILL AT LILLEY BROOK GC, UK

Lilley Brook Golf Club (UK) endured their worst nightmare. Thieves attempted to steal diesel and accidentally ripped off the tap at the bottom of the tank causing a catastrophic failure. Worse still, the tank had only recently been filled. In theory the concrete bund should have retained the diesel but, due to the pressure of the volume of diesel, a large percentage overshot the bunding. Fortunately the diesel tank had been sited on the edge of the new Waste2Water wash pad which meant that any escaping diesel was collected in the central sump and pumped into the **Waste2Water** for treatment. Over 1000 litres overshot the bund, which would have caused a potential massive contamination incident if it had escaped. To make matters worse, the maintenance facility is situated at the top of the slope – less than 100m from a nearby stream.

Seemingly incredibly, to those not familiar with **Waste2Water**, the biological treatment processed (ate) the whole 1000 litres of diesel, converting the contamination to harmless carbon dioxide and water in just four days! Primary containment with the closed loop **Waste2Water** wash pad saved the day. Exceptional performance of the **Waste2Water** design and its microbes exceeded its claims. A major incident had left no pollution and avoided massive potential fines, costs and disruption that would have been inevitable.

As Paul Jenkins, then course manager commented: "Installing the **Waste2Water** system at Lilley Brook was a life saver. I don't know what we would have done without it. I recently moved to Westridge Golf Club and with the experience at Lilley Brook I immediately installed a **Waste2Water** system. Who says lightning won't strike twice?"



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Keeping the troops in Order

Internal conflict between staff and staff ill-discipline within a small team such as a turf maintenance crew can be debilitating and have a huge effect on morale and productivity. The Pulse asks how course superintendents deal with staff discipline and internal conflict issues at their facility and what strategies have worked for them in the resolution of past issues. If S peaking from the experience of having made plenty of mistakes in the past, I can recommend a theory once touted as the recruitment philosophy at Manly Sea Eagles under former coach and Manly great Des Hasler – a 'no dickhead policy'. Having let problem staff erode morale before, I try to keep a tight control on this. The impact of letting someone hang around too long on other staff/morale can be very detrimental and take a long time to re-build.

You have to start with clear terms of employment, job descriptions and procedures. Reviews of performance and documented warnings must not be put off due to time constraints etc. We all know this industry is pretty poorly remunerated and we have to do everything else in our power to provide a good working environment for staff and build a great team.

Recruiting takes valuable time but taking shortcuts during this phase or putting off dismissals due to the time it takes to re-employ can come back to bite you. If staff can't respect other staff for the benefit of the team you need to hold them accountable, although it's not always easy to do when you are struggling to get staff in the first place!" Michael Bradbery, Manly Golf Club, NSW

"Having trained in Sydney under the infamous Bill Carlon, I learnt people responded to different methods of training so I'm a little old school. I quickly front staff with any issues. I realised many years ago their attitude towards work is a direct reflection on my own perceived abilities as a greenkeeper. I don't want to be judged by my members because staff aren't doing what they're told and paid to do. I employ grown men, so any childish behaviour or sulking is very quickly dealt with. I don't mollycoddle, I don't hold their hand; I do pay them to come to work at specific times and do their work.

As far as staff clashing, as long as there is no bullying (which is something I won't stand for) I let them get on with it. Staff are here to work; if they don't talk to each other while weeding bunkers I'm not concerned. They don't have to get on, they have to work together. At the end of the day if a staff member is more trouble than they're worth, we soon part ways.

This year, under a new club management, I've had to conduct individual staff appraisals for the first time. Although I found this process quite difficult at first, I soon discovered it to be a great tool to sort out many issues that have developed over the years." Glenn Cross, Mt Lawley Golf Club, WA

"Dealing with conflict is not easy as it can come in many forms, from personality clashes, work ethics to general misunderstanding. The important thing, however, is that any issues are addressed immediately and everything is documented. If you let an issue drag on things can escalate and get out of control very quickly.

Our staff are made to watch a bullying video and we have a copy of the club's bullying policy for all to read. When the staff are confident they understand the policy we get them to sign off on it and date it. Should an incident occur, staff are requested to report any incidents immediately to the course superintendent or assistant. We then interview both parties individually and document all

S DEW BROOM HAN CREEKE 17.8 MATTH W8 HA FESCUE 11,8 NATTH W8 HA FESCUE 11,8 N. Cores DUNCAN LOG DEW BROOM HAN GREENS 10 MARKE LA SUM BROOM HA GREENS ID, H MARK LA SUM BULLENS SHE PAUL FUT HAMISH B WOO BLOWER BULLENS HA

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40



that is reported before bringing both parties together to try to resolve the issue. If no progress is made we will request the involvement of the club's human resource manager to assist, then, if necessary, the first of three warnings will be issued." **Tony Webster**, **Worrigee Links**, **NSW**

"In regards to staff discipline, if a guy won't toe the line, I'll offer him five dollars, drive him to the nearest train station, point him roughly in the direction home and send him on his way. I don't have time for crap; if you work for me and don't play ball, out you go. No ifs, no buts." **Ben Evans, Bardwell Valley Golf Club, NSW**

"I believe every workplace should have an employee handbook which clearly sets out all the policies and procedures that employees must follow. Old habits die off quickly and new ones are formed. It also makes it easier to reference back to the handbook to discipline someone for a breach of policy and procedure. I think it is important that grey areas are eliminated and everyone knows exactly where they stand. Of course, the discretion can then fall back to the super or manager as to how flexible they are before progressing to the next stage.

I find verbal warnings don't work too well, but are protocol. Written warnings normally hit the spot and counselling sessions are held after one has being issued. Loss of overtime always hits an employee's back pocket hardest and gets them moving again, while less favourable job allocations can push a worker out altogether.

Internal conflict is tricky. Currently I have two golf course crews combined into one and see lots of division among them. Within any club I find there will be groups that get together, be it because of common interests, their ages or simply where they sit in the smoko room. I try and deal with the overall morale of the crew rather than the individuals, making it feel like a team environment. Things like BBQ's, golf comps, tipping comps, punters clubs, variety and flexibility in hours etc all help build morale within my team.

If all else fails, get them both in the office and



validate both sides, even if privately you prefer one point of view. Guide the conversation towards a joint problem solving approach and away from personal attacks. Make sure that both sides have a win/win resolution to the problem and agree to move on." **Dean Hopper, Camden Lakeside Golf Club, NSW**

"As a manager you realise that you cannot do everything yourself and, as a tradesman, your staff are your tools to achieve what you are hoping to achieve. One thing I have learnt is not to try and deal with the issue yourself. Inform the club so they are not only aware of the issue but can give you some advice from outside because sometimes it can be hard to get perspective, especially when you are working closely with someone.

As with most things, communication seems to be the key and approaching people personally with sincere intentions. Sometimes no matter what you do, nothing seems to work and it may be necessary to remove someone to achieve harmony again. I think it is also important to have the staff structure correct, that is not having too many staff that are all qualified, doubting others' knowledge and your practices, thinking they know best. You need to have staff feel valuable, cared for, happy, stress-free, comfortable to make decisions and able to confront you with any problems.

No matter how long you manage staff, you are forever learning about your crew and trying to achieve the best results. But just when you think everything is going along really well, something will inevitably jump out and bite you on the bum." Wayne Tickle, Ballina Golf Club, NSW 44

We all know this industry is pretty poorly remunerated and we have to do everything else in our power to provide a good working environment for staff and build a great team. - Michael Bradbery

superintendents and golf clubs course maintenance standards

JOHN NEYLAN





In his latest column John Neylan looks at

research into nematode control and the benefits of using a portable moisture probe to determine soil moisture content and the effectiveness of irrigation practices.

Above: As the sample plug on the right clearly demonstrates, Sting nematodes can severely retard root development

Don't get Stung

very turf area in Australia is infested with plant parasitic nematodes and at various times they can become a major pest. In recent times the Newcastle region has experienced severe difficulties in controlling nematodes because of Nemacur degradation and more recently Sting nematodes (*Belonolaimus*) have caused severe turf damage in WA and NSW.

Nematodes are microscopic, non-segmented round worms and there are many types with over 80,000 species recorded from three main types – parasitic, predaceous and saprophytic. Parasitic nematodes are the main type of nematode that causes concern for turf managers and horticulturalists. Plant parasitic nematodes are microscopic, translucent roundworms, generally 0.5mm to 3 mm in length and 30 to 100 microns in diameter as adults. There are around 13 species that are commonly found on turfgrasses.

Parasitic nematodes feed on plant roots and slow plant growth and in some cases they also allow the entry of fungal rots that destroy the roots. Factors exacerbating nematode damage include:

- Stress caused by low mowing heights;
- Excessive nitrogen fertilisation;
 - Inadequate nutrient inputs;
 - Moisture stress;

- Heat stress; and
- Soil compaction.

As with many turf related problems associated with pests, turf health and a healthy growing environment is the prerequisite for providing natural resistance and tolerance. In situations where stress factors are apparent, turf managers should first attempt to minimise these stresses before considering other options.

A certain number of nematodes may cause damage on one grass species or in a certain environment but have no effect on another grass or in a different environment. Nematodes may cause problems on a golf green whereas the grass on a fairway may be able to cope with many more nematodes.

Understanding the damage thresholds indicate the nematode population density required to cause damage. A range of damage thresholds can be found in the scientific literature and Dr Graham Sterling has produced some useful tables on treatable thresholds as they relate to Australian conditions and on different turfgrass species (Sterling, 2008 http://www.biolcrop.com.au/uploads/editor/files// Nematodes%20on%20turfgrass.pdf).

In Australia, Sting nematodes (*Belonolaimus*) have in recent years become the main concern because of the relatively low numbers required to cause significant turf damage. Dr Sterling considers the Sting nematode to be Australia's most destructive nematode pest. Sting nematodes are most problematic in sand-based rootzones such as golf greens and sports fields, especially with couch (*Cynodon* spp.) turf (McCarty et al., 2005).

Sting nematodes are ectoparasitic, feeding with their stylets penetrating into plant vascular tissue. Threshold populations for sting nematodes in warm-season grasses range from 10 to 20 per 100cm³ of soil (McCarty et al., 2005). Above these threshold levels, Sting nematodes retard overall root development, predisposing plants to moisture and heat stress.

Synthetic chemical control of nematodes is extremely limited and often inconsistent among nematode genera. Their use is restricted, including specific turf sites, rates, number of applications, and often require special equipment and special licensing to purchase and apply (McCarty et al., 2005). Repeat use of certain nematicides may also lead to enhanced microbial degradation, shortening their effective half-lives (Skipper et al., 2001).

In studies on couch and bentgrass bowling greens, Neylan et.al. (1996) demonstrated the inconsistent results of fenamiphos on different nematode genera. Fenamiphos was effective against Spiral (*Helicotylenchus*), Dagger (*Xiphenema*), Sheath (*Hemicycliophora*) and Stubby (*Paratrichadorus*) nematodes in roots and soil but did not control Root-knot (*Meloidogyne*). It did not appear to control Lesion (*Pratylenchus*) established in the roots but controlled them in the soil.

Fenamiphos has been the most widely used nematicide and its toxicity is a concern for the applicator, players, birds and fish and the soil microflora. It is a treatment of last choice. In 2012 the insecticide active abamectin (Agador[®]) was registered for use against Ring and Sting nematodes and for the first time provides turf managers with a pesticide alternative.



ORGANIC AND BIOLOGICAL NEMATODE TREATMENTS

Organic alternative treatments are preferred, but with a lack of scientific data, claims made about these products need to be considered with some scepticism. However, anecdotal evidence indicates that they do have potential.

The standard organic treatment has been a mix of Kelpak and molasses. There are varied views on how it works, whether it is toxic to nematodes or stimulates the soil microflora which in turn acts as an antagonist to the nematodes. Dr. Robin Bedding (CSIRO, pers. comm.) has postulated that stimulating a high population of non-parasitic Sting nematodes have in recent years become the main concern because of the relatively low numbers required to cause significant turf damage. Note the lack of root system in this plug taken from a bentgrass green

Turn your greens triplex mower into a Total Turf Maintenance Machine





Nematode damage (left) on kikuyu turf

nematodes creates competition for space along the roots and root hairs in the soil rhizosphere and thereby making it more difficult for the parasitic nematodes to attach themselves to the roots.

Biological control options are emerging to help offset the need for conventional pesticides which includes the use of *Pasteuria* sp. to control Sting (*Belonolaimus longicaudatus*) nematodes (Giblin-Davis, 2000). Spores of the bacterium attach to the cuticle of the nematode and after infection occurs, the parasite grows within the nematode's body and eventually kills it. The spore attachment process is very host specific, which means that the parasite will not adversely affect other nematodes, including beneficial, free-living species.

Research by Crow (2005) into bio-alternatives included plant-based products, mustard bran meal and microbial antagonists. This research demonstrated there were no overall trends in nematode population reduction as a result of treatments imposed and turf from treated plots did not have significantly greater root lengths than turf from the untreated controls. Crow (2005) did suggest that mustard bran had the most promise.

Cox et.al. (2006) investigated the use of various plant extracts to control Sting nematodes. These studies indicated that plant extracts, from members of the *Euphorbiaceae* family and *Brassica genus*, appear as potential alternatives for Sting nematode suppression if the compounds can persist in the soil and plant environment for sufficient time.

Bacillus firmus is another microbial alternative for nematode control (Kaapro, 2012). The Bacillus bacteria colonise around the root and stimulate improved root growth and provide a defensive barrier around the roots which protects against nematodes, primarily by acting against nematode eggs.

Stowell et.al. (2010) conducted a field study on a bentgrass practice green to evaluate the efficacy of four biorational products for control of Root-knot, Spiral and Ring nematodes. The key findings were that *Bacillus firmus* and methionine resulted in significant reductions in populations of Root-knot nematode. Methionine is an amino acid and the impact of this treatment was problematic due to significant phytotoxicity. Crow et.al. (2009) also reported that methionine has potential for development as a turfgrass nematicide, but further research is needed to determine how it can best be used.

The University of Florida has undertaken research comparing bermudagrass and seashore paspalum cultivars for their abilities to tolerate nematodes (Nus, 2012). Results of the studies showed that the change in Sting nematode populations on bermudagrass plots depended on the cultivar.

Populations increased in Champion (37 per cent) and MiniVerde (40 per cent), but dropped in Tifgreen (4 per cent), TifEagle (18 per cent), Celebration (27 per cent), Floradwarf (32 per cent), Tifway (33 per cent), and TifSport (93 per cent). However, although TifSport couch appeared to be more effective at suppressing the reproduction of Sting nematodes in the field, the population of Spiral nematodes increased 123-fold in those same TifSport plots.

The study also revealed not only differences in nematode populations between bermudagrass cultivars, but also differences between bermudagrass and seashore paspalum. Seashore paspalum was a more desirable host to Spiral nematodes than it was for Sting nematodes.

NO SILVER BULLET

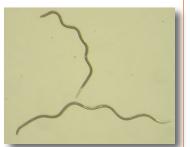
So where are we at? Nematode damage and nematode control continues to provide a significant turf management challenge. The recent upsurge in the presence of Sting nematodes has highlighted the difficulties in managing and minimising the damage from, potentially, a very destructive pest. The use of fenamiphos is a last resort and there is a desire to be able to minimise chemical use and to manage nematodes 'naturally' through improved plant and root health. There are alternatives that provide some promise, but the research data is thin.

As with most pest managements practices there are no 'silver bullets'. Good nematode control requires regularly monitoring of pest numbers, monitoring plant and root health, managing the turf to maximise turf health and removing stress factors (e.g.: low cutting heights in summer). As new products become available trial them on your turf.

Another important consideration is that if you are importing any turf or sprigs, you must insist that nematode counts have been undertaken on the paddock from which the turf is harvested. The movement of contaminated turf is the primary cause of new nematode infestations.

MONITORING SOIL MOISTURE

As we approach the summer months, turf managers start to think about irrigation and the importance of managing their water so that a strong, healthy turf is maintained and presents the best possible surface. Golf and bowling greens in particular are





Sting nematodes are ectoparastic, feeding with their stylets penetrating into plant vascular tissue

very reactive to soil moisture and the impact that it has on the quality of the playing surface (particularly on pace).

The AGCSA's recent golf course benchmarking studies have demonstrated the value of using a portable moisture probe to determine soil moisture content and the effectiveness of irrigation practices. The data collected to date has demonstrated a very clear relationship between soil moisture content and surface firmness. It has also demonstrated the spatial variations that occur in soil moisture due to surface contours and irrigation uniformity.

The questions you need to ask yourself are how do I decide how much water needs to be applied and what effect has an irrigation had? Irrigation is about replacing soil moisture and it makes sense that soil moisture content is measured. For more than 25 years I have worked with soil moisture sensors and I believe that they are an essential tool for managing irrigation.

By measuring soil moisture content, it can be quickly correlated with turf quality and the surface condition on your site. Many years ago when Moonee Valley Racetrack in Melbourne was constructed there were soil moisture sensors installed in the track. Over time, then track manager lan Trevethan was able to manage the soil moisture content in a way that produced the best possible racing surface. He was able to predict how much water he needed to apply in the lead-up to a race



meeting in order to meet his benchmark surface. It does take a little effort and data collection but can be invaluable in providing consistent surfaces.

Golf greens provide some interesting challenges because of the contours and the demand for firm and dry surfaces. Excessive moisture encourages leaf and root diseases, softness, increased susceptibility to mechanical damage, algae etc. Insufficient soil moisture results in wilt, increased leaf canopy temperatures and potential for more localised dry spot. Lake Karrinyup superintendent Trevor Strachan uses a handheld moisture probe to check the greens during the recent Perth International tournament



LAN

A soil moisture probe provides several advantages in surface preparation, including:

- Precise directions can be given as to the required moisture content of the greens. That is, the volumetric water content needs to be at 15-18 per cent rather than imprecise language such as it should be 'wetter' or 'drier'.
- The soil moisture probe can be used to conduct detailed irrigation audits using a GPS mapping system. It can also be used for undertaking daily checks of the effects of irrigation on wet and dry areas. This is very useful information on the set up of the irrigation system, sprinkler spacing and scheduling irrigation run times.
- The moisture probe can be used to estimate daily moisture loss through morning and evening spot checks.

stress. Understanding the soil moisture content at which wilt will occur, benchmark soil moisture levels can be established at which irrigation or spot watering needs to occur.

 Moisture measurements after high rainfall events can also provide an indicator of how the thatch management programme is working and whether an aeration is required to move moisture away from the surface.

At the 2012 Australian Turfgrass Conference, keynote Dr. Frank Rossi spoke about course superintendents using a moisture probe as a means of determining where to spot water rather than hand watering the entire green or guessing whether a spot was dry or not. A soil moisture probe is worth considering as it takes the guess-work out of irrigation and in turn keeps the turf healthy, firm and playable.

Early detection of wilt symptoms and plant

CONDUCTING TRIALS ON YOUR GOLF COURSE

U ndertaking trials on turf areas that are in play are very important for providing information on how products will work in the real world compared to trial plots. Recent experience with new products has highlighted the difference between trial plots without the effects of traffic compared to turf areas that are in play and exposed to all of the stresses involved with playing surfaces.

Trialling on in-play areas is an important step in determining where a new product will fit into a management programme, for the registration of new products and for turf managers to determine the efficacy of a new product.

The process of registering a new pesticide is a relatively long and detailed process requiring a large amount of detailed research. This is to ensure that the new product can be registered and placed in the marketplace with a high degree of confidence that it will be effective and not cause any unexpected results.

The Australian Pesticides and Veterinary Medicines Authority (APVMA) is the government authority responsible for registering any new pesticide. In the APVMA guidelines it states that "It is the responsibility of the applicant to present adequate data to support any claims made in applications for registration or label changes for



agricultural chemical products. Claims for major pests must be supported by statistically analysed data". Multiple, replicated trials across a range of localities is therefore critical in the registration of any new pesticide.

A part of the process of introducing a new pesticide often involves user trials where turf managers are requested to evaluate a new turf product. This information provides useful feedback on the usability of the product from a practitioner's point of view. These trials are conducted as an adjunct to the replicated trials and provide confirmation on how the product is best used.

The input of turf managers is very useful in developing new products. If you are approached to undertake such trials it is important that you make sure that the product to be tested has an appropriate APVMA permit for undertaking trials as well as the relevant MSDS or safety data. This is to make sure that you can demonstrate compliance if approached by any of the regulatory departments.

Every turf manager at some time will have been presented with a new 'better than the rest' product. Whether it is a fertiliser, pesticide or soil conditioner, you need to consider the product on its merits and ask the following questions – do I have a problem, does what I do now work, do I need to change for change's sake, is there research data to support the product claims and what does it cost?

If you believe a product may have a place in your programme you must undertake your own evaluation trials under your management regime and environmental conditions. All it takes is to run out 2-3 strips of the product and compare against what you already use as well as an untreated control. Depending on the product claims, take some plugs to look at root systems and assess turf health and the presence/absence of pests.

- John Neylan



Trialling on in-play areas is an important step in determining whether a new product will fit into your management programme

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Lake Karrinyup a

Lake Karrinyup Country Club returned to the tournament spotlight in mid-October when it played host to the inaugural ISPS Handa Perth International. ATM was in the WA capital to catch the crew going about their preparations.

The Lake Karrinyup crew and course superintendent Trevor Strachan (front middle) with the European Tour's David Garland (left of Strachan) and the PGA Tour of Australasia's Andrew Langford-Jones he inaugural ISPS Handa Perth International may not have attracted a field full of big names that the organisers might have hoped for when the tournament was announced last December, but they did manage to score full marks in one critical area – the venue.

For the first time since the 2003 Johnnie Walker Classic, a remodelled and revitalised Lake Karrinyup Country Club took centre stage in near perfect conditions from 18-21 October, with course superintendent Trevor Strachan and his team of nearly 35 pulling together to prepare a course renowned not only for its dramatic, tumbling layout, but its conditioning as well.

The Perth International, co-sanctioned with the European and Australasian Tours, complemented an already impressive list of events the course has hosted, while for Strachan it was another major tournament to add to the CV, one that already includes a Johnnie Walker Classic, a string of Heineken and Vines Classics, the Queen Sirikit Cup as well as the more recent Australian Amateur (2010) and Australian Senior Open (2011).

Affable American Bo Van Pelt, world No.24 and just one of a handful of headliners to make the long trip to Perth, staved off intermittent challenges from his tobacco-chewing compatriot and 2012 Ryder Cup debutante Jason Dufner to win with 16-under, adding his name alongside past Lake Karrinyup champions Ernie Els, Retief Goosen, Gary Player and Jack Nicklaus.



While the win was Van Pelt's first on the European Tour and won him automatic entry into the World Golf Championships – HSBC Champions, for Strachan the Perth International provided the chance to silence a few recent knockers and also bury a few



Das Auto Lake Karrinyup's iconic par three 8th looking a picture during the opening round of the 2012 ISPS Handa Perth International held in mid-October

lingering memories from the 2003 Johnnie Walker Classic. Back then some fluky weather impacted on the event and ultimately Strachan's surfaces, but with perfect weather conditions across all four days this time around few could fault the condition in which Lake Karrinyup presented for the first major tournament of the new season.

Strachan's preparations ultimately began back in September when he cored the greens with 3/8" tines at 50mm x 50mm spacings and topdressed, before instituting an intensive grooming programme about a fortnight out from the start of the tournament. Although he would have liked another month to get the course up, come the week of the tournament the surfaces, in particular the immaculate Wintergreen couch fairways, were of championship calibre.

"I was a little bit nervy there for a while, but we just got there I think," reflected Strachan when talking to ATM just after the start of the tournament's second round. "We had a coolish spring with a bit of rain. We had a couple of weak and bare areas especially where there was shade and we actually had to turf out the 2nd tee about five weeks before the tournament, but overall we were pretty good.

"If I'm being honest, I wasn't too worried about the tournament itself. The biggest concern I had was

how much I could groom the greens leading into it. They had a lot of grass on them after we renovated in early September, so about two weeks out we groomed them back quite heavily with the grooming reels on our triplex mowers.

"We alter the spacings on the groomers so we pull off a lot more grass, but it actually produces a finer leaf at the end of it which is something I found when I was doing it at The Vines. You get rid of all Abbie Holland (UK) was one of three additional crew members brought onto the Lake Karrinyup crew in the lead-up to the Perth International





Above: Second assistant Nigel Fitzpatrick cuts the 13th green. Greens were just single cut for the duration of the tournament

> Above right: Lake Karrinyup's majestic Wintergreen couch fairways were immaculate

Below: Trevor Strachan talks to some of his course volunteers as Daytan Milne rolls the 2nd green after the opening round

Below right: After suffering mite damage about four years ago, an intensive management programme on Lake Karrinyup's fairways is now paying dividends that older, broader bentgrass leaf. I'll admit that our greens were a bit grainy beforehand but once we groomed them you could see the tracking of the ball was very smooth.

"We did the chipping green first and then a week later did the putter so we could see how they were progressing before getting stuck into the greens out on the course. (Tour professional) Kim Felton, who I know quite well, was out a couple of weeks before and the greens were cut back, brownish and pretty firm and bouncy. I told him to go over to the chipper and explained to him that it had been done a week earlier. He certainly noticed the difference and come the Monday of the tournament he came up to me and said you were spot on.

"We groomed for a good week, doing each green on their merits, sometimes up to two times in a day. If it's shaded you tend to go a bit easier on them. It's best to groom them in the afternoon and you want to be bringing up sand – that's when you know you're getting right into them. The secret to it is the topdressing six weeks before to give you the base to groom into. There was probably one green – the 3rd – that we didn't groom enough and you could tell that during the tournament, but overall they came up well."

Leading into the tournament Strachan had been





double cutting the Penn G6 bentgrass greens morning and afternoon at 2.5mm, but during the tournament backed off that regime considerably. Greens were only single cut ahead of each round, while just one afternoon cut was made following Friday's second round. An application of Primo the Sunday before meant they were getting, at most, around a quarter catcher of clip per green.

Although Strachan was hoping to keep the rollers in the shed, at the request of the European Tour the greens were rolled at the end of Thursday's opening round. With the amount of foot traffic over the greens, they were getting a little bouncy and the Tour wanted to iron them out. With that Thursday afternoon roll and single cut Friday morning, the greens effortlessly stimped 12'3". Speeds around the 12' mark would be consistent throughout the tournament and was more than enough given some of the wicked green undulations, 16 and 18 in particular.

Moisture levels in the greens were monitored at the end of each round with Strachan using a handheld moisture probe to gauge the levels within each green. With an optimum range of between 10-15 per cent, those greens which dipped into single figures were given a short cycle on the automatics, while hot spots were carefully monitored and hand-watered when necessary.

The fairways, which were double cut cross cut daily from about two weeks out, were kept at 12mm for the tournament, while the Santa ana tees and Wintergreen greens surrounds and approaches were cut with triplexes at 6mm.

Like Felton, many other players were quick to praise the conditioning of the course and fellow Western Australian Greg Chalmers was very complimentary of the playing surfaces after an opening round 4-under: "The greens are perfect; this morning everything was as close to perfect as you could get it. The greens were a nine out of 10. The fairways – you could not get a bad lie on, the grass coverage is phenomenal."





GREAT CREW

While the Perth International was the first major televised tournament the bulk of the crew had been involved in, five members of the Lake Karrinyup team, including Strachan, were no strangers to the rigours of major tournament preparation. Long-serving lieutenant Jarrod Boyce, Rick Raison (turf technician), Chris Langford (irrigation technician) and Geoff Liddell (assistant greenkeeper) had all assisted Strachan back when the club hosted its last major international event – the 2003 Johnnie Walker Classic.

The Lake Karrinyup crew expanded from its usual 18 to around 35 for the tournament with an additional three course staff – Abbie Holland (UK), Paul Delaney (Ireland) and Michael Lucas (WA) – employed at the start of September to work through until after the event.

In the months before the event Strachan also put the call out for volunteers and a further 11 joined



the crew at the start of tournament week. Among those volunteers were Strachan's son Adam who is superintendent at Perth's Collier Park Golf Course and former Joondalup superintendent and current Globe WA turf business consultant Jeff Lane. Josh Tiddy flew in from Melbourne's Green Acres Golf Club especially for the event, while former crew member and current Challenger TAFE turf teacher Rob Williams also volunteered.

As with any major tournament, the Lake Karrinyup crew pulled some long hours in the leadup to and during the tournament, but Strachan says he couldn't have been happier with their attitude and Above: Irrigation technician Chris Langford gives the 10th green a light handwater ahead of the second round

Above left: Looking back down the 16th. Greens stimped around 12 throughout the tournament







Apprentice mechanic Jaryd Raffaele checks the cutting units after their Friday morning cut



Lake Karrinyup's penultimate hole - the 200m par three 17th

Lake Karrinyup assistant superintendent Jarrod Boyce the way they went about their work to get the course in tournament shape.

To make the event a little more special, Strachan managed to raise about \$9000 in sponsorship from the likes of Toro, Nuturf, Globe, Elliotts Irrigation and Rain Bird which helped pay for all the crew's shirts, jackets and hats for the week and gave them something to take home from the event.

"I was absolutely over the moon with the crew," says Strachan. "We had a toolbox meeting about the tournament a while back and I don't think a few of them realised how big these events are and all the peripheral work that goes on to stage them. But they took everything on board and did a superb job. We have got a good mix at the moment and they all get on pretty well. We also tried to make the volunteers as welcome as possible, so I hope they enjoyed the experience.

"I'm very lucky to have a very good bunch of senior staff here and Jarrod (Boyce) was an absolute pearler. He was always going to be our 'goto' man dealing with IMG and being here, there and everywhere with them. That gave me the opportunity to work on grooming the greens with (second assistants) Nigel Fitzpatrick and Daytan Milne and showing them what I was trying to achieve, which I

Julie Pearce cuts the 5th tee complex after Thursday's opening round

think they enjoyed. And then we had Chris Langford running the irrigation and Rick Raison back in the workshop."

FINE-TUNING

The Perth International is contracted to return to Lake Karrinyup for the next two years, with the option to extend beyond that. With the US PGA Tour moving to an October start, getting the big names Down Under could continue to prove to be a struggle if held at this time of year, but Strachan is hopeful that the event will be around for the long haul and is already looking ahead to how he can improve Lake Karrinyup's surfaces next time.

"Overall I was very happy with the course, but there are a couple of little things that I would finetune for next year," admits Strachan. "We won't be coring in September for a start as the club have asked that we reduce the number of corings. This year we cored and topdressed on the same day and used a lot of mechanical sweeping, so there were was a bit of wheel-marking and where we did groom those areas they took the tops out a little bit.

"Next year we'll probably just groom the greens straight after winter, take all the grass off them and then topdress straight into that and I reckon I'll come up with a really good surface. We used the grooming reels on the triplexes this year, but we might play around with using them on the walkbehinds as they clean into the hollows a lot better. I would probably also time my Primo application a few days earlier. Apart from that, I was pretty happy with the way they came up and the feedback from the European Tour was fantastic."





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Indooroopilly's Cutting edge

Indooroopilly Golf Club course superintendent Charlie Giffard outlines the club's recent efforts to reduce costs and improve efficiencies by changing its approach towards managing rough and out of play areas.

Above: By instituting no-mow zones and incorporating spray out areas (pictured between fairways), Indooroopilly Golf Club has slashed its maintenance of out of play areas by half over the past four years S ince the 2011 Brisbane River flood, Indooroopilly Golf Club has been working hard at presenting the courses as well as possible, working within the constraints thrown up in the aftermath of the recent inundation. Apart from the usual practices of coring, sanding and scarifying all turf areas, we have been continuing apace the treatment of our roughs and out of play areas.

Backing up a bit, about four years ago me and chief executive office of the time Dale Durant came up with several strategies to maximise efficiencies and contain, or even reduce, running costs. Indooroopilly resides on 160 hectares and comprises two 18-hole courses – the East and West – with four separate nines configured (Red and Gold which form the West course and Blue and Green which form the East).

Given the size of the site, it was evident at the time we were putting a lot of resources into maintaining the rough and out of play areas on both golf courses. This invariably would come at the expense of our more critical areas, such as greens, tees, fairways and primary roughs and surrounds.

As superintendents can attest, a course and the acumen of the superintendent are measured by the quality and consistency of the putting surface, that is 'how the greens are putting' and whether they look healthy or 'green'. From there the level of pressure and criticism is directly proportional to the quality of the aforementioned greens.

At Indooroopilly we had approximately 80ha of rough that would require weekly mowing and debris clean up for about six months of the year. This naturally incurred a considerable cost regarding staff, machinery and time.

CUTTING BACK

The first step was to conduct an audit on both courses paying particular attention to the outer roughs and out of play areas. Initially, we identified areas that would become 'no-mow' zones and other areas that were to be sprayed out. By staging the process over a period of time, we were able to gauge the overall acceptance from the members, which, I am happy to say, has been mostly positive.

As time has gone by, the treatment of these out of play and, in some instances, in-play areas, has come to be seen more as 'the norm' rather than a special treatment or exception. I would go so far as to say the members have even acquired a new skill set, having to adapt to hitting punch shots from mulch, leaf litter or even bare earth.

As we progressed with the work it became evident there was a substantial saving in time and machinery wear and tear to be gained. Soon after, we committed to downsize our fleet of rough mowers. Two out-front mowers were sold within the first six months and we were able to sell off another. In the last six months of 2008 we had gone from four out-fronts and two wide area mowers which needed to operate for 40-plus hours each week, to two outfront mowers and one wide area mower.

By the second year we had treated a further 15ha of rough and found we were able to get over both courses in four days! By comparison, in previous times it would take six operators all week to cover three of the nines, with the outstanding nine having to be done the following week. It became apparent this was at least a two-fold saving on labour and machinery costs. As it stands today, we currently operate with two x Toro 4700 wide area mowers, one zero turn (300 hours in three years) and one Iseki out-front.

TANGIBLE BENEFITS

As well as realising the above benefits, there have also been a number of secondary benefits from having these sprayed out and no-mow zones.

While the playing areas now have greater definition with leaf litter/mulch and low shrubs covering the spray out areas, there has also been a marked improvement in the general health of our old growth trees (Indian siris, various fig, Jacaranda, Poinciana and forest red gum). I put this down to not having to regularly go in and around them with mowers, which has meant less compaction and disturbance of the area within the drip line.

From a playing perspective, golfers/members are now more easily able to find their golf balls which has in turn helped to speed up play. The contentious issue of the time it takes to play presents a challenge for our industry. Indooroopilly, as with other clubs, is required to fight for market share in a time-poor environment. This aspect of course set up (spray outs), albeit small on a relative scale, nonetheless makes a positive difference to the overall experience.

A final and fairly important benefit from a greenkeeping point of view is the significant



reduction in the weed seed bank, especially of the more difficult to control weed species such as *Paspalum vaginatum*, *P. notatum*, wireweed and other riverine weed species. We have noticed a steady decline in the incidence of grassy weeds invading fine turf areas which greatly assists our weed control programmes.

All in all, incorporating no-mow zones and spray out areas has been a success for us, however, it may not be the right thing for every club and should be treated on a course by course basis. A salient point to make is the one for greater sustainability in an era of ever increasing costs for energy and inputs. In our case it has been very much a work in progress, but with the success of it to date, hopefully future savings will be realised further down the track.



Examples of some of the spray out areas at Indooroopilly. As well as realising significant time, labour and cost benefits, the process has also improved the health of the club's many large trees, improved the speed of play and reduced undesired weed species





Golf Club TAS

After working as assistant superintendent at Barnbougle Dunes during its formative years, for the past six years Kurt Wheeler has been improving the reputation of the small nine-hole Greens Beach Golf Club located north of Launceston.

Above: Green Beach Golf Club is a picturesque nine holer located on Tasmania's northern coastline. A redevelopment plan by Thomson Perrett, which will see it increase to 18 holes, is still in the throes of being finalised. Pictured is the 7th/16th Superintendent: Kurt Wheeler. Age: 37.

Family: Wife Megan and two sons Jacob (6) and Benjamin (3).

Years as a superintendent: Six.

Association involvement: AGCSA (six years) and TGCSA.

Qualifications: Diploma of Agriculture (TAFE Tasmania), Cert III Horticulture (Turf Management). Turf management career: Greens Beach Golf Club (superintendent, six years); Barnbougle Dunes (assistant superintendent, four years); Roberts Limited (farm/crop consultant, 10 years)

Where in Australia is Greens Beach? Greens Beach is a beautiful seaside hamlet on the northernmost edge of the Tamar River overlooking Bass Strait, about an hour north of Launceston. In the mid-1940s, local residents carved out six holes using farming machinery and named it 'The Folly'. The golf club was officially formed in 1951.

Tell us a bit about your background in turf management and how you came to be at Greens Beach. I started out in agriculture carting hay on a local farm before working as a storeman for Roberts Limited. A year later I became a farm field consultant and for the next nine years the job involved sitting down with dairy, crop and beef farmers working out full farm plans. This encompassed everything from fertiliser and chemical applications, pasture types/ selections and feed programmes through to general animal health. This gave me a very good grounding for the turf industry. Towards the end I wanted another challenge so I spoke to a good friend and ex-professional Brett Partridge who was working on the construction side of things at Barnbougle Dunes. I dropped my resume to Richard Sattler and the construction manager and started my turf career two weeks later. A year later Nathan Macdonald (superintendent) offered me the assistant superintendent position which I accepted.

I then worked under Danny Brown, who now runs Blue Canyon Country Club in Thailand. He taught me the majority of the really important things in turf management – signs to look for, weather conditions and the advantages of forward planning – so I owe a lot to Dan who was also a terrific bloke both on and off the course. I was then offered the Greens Beach position which meant I could be closer to my wife (who was pregnant with our first boy at the time) and also the possibility of being involved with an 18-hole development proposed for the golf course which will hopefully come to fruition in the next 2-3 years.

What are some of the unique features about Greens Beach from a turf management perspective? Like all country courses with staff numbers being low, it is sometimes a hassle but I have a selected band of volunteers that do a lot of the time-consuming jobs which allows me to concentrate on the more important things. Without their help I would be under pressure to get things done. I wouldn't say it's an easy or hard course to manage. I suppose it's like all things, you have days where you are under the pump and other days where you can sit back and enjoy seeing the results from your hard work.

Since I started we have had some proactive boards that have allowed me free reign on most things when it comes to improving the course for the club. Anything else I can call up one of our volunteers, Greens Beach president and 'apprentice' Ross Wesson, have a five minute chat and get a decision then and there. One thing that has changed since I've been here is having some current board members get on the tools with me and then comment that they didn't realise that so much was involved in running a golf course.

Take us through your turf management operations there and how you have fine-tuned them during

your time as superintendent? One of the major changes I have implemented at Greens Beach is the reduction of fertiliser applications. I run the course fairly lean and the greens and fairways really only get two major applications a year as well as the occasional liquid. Chemical use has also been cut back. I watch the weather forecasts and at times, but not always, put out preventatives before the weather arrives. I also soil test and plant tissue test just to see how I am utilising NPK in the plant because with the soil being on sand leaching can happen quite quickly. We were lucky enough to be donated a fertigation unit from The Mathew Goggin Golf Foundation which I use to drip feed wetting agent to the course over summer. I have also upgraded pins, flags, markers and cups to add a more professional look to the course.

Any special environmental considerations that you have to incorporate into the management of the course? Pesticide usage is kept to a minimum as the ocean is only 100m away from the course with the possibility of runoff into drains being the major factor to consider.

What are some of the major challenges facing Greens Beach both from a turf management perspective and general club management



perspective? From a turf perspective our major challenge is the slow encroachment of kikuyu into our greens (the sooner the chemical companies come out with a selective herbicide the better!). Like a lot of small clubs financial issues are always a challenge but we have got the right people in the right places to improve that. As I said before, the club is proactive and implementing programmes to secure the course and club's future.

Outline any major course improvement works completed in the past couple of years and highlight any ongoing or future works that the club is undertaking. Due to ongoing discussions with potential developers (Thomson Perrett) proposing an 18 hole course and residential development, and protracted Tasmanian Government Planning Commission changes over the last eight years, we are still waiting for approval on various aspects of the development proposal. As a club we are very excited about the possibility of the development going ahead, hopefully in the next couple of years.

The one product I couldn't manage my course without is... wetting agent, due to the water issues that can arise during a hot summer and to maximise water usage. And PrimoMaxx to help with the encroachment of kikuyu into our greens. As the sole course employee, Kurt Wheeler (right) relies on a hardworking band of volunteers with (from left) Wayne McConachy, Michael Towns and Ross 'the apprentice' Wesson (Greens Beach president) leading the charge

The Greens Beach greens comprise various bentgrasses and are oversown every three years. Pictured below is the 1st





One of the major changes Wheeler has instituted at Greens Beach is a reduction of fertiliser applications on fairways and greens If you could change one thing about your job what would it be and why? Nothing. This is my first superintendent role and I'm loving it! You can't get much better than working on a golf course near the beach.

What are some of the pros and cons of being a **regional superintendent?** The lifestyle would have to be a big pro. I like the small town environment where you can say g'day to and know nearly everyone you meet. The course is not as busy as those in Launceston so you can be more productive and get your work done. The cons are not being able to jump in your ute and drive down the road to get a part, but in saying that if I'm desperate for something Launceston is only an hour away.

Are expectations of course presentation and conditioning any less than that placed on your metropolitan counterparts? No. From my experience at Barnbougle Dunes and here at Greens Beach, all players/members want a good playing surface to be able to enjoy at all times and good greens. At Greens Beach we have built a reputation for having some of the best greens in Tasmania.

Do you think regional superintendents have a better work-life balance than their metro counterparts? Better I think. Being on a small course the relationships you build with reps and members within the community are really good. The only downfall is holidays. Being the only one here, taking holidays is sometimes worrying. Not that other volunteers don't do a super job, it's just that when certain weather conditions are forecast and you're not there to oversee the course, it can become a bit of a problem, especially when it is very wet or we have hot winds.

Do you have to be more resourceful as a regionalbased superintendent? I think to a certain degree you do. Having a farming background I have seen some great things made and used, but also some poor things. Having a member own a steel



A proactive board has enabled Wheeler to get Greens Beach to the position where its surfaces are widely regarded as among the best in the state fabrication business (JB Welding) is a god send and we also have an auto electrician who can help me out when I have wiring issues. Being a small club, a lot of members are quite willing to lend their trade expertise to you. All you have to do is ask and most times they do it free. This is a major difference between country and city courses.

How important are the relationships you have with other regional superintendents/trade reps? Very important, because being on a small course sometimes you don't get time to go to meetings due to work commitments. I rely a lot on trade reps to keep me up to date. My old Roberts Limited (agricultural supplier and club sponsor) colleague Bruce Smith supplies me with most of my resources in chemical/grass seed/fertiliser and Exeter True Value Hardware (club sponsor) supplies me with anything else I need. I have one rule with reps – I'll support you if I see you and if you support me. Ringin reps usually get hung up on.

What are some of the more unusual things you have had to do as regional course superintendent? Take the tractor down to the beach to pull out a city person that was bogged in one metre deep sea water (two-wheel drives and beach sand don't mix!). Also had to pull our current president out after he decided to drive over the course in winter only to get bogged on the side of our second tee!

What have you got in your shed? Main machinery items are a Toro 3250D greens mower, Toro 5500 fairway mower, John Deere 2500B surrounds/tee mower, John Deere 1145 out front rough cutter, John Deere 4210 tractor, Rapid Plas 300-litre trailer spray unit, 4t Dyna truck, quad bike.

Which piece of machinery gets trashed the most and if you had a wish list what would be the next major ticket item you would purchase? The rough cutter is used non-stop during spring and summer and does a lot of hours, sometimes running all day for 3-4 days. That would be the main thing to replace along with the purchase of a SandPro bunker rake.

Any interesting pieces of machinery in the shed? We have an early 1990s Jacobson fairway mower stripped down with two brooms prefabricated to the front lift arm of the mower. This is our broom to rub in sand during renovations.

Favourite spot on your course? The 8th tee and 3rd green; both overlook the ocean and have spectacular views.

Most pleasing/rewarding moment during your time as Greens Beach superintendent? Seeing the improvements in the course since I started. Having overseas golfers and golfers from major clubs around Australia ask if they can take the greens back to their club. The best comment I've had was from a member of 45-odd years come up to me and say 'Boy, this is the best condition I have ever seen this course in since I've been a member. Keep it up.' These comments tell me I'm on the right path.



Major greens renovations are carried out in March/September each year

AT A GLANCE - GREENS BEACH GOLF CLUB, TAS

Course specs: Nine holes with 18 tees, par 72, 5829m. 0.5 hectares of greens (various bentgrasses) which are oversown every three years; 1ha tees (mixture of kikuyu and ryegrass/fescue blends); 7ha fairways/ rough (mixture of kikuyu, ryegrass/fescue blends).

Members: 385.

Annual rounds: 10,000.

Major tournaments: Tamar Valley Junior Championship (AGU point scoring event), Tamar Valley Open Championship, 2013 Thyne Trophy. Annual course budget: \$36,000.

Staff structure: Kurt Wheeler (superintendent and sole course employee) plus a large group of committed volunteers.

Climate: Quite cold during winter. Six frosts during 2012 winter and a minimum temperature of 1.7°C, with averages around 10-13°C during the day (occasionally we can get a -1°C or -2°C). During summer our hottest time is between December-March with temperatures averaging between 20-25°C. Average annual rainfall is 637mm.

Soil types: We have two types of soil; a light sandy loam on the bottom side of the course and a slightly heavier sand on the top. You only have to dig 600mm down to hit nearly pure beach sand. This is where NPK leaching can become a problem.

Water sources: Greens Beach relies heavily on winter rains with drains used to divert water to a six megalitre dam plus stormwater runoff to another 2ML dam and an 8ML dam that we use when water gets short and gravity feed to our other dams for extra water. The

management of water through summer can best be described as a 'knife edge' scenario.

Irrigation system: 4 x Rain Bird ESP Modular Timers, Rain Bird Maxi-Paw fairway sprinklers. Greens and Tees have Rain Bird 5000+ popup sprinklers. Two Grundfos variable speed pumps. The system is old and will need to be replaced in the next 1-5 years.

Cutting heights: Greens 3mm (2mm for major competitions), tees/ surrounds 8mm, fairways 15mm, rough 50mm.

Renovations: We carry out major greens renovations in March/ September each year. Leading up I groom about a month prior to renovations, doing a double pass diamond pattern, then scarify the greens about two-and-a-half weeks later to a depth of about 14 mm (two passes with blades spaced about 20mm apart). We then engage an external contractor to core (5/8 tines, 4" cores) then apply a real heavy application of local sand. We broom and drag mat until all holes are filled then apply a granulated fertiliser mix and wash them in. Weather depending, we will also vertidrain to a maximum depth of 200-280mm in between renovations.

Major disease pressures: Dollar spot/fusarium. I use a preventative fungicide programme that I have put together which includes a contact and systemic fungicide mixed together that gives good residual control. We have also had pythium over the last three summers due to some hot and humid days. I spray a preventative of Proplant from mid-November to March.

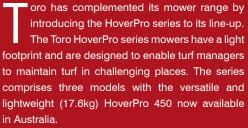
TORO ADDS HOVERPRO SERIES TO MOWING RANGE



Toro's new HoverPro 450 is designed for mowing turf in challenging terrain



Sakuragawa pumps are now available through Pioneer Pump Australia



The HoverPro 450 comes standard with a 4-stroke 135cc Honda petrol engine and a pressurised fuel supply, ensuring excellent performance under testing conditions and on slopes with angles of up to 45°. The 450 has a cutting width of 46 centimetres (18") and is equipped with a nylon cutting system that offers consistent, quality results and is safer than an equivalent metal blade.

The HoverPro 450 has a variable cutting height between 16mm and 34mm and with the fitting of the optional 'Hi-Rise Kit' the mower's cutting height can be increased an additional 35mm. Comfort in use is assured with ergonomic handlebars, covered in a soft rubberised grip with full width operator presence control lever. It can also be fitted with a number of optional accessories including anti-vibration handlebars, extension handles and transportation wheel kit.

For more information about the HoverPro 450 visit www.toro.com.au or view the YouTube video www.youtube.com/watch?v=pIHVt6gqQg8

SAKURAGAWA PUMPED

Sakuragawa pumps are once again available in Australia through Pioneer Pump Australia, a division of AGCSA Bronze Partner company Brown Brothers Engineers Australia. This heavy duty, submersible dewatering pump range has been distributed in Australia since the early 1970's and feature a compact, portable and rugged-use design making them exceptionally functional, economical and easy to handle.

Renowned for their quality, the Sakuragawa pump range includes mining and dewatering pumps and heavy duty contractor pumps that are widely used through the pump rental/hire industry. The Sakuragawa range is suited to a variety of requirements from large volume pumps through to high heads and also includes a larger range of agitator (dredger) style submersibles. All pumps come with hard faced double mechanical seals in oil baths.

For more information about the Sakuragawa pump range or to download a brochure, visit www.pioneerpump.com.au or call Pioneer Pumps Australia contact Steve Bosnar on (03) 8398 0851 or email steve.bosnar@brownbros.com.au

IPSWICH WINS JOHN DEERE TT TITLE

Queensland's Ipswich Golf Club has taken out the 2012 John Deere Trans Tasman Team Championship held at Clearwater Resort in Christchurch, New Zealand. Fourteen teams from golf courses all over Australia and NZ gathered for the final in mid-September, having won through from regional qualifying rounds conducted by John Deere dealers earlier in the year.

In what was their first year competing in the event, the Ipswich team of course superintendent and AGCSA member Chris Fletcher, club general manager Brett Holdway and Adam Gemmell beat home the Howlong Country Golf Club team comprising of assistant superintendent Andrew Goddard, committee member Stephen Coonan and manager/pro Travis Merritt. In doing so Ipswich reversed last year's result which saw NZ's Lochiel Golf Club win on Australian soil at Moonah Links and returned to Queensland the owner of a new John Deere D110 tractor mower valued at \$3200.

As well as Fletcher and Goddard, the final saw a number of other AGCSA members and golf course maintenance staff take part including superintendents Des Russell (Bunbury GC, WA), Martyn Black (Castle Hill CC, NSW), Brett Thomson (Carbrook GC, QLD) and Mark Davis (Half Moon Bay GC, Cairns, QLD). Russell, the current GCSAWA president who was part of the winning Bunbury team back in the 2008 final also held at Clearwater, helped guide his club to third.

The success and popularity of the John Deere Trans Tasman Team Championship continues to grow each year and regional qualifying rounds for the 2013 event will start in the New Year. The event is open to all golf clubs regardless of size or standard and for further information regarding team make-up, regulations and qualifying dates, contact your local John Deere Golf dealer.

BAYER HOLDS RESEARCH FIELD DAY, LAUNCHES SCORPIO FUNGICIDE

Turf managers, consultants, distributors, teachers and their students were among more than 100 attendees at the Research Field Day hosted by AGCSA Silver Partner company Bayer at its trial site in Cobbity, NSW in August.

Bayer research manager Jyri Kaapro and technical services manager John Hall led attendees around the site, looking at various ongoing trials including ryegrass transition with herbicides, kikuyu and Parramattagrass control, pre-emergent weed control, broadleaf weeds and wintergrass control, surfactants and sulphonyl urea herbicides, herbicides and oversowing and disease control.

In other company news, Bayer has recently launched its new dual action ornamental fungicide Scorpio onto the Australian market. Scorpio is



Runners-up Howlong show their true colours during the final of the John Deere Trans Tasman Championships

broad-spectrum а ornamental fungicide containing two active ingredients with two different modes of action (Tebuconazole and Trifloxystrobin).

Scorpio comes in a handy 'squeeze and pour' 500ml bottle and currently has a number of ornamental diseases on its label including rust, powdery mildew and azalea petal blight. Bayer has also recently completed trials on myrtle rust (an ever increasing issue all down Australia's eastern seaboard) and is anticipating registration towards the end of 2012.

"Scorpio has been proven to be rainfast within hours of application," says Kaapro. "Once the spray

application has dried on the leaf surface, rainfall will not interfere with its ability to control disease, due to combined contact action and systemic properties."

MY-RESULTS UNVEILS DISEASE CONDITION ALERT APP

My-Results has launched an Australian first disease condition alert app for turf managers to monitor disease risk from their mobile phone. The web based app is accessible for download from Apple or Google 'App' stores and can also be accessed at m.my-results.com.au or from Living Turf.

My-Results' disease condition alert uses Bureau



Baver's new Scorpio ornamental fungicide of Meteorology data, matched to user postcodes, to track environmental conditions and measure the risk of turf disease. As a free download, it delivers current, past and forecast weather information. Through an annual subscription (\$350), users can also gain access to condition alerts for the likes of pythium, brown patch and dollar spot.

My-Results condition alerts are compatible with all smartphones and tablets alike. The condition alerts have been adapted to be easy to view, allowing turf managers to measure their environment and make informed decisions about fungicide use.

My-Results is developed by Greenshed Pty Ltd, a company that also trades as Living Turf and manufactures professional products under the brand MATCHplay. Greenshed director Rob Cooper says: "This disease prediction model is just another tool to help managers make judicious use of pesticides. I think our industry believes unilaterally in better surfaces with less pesticides use, and further to prediction models, biological control agents, smart cultural maintenance and fertility management all have a major part to play."

For more information and to register for a 14-day free trial, visit m.my-results.com.au or email service@my-results.com.au 44

Disease Condition Alerts	
Pythium	
Today	Low
Tomorrow	Very Low
Thu	Very Low
Fri	Very Low
Dollar Spot	
Today	Low
Tomorrow	Low
Thu	Moderate
Fri	Low
▲ Menu	Dashboard



Screenshots of the new Mv-Results disease condition alert app

INDUSTRY APPOINTMENTS AND ANNOUNCEMENTS

SYNGENTA ACQUIRES DUPONT. APPOINTS DOCHERTY

AGCSA Gold Partner company Syngenta announced in late August that it had agreed to acquire the DuPont Professional Products insecticide business, with the transaction expected to close in the last quarter of 2012. The acquisition expands the range of products which Syngenta offers to golf course, lawn care professionals and to ornamental growers.

Syngenta will acquire a global business including established pest control brands such as Acelepryn and other intellectual property, as well as a number of employees, for \$125 million. Syngenta will also access the related active ingredients and formulated products from DuPont through exclusive supply and licensing agreements.



Syngenta has also appointed 🔜 former Globe client manager Daniel Docherty (pictured) as sales manager for VIC, SA and WA. Docherty's announcement completes the company's restructure of its Turf & Landscape division under new business manager Dr. Henk Smith. Docherty comes to Syngenta from Globe where he was a leading client manager, including winning the 2011 National Turf Sales Award. Prior to that he gained hands-on experience working at Amstel Golf Club in Melbourne's south east. Docherty started his new role on 15 October and can be contacted on 0419 266 878 or email daniel.docherty@syngenta.com.

JACOBSEN APPOINTS SA DISTRIBUTOR

AGCSA Silver Partner company Jacobsen has added to its Australian distribution network by appointing Gilbert Motors as its main dealer in South Australia. Founded in the late 1800s. Gilbert Motors is currently headed up by Chris Gilbert (pictured) and retails grounds care and turf maintenance equipment from its Strathalbyn premises. Gilbert Motors can be contacted on (08) 8536 2066.

CLARK COLLECTS CCI PRIZE

Cairns Golf Club course superintendent and AGCSA member Brendan Clark will be winging his way to San Diego early next year after winning Country Club International's 2013 Golf Industry Show prize. Clark's name was drawn from a Par-Aide Divot Mate container by AGCSA general manager Peter Frewin in October with Country Club's Victorian/SA/Tasmania sales rep Matt Wrigley in attendance.

Clark was one of more than 40 superintendents to be eligible for the draw after spending \$1000 or more on Par-Aide equipment over a three month period.

CHIVERS JOINS GLOBE



Former Keysborough Golf Club course superintendent and VGCSA president Brett Chivers (pictured) has accepted a new role with Globe

Australia. Chivers, who for the past 18 months has been overseeing Holmesglen TAFE's turf management programme, started as a turf client manager for Victoria as of Monday 15 October and replaces Daniel Docherty who has moved to Syngenta. Chivers' new contact details are 0438 011 043 or email bchivers@globeaustralia.com.au

UK-based County Turf won the contract to grow a specialised blend of ryegrass, meadowgrass and fescue turf for the 2012 London Olympic Games

Greening up th



The chance to be one of the primary suppliers of natural turfgrass for the recent London 2012 Olympic Games was a once in a lifetime opportunity for UK-based County Turf.

In excess of 100,000m² of turf was delivered to various venues consisting of 540 1.25 metre wide, plastic-wrapped custom rolls, with 7000m² used to turf the stadium infield B ased out of Scunthorpe in the English county of Lincolnshire, County Turf was responsible for providing over 100,000 square metres of custom-grown turf for the London 2012 Olympic Games. As well as the main Olympic Stadium infield, the company also provided turf for the athletics warm up area next to the stadium, landscaping areas within the Olympic Park precinct, turf for Lords cricket ground where the archery events were staged and Greenwich Park for the equestrian events.

The opportunity to be a supplier to one of the world's biggest and most watched sporting festivals was a once in a lifetime opportunity for County Turf managing director Andy Fraser: "The contract was excellent news for County Turf as we have been able to safeguard existing jobs in a crucial time where the bulk of our business that is based in the building and housing markets has seen a large decline," says Fraser.

"Without special projects, such as the Olympic contract, redundancies would have been inevitable. Instead we can retain our experienced and dedicated staff for the ongoing benefit of the company for the medium- to long-term."



to work with the Olympic Games Organising Committee? Back in July 2009 Fraser was asked to tender by Hewitt Sportsturf based in Leicester to custom grow the infield turf to exact specifications including species content, soil particle size and rootzone percolation rates. County Turf had worked with John and Ryan Hewitt of Hewitt Sportsturf many times before and they were delighted to win the prestigious contract.

So how did County Turf get the opportunity

Seeding began in August 2009 at a variety of County Turf's farm locations that cover in excess of 566 hectares. The surface specification called for a blend of 60 per cent ryegrass, 30 per cent smooth stalk meadow grass and 10 per cent fescue.

NO ROOM FOR ERROR

There were a number of challenges that confronted County Turf in the lead-up to and during the installation of the turf, in particular meeting the exacting requirements of the organising committee.

"Security was obviously of paramount importance and unlike other stadium projects we have been involved in it did require a lot more organisation, over several months, to ensure all access passes where issued, not only for the contractors and delivery drivers, but also for all vehicles and additional information on the consignment itself," says Fraser.

"The delivery schedule was very tight (only 12 hours), meaning there was no room for error. Fortunately we are experienced in meeting tight schedules because of our previous stadium projects. It was business as usual rather than an over ambitious challenge.

"When the Opening Ceremony concluded we had a 12-hour window to complete the installation of the whole infield area. We had to build another specialist harvester to cope with harvesting all the turf in a 12-hour slot and operating two crews through the night. The transport to London took about six hours after security checks and we needed to keep the turf in the roll for a maximum of eight hours to avoid heat damage. Heat-damaged turf that would be seen by four billion people was not an option!"

To meet the monumental challenge presented to them, every County Turf employee was involved from preparation of the field, to the drilling, growing, harvesting and delivering of the turfgrass to various locations. In total a work force that included delivery drivers and laying teams numbered around 80.

Fraser says that everyone associated with the project felt a tremendous sense of personal pride. "It's unlikely that Great Britain will hold the Olympics again in the lifetime of most of the people involved at County Turf. To have been selected to provide the turf in the main focal point of the Olympic Stadium was a great honour and a credit to everyone involved.

"All the County Turf staff are immensely proud to be a part of British and world sporting history and it was a real team effort from start to finish, stretching over a three year period. We have been involved at many prestigious venues but this project was the most challenging and the most rewarding."

Prior to the installation of the specially grown turf, surface prep was handled by Hewitt Sportsturf.

They constructed the whole Olympic Stadium bowl, including the running track. The infield grass area was constructed from the base upwards and finished with a 100mm layer of Fibresand and then prepared to exact levels prior to receiving the turf.

In excess of 100,000m² of turf was delivered to various venues consisting of 540 1.25 metre wide. plastic-wrapped custom rolls, of which 7000m² was used to turf the infield. Driving distance from the turfgrass field to the Olympic Stadium in London was 215 miles and required 18 truckloads. The turf was installed by Talbots Farm Landscapes with Fraser and County Turf operations director Chris Medley onsite to help coordinate the process.

"Our primary goal from the very start was to provide a perfect infield grass surface delivered and installed on time," says Fraser. "We couldn't have possibly met the challenge of the London Games without the help and dedication of all our staff. Each and everyone worked tirelessly and through the night to help deliver the turf for the 'greatest show on earth'."

ACKNOWLEGDEMENTS

This article, written by Jim Novak, has been reprinted with permission from Turf Producers International. It first appeared in TPI's September 2012 E-Newsletter. Photos courtesy of Andy Fraser (Country Turf).



When the Opening Ceremony concluded there was a 12-hour window to complete installation of the Olympic Stadium infield area

THE CHANGING FACE OF TURF AUSTRALIA

urf Australia (TA) has gone through a number of changes in recent months with a new Board and president elected at the Gold Coast Annual General Meeting in August and the appointment of a new business and industry development manager.

Australian Lawn Concepts owner and 2011 Farm Industry Leader of the Year Award recipient John Keleher has taken over from Adrian Pitsikas as TA chairman, with fellow Queensland grower Tony Cross (Caboolture Turf) joining the board for the first time. WA-based Pitsakis remains on the board which also comprises Andy Middleton (Canturf), Anthony Muscat (Greener Lawn, NSW), Brad Shearer (Coolabah Turf, VIC) and Rob Davey (Evergreen Turf, VIC).

Richard Stephens has also been appointed as TA's new business and industry development manager, replacing Matthew Holmes who has moved back to Syngenta to take on a sales and technical role in the company's turf division.

Stephens comes to the industry highly qualified having previously worked at Horticulture Australia Limited (HAL) where he managed the industry development portfolio. Prior to HAL, he was the industry development manager for the nursery and garden industry from 2000 to 2004. He has experience in developing and managing national capacity building programmes within the rural sector as well as coordinating and implementing industry development programmes at a state and regional level.

At the August AGM Stephens was introduced to TA board members and over the next few months plans to meet growers and gain an understanding of the key challenges facing the industry. He will be based out of the NSW Department of Primary Industries in Richmond and will work closely with Christine Hughes who remains at the TA office in Cleveland, Queensland. Stephens can be contacted on 0404 817 903, (02) 4588 2120 or bidm@turfaustralia.com.au.



From left Turf Australia's admin officer Christine Hughes and new BIDM Richard Stephens with the new-look board Tony Cross, John Keleher (chairman), Andy Middleton, Anthony Muscat, Brad Shearer and Adrian Pitsikas (Rob Davey absent)

In farewelling Holmes, Keleher thanked him for his efforts since taking on the TA industry development manager role back in November 2010 which was expanded to general manager in October 2011.

"Aside from industry development, Matthew was instrumental in organising the 2011 conference, undertaking marketing activities, providing valuable advice on the Industry Advisory Committee, interacting with researchers and state grower associations and advising the Turf Australia board as well as HAL," Keleher says. "We thank Matthew for his dedication, effort and achievements over the past 22 months and wish him all the best for the future".



www.turfaustralia.com.au

GCSAQ 🖄



Turf's 'Living Library' at Redlands is under threat due to the facility's impending closure

ON THE MOVE

Wes Cochrane: Appointed superintendent at Leonay Golf Club, NSW

Mark Findlay (pictured): From superintendent Sunshine Golf Club, VIC to



superintendent Midlands Golf Club (Ballarat), VIC

Russell Fletcher: From superintendent The Lakes Golf Club, NSW to superintendent at St Michaels Golf Club, NSW following the departure of Darren Jones.

Martin Greenwood (pictured):

A p p o i n t e d superintendent at Peninsula Country Golf Club, VIC, replacing Steven Hughes.



y last report mentioned that it was nice to return to 'normal' Queensland weather. Unfortunately that return lasted a bit too long and a lot of golf clubs have had no rain for up to three months. It seems unimaginable that supers would be yearning for rain after what we have endured over the past couple of years.

As I pen this report though in mid-October, the radar finally looks blue all over after a savage storm crossed much of SE Queensland. I was quite happy with the rain as I was able to get four tonnes of fertiliser on to my fairways. On a side note, the members of my club often say I must have some control over the weather as every time I fertilise fairways it rains! The rain that has fallen today has been predicted on every weather site for the past five days – golfers never cease to amaze!

The best part of the improvement in the weather has been the return of golfers and the accompanying revenue. Talking with supers around the state, all agree that a lot of people 'forgot' about golf while the rain was about and found other drier activities on which to spend their money. Fortunately the good recent form of Tiger Woods and Adam Scott's showing in The Open, not to mention the Ryder Cup, has people once again venturing out.

The yearly Pro-Am circuit has just about come to a close and feedback about the condition of the courses around the state from the pros has been very positive. Spare a thought for **Charlie Giffard** and Indooroopilly Golf Club whose event had to be abandoned after an electrical storm had the course cleared of players and a miserly 1mm of rain was all that fell.

The GCSAQ Assistant Superintendent Recognition Award has been awarded to Mathew Hartup (Pacific Harbour GC) and Glenn Gibson-Smith (Sanctuary Cove G&CC). The boys receive an all expenses paid trip to attend the Sentosa Golf Course Tournament Preparation/Education Program in November as part of the Barclays Singapore Open. This trip is a great reward for our assistants and would not be possible without the support of our sponsors Simplot Partners and Toro.

In late August, the GCSAQ AGM was held at Indooroopilly with Brisbane Golf Club superintendent Dr Brett Morris the newest member of the committee. The full GCSAQ committee is:

- President: Peter Lonergan (Coolangatta & Tweed Heads GC)
- Vice-president: Charlie Giffard (Indooroopilly)
- Treasurer: David Morrison (Windaroo GC)
- Secretary: Mark Hauff (Palmer Colonial)
- General Committee: Brendan Clark (Cairns GC); Robin Doodson (Sanctuary Cove G&CC); Ben Tilley (Headland GC) and Dr Brett Morris (Brisbane GC)

Sixty GCSAQ members took to the course with Horton Park superintendent **Pat Pauli** taking out the honours on a countback from Arundel Hill's **Luke Mortimer.** Mortimer snared a nearest the pin and longest drive, **Brian Cox** (Murwillumbah GC) also claimed a nearest the pin prize, while new Complete Turf Management rep **Todd McCully** won the trade prize. The GCSAQ wishes to thank all staff at Indooroopilly GC and sponsors Toro.

Our annual Christmas party at Wet 'n' Wild will be held on Saturday 8 December. The cost is only \$10 for adults and \$5 for kids and that includes all food and drink. Contact Dave Morrison on 0439 284 201. The Queensland Golf Industry Awards night has also been confirmed for 5 March 2013 and will be held on the Gold Coast at Jupiter's Casino.

Finally, as many would have heard the Redlands Research Station in Cleveland is due to close its doors after falling victim to the recent Queensland State Budget. The government has made sweeping public sector cuts and the 25 staff at Redlands were unfortunately among them.

Speaking with Matt Roche, research scientist and head of the lifestyle horticulture section at Redlands, all staff were called into a meeting on the day the Budget was handed down and told that the site, with the exception of two greenhouses operated as part of the crop development facility, would be closing.

It is still uncertain what will happen to research projects the Turf Research Team is currently working on, but of particular concern is the future of the Redlands 'Living Library' turf demonstration plots. Established in January 2000, the collection contains more than 130 different turfgrass varieties sourced from overseas universities and breeders and from sources across Australia. Moves are afoot within the turf industry to protect this resource and let's hope a favourable outcome can be resolved.

PETER LONERGAN PRESIDENT, GCSAQ

NSWGCSA 👁

he NSWGCSA has been busy preparing for the launch of the NSW Golf Industry Environmental Compliance/Best Practice Covenant pilot programme. In the first two weeks of expressions of interest being sent out across NSW and the ACT, we were inundated with applicants. The pilot programme was capped at 42 clubs stretching from the NSW/QLD and NSW/VIC borders as well as 22 metropolitan Sydney clubs. This is 20 per cent of the state's golf clubs and an extremely high level of commitment shown for a pilot programme.

On 18 October, Killara Golf Club played host to the pilot programme group of clubs with representatives also present from the AGCSA, GMA NSW and GMA Australia. The group's feedback was vital in working through the draft covenant to develop a robust industry standard that will be finalised in the coming weeks.

The pilot programme will result in the adoption by golf clubs in NSW of an environmental compliance/best practice model ensuring a high level of environmental protection in the future. This unprecedented cooperative effort demonstrates the golf industry's commitment to environmental sustainability and responsibility.

To coincide with the pilot programme, we have engaged the legal services of Swabb Attorneys, a Sydney-based law firm, to provide 30 minutes free legal advice to all NSWGCSA members.

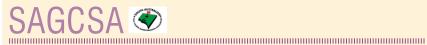
The latest version of the NSWGCSA Pesticide Log Book has also been finalised. The latest version has been approved by the NSW EPA and copies are now available for \$40 from Alison Jones – admin@ nswgcsa.com.au

Mid-October saw the official retirement of **Frank Dempsey**, head teacher of horticulture at TAFE NSW's Ryde campus. Frank has been instrumental in shaping the careers of many of our apprentices and we wish him all the best in retirement.

Our annual education day was held at Boonie Doon Golf Club on 22 October with 40 members in attendance. Special guest for the day was **Mike Clayton** who discussed modern course design techniques and the design philosophy in the first phase of the redevelopment of 'The Doon'.

The day was co-sponsored by Bayer and Living Turf. Bayer's **Jyri Kaapro** discussed registered pesticide use and gave an update on the company's latest research. Living Turf's **Robert Cooper** released their latest disease control alert app, while the day concluded with an open forum on course design with Mike Clayton. Our next event will be the AGM and Rube Walkerden Trophy in November at Elanora Country Club (host superintendent **Dan Cook**).

CRAIG MOLLOY PRESIDENT, NSWGCSA



S pring has well and truly hit SA (thank goodness, after such a cold and wet winter) and a lot of courses have started or completed their main greens, tees and fairway renovations for the year.

In mid-September the SAGCSA held a meeting at The Grange Golf Club to have a look at the new Greg Norman designed East Course. The day started with about 20 teeing up in beautiful sunny conditions on the new East Course back nine. The new Penn A4 greens were fantastic and all that played enjoyed the new layout. About a dozen more joined us when we went on an inspection of the front nine holes with superintendent **Richard James**.

Richard gave us an insight into the transformation of the East Course (See ATM Vol 14.5 pgs 18-22 for the full story on the East Course redevelopment –

VGCSA 👁

S pring has seen a return to more normal weather conditions after a wet winter, however temperatures have been struggling to rise with any sort of consistency. In saying that, the weather we experienced for the VGCSA and Bayer Turf Research Golf Day in mid-October was fantastic.

Played at Barwon Heads Golf Club (host superintendent Adam Lamb), the day was sunny with a stiff southwester to test the skills. Eighty-four players took part in the event with the overall winners being the AGCSA team. In a very generous gesture, the AGCSA team kindly donated the main prize – an allocation of funds to go towards attending a turf registered conference – back to the VGCSA. The day could not be faulted – good numbers, golf course in fantastic condition, great food. A big thank you to all those that participated and to sponsors Bayer for once again supporting this important event.

To cap off a good year for the VGCSA, we will be having a cocktail function at Victoria Golf Club on 1 December. This will be a great opportunity for all members to bring along their partners to help celebrate a great 2012 and to relax prior to the onset of another demanding summer.

In closing, a big thank you to all VGCSA members. 2012 has certainly been very positive from a committee perspective and I thank all committee members for their guidance and assistance to provide a quality year for our members.

STEVEN HEWITT PRESIDENT, VGCSA

Ed) and with time to mature and grow in it will no doubt become highly regarded and be a credit to Richard and his team. Before lunch Michael McManus from Primary Industries and Regions South Australia give us some valuable information regarding current SA legislation on pesticide use.

As this edition was going to print, we were gearing up for the SA Golf Industry Awards Night in late October at the Adelaide Oval. The SAGCSA presented three awards – Distinguished Service Award, Excellence in Turf Management and Apprentice of the Year. We are also looking at running an industry education day at Adelaide Shores later in the season.

BARRY BRYANT PRESIDENT, SAGCSA

ON THE MOVE

Steve Marsden (pictured): From superintendent C a p e Kidnappers, NZ to superintendent



Royal Sydney Golf Club, NSW Anthony Mills: From assistant superintendent to superintendent The Lakes Golf Club, NSW David Phillips: From assistant superintendent Woodlands Golf Club, VIC to superintendent Spring Valley Golf Club, VIC Sherriff: From Sam superintendent Mt Barker/ Hahndorf GC to trade rep position with K&B Adams. Adam Spargo: From assistant superintendent Riversdale Golf Club, VIC to superintendent Northern Golf Club, VIC

Paul Tozer: From assistant superintendent to superintendent Mt Barker/Hahndorf GC, SA

STA ACT REGION 👀

Finally, after what seemed like an endless winter here in Canberra, we are starting to see temperatures rising and couch surfaces greening up. Spring renovations are well under way and we look forward to a much improved summer.

Our AGM was held in late August at Queanbeyan Golf Club. This is always a great night and the past few years we have run a trivia competition in conjunction with the AGM. The trivia night has become a hotly contested affair with home club advantage seemingly paying off for this year's winners Queanbeyan. Committee positions have changed slightly from last year with the full STA ACT committee for the coming year as follows:

- President: Gary Dawson (CIT)
- Vice-president: Lennon Ryan (DPS)
- Treasurer: Michael Waring (Royal Canberra)
- Secretary: Scott Harris (Gold Creek CC)
- Committee: Scott Fogg (Queanbeyan GC), Bruce Davies (CIT), Danny Hull (Queanbeyan BC), Keith McIntyre (Horticultural Engineering) and Bill Franklin (Nuturf).

Glenn Huender has decided to step down from our committee and we thank him for his contributions over the last few years. Bill Franklin, who is very well known locally, is the new face and we look forward to his input in coming years.

It must be said that the attendance at the AGM was disappointing. The STA ACT is here for all members and we always encourage participation. There were quite a few workplaces not represented which we hope is not an ongoing trend.

STA NSW 👀

TA NSW held its successful twoday Cricket Wicket Seminar at Blacktown International Sportspark in mid-October. The seminar was opened Cricket NSW CEO David Gilbert before presentations from Cameron Sutherland (WACA), Ian McKendry (NZ Cricket) and Les Burdett – three great cricket minds sharing their expertise. After the presentations delegates then moved outside to the Blacktown practice wickets where Graeme Logan (ANZ Stadium) and Burdett demonstrated wicket preparation techniques and maintenance.

The following day, **Peter Devlin** (North Sydney Oval) talked about preparations of a wicket and outfield after winter sports and then **Brett Sipthorpe** (Westpac Stadium/The Basin Reserve) shared his experiences with both venues and preparation of wickets in NZ. We were fortunate to have **Dave Dawson** and **Tim** **Cruickshank** of the NSW Speed Blitz Blues cricket team come along and talk to the delegates about what they look for in a wicket and their preferences and experience on different wickets.

Many thanks to our seminar sponsors and I would also like to thank Cricket NSW for allowing us to use the great facilities at the centre, as well as the staff at Blacktown International Sportspark for assisting with the preparation of the wickets.

Out final event of 2012 will be our end of year function at Strathfield Golf Club on Friday 16 November. During this event we will be acknowledging **Frank Dempsey** for his dedication to the turf industry after his recent retirement teaching turf at TAFE NSW. All details for the event are available at www.sportsturf.asn.au.

CHRIS CHAPMAN PRESIDENT, STA NSW

The local bowling greenkeepers recently had an e-par training day run by Terry Muir that was well attended. This highly informative day involved going over workplace practices and highlighting the importance of following correct procedures when dealing with chemicals and the environment. The day concluded with a simulated chemical spill which was great training for all involved should such an emergency actually happen in the workplace.

DANNY HULL COMMITTEE, STA ACT REGION

STA VIC I

S pring has come and just about gone and with winter a distant memory we are seeing some good returns from our hard work put in through spring after the rains.

On the STA front, we are preparing for our Summer Seminar to be held at Packer Park, Carnegie on 21 November starting at 8:30am. Speakers on the day will cover topics including project management, large scale projects and sports surface management decisions. Country Club International has proudly sponsored the day and will be presenting information on the ESD Waste2Water units.

The 2013 events calendar is currently being finalised with the Regional Seminar locked in for 20 March in the Golden Reign Room at Kilmore Racing Club. The Wicket and Sportsturf Seminar will be held in July 2013 and the Seminar and Trade Day will be held next November.

Due to increasing costs, STA Victoria regretfully has to announce new membership fees which will take effect from 1 December 2012. For further information on the costs, contact the office. If you have not renewed your membership, it might be a good idea to do so now before the new fees start.

The STA VIC committee would like to welcome Michael Ogden from Oasis Turf who has taken over the education portfolio leaving Mike Walker free to concentrate on the second vice-president role. The committee thanks Mike for his efforts in doing both the VP and education roles for the past two years. Also, we would like to acknowledge Megan Corser for her efforts after recently resigning from the marketing chairperson position and Globe Australia. If anyone is interested in the marketing role on the committee, please contact the office or myself.

> NATHAN TOVEY PRESIDENT, STA VIC

STANZ STANZ

ast month members of the STANZ executive attended a workshop led by Opus consultants on behalf of Sport NZ to discuss sports turf surface options for New Zealand. A number of key discussions took place evaluating the merits of soilbased, sand-based and artificial surfaces. The key outcome from this work will be to aid our industry in making the right decisions moving forward towards the investment and management of sport surfaces.

There are many factors to consider when making the call on the type of surface required, be it a new development, upgrade or general maintenance of a sport field. Considerations include climatic variation across NZ, the type of sport played, the level of play, current and future usage capacity modelling, maintenance models, uptake of new technology and innovations in our industry that are rapidly evolving and, of course, the capital outlay.

This work will provide a key resource for sports organisations and stakeholders providing community assets. STANZ will play an important role as an industry leader and bring an independent perspective in this process.

It is prudent that this work is taking place as we hit what we describe as the 'silly season' in the turf industry. Winter sport codes, cricket, touch and football are creating high user demand as these sports now merge into each other's traditional season (see photo opposite) and create many

STA WA 💷

Some time ago, some bright spark thought it might be funny to come up with the witty chestnut 'change is as good as a holiday. Well TGAA WA has experienced that recently, changing its name to Sports Turf Association (WA) Incorporated and now I need a holiday, especially after the past 12 months of managing the needs of the association and day-time work commitments.

The year began with the unfortunate news that **Eva Ricci** was stepping down as our WA Turf industry development officer. Finding a suitable replacement was a two month crash course in recruitment and employment 101 which in the end was fortunately successful with the placement of **Louise Edmonds**. Poor Louise was then caught up in the political hurdy-gurdy of state government tenders and talkback radio and then straight into helping stage our major seminar in early July.

This was then followed by our AGM where the name change debate was officially brought to a unanimous vote. In the midst of it all throw in a couple of workshops, many, many meetings and the constant writing, designing and producing a quarterly newsletter. It may not seem much as a list of accomplishments once written down and there pressure points on our facilities. In a number of regions across NZ, land allocated for sport and recreation is also at a premium.

The question that needs answering is 'Is the current sporting environment unsustainable while maintaining the standards our community and sports groups demand of our surfaces?" This project will assist our sporting organisations make informed decisions as to the correct path to take in respect to current and future sports turf surface provision.

To solve some of the issues we face as an industry we will be required to think differently than in the past. Key areas we should consider are:

- Collaboration identify compatible sporting groups;
- Consolidation consider various operandi models such as multi-sporting hubs;
- Create value propositions affordable outcome for investment partners;
- Sustainability long term value; and
- Engagement connecting our sporting industry together

STANZ looks forward to working with Sport NZ and Opus during this project to drive through sustainable solutions.

IAN MCKENDRY CHAIRMAN, STANZ

are many reading this whose sage response would be 'get over yourself', but I'm taking my moment to have a whinge on a national forum.

Mind you, at the same time I'm also very conscious of the amazing achievements being made by our peers in this industry. Three in particular – Graeme Logan, Mark Crawford and Peter Brown – have reminded all of just what can be achieved by getting off your butts. Their four week ride from Perth to Sydney for charity was absolutely inspiring!

I would also like to take the opportunity to applaud Adrian Pitsikas who recently stepped down from the chairman's role of both Turf Australia and the Turf Growers Association of WA. I could not begin to tally the amount of hours and effort Adrian (with the quiet and steadfast support of his brother Peter and the staff at Greenacres Turf Farm) has put into developing our industry.

I must also thank, unreservedly, **Hugh Gardner** and **Clint Betts** who are new to the STA WA committee, for their unwavering support, encouragement and hard work during 2012.

> TONY GUY PRESIDENT, STA WA



Staff at the NZ Cricket High Performance Centre at Lincoln University in Christchurch remove ice that formed on the covers prior to the NZ A vs India A series in September

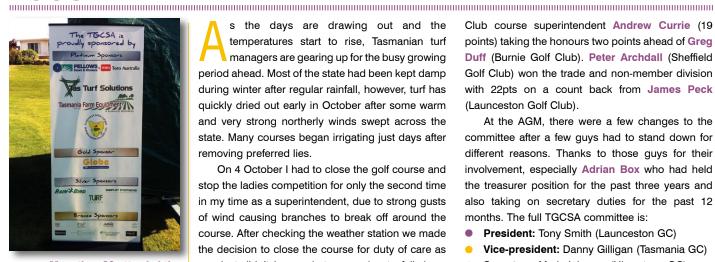


he NZGCSA has been very busy finalising the NZGCSA Awards nomination forms for 2013 and securing **Richard Forsyth** (Royal Melbourne Golf Club) to be a speaker for the 2013 NZ Turf Conference. The conference will be held on June 17-18, 2013. Regional association field days have been well attended with over 50 members turning up at each field day.

Congratulations must also go out to former NZGCSA board member **Steve Marsden** on his impending move to Royal Sydney from Cape Kidnappers and we wish **Ryan Adams** (Clearwater Golf Club) all the best with course preparations for the NZ Open to be held on 22-25 November.

> RYAN IRWIN PRESIDENT, NZGCSA

STATE REPORTS



More than 60 attended the **TGCSA's two-day conference and** trade show at Port Sorell in August

s the days are drawing out and the temperatures start to rise, Tasmanian turf managers are gearing up for the busy growing period ahead. Most of the state had been kept damp during winter after regular rainfall, however, turf has quickly dried out early in October after some warm and very strong northerly winds swept across the state. Many courses began irrigating just days after removing preferred lies.

On 4 October I had to close the golf course and stop the ladies competition for only the second time in my time as a superintendent, due to strong gusts of wind causing branches to break off around the course. After checking the weather station we made the decision to close the course for duty of care as you just didn't know what was going to fall down next. Luckily there was no major tree damage and most of the ladies were pleased to finish early.

The TGCSA overnight conference and trade show returned to Port Sorell in August 2012. With over 60 delegates in attendance for both days, the conference was once again successful and proves that Port Sorell is one of the most popular and viable venues to have such an event.

Delegates heard presentations from TGCSA Platinum sponsors Pellows Saws and Mowers, Tas Turf Solutions, Tasmanian Farm Equipment and Toro Irrigation. Others that presented included Paul Woloszyn (Rain Bird), Jyri Kaapro (Bayer), Scott McKay (Simplot), Warren Braybon (Turf Culture), Mike Pauna (G.E.S.) and Nadeem Zreikat (Campbell Chemicals), while AGCSA general manager Peter Frewin was also on hand to update us on the association's activities and AGCSATech services.

During the event the Reg Roberts Memorial golf event was played in ideal conditions at the beautifully presented Port Sorell layout, with Seabrook Golf Club course superintendent Andrew Currie (19 points) taking the honours two points ahead of Greg Duff (Burnie Golf Club). Peter Archdall (Sheffield Golf Club) won the trade and non-member division with 22pts on a count back from James Peck (Launceston Golf Club).

At the AGM, there were a few changes to the committee after a few guys had to stand down for different reasons. Thanks to those guys for their involvement, especially Adrian Box who had held the treasurer position for the past three years and also taking on secretary duties for the past 12 months. The full TGCSA committee is:

- **President:** Tony Smith (Launceston GC)
- Vice-president: Danny Gilligan (Tasmania GC)
- Secretary: Mark Johnson (Ulverstone GC)
- Treasurer: Ricky Barr (Longford GC)
- Committee: Shane Knott (Mowbray Golf Club), Greg Duff (Burnie Golf Club), Jeff Jackson (Launceston City Council) and Wayne Hefford (Devonport Golf Club)

Thanks must go to the committee and other volunteers from the Port Sorell Golf Club who always welcome our association and do everything possible to make sure this event is run smoothly. Thanks also to our sponsors, all the speakers and the members who were able to attend. Well done also to course superintendent Paul Darnell for presenting the course in excellent condition only days after returning from holiday.

Our final TGCSA day for 2012 will be the Christmas break-up to be held in the Launceston area. This will include the North vs South Cup and when the venue is confirmed we will get invitations out ASAP.

TONY SMITH PRESIDENT, TGCSA

SAWA

ongratulations to Trevor Strachan and the team at Lake Karrinyup Country Club on the successful hosting of the Perth International held in October. It was great to see such a wonderful venue back in the tournament spotlight and the course was an absolute credit to the crew.

As has been mentioned in past reports, the GCSAWA and the Department of Water have developed a Waterwise Golf programme. The aim of this programme is to provide security for the WA golf industry through efficient and sustainable use of water for irrigation.

The standards and efficiency indicators within this programme have been jointly developed and agreed between the Department of Water, GCSAWA and industry experts. The programme provides a framework for assessing existing practices and ensures that operators are provided with the right tools to achieve fit for purpose surfaces with the least volume of water.

The programme will:

- Establish practical and achievable targets for water efficiency;
- Develop water use efficiency standards for irrigation systems;
- Develop agreed measures and indicators for reporting on water use efficiency;
- Develop guidelines for water use efficiency

and current best practice irrigation; and

• Establish an accreditation scheme to recognise achievement of standards for efficient use of water.

For further information on this programme please contact GCSAWA secretary Paul Needham at gcsawa@bigpond.com. With the GCSAWA Super Series completed recently at Cottesloe Golf Club, the final event for the year will be our Christmas ten pin bowling night on Friday 7 December.

> DES RUSSELL PRESIDENT, GCSAWA

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- Mark Jennings Superintendent Box Hill Golf Club

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