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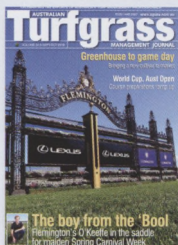
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COVER

The Lakes Golf Club: The 4th hole at The Lakes Golf Club during the 2018 Emirates Australian Open.

Photo: Brett Robinson.



LEAD STORY: Metropolitan marvel

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The Melbourne sandbelt is well known for the unique land upon which it resides and it certainly came to the fore at the recent ISPS Handa World Cup of Golf. Not many courses would have held up for four days of tournament golf the way that Metropolitan did after copping 75mm of rain in five days. But as ATM editor Brett Robinson writes, that wasn't the only story to come out of the tournament. The events that transpired on tournament hole 13 on Sunday morning were an even greater testament to the incredible skill, teamwork and 'can do anything' attitude that a golf course maintenance crew possesses in the heat of the moment.

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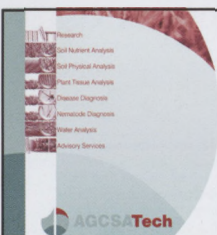


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Digging deep

In the last edition I wrote about how in the lead-up to the recent ISPS Handa World Cup of Golf, Metropolitan Golf Club superintendent Dave Mason had been posting regularly on Twitter about course preparations for the tournament. In each post, which garnered plenty of attention throughout the industry, he included the hashtag '#winningteam'. Mason was all about engendering a real team environment for the tournament, as well as recognising the crew for their hard work in bringing a major PGA Tour event to fruition in Australia.

I've been fortunate to cover many tournaments and major events during my time as ATM editor and seen first-hand the lengths that maintenance crews will go to get the job done. It's an innate part of all those who work in this industry to rally around and put the shoulder to the wheel when the need arises. And no more was that on display than during the early hours on the final day of the World Cup.

As you will read in this edition's lead story, the Metropolitan tournament crew had to deal with some pretty significant dramas with two of the bunkers on tournament hole 13. It was incredible to witness over the course of a couple of hours how the crew worked together seamlessly to rectify what were some major playability issues. Despite the enormity of the task that faced them and working against the clock, no one lost their cool. They systematically worked through the problem, came up with a workable solution and went about executing it with speed and precision.

At one stage I reckon the entire tournament crew, including Mason, assistants Nick Launer and James Cocker, all the volunteers, even mechanic Greg May and his son who was assisting him for the week, were either digging sand, hauling sand, scraping sand, shovelling sand, spreading sand or packing sand in order to make the bunkers playable for the groups that were literally a few holes away. It was a remarkable effort and by the time the first group made it through 13 you would never have known that just a few hours earlier there had been any issue whatsoever. It was a classic example of teamwork and good old fashioned hard work and the crew more than deserved the praise that came from all quarters following the event's conclusion. Hats off guys!

While I don't normally like to end things on a down note, while putting this edition together it was deeply saddening to learn of the passing of two industry practitioners in the lead-up to Christmas. A contractor working at a golf club in Perth was tragically killed (authorities are still investigating at the time of writing), while in Melbourne the Riversdale Golf Club crew lost one of its own following the sudden passing of assistant superintendent Danny Adams.

Adams, who came to Australia in 2010 from the UK, had become an integral part of the Riversdale team and was a member of the 2017 AGCSA Future Turf Managers' Initiative at the Twin Waters conference. He was considered by many to be one of the next generation of course superintendents coming through and had a real passion for the industry. Tragically, Danny has left behind partner Kelly and their one-year-old son Reggie, but true to the supportive nature of this great industry it has rallied around them in their hour of need. Our thoughts are with them at this difficult time.

Please stay safe this festive season and thank you all again for your continued support of ATM over the past 12 months. I look forward to bringing you more great stories and articles that highlight our wonderful industry and its great people in 2019. Enjoy the read...



Brett Robinson, Editor



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Busy, exciting times ahead for AGCSA and wider turf industry



As another year draws to a close, I find myself reflecting on the previous 12 months and reviewing the successes the association has had, along with those areas we are planning for the next 12 months and assessing our progress.

The successes this year have been highlighted in previous editions of Australian Turfgrass Management (ATM). Among those include the launch of a new website and CRM system to streamline operations, the 'Thank a Superintendent Week' campaign which received a lot of very positive feedback from the industry, delivering a successful conference and trade exhibition in Wellington and, most recently, expanding the membership benefits programme.

Many other successes have not been as well publicised, including activities in continuing to advocate for turf managers in the content and delivery of education standards nationally and ensuring the voice of all turf managers was heard strongly by the Fair Work Commission in opposition to proposed penalty rates and working conditions changes. The AGCSA has also been supporting the state bodies with more localised issues including advocating for infrastructure, for recycled water allocations, management and licensing requirements as well as support for environmental and facilities funding across the entire industry. All in all it adds up to a successful year by and large for the AGCSA.

We have also seen, pleasingly, a much closer alignment and working relationship between the national and state associations, one which has resulted in working together for the betterment of members in a more collaborative way. I'm hoping that early in the New Year we'll have more information about these developments and outcomes to share with members. However, the work is far from done.

The AGCSA has been consulting with various parties and involving the state associations on what the next 12 months may look like for the industry. We have started work on the potential to continue delivering enhanced educational and networking opportunities, advocacy for the industry and value for you as members and our trade partners.

Without giving too much away and as plans are still being worked through, I am enthusiastic about the potential for the transformation of the turf management industry and motivated about our ability to deliver some compelling changes to the industry within the next 12-18 months. Some rather ambitious plans are underway...

The first of these will be evident in early 2019, with the delivery of seven **AGCSA National Sportsturf Education Seminars** throughout March and April catering for all sectors of the industry. Toward the end of 2019, these national seminars will be replicated with more of a leadership and development approach, along with further sessions planned around industry-wide operations and environmental management. This is in addition to increased localised education activities in conjunction with each of the state associations and, of course, our flagship event the Asia Pacific Turfgrass Conference and Trade Exhibition in Brisbane which is shaping up to be a great programme.

Among other developments being worked through for next year are some changes to the industry-leading ATM, enhancements to the membership structure and benefits programme, revisions to the educational curriculum, redevelopment of the AGCSA Accreditation Program (did someone say CTP?) and the opportunity for significant updates to the conference and exhibition. Some busy but exciting times ahead...

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“Without giving too much away, I am enthusiastic about the potential for the transformation of the turf management industry and motivated about our ability to deliver some compelling changes to the industry within the next 12-18 months.”

PASSION PERSONIFIED

The last few months have been witness to many major golf tournaments on the Australian Tour calendar, with exceptional courses laid on for local and touring professionals. The course managers and teams should be exceptionally proud of the work undertaken for these tournaments as well as all the volunteers who gave up their time to assist.

At the same time, AFL and NRL finals series saw grounds teams produce terrific surfaces often in trying conditions, while turf managers in all states have made the transition from winter to summer codes which always brings about varying challenges. The work, the passion and the results delivered yet again prove why Australian turf managers are among some of the leading turf professionals in the world.

Conversely to the positive news, we have seen some pretty severe weather conditions at the same time, with bushfires and floods impacting many parts of Australia. Catastrophic drought conditions in many parts of the country have put additional pressure on turf managers to produce and maintain surfaces, and summer has only just started!

It's during these times I hear many pleasing comments from our members – in offers of support, assistance, advice and help whenever it's needed to their fellow turf professionals. This is one element of the industry that cannot be understated – the willingness to help and assist fellow turf managers in need which is a testament to the great industry we work in and to the calibre of its people.

Lastly, and on a personal note, I would like to take this opportunity to pass on my thanks to you – our members – for your continued support throughout the year, to the staff at the AGCSA for their continued hard work, diligence and patience (with me at times!) over the past year and also a heart-felt thank you to each and every one of our invaluable trade partners and industry sponsors. What we do wouldn't be possible if it weren't for the continued support you provide ourselves and all turf managers.

On behalf of the AGCSA board and staff I wish you and your families all a very Merry Christmas and a safe and prosperous New Year. 🍷



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Despite receiving 75mm of rain during the ISPS Handa World Cup of Golf, The Metropolitan Golf Club held up its reputation as one of Australia's best conditioned courses

Standing on the 18th green at The Metropolitan Golf Club, a somewhat tired and relieved looking superintendent Dave Mason, dressed in his Sunday best, watches on as Team Belgium's Thomas Pieters and Thomas Detry are handed the 2018 ISPS Handa World Cup of Golf trophy.

Heading into the final round with a seemingly insurmountable five shot advantage, the Belgians manage to stave off a spirited late charge from Aussies Marc Leishman and Cam Smith who light up the hometown crowd with a second consecutive round of 65.

There is good reason why Mason appears a little weary. While Team Australia had done its utmost to create some final round drama, a few hours earlier Mason and his tournament crew were in the midst of their own. If truth be told, they had been up against it all week, especially with more than three inches of rain falling on the course over five days. All bar the

Metropolitan marvel

The Melbourne sandbelt is well known for the unique land upon which it resides and it certainly came to the fore at the recent ISPS Handa World Cup of Golf. Not many courses would have held up for four days of tournament golf the way The Metropolitan Golf Club did after copping 75mm of rain in five days. But as ATM editor Brett Robinson writes, the weather wasn't the only adversity the tournament crew had to overcome.

kitchen sink had seemingly already been hurled at them, but as they went about their preparations one last time ahead of the final round on Sunday, there was one more twist left in the tournament tale.

UNLUCKY FOR SOME

If Mason wasn't a superstitious man beforehand, then chances are he probably will be now after the events that transpired on tournament hole 13 (Metropolitan's normal 12th) in the lead up to and during the World Cup.

It all began late on the Sunday before the tournament when volunteer Simon Grieve, across from Glenelg Golf Club in Adelaide, noticed water bubbling up through the base of the right hand greenside bunker. A few weeks earlier the bunker had needed some minor drainage repairs following a 38mm dump on Melbourne Cup day, but since then no further issues had presented.

Heading out to investigate, Mason would soon find himself on an excavator digging a 15-metre-long trench (next to a 200mm irrigation mainline) to try and locate where the water was coming from, and more importantly, to figure out where it was to go. He finds pipes no problems – five of them in fact – but they're not the ones he wanted.

With water still coming, at 7pm Mason makes the call to dig a hole in the middle of the bunker and start pumping. With no pits nearby, staff pump water into 1000-litre shuttles, but as fast as they can pump the hole keeps filling up. Finally, 12,000-plus litres later, the flow finally abates. Still shaking his head at what he has just witnessed, Mason gets on the phone to local shaper Ron Nyhuis of Classic Links to see if he can come in the next morning. Despite scheduled to be doing some work across town at Green Acres Golf Club, come 6am Monday Nyhuis is on the 13th and firing up the excavator.



Metropolitan course superintendent Dave Mason addresses the crew



The Metropolitan crew celebrates with World Cup of Golf winners Thomas Detry and Thomas Pieters from Belgium



Above: Simon McDaniel (left) and Simon Grieve (Glenelg GC) remove surface water on the 17th

Top right: Metropolitan's Mitch Mahoney on the edge



Foreman Andrew Anderson stimps tournament 13. Green speeds were between 12' and 13'

Peter Ireton cuts tournament 12 ahead of the final round. Greens were cut at 2.4mm

Throughout the course of the day he and the crew shell the bunker out before capping the inlet and outlet pipes with clay. A 2m deep hole is dug in the centre of the bunker and a 350mm stormwater pipe with slits in the side is placed inside the hole and gravel packed around it, effectively creating a makeshift sump. A lid is placed on top and the whole thing is buried under 400mm of sand.

The idea behind it was pretty simple – water collects in the sump and all that staff need to do is dig out the sand, pull the lid off, drop a bunker pump in and remove the water. Sure, it's a stop-gap measure, but one which should get them through the tournament, after which time they can look more in-depth into what has caused the problem. Come Tuesday morning the bunker is back in play and there is little sign that it has effectively been rebuilt inside of 24 hours.

Then comes the rain – all 75mm it. Tuesday 38mm, Wednesday 12mm, Friday 15mm, Saturday night/Sunday morning 10mm. Throughout the week, the crew religiously check the bunker to see how it is holding up, digging up the sand, popping the lid and pumping out any water. Up until the final round the temporary fix has worked a treat, but with such a large amount of rain things literally reached saturation point.

As soon as the crew start pumping out the sump for what they think is the last time, they can only

watch on in shocked disbelief as the front edge of the bunker starts caving in.

ALL HANDS TO THE PUMP

By 9.30am and with the first group literally 25 minutes away from teeing off in the final round, eight members of the Metropolitan crew are working feverishly at rectifying the growing situation. Among them is David Johnston, working his last day as part of the Metropolitan crew, who with bunker pump in hand is knee-deep in the hole that has opened up under the front lip.

Around him are Scott Allott, Grieve and fellow Adelaide volunteer Cody Tucker all armed with shovels digging out sand and gravel. Sam Fleming runs back and forth ensuring the hoses and connectors through which the water is being pumped into the nearby rough don't spring any leaks, while Portsea Golf Club superintendent Chris Rogers mans the throttle on the bunker pump in between shovelling.

Metropolitan assistants Nick Launer and James Cocker, who have been on course set up all morning, arrive and survey the scene, reporting back to Mason. As Mason arrives shortly after, another situation starts presenting. The far left hand side fairway bunker some 100m back towards the tee is also holding water and with it in play off the tee a solution is needed quickly to ensure its playable.

With Johnston and co continuing to beaver away on the greenside bunker, and starting to slowly win the battle, attention turns to the 200-plus square metre fairway bunker. Surface water is channelled into a hole and pumped out. Within minutes more crew arrive with shovels and boards and they set about scraping off the top two inches of sodden sand and dumping it into the back of three utilities. Mason jumps on a bunker rake and starts smoothing out the base as two tractors arrive towing trailers fully laden with topdressing sand.

By now there are now nearly 20 crew members in the fairway bunker scraping wet sand off, shovelling fresh sand off the trailers and spreading it across the



CONTINUED ON PAGE 10



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The Metropolitan fairway crew cut tournament 11

CONTINUED FROM PAGE 8

floor. Remarkably, by 11am, some 10 tonnes have been placed. All that is left is to prep the bunker as per normal – base raked, faces broomed – and aside from the difference in colour of the sand, there's little to indicate its previous state.

Up on the greenside bunker it's a similar situation. With the water finally abating, so begins the process of packing the hole back up with native sand and reinforcing the face with geofabric material so that it doesn't slump. With the hole repaired, fresh sand is placed back over the top, the bunker prepped and ready for play. Again, to the untrained eye you would not even know anything was wrong. All in a morning's work for the crew at Metropolitan...

TEAMWORK

Now, it may seem a little unfair that the above episode has been singled out above all the other work that the Metropolitan crew undertook to get the course ready for the World Cup, but it serves to highlight a couple of salient points. The first is the innate collective skill of a course maintenance crew to deal with almost anything that is thrown their way and come up with a workable solution. And second, it demonstrates their ability to pull together as a team in a time of need or when under pressure and to execute as one clinically and proficiently.

The teamwork demonstrated throughout World Cup week, from handling the above situation through to the presentation of the course ahead of each round, can only be marvelled at. It was

a bloody trying week for the 40-strong crew that Mason had at his disposal and they deserved every ounce of credit that came their way.

Sure, the greens may not have quite reached the level of firmness that Mason had hoped to produce due to all the rain, but on the flipside not many courses would have been able to stand up to that amount of rain and remain playable. The way the course held up certainly wasn't lost on the players either, with the likes of 2018 Emirates Australian Open victor Abraham Ancer and Belgium's Thomas Detry marvelling during their post-second round press conferences at how well Metropolitan absorbed effectively a month's worth of rain.

"It was certainly a difficult week but the course held up really well," reflects Mason, who has been Metropolitan superintendent since August 2015. "With all the rain we had, the greens performed really well and by the Sunday they started to get more to where we hoped they would be. What was most pleasing was that the PGA Tour didn't need to stop play at any stage. Speaking with PGA Tour agronomist Cal Roth, who was with us for two weeks during the tournament, he hadn't quite experienced tournament conditions like this before.

"I can't credit the crew enough for the way they handled the week. The weather is out of our control so you just have to do whatever you can to get through and get things done. The blood pressure was certainly up on the Sunday morning when we had those bunker issues, but the way the crew stepped up when it mattered was unbelievable. Everyone stayed calm and took it all in their stride.

Volunteer Cody Tucker (Royal Adelaide) rolls the 18th green. Pedestrian rollers were used



"It's not often that a PGA Tour event comes to Australia and I really wanted the guys to enjoy the week. Obviously the weather didn't quite come to the party, but it was great seeing the enthusiasm of the guys during the week and taking pride in what they were presenting. I remember standing on the 18th green after the first round with (assistants) Nick and James and shaking their hand and saying congratulations on a job well done. Sure we still had three rounds to go, but I knew the amount of work they and the crew had already put in just to get the course to that point."

While Mason had his challenges during tournament week, there were also a few in the lead up as well. Not surprisingly, it was again due to the weather.

"We really didn't get much hot weather in the lead-up," explains Mason. "We probably had just two or three days over 30 in November which meant our soil temperatures weren't as high and it was hard to get the couch moving. We actually only started cutting the fairways full-time from about 10 days out from the tournament.

"With the fairways we had to lift the heights of cut from 6mm to 8.5mm because we started to get some scalping. Despite throwing fertiliser on those areas to get them back up, they just didn't respond, hence why we lifted the heights. That was a little frustrating, but the fairways, which we are known for, still presented very well.

"The greens pretty much looked after themselves. We had some warm weather the week before the tournament but the guys were all over it and made sure they got through okay. They know which areas to jump on. In saying that, we went in with a lot more grass on them and we managed them a little differently to what we would normally because of the tournament. Like the fairways we didn't have much growth on the greens and up until two weeks before the tournament we were still only cutting them three times a week."

HELPING HANDS

Despite all the challenges and the stiff hand dealt by Mother Nature, few could fault the presentation of Metropolitan which has long been revered for being one of Australia's best conditioned golf courses. Assisting the crew in delivering that during advance and tournament weeks were a total of 20 volunteers.

Twelve arrived at the course at the start of advance week, with a further eight joining the team for tournament week to take the total crew to 40. In addition to Grieve and Rogers who were mentioned earlier, superintendent Paul Irvine made the trip down from Howlong Golf Club, while Vince Demarzo, a seasonal member of The Lakes crew in Sydney, backed up after the 2018 Emirates Australian Open the week before.

As well as the course volunteers, a contingent of more than 20 were rostered on across the four days to rake bunkers for each group. Among



those manning the much talked about rakes were Adelaide-based superintendents Nathan Bennett (Royal Adelaide GC) and Tim Warren (Glenelg GC), Barwon Valley Golf Club superintendent Colin Foster, The National's Mark Holmes, epar's Nathan Tovey and a healthy contingent from Thirteenth Beach Golf Links.

Also riding shotgun for the two weeks was Roth who has presided over more than 140 tournaments in a 35-year career with the PGA Tour. Roth, who is about to retire from his role, was hugely impressed with the way the course presented and the manner in which the crew responded to the varying challenges over the week.

"Cal was fantastic," says Mason. "I think he was blown away by how well the course handled the weather, the whole green surface to the bunker edge look, how firm the bunker faces were and the overall turf quality. Most of all I think he was impressed by the crew and the way they conducted themselves.

"It was really good to work closely with him. Each morning we drove hole by hole and walked each green and just discussed things. It was great having someone like-minded and passionate who you can seek advice from, bounce ideas off and learn about the ins and outs of hosting a PGA Tour event.

Despite battling the weather all week, the bunker crew did a phenomenal job in presenting Metropolitan's famed hazards



Cameron McColl does laps on the 18th fairway

Metropolitan assistant James Cocker changes the hole on 14 ahead of the final round



One of two Canadian seasonals from Capilano G&CC on the Metropolitan crew for the World Cup, Kevin Williams cuts the green on tournament 13



“He understood that I wanted to get some firmness and speed in the greens which was difficult given the weather we experienced. The one thing I did love was the way the PGA Tour pushed the boundaries with some of the pin placements. They used some areas on the greens that we don’t normally use.”

“It was a tremendous experience working alongside the PGA Tour. They really are such a well-oiled machine. What blows me away is that this is happening all over the world literally every week. The amount of work that is involved and the energy that goes into hosting these sorts of events is quite something. It’s the pinnacle of your job and the opportunity to work alongside the likes of Cal and the rules officials was a lot of fun and we built some great relationships.”

Roth visited the course earlier in the year and spent a couple of days with Mason going around the course and getting a handle on some of the very different management practices employed on the Melbourne sandbelt. Any changes that Mason and the team wanted to make had to be run past Roth, among them switching the type of bunker rakes used and Mason’s desire to roll tees – yes tees!

“From the get go we talked about how we were going to prepare the bunkers for the tournament,” says Mason. “We went out and set up the bunkers with the different raking options and decided to go with a Jost landscape rake over the standard Accuform rake. The Jost rakes worked really well especially in the wet conditions and helped to stir the sand up. We did have to go through Cal to get the okay, but he was more than happy to go with it.”

“We also rolled the tournament tees which certainly raised a few eyebrows, especially among the players. Again, we had to get the all clear from the PGA. It was a bit left of centre I’ll admit, but there was some method to the madness.”

“It all came about because we were rolling some areas in the couch surrounds to try and get the puffiness out of them. I thought the same approach could be taken with the tournament tees to get them nice and smooth. We ended up doing it for a few weeks and it brought them up beautifully. We also weren’t divotting tees as I didn’t want that sand look, so the rolling helped compress the surface. A few of the players were certainly surprised. Matt Kuchar was out playing and saw us rolling the tees, so took his putter out on one of them and had a putt!” 🏌️



Superintendent volunteer Chris Rogers (Portsea GC) plugs out pitch marks on tournament 4 green



The wonderful vista looking from behind the 3rd green



Tournament 7 (Metropolitan’s usual par five 6th) during a rare moment of sunshine



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The Lakes 4th hole ahead of the third round of the 2018 Emirates Australian Open

Anthony Mills has experienced plenty during his 25 years in the golf course management industry. He's seen Mother Nature at her worst, waged ongoing battles against nematodes and dealt with the numerous agronomic and management curveballs that invariably get thrown a course superintendent's way. But nothing could quite prepare him for what transpired in the lead-up to the recent 2018 Emirates Australian Open.

With course preparations having ticked along nicely and the hard work already done, on the Saturday before the tournament a cohort of 32 course volunteers arrived at The Lakes Golf Club maintenance facility. Their arrival saw The Lakes crew swell to 55 for the approaching week and after being inducted and assigned their tasks were

all sent out onto the course to get familiar with one another. The following morning, at 5am, the crew went through their tournament paces for the first time to ensure run times were spot on for the week ahead. Aside from a couple of tweaks here and there, all was pretty good.

Then, out of the blue, it started... One by one, staff and volunteers alike started dropping like flies. Over the course of the next five days a mysterious virus would rip through nearly a third of the crew. It struck quickly and violently in most cases and without going into graphic detail some of those affected often had to heed the call of nature while in the midst of their on-course preparations. At its worst, a number couldn't even make it in for their shift. With more than 15 struck down at varying



The Lakes tournament crew celebrates with 2018 Emirates Australian Open victor Abraham Ancer from Mexico

PHOTOS: BRETT ROBINSON

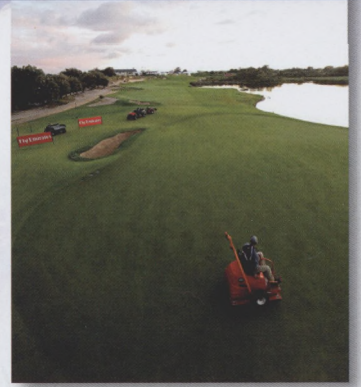
stages up until Friday's second round, it created a bit of a logistical headache for Mills and his two assistants Simon Blagg and Aaron Taylor.

"It wasn't the most pleasant of memories I'll take away from the Open, but it was certainly a standout one," laughs Mills, whose, thankfully, cast iron constitution somehow saw him escape the contagion. "It was pretty ugly and didn't discriminate between The Lakes staff and the volunteers. Luckily it was just a 24-hour thing and most of the guys were okay the next day, but it certainly knocked the guys around. It caused a bit of reshuffling with tasks, but we just prioritised things and pulled some guys away from their rostered jobs to plug any gaps."

Despite having to deal with that unexpected outbreak, The Lakes tournament crew soldiered on

throughout the week and again produced a course that was befitting an Australian Open. Mexican PGA Tour player Abraham Ancer certainly appreciated their efforts and his five shot winning margin will go down as one of the biggest in the event's history. His victory was a fitting finish for Mills, who was quick to praise the efforts of his team across the week.

"I was really grateful for the efforts of the staff and the volunteers who really made the week," says Mills. "Without the volunteers you can't prepare the course to such a high level and in such a short space of time each day. It took 55 people to get this place ready before the start of each round and we could not have done that without the volunteers. It was great that they were able to give up their time to help us out. That was my highlight for the week.



Graeme Wallis rolls the 1st green ahead of the final round. Rollers were only brought out for the final two rounds

The Lakes crew Ancers Open call

For the seventh time in its history, The Lakes Golf Club in Sydney hosted the 2018 Emirates Australian Open. ATM editor Brett Robinson looks back on the 103rd staging of the tournament, the second national Open for host superintendent Anthony Mills.



Volunteers Nathan Bradbury and Taylor Wills set the final pin on 18 ahead of the final round

"I was also really impressed with the way The Lakes guys stepped up. Even if we had a 4am start, the guys were in here 45 minutes beforehand getting machines out and making sure they were ready to go when everyone came in. And we didn't have to ask the guys to do that, they just stepped up. Assistants Simon and Aaron were brilliant all week as well and in the many months leading up."

SECOND BITE

While it was The Lakes' seventh occasion hosting the Open, November's tournament was just Mills' second in charge. His first came about in rather rushed circumstances just a few months after he arrived at the eastern suburbs club in 2012. Ask him about that year's Open, won by Peter Senior after a final round weather delay, and Mills honestly doesn't recall much.

Having joined The Lakes initially as assistant superintendent that June, just three weeks later he was thrust into the superintendent's role. It proved to be a whirlwind few months to get the course up for that tournament and it went by in a flash. The goal this time around was to present something better, which Mills definitely thinks they did.

"That last tournament was very different to this one," reflects Mills. "I effectively inherited the golf course a few months out from the 2012 tournament and didn't have much of a say in terms of planning for it longer term. A lot of people asked me back

then if I was stressed or nervous, but to be honest I didn't really have time to think about it – it was all go, go, go, things had to be done.

"Obviously, this time I had a lot more influence on the condition of the golf course to be able to present it in the best manner possible. I was able to plan from a lot further out and have detailed programmes in place, with various checkpoints along the way so we knew where we needed to be. That was a luxury I didn't have in 2012.

"Tournaments go very quickly and I don't recall much of the last one. In fact, I don't recall much of this one! But what I don't think I realised back in 2012 was just how much of an effort goes into producing one of these. Because I wasn't involved in the full programming last time, I didn't appreciate how big a task it is and all the work that goes on in the months leading up."

To help him achieve a better product this time around, Mills has slowly and judiciously tweaked the way he manages course during his six-year tenure as superintendent. As he quickly attests, The Lakes presents multiple management challenges, both in terms of agronomics and labour. In regards to the former, The Lakes is in a constant state of battle with the likes of nematodes and wintergrass, while the huge sandy waste areas (The Lakes has some 8ha of exposed sand) takes a huge amount of time and product to keep on top of.

The nematode and wintergrass issues are a classic Catch 22 situation for Mills. Everything he does to get on top of one seemingly has a negative impact on the other. With nematodes you've got to keep everything fresh, fertilised and happy, but in order to keep wintergrass out you need to keep the turf lean, dry and hungry. Mills has managed to walk that fine line to date to present acceptable playing surfaces, but admits it's a constant balancing act.

"It certainly keeps you on your toes this place," says Mills. "I haven't made any massive changes since being here. It's more about constantly tweaking our practices and evolving them depending on how we go each year. One area we certainly manage a lot better now is the use of wetting agents. We go

CONTINUED ON PAGE 18



The Lakes superintendent Anthony Mills wasn't afraid to get his hands dirty (or feet wet)

Vince Demarzo and Jordan Thompson (Royal Canberra) cut the 17th green ahead of the third round





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Brendan Eccles and Matthew Walker cut the approach to the 2nd. Walker (right) came down from Yaralla Sports Club in Gladstone to volunteer at the Open

CONTINUED FROM PAGE 16

through a lot here being on sand, but by shortening the application window and adding a penetrant to our irrigation system we have found the turf stands up a lot better, and it showed during the tournament.

"Nematodes are still our biggest issue though. The numbers are as high as they have ever been, but we are managing to keep a much better surface now. We still have Sting nematode numbers of over 1000 per 200g of soil on some greens – our highest at one point was 1400. The turf still falls apart and just peels back, but not as much as it once did.

"We don't use nematicides on the kikuyu anymore. Any of the budget that went into chemical control now goes into extra applications of wetting agents and products such as kelps to keep moisture in those areas. Even though the nematode numbers aren't lower, the turf surfaces are much healthier."

DIALLING IN

As Mills alluded to earlier, a structured programme of works was implemented a long way out to get The Lakes dialled in for the 2018 Open. Starting as far back as last year (as mentioned in the last edition of ATM – Volume 20.5), The Lakes undertook a major

The Lakes' funky and unforgiving short par four 13th



reconstruction of its practice facilities over two stages, with the last stage completed in April 2018.

Heading into this past winter a number of projects were also earmarked, the biggest of which was the renovation of the fescue bunker surrounds (see Vol 20.5 for more on this as well). In addition to that, 'one-percenter' jobs such as re-levelling sprinklers, removing kikuyu runners from greens surrounds, re-turfing tee surrounds, reshaping sandy wastes, re-painting cart bridges, repairing pathways, under-pruning trees and roping off trafficked areas on fairways were also completed during winter.

After giving the A4 greens a light renovation with 5mm hollow tines in late July, spring renovations occurred in late September. The kikuyu fairways were double scarified before being cored with 25mm hollow tines. The greens were cored with 10mm hollow tines, with the holes hosed out, greens rolled, then heavily topdressed and amendments applied. Greens surrounds were cored with 5/8" hollow tines. Tees were scarified and cored with half-inch hollow tines, followed by a heavy topdress and applications of Dolomite and an upfront granular fertiliser.

Post renovations, the crew completed regular chemical applications of bifenthrin and imidacloprid insecticides, as well as wetting agents, on the fairways and surrounds. In the week following renovations The Lakes received more than 65mm of rain which, while timely, did affect some spraying schedules. Temperatures also remained cool for quite some time which did little to assist the warm-season grasses bouncing back after renovations. As it transpired, The Lakes would go on to record more than 160mm for the month of October.

After receiving a heap of attention over the winter, the bunkers also became a focus again about a month out from the tournament, this time with the trimming of the kikuyu edges. Walk-in and entry points were the focus as well as shifting sand around with a Sand Pro to ensure the bases were flat and uniform. The last of the turf from the club's fescue nursery (which was used to house tournament infrastructure) was also harvested at the same time and used to patch out areas that didn't come back as strongly from the winter works.

On Saturday 21 October, a storm ripped through the course, dumping 25mm in 30 minutes, with a lightning strike taking out the Toro irrigation central control computer as well as a number of decoders. Despite getting a replacement quickly, it wasn't until the following Thursday that the system was back up.

Despite that slight hiccup, preparations continued as normal, including verticutting greens (one direction) and dusting with around 20 tonnes of a 90/10 USGA construction sand (hand-broomed in). A few days later the greens were Sprayhawked with a liquid nitrogen/iron fertiliser (15%N, 6%Fe, 2%Mn) to assist with colour and also received a preventative fungicide for brown patch.

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2018 EMIRATES AUSTRALIAN OPEN – TOURNAMENT WEEK PREPARATIONS

MONDAY 12 NOV

First full practice round for 2018 Emirates Australian Open field. Greens rolled and hand watered. Holes cut in centre of greens. Applications of liquid calcium and growth regulator made to the A4 bentgrass greens. Fescue bunker surrounds and kikuyu entry points whipper-snipped, with full rake of bunkers and rakes positioned on the outside of bunkers for tournament week. Full cut on the kikuyu fairways, surrounds, Santa Ana tees and driving range tee and fairway. Practice holes changed. Afternoon run sees pitch marks repaired, greens hand watered and ongoing weed removal in sandy wastes and alligator weed from the 13th pond.

TUESDAY 13 NOV

Second practice round, crew in at 5am. Single cut on greens (2.9mm all week), collars cut, full cut on fairways (10mm), surrounds (10mm) and tees (10mm) and driving range tee and fairway. Australian Open flags put out on course, practice holes changed. Greens hand watered. Weaker areas on fairways sprayed with wetting agent and kelp. Full rake in bunkers. Sponsor boards on tees whipper-snipped, sandy wastes cleaned of debris, weeded and raked. 13th pond cleaned. Greens cut again in afternoon using brush attachments on front of the Flex 21s.

WEDNESDAY 14 NOV

Pro-Am day with crew in at 3.30am for 7am and 12.30pm double shotgun.

- **Morning:** Single cut on greens, full cut on fairways, surrounds and tees, driving range tee and fairway. Greens hand watered. Holes cut in specific positions, practice holes changed. Tee markers set up by Golf Australia. Full rake on bunkers. Morning run takes 2.5 hours to get the course fully cut and set up.
- **Afternoon:** Full divot on fairways and debris blown away. Tees cleaned and divotted. Greens hand watered and pitch marks repaired. Bunkers blown out and walls broomed.

THURSDAY 15 NOV

Opening round of the 2018 Emirates Australian Open with crew in at 4.30am for 6.45am two-tee start.

- **Morning:** Greens double cut (up and back on the same line), stimping 10.1 feet, collars cut, holes cut in Round 1 positions. Practice holes changed. Tee markers set by Golf Australia. Full cut on fairways, surrounds and tees, driving range tee and fairway. Bunkers full rake. After the morning run, a tree branch comes down at the main entrance with staff cutting up and removing.

- **Afternoon:** Pitch marks repaired on greens and surrounds cleaned using backpack blowers. Full divot on fairways, tees cleaned and divotted, driving range divotted, fairways blown off. Greens moisture checked and fescue surrounds watered.

FRIDAY 16 NOV

Round 2, crew in at 4am for 6.45am two-tee start.

- **Morning:** Greens double cut (up and back on the same line), stimping 10.1 feet, holes cut in Round 2 positions. Tee markers set by Golf Australia. Full cut on fairways, surrounds, tees, driving range tee and fairway. Bunkers full rake.
- **Afternoon:** Greens surrounds cut. Pitch marks repaired on greens and surrounds cleaned using backpack blowers. Full divot on fairways, tees cleaned and divotted, driving range divotted, fairways blown off. Greens moisture checked and fescue surrounds watered. Bunkers hand watered to firm sand up. Cut made at +2.

SATURDAY 17 NOV

Round 3, crew in at 4am for 6.45am single-tee start.

- **Morning:** Greens single cut and rolled, stimping 10.10. Holes cut in Round 3 positions, practice holes changed, tee markers set by Golf Australia. Full cut on fairways, surrounds and tees, driving range tee and fairway. Bunkers full rake.
- **Afternoon:** Greens surrounds cut. Pitch marks repaired on greens and surrounds cleaned using backpack blowers. Full divot on fairways, tees cleaned and divotted, driving range divotted, fairways blown off. Greens moisture checked and fescue surrounds watered.

SUNDAY 18 NOV

Final round, crew in 4am for 6.45am single-tee start.

- **Morning:** Greens single cut and rolled, stimping 11 feet. Holes cut in Round 4 positions, practice holes changed, tee markers set by Golf Australia. Full cut on fairways, surrounds and tees, driving range tee and fairway cut. Bunkers full rake.

ACKNOWLEDGEMENTS

The Lakes Golf Club maintenance crew wish to thank all the volunteers, sponsors and golf clubs who assisted during the 2018 Emirates Australian Open. Special thanks to the following companies and golf clubs:

- **Companies:** Nuturf, Toro, Living Turf, Syngenta (breakfasts), Bayer (evening dinners on two days), Colin Campbell Chemicals (fruit), JT Turf.
- **Golf clubs:** Killara Golf Club (superintendent Ryan Fury) and New South Wales GC (superintendent Mark Parker) for each lending a Toro 5510 fairway mower.

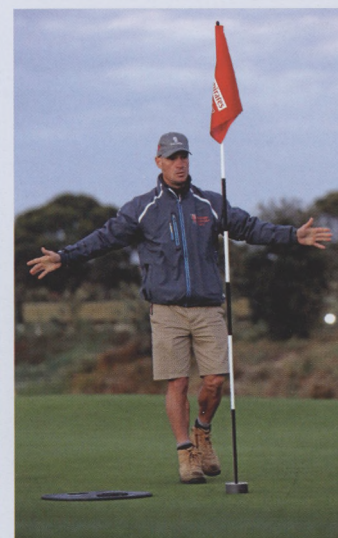


Charlestown GC volunteer Liam Way cuts the 6th fairway with Steve Maraca in the background



Ben Williams was one of five international volunteers to fly in specially to work at the Open. He is pictured here rolling the 6th green

Royal Canberra volunteer Brad Lingard lines up the flag on the 9th





Divotting and levelling the driving range tee

CONTINUED FROM PAGE 18

With around three weeks remaining, applications continued to be made on all surfaces with fertiliser and plant growth regulator applied to fairways and green surrounds on 29 October, as well as wetting agents. On 1 November the greens were given their final dusting before the tournament with 20 tonnes of dusting sand, again broomed in by hand.

The Lakes experienced its first real hot day (38°C) of the season on 2 November which meant the hoses were out in force for the first time. An application of a preventative fungicide (for pythium), larvacide (for stem weevil) and wetting agent (tank mix) was also made, while tee tops were given an application of fertiliser, growth regulator and miticide. Incidentally, all applications on greens and tees at this point were being made using pedestrian sprayers for more accurate application, cleaner finish and easier manoeuvrability due to advertising hoardings.

With Advance Week arriving (5-11 November), Open preparations continued to go up a notch and included the following:

- **5 Nov:** A Barracuda sand-sieving machine was used to tidy up the sandy waste areas on holes 4, 5 and 18. The machine, which sieves the top 30mm, removed nearly two tonnes of stone and rock.
- **6-8 Nov:** Greens given a preventive spray for brown patch. All fescue areas were given a foliar feed (iron) to darken them up and enhance the contrast between the kikuyu fairways and bentgrass greens complexes. Bunkers were weeded, faces broomed and raking patterns finalised.
- **8 Nov:** After 160mm in October, the course received 23mm of rain on the Wednesday evening which, after the heat and humidity of the previous week, helped to freshen the course up. The greens were cut with a brush attachment on the front of the Toro Flex 21s. Greens at this stage were still only being single cut with a perimeter cut skipped every other day.



The Lakes assistant superintendent Simon Blagg makes a final sweep of the 14th green



James Bonser (left) and Ian Howell cut the 17th runway tee

- **10 Nov:** With the course closed, the last application of growth regulator and fertiliser to fairways and surrounds was made. Perimeter ropes erected around all playing surfaces and existing course fixtures and furniture removed.

That Saturday (10 November) also saw the arrival of the 32 course volunteers for the tournament. A total of 25 clubs from around Australia and overseas were represented with the likes of superintendents Nathan Bradbury (Eastlakes GC), Adam McMahon (Longyard GC) and Ian Elphick (Gunnedah GC) heading the list of those putting their hand up to assist. Also among the volunteers was Pennant Hills apprentice greenkeeper Jack Parker, son of the legendary former SCG curator Tom Parker.

Five internationals also journeyed to Sydney especially for the Open – Ben Williams (first assistant at Royal Cinque Ports GC, UK), Martin O'Reilly (from Ireland – most recently at Le Golf National, France), Ben Goodchild (Northwood GC, UK), Alex Wilson (from England – most recently at St Nom La Breteche, France) and Ross Robertson (Jacks Point, NZ). Robertson had previously volunteered at the 2016 Open at Royal Sydney Golf Club, while O'Reilly and Wilson were both part of the course team to prepare Le Golf National for the 2018 Ryder Cup. Wilson arrived having made the dash from Turkey the previous week where he had volunteered at the European Tour's 2018 Turkish Airlines Open.

With all volunteers on deck, the crew was in early on 11 November for their first full run to get tournament week timings right. After a few tweaks it was then full ball into the main event (see page 19 for more on tournament week preparations) with Mills very satisfied with the final product on display.

"Overall I was very happy with the playing surfaces," says Mills. "We had a very slow start to October and there was a point there where we had 17 days of straight rain, cool temperatures and little sunlight. We renovated the tees last and they just sat there under sand for the first three weeks of October and I was definitely starting to panic there at one stage. I was a little worried about the tee tops, but all the other surfaces were pretty good."

"We did a mountain of work in the months leading up and the biggest of those was renovating and reseeding the fescue bunker surrounds. It was a massive job considering the bunkers we have here. We fight it year in, year out, but this year we decided to start from scratch again in a lot of places that were overgrown. It was six months in the making and we had some doubters who didn't think we could get it up in time, but the boys stepped up to the challenge and we made it. I think the fescue made the place to be honest and gave some wonderful contrast to the kikuyu surfaces. It was phenomenal."

Editor's Note: For a full rundown of tournament preparations, read the comprehensive updates compiled by The Lakes assistant superintendent Simon Blagg, with the assistance of ATM editor Brett Robinson, located on the AGCSA website. 🌊

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O'Keeffe's Cup runneth over

Flemington track manager Liam O'Keeffe certainly won't forget his first Spring Carnival in charge at VRC 'headquarters'.

Above: All in a day's work for Flemington track manager Liam O'Keeffe. O'Keeffe grabs the reins of Galaxy Raider after it fell in Race 9 on Melbourne Cup day. Both horse and jockey Jordan Childs were uninjured

The wedding suit was a write-off. Watching Race 9 next to the Clocktower on what had already been an eventful 2018 Melbourne Cup day, Flemington senior track manager Liam O'Keeffe could do little but watch on in shock as gelding Galaxy Raider clipped the heels of the horse in front with 150 metres to the finishing post and went down hard.

The role of a track manager is all encompassing on race day and while getting the track up to the required standard is first and foremost, the welfare of horse and jockey is also of equal importance. So it was on instinct that O'Keeffe leapt over the fence and sprinted the 10m onto the track to grab hold of Galaxy Raider by the reins before it could do itself or jockey Jordan Childs, who was curled up in a ball on the track, any further damage. Thankfully both horse and rider escaped without injury, but the same couldn't be said of O'Keeffe's suit!

"It happened right in front of me so I ran straight out to secure the horse and make sure he didn't get up and injure Jordan," recounts O'Keeffe. "The horse actually stood on my foot and I fell over, but luckily I didn't let go of the reins and was able to get them back up over its head and captured him. I tore my wedding suit in the process so needless to say my wife Hanna wasn't too happy!"

"It was just one of those things. You have to be ready for anything on race day – I was there on the spot and it's something that anyone else in my role would have done. It's part of our job. Thank goodness both rider and horse were okay. I've never caught a loose horse before because there are far better horsemen than me who work on the track. As for the suit, I had to turf the pants, but I hit up Peter Jackson for a new suit on a radio interview afterwards!"

HEAVY GOING

It was certainly a Melbourne Cup O'Keeffe won't forget in a hurry, his first in charge since being promoted in March of this year. In addition to Galaxy Raider's fall, there was the tragedy surrounding the breaking down of Cliffsofmoher during the Cup, but from a track management perspective it was Melbourne's fickle weather which conspired to give O'Keeffe the most headaches.

Up until the morning of the Cup, the Spring Carnival had gotten off to a great start. Derby Day on Saturday had run without incident, with the track starting out at a Good 4 rating before being upgraded to a Good 3. The track pulled up well and staff put the rail out to 2m from its 'true' position in readiness for the Cup.

In the weeks leading up to the Spring Carnival it had been warm and dry and in the week before Derby Day O'Keeffe had chucked out 34mm of irrigation across the Course Proper, a lot for that time of year. The Bureau of Meteorology had forecast rain for the Monday and Tuesday (Cup day) so after Derby Day had concluded O'Keeffe gave the course a light drink to keep it ticking along.

Come Monday, the forecast for rain had been pushed back, so O'Keeffe put out 5mm that night to ensure the track was at the optimum Good 4 rating come inspection at 5am on Cup day. Four hours later the rain set in and it didn't abate. In total the Flemington track would cop 51mm in four hours up until Race 4, with the track quickly going from a Good 4 down to a Heavy 8. With surface water on the track and visibility an issue, it was a stressful time for everyone – stewards, jockeys, owners, trainers as well as O'Keeffe and his track staff.

"The forecast was for only 5mm-10mm, so to get 51mm in four hours was a big surprise," reflects O'Keeffe. "It's the biggest fall I've experienced during a race meet since I have been at Flemington. We have had rain like that before but not on a race day.

"Originally there was rain forecast from 11pm on Monday which meant we could have held off putting water out. But when I spoke to the Bureau at 2.30pm on Monday they had pushed that forecast back to 8am on Tuesday which was too late. We have to have the track ready to go at 5am on the day to meet Racing Victoria guidelines, so we had to put out 5mm of irrigation on Monday night.

"The track was rated at a Good 4 when we did our inspection, but then the rain started. We got 4.2mm in about 20 minutes around 7.30am before there was a break in the weather. I thought, 'This is going to work out absolutely perfectly', but then at 9am the heavy rain set in.

"The track needed just half an hour for the surface water to get through the thatch and into the sand profile. Once it did that we knew the track would be okay. Unfortunately we couldn't just stop racing because the Melbourne Cup has to be run at 3pm to meet commercial broadcasting rights.

"If it was a normal race meet we probably would have just stopped for 90 minutes and then started again, but we didn't have that luxury. They delayed the start of the earlier races by 10 minutes which was as much as they could. They had to keep pushing through and hope that the weather cleared which luckily it did after Race 4.

"The track performed unbelievably well and once it had a chance to absorb all the rain it went back up to a Soft 6 at the end of the day which was a great result. I guess it was a blessing in disguise that we had such a dry lead up to the Carnival, because the subsoil would have been bone dry and it really would have sucked up that first inch of rain which held us in good stead for the next inch that came along."



UNSUNG HERO

In the days following the Cup there were the usual post mortems surrounding the Cup, in particular the tragedy involving Cliffsofmoher which had to be euthanised. Among all the comments, many race pundits were quick to laud the Flemington track and O'Keeffe and his team.

Under the headline 'O'Keeffe the unsung hero of Cup week', Racing.com correspondent James Tzaferis wrote: "When more than 50mm of rain fell in the lead-up to the Melbourne Cup, there were plenty of grim looks and plenty of nervous chatter around Flemington... It would have been an impossible task for most tracks and many curators. But not for Liam O'Keeffe and his track staff at Flemington.

"In his first Melbourne Cup Carnival in charge of the hallowed turf, O'Keeffe was the unsung hero and prepared a track that was the subject of high praise from jockeys, trainers and, importantly, punters all week. On the biggest stage, when the world was watching, O'Keeffe and his team delivered a world class track."

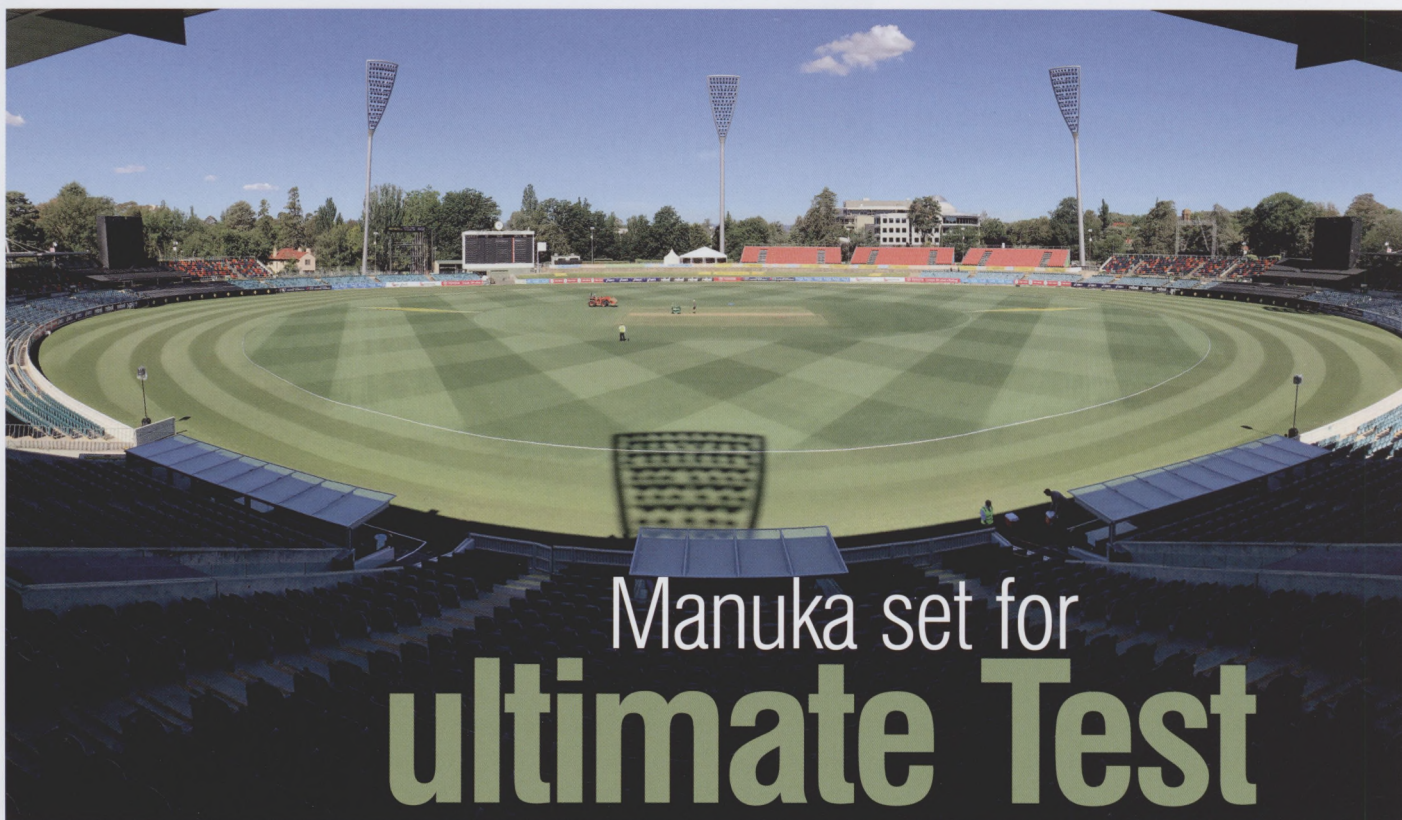
"It was great to get that feedback," reflects O'Keeffe. "Feedback can be pretty mixed in our job so to get some nice comments was great and good recognition for the staff, not just on the day but for all the work they did leading up to the Spring Carnival to make sure we had a really even track.

"It was a big week and I definitely learned a few lessons, but I wouldn't change much for next year. It was just one of those weeks where you had to roll with what the weather dealt us and trust in the structures and procedures we had in place to set us in good stead, which they did." 🙌

The Flemington track copped 51mm of rain on the morning of the Melbourne Cup, holding up remarkably well to finish the day rated a Soft 6

Following Spring Carnival week the Flemington track was renovated, with the track mown down to 50mm, lightly scarified and cored





Manuka set for ultimate Test

It is set to be one of the biggest summers of cricket in Canberra with Manuka Oval gearing up to host its first ever international Test match. Curator Brad van Dam looks at preparations for this auspicious event.

Above: Over the past eight years the ACT Government has funded significant upgrades to Manuka Oval to fulfil the requirements to host international cricket matches

This summer, Canberra's Manuka Oval is hosting the biggest season of cricket in its proud history. This includes the final International Test match of the 2018/19 season from 1-5 February when Australia takes on Sri Lanka. This will be the first ever Test match hosted in Canberra at the historic oval and one of the biggest sporting events the Territory has showcased.

Each year Manuka Oval hosts many local and national AFL matches, as well as local and international cricket. So far this cricket season the oval has already hosted the Southern Stars, the PM's XI, a Sheffield Shield match, as well as Women's Big Bash League (WBBL) and Big Bash League (BBL) fixtures. Still to come is the international Test and another BBL match.

In the past, Manuka Oval has been chosen for major international games and five-day matches including three pool matches as part of the International Cricket Council (ICC) Cricket World Cup in 2015, various One Day International matches and the Sheffield Shield final in the summer of 2013/14.

The negotiations and preparations for Manuka Oval to host an international Test match started many years ago between the ACT Government, Cricket Australia, the ICC and Cricket ACT. The ACT Government made some significant upgrades to the oval to meet international standards and prepare for hosting international matches. New sports lighting was installed in 2012/13 to enable One Day International games and AFL night matches to be played at the oval.

In 2013/14, the turf surface was redeveloped and the following infrastructure upgrades made;

- USGA spec sand upon a gravel perched water table profile;
- Grand Prix couch surface;
- New seven-wicket block;
- Underground infrastructure; and
- Player dugouts and increased spectator seating.

The most recent upgrade, which will be completed in time for the Test match, is a new broadcast and media facility which meets the ICC's requirements to enable all forms of media to broadcast international matches to the world. The facility will also provide corporate hospitality on match days and be available as an event space on non-match days.

Although the negotiations for Canberra to host a Test began many years ago, the plans came to fruition a couple of summers ago. This is when the preparations really kicked off for me and I started by drawing up a yearly works programme to ensure the surface and wicket square was at the highest standard. The plan wasn't extravagant but there were a few things that needed to be addressed.

We started by focussing on maintaining the levels of the wicket square. To that end, for the past three years after each AFL season we have laser levelled the square. We have also continued to maintain our soil and plant nutrient testing and amendment programme to provide optimum turf growth in winter (ryegrass) and summer (couch).

The outfield was resurfaced in 2017 to remove the thatch layer that had built up and optimise the surface's drainage capabilities. We also changed the couch type to Santa Ana, for consistency across other venues around Canberra. We usually resurface every five to seven years, however, we brought the

schedule forward so it would not coincide with the 2019 Test match or the ICC Women's T20 World Cup in 2020. I am proud to say we now have arguably one of the best turf playing surfaces in Australia.

RENOVATIONS

Throughout this past AFL season we continually cross rolled the wicket table to repair any damage and maintain levels as best as possible. As the AFL season drew to a close, we slowly started to reduce the height of cut on the outfield from 25mm down to 13mm in increments of 3mm over a four week period.

Immediately following the last home and away AFL match on 9 September, we started our outfield renovations which included:

- Coring using 19mm hollow tines, 50mm deep at 100mm spacings;
- The cores were broken up when we scarified during our first direction, then rubbed in and surface swept clean;
- Surface scarified a second time in a different direction and swept clean;
- Surface double cut at 10mm;
- Light dusting with a USGA spec sand (approx. 32 tonnes); and
- Fertiliser and soil amendments added as per soil test results.

We renovated the wicket square at the same time as the outfield which included;

- Spraying the ryegrass out one week prior to the local AFL grand final;



- Lowering the height of cut to 6mm to remove ryegrass and open it up;
- Scarifying the square in two directions, removing all debris and cleaning it with a blower;
- Laser levelling the wicket square using approx. four cubic meters of Oberon wicket soil;
- Fertiliser applied as per soil test results; and
- Growth cloth placed over the wicket square to encourage couch growth as we were still getting frosts in Canberra at the time.

The resurfacing of Manuka Oval in November 2017 saw the ground converted to Santa Ana couchgrass

STADIUM GOLF TEES OFF AT ADELAIDE OVAL

Adelaide Oval may have just hosted the first Test in the current International Series between Australia and India, but in the lead-up to the match it entertained an altogether very different event. From 29 October to 4 November, the famed arena was transformed into a nine-hole golf course as part of a week-long golfing spectacle organised by Australian Golf Digest and Adelaide Oval.

In what was the first 'Stadium Golf' event to be held in Australia, golfers teed off from various locations around the stadium to nine greens situated on the hallowed Adelaide Oval playing surface. Holes ranged from 50-90 metres in length, with tee locations including Level Five of the southern Riverbank Stand, the northern mound at the base of the famous Moreton Bay fig trees and a purpose-built platform in front of the oval's heritage scoreboard.

The Adelaide Oval grounds team, headed by curator Damian Hough, played a key role in bringing the event to fruition, including the design and set-up of the golf course as well as executing the event during the week itself.



Adelaide Oval hosted the first Stadium Golf event in Australia ahead of its first international cricket fixture of the season, an ODI between Australia and South Africa

Across the seven days, the grounds team were responsible for setting up the holes each day including the markings around the greens.

"We have a few keen golfers on the grounds team who were really happy to be involved with the course design for this event," says Hough. "There was a lot of planning involved in the months leading up to the event. We worked around the Sheffield Shield match which finished the night before and also had to consider the One Day

International match between Australia and South Africa (9 November) coming up.

"We had the wicket area covered to make sure we didn't get any ball indents there and we were also preparing the ODI pitch throughout the week. It was an impressive event and to be the first venue in Australia to host Stadium Golf is a credit to Adelaide Oval."

A total of six hole-in-ones were hit over the week with former Richmond and Sturt footballer Bruce Lennon nabbing the first on the 1st hole. Overall winner was Tom Bond with a score of 53 (par 56) on a countback.

Adelaide Oval general manager Darren Chandler says that discussions are already underway for the event to return in 2019: "We've had overwhelmingly positive feedback from the event so we're definitely going to bring it back next year," says Chandler. "Participants loved the opportunity to tee off from different locations around the Oval, combining golf with a unique stadium experience. It's something different – it's not your normal golf event. It's quite unique but quite challenging."

To ensure that the Manuka Oval wicket block is of the highest standard, for the past three years after each AFL season the wicket square has been laser levelled



We followed the same spring renovation process this year as every other year. The only difference was the timing of when we chemically removed the ryegrass from the outfield. This timing is always determined by the match schedule and the level of cricket to be played as these can change each year.

In early October 2018, the Australian women's team played a televised T20 match at Manuka Oval along with the Prime Minister's (PM's) XI match in late-October. If the ryegrass was removed in late-September we would have run the risk of producing an unsatisfactory surface, both playability wise and visually. We chemically removed the ryegrass about five days before the PM's XI match, which meant there was no issue with the outfield during this match.

TEST FOCUS

Leading up to the Test match we will alternate between a solid and hollow tine each month, varying the depth on the outfield and also apply some organic liquid fertilisers. To aid in the transition back to couchgrass, we will hollow core and scarify the outfield again and add a light dusting of sand and fertilise mid-December as per recommendations. During this period, we will topdress the wicket to maintain levels and encourage lateral growth. These works will be completed in the lead up to the WBBL and BBL matches on 21 December 2018 and the last BBL match on 9 February 2019.

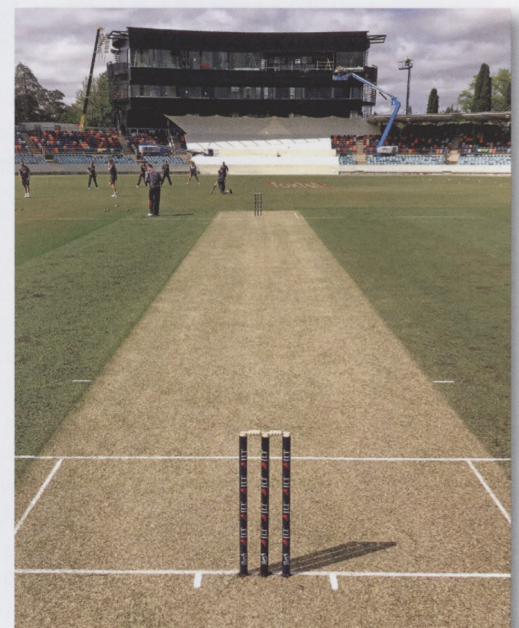
We will start the final preparation of the ground in mid-January, when we will look at thatch levels and maintain accordingly. The absolute minimum we will be doing would be a hollow core to ensure optimum drainage rates are maintained. We will apply a growth regulator to the couch on the outfield, mainly for presentation and to reduce seed head production and a nitro-iron at the same time for enhanced colour. The wicket square will be spot topdressed where needed and we will add light rates of an organic fertiliser as well to keep things ticking along.

All areas of the ground are regularly monitored for any weeds, pests and diseases and we will preventative spray for couch mite, couch fly/maggot as well as scarab beetle which we do annually. The wicket table sometimes gets the odd outbreak of helminthosporium that will be monitored closely.

During the week prior to the start of the Test, various onfield infrastructure will be positioned including sight screens, LED advertising screens, boundary rope advertising, Spidercam, stump cameras and microphones.

The actual preparation of the Test match pitch will start between 7-9 days prior to day one. We allocate a window period to allow for changing weather conditions. We will also be preparing a second pitch which will be used for our second BBL match four days after the final day of the Test.

The 2018/19 cricket season has been an exciting time for the team here at Manuka Oval. This, along with hosting an international Test for the first time, which is the pinnacle of cricket, is a huge milestone for me as head curator. 🙏



The day one pitch at Manuka Oval for the opening 2018/19 Sheffield Shield match, with the new media centre in the background



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The 27-hole DLF Golf & Country Club is one of the newest courses to be constructed in India, opening in 2015. Pictured is the 16th and 17th holes of the Gary Player championship course

Subcontinent sojourn

Over the past 20 years, the turf management profession has taken Shaun Satterly far from his home state of Tasmania. Since 2014 he has been superintendent at the Gary Player-designed DLF Golf & Country Club in northern India, which recently hosted the European Tour's Hero Women's Indian Open.



Golf course management can provide some wonderful opportunities for greenkeepers and superintendents looking to take themselves out their comfort zone. Starting my trade at the small nine-hole Wynyard Golf Club on the north coast of Tasmania, this profession has subsequently taken me to Queensland, the US on The Ohio Program, back to Australia and then over to the Caribbean for eight very different years.

The most recent phase of my journey has seen me go from the laidback lifestyle of Barbados to one of the most densely populated countries in the world – India. To say that it has been a change of pace and something that took a while to get used to would be an understatement, but it has been yet another rewarding experience.

Home for coming up to four years now has been the Gary Player-designed 27-hole DLF Golf

& Country Club in the city of Gurgaon, south west of New Delhi in northern India. I arrived at the tail end of course construction in 2014 with four holes, the short game and driving range facilities left to be constructed. Some holes on the back nine had been grassed when I arrived and I was responsible for finishing the remainder of the grassing and preparing for opening.

India has a population of over 1.3 billion people and golf is growing in popularity thanks to the support of strong financial backing and top class players emerging on international Tours such as Anirban Lahiri and Gaganjeet Bhullar (who both represented India at the recent ISPS Handa World Cup of Golf), Adity Ashok, SSP Chawrasia and Shubhankar Sharma.

There are 270 golf courses in India which equates to about five million people per course!



The 1st at DLF Golf & Country Club gets prepped ahead of the LET's 2018 Hero Women's Indian Open





Now that's a team! The entire DLF Golf & Country Club clubhouse and course team (and equipment) photographed on the 8th hole. Australian ex-pat superintendent Shaun Satterly manages a maintenance team that numbers 110



Needle-tying the 5th green in the weeks leading up to the 2018 Hero Women's Indian Open. The greens are Mini Verde bermudagrass

The 12th is one of two holes at DLF to feature two separate greens. Players nominate which green they want to play to from the tee

Golfers number less than 150,000 – contrast that with the more than 500 million who play cricket! Around 60 per cent of the courses are managed by the Indian Army and are inaccessible to the public.

DLF Golf & Country Club is a very different set-up and was the vision of Mr K.P. Singh who recognised the value golf played in the business world and the benefits it can bring to the community. He went on to develop an international business hub with the golf courses playing a significant role in the development. The DLF golf courses provide a breath of fresh air for the city of Gurgaon which is one of the fastest growing business areas of India. Gurgaon has the third-highest per-capita income in India with many Fortune 500 companies choosing it as their Indian headquarters.

UNIQUE LANDSCAPE

DLF comprises 27 holes with the Gary Player-designed Black Knight Signature 18-hole championship course and nine-hole Arnold Palmer course. The Palmer course is fully floodlit and hosts regular night golf events. The entire land envelope reaches close to 250 acres with four lakes spread over 23 acres containing about 250ML.

Irrigation water is retreated water which is collected from the surrounding residential

communities. This is channelled to an on site water treatment plant (which has a capacity of 14 million litres per day) before being pumped to the holding lakes on the golf course. No ground/fresh water is used for irrigation, which in turn enables the club to maintain the courses with a commitment to environmental sustainability.

The development of the facility has allowed a wide range of flora and fauna to flourish, with over 40 bird species (10 of which are migratory species), reptiles, aquatic life as well as trees, shrubs and ornamental grasses. Approximately 1000 large mature trees were transplanted throughout the property during construction.

The Gary Player course opened in 2015 and hosted its first Women's Indian Open event the same year. Since then both the event and the course have matured gracefully to be a regular part of the Ladies European Tour calendar. The course plays 7684 yards from the tips which tests the most avid of players. As a testament to that, the 14th hole is rated the most difficult on the European Tour.

The back nine is predominantly man-made with the land originally being quite flat, rocky and arid. The 17th & 18th holes have been constructed to achieve the elevation changes and over the years have achieved a very natural look. The rocks in the 17th quarry were individually imported to the site and placed in position with cranes.

The playing surfaces are quite undulating and maintaining turf on many of the slopes can be quite challenging throughout the different seasons, often requiring considerable amounts of micro-management. The greens are Mini Verde bermudagrass and the fairways are Celebration bermudagrass which are oversown with ryegrass during the cooler months (December-April). Several of the landscapes – such as the island green on the 5th – can also be challenging to access to provide the necessary maintenance.

In addition to some of the interesting landscape elements, the courses also boast a couple of unique design features. The 2nd and 12th holes have two separate greens, offering the player an option when playing the hole. The player must select the green they are playing to before teeing off. With multiple tee complexes and pin positions available, it allows the hole to be set up differently on a regular basis.

The other, quite striking, feature is the rivetted bunkers and the height of the bunker faces – some of them up to 17 feet high! The bunkering is certainly unique and can be seen on some select Gary Player designs around the world and was used, like the double greens, to create a unique experience from a visual perspective as well as present a significant challenge for the players' course management skills and shot-making abilities.

The rivetted look is achieved using a geotextile material which is wrapped around plastic tubes filled with sand. Achieving this appearance is quite difficult and involves each individual line to be filled



with sand and placed one on top of the other until the desired height and shape is achieved. It does require some repair from time to time due to impact damage from golf balls and we paint the faces every six months to maintain a fresh look as irrigation and the weather can fade the appearance.

UNIQUE CHALLENGES

With a total team of around 110 employees at DLF – which includes the turf, landscape and workshop teams – communication is one of the biggest challenges I face. Hindi is the predominant language spoken and we have key guys in supervisory roles that manage the communication channels and ensure the right directives are delivered.

Producing quality playing surfaces in India's climate is by far the most challenging of all the places I have worked at previously. The weather here is extreme to say the least. Summer temperatures that can reach 48°C while in winter it can get as low as -2°C. The most challenging period is Monsoon season which generally lasts from July to September.

In addition to heavy rainfall, the Monsoon season can see weeks upon weeks of consistent cloud cover and low light levels accompanied by high humidity, high temperatures and poor air movement. During this time it is a matter of trying to get the turf through in as best condition as possible until the weather improves.



Preparation for this challenging weather begins well in advance to ensure the surfaces are in the best possible condition going into the Monsoon season. Any kind of turf stress or injury during can lead to significant loss of turf and you need to be on your toes as playing conditions can decline rapidly. It's the peak time for disease pressure, especially August and September, and not surprisingly the preventative fungicide programme application intervals become quite close with chemistries rotated regularly. The spring and autumn are more temperate and managing the playing surfaces a bit less stressful.

Moisture management is a skill I have had to become more proficient in as many greens are very contoured and ensuring the turf receives adequate levels of moisture. Many of the lower areas are also the pinable areas and receive a lot of foot traffic and therefore have the potential to become quite firm.

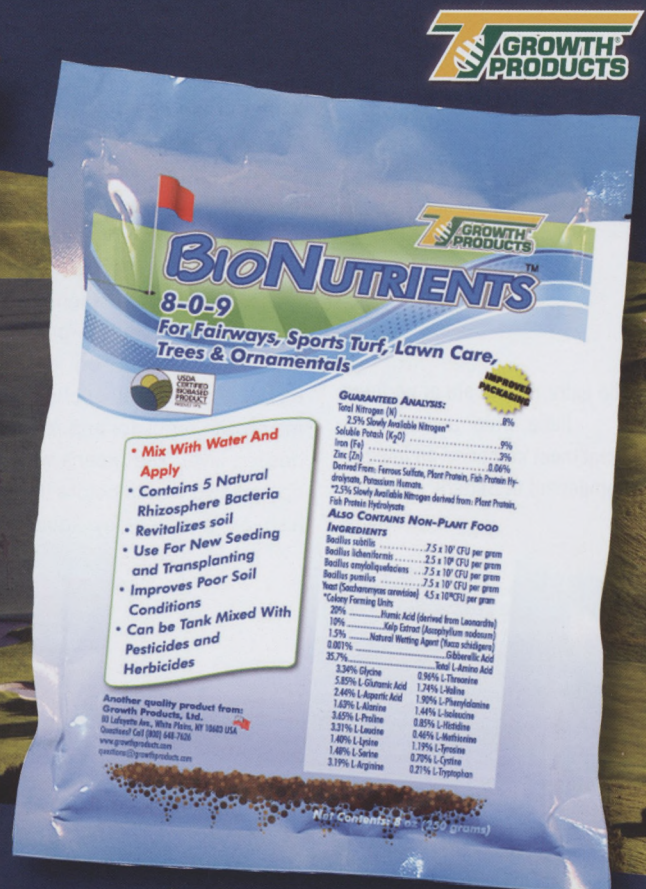


A striking feature at DLF is the rivetted bunkers and height of the faces – some of them up to 17 feet high. The rivetted look is achieved using a geotextile material which is wrapped around plastic tubes filled with sand

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The DFL site is close to 250 acres with four lakes holding about 250ML for irrigation. Irrigation is via retreated water collected from the surrounding residential communities. Pictured is the 5th island green



The back nine is predominantly man-made with the land originally quite flat, rocky and arid

In the extreme climate of northern India, water and moisture management comprise an integral component of Satterly's cultural practices



The use of different wetting agents has been helpful to manage moisture along with a frequent needle tine programme. I try and maintain the air/soil/water ratio as best as possible. Each green has a Sub Air unit that helps to pull moisture through the profile and move air into the rootzone, while on some greens we use fans to increase air circulation.

TOURNAMENT READY

Right on the heels of this year's Monsoon season, DLF played host to the Ladies European Tour's (LET) Hero Women's Indian Open from 18-21 October. It is the fifth time the course has hosted the event, but this year was the first time this event was broadcast live to 105 countries.

With the Monsoon season ending mid-September this year, we had a 4-5 week window where we could ramp up our maintenance practices for the tournament. We had our IPM programme dialled in quite well and came through the most challenging part of the year with full turf cover on all playing surfaces. With a good base to start from it wasn't too much of a stretch to take it up a notch and be ready for the LET when they arrived.

During the Monsoon season we used plant growth regulators as part of the maintenance programme based on a Growing Degree Day model. As the weather changed we slowly came off the growth regulator and reduced the speeds to the desired level. The greens were needle-tined weekly up until two weeks before the tournament and were also on a seven-day liquid fertiliser and dusting

programme. Brushing and grooming the greens were also a significant part of preparations.

The tournament itself went very smoothly and some good weather helped with our preparations. Morning preparations were for a two-tee start at 7am which included the practice facility, mowing out all the short grass (single mow on greens), checking greens moisture and hand watering as required, bunker set up, hole changing and clean up.

Evening preps included a single mow and roll on greens (depending on speed). We were losing about 4-6 inches during the day so the evening mow and roll was primarily to smooth them out after the day's play and manage their speed. The evenings also saw the team do a sweep of bunkers and checking on sand depth and firmness, fairway and tee divotting and general course clean up.

The Tour requested green speeds between 10-10.5" as the greens here are quite undulating and can become quite challenging at higher speeds.

While preparing for the LET event, we were also planning for one of the biggest cultural activities we undertake here at DLF – the annual oversow. Every year we overseed the course with ryegrass in preparation for winter which is the peak golfing season in northern India. The weather at this time of year is perfect for golf and many people return to India from abroad to be with friends and family and hence we see a significant increase in rounds.

The week after the Open had finished we began preparing the playing surfaces for the overseeding as well as keeping the course open and maintaining decent playing conditions. We treat each playing surface a little differently, but generally we are trying to open the canopy up enough to receive the seed and create some seed-soil contact.

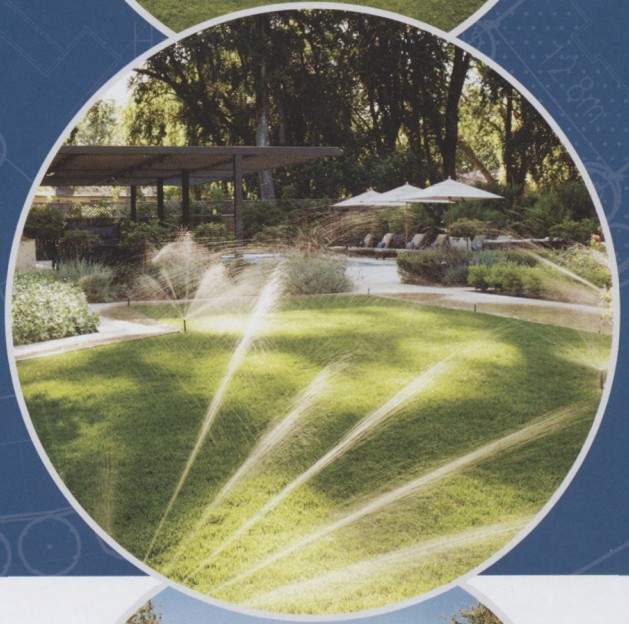
It can be challenging at times as you cannot be too aggressive with the preparation. What you go into the winter with is what you will come out with and being too aggressive when preparing for the oversow will mean significant transition issues come spring/summer. Going in too hard during the winter preparation can mean a lot of sodding during the summer and it then becomes difficult to catch up on and complete any planned summer projects.

The ryegrass will generally last until May where day and night temperatures start to increase significantly. During this time, we will start transitioning out the ryegrass and returning the course to full bermudagrass for the summer months.

During my time in India and at DLF Golf & Country Club I have been exposed to a lot of interesting experiences from both a cultural and turf management perspective. India is truly a country of great cultural diversity with 22 languages spoken throughout the nation. The food is simply delicious and each part of the country is famous for different styles of cuisine. From a turf management perspective it has challenged me in ways that I haven't been challenged before and there is never a dull moment – just the way I like it! 🙏

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Killara Golf Club is one of the first clubs in Australia to install EcoBunker synthetic revetting in all its bunkers

The Killara Golf Club reconstruction works kicked off in the first week of May 2018. Scheduled reopening is May 2019

Killara breaks new ground

Killara Golf Club is undergoing a major course transformation not only in terms of its greens, tees and bunkers but also with its turf varieties writes superintendent Ryan Fury.

Sir Grange zoysia



Killara Golf Club, located on Sydney's north shore, is a multi-sport venue that includes an 18-hole golf course, two bowling greens, tennis and squash courts. The club will celebrate its 125th anniversary in 2024 and the vision for this celebration is the upgrading of facilities to meet modern demands. Part of this upgrade includes the redesign and reconstruction of all greens, bunkers and more than three quarters of the teeing areas under the auspices of course architect Harley Kruse.

PLANNING AND TRIALLING

Reconstruction works kicked off in the first week of May 2018 after several years of careful planning and trialling of different methods, materials and turf varieties for both greens, surrounds and tees.

Over five years ago, a bentgrass trial began involving several varieties and blends, including Tye, A1/A4, Mackenzie and Dominant Extreme and Pure Distinction. As a result of this trial work, together with input from the club's consulting agronomist John Neylan, it was recommended that Pure Distinction be used on the greens, which was ultimately accepted by the committee.

Other trial works included looking into different construction sands with not many available in Sydney. The search net was cast far and wide and we settled on a special 'Killara blend' from Eulonga Quarries, near Coolac in rural NSW, which drains well and maintains good firmness.

The final piece of the trial puzzle has seen the club step out of its comfort zone a little, with zoysia grass chosen for the surrounds and tee tops. Zoysia isn't used much in Australia at present but will boom soon. For the past three years we have been trialling Sir Grange zoysia (or Zeon as it is known overseas) in some of our worst growing environments, including those that receive full shade over the winter period and which normally turn to dirt.

For two straight winters the zoysia powered through even under overuse conditions. It didn't wear out and maintained great cover all winter, and coming into the warmer months thrived better than anything I have seen before. John Neylan has also been following our trials and had no hesitation to recommend this grass to the board which they ultimately approved.



PHOTOS: BRETT ROBINSON



Above: After an extensive search for a suitable greens construction sand, a special 'Killara blend' has been sourced from Eulonga Quarries near Coolac in rural NSW

Left: Pure Distinction was chosen for the new greens after a trial of various bentgrass varieties on site over a five year period

Left: Killara superintendent Ryan Fury (right) with assistant Dean Hardman

Below: All greens, surrounds and bunkers are being rebuilt together with most of the tees

GROUND BREAKING

All greens, surrounds and bunkers are being rebuilt together with most of the tees. The spare hole – 14A – comes into play while the old par three 11th is removed, while two holes have been reversed – the old 5th and 6th. Fairway bunkers have been filled in and some landing areas have also been tweaked.

The best way to describe how we are completing the works is as an owner builder. We have a mixture of in-house staff, former staff returning for the project and some excellent contractors completing the job including Miles Raicevich (Links Construction), Lindsay Richter and Luke Sanders (both Atlas Golf) and shaper Peter Waddell.

In addition to the zoysia, another first is the use of EcoBunker synthetic revetting for the bunkers, while Capillary Concrete is being used in the bases to assist with drainage. The Sir Grange zoysia on tee tops and green surrounds has been supplied by Jimboomba Turf and along with the Pure Distinction greens is growing in nicely. The project is due for completion mid-2019.

Editor's Note: A full look at the Killara redevelopment will feature in ATM once the project is completed. 🏠



Left: Killara is using Sir Grange zoysia on tee tops and greens surrounds

Giving the new greens a roll





Right at Home

Three Australian assistant superintendents got the opportunity of a lifetime after being chosen to be part of Toro Australia's inaugural Assistant Superintendent St Andrews Internship in July.



The Home of Golf, St Andrews, is a mecca for any greenkeeper or turf manager and for three Australian assistant superintendents they fulfilled a career-long dream recently by getting the opportunity to work on the most hallowed turf in the game.

In July, Stuart Campbell (Maroochy River Golf Club, Qld), David Hurst (Cromer Golf Club, NSW) and Liam Scott (Keysborough Golf Club, Vic) journeyed to Scotland after being selected as participants in AGCSA Platinum Partner Toro's inaugural Assistant Superintendent St Andrews Internship.

The trio travelled to St Andrews Links at the start of July and had the opportunity to work at both the Junior and Senior Open. They also took in The Open Championship held at Carnoustie Golf Links, got a chance to shadow the course managers and spent time with the learning and development officer.

They were part of the grounds crew for the Junior Open which was held on the Harry S. Colt-designed Eden Course, one of seven courses maintained by St Andrews Links. The Junior Open is aimed at junior players (ages 16 and under) and held over 54 holes. In the week leading up to the 2018 event, the course was the driest it had been in many years due to above average summer temperatures. This led to reduced cutting regimes and allowed the crew to focus on the finer details of course presentation. The Senior British Open was held on the Old Course for the first time in the championship's history.

"Our time on the Old Course was spent during the preparation for the lead up to the tournament," says Campbell. "Tasks included hand-mowing greens, changing holes for the practice rounds, levelling bunkers and some last-minute touch-ups. The Old Course is always in a condition that is so close to perfect that it only takes the smallest of tweaks to have it prepared for any major championship."

The rest of the interns' time was spread out over the other courses that make up the Links which include;

- The New Course (the second course built at the Home of Golf, designed by Old Tom Morris in 1895);
- The Jubilee Course (the Links' third championship course, opened in 1897);
- The Strathtyrum Course (opened in 1993);
- The Castle Course (opened in 2008, the newest addition to the Links stable); and
- The Balgove Course (nine-hole course opened in 1987).

All three assistants agree that working at St Andrews was amazing. The courses are well staffed with personnel being able to give certain tasks their undivided attention.

"The tournament organisation there is fantastic," says Hurst. "The pre-planning that goes into major events is meticulous, covering all jobs and maintenance tasks for the day's play. Changing weather conditions were the only reason for changes

to the daily work schedule. Both tournaments ran very smoothly and there was only one disruption due to a fog delay.”

All three consider themselves lucky to have been working with great crew members and in well equipped maintenance facilities. Many friendships and professional relationships have been formed, not only with the other interns but also with some of the St Andrews and seasonal staff. As Scott puts it, “I loved every moment of my trip – good bunch of blokes at all courses.”

Something that caught the assistant superintendents’ attention immediately upon arrival is that the St Andrews courses are kept very natural looking and dry. Campbell admitted that when they first arrived at St Andrews, initial thoughts were to “put some water on the place” as it was so dry. However, as time went by they really developed an appreciation for the dry look and the surface it actually produced.

“This is not something that we can replicate in Australia as climate conditions here would mean we would have dead turf and cracks in the fairways,” Campbell says. “But I think we sometimes tend to overthink things and have higher inputs into growing grass compared to Scotland. A lot can be said for the KISS method (keep it simple stupid) and this is something that I am trying to think more about now when problem-solving at work.”



The difference in climate and growing conditions was also one of the biggest things Hurst and Scott took away from their time at St Andrews Links. “I really enjoyed seeing how far they are willing to push the turf in regards to moisture percentages,” says Hurst.

Adds Scott: “The climate and conditions of Scotland make turf management different from what we have in Australia. There is (normally) little heat and disease pressure and stress with the purity of the turf playing surfaces. The links theory of basically cutting and maintaining whatever grows on the site definitely comes into play at St Andrews.”

The highlight of the trip for all three assistants was, not surprisingly, being able to actually work at St Andrews. As Hurst comments: “It’s ‘The Home of Golf’ and you can feel that when you are there. The

Opposite page: From left David Hurst, Stuart Campbell and Liam Scott on the famed Swilcan Bridge at St Andrews. The trio spent time at the Home of Golf working the Junior and Senior Opens as part of Toro’s inaugural Assistant Superintendent St Andrews Internship

Left: The trio got to experience tournament preparations as well as gain an insight into the unique management practices employed

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In addition to working the Junior and Senior Opens, the Australian trio also visited Carnoustie which hosted The 147th Open Championship



Old Course is so unique and has a history like no other. You know that you are in a very special place when you walk the fairways.”

Scott agrees and says that getting to see and work on the most famous golf property in the world and seeing, feeling, learning and understanding the history of golf was nothing short of amazing.

All three assistants expressed their gratitude to Toro Australia and St Andrews Links for making the internship possible, with special mention to all St Andrews staff headed by the soon-to-retire Gordon Moir, whose organisation, advice and acceptance was invaluable.

“To be actively involved in the Senior and Junior Opens was nothing short of sensational and gave great insight into the expectations and challenges which we will all face in our jobs in the future,” says Campbell.

“I can’t thank Toro enough,” adds Hurst. “This experience has given me a passion to take back to my club to become a great team leader and above all a future superintendent.” And the final word from Scott? “I’d definitely recommend to all assistants to put an application in for the next trip! It goes to show that hard work and dedication pays off and can take you to great places.” 🌿

ST ANDREWS INTERNSHIP – CLASS OF 2018

STUART CAMPBELL

Maroochy River Golf Club, Qld

Campbell has been an integral part of the establishment team of Maroochy River Golf Club (formerly Horton Park Golf Course), managing the herbicide programme and all permanent and casual staff involved with the grow-in at the new location.

Campbell started at Horton Park Golf Course in February 2010. He currently organises the staff on a day-to-day basis and sets work programmes for the week, allowing superintendent Pat Pauli to concentrate on other issues. Campbell was employed because of his experience at top Melbourne clubs and also his involvement with golf course construction. He is a very committed greenkeeper and among his many strengths are his attention to detail, which is important when looking for course presentation, and his rapport with staff.

He received the 2015 GCSAQ Assistant Superintendent Recognition Award and in 2017 successfully completed his Certificate IV in Leadership and Management. For the past three years, he has also filled the volunteer position of GCSAQ treasurer.

DAVID HURST

Cromer Golf Club, NSW

David Hurst has been assistant superintendent at Cromer Golf Club in Sydney for the past five years. Superintendent Leon Hennessy, who nominated Hurst for this opportunity, says that he is a passionate turf manager with an eye for detail and perfection.

For Hurst, the golf industry is a way of life. His love of golf began as a junior, representing Woodlands Golf Club in Melbourne in pennant golf, while many of his holidays include visiting and playing golf throughout Australia and overseas. During his career, he has worked at Los Angeles Country Club as part of The Ohio Program and on five occasions he had the opportunity to prepare Riversdale

Golf Club in Melbourne for the Riversdale Cup, Australia’s premier stroke play event.

While at Cromer Golf Club, Hurst has progressed from second assistant to assistant superintendent. An enthusiastic and dedicated professional, his roles include;

- The management of all golf course operations;
- Input into short-term projects and long-term course development and management;
- Proactively mentoring junior staff; and
- Liaising with club members and board members.

LIAM SCOTT

Keysborough Golf Club, Vic

Liam Scott, assistant superintendent at Keysborough Golf Club in Melbourne, started in March 2010 and stood out from the very first day according to superintendent Chris Allan. Scott’s main strength is his passion towards the industry. He has a strong ability to listen and absorb information and he is very comfortable in communicating with a diverse group, ranging from the greens committee, management and membership.

Scott finished his apprenticeship at Keysborough in 2013 and went on to do The Ohio Program, where he was placed at Muirfield Village in Columbus, Ohio, home of The Memorial Tournament and host of the 2013 Presidents Cup. Upon returning to Australia, he got offered the foreman position at Keysborough and has since progressed to assistant.

Scott continues to develop his skills where he can by enrolling into further study, as well as volunteering at tournaments – including the 2016 World Cup of Golf (Kingston Heath) and the 2013 World Cup of Golf, 2013 Australian Masters and the 2012 Australian Women’s Open all held at Royal Melbourne.



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Australia's turf
doyen Peter
McMaugh

highlights the important differences between a turfgrass 'variety' and a 'trademark' to help turf managers sort fact from fiction about the grasses they choose.

What's in a name?

In my previous column I mentioned the need for everyone involved in turf to fully understand the difference between a plant variety name and a trademark. It is obvious from the feedback that I have received that this is poorly understood by far too many people working with turfgrasses.

In order to understand it fully you need to go back some basic steps. Grasses, like all other plants, are classified (given names) in what is called the Linnaean classification system. This assigns a series of names from a broad start down to an individual plant. It goes from distinguishing it from all the dicotyledons (two seed leaves) to a monocotyledon (one seed leaf), then goes into a grass family hierarchy of taxa (groups) as follows;

Warm-season grasses	
Family	Poaceae
Sub Family	Eragrostoideae (1 of 5)
Tribe	Chlorideae (10/7)
Genus	Cynodon
Species	dactylon
Cool-season grasses	
Family	Poaceae
Sub Family	Pooideae
Tribe	Agrosteae
Genus	Agrostis
Species	stolonifera

These two examples show how we come down to identifying a species grass type. This is done through various characteristics of the morphology (structural elements) of the grass, but is generally centred around the characteristics of the seed head (flower).

When we get down to the species, it is defined by its ability to sexually reproduce and produce viable offspring which can in turn reproduce sexually. Most grasses are obligate cross breeders. That is, while they have both male and female organs on the same plant, these do not usually cooperate with one another but only with the gametes (pollen or ovule) of another plant. This gives wide genetic diversity which is then expressed in the appearance of the offspring (phenotype).

When plant breeders are trying to improve crops, especially seed crops, they will select their parent lines for very explicit characteristics and try to create 'super' lines expressing these characteristics. They may create say up to six selected genetically. These in genetic speak are called F1's (no, we are not talking aeroplanes). By crossing these F1's they create F2's from which they will select further progeny for crossing.

These lines will then, maybe, be back-crossed onto the F1 parent to increase the strength of the character selected for, but sometimes this inbreeding process will weaken the plant overall. If a breeder wants to overcome this bottleneck, they will take a similar but genetically different genetic line and cross it with their original line. This often produces an explosion in vigour and is called intraspecific hybridisation (i.e.: within species hybrids with hybrid vigour).



This must not be confused with the crossing of differing species. This can occur naturally within some genera, as is the case with a cross such as Tifway which is a naturally occurring hybrid between *Cynodon dactylon* and *Cynodon transvaalensis*. This is an interspecific hybrid and the progeny is described as *C. dactylon x transvaalensis*. This is an outside the species cross and is normally sterile.

This sterility is caused by the fact that the two species involved have different chromosome numbers. *C. transvaalensis* is a diploid (i.e.: it has a x2 set of the basic chromosome number of nine for the genera). This numbering is called the haploid or basic number. *C. dactylon* has a x4 set of nine. This gives the cross a x3 set which when cell division tries to line them upon the mitotic spindle strands, they don't fit and so there is no gamete produced that is viable.

I have deliberately gone through this rather tedious exercise to illustrate a few things;

- I have often heard turfies calling Wintergreen and Windsorgreen 'hybrid' couchgrasses. They are not in any way a hybrid any more than Grand Prix or any other straight *Cynodon dactylon*.
- Not every grass with the 'Tif' prefix is a hybrid. The most familiar ones – Tifgreen, Tifway, TifEagle and Tiftuf – are true interspecific hybrids. That is, they are *C. dactylon x transvaalensis*, with a x3 chromosome set of 27 (i.e.: one of 18 and one of nine from their respective parents).
- When a grass is released by its breeders it is in the current climate more usually than not patented in some way or other. In this process the plant variety name by which it is officially recognised is established.

Here's an example. Some years ago the Tifton research station patented a new triploid variety as DT-1. The initials were an important guide to their claims in the patent. DT stood for 'drought tolerant'. So the only correct variety name for this grass is DT-1. Also registered as a trademark, quite separate from the grass itself, is the brand name 'Tiftuf', under which DT-1 is sold commercially. This

is not the variety name but the commercial identity for marketing. This trademark is not limited to DT-1. Other grasses could be released using it or a variant of it.

These are the facts which are established by the way the owners use the patent system. While it is important to realise that in the USA vegetatively reproduced plants are not covered by PBR (Plant Breeder's Rights), as they are here and in Europe, the USA has a separate plant patent system (PP) for these. The end result commercially is the same.

All plant patents, whether PBR or PP, have a life of 20 years. That is, after 20 years the owner/breeder of a variety ceases to be able to call the tune on who/where/how it is grown and sold. This is where the commercial importance of the trademark system comes into play.

TRADEMARKS

Trademarks are an intellectual property system involving brands. It is a system which is independent of PBR and is administered in this country along with PBR by IP Australia. Commercially it is the way of extending the sales life of a plant variety at the end of its patent life.

A very good example of this is 'Sir Walter' buffalo. When it was put through the PBR system,

There is no system in Australia which offers objective varietal performance data the way that NTEP does in the USA. This is a worry

When plant breeders are trying to improve crops, especially seed crops, they will select their parent lines for very explicit characteristics and try to create 'super' lines expressing these characteristics



Not every grass with the 'Tif' prefix is a hybrid. The most familiar ones – Tifgreen, Tifway, TifEagle (pictured) and Tiftuf – are true interspecific hybrids



'Sir Walter' was given as the variety name. It has no other synonym. Now 'Sir Walter' has been marketed superbly to achieve dominance in the domestic buffalo market. Its owners could not achieve a trademark under that name because the PBR Act specifically states that a plant variety name cannot be used as a trademark and vice versa.

Because of this, to try to capitalise on their already successful market identity, they resorted to obtaining a trademark as 'Sir Walter DNA Certified', which they can now use for marketing their version of 'Sir Walter'. Does this mean that other people growing and selling 'Sir Walter' are growing an inferior or different product? No, they are identical. Does the trademark carry any guarantee about DNA testing? No. Does the trademark offer a 'certified' grass? No.

The trademark office in allowing the trademark makes explicit that the words of the trademark are registered as a 'whole' (i.e.; they are just another name). Thus the thrust of the marketing campaign by the owners becomes one of trust – trust our product more than any other. The obvious impression which is trying to be conveyed is that we have something that the others don't. And that is right. They have a different name, not a different product. The essence of the product, the grass, remains the same no matter what you call it or brand it. Thus differentiation becomes a marketing matter not a scientific one.

Another example of this, which has had many years of exposure in the industry, is the so-called couchgrass 'variety' Legend. Legend is not a variety name. It is a trademark. The correct variety name is that given to it by the breeder, in this case 'C1'. This grass, C1, is a public domain variety, never having been put through the PBR system, even though it

could have been. Its owners decided not to pursue that option. The practical legal impact of this is that anyone who wishes can grow and sell C1 provided they don't call it 'Legend'. Another practical difficulty today is that if you wanted to go down that path you would be flat out finding pure strain nursery stock.

Another practical implication is that all those tender documents which over many years have specified the couch grass variety 'Legend' are wrong in fact, and leave some rather large open questions for the lawyers to argue over. Yet another important practical implication is that you can have 'Legend' supplied legally validly as pure strain Legend or contaminated Legend. Both fit the legal obligations of the Trademarks Act as far as I can see. Maybe the lawyers beg to differ, but they haven't as yet won a dispute in this area.

The problem with the law is there are many facets to arguments of this kind and the obviously simple ones to you and me don't always win. Where lawyers are concerned steer clear of them unless you have money to burn. The marketing of 'Legend', like Sir Walter, has been a very successful exercise and I have no doubt that most of you will continue to call it Legend and not C1.

SORTING FACT FROM FICTION

I hope that this wade through history has made it a lot clearer as to the differences between a 'trademark' and a 'variety' and help you to sort fact from fiction about the grasses you purchase.

As a final word or two, no matter how fancy your market names or trademarks are, nor how distinctive your new variety is, these have absolutely no impact whatsoever on performance or suitability of purpose on their own. These are only useful in an identity crisis.

Where they are important is in sorting out whether you are getting a pure strain grass or a contaminated one. Ninety percent of the time this is an aesthetic argument about the visual look of the product. However, there is a very important side of choosing the right variety as fit for purpose and this is the defining description of what quality implies.

True quality performance has nothing to do with varietal name or trademark other than that if historically this variety sold under that trademark is ordered by you as a matter of trust in their historical performance, then you want a guarantee that that is the quality you are getting. That is where 'certification' comes in.

In general, while the scientist wants certainty about the genetic package he is talking about in his research paper, and that is given by the correct variety name, the practitioner wants quite a different certainty from that variety and that is fitness for purpose. This is where getting the facts about varietal performance is so important.

There is no system in Australia which offers this objective data the way that NTEP does in the USA. This is a worry. 🌿

"I have often heard turfies calling Wintergreen and Windsorgreen 'hybrid' couchgrasses. They are not in any way a hybrid any more than Grand Prix or any other straight *Cynodon dactylon*."

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With drought affecting large parts of the country at present, ATM expert agronomist John Neylan looks at the importance of reviewing water management plans and also passes judgement on the recent ABC Four Corners report on glyphosate usage.

Above: As we head into the summer months, undertake an internal audit/check of the operation of the irrigation system to make sure there are minimal losses through leaks and poorly operating sprinklers

As I sit down to write my regular column for this edition of ATM, I do question the need to be talking about water management again. Following a very dry winter, the summer was looking grim in terms of water availability and the potential for ongoing drought conditions and the implications for turf management.

Just as you think it is all very straightforward, we appear to have had plenty of rain on the eastern seaboard and as I write this parts of Sydney have copped more than a month's worth of rain in a single day with the biggest November fall in three decades. I think what we are seeing is the fickle nature of our weather systems. Localised storm events and a shift in the driest and high stress periods appear to be occurring further into the summer months and late autumn. These conditions I believe are confirmation of a changing climate.

In my paper on 'Turf Management in a Changing Climate', presented at the Australasian Turf Conference earlier this year in Wellington, I cited The R&A's 'Planning for changing climate' document which has been produced to alert the golfing industry to be aware of the challenges of extreme weather and to plan for change.

The paper highlights that the planet's climate is shifting and more extreme conditions and increasingly unpredictable weather patterns can be expected in the future. This is undoubtedly the case in Australia. With more extreme weather it is expected that this will have a major impact on the way golf courses must be managed and

it is important to ensure that the management programmes can cope with whatever the weather throws at it. The R&A is promoting a sustainable approach to course management to provide the best chance of stability in unpredictable times.

Irrespective of the immediate situation, it is still important to look at the longer term outlook for water availability and the possible implications. In referencing the Bureau of Meteorology's (BOM) Monthly Weather Review for Australia September 2018 (www.bom.gov.au/climate/mwr/aus/mwr-aus-201809.pdf) the numbers were quite compelling;

- Australia's driest September on record;
- Overall, mean temperatures were above average;
- Warmer than average daytime temperatures;
- Individual states were also very dry with Victoria experiencing its second-driest September, and both Western Australia and South Australia reporting their third-driest September on record.
- There were small pockets throughout Western Australia, Northern Territory and northeast New South Wales that received above average rainfall.
- September maintained a consecutive run of 23 months of warmer than average days for Australia as a whole.

In the BOM's November 2018 drought report there was some interesting follow up information that is worth considering when it comes to longer term water management planning. October rainfall again reinforced the sporadic nature of our rainfall

events with below average for southeast Australia but above average on the east coast and in southern Western Australia.

Importantly, the BOM stated that that lower-level soil moisture was below average for October across much of eastern Australia and scattered areas of the coastal north and far southwest Western Australia. The most compelling statement being that meteorological drought is rarely broken in a single event or month; typically regular rainfall over a period of several months is required to remove rainfall deficiencies of the magnitude of those currently in place.

In the BOM's Special Climate Statement 66 – 1 November 2018 (www.bom.gov.au/climate/current/statements/scs66.pdf) – they stated that the recent dry conditions in eastern Australia have few precedents for their combination of extent and duration. As well as being a very dry year, 2018 has been very warm, soil moisture has been low and evaporation has been high. This is the double whammy of low rainfall and greater water loss through evapotranspiration.

TAKING STOCK

Thinking of the longer term strategies for water management, even if there has been recent rainfall, it is still a good time to review your water management plan. A few of the key questions to answer are;

- How much water do you have available to you?



- How much water do you need? It is important to understand the water requirements to produce a particular turf quality.
- What is the source of water?
- How sustainable is the water supply? What do you know about the source of the water and what is the impact of extended dry periods on the security of supply?
- What is the water quality?
- What is the total cost of the water? This needs to include the costs of pumping the water and treating it.

As well as being a very dry year, 2018 has been very warm, soil moisture has been low and evaporation has been high

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In the case of sportsfields, a loss of pressure is often a reason for poor water distribution and inefficient use of water

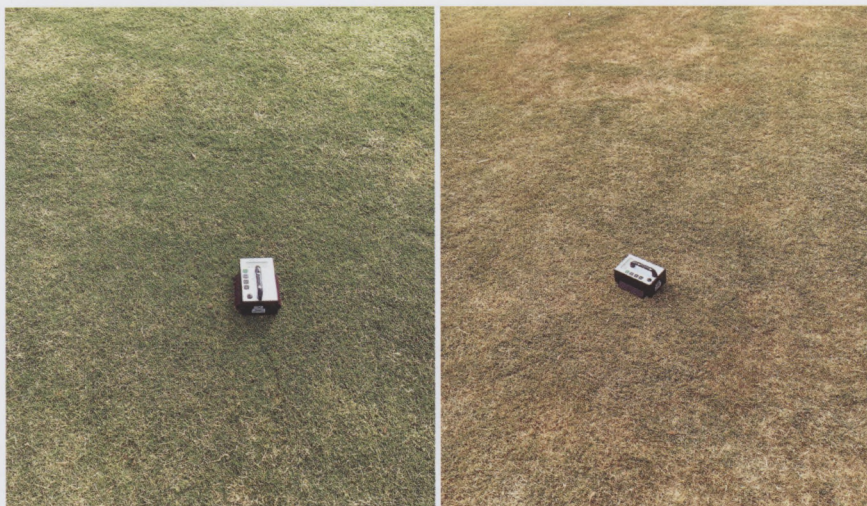


- Do you have a strategy in place based around the available water supply and how will it be allocated as the water supply diminishes?
- How efficient is the irrigation system?
- Are there other sources of water available?
- Do you have security of supply and an agreement with the relevant water supply authority where applicable?

As we head into the summer months the following water management actions need to be considered;

- Review the irrigation scheduling in terms of the amount applied and frequency of application.
- Create some 'trigger' points around the available water volume at which point the application of water is prioritised to particular turf areas and/or reduced. The process of reducing water is better undertaken as a gradual process rather than stopping the application of water when the available water supply is at a critical level and placing the turf into sudden drought shock. This gradual reduction allows the turf to adjust or adapt to the reduced amount of available water.
- Check the water quality throughout the year, particularly as the summer progresses when there will be invariably an increase in salinity, sodium, chloride and bicarbonate. Undertake a complete water analysis immediately with follow up tests every month.
- Undertake an internal audit/check of the operation of the irrigation system to make sure there are minimal losses through leaks and poorly operating sprinklers. In the case of sportsfields, a loss of pressure is often a reason for poor water distribution and inefficiencies.

Trust the robust nature of couch and other warm-season grasses and exploit their excellent drought tolerance. Couch has the ability to survive a dry summer with only a few deep irrigations and still provides a good surface when dry



- Trust the robust nature of couch and other warm-season grasses and exploit their excellent drought tolerance. Couch has the ability to survive a dry summer with only a few deep irrigations. The important part of this strategy is deep watering. In my experience very few warm-season grass sports turf areas are irrigated to the depth of the rootzone.
- Manage expectations. Good communication is absolutely critical in making sure that user groups are fully aware of the water use strategy and the short- and long-term implications of managing turf during extended dry periods.
- When rainfall is predicted, look to undertake surface aeration and put out a wetting agent to optimise water penetration.

Climate change will continue to impact on water resources into the future and it is likely that there will be less water available for recreational turf. With the increasing demands for the available water supplies and the increasing focus on turf management and its environmental stewardship, it is essential that every turf area has a water management plan. Water management planning identifies works and practices that will improve irrigation and drainage management and water use efficiency for the golf course.

FOUR CORNERS REPORT ON GLYPHOSATE USAGE

On 8 October 2018 the ABC 'Four Corners' programme featured the potential problems surrounding the use of glyphosate. The Four Corners episode questioned the safety of glyphosate products registered for use in Australia following a decision in the Californian Superior Court to award damages to a man who alleged that glyphosate-based weed-killers caused his cancer. As an agronomist and given the widespread use of glyphosate in the turf industry, I was very interested in what the programme had to say.

Having recently watched the report for a second time, it is certainly a slick production albeit somewhat alarmist, occasionally confusing and a superficial discussion of the data. In fact there was minimal science discussed. There was a fair degree of Monsanto-bashing as well as questioning the independence of the Australian Pesticides and Veterinary Medicines Authority (APVMA). In my opinion, by the end of the programme there was no satisfactory conclusion with a large number of statements left floating without resolution.

In my mind, from a turf management perspective, a key matter left floating was the use (or lack of) of personal protective equipment (PPE). In interviewing one individual that claimed to have become ill from using glyphosate, it was mentioned that clothing and footwear were soaking wet after applying Roundup. The question that I would have liked to ask was what PPE was being worn and what precautions were taken? A constant theme through

the programme was that Roundup was promoted as being safe. Did this create a false sense of safety and therefore PPE was not considered necessary? Was the label read and understood by the user?

Assuming there was some truth in the discussion, the question is then who to trust for the detailed analysis. This undoubtedly has to be the APVMA. In a media release made after the Four Corners episode, the APVMA stated that they had considered the evidence presented in the Californian case and found no grounds to take regulatory action in Australia.

The APVMA went on to explain that Australia has a risk-based, scientific approach to regulation to ensure that each agricultural chemical product is thoroughly and independently assessed by the APVMA prior to registration and supply. Anyone that has had a discussion with a chemical manufacturer would soon understand that getting chemicals registered in Australia is a long and arduous process.

It is important to note that the registration system is supported by a range of post market surveillance, compliance, audit verification and review activities that ensure products available in Australia continue to be used safely and effectively. As we have seen in recent years, pesticides such as carbendazim and fenamiphos have been taken off the market following such reviews. The APVMA emphasised that regulatory decisions take account of extensive scientific information.



I think that the final word comes from the APVMA in their summation of the glyphosate issue. Glyphosate is registered for use in Australia and APVMA approved products containing glyphosate can continue to be used safely according to label directions.

Australian law requires appropriate warnings on product labels, which include relevant poisons scheduling, first aid and safety directions detailing PPE when handling and using products containing glyphosate. The APVMA reminds users of the importance of following all label instructions. 🌿

It goes without saying, before any chemical is used, read the label, take heed of all the warnings and wear the appropriate PPE

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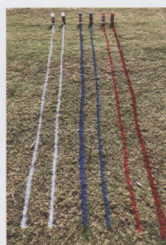
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Following the 2011 Queensland floods, then AGCSA Board member

Pat Pauli toured many flood-affected courses with AGCSATech.

Pauli's concern, compassion and understanding for his fellow greenkeepers during such a difficult time provided solace to those that were affected



A TRUE GENTLEMAN OF OUR PROFESSION

I recently had the pleasure, along with many other turfies, to celebrate Pat Pauli's working life as a golf course greenkeeper and course superintendent. Pat, course superintendent at Maroochy River Golf Club (formerly Horton Park) on the Sunshine Coast, is a genuinely wonderful person in an industry full of great people. This event was yet another reinforcement of the comradeship that bonds people together in what is a very challenging profession.

My very first meeting with Pat was when he was a finalist for the 1999 AGCSA Fellowship Award (now known as the Excellence in Golf Course Management Award) of which I was one of the judges. Pat had a great story to tell about managing his golf course ('The Swamp') and his involvement with the GCSAQ. Needless to say, Pat went on to win the award.

I was fortunate to be working at the AGCSA when Pat was co-opted onto the Board in 2007. Pat never failed to provide a great insight around the issues of the day. He sat quietly at the Board table and when he had something to say it was usually somewhat outside of the box and created great food for thought. He always had the knack of getting to the nub of the issue with minimal bull.

Pat was a great supporter of the AGCSA staff, with his caring attitude and interest in what everyone was doing. As with all of the Board members at that time, they were always ready to roll up the sleeves and help out with whatever task was requested of him. Pat wouldn't hesitate to ring a member that had concerns regarding the AGCSA and to listen to their concerns – a very caring person.

Following the 2011 Brisbane and Queensland floods, I was fortunate to have Pat by my side as we visited as many golf courses as we could that had been affected. We went as far as Dalby (a long way for a city slicker like me) and it was Pat's concern and understanding for his fellow greenkeepers and their plight that provided some solace to those that were affected.

What I learnt from that trip was Pat's love of rural life and there were plenty of stories about weather, river systems and growing cotton. Undoubtedly, a slightly frustrated farmer lurked not far below the

surface. I should have realised this passion for the rural life when Pat accompanied me to a meeting at the John Deere factory on the outskirts of Brisbane and seemed more interested in the monster cotton harvester than the latest greens mower!

Pat was a great supporter of the 'walk 'n' talk' concept as a means of engaging with golf course superintendents that were maybe not members of the state or national associations and who weren't regular attendees at formal field days and conferences. Again, it is that care towards others and gathering them into the turf community that was a great strength of Pat's.

Pat has been the superintendent at Horton Park (now Maroochy River) since 1982 and in his own words it was described as "the swamp". A challenging time was ahead and Pat has worked through all of the difficulties including the general uncertainty around the move from the Maroochy site to the new golf course on the Maroochy River. Having spoken to Pat on many occasions about the conflict that such a move invariably causes, it was his care and deep thought about the issues that had him at the forefront of making sure the right thing was done.

In my time at the AGCSA, and particularly when I was in the GM role, it was always reassuring that Pat was there checking on the finances (the greatest Treasurer ever!), asking the pointed questions to make sure I was sure of what was being proposed and making sure that the staff were happy at work. Pat still thinks that in some way he and the Board was responsible for my heart attack! Rest assured Pat you weren't!

I want to quote from Pat's invitation which I believe sums him up and I believe the world of golf course superintendents: "Pat and (wife) Deb would like to celebrate and say thank you to all the wonderful people they have met and who have played a part over the course of Pat's working life. Our way of saying thank you."

On behalf of the turf world, let me thank you Pat for your work and to Deb for allowing you to be involved at an association level. You are one of the true gentlemen of our profession. 🌿

- John Neylan

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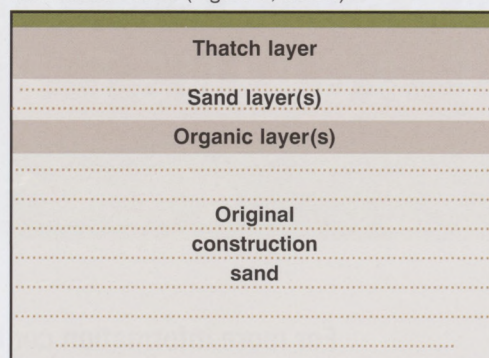


Thatch-mat development on new greens

Gary Beehag and Peter McMaugh look at their recent research project investigating thatch-mat and root architecture beneath new bentgrass putting greens.

Accumulation of partly-decomposed organic matter beneath turfgrass is a normal phenomenon which progressively increases because of an imbalance between its rate of accumulation and decomposition. The biological causes, consequences and management of excessive organic matter accumulation beneath turfgrass swards is widely documented, particularly of aged golf greens.

The most widely published definition that describes thatch is probably "an intermingled organic layer of dead and living shoots, stems and roots that develops between the zone of green vegetation and the soil surface". The combined term 'thatch-mat' describes the total accumulation of organic material above the original level of construction sand (Figure 1, below).



Right: Figure 1. Diagrammatic illustration of thatch-mat

Above: An example of a highly-stratified sample taken from a putting green as part of the thatch-mat and root architecture project

Superintendents' comments and trial results has led to several authors stating the newer-generation, bentgrass cultivars have a propensity to produce much greater amounts of thatch accumulation particularly during the first 12-24 months after seeding. Other authors have further stated a time frame of a seeded bentgrass green to reach "maturity" ranges only from 2-3 years, largely based on a stabilised infiltration rate. Nonetheless, maturing bentgrass putting greens require adequate thatch-mat thickness and surface firmness to 'hold' a golf ball without undue plugging or bounce when an approach shot is played.

This is why the management of thatch-mat architecture becomes critical. Hence, two key questions of superintendents after establishing a new bentgrass putting green arise;

- When to start typical grow-in practices of topdressing, grooming, aeration etc...? and
- When does the surface and root growth reach a level of 'maturity' to allow play?

Currently, these two and related questions remain largely based on subjective assessments of firmness by feel rather than any quantitative measurements carried out by superintendents.

Understanding of the dynamics of bentgrass thatch-mat architecture and root growth during the first few years of a new green is a fundamental aspect

of their management. Empowered superintendents are then able to make informed decisions about the scheduling of key cultural practices (e.g. topdressing) when bringing a new putting green into play and, to manage thatch-mat accumulation and putting green performance to acceptable levels.

OBJECTIVES

For the purpose of this research project, the authors have adopted the combination term 'thatch-mat'. The primary objective was to investigate and measure thatch-mat architecture and thickness on relatively new putting greens. The seeding date, type of construction and topdressing sands and grow-in practices was sought from the superintendents and recorded as management variables.

This study represents the first of its kind ever conducted in Australia. The authors are not aware of any similar published work conducted on new bentgrass greens in Australasia. Sampling was conducted on 30 bentgrass putting greens representing 14 golf courses around Sydney over an eight week period in June-July 2017. The courses represented private, semi-private and public courses each with 1-3 greens sampled. Three samples from each green were taken using a split profile sampler to the maximum depth of 200mm.

ASSESSMENTS AND MEASUREMENTS

The thatch-mat layer was defined as the vertical distance from immediately below the layer of green verdure to the original level of the construction sand. Thatch-mat thickness was measured using a digital readout Vernier calliper. Thatch-mat values for each sample (front, centre and rear) were recorded separately and later averaged for each green. The construction sand in the lower section was further assessed for colour and particle shape. Each sample was assessed visually for the depth of primary root growth, the degree of secondary root development and lateral branching.

RESULTS THATCH-MAT ARCHITECTURE

Clearly noticeable, structural and colour differences of the thatch-mat architecture were apparent between most samples. Microscopic examination revealed the majority of bentgrass stems were horizontally-orientated whilst primary and secondary roots were largely vertically-oriented. In all samples, irrespective of the cultivar, age of the green and thatch-mat thickness, bentgrass stems were totally absent in the underlying construction sand.

Overall, the observed thatch-mat architecture between samples ranged from very distinct, stratification of partly-decomposed organic matter and topdressing sand (see photo opposite page) to several layers of organic matter and topdressing sand (see photo top right) all the way to a relatively homogenous (i.e.; without stratification) organic matter/sand thickness (see photo right).



THATCH-MAT THICKNESS

The results, based on the nominated methodology, not unexpectedly showed that thatch-mat thickness varied widely between greens sampled. Thatch-mat thickness varied only to a slight degree (up to 5mm) within most individual greens sampled but varied significantly between most greens sampled.

In attempting to understand the environmental and management-induced dynamics at play contributing to the thatch-mat architecture and its thickness against the age of greens, the authors considered it appropriate to first consider thatch-mat thickness against age of all greens sampled then, secondly, consider the greens sampled by grouping 2-3 of the greens which were established over similar periods during a 3-4 month time frame.

The greens sampled within the one course were reported to have undergone identical or very similar key cultural programmes (i.e.; nutrition, irrigation, topdressing etc) from the time of their respective establishment and opening periods. Thus, trends of thatch-mat development should be similar.

Overall, the general trend of greens sampled was increased thatch-mat thickness over time. The greatest thatch-mat thicknesses were 30-39mm and 23-27mm and the least was 7mm. For the purpose of this investigation, thatch-mat data was extrapolated against the time of establishment of greens sampled as a possible indication of thatch-

Example of a moderately-stratified sample. Note sand-filled time hole



Example of an homogenous sample

TABLE 1. THATCH-MAT THICKNESS (AVERAGE) AND AGE

Club	Green	Established	Days	Thatch-mat	One year	5mm
L	A	Sept 2012	1772	31	6.4	286
M	C	Oct 2012	1706	32	6.8	316
J	A	Dec 2012	1694	16	3.5	530
N	A	Dec 2012	1329	25	6.9	266
F	B	Aug 2015	505	14	10.1	180
J	B	Nov 2015	634	11	6.3	288
G	A	Dec 2015	540	18	12.2	150
D	A	Feb 2016	561	18	11.7	156
G	B	Feb 2016	478	15	11.5	159
	C	Mar 2016	464	18	14.0	129
A	A	Apr 2016	431	15	15.2	120
J	C	Apr 2016	482	12	8.3	219
C	A	May 2016	435	11	9.2	193
B	A	Aug 2016	337	15	16.2	112
C	B	Oct 2016	289	10	12.6	145
K	A	Oct 2016	254	23	33	55
L	B	Nov 2016	231	7	11	165
K	B	Dec 2016	181	22	44.4	41

mat thickness attained after one year and the length of time to attain a thickness of 5mm in each case indicating a range of time frames.

Greens sampled have been grouped (Table 1) according to their month/year of establishment. Within each group, there are some similarities but also differences of the rate of thatch-mat development; thus the extrapolated thickness at one year and time to achieve 5mm. Whilst the figures for one year and thickness have been extrapolated, they can be useful to demonstrate that environmental factors (e.g. construction sand) and key cultural management practices (e.g. nutrition, irrigation and topdressing) for each green sampled would have partly contributed to the range of thatch-mat thicknesses and associated stratification.

PRIMARY AND SECONDARY ROOT GROWTH

Primary root depth in the majority of samples was observed in the range 100-150mm. The shortest root growth was 50-100mm and maximum root length was 200-250mm (see photo bottom opposite page). There was no apparent correlation between measured root growth and age of greens sampled except to say that the greens sampled having greatest root and branching were between

TABLE 2. PARTICLE SIZE DISTRIBUTION OF SELECTED CONSTRUCTION SANDS

Fraction	Size (mm)	BA	GA	HA	IA	KA	LB	MC	NA
Gravel	>2.00	0.1	0.4	0.0	0.0	0.1	0.3	0.0	0.0
VCS	1.00	2.4	9.6	0.1	0.5	0.7	4.4	0.1	0.1
CS	0.50	13.3	43.5	1.2	12.6	12.0	16.6	9.2	2.2
MS	0.25	49.3	33.7	75.1	51.7	67.7	47.5	63.7	93.1
FS	0.15	20.0	6.2	20.7	20.2	15.6	18.7	22.8	4.2
VFS	0.053	11.1	3.8	1.5	8.9	2.6	9.4	3.1	0.3
S+C	< 0.053	3.7	2.8	1.4	6.0	1.5	2.9	1.2	0.3

Key: VCS - very coarse sand; CS - coarse sand; MS - medium sand; FS - fine sand; VFS - very fine sand; S+C - silt plus clay

1-1.5 years in age. The observation of the wide discrepancy of primary and secondary root growth prompted a physical analysis on selected samples of the underlying construction sand.

CONSTRUCTION SAND PROPERTIES

Visual observations conducted of the construction sand in all greens sampled indicated a range of textures. In total, eight construction sand types were analysed for particle size distribution (PSD) using the NATA-registered laboratory Ground Science. The PSD (Table 2) of greens sampled varied between narrow to wide distributions among most samples.

In the majority of cases, the tested sands recorded a PSD in accordance with the current USGA (United States Golf Association) specifications for putting greens. Sand grain shape (roundness and sphericity) varied between sand types. Clearly, differences in sand colour and grain shape indicated the construction sands were sourced from numerous sand quarries. We hypothesise that the pore size geometry of sands is one factor to have influenced primary root growth and secondary root branching.

KEY CULTURAL PRACTICE IMPACTS

Responses to a superintendent questionnaire revealed different choices of bentgrass cultivars and key cultural practices adopted during the grow-in (i.e.; establishment to opening) and the maintenance (i.e.; opening time to sampling date) phases.

The reported grow-in phase time of greens sampled ranged from as short as four weeks (one course) to 8-16 weeks (majority of courses) all the way through to 19-21 weeks. Most greens sampled were reported to have been tined (i.e.; hollow and/or solid) during the grow-in phase from as few as 1-2 times (two courses) to 4-5 times but as numerous as 12 times (two courses) during this period. The number of reported sand topdressings varied from 2-3 (five courses) up to 6-9 times (two courses).

The maintenance phase time of greens sampled varied significantly, depending on time of opening and sampling dates. All greens sampled were reported to have been topdressed during the maintenance period. The number of topdressings varied from 1-21 times but mostly 5-7. Sand types used to topdress greens sampled were reported to range from relatively fine (dune sand) either as part of a frequent (2-3 weeks) topdressing programme or a medium-coarse (river sand) twice yearly.

DISCUSSION

The results and questionnaire responses from this investigation of thatch-mat architecture of relatively new bentgrass putting greens clearly indicated that the physical form and rate of bentgrass architectural development is a dynamically-complex phenomena and which occurs rapidly and is influenced by a multiplicity of environmental and management-induced factors specific to each green.

The results of the principal focus of this investigation leads to the interpretation that the rate, amount and physical nature of organic accumulation to primarily be a management-driven response and interpreted largely as a reflection of the respective tining and especially of sand topdressing programmes between greens sampled.

The homogenous thatch-mat architecture, as observed beneath the two intensively-managed sampled greens at one course, is a reflection of the very frequent sand topdressing (dusting) concept. This topdressing strategy reportedly resulted to adding 13.5mm of sand per year with an overall increase (i.e.; total thatch-mat) of about 20mm per year to a topdressed green.

The impact of tines of different diameters and spacing on bentgrass greens reported by numerous authors obviously reduces the volume and density but not thickness. Generally speaking, the results of most investigations indicate a combination of tining (solid or hollow) and sand topdressing obtains the best results in managing thatch-mat accumulation. Tining provides an avenue to introduce topdressed sand albeit with varying effectiveness.

Several authors have questioned whether the reported reduction of organic accumulation from sand topdressing on bentgrass greens is the result of organic biodegradation by microbial stimulation or simply a dilution effect from the applied sand. The results of one recent investigation into the probable effects of tining and scarifying on microbial activity led the authors to conclude that irrigation water management rather than cultivation had a greater impact on microbial activity.

Soil-borne, microbial communities are known to occur in aging putting greens as attested by the recently reported phenomena 'thatch collapse' caused by a soil-borne basidiomycete fungi. Commercialisation of numerous products purported to increase organic matter degradation and continuing investigations of microbial inoculants may be effective under certain conditions provided the microbial population remains sufficiently high.

Generally speaking, thatch-mat management programmes on bentgrass greens in Australia have largely been based on historical rather than scientifically-based, agronomic reasons. A multitude of mechanical cultivation technologies are available, albeit at varying capital and on-going costs.

Overall, the results of this field investigation has demonstrated under a range of circumstances, the newer-generation bentgrass cultivars have the propensity to attain a thatch-mat thickness between 5-10mm at some time during the first two years after establishment. Thus, it could be interpreted that the rate of accumulation and thatch-mat thickness beneath bentgrass greens will be governed primarily by the intensity or otherwise of the superintendent's cultural management objectives.

Under actual putting green conditions, as opposed to experimentally-controlled conditions,



the complex interaction of climatic, environmental and management-induced factors, let alone club committee, player expectations and resources, come into the equation of how best to manage bentgrass thatch-mat architecture.

A question for each superintendent, based on the results of this real-life investigation, is what physical form and total thatch-mat thickness best serves the performance requirements, groundstaff and equipment resources for each golf course? An intensive, thatch-mat management programme is a huge commitment and one not to be taken lightly by superintendent or golf club.

CONCLUSION

The multiple variables of environmental and management-induced factors that have influenced the rate, production and architecture of bentgrass thatch-mat during this study leads to the conclusion they are interacting and far more complex than occurs under controlled studies, hence further work.

Three broad-based, take-home messages become obvious from this investigation in an attempt to attain and manage a balance between the rates and physical architecture of organic accumulation against the rate of decomposition on 'maturing' bentgrass putting greens;

- Progressive accumulation of thatch-mat, irrespective of its architecture and thickness, beneath relatively new, let alone aged bentgrass putting greens, is inevitable;
- Developing thatch-mat architecture will progressively impact on various agronomic and playing surface properties, perhaps to the point of being detrimental, if improperly managed.
- Recognising that thatch-mat architecture and its rate of accumulation varies between individual greens established at the same and other golf courses during the same short time period, implementation of an early monitoring and sampling programme is mandatory.

Thus, each club committee and superintendent must co-operatively decide the required standard of playing surface presentation of their greens knowing the underlying architecture to be dynamic, but which can be managed given adequate resources from the club and commitment on the part of the superintendent and groundstaff.

Editor's Note: This research project was presented at the 2018 Australasian Turfgrass Conference. The full paper can be obtained from the AGCSA. 📄

Understanding the dynamics of bentgrass thatch-mat architecture and root growth during the early years of a new green is fundamental. Empowered superintendents are then able to make informed decisions about the scheduling of key cultural practices such as topdressing

Example of bentgrass root growth sample greater than 200mm



The Metropolitan Golf Club's unique sandbelt vegetation provided a visually striking frame to the course during the recent ISPS Handa World Cup of Golf



Tournament test



Tournaments are great for showcasing the art of preparing elite turf surfaces, but they can be hard on out of play areas writes ATM environmental expert Kate Torgersen.

The past month has seen a number of Australia's leading golf courses showcased to the world as they hosted major tournaments such as Emirates Australian Open and the ISPS Handa World Cup of Golf. The Metropolitan Golf Club (superintendent Dave Mason) on the Melbourne sandbelt hosted the latter and as I am sure everyone will agree it came up an absolute treat despite some pretty adverse weather conditions.

Hosting a tournament of this scale can be a challenging time for a superintendent and their crew and also for those charged with overseeing and maintaining the landscape and plantation areas. Management of such areas is just one of the many facets that go into getting a course ready to host a major tournament. Spectator galleries, tournament infrastructure and set-up can cause significant damage to these areas, while post-event there is the inevitable restoration of areas needed.

With the World Cup visiting Melbourne for the third time in six years this November, I was fortunate to have a look around Metropolitan the week before the tournament started and caught up with vegetation manager Ben Burke. It was an opportune time to walk around Metropolitan's wonderful plantation areas and discuss with Ben the various projects he has been working on, some of them long before the club was announced as World Cup host, and to gain an insight into the challenges that such an event presents.

In 2016, The Metropolitan Golf Club together with course architects Crafter and Mogford embarked on a significant Course Enhancement Plan. A key part of the plan was to look at the plantation areas and I was lucky enough to have some involvement with

this process. Ben was appointed by the club in 2017 and the plantation areas are being well managed and are considered a major asset to the course.

The initial areas targetted – the 2nd hole boundary and rear of the 7th green – have established well and are beginning to look like they are remnant parts of the course. A variety of native indigenous species were planted, with the help of many enthusiastic members who volunteered their time in what was an exciting project for the club.

Adding to the excitement was the announcement in late 2017 that the club was to host the 2018 World Cup of Golf. While it was a tremendous fillip for the club, for Ben it raised questions as to what it would mean for the Course Enhancement Plan and his management of the plantation areas.

Knowing that the amount of traffic was about to considerably increase, Ben decided that to reduce potential plant loss, any revegetation works from that point on would be with native grasses only. The main reasoning behind this was that native grasses establish quicker, can handle traffic better and, depending on the level of damage, most of the time will bounce back.

Ben's main focus also switched from project mode to visual maintenance, ensuring the plantation areas were at a high standard by the time the tournament was broadcast live around the world. One added bonus of hosting the tournament was the additional resources Ben had at his disposal which assisted with weed management, planting and general tidying up of the areas. Volunteers also played a significant role in getting these areas ready for the tournament with a number of working bees held in the months leading up.



Leading up to the World Cup, some challenges Ben had to face included a spray ban three weeks out from the tournament. This ban was to ensure there were no visual effects from having dead/dying weeds seen on TV. I must say, watching the last day's play while on holiday in Bali, the plantation areas looked amazing, especially seeing the golden wispy native grasses contrasting the immaculate playing surfaces that Mason and his team presented.

Speaking with Ben after the tournament he was surprised by the lack of damage to the vegetation areas caused by World Cup spectators: "You could hardly notice that we had thousands of people walking around the course over five days. Even where traffic was directed through vegetation, I noticed most spectators stayed to the sandy areas and left other areas untrampled. Vegetation was mainly affected by media/broadcast contractors running cables and erecting camera towers around the course and golfers and officials walking directly over vegetation in certain areas, including in some instances with buggies which was a bit hard to witness. But overall it was very minimal and will recover very quickly."

Having now experienced a tournament and the impact it has on the plantation areas, especially at a club where there has been a significant investment made, Ben has a few suggestions when it comes to protecting these areas.

"It would be great to be able to walk the course with the tournament officials and staff who were setting up the ropes. There were some areas of the course which directed spectators straight through vegetation areas unnecessarily where tracks could easily have been used.

"Also having a brief of possible walking areas a few months in advance would have allowed me to plant some heathland plants, including rarer ones, in areas which I knew spectators would be excluded from. I now have to wait until next year to plant some of these areas out."

Despite the challenges such an event presents, overall the World Cup was a huge success for Metropolitan and again showcased just how unique Melbourne's sandbelt courses and their landscapes are. The way in which the plantation areas presented is a great testament to the hard work that Ben and the team at Metropolitan put in during the lead-up to the World Cup.

During 2018 alone, he and a band of wonderful volunteers planted between 15,000 – 20,000 indigenous species. Further plantings are planned for 2019 with around 5000 expected to be placed at various locations according to the course improvement plan. Other focuses for Ben in the coming 12 months will be continued weeding of areas which already exist and hopefully introducing an ecological burn in one or more remnant patches to enhance the existing vegetation. 🌱



Since 2016, The Metropolitan Golf Club has embarked on a Course Enhancement Plan with the plantation areas a key focus. The boundary of the 2nd hole was one of the first areas to be worked on



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Legislation and operational excellence

meet reality



Compliance expert Terry Muir highlights a number of recent, imminent and future legislative issues that turf managers need to be across, while AGCSA HR advisor Vicki Crowe looks at some important workplace law changes.

I know of many superintendents and turf managers that constantly stress about environment, health and safety compliance. If they didn't, their club or workplace, its management and the industry would suffer should a tragic incident occur. These practitioners are driven to contribute to a more sustainable golf and turf environment, to have spotless compliance records and, importantly, to make sure their team goes home safe.

The compliance world of today's superintendent and turf manager is the land of the worst-case scenario. The onus is being placed on them to effectively prevent compliance incidents from happening. Yet, they are required to do so as their compliance resources are constantly questioned and, in many cases, reduced. And, their compliance challenges are growing year by year with a significant rise in the number and complexity of regulations.

In the last 12 months, there has been more rigorous environmental and safety policy-making by regulators than I have seen in a long time. For example, Gadens Lawyers reported the new environment legislation in Victoria is the largest overhaul of environmental legislation in nearly 50 years! There seems to be no slowing down in 2019 and into 2020 given a recent Senate Committees report into workplace health and safety laws and the new General Environmental Duty in Victoria.

Now, more than ever, superintendents and turf managers will find themselves educating their business, changing behaviours and managing greater risks in a more complex regulatory world. Here are some examples of environment and safety compliance challenges that need to be on every turf manager's radar.

THE VICTORIAN ENVIRONMENT PROTECTION AMENDMENT ACT 2018

The Victorian Government's new environment protection laws have passed Parliament with a planned implementation date of 1 July 2020. This legislation transforms environment protection laws to focus on prevention, rather than responding to pollution after it has occurred.

In an Australian first, the laws introduce a criminally enforceable 'General Environmental Duty' (GED). Simply, breaching the GED is an offence, regardless of whether any harm actually occurs! All you need is a risk of harm and to be found doing nothing about that risk! This is revolutionary stuff.

Any person who engages in an activity that may give rise to risks of harm to human health or the environment will be deemed to have committed an offence. Failure to meet the GED can lead to civil and/or criminal penalties of up to \$1.6 million. In the case of aggravated breaches (i.e.; intentional/reckless), the penalties are far higher (up to five years' imprisonment and/or fines of up to \$3.2 million).

Here is an example of how the GED can relate to golf operations: The GED is a risk-based, not an outcome-based, offence provision. This means that the GED can be breached even in the absence of injury, death or environmental damage. For example, the failure to train a worker correctly in the prevention of chemical spills, or not having a spill response procedure, or not having bunding in place, could be a direct breach of the GED. There is no need for a spill to actually occur.

There will now, also for the first time, be third-party rights to take action against superintendents or





club managers or the club. Anyone whose “interests are affected” by a contravention or non-compliance will now have the right to make an application to the Court to restrain another person from engaging in specific conduct or requiring that person to take specific action. In such an application, or in any proceedings for an offence, the Court can also make compensation orders.

This is a dramatic change and can directly impact golf clubs. For example, it could provide an opportunity for a disgruntled employee or ex-employee or a neighbour impacted by course maintenance operations to take action against individuals or the club.

In another first, this legislation also provides guidance on minimum standards of conduct expected of businesses. This includes the requirement to manage risk by;

- Implementing risk-management procedures;
- Manage handling and storing of substances; and
- Providing sufficient information, supervision and training to reduce risks.

Failure to implement these standards will be a breach of the GED. There is now clear information of what is expected of superintendents and their club management teams when it comes to meeting their GED.

QUEENSLAND INDUSTRIAL MANSLAUGHTER LAWS

The Queensland Industrial Manslaughter provisions are now part of Queensland WHS legislation. These provisions make it an offence for a ‘person conducting a business or undertaking’ (PCBU), or a senior officer, to negligently cause the death of a worker.

If anyone needs a reality check, the sentencing to jail of an electrician for the death of his labourer should be a harsh reminder that businesses can no longer regard the threat of imprisonment as

illusory. Jason Jon Garrels (20) was holding up a construction switchboard with supporting poles in a trench that was being backfilled. The switchboard became electrified, killing him. Garrels had only been working there for nine days and hadn’t even received his first pay cheque.

The electrical contractor responsible for Garrels’ death was sentenced to seven years’ jail for manslaughter and perjury. Prosecutors told the Court the death was “tragic and preventable” and that the contractor held sole responsibility for the electrical work at the site. The defence barrister said his client was deeply remorseful and he never intended to harm anybody.

Whether people end up in jail will be down to a combination of the WHS and risk management programmes they have in place and the implementation of those programmes across the business.

Importantly, the Victorian Government is now likely to honour its pre-election commitment, given its re-election, that it will move to legislate a new criminal offence of ‘workplace manslaughter’ in the OHS Act mirrored on Queensland’s provisions.

QUEENSLAND’S WORKSAFE CODE OF PRACTICE

WorkSafe authorities around the country are recognising their Codes of Practice documents as law. For example, in Queensland changes to the WHS Act came into effect in July 2018 requiring businesses must comply with an approved code of practice under the Work Health and Safety Act 2011. Some of the codes that relate to golf and turf businesses include;

- First aid in the workplace (2014)
- Hazardous manual tasks (2011)
- How to manage work health and safety risks (2011)
- Labelling of workplace hazardous chemicals (2011)

Above and left: Compliance challenges for turf managers are growing year by year with a significant rise in the number and complexity of regulations





A turf manager's capacity and capability to manage regulatory risk has never been more important

- Managing noise and preventing hearing loss at work (2011)
- Managing risks of hazardous chemicals in the workplace (2013)
- Managing risks of plant in the workplace (2013)
- Managing the work environment and facilities (2011)

These Codes of Practice are now admissible in any proceeding as evidence of whether or not a duty

or obligation under this Act has been complied with. The courts can rely on these codes as evidence of what is known about a hazard or risk, risk assessment or risk control. Superintendents must be able to provide evidence they are complying with these Codes of Practice in all States.

SENATE COMMITTEE RECOMMENDATIONS

In October 2018, a Senate Report surrounding the prevention, investigation and prosecution of industrial deaths in Australia was released. There were 34 recommendations and five of them stood out as being of interest and significant relevance to the golf and turf industry.

Industrial manslaughter as an offence in all jurisdictions: The report is of the strong view that there needs to be a nationally consistent industrial manslaughter provision introduced into the model WHS legislation. The committee reported, "It is absolutely necessary for corporate entities to be held accountable for their actions, including facing prosecution for industrial manslaughter for the worst examples of corporate or individual behaviour." The Senate Committee recommended a nationally consistent industrial manslaughter offence be incorporated into the model WHS laws, using the Queensland laws as a starting point.

Independent office for WHS prosecutions: The Senate Committee examined the merits of establishing an independent statutory office for

WORKPLACE LAW CHANGES - ENGAGEMENT PERIODS, LEAVE

There have been some important workplace law changes that have recently commenced that all employers and employees should be aware of. Here's a summary of the major changes:

Family and domestic violence leave entitlements: From 1 August 2018, modern Awards will be varied to give employees access to days of unpaid family and domestic violence leave each year.

The leave can be taken by employees to deal with the impact of family and domestic violence. This entitlement applies to all employees (including casuals) who are covered by an industry or occupation based Award and includes (but is not limited to) taking time to:

- Making arrangements for their safety, or the safety of a family member;
- Attending court hearings;
- Accessing police services.

Minimum engagement periods for part-time and casual employees: Certain Awards now contain a minimum engagement period that you must roster and pay your employees for that length of time per shift. This means you are unable to roster an employee on

for only an hour's work. Or that if you do, you will have to pay for the entire minimum engagement period despite only receiving a lesser period of actual work from the employee. For instance, under the Registered and Licensed Clubs Award...

- Part-time employees are engaged for a minimum of eight hours and less/fewer than 38 ordinary hours per week over a roster cycle. Part-time employees can be rostered for additional hours during their availability without getting payment for overtime.
- Casual employees now have an entitlement to overtime pay. They get overtime when working more than 38 hours per week or an average of 38 hours per week over a roster cycle (which may not exceed 4 weeks) or more than 12 hours per day or shift. Casuals may also be entitled to a meal allowance when working overtime.

Long Service Leave changes in Victoria: In May 2018, the Victorian Parliament passed the Long Service Leave Act 2018. This legislation came into effect in November, replacing the old Long Service Leave Act

1992. The new act updates and modernises Victorian long service leave laws to align with the current industrial environment.

While the new legislation does not significantly change long service leave entitlements or administration, there are a number of key changes that employers should be aware of. Businesses with Long Service Leave entitlements enshrined in the Victorian state legislation will need to implement the changes from 1 November 2018. The changes include:

- Employees will be able to take long service leave following seven years of service rather than 10 years.
- Up to 12 months of unpaid parental leave will count as service and unpaid parental leave of greater than 12 months will not break continuity of service.
- Changes to the calculation of ordinary hours and ordinary pay where employees' hours or rates of pay have changed.
- Employees will be able to request to take long service leave in blocks of a single day.

Vicki Crowe, PGA Australia
Source: www.fairwork.gov.au/

WHS prosecutions. In October 2017, Queensland established such an office. The Senate Committee recommended that Safe Work Australia work with Commonwealth, State and Territory governments to establish a dedicated WHS prosecutor in each jurisdiction.

The right of unions to prosecute: The role of unions in bringing WHS prosecutions was another topic examined during the inquiry. The Senate Committee recommended that the enforcement of WHS laws would be strengthened by allowing injured workers, their families and their unions to commence proceedings for the imposition of civil penalties where WHS laws are contravened. They further recommended governments amend the model WHS laws to provide for unions, injured workers and their families to bring prosecutions.

Adequacy of penalties and the need for sentencing guidelines: The adequacy of the current financial penalties for contraventions of WHS laws, including the need for sentencing guidelines, was another topic addressed in the inquiry. It was suggested that the United Kingdom's Health and Safety Offences Guideline be used as a basis for an Australian guide. The Sentencing Council is proposing that where an employer has had a long-standing disregard for the safety of employees and is motivated by cost cutting, they can expect a prison sentence of 10-18 years should a worker be killed as a result.

Employers that are convicted of the offence would face maximum fines of almost \$16 million and individuals who are responsible for negligently causing death will face a penalty of 20 years' imprisonment. The Senate Committee found merit in and recommended the development of national sentencing guidelines, with direction from the UK experience and to consider whether there should be increased penalties for larger businesses or repeat offenders.

Directors' insurance against penalties: One of the key issues the Senate Committee report identified is the availability of insurance for directors against penalties. In New Zealand, an insurance policy or a contract of insurance which indemnifies a person for the person's liability to pay a WHS fine or

infringement fee is of no effect and persons seeking to enter into such a contract commit an offence.

The Committee reported that it, "finds it utterly reprehensible that insurance policies are available to insure corporations and individual directors against financial penalties handed down for breaches of WHS legislation. The Committee recommended legislation to make it unlawful to insure against a fine, investigation costs or defence costs where they apply to an alleged breach of WHS legislation."

CONCLUSION

There is no doubting that 'compliance fatigue' or 'over-regulation fatigue' is becoming a real problem for many superintendents and turf managers and the varied legislative changes will exacerbate that. However, a turf manager's capacity and capability to manage regulatory risk has never been more important.

Regrettably, and I see it every day, compliance efforts in many clubs are running out of steam as superintendents and turf managers are not receiving the level of engagement from senior management that is necessary.

We all know that budgets are tight and money spent on compliance means that money won't be spent on revenue-producing programmes. However, there are many enlightened superintendents and turf managers that view compliance programmes as strengthening their organisation and not just as an obligation with little or no benefits. These practitioners are building a culture that places great value on doing things right and making ethical corporate decisions. In the long run, an ethical business will gain a competitive advantage and, just as important, they are protecting the environment and the well-being of their workers and families.

The information in this article highlights a number of recent, imminent and future legislative issues that will impact turf operations. Hopefully, it promotes confidence in a new way of doing compliance and risk so that practitioners will not be caught on their heels when the new legislation comes into effect, when an incident occurs or when the regulator comes knocking. 🙏

“Regrettably, and I see it every day, compliance efforts in many clubs are running out of steam as superintendents and turf managers are not receiving the level of engagement from senior management that is necessary.”

– Terry Muir

There have been some important workplace law changes that have recently come into effect that all employers and employees should be aware of





Port Lincoln Golf Club sits on the side of a large hill with gradually sloping fairways about 7km outside of the township. Pictured is the 2nd hole

Port Lincoln GC, SA

After more than 25 years in the city, seven years ago Andy Blacker decided to return to his regional roots as superintendent of Port Lincoln Golf Club.

Port Lincoln is maintained by a unique mix of paid employees, club volunteers and participants of a 'work for the dole' programme and local disability employment scheme

Superintendent: Andrew Blacker (50).
Nickname: Mallee/Bolle.
Family: Wife Cathi, sons Jacob (17) and Sam (13).
Years as a superintendent: 18.
Association involvement: AGCSA (21 years), SAGCSA (20+ years).
Career: Thirty-three years (22 at Thaxted Park GC, four at West Beach Parks, formerly Adelaide Shores and seven at Port Lincoln GC). Established and managed a turf maintenance business while 2IC at Thaxted Park (4 years).
Qualifications: Cert III, IV and Diploma in Horticulture.

Where in Australia is Port Lincoln? Port Lincoln sits at the base of the Eyre Peninsula, the most western peninsula in South Australia before you hit the Great Australian Bight. Port Lincoln is probably best known for its seafood and aquaculture and has Australia's largest commercial fishing fleet and a

diverse aquaculture industry. It has in recent times become equally well known for shark cage diving if you fancy getting up close and personal with Great Whites!

Tell us a bit about your background and how you got into turf. Growing up on a farm in Cockaleechee, about an hour north of Port Lincoln (we were neighbours to Australian tennis great John Fitzgerald), I developed a love of the land from a young age. I was 16 when the family moved to Adelaide where my parents encouraged me to undertake a prevocational course. I chose horticulture because I thought mowing grass and looking after gardens was about as close as I would get to farming in a big city. It was a 20-week course and part of that included a placement at Thaxted Park Golf Club where a very young Rob Millington had just taken over as superintendent. The club was looking to put on an apprentice and I was offered it at the end of my placement.

Who were some of your early mentors? Easily my most influential mentor was Rob Millington (now at The Vines Golf Club of Reynella). Rob taught me to think outside the box and to trust my instincts, but not at the expense of processes and very much with consistent structures as the base. Rob has one of the greatest analytical minds within our industry and I have had many deep conversations about turf, life and beyond with him. Other positive influences on my career have been Daryl Sellar, Sam Sherriff, Mal Grundy and Alan Michelsen.



You were, for many years, superintendent at Thaxted Park and then Adelaide Shores before heading across to Port Lincoln. Why the change?

Our farm was 60km north of Port Lincoln and I spent all of my childhood growing up here and have a fond attachment to the many coastal areas and national parks that surround Port Lincoln. I wouldn't say I was desperate for change, but at the same time life in Adelaide was that of a big city. I was attracted to the idea of getting out of the rat race and to let Jacob and Sam experience the freedom and healthiness of growing up in the country.

The hardest thing was knowing that I would be moving away from family, friends and professional networks. Port Lincoln is 650km by road from Adelaide and the nearest course with a superintendent is over 200km away. There's something comforting about being surrounded by your peers and I knew I was moving away from that.

I found out about the job when I was putting an article together with ATM editor Brett Robinson about Adelaide Shores. Brett asked me about my background and I mentioned Port Lincoln. Purely by chance he let me know that the Port Lincoln job had just been advertised on the AGCSA website that very day. I wasn't even looking for another job but I decided to look into it.

I rang the club and had a healthy discussion about the direction it was looking to go. After some even lengthier (and not totally healthy) discussions with my wife Cathi, we decided that I would go for it. Anyone that has ever asked their wife to move from their lifelong base will know how emotional it can be. Cathi thankfully has landed on her feet and absolutely loves life in Port Lincoln.

Was it much of an adjustment going to a regional course? It sure was. I thought I was prepared for that but I soon realised the biggest challenge for me was the lack of exposure people at the club have had to the rest of the industry. This was partly due to the lack of a GM, but I think also very much due to Port Lincoln's geographical location. It meant I had a massive task educating committees, members and locals on the intricacies of turf management and, in a lot of ways, golf club management.

Over the first few years I assisted the club to become more strategic in its approach to running the course. Operating and cap-ex budgets are now in use, the club has updated its strategic plan and we have developed business plans along with a water management plan. One of the first documents I produced was a situational analysis of the course which was really borne from the need to have an educational tool at the club. I coupled this with the AGCSA's Course Operations Induction Manual which is also a valuable education tool.

From an agronomic perspective, the biggest challenge was the lack of a suitable and sustainable irrigation supply. Mains water was being used on greens and tees and was costing the club \$100k



per annum and the fairways were (and still are) watered with highly saline bore water. Port Lincoln is also notorious for its poor soils and high limestone component.

Give us an overview of Port Lincoln GC. The club sits on the side of a large hill with gradually sloping fairways about 7km outside of the township. About one third of the course sits on a shallow limestone cap and while soil has been imported to cover fairways the sheer solidness of the cap causes drainage issues and makes for some very challenging digging as we roll out our new irrigation system. The course is a typical parklands style and has many large Aleppo Pines separating holes.

The greens are small and reasonably flat although some nice shaping has occurred when the course was remodelled in the '90s. However, lack of good quality soil profiles and functioning drainage systems in the greens creates management issues such as poor drainage and inconsistencies. We have greens that have been altered in size over the years with two different soil types used. I've had to deal with hydrophobic soil and waterlogging on the same green at the same time which is very unusual.

The biggest project Blacker has overseen in his time at Port Lincoln is the construction of a new dam and stormwater harvesting scheme

Port Lincoln's bentgrass greens (mix of primarily Seaside and Penncross) are push up in nature with a shallow layer of sandy loam over the pushed up material. They are cored twice a year and regularly groomed. Pictured is the 4th green





Port Lincoln GC runs a Community Development Program ('work for the dole') and being classed as a remote region is able to have up to 15 participants. Pictured are some of these participants assisting with course renovations

Is it an easy/hard facility to manage? It's a hard facility to manage but this is tempered by the realistic expectations of the management group and the members. We accept that we have low inputs and a challenging operating environment and communicate this to the members regularly.

What course management changes have you made during your time there? A complete modernisation of the facilities and equipment we use. It really was like looking at a time capsule from the 1980's when I first started here – outdated equipment, a failing irrigation system on greens and travelling irrigators in use on the fairways. The biggest change I have made is the improvement of the irrigation infrastructure with the implementation of the stormwater harvest scheme which has funded the upgrade of our irrigation system. Upgrading our major plant and equipment has led to much better presentation and healthier turf surfaces.

The other big changes are the creative workforce that we use through the Community Development Program and the Disability Scheme. Above wage reimbursements, we have received over \$80K of material funding which has allowed us to take on many capital improvements over the past few years.

What other maintenance changes are you hoping to implement? I'd love to introduce a dusting programme on our greens which will firm up the putting surfaces and reduce current issues with algae and moss. We have just put in a 1000m² Santa Ana nursery which we will increase to 2000m² over the next few years. This will allow us to finish our tee upgrade programme and start to convert green surrounds to Santa Ana.

The one product I couldn't manage my course without is... wetting agents, without question. With so many different soil types and for most of my tenure a failing irrigation system, wetting agents have been my biggest tool to keeping the turf healthy and, in some cases, alive. I use them both preventatively and curatively.

You're in a unique position to have worked as superintendent in both metro and regional environments. What are the major differences and are expectations any different? Course conditioning is a very interesting debate. I think all courses are different and it doesn't really matter if you are on a metro or a country course. It really comes down to resources, local environments and customer expectations. There are some wonderfully conditioned regional golf courses around the country and there are metro courses that struggle to present well. Every course has different parameters.

I think the vast majority of country courses operate with less resources due to the population they draw their membership from and we certainly sit in that bracket. The key I believe is that clubs need to communicate well with their customers so they understand the operating environment.

What's your preference – regional or metro?

Regional, but if you could move Port Lincoln to only be 2-3 hours from Adelaide I'd be happier!

Do you have to be more resourceful as a regional superintendent? Yes absolutely, but the same would apply for a struggling metro club. In my time at Thaxted we certainly had some financial challenges and we had to become quite innovative. Here in Port Lincoln our challenge has been trying to improve our operation to run more as a business and getting the right structures and budgeting in place and operate on a less ad-hoc basis.

Some of the main innovations that I have employed are getting creative with our workforce through the addition of the Community Development Program and our Disability Scheme, upskilling and employing good communication with our volunteers so that they think and work more professionally. One of the big changes I have implemented is to ensure that the work culture is such that every worker is treated as if they are a staff member and they know how valuable their input is.

How important are volunteers to a course like Port Lincoln? They are absolutely crucial. Part of that upskilling of our volunteers has allowed me to train our regulars to do most of our mowing, mechanical duties, assist with irrigation duties and installation of our new system and even moving of our pins. This has meant I can concentrate on the technical aspects of the role. I could mention so many of our volunteers because they all contribute so much, but one of them – 76-year-old Cyril Thompson – has been an absolute stalwart for many years and deservedly won the Country Volunteer of the Year Award at the 2018 South Australian Golf Industry Awards.

If you could change one thing about your job what would it be and why? That's a tough question for me because I really do love my job. I think for me

it would be that I have more time to spend one-on-one developing our key personnel, both paid and voluntary. Our work for the dole participants are usually keen to learn new skills and I often wish I had more time to maximise their growth at the club. I often feel like I'm racing from one job to the next due to the time pressure. This is made even harder due to the major irrigation projects we are currently undertaking. I'm looking forward to completing these projects so I can concentrate more on the people that help make my job successful.

Do you think regional superintendents have a better work-life balance? I had this perception that life would slow down and I would have a bit more time to smell the roses moving away from the city. I was delusional and I've come to realise two things;

- A golf course requires the same amount of inputs to maintain it to an acceptable standard whether it be in the country or the city; and
- I'm my own worst enemy because I am driven to improve and to get the most out of my role for the club I work for.

I don't think there's a lot of difference in a work sense. I certainly think there are more characters in the country that make work enjoyable and the commutes are much easier. It's also nice to have that sense of community where you know people and talk to them either at work or down the street. There's that genuine care for each other in rural Australia which you don't get so much in a big city.

How important are the relationships you have with other course supers/trade reps? Very important. I have great relationships with the trade reps that service this area and they have been amazing in working together to help me get products across when they visit. There have been many times when a trade rep has thrown a set of heads in the back of their ute for me and taken them to Adelaide to save the club paying the freight. One of my cost reduction



strategies has been to always try and get the reps to bring products I use across when they visit. I would estimate this saves us between \$2-5k per year.

Favourite spot on your course? It would have to be the 18th hole where our new dam is. It's a constant reminder of what we've achieved as a club and it's wonderful to watch the water streaming in every time it rains.

What have you worked on personally in recent years to improve your skills as a superintendent? In my endeavours to provide an adequate playing surface in a calcareous soil environment and being forced to use highly saline water, I have pushed myself to revisit my soil chemistry knowledge. The upgrade of the water and irrigation infrastructure has been a good challenge. We have undertaken hydro-geological studies and worked through the engineering of our new dam. I have also investigated pumping options and irrigation designs all of which has been a good test of my base knowledge.

What gives you the most job satisfaction? Working with a club to make positive changes to workplace culture and seeing the results of this change. I love sharing the knowledge I have been lucky enough to have gained over my career.

Editor's Note: The next edition of ATM will feature an in-depth article on Port Lincoln Golf Club's major stormwater harvesting project and irrigation system upgrade. 🌱

The 16th tee is one of three tee complexes to have been converted from kikuyu to Santa Ana as part of an ongoing programme

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AT A GLANCE – PORT LINCOLN GOLF CLUB, SA



Port Lincoln's 10th hole

Course specs: Parkland style 18 hole, par 72, 5805m. Course sits on 43 hectares (0.8ha greens, 0.5ha tees, 11ha fairways and surrounds, 2ha practice facility). Greens are a mix of older bentgrass varieties such as Pennecross and Seaside. Tees are kikuyu, however, three converted across to Santa Ana. Surrounds are a mix of cool-season grasses, mainly rye and bent. Fairways are a mixture of kikuyu, salt water couch and Santa Ana. Large Aleppo pines are the dominant tree on the front nine, while the back nine has a lot more eucalypts.

Members/rounds: 300/15-20,000.

Major events: Eyre Peninsula Open and a 36-hole championship during Golf and Seafood Week in October. Port Lincoln Open in May.

Course budget: 300K (incl. salaries, excl. cap-ex).

Staff structure: We have had to be creative with our labour force. We rely heavily on volunteers which represents approximately 1.5 FTE. We run a Community Development Program ('work for the dole') and being classed as a remote region we are able to have up to 15 participants. This has allowed us to employ Nathan Jones who is currently completing his Cert III in Horticulture. Nathan is a mature age employee and fast filling the void of not having an assistant. We also currently employ four people through a disability programme with each of these participants working eight hours per week.

Climate/annual rainfall: We have a typical Mediterranean climate, although being so close to the coast the climate on the Lower Eyre Peninsula is very mild. Summer average temps (maximum) is 25°C and in winter 16°C. Winter frosts are rare, however, we can get days in the mid-40s if we get a northerly in summer. Average rainfall is 433mm.

Soil types: Being located on the side of a hill, the course has a real mixture of soils. Pockets of clay and ironstone are found on higher ground, while bands of shallow limestone can be found through much of the course. In the lower sections there is a reasonable depth of topsoil which is a very fine lime derived sandy loam. All soils are calcareous with the exception of the clay/ironstone section.

Some importation of local loam has occurred over the years and forms shallow topsoil over several of the back nine holes. A very hard limestone cap exists on about one third of the course and is quite shallow (less than 100mm) in places. Soils have poor structure, high pH and are low in organic matter.

Water sources: Greens and surrounds are watered with a combination of harvested stormwater, bore water and mains (under 400-800ppm). Fairways and tees are irrigated with highly saline bore water (8000-11,000ppm).

Irrigation system: We are currently in the process of installing a new Rain Bird IC System and we have just commissioned our new Davey Monsoon IQ pump station.

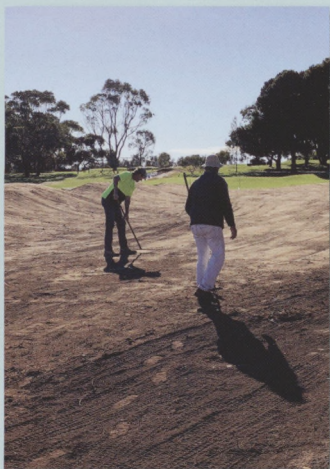
Cutting heights/regimes: Greens 3-3.5mm, tees and collars 10mm, fairways 15mm and rough 50mm.

Renovations: We core greens twice a year and groom regularly. Sand supply is a big issue because there isn't a suitable local sand available for topdressing. We currently use cheap sand from a supplier in Mt Compass south of Adelaide that costs around \$6 per tonne at the pit and \$69 per tonne to have freighted to the club. This is far from ideal and I am working hard to find a local sand option that is more sustainable long term. Unfortunately our local sands are limestone derived and very fine and calcareous. We groom the greens regularly and we have a set of scarifying heads that we use occasionally in high growth periods. I programme a deep solid tine every two years. Our greens are push up in nature with a shallow layer of sandy loam over the pushed up material.

Major disease pressures: We don't suffer from a lot of disease pressure thankfully. Dollar spot is our most prevalent fungal disease with winter fusarium and rhizoctonia present but not at thresholds that require intensive management. I don't use a lot of preventative fungicides and tend to manage disease prevention by applying good nutritional and irrigation management. I've always found that diseases are less likely to infect healthy strong growing turf so employing good cultural management techniques and being vigilant when disease pressures are high has been a big part of my disease management strategy. Rotating chemical groupings is obviously important as well.

Nutrition management: I have soil samples analysed every two years and take into consideration major deficiencies or excesses. In high sodium situations I make sure that my calcium, magnesium and potassium levels are in balance. Most of my application is done in the form of liquids on greens, however, I do use granular fertilisers occasionally to boost soil numbers. Typically the fairways get two granular applications per year and liquids are used if we are presenting for a tournament.

Club volunteers Ben Pierik and Tony Dragen assisting with the remodelling of the 18th hole





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AKARANA TAKES HOME JOHN DEERE TEAMS TITLE



Maroochy River Golf Club on the Sunshine Coast hosted the 2018 John Deere Trans-Tasman Team Championship final

The popular John Deere 2018 Trans-Tasman Team Championship is heading back across the Ditch after the team from Akarana Golf Club in Auckland, New Zealand won the September final.

AGCSA Silver Partner John Deere was delighted to host the qualifying teams and their respective John Deere Golf Dealer sales staff on the Sunshine Coast on 17-18 September with the two-day event held at the outstanding Maroochy River Golf Course (superintendent Pat Pauli). The first day comprised of a practice round with teams getting familiar with the course layout and finished off with a welcome dinner at the nearby Ramada resort. Each player received a welcome pack containing a John Deere cooler bag with in-built speakers, polo shirt, hat and golf ball.

The final was played in near perfect conditions on the second day with some fierce competition on the course. The team from Akarana, comprising Chase McKeon, Stuart Baird and Mick Shaw prevailed by a single shot over the team from Royal Fremantle Golf Club, with Queensland's Nudgee Golf Club in third. Mathew Holten (Clearwater GC, NZ) scored the prize for longest drive, while Gavin Burt (Royal Fremantle GC) secured the nearest the pin. In addition, there was a John Deere TX 4X2 Gator utility vehicle up for grabs in the hole-in-one competition, but unfortunately no-one was lucky enough to sink the ball.

The event began earlier this year with John Deere Golf dealerships each holding regional

qualifying rounds in Australia and New Zealand. The regional qualifying rounds were open to all clubs, with teams comprised of three players holding the position of either course superintendent or approved maintenance staff member, club general manager and a member of the club's committee (e.g.: captain or greens chairman). The format played was elimination scramble with a shotgun start.

Those clubs/dealers to host regional qualifiers and the winning teams were:

- Hope Island GC, Qld (Chesterfield Australia): Winning team – Nudgee GC;
- Middle Ridge GC, Qld (Vanderfield): City GC;
- Gympie GC, Qld (Vanderfield): Kilkivan GC;
- Joondalup Resort, WA (Afgri Equipment): Royal Fremantle GC;
- Tea Tree Gully GC, SA (Metropolitan Machinery): Sandy Creek GC;
- Eynesbury GC, Vic (Glenmac): Woodend GC;
- Gulf Harbour CC, NZ (AGrowQuip NZ): Akarana GC & Howick GC; and
- Weedon's Golf Club, NZ (Drummond & Etheridge): Clearwater GC & Ashburton GC.

John Deere wishes to thank all staff at Maroochy River Golf Club for hosting the event as well as all the competitors for attending and John Deere Golf Dealer representatives for their participation. The championship will be played again in 2019 and those clubs wishing to take part should contact their nearest John Deere Golf dealer for further information.

NUTURF'S NICE SEGWAY

Turf managers across Australia now have access to Segway 400SC, a revolutionary new fungicide in the fight against pythium leaf blight and pythium root dysfunction. Segway 400SC has a new and novel mode of action – Group 21 fungicide – which provides control at all stages of pythium disease development and gives long residual control.

For more information on Segway 400SC contact your local Nuturf territory manager or visit <http://nuturf.com.au>

BOOM RECRUIT FOR VENTRAC

Ventrac Australia has added its new MA900 boom mower to the long list of attachments for its highly versatile multi-purpose prime unit.

The boom mower is a great tool for trimming hedges and other shrubs, cutting under fences, tree branches, steep ditches and many other applications. The double action sickle bar is submersible which works great trimming reeds around ponds, dams and water ways. It can cut fine grasses to woody material.





Left: Ventrac Australia has unveiled its new MA900 boom mower attachment

The MA900 boom mower has a cutting width of 1m, horizontal reach of 3m, a vertical reach of 3.6m and maximum flat top cutting height of 2.1m. You can check out a video of the new boom mower attachment as well as the 30-plus other attachments on the Ventrac YouTube channel.

For more information visit www.ventracaus.com.au or call (02) 9158 7322.

NEW 2,4-D LABEL

Australian golf course superintendents and sports turf managers are reminded that new label instructions for the herbicide 2,4-D came into effect as of the start of October 2018. At that time all existing product labels were suspended and users of 2,4-D must now comply with the new label instructions issued by the Australian Pesticides and Veterinary Medicines Authority (APVMA), even if they are using products with the old labels.

The APVMA has issued permit PER 87174 'The New Instructions' to allow persons to possess, have custody of, supply and/or use 2,4-D products currently on farm and in retail outlets. Supply at the point of retail sale must occur with the new instructions being provided with each container supplied.

These changes affect about 220 products and the new instructions for use include;

- A requirement not to spray in inversion conditions and additional information on recognising inversion conditions;
- Downwind mandatory no spray zones for both aquatic and terrestrial off target vegetation (including sensitive crops, gardens, landscaping vegetation, protected native vegetation or protected animal habitat);
- A requirement to use nozzles producing droplets no smaller than the Very Coarse spray quality category;
- Mandatory record keeping requirements; and
- Advisory statements about spray application over summer.

The new requirements do not change or restrict other aspects of the currently approved use patterns and should not affect availability of the product. Products containing 2,4-D continue to be under review by the APVMA. For further information about the 2,4-D review visit www.apvma.gov.au/node/15581.

INDUSTRY APPOINTMENTS

SYNGENTA SIGNS BRADBERRY



AGCSA Gold Partner Syngenta announced in October the appointment of **Michael Bradbery** (pictured) as territory sales manager for NSW and the ACT. Bradbery brings 37 years' of experience in the turf industry to Syngenta, having worked predominantly for golf clubs during his career. His most recent role was as superintendent at Manly Golf Club, during which time he collected the 2013 AGCSA Excellence in Golf Course Management Award.

Bradbery possesses an M.Agr (Turf Management) degree from the University of Sydney and is currently studying for an Advanced Diploma in Leadership and Management. His responsibilities will be to develop Syngenta's Turf and Landscape business across NSW/ACT, working closely with superintendents, turf managers and business partners. Bradbery can be contacted on **0427 899 526** or email michael.bradbery@syngenta.com

GTS EXPANDS QLD OPERATIONS

The team from Turfcare Solutions – **Paul Lierse**, **Daimen Tucker** and **Sylvia Udovicic**

– have joined Greenway Turf Solutions (GTS) to further expand its operations in Queensland and northern NSW. This comes on the back of recently employing **Lee Falappi** and opening a service centre in Sydney earlier in the year.

For more information visit www.greenwayturfsolutions.com or contact Paul Lierse (**0425 280 305**), Daimen Tucker (**0402 735 887**) or Lee Falappi (**0466 288 919**).

LEACH NEW BAYER TM



AGCSA Silver Partner Bayer has announced the appointment of **Matthew Leach** (pictured) to the role of Territory Sales Manager – (Turf) NSW/Queensland/ACT effective from 7 January 2019. Leach arrives at Bayer with a well-established background in turf management, having started his career at Oatlands Golf Club before going on to work at the likes of Elanora Country Club and Manly Golf Club in Sydney. Leach then took on the challenge of moving into a commercial role as an agronomic sales manager for Turfcare in Sydney before moving to Canada at the end of 2017.

Returning to Sydney with his family in December, Leach is excited about the

opportunity to apply his strong knowledge of plant protection chemistry and the Bayer turf portfolio in supporting agents and end users across his territory: "I'm looking forward to working with industry leading Bayer and to continue to build relationships and help turf professionals throughout Australia."

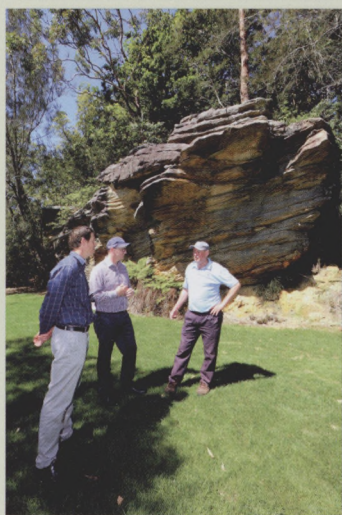
LIVING TURF NABS KENNEDY



Living Turf has appointed former course superintendent **Matthew Kennedy** (pictured), as technical sales representative effective from December 2018. Kennedy

is the former course superintendent at Port Kembla Golf Club, NSW since 2008 and prior to that held superintendent roles at Leonay and Wallacia Golf Clubs, as well as teaching part-time at TAFE.

Construction has been a particular interest of Matt's over the years and his career path has seen him work with prominent golf course designers, shapers and consultants. As a result he has mentored, trained and remains in close contact with many current serving golf turf managers. Kennedy can be contacted on **0407 500 101** or email mkenedy@livingturf.com.



PHOTOS: BRETT ROBINSON



Mark O'Sullivan recently gave Bayer's James Royal and Martin Ball a tour of Roseville Golf Club, highlighting some of the aspects of the course which helped him and the club win the coveted AGCSA Excellence in Golf Course Management Award earlier this year

BAYER RECOGNISES ROSEVILLE FOR ONGOING MANAGEMENT EXCELLENCE



At the 2018 Australasian Turfgrass Conference in Wellington, New Zealand, the AGCSA's coveted Excellence in Golf Course Management Award was awarded to Mark O'Sullivan from Roseville Golf Club. It was the first year that AGCSA Silver Partner Bayer has sponsored the award and it has committed to continuing its sponsorship to help recognise Australia's leading course superintendents.

Recently Bayer's turf market manager James Royal and Bayer general manager Martin Ball visited Roseville to personally congratulate O'Sullivan on the award, meet the hard-working crew and take in a tour the course. O'Sullivan explained some of the rich and fascinating history of the Roseville site which has been his home for the past 34 years. He showed them some of the course's feature holes, main developments such as the water storage dam and explained some of the key challenges he faces in the day-to-day management of Roseville's playing surfaces.

"Roseville Golf Club is in a unique location and the micro-climates across some areas of the course make for extreme challenges, for example low air movement and flooding," says Royal, who actually grew up playing golf at the course where his father played.

"One of the truly great characters of our industry, Mark's lengthy tenure as superintendent at Roseville is clearly a testament to the dedication and commitment he has made to the course during his career. He has also trained and mentored many current superintendents nationally and has implemented many major projects which have consistently demonstrated excellence in golf course management.

"Mark was a very well-deserving winner of this year's AGCSA Excellence in Golf Course Management Award and a great role model. Bayer is extremely pleased to be supporting the AGCSA in the bestowing of this award annually to celebrate true excellence in golf course management."

GCM BRANCHES OUT



Former long-serving New South Wales Golf Club superintendent Gary Dempsey (pictured) is now providing consultancy services through his company Golf Course Management.

This is an addition to the supplying and advising on the programming and use of Aqua Aid Solutions products and supplying Ninja tines which Dempsey introduced to the Australian market a number of years ago. Dempsey has also launched the company's new website www.golfcoursemanagement.com.au. He can be contacted on 0417 224 881 or email gary@golfcoursemanagement.com.au

NEW JOHN DEERE ZTRAK EXPANDS DIESEL OPTIONS

AGCSA Silver partner John Deere has introduced the new diesel Z994R Commercial ZTrak zero-turn mower for more performance and efficiency. Developed from extensive customer feedback, the new Z994R expands the John Deere portfolio of diesel solutions for professional landscape contractors. The Z994R offers enhanced comfort, increased productivity, lower operating costs and longer engine life.

"Our customers wanted more options when it came to diesel ZTRs, so we expanded our line-up of diesel mowers to better meet their needs," says John Deere product manager Natalie Haller. "The

Z994R Diesel ZTrak mower offers a powerful diesel engine and maximises comfort, allowing operators to be more productive throughout long work days."

The Z994R is powered by a three-cylinder, liquid-cooled diesel engine with 18.4kW (24.7hp) rated power at 3200 rpm. The high-torque, low-emission diesel engine provides power for tough conditions with low vibration and noise levels. To increase productivity, the Z994R is equipped with a single 43.5L diesel fuel tank that provides enough fuel capacity for long mowing days.

Operator comfort is a primary focus of the Z994R Diesel ZTrak mower, with three available seat options, each with adjustable armrests. All seat options also feature ComfortGlide fore/aft suspension that provides up to 51mm of fore and aft travel to absorb bumps for enhanced ride quality.

There are three mower deck options for the Z994R Diesel ZTrak mower. The 137cm (54 in.) and 152cm (60 in.) 7-Iron PRO side-discharge mower deck and the 152 cm (60 in.) 7-Iron PRO Mulch On Demand™ mower deck that can easily change from side-discharge mode to fully chambered mulching mode with a single move of a lever. The new Z994R is also available with the Michelin Tweel X Turf airless radial tyres.

The new model will be available in Australia and New Zealand early in 2019. For more information about the Z994R Diesel ZTrak mower, contact your local John Deere dealer. 🌱



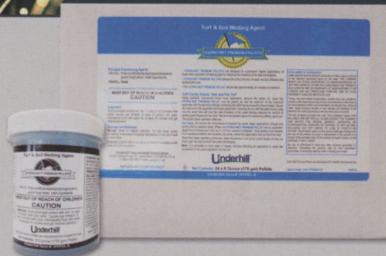
The John Deere Z994R zero-turn mower offers enhanced comfort, increased productivity and longer engine life

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NZGCSA



With 390 golf courses accounting for +/-22,000 hectares of green space in New Zealand, they are in a perfect position to support the Department of Conservation's drive for a predator-free environment



When you think of New Zealand, the first thing that comes to mind is the amazing beauty of the country with its unique forest and wildlife. Then as you think of golf in NZ one automatically starts to imagine idyllic golf courses set in ancient forests or mountains and around stunning mirror-like lakes. It's not hard to get carried away by all the golfing possibilities. It is a country blessed with such a magical and fantastic variety of beautiful golf courses, from parkland courses in the city to seaside links courses, the alpine stunners and everything in between.

The 390 golf courses in NZ represent a fairly sizable part of the land mass of this relatively small country and it is little wonder then that they have a fairly sizable role to play in terms of how New Zealand manages the environment and enhances its reputation as a beautiful golfing destination.

The exciting news is that over the last few months, various sectors of the NZ golfing industry are coming together to formulate an environmental strategy and partnership aimed at improving the environmental sustainability of golf courses and the broader industry. This vital initiative is being spearheaded by the **NZGCSA, New Zealand Golf, the New Zealand Golf Industry Council** and other key role players. This programme will be driven through six key areas – water, nature, energy, supply chain, pollution control and community.

Among the role players that are already joining forces is the **Department of Conservation (DOC)** which has been really keen to join in and support golf courses to achieve their environmental goals. We are really excited to join forces with DOC to make our golf courses better from an environmental point of view and they are keen to support instead of prescribing how to manage the land.

The first project that DOC has jumped on board with is pest control which also forms part of the New Zealand Government's plan to have the country 'pest free by 2050'.

'TAKING A SWING' AT PESTS

When Auckland's Remuera Golf Club went for GEO international environmental certification in 2015, course superintendent **Spencer Cooper** immediately contacted DOC. Part of the accreditation requires participation in a community driven conservation project and his request fell into the very receptive ears of DOC's strategic partnerships advisor **Julie Kidd**.

"I was delighted to hear Spencer's team was so committed to supporting great environmental practices," says Kidd. "I am a golfer (not a good one) and so I know there is nothing more satisfying than walking down the fairway listening to Tui and watching piwawaka/Fantail dance around our feet."

The conservation project the Remuera team undertook was to fundraise for some technical kit to be installed on Motuihe Island in Auckland's stunning Hauraki Gulf. The kit was a sophisticated bird-calling system to encourage pakaha/fluttering shearwater back to island to mate.

The island's original population was decimated from mammalian pests due to the island's long history of human occupation as a farm, a 19th Century quarantine station, a WWI prisoner of war camp, a WWII rehabilitation centre and base for the NZ Navy. Two pa sites (Maori fortresses) are also on the island with the earliest Maori occupation estimated in the 14th Century. The island has been pest-free since 2003 and has bounced back brilliantly with dozens of translocated native species, including kiwi and tuatara, being able to survive and thrive. Seabirds are taking some encouragement to return to nest there however.

"It was a perfect fit," says Cooper. "Many of our members are boaties and enjoy the gulf islands throughout the year. Our fundraiser was a great success and raised many thousands of dollars for the equipment." Adds Kidd: "We have already had a result, with an egg laid in the first season since the installation of the system."

Remuera Golf Club and superintendent Spencer Cooper received the NZGCSA Environmental Award at this year's Australasian Turfgrass Conference in Wellington



FURTHER COLLABORATION

Remuera went on to achieve GEO certification in 2019 and has been at the forefront of many environmental initiatives, culminating in being awarded the NZGCSA Environmental Award at the recent Australasian Turfgrass Conference held in Wellington. Given the success of the relationship, it is no surprise the two organisations stayed in touch and continued to seek ways to work together to achieve environment and conservation gains. This led to the next ambitious project.

DOC, along with many organisations, is on an ambitious path to make all of New Zealand predator-free by 2050. In brief, until mainland areas are rid of introduced mammalian pests such as stoats, rats, possums and weasels, native species won't stand a chance. The driving force behind this is the reminder that many of our species are found nowhere else in the world – 70 per cent of NZ birds are endemic as are 80 per cent of invertebrates and 100 per cent of reptiles, bats and frogs.

This is where golf courses come in. With 390 golf courses accounting for +/-22,000 hectares of green space, we are in the perfect position to support predator-free practices. The fewer the pests on our courses, the louder the birdsong and the healthier the native trees, plants and shrubs.

In November, DOC ran an inaugural pest-trapping workshop with a dozen Auckland course superintendents. This was a hands-on workshop and included everything to do with running successful traplines including robust health and safety and monitoring practices.

"It's ideal," says Kidd. "Successful pest-control programmes are community driven and for many the golf course is at the epicentre of the community." Adds Cooper: "If we get our teams confident to trap, then we can train our volunteers ourselves. Then, it is more likely for properties that back on to the courses will also set traps as a buffer zone and then our members and so on. It is a classic ripple effect. The other part of getting rid of pests is initiating a native tree planting programme. Native birds need natives to feed off, so that is part of the plan too."

Des Topp, chairman of the NZ Golf Industry Council, adds: "Why wouldn't we aim to be the first country to have 100 per cent predator-free golf courses? It would be something else to set us apart to market to potential members and visitors alike. It is entirely possible and working with DOC and the other agencies, we will get there."

Kidd says the workshop will be evaluated and improvements made where necessary so they can be replicated seamlessly to the best effect all over New Zealand. "The ultimate goal is to pull back the 4000 species under threat as well as the 1000 that are on the brink of extinction," says Kidd. "Introduced mammalian pests and loss of habitat have contributed to this which is why working with golf courses will be a massive gain for our species. Everyone will benefit."



WATCH THIS 'GREEN SPACE'

As mentioned, Remuera Golf Club (and Cooper) recently won the NZGCSA Environmental Award (sponsored by PGG Wrightson) and he has also been appointed to the Board of the NZGCSA. His main area of focus on the Board will be to help promote and advise on the best possible environmental practices for golf courses throughout the country.

"This is a huge honour and privilege for me to be chosen by my peers to help with the association and allow me to work in a part of our industry that I am really passionate about. Hopefully my enthusiasm and love of nature will rub off on those who are interested and together we can start making a real difference," says Spencer.

The golf industry in New Zealand is really excited about this new environmental path and despite the initiative still being in its infancy, there is a great interest from all stakeholders who are determined to make it work. This is evidenced by how many golf courses are already doing great environmental work, from the courses only run by volunteers all the way through to the signature golf estates.

A number of courses have already received numerous coveted certifications such as Audubon International or GEO and many more are signing up and joining in. It is a fun way to do more than just the usual golf course maintenance while enhancing the environment and giving back to the community at the same time. Some golf courses have even reported cost savings in the long-term by adopting sound environmental practices. The NZGCSA has also approved some funding to help smaller golf courses to achieve their environmental goals through a certification programme. The future on New Zealand golf courses and the environment looks bright.

SPENCER COOPER
BOARD MEMBER, NZGCSA

Remuera is one of a number of NZ golf clubs undertaking projects and programmes to enhance the local environment

In November, the Department of Conservation ran an inaugural pest-trapping workshop with a dozen Auckland golf course superintendents



NSWGCSA



NSWGCSA Superintendent of the Year Peter Donkers (centre) with Paul Delaney (Australian Turf Projects, left) and NSWGCSA president Nathan Bradbury

This year saw amalgamation of the NSW golf industry, with the PGA, GMA, Golf NSW, JNjG and NSWGCSA joining forces for a fantastic awards night at Curzon Hall, Marsfield in late October. This is a positive step for our industry and was a great way for the NSWGCSA to recognise its outstanding performers and promote our profession to the whole of the industry.

The NSWGCSA handed out a total of six awards on the night with long-serving Long Reef Golf Club superintendent **Peter Donkers** named 2018 NSWGCSA Superintendent of the Year. Peter was honoured in front of more than 350 guests and was recognised for a career that has spanned more than 35 years, including the past 20 at Long Reef.

Picking up the other major NSWGCSA award was **David Stone** from Bayview Golf Club who was bestowed the Outstanding Achievement Award. David was recognised for his efforts in undertaking the dual role of both course superintendent and general manager of the club since 2014. For winning the above awards, both David and Peter have won a trip to work at 2019 Solheim Cup (the women's equivalent of the Ryder Cup) at the PGA Centenary Course, Gleneagles.

This year saw the striking of a new award – the Assistant's Performance and Dedication Award – with Moore Park Golf Club's **Cameron Butt** deservedly named as the inaugural recipient. Cameron will receive an all-expenses paid trip to the Australian Turfgrass Conference thanks to sponsor Waterwise. Other winners were;

- **Jordan Phillips (Newcastle GC):** Graduate of the Year Award, sponsored by JT Turf. Jordan will be attending the GIS Conference in San Diego in 2019.
- **Sam Rose (Atlas Golf Services):** Post Graduate Scholarship Award (Certificate IV, sponsored by Campbell Chemicals);
- **James Beileiter (Avondale GC):** Post Graduate Scholarship (Certificate V, sponsored by NSWGCSA).



Assistant's Performance and Dedication Award winner Cameron Butt (Moore Park GC)



2018 Rube Walkerden Trophy winner Jeff McManus (Windsor CC)

2018 RUBE WALKERDEN TROPHY

The NSWGCSA held the Annual Rube Walkerden Trophy and AGM at Stonecutters Ridge Golf Club on 31 October. This year the board decided to change the event to an 8am shotgun start followed by the AGM, lunch and entertainment. The golf event was sponsored by Bayer, Simplot Partners and Dad 'n' Dave's Turf. The luncheon entertainment was sponsored by Turfcare Australia and the NSWGCSA.

The AGM was sponsored for the 20th consecutive year by Toro and it was great to be able to present to representatives **Pat O'Shannessy** and **Luke Crawford** a plaque to celebrate and say thank you for Toro's ongoing support.

The day was attended by 90 golfers with an extra 10 people, including life members Martyn Black and Peter McMaugh, for the subsequent AGM and luncheon. Superintendent **Dave Aplitt** had the course in great condition with the greens running extremely true and fast, with lunch entertainment this year courtesy of former-NRL player and current Fox Sports presenter **Bryan Fletcher**.

The Rube Walkerden Trophy for best stableford score was secured by Windsor CC superintendent **Jeff McManus**. He also teamed with Ryde Parramatta counterpart **Shaun Probert** to win the 2BBB Simplot Cup on a countback. Springwood Country Club superintendent **Nathan Ball** fired a 1-over 73 to record the day's best scratch score and take home the President's Trophy, while **Scott Armstrong** (Turfcare Australia) collected the Peter Ingram Trophy for best trade score (41 points). **Nick McCann** (Cabramatta GC) won the 2IC prize (37 points), nearest the pins went to **Dave Worrad**, **Martyn Black**, **Chris Boggs** and **Ben Mills**, while **Andrew Moon** smashed the longest drive.

The AGM saw long serving member **Mal Harris** (Northbridge GC) step down after nine years handling the education portfolio. Congratulations to Mal on his tenure – you will be deeply missed. New board directors include **Rod Hinwood** (Ellerston Golf) and **Ian Elphick** (Gunnedah Golf Club).

In closing I would like to say big congratulations to three of our members who have hosted major tournaments recently;

- **Anthony Mills (The Lakes GC):** 2018 Emirates Australian Open;
- **Mark Williams (Richmond GC):** 2018 Australian Senior PGA Championship; and
- **Justin Doyle (Twin Creeks GC):** 2018 NSW Open.

All three guys and their crews did a fantastic job presenting quality surfaces. Well done and a big thank you to all the volunteers that helped out.

**NATHAN BRADBURY
PRESIDENT, NSWGCSA**

It has been a little while since the last update from the West and there has been a lot of action on and off the course over the last few months.

At our AGM in August we lost a few committee members who have been great servants to our association. **Darren Wilson** (Wembley Golf Complex) has stepped down to start planning for his retirement after spending over 10 years on both the committee and the AGCSA Board. We thank Darren for his commitment to both associations, especially the GCSAWA where he held the positions of president, secretary, treasure and committee member.

Thanks also to **Jason Kelly** (Royal Fremantle GC) and **Brad Anderson** (Sun City CC) who have both jumped off after being on the committee for over four years. **Peter Fleming** (Kwinana Golf Club) has joined the committee, while 2018 AGCSA Golf Championship winner **Tony McFadyean** (Nedlands GC) will be looking after golf for us.

On course there have been a few more supers heading over to the 'dark side'. Both **Strachans – Trevor** and son **Adam** – have departed which is a great shame to our industry, even though they are still involved. Trevor has joined Globe and Adam, who noticed how relaxed he was, left to join Rain Bird. **Aaron Petrovski** has joined Naturf and most recently **Brad Anderson** has taken the vacant Toro position. Brad replaced **Geoff Stephens** who couldn't handle being so far away from his mummy and her cooking anymore, so has returned to Tassie.

Melburnian **Rod Tatt** has started at Mt Lawley replacing Trevor Strachan and was welcomed with the WA Open just a month or so after starting. Rod had the course looking great for the tournament and is now settling into the role. We wish him all the best and welcome him to the West. **Liam Spooner**, who



The GCSAWA held a 'walk 'n' talk' day at Kalgoorlie Golf Club hosted by superintendent Pat Casey

was Adam Strachan's 2IC at Secret Harbour, has jumped into the hot seat and from all reports doing a fantastic job so far.

We have held a couple of 'walk 'n' talks' in recent months which were well supported. **Doug Bailey** at Collie Golf Club showed us around the beautiful county course which he maintains by himself along with a couple of volunteers. We then travelled to Kalgoorlie after the committee made a spur-of-the-moment decision to get away for a few days and mentally recharge. Superintendent **Pat Casey** showed us around the spectacular goldfields layout and talked about some of the challenges of maintaining a golf course in the 'Wild West'.

The GCSAWA is in the early stages of organising the bi-annual State Conference which will be held in August 2019. We are looking at all options in regards to where we will be holding the conference to best suit our ever-increasing number of attendees. There will be a great mixture of technical and on-course set-up speakers, along with personal welfare and support talks too. As the South Australians found out last year, it's a great few days away so if you are keen to come west please contact GCSAWA association secretary Shane Baker gcsawa@bigpond.com for more information.

Planning is also well underway for next year's WA Golf Industry Awards to be held on 8 March 2019. This will be the 10th year of the awards night and nomination forms will be out soon.

SIMON BOURNE
PRESIDENT, GCSAWA

STA VIC

STA Victoria has had a fabulous 2018. Throughout the year we have held a range of informative and well-attended events such as the OH&S Day at Junction Oval, the return of the annual Sports Turf Seminar to the MCG, as well as the well-run Pitch Preparation Day in September.

The first STA Victoria event for 2019 will be held on 2 April and in line with wanting to take these events to regional areas we will be heading to GMHBA Stadium (Kardinia Park) in Geelong. The day will feature sessions covering council, compliance, WorkCover and workplace wellbeing.

Our major event will again be held at the iconic MCG following many requests for its return there after this year's successful day. Sessions will cover council challenges of managing sports grounds and wickets and the transition from cricket to football.

Other topics will include diseases on grasses and a Cricket Corner run by a panel of curators, plus lots more. September 2019 will again see a Cricket Pitch Preparation Day and in October an Irrigation Seminar is planned.

We are sure you will agree this magazine – Australian Turfgrass Management Journal – is a fabulous industry resource, however, like all mail distribution databases it is difficult to keep up with address changes and people changing workplaces etc. If you have changed your address or need to update your details, please contact Jan Fenton.

The STA Victoria committee wishes to thank all of its sponsors and looks forward to bringing you some great events and information in 2019.

STA VICTORIA COMMITTEE



SAGCSA Excellence in Turf Management Award winner Andy Blacker (left) with SAGCSA president Nathan Bennett. Pictured below is SAGCSA Graduate of the Year Thomas Schott



It has been a very dry start to the summer here in South Australia with many if not all areas receiving well below average rainfall. As I'm writing this article we have had 210mm for the year in the western suburbs!

I would like to welcome onto the SAGCSA committee **Sam Smith** (Willunga GC), while returning for another stint is **Stuart Gillespie** from West Lakes Golf Club.

During Late September we ran an Education Day at The Grange Golf Club (host superintendent **Rowan Daymond**). Unfortunately the timing wasn't great with a lot of clubs conducting renovations which impacted the numbers attending. We had presentations from Bayer, epar, Globe, GTS, Living Turf, Metropolitan Machinery, Nuturf, Syngenta, Toro, Toro Irrigation, Turf Culture and Turf Equipment SA.

LETTER TO THE EDITOR

Dear Editor,

I wish to clarify the background to Jim Beard's assessment and the science of his "becoming enamoured" with a product called Netlon which was mentioned in the tribute to him in Volume 20.4 ('**Vale Dr James Beard**' pages 8-14). The article referred to it being used on top of the ground at reseeding so that growers could get two crops in 18 months instead of one.

This wide roll product called turf netting is still in widespread use but it should not be confused with the mesh element product with which we were deeply involved with commercialising for natural turf racetracks and sportsfields.

The article refers to plastic mesh which in small pieces was being used for the reinforcing of free form concrete road

surfaces. The playing card size of the pieces of mesh are used with the sand growing medium to give the turf rootzone the structural strength to carry horses and football players. The possible litigation problems if used for high traffic areas did not eventuate for both the turf netting and mesh element products.

StrathAyr has built an international business on the back of Jim's research with mesh, we have a proven concept for all weather natural turf sports projects which have never lost a race meeting or football match despite heavy rain.

I apologise for failing to include this comment as we believe it is an important part of Dr Beard's incredible legacy.

BILL CASIMATY, STRATHAYR

It is great being able to hold the event at a facility like The Grange GC where we can use both the indoors for presentations and the course for machinery demonstrations.

In late October the SA Golf Industry Awards Night was held at the Playford Hotel in the city with around 200 in attendance. The SAGCSA had good representation and it was great to be able to honour our two award winners.

Port Lincoln Golf Club superintendent **Andy Blacker** received the Excellence in Turf Management Award, while The Grange Golf Club's **Thomas Schott** was officially named the SAGCSA Graduate of the Year. Earlier this year Thomas was one of seven finalists to contest the final of the AGCSA Graduate of the Year Award.

The Excellence in Turf Management Award acknowledged Andy's outstanding achievements at his club over the past two years. Central to that was the leading role he played behind the design and development of a game-changing stormwater harvesting scheme and irrigation master plan. All of this was achieved in-house with a very limited budget and volunteer staff. Schott was acknowledged for being an outstanding apprentice during his four years at The Grange and for being a great role model for all apprentices that have started at the club. **(Read more about Andy Blacker and Port Lincoln GC in this edition's Regional Profile, pages 60-65 – Ed)**

The SAGCSA wishes everyone a safe and happy festive season and all the best for 2019.

**NATHAN BENNETT
PRESIDENT, SAGCSA**

ON THE MOVE...

BEN HARTLEY: From assistant superintendent Freeway Golf Club to superintendent Rowville Lakes Golf Club, Vic (formerly Tirhatuan Lakes)

SHAUN LEHANE: From assistant superintendent Victoria Golf Club, Vic to superintendent Heidelberg Golf Club, Vic.

NICK MARINO: From superintendent Royal Park Golf Club, Vic to assistant superintendent Freeway Golf Club, Vic.

MICK PEARCE: Departed as superintendent Northern Golf Club, Vic.

GREG SIMMONDS: Departed Meadow Springs Country Club, WA after more than 30 years.

MATT SOLES: From assistant superintendent Roseville Golf Club, NSW to 3IC The Australian Golf Club, NSW.

JAMES STEWART: From superintendent Cheltenham Golf Club, Vic to superintendent Cranbourne Golf Club, Vic.

TURF AUSTRALIA



Many government authorities are currently reviewing their impact on climate change and urban heat island effect with the goal of reducing the impact their community has on the environment. Yet at the same time many local governments continue to install synthetic surfaces rather than invest in natural turf surfaces and teams that manage them.

Turf Australia contracted an organisation to undertake some thermal imaging using a drone and specialised software that provides accurate and detailed information, pixel by pixel, of the area under review. The project focused on a community sports complex in Sydney that has both natural turf and synthetic playing fields, soft fall rubber play area, tennis courts and car park areas. The results confirm the value of natural turf as being significantly cooler. On a 28°C day, the synthetic recorded over 54 degrees with the natural turf at least 21°C cooler.

A short video has been produced and is available on the Turf Australia website and additional material will be produced shortly. These findings support several other research documents recently released including one undertaken over several council areas in Western Adelaide. This recorded that both non-irrigated and irrigated green space (turf areas) produced cooler than average temperatures across the whole of the study area, with the most significant cooling resulting from irrigated turf.

It has been great to see several turf events held around the country recently promoting the benefits of turf. One of these was the Australian Lawn Fanatics holding an event for their members



Australian Lawn Fanatics held a day at GoTurf on the Sunshine Coast to promote the benefits of natural turf

at GoTurf farm on the Sunshine Coast. Attended by around 400 members, the day was a great family event and saw over 35 people involved in a mow-off, all celebrating their love of lawns.

The WA Turf Producers Association held its inaugural Lawn Expo designed for the general public, another great family event with displays, demonstrations and presentations assisting people maintain a quality lawn. This event was very successful and saw over 750 people attend.

Turf NSW then held its first Grass Roots Field Day that attracted around 50 sports turf managers and landscapers to the Evergreen Turf Farm at Pitt Town. Attendees were provided with presentations and demonstrations and got the chance to see a turf farm in operation. All three events continue to promote the turf industry and expand a turf/lawn community that contributes to a greener society.

Best wishes to all turfies and their families over the Christmas and New Year period.

JENNY ZADRO
MARKET DEVELOPMENT MANAGER,
TURF AUSTRALIA

TURF QLD



Turf Queensland, along with all other state turf producer associations, has recently completed a National Statistics Review that is targeted at identifying the correct size and GDP of the national turf production industry. The project collection activities were completed in October with analysis now being undertaken by an independent research organisation. A final report is expected in December 2018 with the statistics to be updated on an annual basis.

The Turf Queensland AGM was held on 16 October 2018 with the following elected to the board for 2018-19.

- **President:** Anthony Heilig (GoTurf, North Coast)
- **Vice-president:** Melissa Denny (Harden Park Lawns, Cairns)
- **Treasurer/secretary:** Greg Banff (Golden Finch Lawns, Lockyer)
- **Committee:** John Keleher (Australian Lawn Concepts, Scenic Rim), Hugo Struss (Tinamba Turf, Scenic Rim), Emma Burstall (Turfbiz,

Lockyer), Mick Newton (Bay Turf Gladstone, Central), Scott Tramacchi (Sunset Turf, Wide Bay) and Matt Heilig (GoTurf, North Coast).

A special note of thanks to **Ross Boyle** (Rosemount Turf) for his considerable input support and work undertaken on behalf of Turf Queensland and its members over a long period time, both as president and board member. We thank Ross for his considerable input on behalf of all TQ members.

Biosecurity Queensland is continuously on turf farms inspecting for fire ants and, in north Queensland, crazy ants. The turf industry encourages this and thankfully none have been found to be contaminated at this time. The issue here is that there should be some form of certification that provides turf farms with documentation to say they have been inspected at a certain date to provide assurance for customers.

JIM VAUGHAN
EO, TURF QUEENSLAND

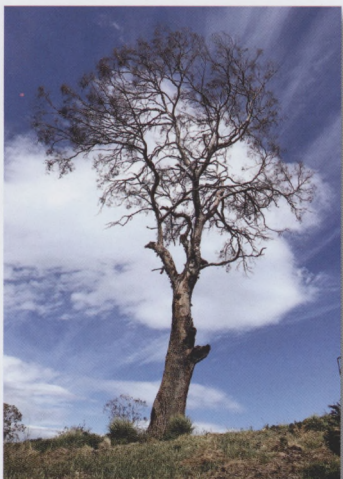
TGCSA

The TGCSA recently held a roving 'walk 'n' talk day which took in the likes of StrathAyr's impressive turf production farm



Long-time supporter of the TGCSA, Neville 'Mooch' Coulson from Pellows Saws and Mowers, is retiring at the end of 2018

Danny Gilligan shows attendees during the walk 'n' talk day some of the issues he is having with dying white gums on the course



As the year is coming to a close, the irrigation pumps are ramping up to peak output and wetting agents are one of our best friends as temperatures rise throughout the state of Tasmania.

Since the last report the new TGCSA committee has met and discussed the year moving forward with some very exciting and positive outcomes agreed upon. One of the most significant outcomes was the agreed unity of bringing all sectors of turf management to work together as one association, which will make us a stronger and a more viable entity.

Whether it be bowls, golf, councils, sports stadiums, racetracks or anything turf, we all deal with the same issues at some point, so our education days are going to be diverse and engaging in all of the above turf related areas. A name change is on the table for discussion that will link all turf sectors under the one umbrella.

On 13 November 13, Serve-Ag sponsored a roving 'walk 'n' talk day in Hobart. Eight northerners headed down on the bus and we had a reasonable turn up of 15 total delegates for the day. We visited StrathAyr Turf Farm where **Frank Casimaty** showed us the turf plots he is harvesting at the moment, as well as a plot of Santa Ana couch which is about to be harvested for Aurora Stadium for another drop-in wicket. Frank also ran us through the process of when they grew bentgrass turf for Concord Golf Club's recent greens replacement programme.

Our next stop was to the beautiful Tasmania Golf Club where superintendent **Danny Gilligan** gave us a rundown on the arduous task of removing 380 diseased and dead white gum eucalyptus trees and the impact it has had on the golf course. This is



going to be an ongoing project for Danny and as we walked around the course there were more starting to show signs of stress.

Our final stop for the day was to the Twin Ovals Complex at Kingston. **Brad Marsh** hosted us there and showed us the oval used for football (also used for AFL JLT games) and the other for cricket which were both in impeccable condition. Brad explained the different maintenance regimes used for both turf surfaces and how different their requirements are.

A huge thank you to Serve-Ag and **Brett Partridge** for sponsoring this day each year. Also special thanks to our hosts Frank Casimaty, Danny Gilligan and Brad Marsh for their time and effort.

Finally, at the end of this year, the Tasmanian turf industry will wish a happy and long retirement to one of the most influential characters that you are ever likely to see. **Neville 'Mooch' Coulson** and his wife **Carolyn** are hanging up the boots after some 24 years in the business at Pellows Saws and Mowers Toro.

With humble beginnings in a little shop front in a cul-de-sac at Kings Meadows, Launceston, the business has grown into a substantial sized building and business at Invermay that employs numerous people. Mooch covers the whole state with Toro mowers sales and service and makes sure that you are never without a mower. I have seen Nev and Carolyn out with the golf clubs a bit lately, so maybe that will be their enjoyment in the short term. We wish you both all the best in your retirement.

The batten will now be handed over to **Brodie Coulson** (son of the gun) and the effervescent **Geoff Stephens**. Geoff's background in turf management and in recent years as state sales manager for Toro in WA allows him to seamlessly slip into the business armed with a wealth of underpinning knowledge of the turf industry's needs. We wish them both the best of luck.

On a closing note, on behalf of the TGCSA committee I would like to wish everyone a merry Christmas and a happy and safe New Year.

PHIL HILL
PRESIDENT, TGCSA

It currently feels like we (the state and national turf bodies) are developing a consistent and logical voice which will assist the future progress of our industry. Two months ago, AGCSA CEO **Mark Unwin** and the state presidents convened a meeting to identify some of the present setbacks within our industry, along with the possible challenges moving ahead. In doing this, we see greater potential to help forward plan, inform all our members and educate the industry bodies that support our industry.

I consider that we are part of a progressive industry, one which strives for ongoing improvement. The support we exchange with our peers is a tremendous endorsement for the passion we have for our careers. I believe we need to channel this enthusiasm towards educating the greater golfing community about the challenges we currently face.

Regardless of the course you manage, we all experience similar hurdles whether it may be budget limitations, staffing numbers, staff retention, environmental challenges or water quality. These issues are not going away and it is imperative to work together and highlight our current work climate as turf managers to the golfing community.

IN OTHER VGCSA NEWS...

- **VGCSA Awards:** The VGCSA is in the process of interviewing nominees for the VGCSA Apprentice of the Year and Diploma Scholarship awards. I have been lucky enough to sit on this panel and witness how passionate these guys are about our industry and credit how well they present on the day. It's great to know we have a consistent standard of professionalism like this among the future turf managers of our industry.
- **Future awards:** The committee is in the process of developing a new educational award category whereby a member can gain professional development through national or international travel. Further discussions will be taking place in early 2019 to establish criteria and eligibility for the award prior to its launch later next year.



Spring Valley Golf Club hosted the recent VGCSA Open Golf Day sponsored by ADE Turf Equipment

- **Trial work:** The association has allocated funds to conduct further herbicide trials during the summer and winter seasons, with stage one of the trials now in progress. We will keep members informed of our developments and aim to publish the first technical report, outlining trials and findings, in the first part of 2019.
- **VGCSA Golf Day:** A big thank you to **David Phillips** and the staff at Spring Valley Golf Club for hosting the recent VGCSA Golf Day. The course was in fantastic nick and congratulations to the winning team of **Tim Bilston** (Syngenta), **Matt Hose** (RACV Cape Schanck), **Travis Stillman** (Rossdale GC) and **Ben Williams** (Commonwealth GC).

Finally, a special mention to Metropolitan Golf Club course superintendent **Dave Mason** and his team for the hard work in the preparation and execution of the course during what were less than favourable conditions for the World Cup. I almost had to shut down my Twitter account due to the saturation from Dave and assistant superintendent **Nick Launer** posting hourly on their progress in the lead-up to the event.

Well done guys – another Australian course showcased around the world highlighting the standards that can be produced with a fraction of the staff and budget.

BARRY PROCTOR
PRESIDENT, VGCSA



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Since the age of 11, Sydney based turf industry sales rep Chris Blagg has played the sport of ice hockey, rising to be one of the country's elite in his prime

Despite growing up on the doorstep of some of Sydney's famed surfing spots, it was a very different sport that would capture the heart of turf industry stalwart Chris Blagg, one in which he would become a household name.

Legend of the ice

Ice hockey is not the sort of sport you would think a young lad growing up on Sydney's northern beaches in the 1970s would naturally gravitate towards. Don't get me wrong, I loved the beach and loved my footy just as much, but it was a trip to the then Warringah Ice Skating Centre on the shores of Narrabeen Lagoon one day in the late 70s that would end up leading me down the path of something pretty special.

Along with some good friends, I learnt to skate there and by the time I was 11 I was playing ice hockey with the Warringah Bombers, one of the most successful ice hockey clubs in Australia. By the time I hit 16 I was wearing the green and gold of Australia, scoring my first goal for my country at

the Asian Oceanic Junior Championships held in Bendigo. Twelve months later, in 1989, I did likewise at the Philpott Challenge Under 21 Series held in Canberra.

When I was 18 I left Australia to play junior hockey for a season in Vermilion, located on the prairies of Alberta, Canada, two hours east of Edmonton, home of the famed Edmonton Oilers National Hockey League (NHL) team. The teams were full of tough farm kids trying to make it into the pro leagues and it was one hell of an experience for a young Sydneysider. It was a life-changing period, one that I totally loved, but most pleasing was discovering that my skill level wasn't out of place.

TAKING ON THE WORLD

With that experience under the belt, I went from there to represent Australia for the first time at senior level at the D-Pool World Ice Hockey Championships in Cardiff, Wales in 1990 at the age of 19. We won silver that year behind the Great Britain team with Spain third. In 1992, playing in the C1 Pool in England, we finished third behind the Brits and North Korea.

I ended up playing five World Championships as a forward for Australia, with three further trips overseas in 1993, 1994 and 1996. It was a period of great change for the sport internationally, with the break-up of the Soviet Union and Yugoslavia meaning the number of teams competing grew and thus more competition. This made it very challenging for Australia and together with my fellow Bombers teammates Phil Hora, Rad Benicky, Ross Moffatt, Howard Jones and Joe DeLisle, we had our work cut out to keep Australia in C-Pool. Fortunately we had a great coach at the time in Ryan Switzer who had previously held a coaching role with the Oilers. He was a great mentor and brought a new level of coaching to the national side.

In the 1993 C-Pool worlds we finished seventh of 12 teams, with the likes of Latvia, Ukraine, Kazakhstan and Slovenia all ahead of us. That relegated us to C2-Pool the following year in Spain where we finished sixth. We beat NZ in the 1996 D-Pool Oceania Qualification series before going on to finish 8th at the D-Pool worlds that same year.

All while this was going on I was juggling my playing commitments with my job as a qualified greenkeeper in Sydney. As it transpired, in 1993 I was offered an ice hockey scholarship at the University in Toronto in Canada while I was working at Monash Country Club in Sydney's north. Unexpectedly, at the same time, the assistant superintendent's job came up which I was being considered for by Marshall Howarth who was then superintendent.

In a sliding doors moment in my life, I decided that if Monash gave me the assistant role I would take it and if not I was gone. The rest as they say is history as I was offered the role and stayed in Australia, continuing to play on the national team and in the Australian domestic competition with the Warringah Bombers. Shortly after that I moved into

a sales representative role with NSW turf industry supply company Maxwell & Kemp which I only left about three years ago to move into a new role with AGCSA Silver Partner Globe Growing Solutions.

At a domestic hockey level I was fortunate enough to captain the Warringah Bombers and be a part of three Superleague titles in 1990, 1991 and 1994 (in the latter I managed to score two goals as we downed Canberra). My career actually nearly ended in 1991 when I suffered a crushed ankle, but the following year I achieved what all Australian ice hockey players covet by winning the Goodall Cup while representing New South Wales.

I continued to play at that level up until I was 28 before deciding to hang up the skates in 1999. Since then I have continued to play recreational hockey while also becoming involved in the admin side of the game. I am currently the president of the Sydney Ice Dogs which are one of two Sydney-based teams that form part of the eight-team semi-professional Australian Ice Hockey League (AIHL), with teams also hailing from Melbourne (two), Newcastle, Perth, Canberra and Adelaide.

In the 2017 AIHL season I also took over the coaching reins of the Ice Dogs following the departure of our coaches. With the help of assistant coach Chris Foster, the club improved from seventh to fifth, falling just four points shy of a playoff spot. With the signing of former coach Andrew Petrie this past season, I am now back focusing on the president's role. Our family also puts its name to one of the club's end of season awards – The Blagg Family Award for Sportsmanship.

MEETING THE GREAT ONE

There have been numerous highlights throughout my time involved with ice hockey, but perhaps the biggest one came in June 2016. All throughout my playing days one name dominated the sport of ice hockey – Canadian national treasure Wayne Gretzky. Dubbed 'The Great One', Gretzky is considered the greatest player to have ever graced the ice and his list of achievements is simply unrivalled.

Over a 20-season career in the NHL during the 1980s and 1990s, Gretzky revolutionised the game of ice hockey as we know it. He won five Stanley Cups – four with the Edmonton Oilers and one with the Los Angeles Kings – and holds the NHL record for the most points and assists, along with about 100 other official and unofficial records.

While I saw Gretzky (who wore the famous No.99 jersey) a number of times live during my playing days, in 2016 I ticked off a major bucket list item when I got to meet my childhood idol as part of the Wayne Gretzky 2016 Ice Hockey Classic. The Classic was a five game series of matches played between the visiting USA and Canadian teams, with Gretzky making a special appearance in Game 4 at Sydney's Qudos Bank Arena. I was privileged to be MC on the night as well as Gretzky's host during his time in Sydney.



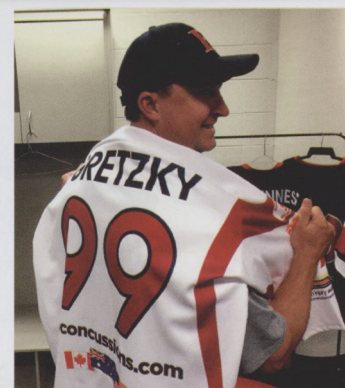
In front of 13,000 fans, Gretzky (pictured above left) was involved in a ceremonial 'face off' with promoter Kerry Goulet (pictured above right) and 92-year-old Dick Groenteman who 'dropped the puck'. Dick's story is remarkable in itself – he survived death row, working camps and Auschwitz during World War II and became The Netherlands' youngest national ice hockey team representative in Europe at that time. Moving to Australia in 1950, he would go on to build five ice rinks over a 30-year period, while his son David went on to represent Australia. Needless to say it was an incredible night and something I will never forget.

Another rewarding part of my involvement in the sport was to revive the Matt Clark Memorial Shield match. Matt was a former Bombers junior player that I coached and who played in the Australian youth team before his life was cut short by leukaemia at the age of 17 in 1995. Matt's last wish was that his friends and family find a way to raise money for leukaemia research, so between 1995 and 2001 the Bombers held the Matt Clark Memorial Shield. After an hiatus of more than 15 years, in 2016 we revived the contest through the Sydney Ice Dogs who now wear the old Warringah Bombers jerseys with Matt's last name on the back as a tribute.

Writing this piece for ATM has been a wonderful trawl back through more than 30 years of involvement with the game of ice hockey in Australia. It has been a fantastic journey and I could not have done it without the support of my beautiful wife of 21 years Michele and sons Joseph (20) and Samuel (17).

ACKNOWLEDGEMENTS

Some of the information in this article has been derived from Ross Carpenter's 'Legends of Australia Ice' website <http://icelegendsaustralia.com>.



Up close and personal with 'The Great One'. Blagg was MC and host of Canadian ice hockey legend Wayne Gretzky, when he made a special appearance at the 2016 Ice Hockey Classic match in Sydney



Blagg was involved in five World Ice Hockey Championships between 1990 and 1996





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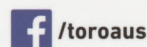


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