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MANAGEMENT JOURNAL

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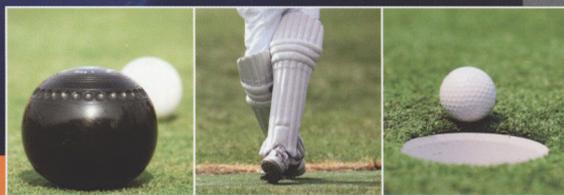


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COVER

Aussie ex-pats: Florida based Aussie ex-pat superintendents (from left) Stuart Bothe, Mathew Tacilauskas, Mark Reid, Brook Maxwell, David Dore-Smith and Blair Kirby. **Photo:** 375 Photography/The Florida Green.



LEAD STORY: Flying the flag

6

The Ohio Program has afforded many Australian greenkeepers the chance to work at some elite US golf courses and immerse themselves in the biggest course management industry the world has. While many return home following their internship armed with new skills and experience, for a number it has proven to be the springboard to further their careers internationally. Trent Bouts, editor of The Florida Green magazine, the official publication of the Florida chapter of the GCSAA, catches up with a group of Aussie ex-pats who have gone on to forge extremely successful and rewarding careers as superintendents in Florida.

FEATURES

Inside Merion

14 and 20

With Royal Sydney Golf Club set to embark on a major course redevelopment in the coming years, assistant superintendent Adam Marchant was recently afforded the opportunity of a lifetime. Marchant spent three months based at Merion Golf Club in Pennsylvania to get an inside look at how one of the world's high-end golfing establishments operates. During that time he also visited a number of other elite facilities and volunteered at the 2017 US Women's Open and US PGA Championship.

Natadola's new look

24

No sooner had the 2016 Fiji International concluded last October than course superintendent Steve Lalor and his crew were ripping up turf and embarking on a major course renovation. Lalor looks back at the race against time to get the course up for the 2017 Fiji International.



Fine-tuning your crew

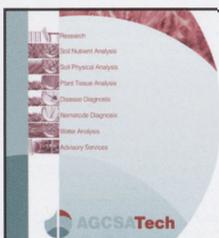
30

While having a machinery fleet in optimal condition goes a long way to ensuring presentation standards are met, having a well-oiled and efficient crew is equally as important. USGA agronomists Paul Jacobs and Patrick O'Brien provide some tips on how superintendents can improve the productivity of their existing staff.

Managing fungicide resistance

50

Fungicides allow turf managers to reduce the detrimental effects of disease on turf health and playability, making them an integral part of modern turf management systems. While there has been a lot of industry discussion recently surrounding herbicide resistance, as Syngenta technical manager Michael De Luca writes, turf managers also need to be mindful of the threat of fungicide resistance development.



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COLUMNS

Grass-roots with John Neylan 36 and 44



Over two separate articles, Australia's foremost agronomist and regular ATM columnist John Neylan provides a comprehensive review of the 2017 International Turfgrass Research Conference held in New Jersey, US. He looks at some of the key research and presentations given and also takes readers inside the likes of Red Bull Arena, Bayonne Golf Club and the world-leading turf research facilities at Rutgers University.

HR management with Vicki Crowe 48



This edition sees the start of a regular column dedicated to human resource management issues. Vicki Crowe, current HR representative for The PGA of Australia who has more than 25 years' dedicated experience in the field, kicks things off by looking at workplace termination.

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Contributors to Australian Turfgrass Management Journal Volume 19.5 (September-October 2017)
 Jeff Austen (South Metro TAFE); Simon Bourne (GCSAWA); Trent Bouts (Tee Media Consulting); Will Bowden (STANZ); Vicki Crowe (PGA of Australia); Michael De Luca (Syngenta); Richard Forsyth (Royal Melbourne GC); Stuart Gill (NSWGCSEA); Tony Guy (STA WA); Steve Hodson (NZGCSEA); Paul Jacobs (USGA); Mark Johnson (TGCSA); Steve Lalor (Nataadola Bay Golf Course, Fiji); Dean Lewis (Thurgoona CCR); Adam Marchant (Royal Sydney GC); Paul McLean (GCSAQ); Craig Murdoch (Mornington GC); Mat Poulthney (VGCSA); John Neylan (Turfgrass Consulting and Research); Patrick O'Brien (USGA); Shane Summerhayes (Turfcare Australia); STA Victoria.

HR help

Human resource management. I'm sure those three words would prompt most superintendents to hastily grab the key to a turf utility and head to the farthest reaches of their course to dig an irrigation trench, by hand. It is a highly complex and difficult area of management and for many superintendents it is one that they often struggle with.

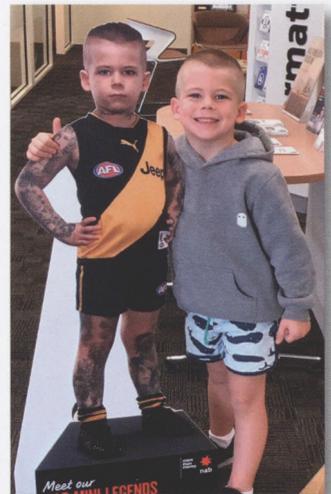
Along with the likes of environmental management, water management and workplace health and safety, HR management has become an increasing focus for superintendents in recent times. It is such a broad area and in an industry where it is becoming increasingly difficult to attract and retain quality staff, the manner in which superintendents approach it can have a significant impact on their course operations.

The AGCSA for a number of years has provided HR advice for its members and since the start of this year members have been able to call upon one of the best in the business. Vicki Crowe is the HR representative for the PGA of Australia and through an arrangement with the AGCSA is now the association's HR advisor too. In this edition we welcome Vicki on board as a regular columnist to provide some insight into a range of HR issues, so if you have any areas or topics that you would like her to address, then please get in contact with ATM.

As an aside, the HR environment for golf clubs could become increasingly challenging if a current move by Clubs Australia gets up through Fair Work Australia. On 28 July 2017, Clubs Australia filed an application to revoke the Registered and Licensed Clubs Award 2010 and vary the Hospitality Industry (General) Award 2010. The proposal would see significant changes to penalty rates, which many in the golf course maintenance industry rely upon to supplement what is historically a very low-paid profession. Such a change could dramatically impact golf clubs' abilities to attract and retain quality staff, which would in turn have a flow down effect on the quality of the surfaces they provide. Given such significant ramifications, the AGCSA has joined the PGA of Australia in making a submission to Fair Work in opposition of the move. A hearing date is set for November.

Finally, it would be remiss of me not to mention Richmond's AFL Grand Final win. For the likes of AGCSA superintendent members and long-suffering Tigers diehards Mark Prosser (Commonwealth GC), Lincoln Coombes (RACV Royal Pines) and Tim Warren (Links Lady Bay GC), they will no doubt still be celebrating as this edition rolls off the presses. While it was a day they will never forget, for fellow superintendent Clint Raven (Heidelberg GC) the AFL Finals Series was memorable for a very different reason.

Raven's five-year-old son Ollie (pictured) was cast as 'mini Dustin Martin' in this year's NAB Mini Legends campaign. Ollie was one of a select group of kids chosen from 550 entries to feature in the campaign and struck it lucky when he was cast as the 2017 Brownlow Medallist's mini alter ego. Complete with Martin's trademark tattoos (not real of course) and haircut, Ollie quickly went viral and literally stole the limelight during Channel 9's AFL Grand Final Footy Show when he got up on stage with Martin himself. Raven says it was a tremendous experience for young Ollie who despite barracking for Hawthorn is now well and truly a Tiger for life. Enjoy the read...



Brett Robinson
Brett Robinson, Editor

AUSTRALASIAN TURFGRASS CONFERENCE & TRADE EXHIBITION WELLINGTON: 24TH-29TH JUNE 2018

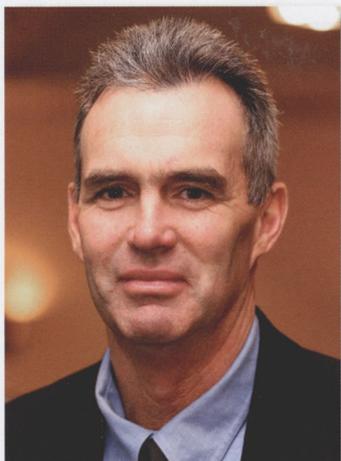


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Mark Unwin takes the reins as new AGCSA chief executive



Forgive me for mentioning Groundhog Day, but it certainly seems like it as I put together this edition's Foreword Thinking. It was almost 12 months ago to the day that the AGCSA announced the appointment of a new chief executive officer. A lot of water has passed under the bridge since then and as all members will be aware the AGCSA recently announced the appointment of **Mark Unwin** (pictured) as the association's new chief executive.

Mark brings a very solid background of senior management positions to the role and during the interview process Mark's thoughts and passion for the AGCSA and what the future could hold stood out to the interview panel. While we all know that nothing in life is certain, the AGCSA Board is confident that Mark is the right person to lead the association forward in the next stage of our development. Mark started with the AGCSA on 25 September and is looking forward in the coming weeks and months to meeting our members and key stakeholders.

As we move ever closer to next year's inaugural **Australasian Turfgrass Conference and Trade Exhibition**, to be held from 24-29 June 2018 in Wellington, New Zealand, preparations continue to progress rapidly. In mid-August, myself, AGCSA director **Peter Lonergan** and AGCSA events and education manager **Simone Staples** spent four days in Wellington visiting venues, accommodation options and partner programme possibilities.

We were also fortunate to attend the South Island Fine Turf Seminar held in a very cold Dunedin where we were able to meet with board members of the NZGCSA to exchange suggestions and disseminate information already gathered. This in



all likelihood will be the only 'face-to-face' meeting between both boards. A planning group will be formed and telephone hook-ups will be the norm going forward, the first of which was held mid-September.

Due to the logistics of the event and some financial implications regarding the GST laws of both countries, we will for the first time use a professional conference organiser (PCO) to assist in the management of the conference. Conference Innovators Ltd has been engaged by the AGCSA to perform this duty. This will certainly reduce the workload required by AGCSA staff in planning and may be the forerunner of a more permanent practice for future conferences.

From the feedback received and also the interest shown by both delegates and trade members, we are confident that the Australasian Turfgrass Conference will be a huge success and, who knows, may lead to such joint conferences becoming more common.

INDUSTRY ASSOCIATIONS

AGCSA members and readers of ATM may not be aware that the AGCSA has representation in various industry bodies. The AGCSA is a member of both the Australian Golf Industry Council (AGIC) and also the Sports Environment Association (SEA).

The AGIC was formed in 2006 to provide a forum to help unite the industry. The partnership consists of the AGCSA, Australian Ladies Professional Golf, Australian Sporting Goods Association (representing golf equipment suppliers and manufacturers), Golf Australia, Golf Management Australia, Professional Golfers Association of Australia and the Society of Australian Golf Course Architects, all of which are directors.






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Currently the AGIC has four working groups – industry collaboration, awareness of golf, government relations and structure and resources – with the aim of working together for the good of the game. Briefly, objectives of the association are;

- Identify political and commercial objectives;
- Actively express the industry's viewpoint to all levels of government on industry-wide issues;
- Anticipate actions by other parties that will affect the industry;
- Provide a forum to bring together all key sectors of the Australian golf industry;
- Coordinate and optimise industry research and other agreed industry projects; and
- Provide an effective medium for disseminating relevant communications, news, developments and projects undertaken and or achieved by the Australian golf industry.

The SEA, since June 2015, has acquired 18 foundation members of which the AGCSA is one. We sit alongside the likes of the AFL, Basketball Australia, Bowls Australia, Golf Australia, Netball Australia and Tennis Australia. The SEA is committed to do more (for the world) with less (impact) so we can have places to play.

The AGCSA has been approached to attend the SEA annual one-day summit on 14 November at the MCG. We are in discussion to have a representative in the standalone 'Golf is Good' panel, which is focussed on all the great things happening in golf to protect our natural environment. This may present the perfect opportunity to promote to the greater sporting community the excellent work that occurs within our industry in helping to improve the environment.

AWARDS MERGER

Finally, members of the industry should be aware of the current move by Clubs Australia which is seeking to merge the Registered Clubs Award with the Hospitality Award. The PGA of Australia has many members who would be affected by this and has decided to lodge a submission to Fair Work Australia on behalf of its members. The PGA has asked the AGCSA to join forces in the submission which we have agreed to as many of our members could also be affected.

We believe that the main reason for the merging of the awards is to greatly reduce/eliminate weekend and public holiday rates which obviously will have a detrimental effect on our industry.

Submission letters from **Gavin Kirkman** (PGA of Australia chief executive) and myself have been lodged and can be viewed on the Fair Work website by searching for 'AM2017/39 – Registered and Licensed Clubs Award 2010 and the Hospitality Industry (General) Award 2010'. The hearing is due in November and both organisations are hopeful that the merge will not take place, thus ensuring the continuance of payment of penalty rates. 🙏



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Flying the flag



It was back in the late 1990s that a flight from Sydney, Australia to San Francisco, California was filled with 12 young men looking to immerse themselves in turf maintenance through The Ohio State University's international intern programme. "We didn't know each other when we first sat on the plane but by the end of the 14-hour flight and a few beers we were best of mates," laughs one of them, a now older and considerably wiser David Dore-Smith.

For most in the group, it was their first venture overseas. Some would encounter differences that, coupled with the pull of home, were enough to send them back over the Pacific right on schedule once their internships were done. But for at least three on that flight – Dore-Smith, Brook Maxwell and Matthew Tacilauskas, the novelties of their new world, coupled with vast opportunity, enticed them to stick around.

Twenty years later, all three are still in the US, helping provide the kind of golf course conditioning that makes the game an \$USD11billion boon to Florida each year. Dore-Smith is golf course superintendent at Copperleaf Golf Club in Bonita Springs and Maxwell is golf course superintendent at Pelican Marsh Golf Club less than half an hour south in Naples. Tacilauskas is about two and a half hours east at Palm Beach Country Club. And they're not alone.

Thanks to that same long-running programme at Ohio State, the Sunshine State, as Florida is known as, is home to a small but active community of ex-pat Aussies now numbering in the double figures. "All of the guys agree – The Ohio Program is a wonderful and life-changing experience," says Dore-Smith. "We can't thank the superintendents enough who invested their time into developing the interns over the years and who continue to do so."

AUSSIE AMBASSADORS

One of the pioneers of the Aussie influx was Mark Reid, who grew up in the golf business. His dad, Bill, was a superintendent for 45 years before retiring from Lonsdale Golf Club on Victoria's Bellarine Peninsula. Older brother Gavin is a consulting agronomist in Vietnam (see his article – 'A chip off the old block' – that appeared in ATM Volume 16.6 – November-December 2016).

Reid had basically lived at home his entire life until, as a 20-year-old, he landed at Bear Lakes Country Club in West Palm Beach in the mid-'90s. He slept on the floor for the first few weeks of his internship but today is director of golf and grounds maintenance with 36 holes at The Breakers Palm Beach. "When I set foot on that plane did I ever think I would be here, 11,000 miles away, all these years later?" asks Reid. "Absolutely not!" Yet "here" he undoubtedly is. With his American wife Denise and their three kids, Reid has put down personal roots as deep as the ones he gets paid to grow.

His success doesn't surprise Michael O'Keeffe, the genial, high-energy Irishman who runs The

Ohio Program and has done for decades. "They were quality kids," he says of the stream of young Aussie interns that have since settled in Florida. "We enjoyed having them here. They've not only gone on to good jobs, they're involved in their associations and giving back to the industry. They're great ambassadors for their country."

Reid himself is partly responsible for growing the number of "blokes" in Florida golf course maintenance, and elsewhere for that matter. For years at The Breakers and before that at The Club at Admirals Cove in Jupiter, he provided internships for young countrymen through The Ohio Program. His motives were simultaneously sound and selfish.

Reid appreciated the "work ethic that 99 per cent of them had" and, knowing how much he'd benefited from The Ohio Program, he wanted to pay it forward. But just as much, he loved the breath of home all those kids brought with them. "They gave me something I was lacking, something I was missing," he says. "It helped me stay in touch." There were interns from other countries too of course. "But I definitely had a strong preference for Aussies."

One of the 'preferred' was Ashley Byham, now golf course superintendent at the Fazio II course at St. Andrews Country Club in Boca Raton. The Reid and Byham families "lived across the street from each other" in Barooga, a town of about 1200 people on the Murray River. Byham's father, Peter, a renowned boomerang thrower and manufacturer, was the cook at Cobram Barooga Golf Club where Reid's dad was superintendent at the time. "I've known Ash since he was four or five," Reid says. So he didn't hesitate when word came through that Byham was interested in interning in the US through Ohio State.

"I love that kid. You're never going to meet a harder working individual or anyone more passionate about what he does," Reid says. Ultimately, Byham went to work for Reid full-time becoming his assistant at the Breakers West course. Luke Clay, assistant superintendent at The Club at Ibis in West Palm Beach and Blake Powers, assistant superintendent

Australian greenkeepers and superintendents are renowned the world over for their skill and work ethic. As Trent Bouts writes, a group of Aussie ex-pats have taken root in Florida over the past 20-odd years and have forged significant careers in one of the world's most competitive golf markets.

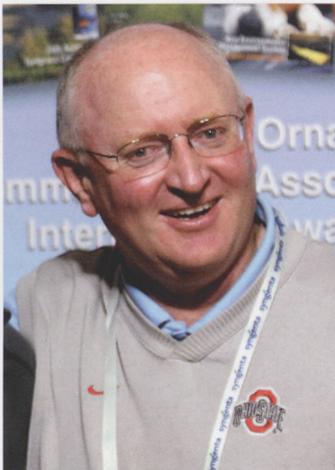
Far left: Just some of the ex-pat Australians who have forged a successful life for themselves in Florida. From left are Matthew Tacilauskas, Brook Maxwell, Mark Reid, David Dore-Smith, Stuart Bothe and Blair Kirby. Photo: 375 Photography

Below: A very young looking Stuart Bothe (far right) and David Dore-Smith (third from right) with Greg Norman and fellow crew members when the Great White Shark visited Tiburon Golf Club





The Breakers has been home to Mark Reid for the past 14 years



Mike O'Keeffe (The Ohio Program, OSU) – "They're great ambassadors for their country."

at Isleworth Country Club in Windermere, are other Reid interns who stuck around.

Another, Jimmy Trichter, is assistant golf course superintendent at The Concession Golf Club in Bradenton. While that puts him two hours away from the Naples enclave of Aussies, which also includes Stuart Bothe at Vanderbilt Country Club, and farther still from the group around Reid on the east coast, a quirk of geography means he gets to see a lot of the guys without having to leave town.

The Sarasota International Cricket Club is "right out the back door" from Concession and is a major draw for Aussies, particularly on major holidays such as Australia Day and ANZAC Day. Dore-Smith is among the regular visitors soaking up the mateship so integral to life back home.

As Trichter says, "I'm working too many hours to play cricket, but I can go and have a beer. Also Aussie Rules footy is big in the area and there's a local rugby club. So everyone can get a fix of home pretty easily. I'm pretty lucky to have good mates to get together with and have a barbie and a few beers."

That's a sentiment echoed by Reid on the other side of the state where he's not only close to Byham and Tacilauskas but also Blair Kirby, who followed Reid's footsteps and is now director of golf course maintenance at The Club at Admirals Cove. "I've got my mates close by and I try to spend as much time with them as I can," Reid says. "There's a great nucleus of guys. We get together for a beer, a barbie, nine holes of golf, whatever. It helps me keep my accent!"

You'll also find regular Aussie pairings at chapter and state association meetings. But that's not to suggest they are insular by any means. As O'Keeffe says, they have a strong record of giving back. For example, Bothe is current president of the Everglades GCSA and Reid serves on the board of The First Tee of the Palm Beaches. Dore-Smith is a past-president of the Florida GCSA, not something he could have imagined when he was pulling weeds in front of the clubhouse at Croydon Golf Club in Melbourne as a teenager.

"The club was right around the corner from home and I wanted to be a landscape gardener so I got a job there doing a day a week for \$5," he recalls. "One day the superintendent drove past and said he was looking for an apprentice. So I went home and, with unemployment at 10 per cent at the time, mum said it was a no-brainer."

NEW LIFE

As "all in" as the Aussie expats might be – Reid's 13-year-old son Billy pitched in the Little League World Series in California this summer while dad coached first base – they still treasure access to some cultural familiarity. Reid says it was critical in getting him over the hump in those first few weeks all those years ago. He tells of finding himself



ASHLEY BYHAM (40)

Family: Wife Meredith, children Xavier (5) and daughter Harper (4 months).

Club: St. Andrews Country Club, Boca Raton.

Title: Superintendent on the Fazio II course.
Years at current facility: Six. I arrived in Florida in 2007 and was placed at Breakers West golf course as an intern for six months before accepting the assistant position at The Breakers Hotel Ocean Course. In 2010 I moved back to Breakers West as assistant. In 2011 I accepted the position as superintendent on the Palmer course at St. Andrews Country Club. I moved over to the Olde course in 2015 as the superintendent and last summer we completed a full renovation and renamed the course from the Olde course to Fazio II, named after the architect Tommy Fazio.
Year finished internship: 2008.
Home town: Barooga, NSW.

What do you miss most about Australia:

Family, meat pies and the metric system!

Best thing about living in the US: Better job opportunities, wife and kids.



DAVID DORE-SMITH (43)

Family: Wife Christine, children Brooke (11) and Brady (9).

Club: Copperleaf Golf Club, Bonita Springs.

Title: Director of golf course and grounds maintenance.

Years at current facility: 14.

Year finished internship: 1998. I arrived in the US in 1997, 20 years ago this year.

Home town: Melbourne, Victoria.

What do you miss most about Australia: Family, fresh food, meat pies, Aussie sports.

Best thing about living in the US: Met my wife. Wonderful opportunities. Great friendships.

Do you have a funny story about being an

Aussie in the US?

Driving to Orlando one day with some other Aussies, we stopped in at a McDonald's in the middle of the state. The girl behind the counter heard the accents and asked where we were from. We said Australia and she thought that was really cool but then asked if we drove here... from Australia! True story!



STUART BOTHE (46)

Family: Wife Valerie, children Anthony (11) and Nicholas (8).

Club: Vanderbilt Country Club, Naples.

Title: Superintendent.

Years at current facility: 13.

Year finished internship: 1999.

Home town: Nhill, Victoria.

What do you miss most about Australia: Meat pies, sausage rolls, AFL and family.

Best thing about living in the US: The lifestyle.



Vanderbilt Country Club in Naples, Florida has been home to Victorian Stuart Bothe since 2003

“There’s a great nucleus of guys (here). We get together for a beer, a barbie, nine holes of golf, whatever. It helps me keep my accent!”

– Mark Reid, The Breakers

seated on the plane to the US next to a “big, burly Tasmanian”. He quickly discovered the Tasmanian, Steve Harris, was also headed to the States on The Ohio Program.

“I said, ‘Where are you going’ and he said ‘Bear Lakes.’ I said ‘Bulldust, you can’t be! I’m going to Bear Lakes.’” In no time Reid and Harris, now with a plum job back in Australia at The Vintage in the NSW Hunter Valley, were living with and leaning on each other as they negotiated the bumps and hiccups that come with life in a new country.

While Reid left Australia deliberately to “get out of the comfort zone and learn some life lessons”, that didn’t make the process any less daunting,

at least early on. “I’m so thankful they sent Steve along,” Reid says. “I was this Aussie kid who’d never been away from home and here I am in a new culture, new industry. Having him around those first few months while we were cutting our teeth and learning the ins and outs of the place was priceless.” Years later they would be best man at each other’s weddings.

O’Keeffe says creating bonds like those is a significant goal of the internship program. “That’s what we want,” he says. “There’s a purpose to our madness putting these guys together in close

CONTINUED ON PAGE 11

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HURRICANE IRMA HITS AUSSIE EX-PAT SUPERS HARD

More than two weeks after Hurricane Irma crashed into the southern USA in September, Stuart Bothe was still 10 days away from reopening his first nine holes at Vanderbilt Country Club in Naples, Florida. The back nine would have to come later still as Bothe, his staff and multiple contractors worked on more than 600 trees that were either uprooted or so damaged they had to come down. Other crews were working to replace sand in all of the club's 85 bunkers after torrential rains and sustained winds of more than 200kph turned them into "washing machines".

"I've never seen anything like it," Bothe says, who also endured hurricanes Charlie (2004) and Wilma (2005). "It's the worst one we've had. It was as if there was an agitator from an old-fashioned washing machine in the middle of the bunkers just stirring everything up. We've got fine sands, coarse sands and native soils all mixed together. It's a mess."

Bothe was probably the hardest hit among several ex-pat Australian superintendents affected by the storm. Unlike many courses in Florida with palm trees and native vegetation adapted to heavy

winds, Vanderbilt Country Club is a sea of pines and oaks. "It's not just that we've got trees down," Bothe says. "We've got leaning trees and we've got trees, 50-foot or 60-foot, that are snapped off half way up or higher. They've all got to come down because stressed trees are vulnerable to pine beetles that can end up attacking your healthy trees."

As Hurricane Irma approached, Bothe evacuated his wife and two sons to Jupiter on the other side of the state, using accommodations arranged by fellow Aussie Matthew Tacilauskas from Palm Beach Country Club. He wasn't sure what he would find when he returned. Fortunately his house suffered only minor damage but he was without power for a week until he secured a generator.

Bothe and his crew spent the first three days after the storm clearing streets in the club neighbourhood. At one point they had most of the roads cleared before another four-inch deluge flooded streets again, blocking culverts with debris. With three months left to go, Bothe had recorded 90 inches of rain for the year versus the average of 54.

Ironically, despite all that water and because of no power and compromised sewage systems, Bothe and his team were without ice and drinkable water – unless they boiled it – for about a week, in temperatures of 30 degrees and higher. Still, he says, perhaps the cruellest part of the aftermath was having to keep the course closed even when tees, fairways and greens were thriving again.

"That's the demoralising thing, when all the turf is clear and looks good but we've still got all this work in the wooded areas to do," says Bothe. "The members are jumping to get out there. And we could open the golf course right now if not for the bunkers and the trees on the edge. Putting golfers out there with all the chainsaws and heavy equipment would just be impossible."

Not surprisingly as the clean-up operation ground into its third week, the wear and tear was beginning to take a toll. Bothe was heavily congested and running on medications that countered his cold but kept him awake at night despite his exhaustion. "I was in bed at 7pm last night and my eyes were wide open until 11.30pm. It's ridiculous!" he says.

David Dore-Smith's hurricane experience at Copperleaf Golf Club in Bonita Springs, while significant, was not as bad as Bothe's. With some 240 trees down and another 160 in need of professional pruning after the storm, he was able to get the course open 12 days after the storm.

Getting the golf course back in action so swiftly had another significant benefit. Dore-Smith was able to jump on a plane on 27 September and head for the MCG to watch his beloved Richmond Tigers win their first AFL premiership in 37 years. His match ticket was provided by uncle and former Essendon great Ken Fraser, who had long promised his nephew he would get him a seat if the Tigers ever made it to the Grand Final.

- Trent Bouts

Above and below: Vanderbilt Country Club, home to ex-pat Australian superintendent Stuart Bothe, suffered extensive damage when Hurricane Irma slammed into Florida in September





Copperleaf Golf Club in Bonita Springs, home to ex-pat Melburnian superintendent David Dore-Smith

CONTINUED FROM PAGE 9

proximity as much as we can. That's how they become friends, lifelong friends in some cases, but also so they build their networks that they can get help from when there's an issue on their course."

He laughs when he points out that Aussies traditionally don't need a lot of encouragement when it comes to socialising. Dore-Smith recalls how he and a few others pitched in to buy Bothe a neon sign for his apartment when the two of them were working at Tiburon Golf Club, a Greg Norman-designed course in Naples. Dore-Smith was the assistant and Bothe the spray tech. The sign

flashed 'Club 206' such was the atmosphere at the apartment. "We had a lot of fun in those early days," says Dore-Smith. "We worked hard and played hard but never lost sight of why we were here and of our responsibilities."

Those memories and the ties he made during that period mean the world to Dore-Smith. "In the end that's what makes the whole superintendent profession so great, the camaraderie," he says. "It's what the business is. And it's what the associations at the state level and at the local chapter level are all about promoting."

Like Reid, and in fact pretty much every one of his cohorts, Dore-Smith never dreamed he would

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“All of the guys agree – The Ohio Program is a wonderful and life-changing experience.”

– David Dore-Smith, Copperleaf GC

be here permanently. “No, no, no,” he says. “My intention was to do my internship and come back and get a job in northern New South Wales or Queensland where it’s warmer.” But again like so many others, he was quickly enamoured, not just with the immense opportunities here, but also the resources. “I’m still amazed by the tools we have here,” Reid says. “We’re 100 per cent spoiled.”

The other thing most of them have in common of course was falling in love with an American woman, a by-product of which is legal permanent residency. “Part of the paper work you have to sign when you do The Ohio Program effectively says that you won’t use the chance to get married and stay here,” Dore-Smith says. But bureaucracy is a meek weapon against matters of the heart. As Reid says with a laugh: “I fell in love with my visa.”

ACKNOWLEDGEMENTS

Australian Turfgrass Management wishes to thank Trent Bouts and The Florida Green magazine for allowing the publication of this article. Bouts’ original article – ‘These blokes came from a land Down Under’ – appeared as the lead story in the Spring 2017 edition of The Florida Green, the official publication of the Florida Golf Course

Superintendents Association. Bouts is an ex-pat Australian and former journalist with The Herald, Herald-Sun and The Australian newspapers. He now runs his own media company – Tee Media Consulting – and works with a number of state GCSAA chapters assisting with their publications. He is current editor of The Florida Green.

Editor’s Note: The Ohio Program is currently taking applications for 2018. If you are aged between 19 and 28 and have just completed your apprenticeship, a number of spots are available starting next March to work in the USA for up to seven months on cool-season golf courses, with options to extend and move to warm-season grass courses in the south of the US until the following March/April. Options are there to extend further and stay a total of 18 months if you qualify.

Over 120 interns go through the programme each year with Australian greenkeepers highly sought after. Interns are placed on the world’s best courses, including the likes of Pine Valley, Oakmont Country Club, Merion and Shinnecock Hills. For more information visit <http://ohioprogam.org> or email TOP coordinator Michael O’Keeffe okeeffe.1@osu.edu. 🍷



MATTHEW TACILAUŠKAS (43)

Family: Wife Trish and son Justin.
Club: Palm Beach Country Club, Palm Beach.

Title: Superintendent.
Years at current facility: Seven.
Year finished internship: 1998.
Home town: Cooma, NSW.

What do you miss most about Australia: Going to the races.
Best thing about living in the US: Playing amazing golf courses on a regular basis.
Do you have a funny story about being an Aussie in the US? None that can be made public!



BLAIR KIRBY (37)

Family: Wife Erin, children Macayle (3) and Everett (1).
Club: The Club at Admirals Cove, Jupiter.

Title: Director of golf course maintenance.
Years at current facility: 6.5.
Year finished internship: 2003.
Home town: Narooma, NSW.

What do you miss most about Australia: Sausages, Jatz crackers, Allen’s Lollies.
Best thing about living in the US: Getting to meet a lot of great people and see some really cool things.
Do you have a funny story about being an Aussie in the US? I was working at a

PGA Tour event and saw one of the Aussie players who had the colours of the same team I barrack for back home on his putter grip. When I said to him ‘What a great team!’ he was caught off guard and we ended up talking for a couple of minutes.



MARK REID (BLOODY OLD! '74 VINTAGE)

Family: Wife Denise, children Kendall (20), Quinn (18) and Billy (13).

Club: The Breakers Resort, West Palm Beach.
Title: Director of golf and grounds maintenance.
Years at current facility: 14.
Year finished internship: 1996.
Home town: Point Lonsdale, Victoria.

What do you miss most about Australia: My family. Close second is the smoko’s at work. Real bread and the best beer in the world!
Best thing about living in the US: The opportunities that I have had. Having the tools to do the job. Being able to see and play some really amazing golf facilities.



BROOK MAXWELL (42)

Family: Fiancée Jennifer, sons Caleb (18) and Aiden (12).
Club: Pelican Marsh Golf Club, Naples.

Title: Superintendent.
Years at current facility: Eight.

Year finished internship: 1997.
Home town: The Gold Coast, Queensland.
What do you miss most about Australia: Friends and family.
Best thing about living in the US: The many opportunities for growth within our industry. It is not like that back home.
Do you have a funny story about being an Aussie in the US? I still cannot talk to an automated phone service (such as Comcast or FPL). It cannot decipher the accent so I always request to speak with an operator at the beginning of the phone call.



JAMES TRICHTER (39)

Family: Wife Mary and daughter Adelaide (7).
Club: The Concession Golf Club, Bradenton.

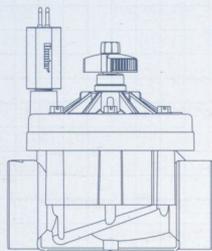
Title: Assistant superintendent.
Years at current facility: Five.
Year graduated from Ohio State: 2007.
Home town: Ballina, NSW.
What do you miss most about Australia: Friends and family.

Best thing about living in the US: The access to new products, equipment and research. The industry is just so big here.
Do you have a funny story about being an Aussie in the US? Not really, just that when people hear the accent they instantly want to talk to you; it is a great conversation starter.

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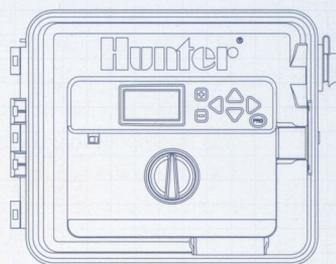
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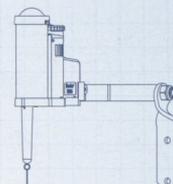
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Five-time US Open venue Merion Golf Club is situated in Ardmore, Pennsylvania. The East Course hosted the 2013 US Open and is about to undergo a major redevelopment

Inside Merion

With Royal Sydney Golf Club set to embark on a major redevelopment in the coming years, assistant superintendent Adam Marchant was afforded the opportunity of a lifetime this past winter. Marchant spent three months at Merion Golf Club in Pennsylvania to see how one of the world's great high-end golfing establishments operates.



My journey in turf management began as a 17-year-old apprentice at the Mudjee Soldiers Club in 1999. I strongly remember reading an article about Royal Sydney Golf Club (RSGC) having just hosted the 1999 Australian Open and thought how great it would be to work at such an esteemed club. As luck would have it, the reason the apprenticeship became available at Mudjee was due to the fact that the previous apprentice had taken a role at RSGC and from there I made contact with then superintendent John Odell.

Meeting John would change my life. Two months later I was renting a unit in Rose Bay and starting work as a second year apprentice at Royal Sydney. The passion that John had for the golf course and the industry itself resonated with me the minute I walked through the gates of the Turf Care facility. As a young kid from the bush, I remember just wanting to be around him all the time to hear what he was saying and to try and understand what he was thinking.

I started in early 2001, just as the club was about to embark on a major greens and bunker renovation programme. It was a very exciting prospect. I ended up being heavily involved in the project and was fortunate enough to work alongside the long-serving and legendary RSGC irrigation technician Mark Young and assisted with installing all the irrigation as part of the new works.

After almost five years at RSGC I took an opportunity to work for an irrigation company in Sydney. Twelve months later I was walking around the course as a spectator at the 2006 Australian Open and all I could think about was going back

and working there. At the beginning of 2008 I again made contact with John and luckily enough a position was available for a senior greenkeeper which I took with open arms.

John sat me down and said the only way he was giving me the job was if I committed to further study. Without hesitation I enrolled in the Diploma course at Ryde TAFE and duly completed it at the end of 2010. Earlier that year I was promoted to Links foreman which would prove to be a real turning point in my career.

Cut to 2017 and I have now spent a total of 15 years at RSGC and currently hold the position of assistant superintendent (one of two) under Steve Marsden who took over as superintendent in late 2012. I have been extremely fortunate to have learnt from and continue to learn from people of the calibre of John and Steve. With gentlemen such as these as mentors and everything else I have learnt along the way, I am really excited to see what the future holds for me in an industry that I love.

OPPORTUNITY OF A LIFETIME

One of the great things about working at a place like RSGC is not only the exposure to major events, such as hosting an Australian Open or a Davis Cup tie (like we did in 2011), it is the opportunities that are afforded the staff and the investment the club puts into the career progression and development of its employees. This is a huge reason that I have been involved with the club for over 15 years as I feel my role and responsibilities have changed enough along the journey to keep me motivated and hungry for success.

RSGC is such a unique and complex club. It comprises an 18-hole championship course, nine-hole Centenary course, 11 lawn tennis courts, seven synthetic tennis courts, two bowling greens, two croquet lawns, as well as extensive gardens and landscape areas. There are also a number of committees to report to and over the years I have been exposed to many facets of the club's operations which has proved invaluable.

As mentioned, the focus on staff is paramount at RSGC and as part of this an in-depth yearly appraisal is carried out with each employee. It helps to map out each individual's needs and career goals and from this a path both internally and with external training is developed so that each employee is continually learning and gaining experience.

It was in one of these appraisals that I aired some concern that maybe I needed to gain some experience at other facilities, so that when the right superintendent's job came up I had a little more variety on my resume. Steve and the general manager at the time (Paul Hinton) came up with a plan for me to gain some experience at another world class facility abroad during our winter. Steve worked very hard communicating to the committee the benefits that this trip would serve both for me and for the club.

As most will be aware, RSGC announced in 2016 it is to embark on a major course redevelopment as part of its '2030 Project'. This will see the redesign

of both courses and the practice facilities, with internationally renowned course architect Gil Hanse engaged by the club. With this in mind, the decision was made that I would head to Merion Golf Club in Pennsylvania for three months as Gil is the consulting architect there and they too are in the process of potentially rebuilding the golf course.

The biggest thing for me was to go over completely open-minded and try and gain as much experience and exposure as possible on all levels. And not just as it related to agronomics, but everything from staff management and retention, clubhouse and golfing operations through to master planning. I was to live on site during my time there, work with the team each day and was free to visit as many courses in the area as possible. It really was the opportunity of a lifetime and after sorting through all the finer details I arrived at Merion at the start of June 2017.

MERION MAGIC

Five-time US Open venue Merion Golf Club is situated in Ardmore, Pennsylvania, about 25 minutes west of Philadelphia. I remember watching the 2013 US Open on TV and thinking what a magical place it was, so to know I would be spending three months there was quite surreal.

Merion is such a special place and along with its rich history is also known for its iconic wicker baskets. The look of the wicker basket is like



Royal Sydney GC assistant superintendent Adam Marchant with one of the famed Merion wicker basket flagsticks

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Presentation and playability is of paramount importance at Merion with a crew in excess of 60 tending to the two courses. Merion's greens are a mix of A1, A4 and Crenshaw creeping bentgrasses. Pictured right is the approach into the 4th



For a three month period Marchant got to work alongside the Merion crew and gain an insight into how a high-end golf facility operates



nowhere else in the world and it is quite amazing what it does to the golf course. Every night at 7.45pm a crew member will go around and collect the wickers and replace them with flags. The course is easily accessed from the road and the wickers have a tendency to go missing. It is amazing how different the course looks without them; I'm not sure exactly what it is, but when that wicker basket goes in the cup it adds a whole new element to the look and feel of the golf course.

Merion boasts two courses – the East and West – with the famed East to be rebuilt in early 2018. Gil Hanse has been employed to redesign the course and while the layout isn't going to change dramatically, the redevelopment will see all new greens complexes, new grass on tees and fairways and a new irrigation system.

Like most courses in the area, Merion is very much a seven-day-a-week maintenance operation with the crew working very long hours. A normal day would be 15 hours with weekends treated like any other day. The East course boasts a crew of 42 and the West 20. The courses are on separate properties and each have their own maintenance facility and machinery, although some of the bigger machines are shared.

Paul B. Latshaw is Merion's director of grounds and had only started in the role a few months prior to my arrival, having taken over from the retiring

Matt Shaffer. Paul has one superintendent and two foremen on each course and underneath them are AITs (assistants in training), interns and a number of ground staff. Some of the ground staff are full-time and some will work 9-10 months of the year depending on winter snowfall.

Having Matt there for such a long time (15 years), he had built a really strong and talented team. Paul's arrival from Muirfield Village has only strengthened that and some of his former staff have followed him across. Everyone is excited about the impending reconstruction, especially when you consider it is not just any reconstruction - it's a world top 10 course!

Prior to arriving I was a little worried how I was going to fit in, especially as I was living on site with 11 of the crew. I need not have worried though. The crew were fantastic, but I'll admit it did take a little while getting used to sharing a room with five other greenkeepers and sleeping in a bunk bed!

Living on site was the best possible way for me to immerse myself into what Merion was all about. It was truly a unique set up. Staying there were a mix of interns, AITs and some senior staff. It was a great environment for the interns. They had fungicide labels stuck on their walls, pest and disease charts were plastered along the hallways, while in the common room there was a library of reference books. Having come from my Sydney home with my lovely wife and two kids, it was quite the change of scene!

ON THE GROUND

While at Merion I got to experience a wide variety of practices. I was involved in daily course set-up which gave a wonderful insight into the whole maintenance operation. The rest of the day I would be involved in a range of tasks depending on what programmes the crew had scheduled.

One of the more interesting things included being involved in a shade study with a company called Arbour com, who were assessing trees that could potentially cause turf issues once the reconstruction works start. I was also involved in a complete aeration of greens, tees and fairways and also got to listen to a gentleman from Turf Dietician talk about the benefits of tissue testing and

the important role it plays at Merion. I spent time talking, walking and riding with both Paul and East Course superintendent Pat Haughey and discussing anything and everything about turf and Merion.

Paul is a really impressive operator and definitely has a presence on the course each morning. He spends a lot of time walking the golf course and as he is making his way around will catch up with various members of the crew to discuss certain things. He looks at clipping yields daily, regularly takes plugs from greens to look at root growth and examines leaf blades.

As he walks around he'll direct certain mowers on certain greens to engage or disengage brushes, he'll change a greens cut from a double to a single or a single to a double, he'll tell the roller to skip greens if needs be or ask for a pedestrian roller on a weaker green. To see his level of involvement and activity was inspiring and shows just how paramount presentation and playability is at Merion.

Regardless of how many people were playing each day, there was always a huge focus on course presentation. Most Mondays were closed for maintenance, but the greens would still receive their normal cut and roll. Greens were firm and fast and as with all courses in the US North East there was a huge focus on greens moisture.

Merion runs its greens really dry and on the edge at all times. To do this effectively Paul has two staff in the morning go behind the mowers and rollers



and hand water each green with a target percentage that is pre-determined. Then from around 11am they have five crew members who each monitor 4-5 greens for the remainder of the day.

These guys would simply loop around their sections and syringe where necessary and lightly touch up wilt. Depending on weather of course, they would meet every hour or two and discuss the plans with watering greens. Paul would be heavily involved in this process as he did not want anyone watering too much. They would then decide when they were going to put the greens to bed and this would either involve prepping them to a designated percentage at a certain time or doing a final syringe. At times, this final syringe was as late as 8pm.

Moisture management would be a theme not only during my time at Merion but also in my visits to a number of other facilities while in the US (see more on these visits pages 20-22). It was really



Merion's 17th green complex (top) and 16th green on the Quarry hole (above)

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Above and top: Paul Latshaw and Pat Haughey inspect fairway renovations at Merion. The Penncross bentgrass fairways are renovated twice a year

Looking down the 2nd at Merion with the 5th tee and fairway to the left



interesting to hear how each operation approached this aspect of course management. The Field Scout tool is heavily used, with many courses prepping to a designated number in the morning. That number would depend on a number of factors including the golfing schedule (whether there was an event and golfer numbers), weather conditions (heat, humidity, wind, overnight temperatures and forecast for the week) and applications to be made to greens.

The afternoon process varied at different facilities. A lot of courses left the Field Scouts in the shed and only syringed or touched up wilt, while others aimed at maintaining a certain percentage all day. They key with this, of course, is having the staff numbers to successfully run the greens on the edge without losing turf.

This process worked really well at Merion but to do it successfully the membership needs to have a very good understanding of what is trying to be achieved. Communication was imperative at Merion and they effectively relayed to the membership that to have consistently tournament-type conditions, the crew needed to syringe greens on certain days due to running the greens relatively dry. It was also really important to have the ability to apply the water with enough gaps in the field.

GREAT INSIGHT

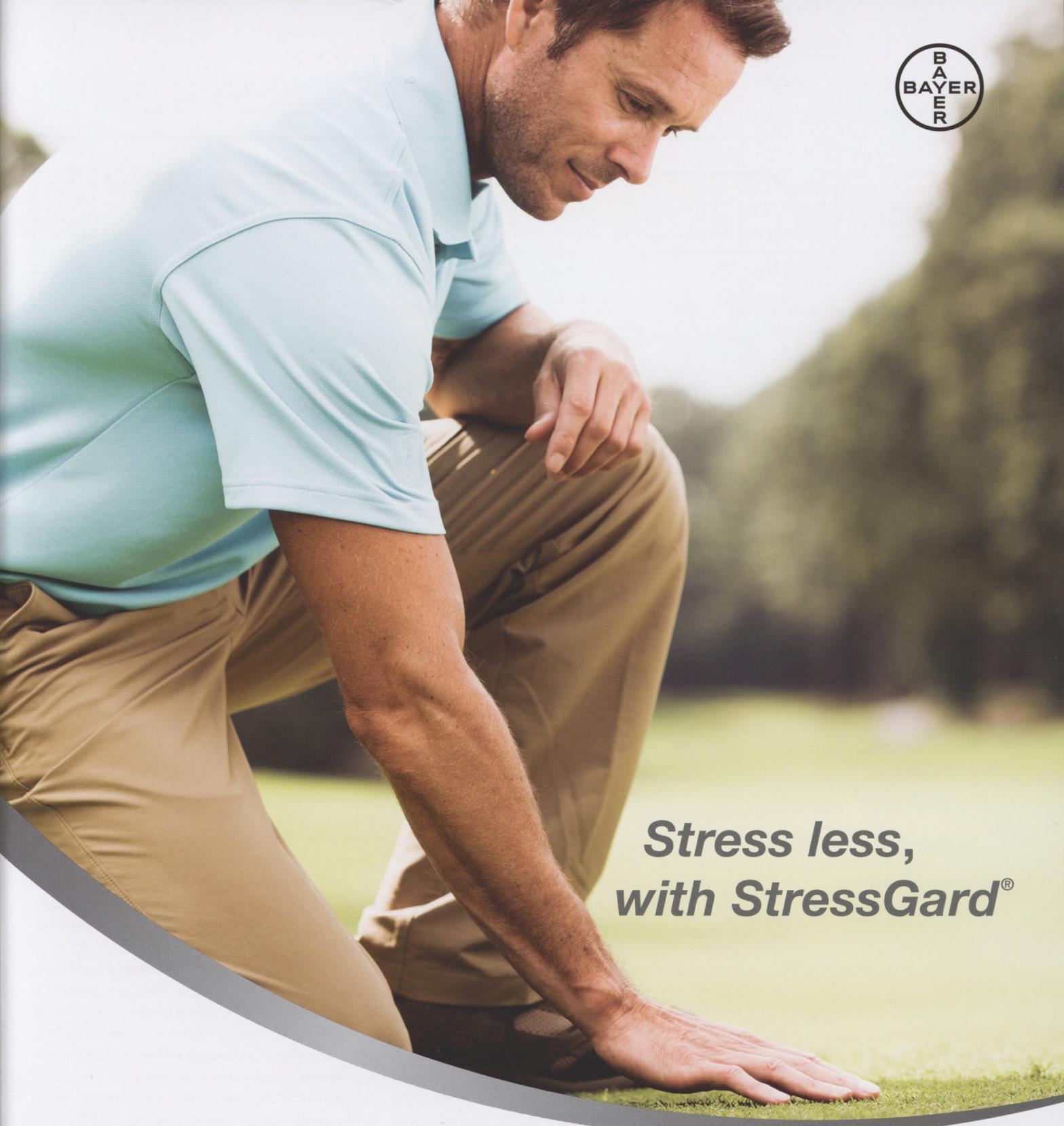
The major differences between a place like Merion and golf clubs here in Australia, I believe, is that they have a start and a stopping point. For instance, Merion's East Course closes around 15 December each year and reopens in April. This allows the team to focus really heavily on presenting the course during this time, knowing that certain project work, and work that is really disruptive to members, can wait until the course is closed. This also makes the members' experience really enjoyable as they are not experiencing disruptions when the course is open for play.

It is also pretty common for courses like Merion to remain closed on a Monday for maintenance and there was also a real consistency in first tee times which allowed the maintenance staff plenty of time to produce these world class playing surfaces. Then there is the staff; Merion had a large crew and they worked a lot of hours, with 90-hour weeks often the norm during peak times.

During my time at Merion I learnt a great deal in a short amount of time and met some wonderful people who helped to further invigorate my own passion for the industry. I am very fortunate and very thankful to Royal Sydney to be afforded such a great opportunity at this stage in my career.

I have already been very lucky over the years to be mentored by people like John Odell and Steve Marsden and now through the time I spent at Merion and my visits to other courses, I have a list of contacts that I can call upon to bounce ideas off and keep up to speed with what is happening in the US.

The experience for me was one I will never forget and what I was able to take away will not only benefit myself but Royal Sydney as well. As a turf manager I have definitely grown from the experience. Gaining an insight into how other high-end facilities manage and operate has really broadened my knowledge and to be able to do this while still being employed at Royal Sydney was fantastic. 🙌



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Major opportunities



In addition to spending three months working with the Merion Golf Club crew, Royal Sydney's Adam Marchant visited a number of other turf facilities and volunteered at the 2017 US Women's Open and US PGA Championship.

Above: Preparations in full swing at Trump National Golf Club which hosted the 2017 US Women's Open in mid-July

The US is home to some impressive golf facilities and with the opportunity to spend three months at Merion this past winter came the chance to also visit a number of other establishments to see how they operated.

Among the facilities I ended up visiting included Aronimink GC, Philadelphia Cricket Club, Somerset Hills, Rolling Green, Shinnecock Hills, National Golf Links of America, Friars Head, Bethpage Black, Glen Oaks Club, Oakmont, Winged Foot and Pine Valley. I had also arranged to volunteer at the 2017 US Women's Open at Trump National Golf Club and the 2017 US PGA Championship at Quail Hollow.

Given that it was the middle of their summer, I was really impressed at the time the superintendents, director of grounds and assistant superintendents of these facilities set aside for me. One thing that resonated was the passion they all shared for the industry and their courses and it was great to be able to ride around with them and talk all things turf.

ARONIMINK GOLF CLUB

Aronimink Golf Club in Philadelphia is currently undergoing some refurbishment work under the auspices of Gil Hanse who has been tasked with returning the course back to its original Donald Ross design. It was extremely interesting driving around with Aronimink superintendent John Gosselin and learning how they have used old aerial photos to assist in reinstating the course.

Through that process the number of bunkers has more than quadrupled from 40 to 170! When some of the new bunkers were installed they found sand from the original bunkers! They have a few tee complexes left to complete this November before then gearing up to host the 2018 BMW Championship next September.

PHILADELPHIA CRICKET CLUB

Philadelphia Cricket Club was high on my list of must-see facilities. With three golf courses, 22 grass tennis courts, cricket, squash and paddle tennis facilities, the operation is very complex and similar to Royal Sydney. Dan Meersman, director of grounds, runs an extremely professional operation.

It was great talking to him regarding the access he and his staff have to the course to achieve the standard expected by members. He has implemented a 36-minute maintenance gap every day except Mondays, when the whole club is closed. They have 12 minute tee times and therefore blocks out three a day for maintenance purposes. He has most recently started to roster a crew to come in at 10am. With the gap starting at 10.30am, he works them in that gap for the remainder of the day.

With an average of 20,000 rounds per year on each course, he felt the afternoon golfer was not getting the same experience as those playing in the morning, hence one of the reasons the gap was introduced. Depending on his current works programme he will use it to repair ball marks, rake bunkers, hand water and, if he feels green speed is slowing, will mow or roll again.

LONG ISLAND

The stretch of iconic golf courses on Long Island, New York has always held great fascination for me and I was able to spend two memorable days visiting the likes of Shinnecock, National Golf Links of America (NGLA) and Bethpage.

Shinnecock Hills and NGLA share a boundary and you could literally walk between the two courses. Jon Jennings (Shinnecock) is extremely busy with the 2018 US Open set to be staged there and I was fortunate that he was able to set aside some

time for me to visit. Bill Salinetti (NGLA) gave me an extremely thorough tour of his maintenance facility which was built in 2014. It was very impressive and like many I visited he had also built accommodation for staff onsite. The guys on Long Island find it difficult to retain staff given their location so for Bill it was a non-negotiable in the facility's design.

NGLA is housed on a beautiful site overlooking Peconic Bay in South Hampton. Seeing the famous windmill next to the 16th green in person, which I have seen so many times in magazines, I had to pinch myself. NGLA is only open for just six months of the year and currently does 17,000 rounds. Interestingly enough, they are trying to reduce that number by changing the rules for guest play.

Having the closure for six months means Bill will not disturb play for the six months they are open. All project work and renovations are done while the course is closed with the focus solely on playability when open. Bill finds it amusing that the members always comment on how great the bunkers are, that they always maintain their shape and integrity and that they never see anyone in them. His response is 'Well, we spend six months of the year in them – the six months that the course is closed!'

OAKMONT COUNTRY CLUB

Through Paul Latschaw at Merion I was able to spend two incredible days at Oakmont Country Club with grounds superintendent David Delsandro. Keeping Merion separate, my time at Oakmont was the most memorable of my trip.

Oakmont has a really strong senior team that includes Dave, Brett Bentley (director of agronomy) and assistant superintendents Phil Stiver and Steve Turner. Dave is a high energy guy and after reading out the assignments in the mornings the crew would literally bounce out of the shed.

It was great to see how he operated as we drove around the course. When he wasn't selecting pin positions for the day, he was grabbing a spray hawk off one of the interns and showing them a better and more efficient way to spray. The next minute he'd be jumping out of the cart while it was still moving, grabbing a hose and teaching the guys the fine art of applying the correct amount of water to Oakmont's incredibly firm and fast *Poa* greens.

At one point we were standing on the 9th green which blends into the practice putting green outside the clubhouse. The green was being triple cut by six guys (at 2.1mm), rolled, collars and surrounds were being cut, moisture levels were being checked and bunkers prepped – it felt like 5th Avenue!

Dave was great to talk to and is an extremely intelligent individual. He talked a lot about agronomics and how important it is for him managing the Oakmont *Poa*. This grass is like nothing I have ever seen before. The surface is rock hard and they triple cut and double roll most days. In the middle of summer the *Poa* can look like it's on its final legs, but with the slightest syringe will bounce right back



in front of your eyes. This was a magical site and the native fescue areas were some of the best that I saw in my time over there.

PINE VALLEY AND WINGED FOOT

Wow! People sometimes ask why Pine Valley is consistently ranked in the world's top three and to be honest I had often wondered myself. Now that I have been there, I know why. Most golf courses have a signature hole or two – Pine Valley has 18!

Rick Christian and his crew do a fantastic job there. It is a big site with a lot of housing and estate areas to maintain on top of the 18-hole course and the replica 10-hole course. There is accommodation onsite for members and floodlit practice putting greens. You can also hit from some of the back porches off of synthetic mats!

The time I spent with Stephen Rabideau (director of golf courses) at Winged Foot was incredible. He has rebuilt 27 of the 36 holes there as part of a plan to take the greens back to the original A.W. Tillinghast design. Once he completes the remaining nine greens on the West Course, then he will be building a brand new maintenance facility and preparing the West Course for the 2020 US Open.

TOURNAMENTS

Having experienced three Australian Opens during my time at RSGC, it was great to be involved in two major tournaments – the US Women's Open and US PGA Championship – during my trip. The PGA was my first 'major' and it was an experience I will never forget.

The stunning Pine Valley 18th (above) and entrance to Philadelphia Cricket Club (below)



Oakmont Country Club ranked as one of the most memorable sites Marchant visited





Marchant rolls the 14th green during the 2017 US Women's Open



Above: Adam Marchant (right) with fellow Aussie US PGA volunteers Christian Wilson and Darcy Jones and below with Alex Ranvik (from The Oasis at Death Valley)



The US Women's Open was held at Trump National Golf Club, New Jersey. The club boasts two Tom Fazio-designed courses with the Old course hosting the Open. The course comprises A4 greens and L-93 bentgrass tees and fairways. Director of grounds Rob Wagner had a total tournament crew of 100 which included 60 volunteers.

Greens were double cut and rolled each morning and afternoon with the course presented in amazing condition. Due to a rain delay on the Thursday, the first round wasn't completed with many still needing to complete five holes on Friday morning. As a result they sent most of the volunteers home at around 6:30pm with the full time staff going out at 9pm and single cutting greens. Because of this we started at 3:45am Friday and didn't finish that night until 10pm.

One of the highlights of the tournament came on Friday. Apparently ticket sales were low for the first round and it was tweeted by US President Donald Trump that he would be making an appearance. Funnily enough ticket sales increased!

On Friday at around 1pm I was standing at the 4th green with a group of volunteers. It was raining so we were on hand in case any surface water needed to be removed. The 4th green sits beside the main entrance road to the club and you have to cross this road to get to the 5th tee.

All of a sudden, some very official-looking personnel started to arrive and line the sides of the road. Then, as one of the golfers left the green to walk to the next tee, she was stopped and asked to wait. She and her caddie explained that they were taking part in the Open, but they were told in no uncertain terms that they would not be crossing the road. What followed for the next seven minutes was a 29-car convoy of Secret Service, police and ambulance – the Women's US Open literally came to a standstill as the US President arrived!

There was a bulletproof glass structure made for Mr Trump and his wife to view the golf from and when he moved from this to the clubhouse or to his residence the entire area would be cordoned off by Secret Service personnel. I was rolling greens morning and afternoon and there were times when I couldn't get to my next green until the President had been cleared from one area to the next!

Quail Hollow was, as expected, at its picture-perfect best for the US PGA Championship and I was fortunate to be one of three Australians assisting superintendent Keith Wood. I joined Christian Wilson (Brisbane GC) and Darcy Jones (Royal Melbourne GC) as part of a huge tournament contingent of 163, 123 of which were volunteers!

In order to host the US PGA, Quail Hollow underwent a mammoth reconstruction last summer. Over a period of 89 days, all greens were ripped up and re-sodded along with approaches and tees. The greens, which had only been converted from bentgrass to MiniVerde bermudagrass three years prior, were replaced with Champion. If reconstructing all 18 greens wasn't enough, architect Tom Fazio also reconstructed/constructed four holes. It is a great story considering the amount of work that went on beforehand and the course looked great despite what was a challenging lead-in. There was a lot of rain and the 328/419 couchgrass fairways weren't cut from Sunday until the Wednesday night before the first round. The greens were very quick and even with the rain they maintained 'championship speed' thanks to the SubAir running non-stop.

'Greatness has a home' was the motto that Keith and his crew had come up with, not just for the tournament but for their everyday operations. He was very active, keeping everybody informed and there was a really upbeat feeling the entire time.

I had been in contact with Keith early on as I knew I would be volunteering and it was great to hear how he had watched the 2016 Emirates Australian Open at Royal Sydney and how impressed he was at the presentation of the course. He commented on how good our mowing profiles looked around the bunker complexes and that he actually replicated what we had done in some of his areas.

IMPRESSIONS

I learnt a great deal in my short trip away and from my many visits, but the biggest realisation, and reassurance, was that we are on par, if not better in some areas, with some of the world's best courses.

Labour resources in the US is the key difference. Labour is relatively inexpensive and this means clubs often have big crews. Thirty staff for 18 holes was average with many having higher numbers than that (Merion had 62 for 36 holes for instance).

The biggest eye-opener was the access the US guys have to their courses to get work done. It was commonplace to have a consistent 1st tee time – a lot were 7.30am 1st tee seven days a week, with the course closed on Monday. Some were 8am 1st tee times Monday to Friday and 7.30am weekends.

When you speak to the superintendents they can't stress enough the importance of this. A lot of these courses are seven-day-a-week maintenance operations and for superintendents like Paul Latshaw it is critical having that consistency in a starting tee time to deliver the exacting presentation standards their members demand. 🙌

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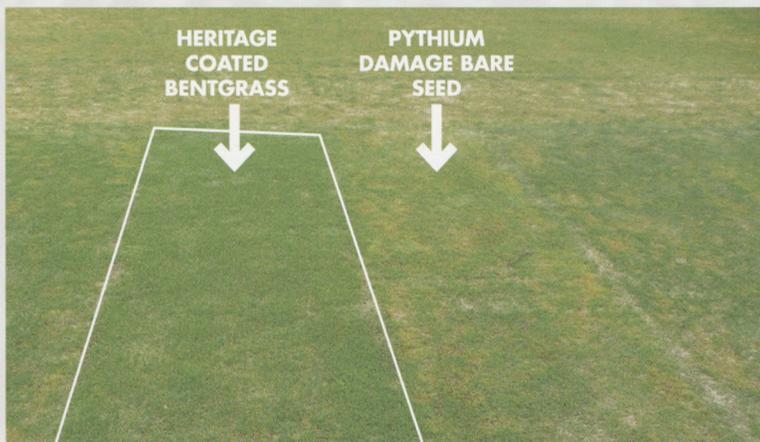
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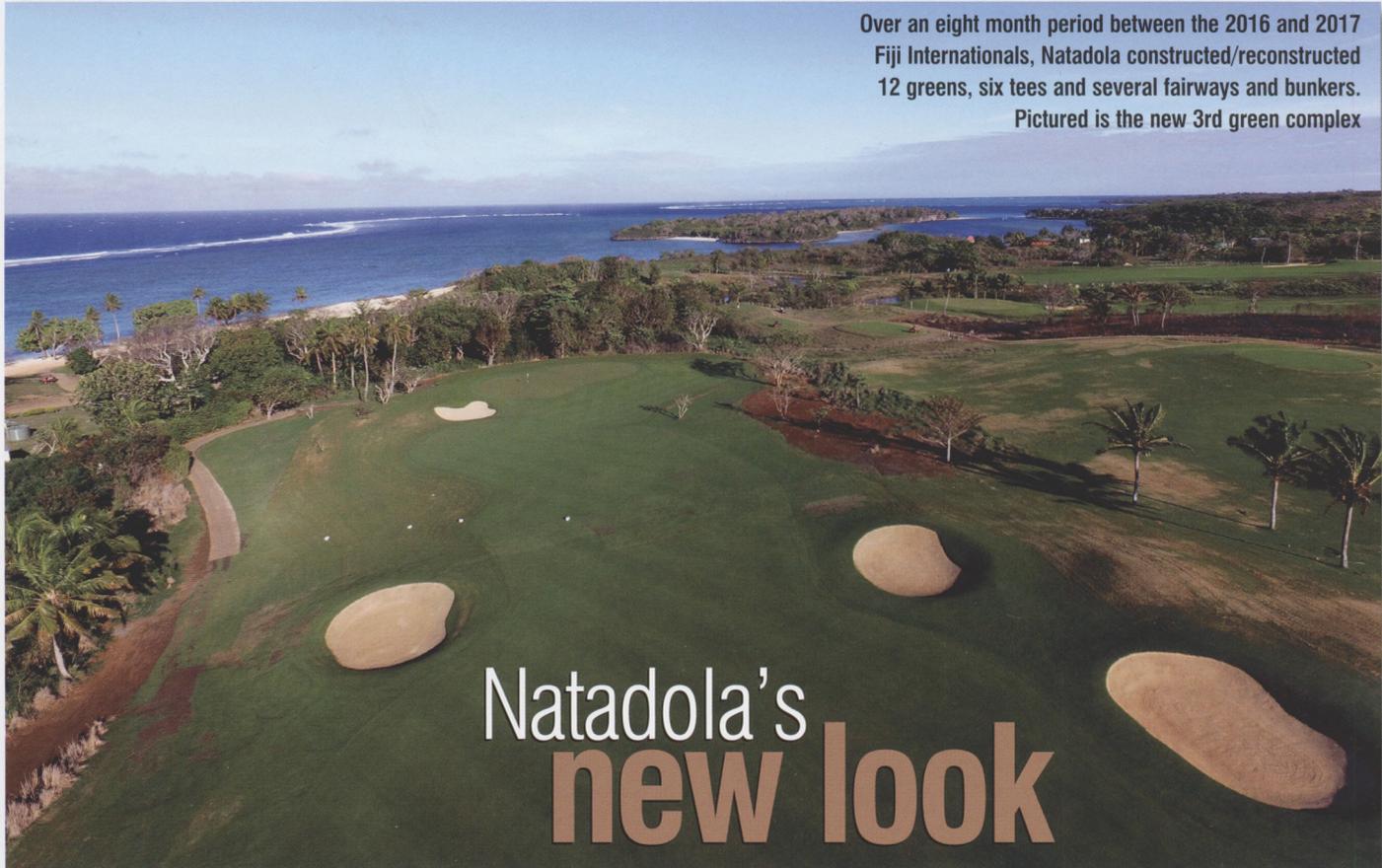
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Over an eight month period between the 2016 and 2017 Fiji Internationals, Natadola constructed/reconstructed 12 greens, six tees and several fairways and bunkers. Pictured is the new 3rd green complex

Natadola's new look

In between the 2016 and 2017 Fiji Internationals a raft of course improvement works were undertaken at Natadola Bay Golf Course. Superintendent Steve Lalor looks back at the works and the race against time to get the course back up for the tri-sanctioned tournament.

A week after Brandt Snedeker's putt dropped on the 18th at Natadola Bay Golf Course to win the 2016 Fiji International by nine shots, the maintenance team swung into action by stripping turf off the 4th hole. After several years of planning, much-needed changes to the golf course were finally about to start and the race against time to get them completed and ready for the 2017 tournament began.

By way of background, when it was announced in 2013 that Natadola would be hosting the Fiji International tournament for the first time in 2014, a number of course improvements were also earmarked. From the original plan of altering just four greens, over the ensuing years the works expanded greatly to include 12 greens, six tees, several fairway and bunker changes, cart path installation and landscaping works. Just to make things more challenging, all of this had to be completed within an eight month period between the 2016 and 2017 tournaments.

Fiji's famous golfer Vijay Singh was engaged to design the Natadola course originally in 2005, but due to developer issues the course was never completed as one of his 'Signature' designs. The Fiji International gave Singh the opportunity to return to his homeland and ensure that his vision was fulfilled. Senior design associate Greg Letsche, who has worked with Pete Dye, Jack Nicklaus and Ernie Els, came on board to turn the vision into reality.

The designers' brief was to create a more playable, fairer course without losing the challenges already present. Singh was very involved in the design of the course and over the eight month redevelopment would make four visits to inspect the works. Each trip was full of great ideas and scenarios on how each hole should play, including the shaping of greens, location of tees and bunkers.

RACE AGAINST TIME

The front nine works started in mid-October, a week after 2016 Fiji International had ended, and were scheduled for completion by the end of January. Due to issues with site management and procurement of resources, the front nine wasn't fully completed until mid-April.

This obviously pushed the back nine schedule behind, thus putting more pressure on the maintenance team to get the course up in time for the 2017 tournament which had been brought back to a mid-August timeslot. The final hole – the



The spectacular par three 4th hole was completely redesigned and now boasts more sand than turf

13th – was completed just five weeks before the tournament, some eight weeks over the original schedule.

Six temporary greens on holes 2, 3, 5, 8, 9 and 11 were established so the course could be played during construction. This allowed us to gain some revenue and also give players a sneak peek of the ongoing works. Members could not wait to play the new holes and such was their eagerness there were noticeable pitch marks evident on several new greens before the official opening.

One of the main challenges for the project, which was identified early on, was the availability of turf in Fiji. Removal of 1.5 hectares of grass from three fairways and the 3000m² practice tee, plus 4ha of seashore paspalum from a turf farm, was required in total for the project. I was concerned about some 419 couch contamination in the turf at the turf farm, but given the need for turf I went with the philosophy of 'plant now, control later'. The second harvest from the turf farm was very immature and resulted in a poor quality surface on the final hole at the time of planting.

We reused turf from holes to be rebuilt around existing tee and bunker complexes where couch had encroached into the seashore paspalum. Sprigs for the new greens were taken from the existing greens. We scarified eight of the greens 20 times each at -10mm to ensure a good strike rate over the new greens. This also assisted with obtaining



uniformity of surfaces across all greens, new and old.

The grow-in of the new playing surfaces was very intense. The greens grow-in programme began with organic fines and starter fertiliser a week after planting and then bi-weekly foliar applications using a venturi until greens had enough coverage and were compacted enough to allow a mobile spray unit. Slow release granular applications were carried out on a fortnightly basis.

The fairways that were harvested of turf and new fairway areas had foliar applications three times a

Due to turf supplies in Fiji being limited, turf was stripped off three fairways plus the practice tee and reused throughout the redevelopment

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Above right: The new 12th green complex

Above: A total of 16 volunteers from Australia, New Zealand and Fiji assisted Lalor and his crew for the tournament



week and monthly granular applications. Regular dethatching and topdressing of all new areas ensured smooth playable surfaces. Natadola Bay general manager David Roche was a great support and also helped with aspects of the grow-in. David and I were pushing sand off greens until 7.30pm one night so as to keep up with the schedule of works I had planned for the week!

Six weeks from the tournament a mite infestation took over and brought growth of all new areas to a halt. Controls were applied every week up until the tournament and growth resumed, much to my relief.

ACCOLADES

Since the first year hosting the Fiji International, I have always had around 6-8 volunteers come from

HEADING OUT - NATADOLA BAY FRONT NINE CHANGES

HOLE 1 (PAR 4)

Championship tee moved right 30 metres creating a better line of play. Landing zone widened by pushing left hand bunker further left by 5m. Palm trees planted left of the landing zone to prevent players from flying the bunker to create a better playing angle to the green.

HOLE 2 (PAR 4)

New green surface. On inspection of the profile, it had enough sand depth to only strip the top 150mm and shape the new surface to design.

HOLE 3 (PAR 4)

Approach and green complex. The original green was a shallow green making it difficult to keep the ball on the playing surface. The new green has been moved to the right giving plenty of room for shots to be played into the green. The new approach offers different shot options if you are short.

HOLE 4 (PAR 3)

Complete hole redesign. Tees were enlarged for maintenance purposes. Carry zone was narrowed with the beach becoming more of a feature on the hole. There is more sand on this hole than turf! The green was pushed back and to the left around 30m. From the back tee the hole measures 205m. More pin positions were added and the green less undulating than prior.



The new 9th green, which was pushed back by 40m, under construction

HOLE 5 (PAR 5)

A new championship tee was built left to give a better angle to the fairway. Another forward tee was also built to cater for the high handicapper. Widening of the fairway and additional fairway bunkers. Given the predominant easterly wind at Natadola, players were landing either on the far left of the hole or out of bounds. The bunkers now act as an aiming point so balls land on the wider fairway. A swale was added to the left boundary of the hole to stop any balls from rolling OOB.

The previous green was well known for its undulations and inability to hold a ball on the putting surface. Players walked to the green thinking their ball was on the green only to find it had rolled off and back down the fairway some 40m. The new complex was designed as a three cornered green with a different level on each corner having a friendlier putting surface. Four bunkers were

added to protect the green with a deep bail out area at the rear.

HOLE 6 (PAR 5)

Similar to the 5th, a new championship tee was built to the left to create a better angle to the fairway. An extra 80m of cart path was added as a safety measure for returning carts from the green to progress to the next hole. A fairway bunker was also removed.

HOLE 7 (PAR 3)

No changes were made to this hole although a plan was drawn for it to be closer to the 8th. The current driving distance from the 7th green to the 8th tee is around 500m.

HOLE 8 (PAR 4)

New green surface. On inspection of the profile, it had enough sand depth to only strip the top 150mm and shape the new surface to design. The green size was increased and new pin positions were created.

HOLE 9 (PAR 4)

A new championship tee was built forward of the initial tee but set down in a valley aligned with the fairway. The right-hand side fairway bunker was removed to open the hole and give players a chance to have a better second shot to the green. The new green was relocated back around 40m and split in two with a subtle spine running through the middle protecting the back pins.

Australia to assist during tournament week. I was blown away by the interest this year when I had 16 guys make the trip from Australia, New Zealand and Fiji. In particular, it was great to have two apprentices interested in the tournament and how we prepare for this size event.

I had several return volunteers who assisted me greatly to show the newcomers around the course. Volunteers included; Ryan Markwell (superintendent Denarau Golf and Racquet Club), Shane Summerhayes (Turfcare Australia), Steve Harris (superintendent The Vintage), Josh Holmes (Keysborough GC); Alistair Shannon (Huntingdale GC), Dechlan Turkington (Green Acres GC), Jay Infanti (assistant superintendent Eastern GC), Mitch Hayes (superintendent Brisbane Golf Club), Shane Herring (superintendent Camden Golf Club), Josh Kelly (Woollahra Golf Club), James Davis (North Links Horticulture); Dave Brennan (superintendent Bunbury Golf Club); Peni Corerega and Bale (Laucala Island Resort), Terry Sullivan (Powerturf NZ) and Dean Scullion (Jacobsen). Kevin Adams, also from Powerturf NZ, made the trip a week earlier to help out with machinery setup.

As he has done over the past four tournaments Shane Summerhayes organised the transport and after hours activities for the volunteers. All the volunteers stayed in or around Smuggler's Cove near Nadi so they could enjoy some down time while not working at the course.



The volunteers started work at 3am and finished around 6.30am-7.30am. Only my local Fijian crew came back in for the afternoon shift which meant the Aussie guys could go off and enjoy some of the sights as they had paid their own way to come over. They managed to get in some golf at Denarau with current Australian super Ryan Markwell and also took a jet ski ride out to an island and enjoyed a few quiet drinks and lunch.

2017 was the first year that the Fiji International was tri-sanctioned with the PGA Tour of Australasia, the European Tour and Asian Tour. The PGA of Australia sent player reports each month to the European Tour who were obviously interested in the progress of the works and asked for weekly

Turfing the 13th green just five weeks before the 2017 Fiji International



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Keysborough Golf Club volunteer Josh Holmes cuts the 9th green

updates. The first report that went to them in April came back with a question if there was an alternate venue to hold the event!

Despite some initial concerns due to the amount of works that were being undertaken, the tournament was a great success with the players and officials commending the changes and the standard of the course. It was a battle to get the course to the level required, but we got there in the end.

All the work that went into getting the course up didn't go unnoticed and after the tournament we received a letter of thanks from European Tour tournament administrator Kevin Feeny commending the club and the crew on our efforts. It read:

"On behalf of the players and staff of the European Tour, I would like to thank you and all the staff for your considerable efforts during the recent 2017 Fiji International.

"In fact, 'considerable efforts' does not really do it justice; it was a tumultuous effort to turn the golf course around following the ambitious construction plans since the start of the year but as you promised you delivered and with some style. I was amazed when I first saw the pictures in May and was pleased to see the progress made over the next few months, but I was more than delighted with the final outcome for the tournament. The effort, time and dedication that you have shown in the lead up to the event is very much appreciated. Of course, you could not do it alone and please pass on our sincere thanks to all involved for their efforts, their patience and expertise.

"It was most enjoyable working with you during the week of the event, dealing with someone as professional and enthusiastic as yourself makes our job so much easier knowing that the attention to detail we look for is there at all times.

"No doubt work has now started again in preparation for next year and in your own words 'presenting it how I would like' for next year. I very much look forward to working with you again and to seeing the course get even better next year. In the meantime, thank you for the constant updates since May and I hope all goes to plan for the next stage in the course's progression."

HEADING IN – NATADOLA BAY BACK NINE CHANGES

HOLES 10 AND 18 (PAR 4)

No changes were made to both holes.

HOLE 11 (PAR 5)

A smaller, flatter green was built increasing flag positions with a reduction of the front sand trap to accommodate the smaller green

HOLE 12 (PAR 4)

This hole was reduced in length to give a risk/reward drivable par four. The original championship tee was removed, two fairway bunkers filled in and the fairway widened. The water hazard was reduced in volume but a stream was created around the front edge of the green. A hidden greenside bunker was added with extensive clearing behind the hole to give the perception of the beach running into the green.

HOLE 13 (PAR 3)

The green was rebuilt as there were limited pin positions. The waste bunker was brought closer to the green while two other greenside bunkers were removed for short cut turf.

HOLE 14 (PAR 4)

A new championship tee was proposed,



Site of Natadola's new 14th green, 40m left of the existing green

however, due to landowner approvals it was not built. Vijay Singh is looking to return to the course in January 2018 and hopefully can discuss with landowners to approve the tee site. During the recent Fiji International players were driving a blind shot to the green from the current tee. One fairway bunker was removed for extra landing area to play into the new green complex. Green location was moved 40m left to bring the water hazard into play.

HOLE 15 (PAR 3)

A new championship tee was built to play across the predominant wind instead of with it. This tee was not played due to approvals from the native landowners to remove some trees had not been given.

HOLE 16 (PAR 4)

No works were completed to 16 as a result of time constraints. Works are to be completed this year with removal of a fairway bunker and rock formation to allow a wider landing zone.

HOLE 17 (PAR 5)

No works were completed to 17 as a result of time constraints. Works are to be completed this year with a new greenside bunker and grass swale on the right hand side.

LAKES AND DAMS

Removal of 10,000m³ of effluent solids from the transfer lake to increase water holding capacity. Installation of headwall on overflow pipe in main irrigation lake to prevent sea water and sand inundation.

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Fine-tuning your crew

While having a machinery fleet in optimal condition goes a long way to ensuring presentation standards are met, having a well-oiled and efficient crew is equally as important. USGA agronomists Paul Jacobs and Patrick O'Brien provide some tips on how superintendents can improve the productivity of their existing staff.

Above: Finding ways to improve productivity with existing staff has become a critical component of successful golf course management

As the turf industry becomes more competitive, golf course maintenance budgets are increasingly scrutinised. As a result, many maintenance budgets have experienced some reductions over the past decade.

Unfortunately, golfer expectations typically remain the same even as budgets get slimmer, placing superintendents in a difficult position of trying to do more with less. Doing more with less usually means cutting corners, which often results in negative long-term consequences. A more sustainable way to manage budget issues is to analyse current maintenance techniques and look for ways to optimise the productivity of existing staff.

Improving productivity is beneficial to all golf facilities. Those that have had their maintenance budget reduced are fighting to produce the same playing conditions with fewer resources. At the same time, all golf facilities are struggling to find employees who are willing to work labour-intensive jobs at the wages being offered. In this case, improving productivity can mean offering better wages to fewer employees and still maintain the same labour budget.

Opportunities to improve productivity can be exciting, but remember that turfgrass management is just that – management. Successful turfgrass management involves simultaneously managing budgets, people, equipment and turfgrass. The options presented in this article provide some excellent ways to improve productivity, but they may not be the right choices for every facility.

BEING EFFECTIVE

Improving productivity starts by fully understanding what the maintenance team does on a daily basis. After all, if the maintenance team is not meeting

golfer expectations, then it does not matter how efficiently they are working. In order to be productive, golfer expectations must be met.

Meeting expectations may seem simple, but different golf courses have different maintenance goals and objectives. There is no one-size-fits-all maintenance programme. While one course may prioritise pace of play and maximising annual rounds, another may prioritise course conditioning and aesthetics. Maintenance programmes differ widely among courses with different expectations. Developing written maintenance standards will provide definitive expectations for the maintenance staff. Key benefits include:

- Organising and analysing priorities for golf course maintenance.
- Developing an accurate budget to support desired standards.
- The maintenance standards document becomes an effective communication tool to share with golfers, decision makers and the community.
- Written maintenance standards eliminate emotion and subjectivity when evaluating the effectiveness of the maintenance department.

Once expectations have been clearly defined, managers need to quantify daily tasks to determine where labour resources are being allocated. Staff compensation (i.e., salaries, wages and benefits) often comprises 55-70 per cent of a golf course maintenance budget. Keeping track of where that money is spent will help managers understand how changes to a maintenance programme affect the bottom line (Brame, 2013). If labour is thoroughly and accurately tracked, the costs associated with different maintenance tasks could even be used as a guide for determining expectations based on maintenance costs.

MAINTENANCE STANDARDS

Maintaining a golf course involves performing many different tasks over an expansive property. With so much area to maintain and so many different tasks to perform, it is critical that labour is focused on meeting golfer expectations and is consistent with established facility goals. Developing written maintenance standards ensures that expectations are clear and helps guide maintenance efforts.

The process of developing objective maintenance standards should include individuals from different departments of the facility including the superintendent, green committee, golf professional and general manager (Gross, 1997). Each stakeholder has a different perspective of golf course maintenance, so collaboration is essential to meet the realistic needs of each department.

Maintenance standards should describe the desired level of quality and conditioning for each area on the course and the practices necessary to achieve and maintain each standard (Lowe, 2005). When possible, include objective measurements such as green speed, height of cut, firmness and the frequency of required maintenance tasks. Objective standards can be routinely measured to monitor performance and communicate results.

It is important to remember that maintenance standards may not always be met. On any given day, weather, special events and various cultural practices may temporarily disrupt certain objectives.



LABOUR TRACKING

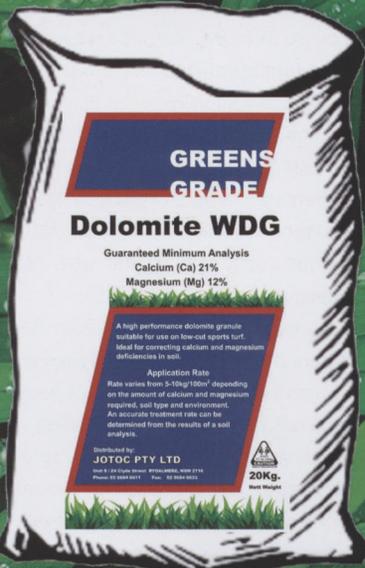
Labour is typically the largest line item in a golf course maintenance budget, so knowing how labour is allocated is extremely valuable. Golf course superintendents track fertilisers, chemicals, sand, water, cleaning supplies, uniforms and nearly every other item in a maintenance budget. So, why not labour? Some argue that it is too difficult or takes too much time to track how and where labour is used on a golf course. However, new technology that integrates digital job boards with labour-tracking software makes the task much easier.

The 'Aussie' method of bunker raking can considerably reduce the time spent preparing bunkers because the faces are left smooth and do not require raking

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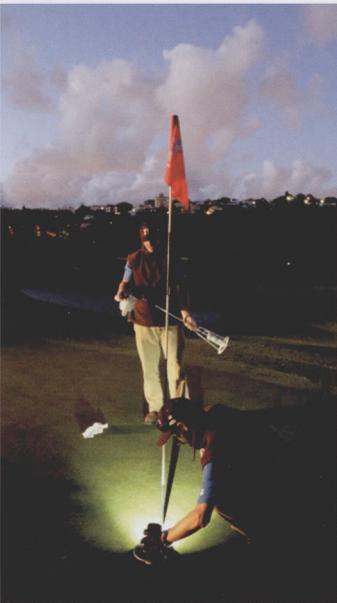
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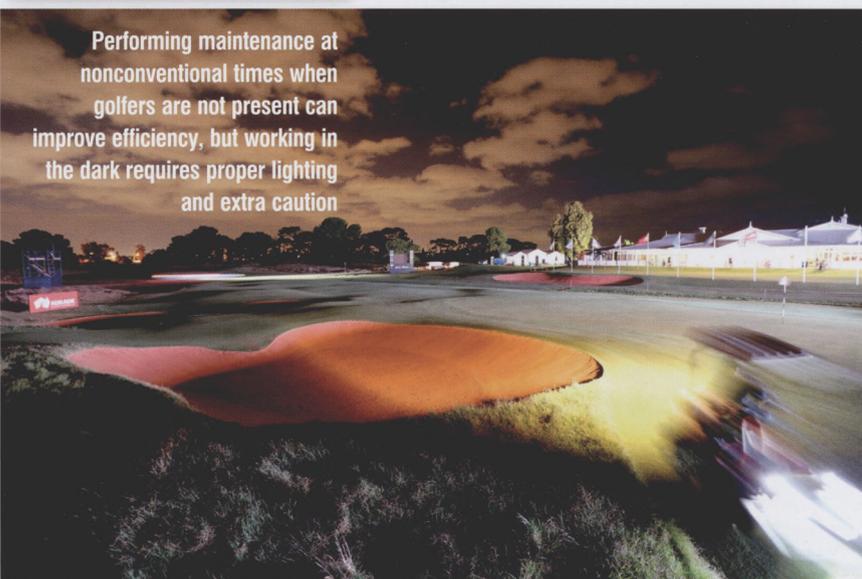
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◀ Spraying equipment that utilises GPS technology can improve accuracy and decrease product use



Performing maintenance at nonconventional times when golfers are not present can improve efficiency, but working in the dark requires proper lighting and extra caution



Superintendents and course officials can use a detailed labour analysis to develop maintenance standards that align with golfer expectations and budgetary constraints. An accurate labour analysis can be used to explain a proposed increase in the maintenance budget, which may be necessary to meet expectations. Additionally, a labour analysis can be used to defend against potential budget reductions or to answer questions about maintenance practices. For instance, the questions 'why can't our course use walk-behind mowers on the putting greens or hand rake bunkers like the course down the road' can be answered easily with a labour analysis.

A detailed labour analysis can be performed in different ways. Digital job boards linked with labour-tracking software are increasing in popularity at maintenance facilities. This system allows managers to post job assignments and notes to the job board remotely. More importantly, labour-tracking software stores information from digital job boards. The stored information can be used to generate informative reports that identify how much time and money is spent on specific tasks and on different areas of a course.

There are also ways to perform a labour analysis with tools you may already have in your office.

Spreadsheet software can be an effective tool to log the hours required to complete daily tasks. This information can be matched with hourly wages to determine the cost of various maintenance tasks. To simplify things further, some facilities require employees to log their tasks for the day and record the amount of time spent completing each task. It is important to find a system that works best for your facility. Remember, the usefulness of data depends upon the quality of the data collected.

BEING EFFICIENT

Performing tasks more efficiently is another key step to improve productivity. Optimising efficiency can mean performing tasks faster, reducing down time or consuming fewer resources to achieve a desired result. Reducing the amount of time wasted on travelling, waiting and performing nonessential tasks gives staff more time to spend improving course conditions.

Some maintenance techniques (e.g., machine bunker raking versus hand raking) are more intricate and time-consuming than others. One would hope that a more time-consuming technique would yield better results than the alternative method, but that is not always the case.

When looking to improve efficiency, it is important to evaluate how each task is performed and whether there is a better way to achieve desired results. Too often tasks are completed a certain way because 'that's how we've always done it'. One of these timesaving techniques could be a good way to improve productivity at your facility:

- **Bunker raking:** The 'Aussie' method, as it is termed in the US, involves raking the bottom of bunkers in a traditional manner while keeping the faces smooth. Less time will be spent raking with this method and bunker faces usually become firmer, resulting in more golf balls collecting in the bottom of bunkers.
- **Mowing patterns:** Mowing elaborate stripe patterns into turf requires skilled operators and additional time. Simple mowing patterns can save time and resources.
- **Clean-up passes:** Occasionally skipping clean-up passes can save time and reduce wear on the perimeter of putting greens, tees and fairways.
- **Line trimming:** Applying nonselective and pre-emergent herbicides around immovable objects can reduce the need for line trimming.
- **Golf course accessories:** Ball washers, benches, rubbish bins and other accessories require significant labour hours to set up and maintain. Reducing the number of course accessories will save money and improve maintenance efficiency.
- **Plant growth regulators:** Applying plant growth regulators can reduce the mowing frequency, reduce clippings and promote a faster, more enjoyable golf experience.

SCHEDULING TECHNIQUES

Traditionally, maintenance employees arrive in the early morning to prepare the golf course before play begins. Maintenance efficiency significantly decreases when golfers catch up to the maintenance team. This can occur if play starts too early in the morning or, more typically, when maintenance operations resume after lunch.

The following scheduling techniques present more opportunities to improve productivity with existing staff:

- **Maintenance gaps:** A maintenance gap is a temporary suspension of tee times that creates a predictable gap in play during which maintenance tasks can be performed. By providing an adequate gap in play, maintenance teams can operate at peak efficiency without disrupting golfers.
- **Nonconventional start times:** Performing maintenance tasks overnight or very early in the morning improves efficiency and prevents golfer disruption. Without golfers present, employees do not have to wait for golfers playing through work areas. However, it is important to note that working in the dark requires adequate lighting, extra caution and diligent management.
- **Staggered schedules:** Employees become less productive as they get fatigued, which can easily happen if they work every day throughout a playing season. Utilising staggered schedules



gives employees one or two full days off per week. With this schedule, the entire staff does not work a traditional Monday through Friday work week, but employees still work full days. For example, a staggered schedule with three teams could be structured as follows: Team A working Sunday through Thursday, Team B working Tuesday through Saturday and Team C working a traditional Monday through Friday schedule. This system ensures adequate staffing on all workdays while also giving employees a day or two off each week. Being able to do this of course relies on having adequate staff levels.

Mowing elaborate stripe patterns into turf requires skilled operators and additional time. Simple mowing patterns can save time and resources


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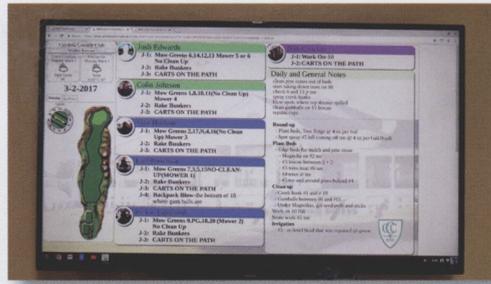
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Digital job boards and labour-tracking software can help superintendents identify how much time and money is spent on specific tasks and areas of a golf course



TRADITIONAL VERSUS SECTION MAINTENANCE

Section maintenance is an old concept but it warrants a serious discussion due to potential efficiency benefits. Section maintenance assigns employees to perform a variety of tasks on a specific group of holes rather than throughout an entire golf course like traditional maintenance programmes. In doing so, section maintenance has the potential to minimise travel time between tasks and can increase accountability. However, whether or not section maintenance can improve efficiency at your course depends upon several factors including course design, play volume, size of the facility, golfer expectations and employee skillset.

Some of the benefits of section maintenance include:

- Promotes responsibility, accountability, pride, motivation and several other positive factors among maintenance teams (Gross, 2010).
- Scheduling becomes more flexible because employees are cross-trained to perform a variety of tasks.
- Improves efficiency by reducing travel time. This can be especially beneficial during periods of heavy play.
- When employees are trained and equipped to handle a variety of tasks, there are fewer surprises during the day. For instance, a section work can quickly identify issues like pest outbreaks, irrigation breaks and leaks, fallen trees and tree limbs or poor quality of cut due to a mower being out of adjustment.

Some of the disadvantages of section maintenance are:

- Requires additional training because employees need to be cross-trained on a variety of tasks and may be unsupervised at times.
- Arranging the sections and scheduling tasks within those sections can be challenging. For

example, if one employee is scheduled to roll all of the putting greens after mowing, section staff may need to adjust their schedules to ensure that the putting greens in their section are mowed before the roller arrives. Situations like this are frequent in a section maintenance system, necessitating additional coordination and communication between managers and staff.

- While not desirable, sometimes it is most efficient for one employee to be assigned a section of holes that are played early in a round. If this is the case, starting tee times must be scheduled to allow the staff time to prepare playing surfaces before golfers arrive. Alternatively, the staff in sections receiving early play may need additional assistance during the morning to prepare for golfers.

TECHNOLOGY

With staff becoming more difficult to hire and retain, utilising technology has become increasingly important to meet golfer expectations. GPS-guided sprayers and robotic putting green mowers are now available on the market and can help golf facilities improve efficiency. The initial investment costs of new technology may be concerning, but the return on investment is significant. Often, it is shocking to see how rapidly investments in technology pay for themselves.

The article, 'Advancing golf course maintenance equipment with positioning technology' (Barden and Daniels), published in the USGA's Green Section Record on 19 October 2016, provides details at how new technology is being used in the turf industry.

CONCLUSION

Hiring and retaining labour remains challenging for many golf facilities. Finding ways to improve productivity with existing staff has become a critical component of successful golf course management.

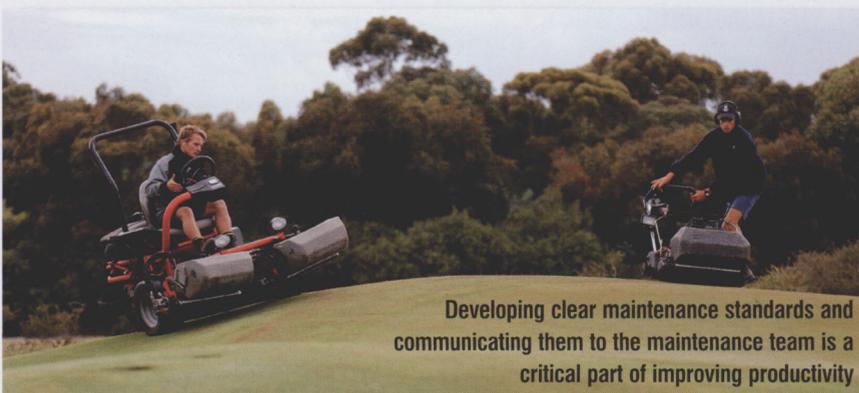
Improving productivity begins by creating and communicating maintenance standards to ensure that facility goals are met. Then, maintenance teams can work toward optimising efficiency through training, scheduling and adjustments to the operational strategy. Ultimately, being effective and efficient will improve productivity, deliver the best possible results and ease the burden of managing labour challenges.

ACKNOWLEDGEMENTS

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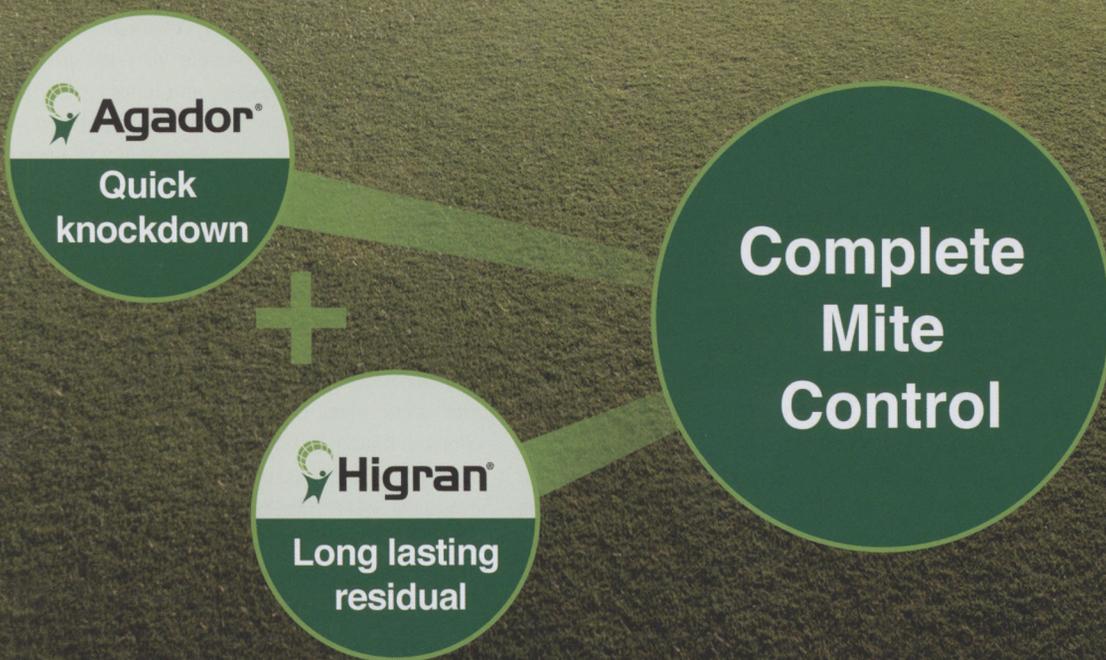
Applying a non-selective herbicide around immovable objects eliminates the need for string trimming



Developing clear maintenance standards and communicating them to the maintenance team is a critical part of improving productivity

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Inside the 13th ITRC

CLIMATE CHANGE AND PLANT STRESS MANAGEMENT

There were two keynote presentations related specifically to climate change with an emphasis on the effects on agriculture and turfgrasses. There were also several other papers related to research into understanding the physiological mechanisms associated with heat and drought stress and plant breeding efforts to develop more stress-tolerant grasses.

In Australia, as with most other developed countries in the world, climate change and its impacts continues to be very divisive. Given the past summers in Australia, it is not hard to believe that there have been some significant shifts in climatic patterns. The keynote presentation on the mechanisms associated with climate change (Broccoli, 2017) provided compelling evidence to support climate change, including;

- Increasing atmospheric CO₂ concentrations;
- Increasing temperatures;
- Sea level rises; and
- The pH of oceans becoming more acid due to the absorption of CO₂

What is required is an increase in research efforts to develop new knowledge to cope with the challenges of climate change, including a better understanding of the mechanisms that drive both regional and global climate change. A key point that was made was that we need to accept that climate change has occurred and is occurring and that we need to learn how to deal with it.

To overcome the impacts of climate change there is a need to develop new crops, including turfgrasses. Again, in reflecting on the summer months in Australia and in particular in Sydney, it



ATM's resident agronomic expert John

Neylan reports back on some of the latest turf industry research that was presented at the recent 13th International Turfgrass Conference held in New Jersey.

The 13th International Turfgrass Conference (ITRC) was held in New Brunswick, New Jersey from 16-21 July 2017 and was hosted by Rutgers University. International Turfgrass Society (ITS) president Dr. Bruce Clarke and his team of helpers put together an excellent programme of plenary papers, presentations, technical tours and social events.

An extremely well organised event, the conference had 455 registrants from 23 countries with 11 researchers/educators making the journey from Australia. These included myself, David Nickson (D&R Nickson), Don Loch (University of Queensland), Peter McMaugh (Turfgrass Scientific Services), Phil Ford (Melbourne Polytechnic), Mark Burchell (Melbourne Polytechnic), Chris Lambrides (University of Queensland), Nathan Fletcher (Forster-Tuncurry BC), Tim Colmer (University of WA) and Jyri Kaapro (Bayer Australia), as well as a group of Australian turf producers.

At these conferences there is a large amount of information presented, most of which is available through the Turfgrass Information File (accessible through the members' section of the AGCSA website). The following is a wrap of some of the more interesting aspects of research currently being undertaken here and around the world that was presented during the conference.

Top: The 13th International Turfgrass Research Conference held in July attracted 455 registrants from 23 countries



PHOTO BY S. BARRY, ITRC.

raises the question of whether bentgrass and *Poa annua* will continue to be sustainable, whether different turfgrass species need to be considered and whether modified management techniques need to be employed.

In a paper by Hatfield (2017) from the United States Department of Agriculture's (USDA) National Laboratory for Agriculture and the Environment, the effects of climate change were described as being both direct and indirect. The direct effects include the direct stress on the plant due to high temperatures and drought and the effect this has on growth. The indirect effects include the increased incidence of diseases and insects due to the conditions that either better favour the pest and/or place the plant under stress making it more susceptible. The presence of insect pests is expanding in range and life-cycles can change due to the effects of changing climatic patterns. The direct and indirect effects on plants are considered to be about 50:50.

Soil temperature effects are a major consideration in turf and agriculture and are rarely discussed as a factor affecting plant health. As noted during the past summer in Australia, soil temperatures in golf greens in Sydney exceeded 30°C which is highly detrimental to the root systems of cool-season grasses such as creeping bentgrass. Increasing soil temperatures cause increased root stress and root dysfunction, which in turn affects nutrient uptake and growth, further placing the plant under stress.

Climate change has resulted in a shift in the plant 'hardiness zone' and the length of the growing season. The USDA Plant Hardiness Zone Map is the standard by which gardeners and growers can determine which plants are most likely to thrive at a particular location. The map is based on the average annual minimum winter temperature, divided into 10-degree Fahrenheit zones.

In Australia this has been modified by Dawson (1991) where he created seven zones to fit our climatic range as well as using metric units. The implications of climate change are that in a warming climate plants can grow outside of what was traditionally their ecological niche. This particular aspect starts to challenge the notion of where warm- and cool-season grasses are most suited.

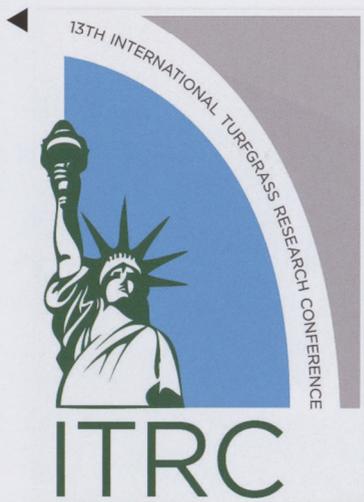
While this is broadly correct, it must be noted that climate change is not uniform and there will be localities that are either less or more affected, or possibly not at all, due to modifying influences such as aspect, altitude and proximity to the sea. In a turf sense, there are further modifying influences such as trees and topography that can create numerous microclimates.

With climate change it is expected that minimum temperatures will increase more than maximums which will in turn affect plant cooling, incidence of disease and increased plant stress. Increasing minimum temperatures is considered to be potentially the greatest concern in managing

Speakers and panellists at the ITRC Zoysiagrass Symposium, among them Australians Dr Don Loch (second from left) and Peter McMaugh (fifth from right). 2015 Australian Turfgrass Conference keynote presenter Dr Jack Fry is third from right

Dr Bill Myer shows ITRC delegates around the Rutgers University tall fescue drought tolerance breeding plots





plant systems. With higher minimum temperatures, carbohydrates produced during the day are consumed at night through plant respiration. This will maintain the plant under stress and therefore there is no net gain in carbohydrates for growth and repair from wear (and stress).

With climate change, rainfall events are expected to become more extreme. With higher intensity rainfall events there is a need to manage soils through compaction and thatch control to improve infiltration rates, which in turn improves water absorption and water storage.

Climate change is a definite challenge and a threat to the turf industry as turf managers work towards maintaining sustainable turfgrass stands. Fortunately, there are differences between turfgrass species and cultivars in their ability to manage and cope with maintaining photosynthesis when under moisture stress and there will be ongoing breeding work to develop turfgrasses that are more resistant to heat and drought stress.

We have already experienced this change to some degree in southern Australia with the widespread change to warm-season grasses in broad-acre applications (e.g. sportsfields and golf course fairways). Is it possible that the next step may be the use of hybrid bermudagrass on greens in places such as Sydney?

It is interesting that in the US there is still a strong reliance on the use of cool-season grasses such as Kentucky bluegrass, tall fescue and ryegrass. While the summers can be highly stressful due to high temperatures and high humidity, the winters can be extremely severe and there are breeding programmes in place to improve the heat and drought tolerance of these species. Because of the potential for severe winter kill of *Cynodon* sp. there is an increased interest in the use of zoysiagrass with several breeding programmes in place.

There are also breeding programmes to increase the use of endophytes in fine fescue to improve heat and drought tolerance. Much of this is aimed at lawn owners and creating a low input lawn environment.

Dr. Tim Colmer from the University of Western Australia presented a comprehensive review paper on the state of knowledge of water use by warm-season grasses (Colmer and Barton, 2017). This paper highlighted the need for more research to clarify the mechanisms underlying the observed variations in turfgrass evapotranspiration and drought resistance and to test the influence of management practices (e.g., cutting height, nitrogen fertiliser and PGRs) in field situations. The emphasis is again about the efficient use of water and water conservation.

CONTINUED ON PAGE 40

MEASURING PUTTING GREEN TRUENESS

The trueness of putting surfaces is a very important performance characteristic to golfers and there are various methods employed to measure it.

Linde (2017) studied various methods of measuring putting green trueness and also determined how maintenance practices (in particular coring) influence it. During his study he tested 150 greens across 50 golf courses in New Zealand.

The test methods included using the R&A's 'Holing Out' tester (Greenstester); measuring the variation in ball spread from a central point when rolled across the green and; the 'Bobble Test'.

The 'Holing Out' test involves rolling 10 balls off a ramp with the aim of getting the balls in the hole. The trueness of the green is determined by the number of balls that go in the hole with a score of eight or better indicating a true surface.

Interestingly, in this study The R&A's 'Holing Out' tester was considered to be unreliable, principally due to the tracking that can occur at the point where the ball leaves the ramp and runs onto the turf. This result is not consistent with local experience and is possibly due to the test greens being relatively soft.

The spread test involves rolling 4-6 balls off a Greenstester over a distance of about 2.44m (8 feet) and then measuring the distance travelled plus the distance off the centreline. The two figures are added together and the variation compared. A large spread means a bumpier surface. The problems identified with this method were balls run on the same line and that consecutive balls rolled farther.

The 'Bobble Test' is more subjective and is a visual measure of trueness. Balls are rolled 2.44m (8 feet) off a Greenstester and then the amount of bobble and/or snaking in the last 1.2m (4 feet) is visually assessed. The rating is 10 = no bobbles or snaking, 9 = 1 bobble or snake, 5 = some bobbles and snaking and 1 = many bobbles and much snaking.

- John Neylan



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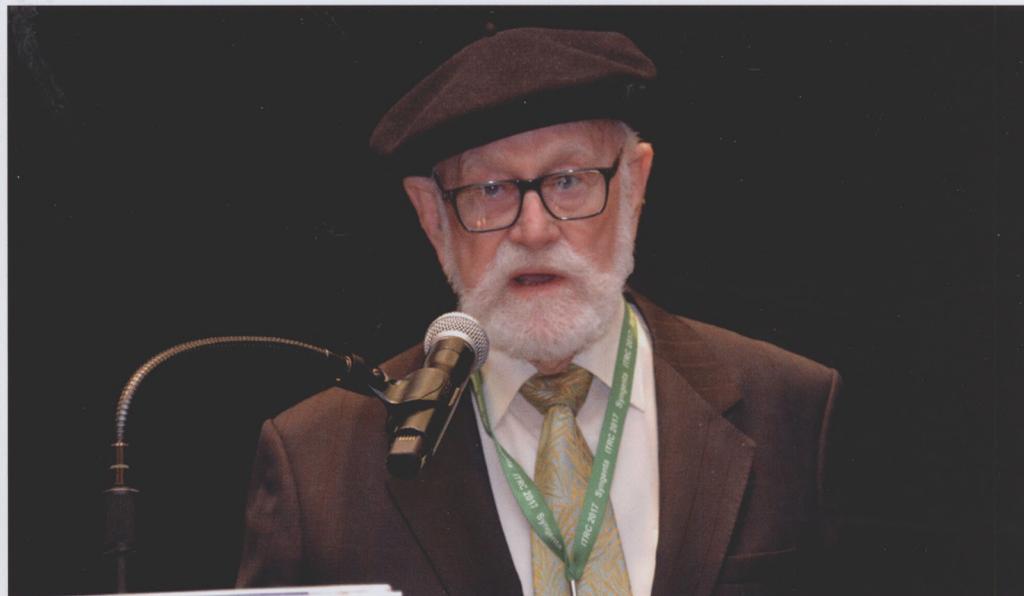
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Above right: The research on mites undertaken by Peter McMaugh (pictured) and Dr Don Loch is well-known to most Australian turf managers and their ITRC papers highlighted that they are the world leaders in understanding this pest

Above: Dr. Tim Colmer from the University of Western Australia presented a comprehensive review paper on the state of knowledge of water use by warm-season grasses



CONTINUED FROM PAGE 38

MICROBIAL TOOLS TO IMPROVE PLANT HEALTH

In the world of agriculture and turf there still remains a fascination with the use of microbes to enhance the growing conditions. The term 'microbiome' is used to describe the soil microbiology and the relationship with plants, with the root microbiome being defined as the dynamic community of microorganisms associated with plant roots.

There were several references to it throughout the ITRC as the search continues to improve plant performance in a changing climate. Because plant roots are rich in a variety of carbon compounds, they provide unique environments for a diverse assemblage of soil microorganisms, including bacteria, fungi and archaea.

The plant microbiome is a key determinant of plant health and productivity and has received substantial attention in recent years. Manipulation of the plant microbiome is seen as having the potential to reduce the incidence of plant disease, increase agricultural production, reduce chemical inputs and reduce emissions of greenhouse gases, resulting in more sustainable agricultural practices. This goal is seen as vital for sustaining the world's growing population.

In a review paper by Connor et.al. (2017), it was noted that with climate change, crop yields are expected to decline by 10-25 per cent, with improvements through plant breeding only expected to rescue production by 7-15 per cent. This is obviously a major concern for future food production and places turf in a relatively minor context. A better understanding of the microbiome and its impact on plant productivity is seen as a means of restoring this loss of production.

Studies have and continue to be undertaken into microbiomes to utilise microorganisms associated with plants to improve their resistance to stresses.

Of particular interest are the foliar endophytic fungi that have been found to change plant drought physiology and improve plant tolerance to such stresses.

In the paper by Connor et.al. (2017), it was reinforced that this is an extremely complex area of study involving many microbes and their interactions with each other and the research has barely scratched the surface. At this point in time the research with beneficial fungi has shown that it is very complex and the results are highly variable and there is a very long way to go before a 'commercial product' can be produced.

To provide some idea of the complexity of the studies, individual organisms are studied to test if they provide any benefit to the plant and then with additional microorganisms identified in the microbiome to determine what synergistic or antagonistic effects may occur. Given the large numbers of microorganisms present in plant systems, the permutations and combinations are extremely large.

The ultimate aim of this research is to identify individual or groups of microorganisms that confer stress resistance or improved production and then being able to apply them in the field to a crop. Again there is a long jump from what is achievable in the laboratory and glasshouse and the field application.

Other papers presented by Crouch (2017) and Beirn (2017) also stated in their research involving turf systems that soils under turf swards are complex microbial communities. The microbial communities are not only complex but they fluctuate with the seasons (changes in the populations), with site location and host having a dramatic effect on the microbial population and its makeup. This work further highlights the challenges of applying various microbial brews and hoping that it will have a dramatic effect on turf health.

TURFGRASS WATER USE EFFICIENCY

In the US, water availability is under increasing

pressure and hence there are extensive plant breeding efforts to improve heat and drought stress tolerance.

In a paper by Morris and Kenna (2017), it was highlighted that there is increasing pressure on the water available for irrigating home lawns. The US EPA have a WaterSense® programme to encourage improved water use efficiency and to reduce water use. On the WaterSense® website (<https://www.epa.gov/watersense>) there is a substantial turfgrass water use article and the picture that is painted is not particularly positive.

It is stated that an average, single-family home in the US uses 30 per cent of their household water outdoors. In California, home owners are being offered incentives to remove their lawns and the government aims to remove 430 hectares of turfgrass. This is quite a dramatic action to be taken and the USDA is developing certification criteria for low water using turfgrasses and applying a certification label under the WaterSense® programme (Morris and Kenna, 2017).

The USDA is investing a large sum of money by undertaking various water application and drought studies to provide base data on turfgrass water use. The main turf species involved are Kentucky bluegrass and tall fescue. It does pose the question

as to why in some states that there is still an emphasis on cool-season grasses rather than a shift to a warm-season grass such as *Cynodon* sp. It does seem that winter colour remains a key criterion.

As a side note, it is interesting that in a satellite survey of the US to measure the amount of impervious surfaces, it was noted that the turf/grass cover was two per cent of the US terrestrial land (Mikini, 2005). These grass areas are considered to be urban grasslands and play a key function in improving the health of the environment. This is an interesting contrast to the Californian Government programme to remove lawns and potentially increase the area of hard landscape.

In keeping with the water conservation and drought tolerant theme, there has been a strong programme of developing zoysiagrasses as a replacement for cool-season grasses. Dr Jack Fry, who is well known to Australians following his attendance as a keynote speaker at the 2015 Australian Turfgrass Conference in the Hunter Valley, has been exploring the winter survival of fine-leaved zoysiagrass.

In the north central regions of the US, summers are very hot and humid with winters extremely cold and winter kill in bermudagrass always a possibility

SYMPOSIUM EXAMINES BENEFITS AND APPLICATIONS OF ZOYSIA

Zoysiagrass is receiving a lot of attention at the present time because of its low water use, drought tolerance, shade tolerance and the ability to survive severe winter conditions. Sounds the perfect grass doesn't it?! In the US in particular, zoysiagrass is seen as a good replacement for traditional cool-season fairways and lawns where reduced water use and summer hardiness is required, while also being tolerant of severe winters.

Zoysiagrass is widespread through Asia and has been used for many turf applications, though its strong winter dormancy and lack of green colour has been seen as a disadvantage. At the ITRC there were papers presented by several researchers, including our very own Dr. Don Loch and Peter McMaugh regarding the world status of zoysiagrass.

The current emphasis seems to be around improving winter colour without compromising winter hardiness. This is the ever-present fine line between removing a natural survival mechanism while in the pursuit of colour. There is also the ever-

present issue regarding zoysiagrass in that it has excellent wear tolerance but has very slow recovery. On golf course fairways it is well suited, however, its use on high wear tees and sportsfields is still debateable.

With any research conference you try to place the information in an Australian context and the use of zoysiagrass is no different. In Australia we have some excellent couchgrass varieties and for most applications it is 'bullet proof'. Where couch fails is where there is extensive shade and when this is combined with high traffic it tends to fail relatively quickly.

So does zoysiagrass have a place in this situation? The answer is a tentative 'yes'! Based on some observation trials on golf courses in Sydney, it looks to have a place providing that the traffic can be managed.

Does zoysiagrass have a wider application in golf fairways and sportsfields? At this point in time there hasn't been any useful trial work to demonstrate that it is superior to couch.

During the open forum discussion, the most compelling observation came from a golf course superintendent. His philosophy was that you should keep an open mind about what grasses are used around the golf course and to aim to find grasses that are sustainable within the different microclimates experienced around any golf course.

In reference to zoysiagrass, he saw this as a grass that will provide a turf cover in high shade areas where other grasses will not survive. This tends to put a different slant on the conversation where purity of surfaces has become somewhat of an obsession.

- John Neylan

The ITRC featured a zoysiagrass symposium which looked at the increasing application and world status of this much-talked about turfgrass species





ITRC delegates tour the Rutgers University Plant Breeding Station

“With climate change, it is expected that minimum temperatures will increase more than maximums which will in turn affect plant cooling, incidence of disease and increased plant stress. Increasing minimum temperatures is considered to be potentially the greatest concern in managing plant systems.”

(Fry, 2017). Zoysiagrass in its natural environment is well adapted to these extremes and is viewed as an alternative in a drying environment.

SPORTSFIELD DRAINAGE

At the conference there were very few papers presented relating to soils and drainage. However, there was a paper by Fleming et.al. (2017) that looked in detail at the actual drainage rate of sportsfields as compared to the design drainage rates. This is quite a pertinent question given the concerns of local government when building a sportsfield and the potential impact on the local stormwater system.

In the paper by Fleming et.al. (2017), they were determining whether there was any basis for the perception that stormwater and increased drainage rates from sports pitches contribute to local flood risk. The paper summarises the results of a case study which included field measurements of rainfall events and discharge behaviour on a range of natural turf sports pitches in England.

The findings from this study indicate that natural turf sports pitches can provide resistance to flow and therefore retention of rainfall and stormwater. In addition, sportsfields can store large volumes of water within the pervious materials used in their design. The study has confirmed that natural turf sportsfields can be utilised as a sustainable drainage tool for integrated stormwater management.

PESTS AND DISEASE

The research on mites undertaken by Peter McMaugh (2017) and Dr Don Loch (2017) is well-known to most Australian turf managers and their ITRC papers highlighted that they are the world leaders in understanding this pest.

They both emphasised that the damage caused by mites is often overlooked because turf managers and researchers don't realise what they are looking at, because it is often dismissed as some other form of stress. More importantly, there is a possible relationship between secondary

diseases and mite damage (e.g. summer decline – ERI – in bermudagrass). That is, the grass is weakened by the mites and allows the disease organism to become established and create further damage. This emphasises the need for the proper identification of the cause of a problem in order to apply the appropriate treatment.

At any research conference nematodes and the damage they cause is never far away and in particular the infamous Sting nematode. Research undertaken by Shaver et.al. (2017) has determined some new threshold levels for bermudagrass turf with the ratings they have established being:

- Low risk: <math><5/100\text{cm}^3</math> of soil;
- Medium risk: 10-20/100cm³ of soil;
- High risk: >20/100cm³ of soil;
- An action level >17/100cm³ of soil has been established.

There wouldn't be a research conference without a paper on controlling *Poa annua* and the challenges of herbicide resistance. In glasshouse trials, Brosnan et.al. (2017) demonstrated that simazine at 2240-9000g/ha provided less than 33 per cent control on resistant *Poa annua* types. These results are consistent with some recent herbicide resistance studies undertaken in Australia (Boutsalis, 2017).

Interestingly, it was noted that in field trials there was less than two per cent control and does provide a useful reminder that glasshouse studies are very carefully controlled with minimal impacts from the natural environment (e.g. soil type, evenness of herbicide application etc.). In the same study, indaziflam and oxadiazon provided 100 per cent control, while metalochlor and proflamizone gave reasonable control.

As with *Poa annua*, the control of moss still rates as a challenging pest. A paper presented by Raudenbush and Keeley (2017) on the control of silvery thread moss in a creeping bentgrass putting green looked at various treatments. These included various combinations of topdressing, cultivation (verticutting and hollow tine) and carfentrazone treatments.

The outcomes were not too surprising given the local experience – the applications of carfentrazone had the greatest effect, topdressing was not effective at all and the effect of the cultivation treatments were not apparent until year two of the trials. While carfentrazone was effective, the dead patch still persisted as a dense mass and needed to be removed or broken up.

The researcher also commented that where there are dense colonies it is best to plug them out rather than persisting with other treatments that may or may not be effective. It was also stated that spoon-feeding with nitrogen favours moss and should be avoided on moss-infested turf.

Editor's Note: For more information on the 2017 ITRC visit <http://turfgrassociety.com/itrc2017>. The 2021 ITRC will be held in Copenhagen, Denmark. 🌱

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On tour in New Jersey

In addition to the many presentations and symposiums held as part of the 13th International Turfgrass Research Conference, delegates were also given the opportunity to visit some of the region's leading sports turf and research facilities.

Above: New Jersey's Red Bull Arena, home to MLS side New York Red Bulls, boasts a sand-based, perched water table pitch with a bluegrass/ryegrass surface

As mentioned in my previous article, the 13th International Turfgrass Research Conference (ITRC) attracted nearly 500 delegates this past July. A key component of the ITRC, which is held in a different country every four years, is the day set aside for Technical Tours which visit a variety of turf facilities in the surrounding region.

With the conference being held in New Jersey, delegates were fortunate to have the option of visiting some iconic New York venues such as Central Park and Yankee Stadium, along with the likes of the United States Golf Association Museum and Testing Facility. The tour that interested me most took in Red Bull Arena, home of Major League Soccer side New York Red Bulls, Bayonne Golf Club and Rutgers University's impressive turf research facilities.

RED BULL ARENA

The Red Bull Arena was opened in 2010 in Harrison, New Jersey and is home to the New York Red Bulls soccer team. The club was a founding member of Major League Soccer (MLS) in 1996 and was originally known as the New York/New Jersey MetroStars before eventually becoming the New York Red Bulls in 2006 after being bought by the Austrian energy drink conglomerate. In addition to

the New York Red Bulls, Red Bull owns three other football teams in Austria (Red Bull Salzburg), Brazil (Red Bull Brasil) and Germany (Red Bull Leipzig).

Red Bull Arena and its associated training facilities are maintained by a staff of four which is headed by director of grounds, stadium and training facilities Dan Shemesh. Prior to working with the New York Red Bulls, Shemesh worked at Gillette Stadium in Foxboro, Massachusetts with the New England Patriots NFL side, as well as seven years as assistant groundskeeper and then sportsfield director with the NFL's Philadelphia Eagles.

The Red Bull Arena pitch is a sand-based, perched water table construction with the turf consisting of bluegrass and ryegrass which was of high density and high quality. While the playing surface had some initial problems with turf establishment (from solid turf) with several replacements necessary, it hasn't been resurfaced since 2013 when replaced using 'Super Sod' (used for NFL pitches).

The stadium has a seating capacity of 25,000 and hosts about 50 events a year including soccer (the MLS seasons runs from March-September), occasional rugby games and concerts. The field was originally used for training which compromised the quality and presentation of the surface and subsequently there has been a four hectare training venue established which means no training is conducted on the stadium surface.

As with most modern stadia, shade is an issue, particularly at the southern end. While there is translucent sheeting used in the roof which extends just beyond the touchlines, it does not permit sufficient light through for active plant growth. To overcome the shade issues and to improve growing

conditions, there are four large artificial light rigs and four smaller rigs deployed across the ground in various locations covering about 2000 square metres.

The lighting rigs are mainly used in the spring as the grass recovers from a harsh winter, with the lights left in each location for at least 48 hours. Once temperatures exceed 29°C the lights are turned off. In winter the field freezes and the grow lights are used to warm the surface.

The stadium also has 10 fans to improve air circulation during the summer months when temperatures are in the 30s and the average relative humidity exceeds 70 per cent, with peaks exceeding 90 per cent. The pitch has a SubAir™ system in place and is used to draw drainage water through during high rainfall events. It is also set up to blow hot air back through the profile during cold conditions.

The SubAir™ is used every day in summer for one hour at 4am, 12 noon and 8pm to optimise rootzone aeration. Sensors in the field monitor soil temperature, air temperature, soil moisture and light levels (there is also a sensor on the roof) to assist with Shemesh's maintenance program.

This programme is very intensive and includes;

- Using fertigation to fertilise the field;
- Primo applied every two weeks from April to October;
- Double cut with walk-behind mowers at 25mm before games;
- Lots of soil aeration including the use of the Air2G2;
- Regular overseeding with bluegrass and ryegrass and the use of growth covers in the spring; and
- Disease is a constant problem in the ryegrass due to the heat and humidity, with the field sprayed regularly for pythium.

BAYONNE GOLF CLUB

The second stop on the tour took delegates to Bayonne Golf Club which was designed and constructed by Eric Bergstol and opened in 2006. A Sports Illustrated writer once commented that the project was "the most audacious golf course in the world" and it sits on a 150 acre Hudson River site located 6.5 kilometres from Manhattan. Bergstol is a developer that had previously constructed 11 other golf courses of which six of these he designed.

Bayonne Golf Club is built on a waterfront landfill that was effectively wasteland. In the late 1990s the site was identified as a dumping ground for silt dredged from the New York Harbour in order to create deeper channels for shipping. The sludge that was dredged was delivered to the golf course site where it was mixed with 8 per cent Portland cement to give it a firm and workable consistency. There were millions of cubic metres of sludge delivered to the site which formed the basis of the golf course.

The golf course design was inspired by the links courses of the UK and Ireland. Dr Richard Hurley, an agronomist from Rutgers University, was a key consultant in determining the grass species mixes for the golf course including greens, tees, fairways and general vegetation.

Construction took place between 1999 and 2005 where the site was filled with the amended sludge to heights reaching 30 metres above sea level. In the autumn of 2004 and spring of 2005, the final land forms were shaped and the entire property was capped with 1-2m of a soil growing media.

To ensure that the fairways and primary roughs were well drained and firm, they were capped with 150-250mm of sand. The amount of soil delivered to the site was massive and consisted of 200 truckloads of soil a day, six days a week for almost six years! Including both the dredged material and soil, the total amount was around six million cubic metres!

In 2005 the golf course was seeded with fine fescues in the roughs, mounds and hills and Colonial bentgrass and Chewings fescue on the fairways. A 50:50 mixture by weight of Velvet bentgrass and creeping bentgrass was used on the greens. In addition there were 58,000 plants of 20 different species grown that were planted in the roughs.

The golf course is quite spectacular and very much has a links feel about it. The rolling dunes, long fescue roughs that were in flower and short scrub certainly create the feel of a course that harks back to the home of golf. The only factor that belies the setting is the high temperatures and high humidity that are characteristic of a New York summer.

The course was very well presented but certainly was not over-manicured which added to the links type character where there are different grasses throughout the fairways and greens providing that mottled look usually associated with a links style course. Overseeing maintenance operations is Thomas Woodward who took over in 2014.

Red Bull Arena employs 10 fans to improve air circulation during the summer months when temperatures are in the 30s and the average relative humidity exceeds 70 per cent, with peaks exceeding 90 per cent.





◀ The impressive Bayonne GC clubhouse and US flag which measures 30 feet by 60 feet

The golf course was completed in the autumn of 2005 and was opened for play in June 2006. Following the completion of the incredible \$USD19million 'castle style' clubhouse, the golf course was opened to members in 2008. The clubhouse, complete with lighthouse, in its own right is a work of art with hand crafted recycled timber used extensively throughout the building. Both structures sit atop the highest point of the property, offering sweeping picturesque views of the golf course, club-owned ferry dock and helipad, New York Harbour, Statue of Liberty and the lower Manhattan skyline.

RUTGERS UNIVERSITY TURF RESEARCH FACILITIES

Rutgers, the state university of New Jersey, has for a long time been at the forefront of worldwide turf industry research and the ITRC enabled delegates the chance to view their impressive research facilities. As part of the tour we visited the Rutgers Plant Science Research and Extension Farm and Horticultural Research Farm #2.

The Plant Science Research and Extension Farm, or the Adelpia Farm, is an 83 hectare facility that has been owned by New Jersey Agricultural Experiment Station/Rutgers University since 1962. During the 1980s, the turfgrass breeding programme started to expand under the direction of Dr C. Reed Funk. The Adelpia farm was the ideal site to develop more drought, heat and pest resistant cultivars of cool-season grasses.

In 1996, Dr William Meyer became the director of turfgrass breeding at Rutgers. Under his leadership, this programme has evolved into the leading turfgrass breeding programme in the world. It also maintains the largest germplasm pool of cool-season turfgrasses available for breeding.

At the Adelpia farm there are currently over 36,000 individual turf plots under evaluation. Over 10ha are used each year for spaced-plant nurseries for seed production and clonal germplasm evaluation. Since the inception of the Rutgers Turfgrass Breeding Program, over 500 improved cultivars have been developed and marketed in cooperation with the seed industry.

Turf breeding programmes at this time are concentrating on;

- The development of cool-season grasses with improved salinity tolerance;
- Emphasis has been placed on developing turfgrasses that require less water, fertilisation, and mowing. The facility has a rain-out shelter that ensures that the turfgrasses stay under maximum moisture stress;
- Improved heat and drought tolerance in the fine fescues. The hard fescues looked to be the standout grasses;
- Selecting for improved shade tolerance in the fine fescues.
- Sampling drought-tolerant and drought-susceptible plants and testing for their microbiome to see if there is a relationship between the drought tolerance and microbial population;
- Low maintenance grass trials for parks and lawns with hard fescues the standout species/variety;
- Big emphasis on having high endophyte levels to ensure there is good tolerance to dollar spot;
- Development of herbicide-resistant grasses through transformation.

The other Rutgers University research facility – Horticultural Research Farm #2 at North Brunswick, NJ – is about 1.6km from campus and consists of 13ha dedicated almost exclusively to turfgrass research. This research facility consists of a laboratory-conference building, 7000m² of bentgrass and a small green, fairway and tee used for teaching and demonstration purposes. There are over 12,000 turf plots planted at Hort Farm II. Turfgrass research includes cultivar evaluation (as part of NTEP), turf management, pathology,

Below right: Rutgers University's Horticultural Research Farm #2 is currently assessing a range of new bentgrasses under both green and fairway maintenance regimes

Below: Despite its big city industrial backdrop, Bayonne's design very much harks back to the great links courses of the UK and Ireland





Bayonne's beauty belies the fact it is built on a former municipal landfill and dump site for millions of tonnes of dredge from New York Harbour

entomology and nematology. Projects involving highly maintained bentgrass turf are located at this site.

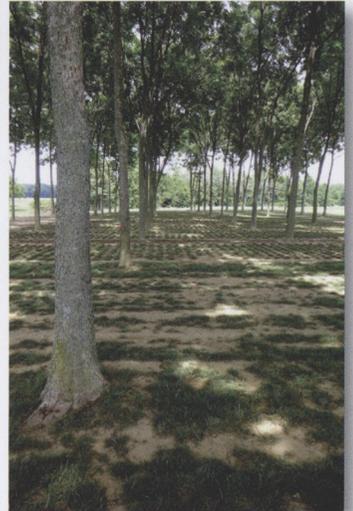
Some of the standout research included;

- Extensive NTEP bentgrass trials under both putting green and fairway maintenance regimes. There are many new cultivars under evaluation and there were several cultivars exhibiting good tolerance under high temperatures and humidity. At this time, they are only codes but it does indicate there is new germplasm that may find its way to Australia.
- Managing disease in the New Jersey region is a high priority research area because of the

high summer temperatures and humidity. There were extensive trials aimed at the control of anthracnose with an emphasis on the use of potassium.

- There was also a trial investigating the use of finer textured topdressing sand on creeping bentgrass putting green turf. This is quite relevant to Australian turf management where the use of slightly finer sands is used for dusting and topdressing because it disperses more readily into the turf canopy. From my observations of the trials being conducted, the firmest surface was topdressed bi-weekly with a total of 4.8 tonnes/ha of a medium-fine sand. 🌱

Among the many research projects at Rutgers is one looking at selecting for improved shade tolerance in fine fescues



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End of the line

This edition of ATM sees the start of a regular column dedicated to human resource management issues. Vicki Crowe, who has more than 25 years' HR management experience and who is the current HR representative for The PGA of Australia, kicks things off by looking at the complex minefield that is workplace termination.



Overwhelmingly, the majority of calls I receive from AGCSA and PGA members seeking guidance involves dismissal. Either an employer is unsure of the procedure they need to follow, or an employee feels they have been warned or terminated unfairly.

From an employer's perspective, it is critical that you follow the correct procedures before deciding to dismiss an employee. Before you commence any disciplinary action or warning, you need to clearly define whether it is underperformance or misconduct.

Misconduct includes repetitive lateness, absence from work, inappropriate behaviour, attitude towards work or colleagues or a breach of policies or procedures. The procedure you follow in this instance is verbal and/or written warnings. Underperformance is unacceptable standards of work, poor quality of work, low productivity or poor outputs. The procedure you follow is having an initial verbal communication, however, if the performance does not improve you need to commence an underperformance process.

UNDERPERFORMANCE

In the case of underperformance, the first step you must follow is to arrange a meeting with the employee. Outline to them ongoing issues factually, giving real examples and explaining why it's an issue and how it is impacting on other stakeholders. Explain what steps you have taken in the past to try and assist the employee to improve.

Use an 'underperformance meeting plan' to document how you mutually agree to move forward, including any extra training or support you will provide. Inform the employee that if the underperformance continues, further disciplinary action may result and possibly include termination of employment.

The meeting should be a two way flow of conversation. Employees have the right to respond and explain any reasons for the underperformance.

They can also seek clarity about the changes required and timeframes set for improvement.

Following the meeting, complete a performance improvement plan and provide a copy to the employee. Monitor the underperformance and schedule regular meetings over a six to eight week period to discuss issues or progress. Prior to the final meeting, provide the employee with a self-assessment template. If the underperformance continues, you may need to consider dismissing the employee.

Templates for an underperformance meeting plan and performance improvement plan can be found on the Fair Work Ombudsman's website: www.fairwork.gov.au/how-we-will-help/templates-and-guides#Underperformance.

Some key tips to keep in mind regarding underperformance:

- Don't leave issues unaddressed, manage at the time – employees need to know when or why they are not meeting expectations. Managing at the time also contributes to a positive culture and more motivated team members; and
- Have regular catch ups with your team, providing clear and specific feedback on how they're tracking.

MISCONDUCT, SERIOUS MISCONDUCT

Times are changing in workplaces and what once would have been considered serious inappropriate behaviour is now often acceptable in many workplaces. Take swearing in the workplace as an example. A few years ago, swearing was considered serious misconduct, now it is often commonplace and acceptable.

Before you commence any disciplinary procedures, ensure that you have a policy that covers the specific behaviour they are being warned for, or at a minimum, they have undertaken some sort of training in the area.

Serious misconduct warrants instant termination and includes, but is not limited to;

- Theft;
- Fraud;
- Assault;
- Violence;
- Intoxication at work;
- Wilful or deliberate behaviour that is inconsistent with the continuation of the contract of employment;
- Conduct that causes serious and imminent risk to the health or safety of a person; and
- Refusing to carry out a lawful and reasonable direction.

An employer must be able to prove that the employee has in fact engaged in serious misconduct. Misconduct is less serious but repetitive conduct or poor behaviour and must follow the verbal and written warning procedure.

With any dismissal, to avoid further action being taken by an employee, you must ensure 'procedural fairness' is afforded. Procedural fairness is the procedures used by a decision maker, rather than the actual outcome reached. It requires a fair and proper procedure used when making the decision to terminate employment.

The criteria Fair Work will look at with an unfair dismissal claim is whether the dismissal was harsh, unjust or unreasonable. They will also want to know whether there was a valid reason for the dismissal and if it directly related to the employee's capacity or conduct. Be mindful to always allow the employee to have a support person present at any discussions about the dismissal.

GENERAL PROTECTIONS

Compensation for unfair dismissal is limited to reinstatement or a maximum of six months' pay. Other Fair Work avenues employees are now pursuing for compensation fall under Fair Works' 'General Protections'. Prior to terminating an employee, employers need to check whether an employee could allege adverse action on prohibitive grounds.

It is unlawful for an employer to take adverse action (including termination) because an employee has exercised their workplace rights. Workplace rights include;

- An entitlement to a benefit;
- Making a complaint or inquiry;
- Engaging in industrial activity;
- The right to be free from undue influence or pressure in negotiating individual arrangements (e.g. individual flexibility arrangement under Modern Awards); and
- Any other discriminatory grounds – race, colour, sex, age, physical or mental disability, marital status, family or carer's responsibilities, pregnancy, religion or political opinion.

With General Protections, the Fair Work Commission will set a conference date to deal with the matter. This is usually done via telephone with all parties and their respective representative.

If the matter is not resolved, the Commission will administer a certificate. If all parties agree, it can go back to the Commission to arbitrate. If not, it will proceed to the Federal Magistrates Court or the Federal Court. Unlike unfair dismissal, compensation under General Protections is uncapped and non-economic loss such as hurt, humiliation and distress can also be claimed.

An example of case law regarding General Protections – Adverse Action was the 2013 case between Murrhly and Betezy.com.au Pty Ltd. An employee complained to the chief executive officer about the failure to pay her commissions due under her agreement. The employee said that if the commissions were not paid, she would seek legal advice.

The court found that the chief executive responded by threatening the employee that if she took legal advice about her unpaid remuneration and commissions she would be fired. This was a contravention of the Fair Work Act which states it is unlawful for an employer to threaten to take adverse action against an employee because they propose to make a complaint or inquiry in relation to their employment.

Furthermore, by not paying commissions at least monthly, the employer was found to have contravened s 323 of the Fair Work Act. This section provides that an employer must pay an employee amounts payable to the employee in relation to the performance of work in full at least monthly. The Court found adverse action had been taken by the employer and the employee was awarded compensations in excess of \$500,000.

Editor's Note: With HR management an ever-present issue for superintendents and turf managers, ATM encourages readers to send in any questions they may have for Vicki or any topics that they would like Vicki to address in this column. You can send your questions/ideas to ATM editor Brett Robinson via email brett@agcsa.com.au or call the AGCSA office on (03) 9548 8600. 🙌



Far left: From an employer's perspective, it is critical that you follow the correct procedures before deciding to dismiss an employee

Above: Templates for an underperformance meeting plan and performance improvement plan can be found on the Fair Work Ombudsman's website

INTRODUCING VICKI CROWE

Vicki Crowe (pictured) is currently the human resources advisor for the PGA of Australia. Based out of the PGA's head office at Sandhurst, Vicki covers internal HR issues for the PGA as well as HR and employee relations guidance to PGA members. With a 25-year background in HR, recruitment, training and behavioural profiling, Crowe was appointed to her current role at the PGA in 2014 and since that time has provided valuable assistance to both internal staff and PGA members.



As of February 2017, Vicki also provides HR advice for AGCSA members as part of an arrangement between the two organisations. In March and April she conducted the joint AGCSA/PGA seminars on mental health and wellbeing in the workplace and modern leadership and at the recent 33rd Australian Turfgrass Conference was a keynote presenter.

All current financial AGCSA members are entitled to free HR advice through the association. In the first instance, please contact the AGCSA on (03) 9548 8600 or email admin@agcsa.com.au explaining the nature of the issue.



Fungicides and fungicide technology is not finite and it is part of our stewardship to ensure judicious and appropriate use

Managing fungicide resistance

While there has been a lot of industry discussion recently surrounding herbicide resistance, as Syngenta technical manager Michael De Luca writes, turf managers also need to be mindful of the threat of fungicide resistance development.



Fungicides allow turf managers to reduce the detrimental effects of disease on turf health and playability, making them an integral part of modern turf management systems. However, even with fungicides and an array of complementary integrated measures, the continued evolution of disease pathogens will naturally develop due to the selection pressures turf managers exert on them with fungicides. This leads to resistance development if not managed.

Although pathogen resistance development is not yet a major challenge in the Australian turf industry, it is a real threat. The question must be asked – ‘Does this mean Australia has no resistance development, has a resistance problem not been identified, or has resistance been managed to a level where we have loss of control?’ I like to think the latter and, hopefully, with continued product development and education, we can keep it that way.

To do this, we need to preserve and manage the fungicide solutions available to us. Truly unique and novel fungicide technology that offers new Mode of Action groups (MOA refers to the biochemical pathway being targeted within the pathogen by the fungicide) doesn’t often become available – even with the investments made by R&D companies.

When new technology is researched and developed, it gives the industry additional options for rotation and provides the ability to move from effective but heavily relied upon groups like Group 11 strobilurin and Group 3 DMIs.

Resistance will always exist because of biodiversity and evolutionary development, but with continued implementation of resistance management practices it can be maintained at an acceptable level without limiting the turf manager’s ability to control pathogens.

We can use the American turf industry as an example of potential resistance development. The USA has a long history of reported fungicide resistance among turf pathogens. This includes;

- Dollar spot’s (*Sclerotinia homoeocarpa*) resistance to benzimidazole, dicarboximide and strobilurin fungicide classes;
- Anthracnose’s (*Colletotrichum cereale*) resistance to benzimidazole, strobilurin and DMI (Latin, 2011);
- Strains of winter fusarium’s (*Microdochium nival*) reported insensitivity to iprodione.

These examples are a clear indication that resistance can develop within turf pathogens.

HELPFUL DEFINITIONS

Fungicide resistance is described in two forms – qualitative and quantitative resistance. When managing them, it is useful to understand how both forms work.

Qualitative resistance (see Figure 1, page 52) is the more commonly spoken about resistance mechanism and often occurs with a sudden loss

of pathogen control by a fungicide. The pathogen population contains either sensitive or resistant individuals (Latin, 2011) and a natural mutation occurs to the point where a fungicide binds (Deising et al., 2008).

Most modern fungicides have a single site MOA, which makes them very targeted and effective. However, they are at greater risk of resistance as only one point in the pathogen needs to change to render the fungicide ineffective. When a change in the fungicide binding site occurs, the fungicide cannot disrupt the pathogen's function, which leads to complete loss of control. The surviving pathogen can pass on this change to new progeny, creating a resistant population.

Quantitative resistance (see Figure 2, page 52) is when the pathogen population has a range of sensitivity to a fungicide (Latin, 2011). Regular fungicide use can gradually cause the pathogen populations to become insensitive (Gallian et al., 2006). A range of mechanisms – for example, movement of the fungicide to extracellular space, a reduction in fungicide permeability, the degradation of the fungicide molecules, an over-expression of the target site that the fungicide binds to (Deising et al., 2008) – reduce the fungicide's effectiveness.

BIOCHEMICAL MODE OF ACTION

One of the strongest management techniques we have to deal with resistance is to rotate the fungicide's biochemical Mode of Action (MOA). Fungicide MOA groups are designated by the Fungicide Resistance Action Committee (FRAC), a specialist technical group of CropLife International. The purpose of FRAC is to provide fungicide resistance management guidelines to prolong the effectiveness of 'at risk' fungicides and to limit crop losses, should resistance occur.

Fungicides are classed as multi-site or single-site. Modern fungicides are highly targeted to inhibit pathogen normal function. In single-site fungicides, the resistance risk is normally medium to high as only one change needs to occur in the pathogen for fungicides to become ineffective. Multi-site fungicides are mainly contact fungicides developed



prior to the 1960's (Young and Patton, 2010). These fungicides have a variety of different fungicide target sites, leading to a reduced resistance risk as more changes are required in the pathogen for it to pass on resistance development.

CROSS RESISTANCE

The concept of cross resistance is important for managers to comprehend. It occurs to different fungicides that share the same MOA (Brent and Hollomon, 1998). For example, if a pathogen exhibits resistance to trifloxystrobin (Group 11), it would exhibit resistance to other group 11 fungicides like azoxystrobin. This means we may lose not just one fungicide if resistance develops, but an entire class of chemistry.

MANAGING RESISTANCE

We have a range of measures that can be adopted to prevent resistance development. These include;

- **Rotate, rotate, rotate:** To differentiate our applied fungicides, we alternate MOA groups to remove isolates that develop an insensitivity to a specific MOA. This rotational process means the pathogen remains sensitive to fungicides and ensures the longevity of fungicide efficacy.
- **Restrict use:** Follow the manufacturer's directions on best use and maintain application limits during each season/year. Following best practice guidelines for a number of consecutive

Dead hyphae on a leaf surface. Resistance will always exist because of biodiversity and evolutionary development, but with continued implementation of resistance management practices, it can be maintained at an acceptable level without limiting the turf manager's ability to control pathogens

Far left bottom: Although pathogen resistance development is not yet a major challenge in the Australian turf industry, in the USA there is a long history of reported fungicide resistance among turf pathogens such as dollar spot

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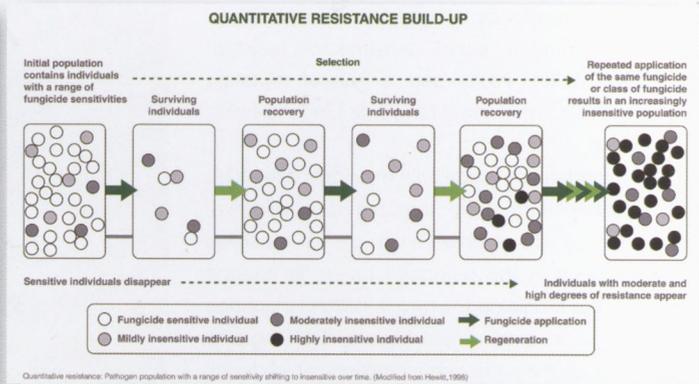
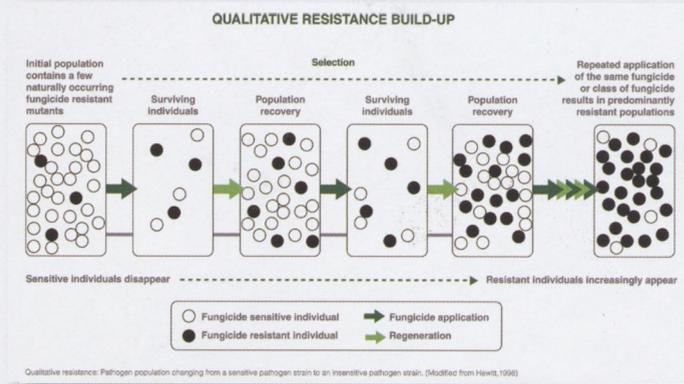
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▲ Above: Figure 1. Qualitative fungicide resistance build-up

Above right: Figure 2. Quantitative fungicide resistance build-up

applications will help reduce resistance development.

- **Apply the correct rates:** Under-application can lead to fungal pathogens that are not fully controlled, leading to a greater chance of survival and adaption of the disease.
- **Preventative applications:** The use of preventative application maintains a much lower pathogen population. The reduced numbers of pathogens limit the opportunity of natural mutations that lead to resistance development.
- **Incorporate multi-site MOA:** Consider tank mixing low-risk multi-site fungicides, when appropriate, to expand target sites of the fungicide mix.
- **Practice integrated disease management:** Employ sound cultural practices, including appropriate moisture management, irrigation timing, fertilisation, correct pH, aeration, dew removal, mowing, ensuring adequate airflow and shade reduction.
- **Support new technology:** Many new fungicides released are from existing MOA. They may be new chemicals or combination products. To effectively manage disease resistance, new groups are required to break up existing rotations of fungicides. It is important that R&D companies continue to invest in development of new options for the industry to ensure we can manage resistance into the future.

CONCLUSION

Fungicide resistance is real. Without implementation of resistant management, the armour available to turf managers will be depleted. Fungicides and fungicide technology is not finite and it is part of our stewardship to ensure we use fungicides appropriately. We must prevent resistance before it occurs, because once it does occur it can have significant impact on the quality and variability of turf surfaces.

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TABLE 1: RESISTANCE RISK OF MULTI-SITE AND SINGLE-SITE FUNGICIDES

	FRAC Group	Group Name	Example Active Ingredient	Resistance Risk
Multi-site	M3	Dithiocarbamates and relatives	Mancozeb, Thiram	Low
	M4	Phthalimides	Captan	Low
	M5	Chloronitriles	Chlorothalonil	Low
Single-site	4	PA - fungicides (PhenylAmides)	Metalaxyl	High
	1	MBC - fungicides (Methyl Benzimidazole Carbamates)	Thiabendazole	High
	7	SDHI (Succinate dehydrogenase inhibitors)	Penthiopyrad	Moderate to high
	11	Strobins - QoI-fungicides (Quinone outside Inhibitors)	Azoxystrobin	High
	29	Qil (Quinone inside Inhibitors)	Fluazinam	Low
	2	Dicarboximides	Iprodione	Moderate to high
	12	PP-fungicides (PhenylPyrroles)	Fludioxonil	Low to moderate
	14	AH-fungicides (Aromatic Hydrocarbons) (chlorophenyls, nitroanilines)	Tolclofos methyl	Low to moderate
	28	Carbamates	Propamacarb	Low to moderate
	3	DMI-fungicides (DeMethylation Inhibitors)	Propiconazole	Moderate
	33	Phosphonates	Fosetyl-AI	Low



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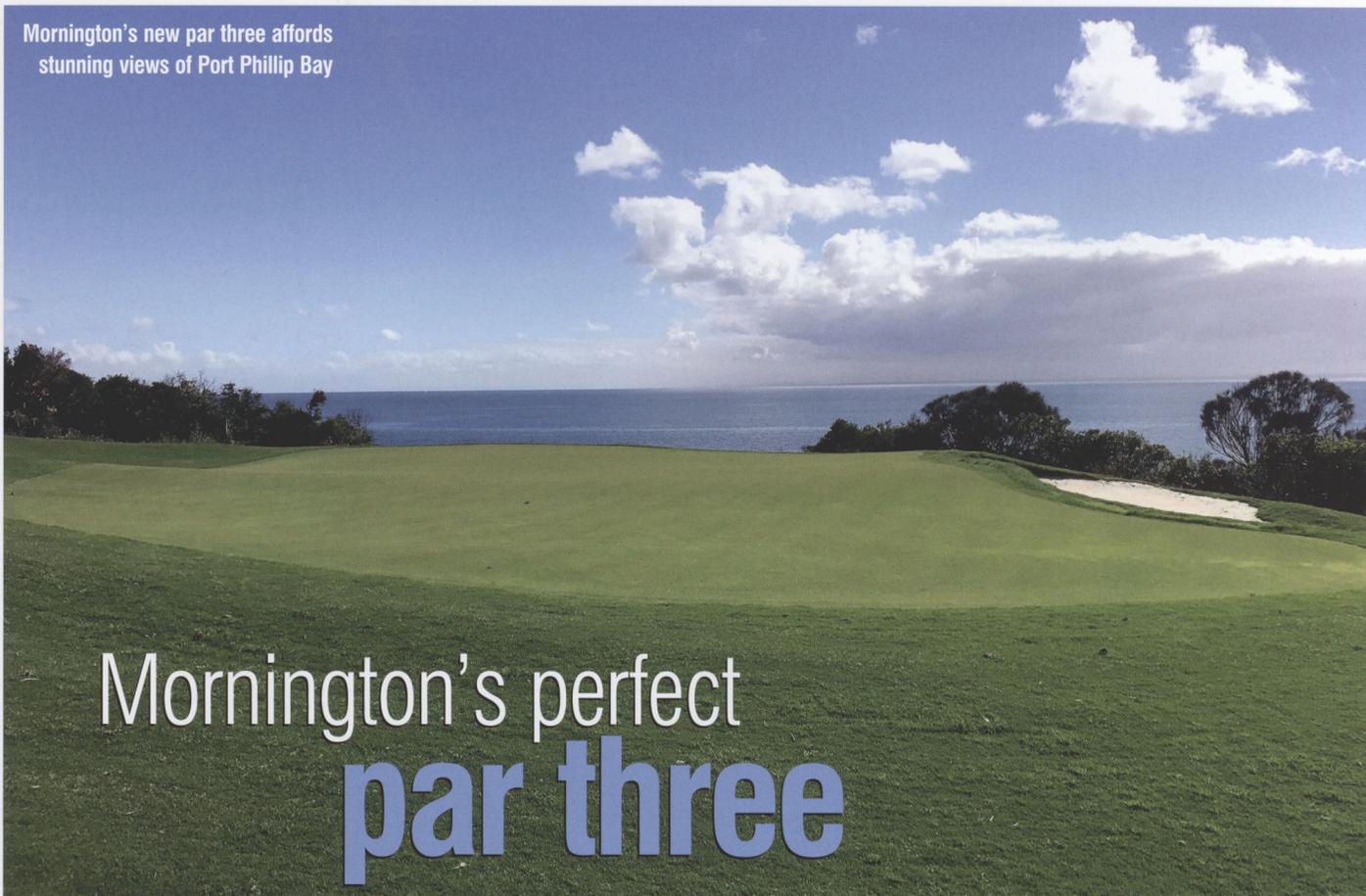
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Mornington's new par three affords stunning views of Port Phillip Bay



Mornington's perfect par three

WORDS: CRAIG MURDOCH

Victoria's Mornington Peninsula is home to some of Australia's most spectacular golf holes and Mornington Golf Club's new par three is up there with the best.

A number of years ago a small parcel of land was discovered in the furthestmost corner of Mornington Golf Club just behind the 15th tee. This land was deemed big enough to potentially house a new small to medium length par three, however, the only problem was it was perched on the cliffs of Port Phillip Bay and was covered in trees and overgrown plantations.

Fast forward to October 2017 and Mornington Golf Club now boasts an iconic, magnificent new par three with incredible views to the Melbourne city skyline, a remarkable achievement for one of the lesser known clubs on Victoria's famed golfing playground that is the Mornington Peninsula.

Mornington Golf Club is no longer the hidden gem of the peninsula and has been growing significantly in recent times with an increase in membership of close to 30 per cent since 2015. It has a proud history dating back to its inception in 1904 and currently has around 830 members. It boasts a very strong junior membership and a Course Master Plan in place to gradually improve

the golf course over the next few years which will benefit its members. The future of Mornington Golf Club looks very bright indeed.

The construction of the new par three is the first stage in the Master Plan which now gives the club an extra hole to enable it to deliver improvements to the entire course without compromising the ability to always have 18 holes in play at the one time.

OUT OF THE BUSH

The transformation of the parcel of overgrown bushland to a beautiful par three was driven by the then club captain Craig Corfield, course advisor Darius Oliver from Planet Golf and course architect Ben Davey from Contour Golf Design, with the support of a forward-thinking Board and club management.

The hole was designed by Davey and Oliver and the objectives were simple – to create an interesting green site that followed the natural landforms as best as possible and that didn't divert attention from the stunning surrounds.

Far right: The green was constructed using the California method

Right: The site on which the new par three was constructed was originally covered in bushland

Below: The new green was seeded with Mackenzie creeping bentgrass



With the land falling sharply toward a creek on the right, the green was anchored by a deep trench-like bunker along this side and set on the horizon to appear as if directly atop the cliff. Another bunker was placed 10-15 metres short of the green to confuse depth perception and complicate what is otherwise a straightforward tee shot.

The angle of the tee was designed to make the green surface more visible and easier to approach the further forward you play. Back tee golfers are only hitting a 150m shot but to a green partly hidden and angled across them slightly.

The new hole was almost entirely built in-house by Mornington's long-serving course superintendent Kevin Toebelman, his small team of five full-time staff and a group of retired members called 'Dads Army' who give up their time each week for the love of the club! The project cost less than \$100,000 and took approximately 18 months to complete due to the weather restrictions through winter.

In February 2016 the clearing of the site commenced. This was an onerous task but once it was completed it revealed the potential of the site with dramatic views of Port Phillip Bay. The construction began and fortunately the lay of the land was so perfect for a short par three there was limited earthmoving required.

The green was constructed to the California method and was seeded with Mackenzie creeping bentgrass. The club used Kustom Bind bunker lining system in the bunkers and in March 2017 the Santa Ana turf was laid on the fairway and green surrounds and seed sown on the green. It was just a matter of waiting for spring to arrive for the hole to be ready for play and it was opened to members on 7 October 2017 much to their excitement.

The new par three is now in the club's permanent layout and with the iconic hole receiving such rave reviews the club is confident that it will be remembered by members and visitors as one of the best holes on the golf course.

Stage 2 of Mornington Golf Club's Master Plan will start soon and this will involve the relocation of the 9th and 18th greens along with a larger practice putting green and new 10th tee. Very exciting things



are happening at Mornington Golf Club and with the improvements that have been made and are being planned on the golf course, it really is becoming one of the most progressive clubs on the Peninsula.

Former professional golfer and now broadcaster on 1116 SEN radio Mark Allen stated that "Mornington Golf Club is the club with the most potential in Australia" and "has the potential to be something out of this world".

For any golf club, a new hole is a major undertaking and the hope for Mornington with this par three is that its success will ensure continued membership growth and increased green fee play. The magnificent new par three is the first step of many for Mornington and we are excited to watch this amazing story unfold. 🌱

With an aspect like this, it's no surprise that the new par three has been embraced by the members

With the land falling sharply toward a creek on the right, the new green was anchored by a deep trench-like bunker





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Thurgoona is one of many superb courses along the Murray River and this November will host the NSW Senior Open Championship

Thurgoona Country Club Resort NSW

Dean Lewis is about to notch up four years in charge at Thurgoona Country Club Resort, a period which has seen some significant changes in the management and presentation of the course.

The Thurgoona crew (from left) Charlie Borella, Dom Newnham, Jason Berkhout (assistant superintendent), Dean Lewis (superintendent), Sam Mirtschin and Jarrod Heaphy

Superintendent: Dean Lewis (44).

Nickname: Deano.

Family: Wife Natarsha, daughter Mackenzie and son Ethan.

Social media: Zilch – I leave that to the kids!

Years as a superintendent: Coming up to four.

Association involvement: AGCSA member 17 years, VGCSA and GCSAA (13 years).

Career: RSL Club Mulwala (bowling green apprenticeship); Apprenticeship exchange to Semiahmoo Golf & Country Club, Washington State, USA; greenkeeping positions at Tocumwal and Yarrowonga; Construction of St John's course at The Heritage Golf & Country Club, Vic; Assistant superintendent at The Heritage and now superintendent at Thurgoona Country Club Resort.

Qualifications: Certificate III in Turf, Diploma in Turf Management, Cert IV in Frontline Management.

Major hobbies/past-times: Hobbies include running around after the kids (like all parents do), water-skiing and golf, if I get the chance!

Where in Australia is Thurgoona Country Club Resort and what is the club/township famous/known for? Thurgoona Country Club Resort is in

a great location three-and-a-half hours' drive from Melbourne and around five-and-a-half hours' drive from Sydney on the NSW/Victorian border. The area has some famous sporting greats such as Lauren Jackson and Margaret Court and is a prime water-skiing and fishing location with Lake Hume about 10 minutes away. The club itself is located about 10 minutes' drive from the township of Albury.

Give us a bit about your background and how you came to be a superintendent. I knew I wanted an apprenticeship and I wanted to be outdoors, so I initially did some work experience with a local plumber but decided not to pursue that path – maybe I should have given the wages of a greenkeeper! I then applied for a local position in Mulwala (the NSW side of the border of Yarrowonga) as an apprentice greenkeeper looking after the bowling greens of the RSL Club. I was successful in gaining the position and my passion for turf began at the age of 17.

Since then I have held various positions at clubs along the Murray River and I completed my apprenticeship via an exchange programme at Semiahmoo Golf & Country Club in Washington State, USA, which gave me my first exposure to working on a golf course. I returned to study to complete my Diploma and following this thought I would explore the construction side of things. This took me to Melbourne to construct the Jack Nicklaus-designed St John's course at The Heritage Golf and Country Club. That six-month construction job changed my life and 14 years later after rising to be the assistant superintendent at The Heritage, I moved back to the Murray River to become superintendent at Thurgoona CCR.

Who were some of your early mentors? I have been very lucky in my career as far as mentors are concerned. In the early years, my manager at the



RSL taught me that quality is everything and my eye for detail established from there. A strong work ethic and the idea that if it is worth doing then do it properly has certainly stuck. In my later years, Sam Myott, then superintendent of The Heritage Golf and Country Club, certainly assisted and shaped my managerial skills. Sam and I have very similar hard-working personalities and we worked well together. I certainly value the support he has given me throughout my career.

How did the job at Thurgoona come about and what do you like most about being the superintendent there?

It was funny. My wife and I were visiting family in the area and having a chat about local courses and I said that Thurgoona was probably one of the only remaining courses along the Murray that had not had a recent change in superintendent. Six or so weeks later, the position was advertised so I put my hat in the ring, came up for an interview and was offered the job. I finished at The Heritage on the final day of the Victorian PGA Championship and moved to Thurgoona.

I love being superintendent at Thurgoona because not only do I get to go to work every day and do a job that I'm passionate about, but I also get to see the significant changes and improvements that are being made to the club which certainly keeps our small golf maintenance crew busy.

Give us an overview of Thurgoona CCR and some of its unique characteristics?

The course has a large number of no play areas which you could probably expect from a site around 80 hectares. Most holes are quite separate from each other with large greens and strategically placed bunkers. One thing that really surprises me is the amount of people that use the golf course as a park. It's not uncommon to have dog walkers, kids riding bikes and people pushing prams throughout the course on a daily basis. This of course can be both a positive and negative, especially when people aren't really thinking about the golfers and where they are hitting balls.

What are some of the unique features about Thurgoona CCR from a turf perspective?

From a turf management perspective one of the biggest things I have had to get used to is the 'Thurgoona clay' soil types and the different construction methods used on the greens. This certainly varies from my last position where all greens were USGA spec. A unique feature for Thurgoona, like other courses along the Murray River, is the long, dry and hot summers and managing the course accordingly. Another challenge at Thurgoona is the large number of private cart users on course and traffic management. It is certainly taking some time for cart users to get used to the various traffic rules implemented but the implementation of cart paths is assisting this.



Thurgoona's 15th hole

Is it an easy/hard facility to manage?

Yes and no. I have great staff and a solid, supportive relationship with management that assists because not only do we look after the 80ha of golf course but we also maintain the landscape areas of the clubhouse, motel and tennis centre. The most challenging aspect would be the neighbouring residents who believe the golf course is their backyard and they can do with it as they please. From trying to plant gardens, store trailers or constantly asking for trees to be removed, it can get fairly interesting.

What changes have you implemented during your tenure as superintendent?

Initial changes made to the course when I first arrived at Thurgoona saw for the first time greens being prepared seven days a week. Prior to starting, greens were only prepared 2-3 times per week. I also made some changes to grass lines to establish definition of the fairways and establishment of pasture rough (which doesn't always win me favours). We have reduced our area of mowed rough from 40ha to 20ha and returned this to natural vegetation and environment zones. This has certainly enabled the local flora and fauna to flourish and assists the crew with managing a large course.

What other maintenance changes are you wanting to introduce?

We have engaged the services of Thomson Perrett to develop a master plan for the course, as they were the original designers back in the '80s. We are looking at

CONTINUED ON PAGE 59

Thurgoona's new 12th green which has been sown with Pure Distinction creeping bentgrass



The Thurgoona course comprises 37.5 hectares of maintained turf (greens, tees, fairways, primary rough) with the overall site approximately 80ha

AT A GLANCE – THURGOONA COUNTRY CLUB RESORT, NSW

Course specs: 6372 metres par 72 (men) and 5480m par 74 (ladies). The course comprises 37.5 hectares of maintained turf (greens, tees, fairways, primary rough) with the overall site being approximately 80ha. Fairways are 70 per cent Santa Ana/30 per cent common couch and a small area of Legend. Tees are predominantly common couch and some returfed with Santa Ana. Eighteen greens with Penncross all except the recently reconstructed 12th which has Pure Distinction which the members are very happy with so far.

Members/rounds: 600, with another 7000-odd social members. Approx. 33,000 rounds per year.

Major tournaments/events: Soon to host the 2017 NSW Seniors Open Championships (November 2017). Annually host the Murray Masters, Schweppes Classic and various local events.

Annual course budget: \$140,000 (excl. wages).

Staff structure: Dean Lewis (superintendent), Jason Berkhout (assistant superintendent), Sam Mirtschin and Dom Newnham (qualified greenkeepers), Jarrod Heaphy (groundsman) and Charlie Borella (1st year apprentice).

Climate/rainfall: It was quite funny when I first arrived at Thurgoona I had a member approach me concerned as to how I would handle the weather conditions. Given I had grown up along the Murray River only some 100 kilometres away, together with the conditions of the Yarra Valley, I don't really see a huge difference in the weather here. The climate in Thurgoona certainly sees all four seasons throughout the year. The summer months are warm/hot and dry and winter can be cold with regular frosts. A typical summer will see an average temperature of 32-35 over many days and during winter, while it may



be cold, the sun is usually out. Our average annual rainfall is around 700mm sometimes delivered not when we want it!

Soil types: The soil types vary. The fairways are fine-textured and silty clays and generally most areas are various soil types over a clay subgrade and are commonly referred to as 'Thurgoona clay' by the locals. Our 17 push up greens are sandy loam and the recent rebuild of the 12th green is to USGA specifications.

Water sources: Our irrigation lake holds 25 megalitres of water from the Murray River pumped at a rate of 1ML per day, providing us with 225ML a year. We also have two bores on the property which pump around 5ML per year. These water sources and the use of our new irrigation system is seeing us currently using around 170ML of water a year.

Irrigation system: Toro Lynx with 1200 sprinklers that can operate separately on a decoder system. The Lowara e-SV series pump, which can pump 95 litres per second, has reduced our watering window significantly from 14 to eight hours per day. I was lucky enough that when I came to Thurgoona they had only just installed the new irrigation system, which certainly assists with the job.

Cutting heights/regimes: Greens – 3mm mowed three to four times per week and on alternate days are rolled; tees – 10mm two times per week for around 10 months of the year; fairways – 13mm one to two times per week for around nine months of the year depending on the season; and primary rough – 40-60mm once a week for nine months of the year.

Renovations: Greens are renovated once a year, usually September, with 5/8" hollow tines and topdressed. Light dusting and grooming occurs every three weeks as

well as a solid 8mm tine aeration every 10 weeks. Tees are scarified and aerated with a 20mm solid tine each year during spring, with fairways receiving a similar renovation without the scarifying at this stage given the line planting only occurred a couple of years ago.

Major disease pressures and how you combat them: I do not want to speak too loudly, however, we do not have major disease pressure and that may be because of the dry heat conditions. We do get some minor dollar spot, rhizoctonia and fairy ring with the occasional spot of pythium, which are all treated on a needs basis.

Nutrition management: Soil tests are conducted annually and the fertiliser programme is adjusted according to the shortfalls identified within these tests. The main basis of the programme is a mixture of liquid and soluble fertilisers and use of products including slow and quick release forms applied light and frequently.



areas for enhancement and some minor tweaking in design. This was brought about by looking at ways to reduce maintenance of no play areas and reduction in the size of our bunkers. This will give us a more manageable course to fit both the budget and staffing numbers.

Any special environmental considerations you have to incorporate into the management of the course? We do and they mainly are around pesticide management. The course is surrounded by residential developments with a number of people and animals out walking each day. We also have two creeks that run through the golf course and the native wildlife is ever-increasing due to housing development in the area.

The golf course also has an environmental sensitive area running along the boundary of parts of the golf course which is significant given these areas are home to three threatened species. The course has some of the only local populations of the Sloane's froglet, squirrel gliders and Regent honeyeater bird. Therefore, we often work closely with the local Landcare group to support revegetation/habitat development for these animals.

What are some of the major challenges facing Thurgoona CCR both from a turf and club management perspective? Winter rainfall, which of course I cannot control, can be a major challenge for Thurgoona from both a turf and club management perspective. From a turf perspective, prior to my arrival the fairways were a mud pile from rain and cart usage during winter. Naturally, golfers do not want to play in mud and therefore from a club perspective this impacts revenue. We have since converted the fairways to Santa Ana and now we can maintain a playing surface during winter. We have also introduced a 'rough-only' rule for carts and we are slowly increasing the building of concrete paths throughout the course. Given we have a large number of cart users, this certainly assists keeping golfers out on the course during winter.

Another challenge for the club would be increasing membership numbers and introducing a new generation of members. I don't think this challenge is unique to Thurgoona but certainly relies on the golf course being at its best. Therefore, any further improvements to the course are for the better. The club itself is also redeveloping facilities in the clubhouse to support its customer base and has been refurbishing the 26 hotel rooms to further support 'stay and play' packages.

Outline any major course improvement works recently completed and/or highlight any ongoing or future works that the club is undertaking. Since my time at Thurgoona the club has made significant improvements and undertaken major course works.



One of the reasons I came to Thurgoona and why management brought me on board was because they wanted to make changes. We have converted the fairways from common couch to Santa Ana and completed this by line-planting into the existing fairways. Some of the challenges here were getting the sprigs from Melbourne to Thurgoona and ensuring we could keep them moist during the day without impacting the golfers too much.

We have just completed rebuilding the 12th green, surrounds and bunker complex which was brought about because of the lack of pin locations and a very poorly constructed push up green. The most challenging aspect here was sourcing local sands that would meet the specifications for green and bunker construction.

The club is very proactive with changes to improving the golf course with further construction for bunkers, tees and greens to occur in line with Thomson Perrett's master plan. Revegetation works along creeks, waterways and improvement to our wetlands has been occurring recently with some 30,000 native plants planted. In addition, with the ever-increasing use of motorised carts on course, we have installed around 200 cubic metres of concrete to create cart paths with these works to continue annually.

Water is obviously a critical issue for any golf course. How is Thurgoona CCR faring in the water management stakes? The installation of the new irrigation system has certainly supported Thurgoona with management of its water. I am also a believer in hand-watering and although labour-intensive (usually me) this certainly helps conserve water via management of hot spots.

The one product I couldn't manage my course without is... wetting agent and penetrants. They certainly assist with managing and conserving water in our long hot dry summers.

Are expectations of course presentation and conditioning any less than those placed on your metropolitan counterparts? I don't believe so. We all have high standards and expectations of presenting our courses within the budgets we have and trying to stretch things a little further.

With the ever-increasing use of motorised carts on course, Thurgoona has installed around 200 cubic metres of concrete to create cart paths

Thurgoona's rubber rakes made for the bunker rake to assist with drying out the sand and rubbing it in during renovation time





◀ **Thurgoona's 6th hole. The Pennncross greens are renovated usually in September with 5/8" hollow tines and topdressed. Light dusting and grooming occurs every three weeks as well as solid 8mm tine aeration every 10 weeks**

Golfers expect certain standards and we certainly aim to please, but often I think it is about our own expectations of what we want our courses to be. My personal standards are high and I try to achieve these week in, week out; sometimes it is achieved and sometimes not (I am my own worst enemy).

Do you have to be more resourceful as a regional superintendent? Yes, possibly but I think we all need to be resourceful in our jobs. The use of a two-hole system on greens and combining operations where possible have certainly improved productivity.

If you could change one thing about your job as a regional superintendent what would it be and why? Probably nothing. Having the lifestyle and friendly community spirit is fantastic and a 30-minute drive could really have me in the middle of nowhere, which I love. The only thing I would change is to have members understand that the facilities they have are great for the membership they pay when compared to metropolitan courses.

What have you got in your shed? We are lucky at Thurgoona with turnover of equipment well managed. We have currently in the shed 2 x Toro Reelmaster 3250Ds, 2 x John Deere 2500Bs, Toro Reelmaster 5010H, John Deere 8700, John Deere 2030A, Toro Multi Pro 1750, 2 x John Deere 1445, John Deere Gator TX, 4 x Toro MDX Workman utilities, John Deere 4066 and New Holland tractors, 2 x Tru-Turf rollers, Buffalo blower, John Deere 1200, Wiedenmann aerator and Dakota topdresser.

What's your favourite piece of machinery and why? The Multi Pro 1750 spray unit is the one piece of equipment I couldn't live without. Besides that, it would be the MDX utility which I heavily rely on to get around the course on a daily basis. Our next major purchase will be a greens mower or rough unit that is based purely on changeover time. My wish list item would possibly be a bobcat or excavator to allow us to continue with rebuilding bunkers, tees and cart paths. One can but dream...

Do you have any interesting pieces of machinery or equipment which have been manufactured out of necessity? That would be our set of rubber rakes made for the bunker rake to assist with drying out the sand and rubbing it in during renovation time.

Do you think regional superintendents have a better work-life balance? The reality is that all superintendents, regional or metro, are on call 24/7. If something major happens on course then the superintendent will go in and check things out. I'm sure if you asked my wife the work-life balance varies sometimes for the better, sometimes for the worst. Given our crew size and ongoing course developments, my day is spent mostly on the tools with the admin side often completed at home.

Best advice you have received about being a superintendent/greenkeeper? 'Stay true to yourself' was a piece of advice given to me by Sam Myott when I left The Heritage. This has stuck with me and I think I have achieved this. My management philosophies and principles are strong because of this and I remind myself regularly that the club brought me here to make changes.

What is the most challenging aspect of a superintendent's role today? I think one of the biggest challenges is managing staff and attracting new staff. It is learning that this generation want things here and now, not in 10 days' time when the seed shows its first tinge of green growth. Someone also recently said kids these days aren't exposed to trades or work experience like we were back in my day (yes, I suppose I'm getting older). So they are not necessarily thinking about greenkeeping as a job, therefore the industry as a whole needs to look at ways to attract people to the trade and keep them. For me personally, it's about finding the time to keep up to date with changes, reading industry research and attending training and seminars where possible.

What gives you the most job satisfaction? Every day out on course gives me significant job satisfaction. I'm very passionate about my job and the trade and I love doing what I do.

Most pleasing/rewarding moment during your time as Thurgoona CCR superintendent? This can be many things, small or large. Sometimes it is just getting to the end of the week and when I'm doing my final checks over the course seeing that we have ticked all the boxes and the course looks great. On a larger scale, it is reminding myself of the changes and course improvements that we have completed since I started at Thurgoona. Finally, it is holding the 2017 NSW Senior Open Championships this November and getting to watch (not sure how much though) some of Australian greats like Ian Baker-Finch, Craig Parry, Rodger Davis, Peter Senior and Peter O'Malley. I'm really looking forward to this. 🏌️

Anthracnose
(*Colletotrichum
graminicola*),

Brown Patch
(*Rhizoctonia solani*),

Dollar Spot
(*Sclerotinia
homoeocarpe*),

Helminthosporium
Disease (*Bipolaris spp*,
Drechslera spp,
Exserohilum spp),

Pythium Leaf Blight,
Pythium Root Rot,
Seedling Damping Off
(*Pythium spp*),

Fusarium
(*Fusarium nivale*,
Microdochium nivale),

Take-All Patch
(*Gaeumannomyces
graminis var. avenae*),

DISEASE SUCCESS



Ectotrophic Root
Infecting Fungi (ERI)
[Autumn strategy]

Spring Dead Spot
(*Ophiosphaerella
narmari*),

Take-all Patch
(*Gaeumannomyces
graminis var. avenae*)

Ectotrophic Root
Infecting Fungi (ERI)
[Spring and Summer
strategy]

Couchgrass Decline
(*Gaeumannomyces
graminis var. graminis*),

Take-all Patch
(*Gaeumannomyces
graminis var. avenae*)

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POA CONTROL, HERBICIDE RESISTANCE THE FOCUS OF BAYER WORKSHOP

A GCSA Silver Partner Bayer hosted a *Poa annua* management workshop at The University of Adelaide in mid-August with more than 40 in attendance. The workshop featured guest speakers Dr Peter Boutsalis (University of Adelaide), John Neylan (Turfgrass Consultancy and Research) and Jyri Kaapro (Bayer) and followed along similar lines to the workshops that dealt with *Poa* management and herbicide resistance at the recent 33rd Australian Turfgrass Conference.

A strong contingent of interstate superintendents, turf managers and trade reps made the journey to Adelaide for the workshop, with one of the highlights an inspection of the University of Adelaide's research facilities.

The day kicked off with Dr Boutsalis discussing the increasing problem of *Poa annua* herbicide resistance and relaying results from trials conducted on 32 *Poa annua* samples collected from golf courses around Australia. This testing, funded by the AGCSA, has demonstrated significant resistance to most post-emergent herbicides (see ATM Volume 19.3 – May-June 2017, 'The power of *Poa*', pages 50-54, for more on these results).

Dr Boutsalis was followed by John Neylan who looked at results from an STA Victoria-funded project on *Poa annua* control in warm-season turf, before Bayer's Jyri Kaapro discussed best



management practices with *Poa annua* control herbicides and the considerations superintendents need to factor into their programmes. After lunch an open forum session was held before the group viewed the university's plant research facilities where the herbicide resistance screening testing was undertaken.

James Royal, turf market manager for Bayer's Environmental Sciences division, says the day was another important step in the industry's awareness of this growing issue and the need for a collaborative approach going forward. "The team at Bayer are very proud to have been able to bring key industry representatives and thought leaders together to look deeper into the increasing challenge of *Poa annua* management in warm-season turf," says Royal.

"Bayer appreciated the support of all that committed time to attend the event, particularly those that travelled from interstate. It was very pleasing to see such a high level of interest and engagement during the seminar, which is testament to a strong desire to deepen knowledge and understanding on this very complex issue of herbicide resistance."

In other Bayer news, its pre-emergent herbicide for warm-season turf, Specticle, has been registered for general 'turf' situations. Specticle (a.i. 200g/L indaziflam) was initially registered in 2016 for application to golf fairways only, but the new approved use means it can be used on golf course roughs, sporting amenities/grounds such as football ovals, soccer fields etc. (excluding tennis courts and bowling greens) and other open space turf areas.

"We are pleased about the extent of positive feedback we have received from golf courses that have used Specticle since its launch in mid-2016, both from late winter/spring applications targeting key summer grass weeds and most recently from late summer/autumn applications targeting *Poa annua*," says Royal. "We are excited about this new opportunity to extend support to turf managers outside of golf to experience the benefits from this latest innovation in weed control chemistry."

Specticle is available in a 1 litre pack and in the interim period until the existing product pack is re-labelled, the new label is electronically from Bayer agents or can be downloaded through www.environmentalscience.bayer.com.au.

Above right: Dr Peter Boutsalis talks herbicide resistance

Above: A strong contingent of interstate superintendents, turf managers and trade representatives made the journey to the University of Adelaide for Bayer's *Poa annua* workshop

Below: Inspecting herbicide resistance trial pots at the University of Adelaide's research facilities



BUMP 'N' CUT WITH CUB CADET

Cub Cadet has launched a new range of brush cutters with three models to choose from starting from \$529. Weighing 6kg and under, the Cub Cadet brush cutters are lightweight and comfortable to carry and are available with a loop handle or bullhorn handle.

Powered by a Mitsubishi petrol engine, the brush cutters are designed with custom soft grip throttle control which means they are comfortable and easy to use. For operator peace of mind, the throttle levers have inbuilt safety levers to ensure safe use. The new range also features an ultra-convenient bump-head line feed system. Operators no longer need to adjust the line manually and can simply bump the head on the ground and it replenishes the line to just the right length.

Each model in the range comes complete with a single or double strap (CC927U only), a padded comfort harness to make trimming, cutting and slashing more comfortable, particularly when cutting for long periods of time. The Cub Cadet 24 Series loop brush cutter retails for \$529 moving up to the Cub Cadet 27 Series bullhorn brush cutter at \$599. For further information visit www.cubcadet.com.au.

JOHN DEERE UPDATES COMPACT TRACTOR RANGE DESIGNS

AGCSA Silver Partner John Deere has updated its 3E Series compact utility tractors by reintroducing

a customer favourite as an even more capable and intuitive machine. The redesigned 3038E is more versatile, durable and easier-to-use and is one of a number of updates the company has made to its compact utility tractor portfolio.

The updated 3038E provides a tighter turning radius than its competition and is extremely manoeuvrable even with a loader. This enhancement ensures obstacles can be easily avoided without needing turning brakes or to stop and reverse, increasing efficiency and performance.

Offering the popular features of the original 3E Series, the updated model continues to deliver top-notch ease of use. Colour coded controls in the operator station are ergonomic and intuitive, increasing overall comfort and convenience during operation. The independent PTO system eliminates the need to stop and clutch to engage or disengage the PTO. An easy-to-use, two-range hydrostatic transmission (HST) increases tractor performance while eliminating clutching for fast and easy direction changes. Twin Touch™ foot controls provide an automobile-like experience while reducing operator fatigue.

Designed with reliability in mind, the updated 3038E is equipped with features that can significantly save maintenance costs over the lifetime of their machines. The 3038E comes standard with industry-exclusive on-board diagnostics for easy troubleshooting. Critical components are protected



Cub Cadet has launched a new range of brush cutters with three models to choose from



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John Deere has tweaked the designs of its compact utility tractor range, including the 2025R, to improve productivity, uptime and serviceability

to mitigate the risk of costly repairs, while wet disk brakes and the PTO clutch design help maximise wear life. Additionally, an increased service interval of 1200 hours between fluid changes decreases costs spent on routine maintenance and upkeep of the machine.

Other notable changes include:

- A relocated fuel tank allowing for easier fill and added capacity;
- Side panels and cowling that is quickly removed without tools for easy engine access;
- More tyre offerings, including larger R4 size for increased ground clearance;
- Telescoping draft links for easier rear implement connection; and
- A 12-volt outlet on the operator station to keep electronics charged.

John Deere has also tweaked the design of its 2025R compact utility tractor to improve productivity, uptime and serviceability. The 2025R comes equipped with TwinTouch™ foot controls, allowing the operator to select speed and direction of travel with the light touch of a toe, reducing operator fatigue and increasing productivity. The 2025R also features equal forward and reverse ground speed, which, when combined with the TwinTouch pedals, allows for faster direction changes.

The 2025R operator station has been equipped with features to increase comfort and visibility. The controls are repositioned and colour-coded for easy identification and convenient operation. The cushion on the new seat is 50mm thicker than the previous model and features armrests and full-seat suspension. Rubberised floor mats reduce vibration and noise to the operator, making operation more enjoyable, while standard cruise control reduces operator fatigue. Other improvements include a newly designed toolbox, providing lockable on-board storage and the ability to remove it from the tractor for on-the-go needs.

The design of the 2025R improves operator visibility, with a new sloping hood design similar to the other models in the John Deere compact utility tractor line. Standard work lights, as well as optional LED work lights, increase the area of visibility, further maximising productivity and overall uptime. The 2025R is available with one of three tyre options, including the new R3 radial tyre, R3 bias ply tyre and the R4 industrial tyre.

Operators can quickly install and remove implements on the 2025R. Customised implement configurations – a total of seven different combinations are available – decrease time spent installing and removing implements in preparation of a task. The Quik-Park™ loader makes installation and removal simple and effortless, with the integrated parking stand providing an easy storage solution.

Additionally, the 2025R features the industry-exclusive AutoConnect™ mid-mount mower deck, allowing the operator to attach or remove the deck with minimal effort in a matter of a couple minutes. The updated Height of Cut system allows for quick and easy adjustment of the mower deck with the push of a button. Daily service has improved with quarter turn fasteners allowing owners to quickly and easily remove the engine side panels in less than one minute.

For more information visit www.deere.com.au/en/tractors/utility-tractors/ or contact your local John Deere dealer.

INDUSTRY APPOINTMENTS



GIBBS HEADS TO BAYER

AGCSA Silver Partner Bayer announced in September that it had appointed **Jake Gibbs** (pictured) to the role of territory sales manager – turf for the NSW, Queensland and ACT region. Gibbs, who started his new role on 3 October, arrives at Bayer with a well-established background in golf course management.

Gibbs began his turf management career in the UK before moving to Australia. He held assistant superintendent positions at a number of high profile Sydney golf clubs and was course superintendent at Wollongong

Golf Club. More recently Gibbs was assistant superintendent at Royal Sydney Golf Club and played a key role in the development of the club's weed, insect and disease control programmes and developed an excellent knowledge of plant protection chemistry and the Bayer turf portfolio.

The new role with Bayer will see Gibbs responsible for providing service and support to agents and end users in NSW, Queensland and the ACT: "I'm looking forward to the opportunity to work for Bayer and helping to build on distribution relationships and customer service throughout NSW, Queensland and the ACT," says Gibbs. Gibbs

can be contacted on **0427 707 886** or by email jake.gibbs@bayer.com.



WILLIAMS JOINS SIMPLOT PARTNERS

AGCSA Bronze Partner Simplot Partners announced the appointment of **Cameron Williams** (pictured) as a new territory manager for the state of Victoria in mid-August. Williams was a superintendent for more than 25 years and has been a salesman for Toro equipment for eight years. Williams can be contacted on **0411 727 311** or email cameron.williams@simplot.com.au.

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Higher than average rainfall was experienced across the state throughout August which was a change from what was a very dry June-July period. The start to spring has been somewhat underwhelming though, with more wet weather, low soil temperatures and low maximum temperatures ensuring minimal growth. Hopefully, some sunshine and higher soil temperatures aren't far away and the turf will kick into gear while the moisture is still in the ground.

Another successful winter VGCSA Country Meeting has passed with 90-plus members enjoying the hospitality of Tocumwal Golf Club for two days of education, sponsor presentations and a game of golf. Many members were envious of the glorious weather we experienced over the two days and host superintendent **Ben Lucas** had the golf course looking and playing fantastically.

The local knowledge of the golf course was emphasised with Ben and his assistant **Aaron Dale** taking the prize in the Ambrose competition on a countback from **Clint Raven** and **Brendan 'Sticks' Robjant** from Heidelberg Golf Club.

Our guest speaker **David Meagher** provided two very informative sessions revolving around staff management and knowing your rights as a golf course superintendent, while **John Neylan** led an extensive discussion on sands used for golf green construction. John was also part of a panel for the open forum held at the end of the education day, discussing all things *Poa annua*.

Our September education meeting was recently held at Medway GC, sponsored by Syngenta. Guest speaker **Gary Dempsey** (superintendent NSW Golf Club) made his way down south to give an insight to his career thus far and also his thoughts on where the industry and the game of golf is heading into the future. Melbourne certainly turned on some wintry weather for Gary's visit!

Medway superintendent and VGCSA life member **Colin Winterton** toured members around the golf course, discussing his completed works over the years and programmes to ensure his surfaces are performing on a year-round basis. Colin also discussed his passion for beekeeping which helps him relax from the rigours of turf management. It was great to hear the thoughts and ideas from two stalwarts of the industry.

It won't be long before the association's last meeting of the year comes around. The November Open Golf Day at Riversdale GC with superintendent **Travis Scott** will cap what has been another fruitful year for the VGCSA. Our members and sponsors continue to assist through their attendance across the year and we are fortunate to have this ongoing support. The association is also committing to further turf research over the next 12 months and beyond with the intention to supply relevant information for our members to use.

MATHEW POULTNEY
PRESIDENT, VGCSA

CROCKFORD INDUCTED INTO VICTORIAN GOLF HALL OF FAME

Former Royal Melbourne Golf Club course manager **Claude Crockford** (pictured), one of the most influential pioneers of the greenkeeping profession in Australia, was honoured posthumously at the Victorian Golf Industry Awards held in mid-August. Crockford, who reigned at Royal Melbourne from 1937 to 1975, was inducted into the Victorian Golf Industry Hall of Fame in recognition of his services to golf course management. Present day Royal Melbourne superintendent **Richard Forsyth** accepted the honour on behalf of the club.

Crockford, who died in 1995, was one of eight inductees in 2017 and joined the likes of former course architect Sam Berriman and Australian Masters and The National Golf Club founder David Inglis. A total of 44 have now been inducted into the Hall of Fame since 2011 and Crockford resides alongside his Royal Melbourne predecessor **Mick Morcom** who was inducted in 2016.

The following is an excerpt from the awards detailing Crockford's contribution to



The tribute to Claude Crockford which resides in the foyer of the RMGC maintenance facility

the profession: "Claude Crockford, qualified as an architect, spent eight years at Yarra Bend public course where he worked developing the course with Mick Morcom after it was built in 1928. Following this he worked at Royal Melbourne GC, when in 1935 then head greenkeeper Mick Morcom's health began to fail. At this time, Claude was appointed assistant to Morcom at a salary of £5 a week and when Morcom died in May 1937, Claude succeeded him as head greenkeeper. During World War II the course

was neglected, so post war Claude and his staff of 12, along with Alex Russell, devised a three-year restoration plan. Within two years the course was back in first class condition.

"Over the years Claude developed such a widespread reputation in every aspect of greenkeeping that he was often called on for advice and in later years published many articles on the art. Weed control, the behaviour of different grasses, soils, bunker maintenance, watering, the use of machinery on courses, native flora, course preparation for championships, rough control – Claude Crockford was expert in them all. He took the holistic approach to nature of the instinctive ecologist, long before that science became fashionable.

"His philosophies and techniques remain an inspiration at Royal Melbourne today. Course management has progressed in many areas in recent years but arguably there have never been more pure putting surfaces than those prepared by Claude Crockford at Royal Melbourne."

The NSWGCSA is there to provide a platform through which our members can network with industry reps and other superintendents and greenskeeping staff from around the state. It was therefore very pleasing to have 50 people attend our walk 'n' talk tour of Roseville Golf Club and a further 40 at Strathfield Golf Club recently. It was a great turnout considering many were in the middle of greens renovations and on behalf of the NSWGCSA Board I wish to thank everyone for their continued support.

Unfortunately, the much-anticipated amalgamation of industry awards has not quite eventuated in time for 2017. The vision is for the PGA, GMA, GolfNSW, JNJG and NSWGCSA to hold a joint 'Oscars' type awards event in early November to kick off the NSW golf calendar. Although the idea has not been discarded, it has been shelved for 2017 with the hope that everyone can get organised for 2018. That being said, we will again be holding our own awards evening at the same time as the AGM following the Rube Walkerden Day at Ryde Parramatta Golf Club in October.

This is a great opportunity then to ask for any late nominations, although the Board has received several for each category. For the last couple of years, the prizes have developed to the point where the winners of the 'Outstanding Achievement Award' and 'Excellence in Turf Management Award' will be taken to the UK to experience The Open Championship. The 'Apprentice of the Year' will be taken to the GCSAA conference in the US. We would like to thank our major award sponsors Australian Turf Projects, Living Turf and JT Turf.

As a reminder to all, the NSWGCSA offers a joint membership package where you receive a substantial discount in subscription fees when superintendents join at the same time as their assistants and/or greens staff. If you are looking to take advantage of this package you must contact either NSWGCSA board member **Shane Herring**, our membership director **Alison Jones** via email



admin@nswgcsa.com.au or through our website www.nswgcsa.com.au.

Anyone who has already paid full fees for their NSWGCSA membership through the AGCSA and would like to add their assistant and/or further employees will be able to receive the discount by contacting Alison Jones directly.

For any clubs who are still in the process of trying to complete the landscape construction level three apprenticeship certification through registered training organisation McLeod Training, there has been yet another stumbling block. Information I have received from Industry Training NSW is the RTO has entered administration.

I have had initial discussions with Industry Training NSW to which they have assured me that they will allocate another RTO to complete any training in order to achieve certification and that all students will be allowed an extension to their apprenticeship as well as employers being allowed to continue claiming a payroll tax rebate for each student.

If anyone is in this position and is looking to continue with their training, I would urge all superintendents to email admin@nswgcsa.com.au with your student identification numbers. The association will contact Industry Training NSW in order to have your apprenticeship term extended and reassign you an RTO.

The NSWGCSA recently conducted two successful walk 'n' talk sessions at Roseville Golf Club (left) and Strathfield Golf Club (right)

STUART GILL
PRESIDENT, NSWGCSA



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The Jason Lavender-captained Riverlakes Golf Club team took out the main honours at the GCSAQ Turf Industry Golf Day at Lakelands Golf Club in September

Extreme dry weather and warmer than average winter temperatures have seen most of Queensland declared drought affected and with no decent rain forecast for October things aren't looking real flash. Spare a thought for those guys who have started or are planning spring renovations in places like Townsville, Gladstone, Hervey Bay and Bundaberg, who since June this year are lucky to have had 25mm in total.

On a more positive note, the GCSAQ held its annual Turf Industry Golf Day in September which was held at the immaculately conditioned Lakelands Golf Club. Host superintendent and current AGCSA Excellence in Golf Course Management Award holder **Phil Soegaard** had the golf course in outstanding condition, drawing praise from all sectors of the industry.

A record field of 117 players and 21 sponsors were in attendance making the day an outstanding success, with the spoils being evenly distributed between golf clubs and suppliers alike. The **Jason Lavender**-led Riverlakes Golf Club team was the eventual winner on a countback from **Darren Shaw's** KC Farm Equipment team. **Paul Lierse**

captained the Turfcare Solutions boys to third. **Charlie Giffard** and his lads from Indooroopilly Golf Club were crowned leading club.

A big thank you must go to our Gold and Primary sponsors Greenway Turf Solutions, Nuturf, Toro Australia, Rain Bird, River Sands, Q-Turf, Adama, Living Turf and Jacobsen; without their support successful days like these would not be a reality.

Finally, the GCSAQ received some sad news regarding the struggle one of its members is currently enduring in his family life just as this edition of ATM was going to print. **Chris Fletcher** (course supervisor at Boonah Golf Club) and his wife Michelle are dealing with the trauma of their seven-year-old son Kynan who has suffered from Influenza A, meningitis and a blood clot on the brain.

Kynan, along with Michelle, has been at the Lady Cilento Children's Hospital since the start of September. Chris and Michelle were told mid-September that Kynan has lost 100 per cent hearing in both ears and will need cochlear implants due to side effects from meningitis. To think that only a few weeks earlier he was a normal healthy boy who loved school, soccer and playing with his friends makes this situation even harder to comprehend.

A GoFundMe campaign has been set up to help with expensive therapies, cochlear implants, weekly specialist appointments, accommodation, medical bills, equipment, travel costs, loss of income, support and care of their other children and future care for Kynan. As a show of support, the GCSAQ has donated \$250 and encourages other members to contribute in any way they can. You can donate through <https://www.gofundme.com/helping-kynan>. The GCSAQ wishes Chris and his family all the best through this difficult time.

PAUL MCLEAN
PRESIDENT, GCSAQ

TGCSA



Around 80 people attended the TGCSA two-day seminar held in Launceston in late August

The TGCSA, in conjunction with Toro Australia, staged its two-day conference, trade show and Annual General Meeting at the Tamar Valley Resort just outside of Launceston from 22-23 August. Around 80 people attended the event which kicked off with a presentation from long-time major sponsor Pellows Saws and Mowers and Toro.

The opening day included presentations from **Nathan Bennett** (superintendent, Royal Adelaide Golf Club, SA), **Phil Beal** (superintendent, The Australian Golf Club, NSW) and outgoing MCG arenas manager **Tony Gordon**. Following a trade show happy hour, during dinner TGCSA vice president **Phil Hill** (superintendent Barnboughle Dunes) hosted a forum session which created some strong interest and lively conversation.

Gordon, Beal and Bennett joined with Blundstone Arena curator **Marcus Pamplin**, **Brett Chivers** (Globe Australia) and Ulverstone Golf Club superintendent **Mark Johnson** to take questions from the floor. The main topic of discussion was education issues in the industry at present.

The second day started with the TGCSA AGM, with Mowbray Golf Club superintendent **James Pyke** the new addition to the board. The Syngenta TGCSA Graduate of the Year Award was also presented to **Brad Palmer**. That was followed by presentations from Bennett, Pamplin and Central Coast Council's **Greg Osbourne**.

MARK JOHNSON
PRESIDENT, TGCSA

The staging of the 2017 Fine Turf Seminar (FTS) at Forsyth Barr Stadium, Dunedin marked the 50th anniversary of the Southern Turf Managers Association. The impressive commitment and level of work put in by the organising committee was evident. A Facebook page, Twitter feed and a diverse line-up of speakers all contributed to the staging of a highly enjoyable and worthwhile educational event.

For the first time at a regional FTS, STANZ had full representation and a dedicated sportsfield stream was established. This included speakers from private clubs, national associations and government agencies all discussing topics relating to the management of all sports facilities.

The conference definitely benefited from the wide diversity of presentations including **Daryl Sellar's** presentation ('The tipping point') on mental health and managing stress in and out of the workplace, through to guest speakers such as **Scott Stevenson** and Radio Sports' **Guy Heveldt**. Having two independent streams also provided an opportunity for delegates to swap and change topics as desired, with free access to sportsfield and golf streams for all delegates. It was great to see the discussions going on between stadium managers and golf course managers.



The unique Forsyth Barr Stadium in Dunedin played host to the recent South Island Fine Turf Seminar

On the Monday of the conference, delegates were taken to two of Dunedin's major sporting venues – Forsyth Barr Stadium (FTS host venue) and the nearby University Oval. It was a great opportunity to see first-hand the impressive scale of the world's only permanently roofed, natural turf stadium as well as learn more about the developments and upgrades that have been taking place at the adjacent University Oval. Apart from the rained off golf event on the Sunday, delegates were able to walk around the city and attend these facility tours freely under blue skies!

WILL BOWDEN
STANZ EXECUTIVE

PROUDLY AUSTRALIAN, PROUDLY INDEPENDENT



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NZGCSA



Right: Royal Wellington Golf Club plays host to the Asia Pacific Amateur Championship in late October

Far right: The 'Haggis ceremony' to start the dinner off at the Southern Turf Managers' 50th anniversary dinner during the South Island Fine Turf Seminar in Dunedin



Greetings to all those in the West Island as I write from the shores of New Zealand. I'd love to be able to write that spring has arrived and with it some sunnier weather and flourish of grass, but alas the wet conditions that have prevailed for much of NZ for much of this year have continued.

Most around the country have experienced above average rainfall figures with many already exceeding their average annual rainfall figures with four months still to go! It has remained a challenging year with trying to get courses cut and to a presentation level that we are happy with and at the same time dealing with the challenges that Mother Nature continues to throw our way.

While temperatures are slowly starting to rise, there are still frequent cold snaps and many courses have received hail storm deluges as well as flooding over the past weeks and month. But we are a resilient lot in the turf industry and will get through it all and look back on this year as yet another learning curve.

SOUTH ISLAND FINE TURF SEMINAR

The Southern Turf Managers Association hosted the Fine Turf Seminar in Dunedin from 20-22 August at Forsyth Barr Stadium. It was attended by 180-plus people from throughout NZ and it was great to have as our guests AGCSA president **Brett Balloch**, board member **Peter Lonergan** and AGCSA events and education manager **Simone Staples**.

The seminar was a credit to those on the organising committee as they came up with interesting topics, great speakers and ran the seminar like a well-oiled machine. Our Fine Turf Seminars are proving to be very popular with members and the professionalism increasing from one seminar to the next. Not only do they provide a forum for learning and networking, but also a personal development and team building opportunity for those that put their hands up to voluntarily organise the seminars.

To **Craig Parata**, chairman of the organising committee, and his great team of fellow organisers, our thanks for a most enjoyable few days in the South and for providing a seminar and venue that was superb.

During the FTS, the NZGCSA conducted its Annual General Meeting. Fortunately, all current board members made themselves available for re-election in what will be a very busy and exciting year coming up with the inaugural Australasian Turfgrass Conference in Wellington in June 2018. There is much to do and organise between now

and then and we may reach outside the board for assistance on the local scene.

The full NZGCSA Board comprises president **Steve Hodson** (Westown GC), executive members **Greg Swafford** (Titirangi GC), **Jason Perkins** (Omanu GC), **Sam Keats** (Royal Wellington GC), **Brendon O'Hara** (Nelson GC) and administration officer **Fiona Izzard**. My thanks to all the board for their commitment to the industry.

2017 FUTURE TURF MANAGERS

Another very successful FTMI was held recently with five of our up and coming Kiwi turf managers – **George Flynn**, **Alex Yates**, **Connor Scott**, **Kiel Stechman** and **Lance Morrin** – heading over to Australia's Sunshine Coast and sharing the experience with 15 of Australia's best at the 33rd Australian Turfgrass Conference. All have said how great the experience was and it will be invaluable to them in shaping their careers for the future.

For two of our participants the results have arrived already with both George and Kiel recently promoted to the superintendent roles at their respective courses – Pukekohe GC and Manawatu GC. Congratulations to you both on your appointments and to all five for representing us admirably while in Australia.

I also had the pleasure of meeting many of the Australian FTMI participants while I was over at the Australian conference. I can only say that between both countries we have some great people coming forward into the turf industry.

2017 ASIA PACIFIC AMATEUR

The Asia Pacific Amateur Championship will this year be held in New Zealand at the Royal Wellington Golf Club. The competition involves the leading players from the 41 Asia Pacific Golf Confederation (APGC) affiliated organisations and will take place from 26-29 October 2017.

Royal Wellington was founded in 1895 and became the first NZ course to be vested 'Royal' status in 2004. Over the last few years it has been completely redesigned and is now a par 72 course with a length of 7219 yards. We wish host superintendent **John Spraggs** all the best for October's tournament. Royal Wellington will also host the Toro AGCSA Golf Championships to be held during the Australasian Turfgrass Conference.

STEVE HODSON
PRESIDENT, NZGCSA

ON THE MOVE



JARROD ARPS:

From assistant superintendent Ryde-Parramatta Golf Club, NSW

to construction and renovation supervisor McMahons, NSW.

BENJAMIN HARDIE: Appointed superintendent Portland Golf Club, Vic.

JOSH LEWIS: Departed as superintendent Sawtell Golf Club, NSW.

BEN MILLS: Appointed as superintendent Hawks Nest Golf Club, NSW.

AARON PETROVSKI: Departed as superintendent Nedlands Golf Club, WA.



TONY GORDON:

From Arenas Operations Manager, MCC, Vic to superintendent

The National Golf Club (Ocean and Moonah courses).



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The STA WA AGM in August saw **Clint Betts** (Baileys Fertilisers) step down off the committee after 10 years as association secretary

“We should be very proud that our turf industry maintains a very proactive relationship with the training sector... It’s a team effort throughout and has seen many successful trainees progress naturally into valued leaders in our industry.”

– Tony Guy

This year the STA WA held its Annual General Meeting on Wednesday 16 August at the State Tennis Centre in Burswood, just across the road from the near-completed iconic structure that will be known as Perth Stadium.

At the meeting it was a pleasure to applaud **Clint Betts** (Baileys Fertilisers) as he stepped down from his 10-year tenure in the role of STA WA secretary. It also seemed that maybe Clint’s shoes were deemed too big to fill because the secretariat duties will be shared between **Shannon White** (Baileys Fertilisers) as membership/recruitment officer and **Greg Jackson** (City of Cockburn) as secretary – minutes/records. The STA WA notes with pride the fact that Baileys Fertilisers’ staff have maintained a committed presence on successive executive committees of the rebadged Western Australian GMA, TGAA and STA associations since the mid-1980’s.

The STA WA committee is also very ably served with **Hugh Gardner** (City of Subiaco) returning to the role of treasurer/vice-president and **John Forrest** (South Metro TAFE) as our events/education officer. Also helping on committee is **Brent McPherson** (Turf Care WA), **Dollin Knight** (AFGRI Equipment) and **Eva Ricci** (Turf WA).

Later in August, John Forrest and I had an opportunity to participate in a two-hour consultation session held in the city for the State Training Board. The State Training Board was seeking input from stakeholders, especially employers that either currently employ or had in the past employed apprentices or trainees.

Their objective was to seek comment and suggestions that will facilitate ideas towards an increased take up of apprenticeships and traineeships as part of the Western Australian Government’s ‘Plan for Jobs’, an election promise with a focus on job creation. John and I were particularly interested to take part, vainly hoping to instigate discussions regarding the need to adequately resource our local TAFE and RTO’s so that the appropriate amount of nominal hours is being allotted to training Cert III Horticulture and Sports Turf Management students.

Recent directives regarding the way WA determines how many nominal hours are delivered to each unit of competency for a Cert III student in this industry have been almost halved when compared to the other mainland states. A crisis in the ability to train qualified and not just ‘certified’ turf and parks managers in WA is looming.

Although we were able to get our points across regarding this issue and the need to improve initiatives that support employers and their staff in their role as trainers of apprentices and trainees, the day was unfortunately dominated by everyone participating in a workshopped survey to see if industry agreed or disagreed with the training council’s own ideas regarding the issues and why.

During the morning’s session, I was considerably concerned to repeatedly hear from certain industry representatives the age-old complaints about quantifying the ‘high cost’ of training staff when they then only leave their employer before a ‘return on their investment’ in productivity or sales is achieved. It was a shame that there remain employers that hold such conditional value of their staff.

It was an eye-opener because my experience in this industry over the past 30 years is that training is continual for all members within the workplace and involves all levels within the team. We should be very proud that our turf industry maintains a very proactive relationship with the training sector, knowing that more than three quarters of an apprentice or trainee’s training comes from workplace supervised experience. It’s a team effort throughout and has seen many successful trainees progress naturally into valued leaders and proactive trainers themselves in our industry.

Our next STA WA event will be the annual Golf Challenge on Wednesday 11 October. Thanks again to the in-kind help from **Greg Jackson**, **John Forrest** and superintendent **Nick Kinley** at Hartfield Country Club, the event this year will be in the afternoon and supported by Jacobsen/McIntosh & Sons, Turfcare Australia and State Wide Turf Services.

In the first week of November, we are very excited to be involved in our inaugural Regional Sports Field and Grounds Forum. This plans to be a single day of seminar presentation and outfield hands-on demonstration of a selection of Toro’s equipment and machinery, including irrigation. Following this will see the year capped off with the annual WA Turf Industries Awards night. This event has been faithfully supported by our turf community businesses for many years and is a great night out. For more information, visit www.sportsturfwa.asn.au and look for posts from Eva and Greg who have done a great job establishing STA WA on Facebook.

TONY GUY
PRESIDENT, STA WA

To all GCSAWA members, I would like to thank everyone who attended the recent Annual General Meeting during the association's state conference at Margaret River. To receive the overwhelming support to become president of the association for a second time, I am still in shock and very grateful.

I need to start by thanking outgoing GCSAWA president Neil Graham (aka 'Kiwi' or 'Mario') for his time and dedication to our association over the past four years and previous to that his time as a committee member. Thanks for your commitment to the GCSAWA and its members Neil (but thank God, we've finally got a Kiwi out of the top seat!)

The biennial conference held down in the South West was our biggest and best so far with just under 80 people attending. This included delegates from South Australia who attended our conference for the first time. We hope you all enjoyed it and you are all welcome to attend again in two years' time.

The day-and-a-half of seminars saw a great variety of topics and included speakers from WA, SA, Victoria and New Zealand, with one seemingly only there to brag about the size of his new maintenance hotel (shed)! Thanks to **Richard Forsyth** from Royal Melbourne and **Nathan Bennett** from Royal Adelaide for their presentations which gave our local superintendents a glimpse at what it takes to run big name courses and to host tournaments both at a national and international level.

Andy Wood from Kauri Cliffs, New Zealand talked about his battles with *Poa annua* and the use

of growing degree days, as well as his dedication to the environment which saw him win the AGCSA's Claude Crockford Environment Award, presented in partnership with Syngenta, at the 2016 Australian Turfgrass Conference.

Local speakers included superintendents, apprentices and a local golf pro in **Wayne Smith** who spoke on various topics ranging from course rebuilds to playing on Tour. The Toro Cup was again played in terrible conditions and was reduced to a 9-hole competition due to the front nine at Margaret River Golf Club being under water.

The nights were full of great food and plenty of socialising which created a great atmosphere. Thanks to the committee for their hard work leading into the conference to ensure that everything was organised to guarantee things ran smoothly over the three days – a fantastic effort lads!

Personally, I am looking forward to the challenge of being president of our association and I, along with the committee, have already started brainstorming on some new educational, training and social events for our members. A survey will by now have been sent out to all members to gather information on a range of topics to ensure we can deliver on what the members want. We are about to launch a Facebook page and an email newsletter to inform members of upcoming events and to keep everyone up to date with all things that is the GCSAWA.

SIMON BOURNE
PRESIDENT, GCSAWA

APPRENTICES GET AN INSIDE LOOK AT LAKE KARRINYUP

On 30 August, 3rd year sports turf management students from South Metro TAFE in Perth were fortunate to visit Lake Karrinyup Country Club. The club is currently undergoing a major greens resurfacing programme and the students were able to listen to and ask questions of course superintendent **Fraser Brown**.

Brown has over 15 years' experience in the industry, with his career starting at Kingussie Golf Club in the highlands of Scotland. That led to various positions in eastern Europe and the Middle East before moving to Australia and eventually taking on the role of superintendent at Kalgoorlie Golf Club, WA.

Kalgoorlie has an extremely harsh environment which would test the skills and knowledge of any qualified turf specialist. Brown spent five-and-a-half years there before taking on the challenging role of superintendent at Lake Karrinyup.



Reconstruction of the 5th green at Perth's Lake Karrinyup Country Club

Students were lucky enough to be present on the day that the new nine greens were receiving their first cut (at 8mm). They had been seeded five weeks earlier with 007 creeping bentgrass. At the time of the inspection, the covers that had been protecting the greens from an extremely wet winter, were being rolled up and stored.

Brown had used these covers before in Kalgoorlie and using them this winter proved a blessing due to the wet weather the state capital received. The covers helped minimise damage from washouts and accelerated

germination of the 007. Brown noted that germination occurred after eight days and the protection of the seedbed that the covers provided helped with this process.

Brown discussed with the visiting apprentices his methodology during the grow-in period and his expected mowing height reduction regime as the greens got closer to opening. The plan was to gradually reduce heights on a weekly basis in conjunction with a regular dusting programme. This will promote a dense turf surface which will be the springboard required to prepare the greens for next February's World Super 6 event.

South Metro TAFE students and teachers were extremely grateful to Brown for taking the time out of his busy schedule to discuss his turf management techniques with the apprentices. He discussed many aspects of turf management and demonstrated a passion that is essential in the industry.

- **Jeff Austen**

STA VIC



Melbourne Grammar School's Flack Park in Port Melbourne hosted the recent STA Vic Pitch Preparation Day which attracted over 80 people

The 2017 STA Victoria Annual General Meeting was held on 24 August at the Rosstown Hotel in Carnegie. The meeting agreed unanimously to adopt the updated set of Rules of Association which were distributed to members via email. The updated Rules of Association are available on the STA Vic website – www.vicsportsturf.asn.au

Election of the executive committee and general committee followed. The STA Vic is delighted to welcome four new faces to the general committee with **Janelle Harte** (Intrack), **Sally Benwell** (Frankston City Council), **Matthew Richardson** (Melbourne Grammar School) and **Mark Doyle** (City of Whitehorse) bringing an exciting set of skills and experience with them to the association. The full STA Vic committee for the coming year is:

- **President:** Danny Edmunds
- **Treasurer:** Garry Woolard
- **Secretary:** Nathan Tovey
- **General committee:** Grant Greenway, John Cann, Jim Porter, Rob Jenkins, Janelle Harte, Sally Benwell, Matthew Richardson and Mark Doyle.

On 12 September STA Vic held its Pitch Preparation Day at Melbourne Grammar School's (MGS) Flack Park facility in Port Melbourne. Occasional heavy downpours did not dampen the enthusiasm and passion of the organisers and delegates attending on the day. Kicking off at 7am with registration and breakfast provided by the MGS



catering department, the objective of the day was to enhance the skills of each attendee in providing an improved delivery of a professional cricket pitch to local associations, schools and councils.

More than 80 delegates, led by **John Shannon** (MGS) and **Chris Cay** (Frankston City Council), moved in groups from activity to activity gathering information and knowledge on all aspects of building, preparing and maintaining a quality cricket pitch. Delegates from as far away as Mildura and Barooga attended and it was great to see some students coming along as well.

A huge thank you to MGS for allowing use of Flack Park, sponsor Mentay, Cricket Victoria, Chris Cay, John Shannon and his staff from MGS – **Joel Crimmins, Matt Richardson, Jon Perez, Peter Hodges** and **Andrew Cordiner**. Also thanks to **Neville Treadwell** (Globe), **Ben Van Styn** (Camberwell Grammar School) and **Daniel Schwarze** (City of Casey) for their assistance with activities on the day.

The next STA Vic event will be the Toro Regional Sports Field & Grounds Forum to be held at Packer Pavilion, Carnegie on 29 November from 8.30am-2.30pm. Previously this forum has been held on a national level only, but in a change this year it is now being held at a state level to attract a wider audience.

STA Victoria is very excited to offer representatives from sports fields and grounds, schools, racecourses, maintenance companies, contractors and government departments the chance to attend this excellent educational event. The forum will cover topics including;

- Spray technology and latest in irrigation technology;
- Advancing turf maintenance practices;
- Improving durability of sports fields;
- Productivity in turf maintenance; and
- Innovation and technology.

A registration form is now available through the STA Vic website vicsportsturf.asn.au with all email enquiries about the forum to **Jan Fenton** vic@sportsturf.asn.au.

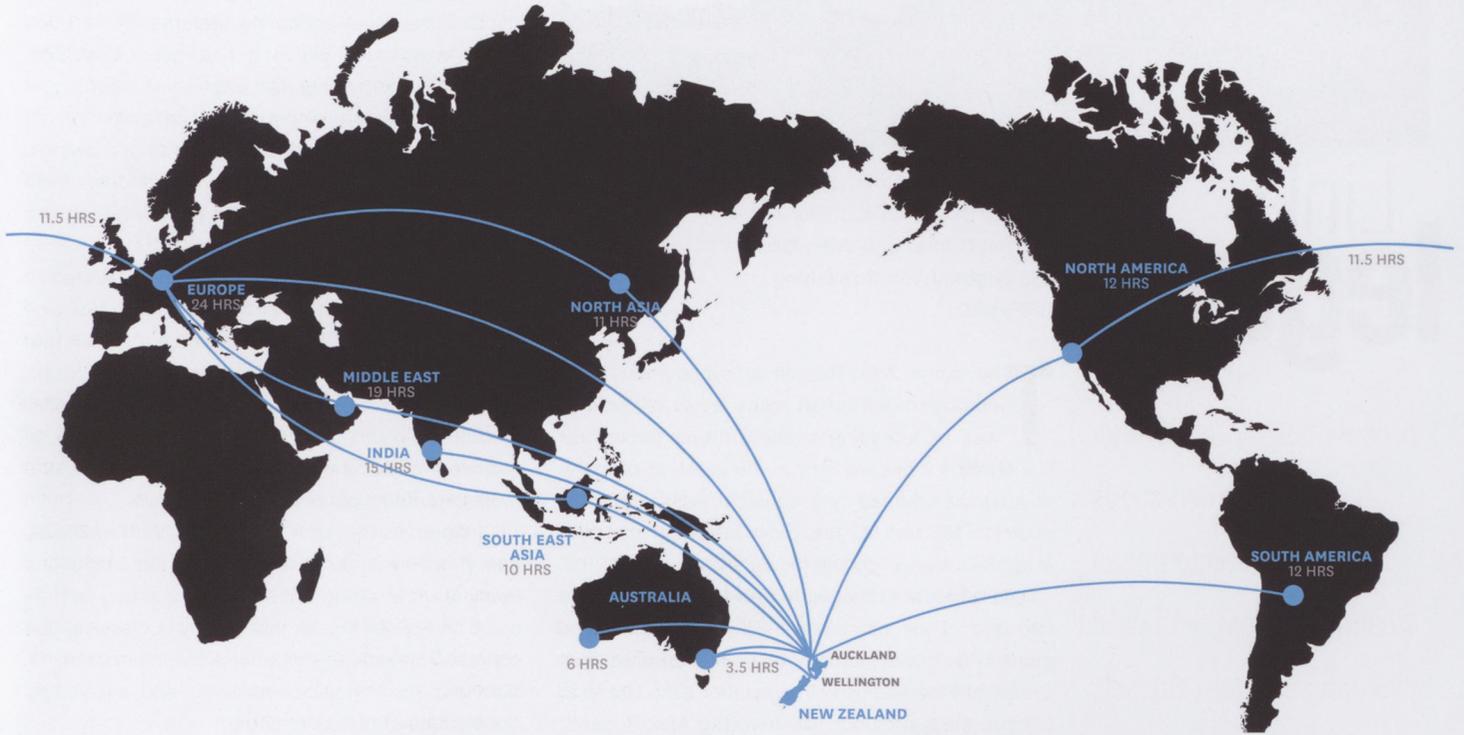


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DISCOVERING ALEX RUSSELL

The Man and His Legacy



NEIL CRAFTER & JOHN GREEN

Links legacy

A new book by Neil Crafter
and John Green sheds
some light into one of
Australia's most renowned
golfing figures Alex Russell.

DISCOVERING ALEX RUSSELL: 'THE MAN AND HIS LEGACY'

By Neil Crafter and John Green
256 pages, Ryan Publishing
RRP: \$95

The name Alex Russell is synonymous with Australian golf on so many levels. Whether it was as a leading amateur player through to his significant involvement in the creation of many of Australia's famed golf courses, Russell without question left one of the most indelible marks in Australia's storied golfing landscape.

As a tribute to that work and to gain an insight into one of the most influential characters in the game in Australia, leading golf course architect Neil Crafter has teamed up with co-author John Green to compile the sumptuous **'Discovering Alex Russell: The Man and his Legacy'**. For anyone interested in golfing history and in particular the development of some of Australia's iconic golfing establishments; this 256-page hard cover offering is quintessential reading.

Together, Crafter and Green have produced a wonderful expose on the many intriguing facets of Russell's life. The book begins by looking at his family origins, his formative years growing up in Geelong and the UK and his emergence as an extremely talented individual both in academia and in the sporting realm. It goes on to look at his service in the Great War (WWI) as an artillery officer in the British Army and his involvement in some of the bloodiest battles in France in Belgium.

With a wonderful background of the man to frame the story, Crafter and Green then delve into Russell's life as a golfer. In 1924 Russell, as an amateur, won the Australian Open at Royal Melbourne Golf Club (on the Sandringham Course), however, it was two years later in October 1926 when Russell's life would change forever with the visit to Australia by the famed Dr Alister MacKenzie.

Over the course of the next 140-odd pages Crafter and Green meticulously outline Russell's development as a golf course architect, his partnership with MacKenzie and describe in detail his involvement in the design and construction of Royal Melbourne's West Course (which he did together with MacKenzie) as well as his solo design efforts – RMGC's East Course, Yarra Yarra GC, Lake Karrinyup CC and Paraparaumu Beach (NZ). A chapter is dedicated to each of these courses, while Russell's extensive involvement at many other golf clubs around Australia, among them Riversdale Golf Club, is also explored, along with a look at his course design philosophies and, briefly, his interest and appreciation of turf management.

One of the most endearing features of the book is the manner in which it has been illustrated. While the text makes for captivating reading, it is accompanied by a wonderful collection of old photographs, aerial images, architectural drawings, newspaper clippings, sketches and cartoons, letters and other documentation which help to add to the richness of Russell's life story.

Crafter and Green dedicate their book to Hedley Ham, a long standing member of Yarra Yarra Golf Club who died in 2007. It was Ham's research into Russell's life and career in golf and course design which largely made the book possible, with Crafter and Green building on this initial body of work to provide a comprehensive biography on one of the most important figures in golf in Australia.

Indeed, as the book concludes: "Without doubt, Alex Russell was a champion golfer, but champions rarely leave anything but a transitory legacy to their sport. In Russell's case that legacy is classical golf course architecture, influenced by the master, Dr MacKenzie, which will be enduring and enjoyed by generations of golfers to come.

"Victorian golf writer Jack Dillon knew Alex Russell well and penned in 1954, 'Few have contributed as much to Australian golf as Alex Russell. He was our only fully qualified links architect. He had the clearest, most incisive and most informed mind I have encountered in golf. He approached all problems of turf and ground as a scientist. The East Course at RMGC is a monument to his ability...'"

'Discovering Alex Russell: The Man and his Legacy' is available for purchase for \$95 plus shipping by visiting www.discoveringalexrussell.com.

- Brett Robinson

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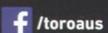
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