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Turfgrass



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MANAGEMENT JOURNAL

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History in Hobart

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COVER STORY PITCH PERFECT

8

In the corresponding edition of ATM last year, head curator Toby Lumsden wrote about how he and his team at Dubai Sports City pitched in to rescue the 2020 Indian Premier League season which had to be moved to the United Arab Emirates due to COVID. Little did Lumsden think 12 months on he'd be called upon to do the same again but this time with the added pressure of also hosting the ICC T20 Men's World Cup directly after.

Cover: Australian captain Aaron Finch with the ICC Men's T20 World Cup trophy.

Photo: Gareth Copley, ICC/Getty Images.



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PHOTO: STU GIBSON/BRAND TASMANIA

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Under the pump

In all my years with the AGCSA/ASTMA, the issue of staffing levels at turf management facilities has always been one to generate plenty of discussion, not to mention the collective shaking of heads. Talk to any superintendent who has attempted to advertise for a qualified person recently, especially those from smaller clubs or in regional areas, and more often than not they will lament the dearth of applications and/or suitable candidates.

In this edition's Regional Profile, Ben Lucas, superintendent at Tocumwal Golf and Bowls Club, recounts how when he applied for his apprenticeship back in the early 2000s he was one of around 100 applicants to do so. Nowadays he reckons he'd be lucky to get half a dozen applicants at best. And even if they go on to complete, invariably they will leave the industry soon after in search of something that pays better – a perennial turf industry problem.

Readers of The Cut, the ASTMA's weekly e-newsletter, will know that in every edition the latest industry job ads are listed. What some may have noticed is the significant increase in jobs ads in recent times. Delving a little into the numbers, since switching to a new website and membership management system in 2018, the ASTMA has hosted more than 1500 job ads on the website in that time. In 2018, 264 ads were placed, but that wasn't over a full 12 months. In 2019 there were 366 listed, while in 2020, most likely due to COVID, the number dropped back to 276. But care to hazard a guess as to the number of job ads placed in 2021... 516!

Now maths is not my forte, but that's a damn big jump, nearly double. Almost a third of all job ads posted on the ASTMA website since 2018 were placed last year. And going by those placed already in 2022, we could be in for another big number. In just the first two months of the year, the website has recorded well over 100 ads. In the 18 February edition of The Cut alone, there were a record 58 ads listed.

Compounding the issues of actually attaining staff and then keeping them, COVID has added a whole new level of complexity. Many turf management facilities have felt the impacts of COVID on their staffing levels over recent months, with many superintendents and turf managers being forced to hastily rejig rosters after members of staff either tested positive or were close contacts.

You only have to look at a couple of recent major events to see such an impact and the strain it has put some operations under. As you will read in this edition (page 16), 10 days out from the historic Ashes Test at Blundstone Arena, head curator Marcus Pamplin found himself as the only crew member able to work after three of his staff tested positive and another two were deemed close contacts. Pamplin was forced to ring around to get reinforcements at short notice and just as the industry always does in these situations he soon had his numbers bolstered.

At Nudgee Golf Club, which hosted the Queensland PGA Championship for the first time, two staff members missed the tournament, one contracting COVID on the opening day and assistant Scott McComas needing to isolate for two weeks after both his wife and one-year-old daughter tested positive six days apart. In order to fill the gap for the tournament, two friends of Nudgee staff members, who had no previous golf course experience, were roped in to assist.

Then there was Steve Hewitt, superintendent at Thirteenth Beach Golf Links which hosted the Vic Open. Hewitt was particularly mindful of COVID impacting staff numbers and went to great lengths personally to ensure it wouldn't be a factor. With his daughter having returned to school and his wife being a teacher, Hewitt made the decision to stay at a neighbour's house for 10 days in the lead-up to the tournament. The move proved wise as both his daughter and wife had COVID cases in their school, home room and bus that first week back. Another member of his team also stayed in a motel for a week after his partner was deemed a close contact.

It is indeed a challenging time in regards to staffing on multiple levels, but as the above examples show, superintendents and turf managers are, as they always do, adapting to the ever-changing conditions and managing their playing surfaces as best they can with the resources at their disposal. Enjoy the read...



Brett Robinson, Editor



Combined Melbourne conference set to be highlight of 2022

A very happy New Year to all members from the Board and team at the Australian Sports Turf Managers Association (ASTMA). In similar sentiment to last year, I thought it pertinent to start off the year by passing on a note of thanks to all members of the turf industry for the incredible support provided to each other through yet another challenging year in 2021.

Reflecting on the year that was, the 2021 Australian Sports Turf Management Conference returned to the Gold Coast in June for the first time since 2014. Through a series of localised lockdowns, emerging COVID cases and logistics challenges, we were fortunate with timing to host the event, with over 800 turf industry personnel attending the conference and exhibition – an extremely successful event in difficult circumstances. I would like to again note my thanks to members, trade partners and the broader turf industry for those who made the effort to travel and attend.

2021 also saw the continuation of our activities relating to industry advocacy work, member support and lobbying, the results of which continue to be promising in the awareness of the value of our industry and personnel and the roles they play. A primary focus of these discussions and advocacy activities has been the urgency to address labour challenges across the industry, with emphasis placed on attracting new apprentices and continuing to support those qualified staff to be recognised for their work.

It's a consistent message I hear from members nationally in that the need to find experienced and qualified staff remains a high priority. We aren't alone in facing this difficulty, with labour shortages and wages an issue for a very large number of industries, though it remains one we are committed to advocate for with all levels of government.

Restrictions also saw the need to adjust our Future Turf Managers' Initiative program, sponsored by ASTMA Gold Partner Jacobsen, to an online format in 2021. Despite the change, this continues to be an immensely popular program with record applications received last year and past members of the program going on to take the next steps in their career. The successful 2021 FTMI candidates have been taken through a regular series of online learning forums since last October, culminating in a two-day face-to-face event for all Australian and New Zealand representatives in March.



Australian Sports Turf Managers Association

On a positive note, 2021 also saw the continuation of education scholarships with the support of The R&A. An additional four R&A Scholarships were awarded to ASTMA members to provide funding to continue their further education in turf management. See page 68 of this edition for more on the successful recipients and I pass on my congratulations to each of them.

NEW YEAR, NEW OPTIMISM

Looking ahead to 2022, the conference and trade exhibition in Melbourne is well and truly taking shape. This year promises to be a flagship event as we join forces with Golf Management Australia (GMA), with a forecast 1200 people set to come through the Melbourne Exhibition and Convention Centre doors between 20-24 June. Early indications of the prominence of the event and approach to combine education and trade exhibitions is proving to be outstandingly popular, with

the trade show completely sold out some five months ahead of the event. The conference program and registration information will be made available shortly.

A significant part of conference week is the National Turf Industry Awards, presented at the Syngenta-sponsored President's Dinner. Nominations for the 2022 awards are now open and the ASTMA encourages all members to put forward those in the industry who you feel are worthy of recognition. Nomination forms can be found on the ASTMA website www.agcsa.com.au – head to the 'National Turf Industry Awards' section located under the 'Education' tab.

Nominations are open for the ASTMA Sustainability and Environmental Award (sponsored by ASTMA Gold Partner Syngenta), ASTMA Excellence in Sportsfields and Grounds Management Award (sponsored by ASTMA Platinum Partner Toro) and the ASTMA Sports Turf Management Team of the Year Award (sponsored by Silver Partner Nuturf). The ASTMA Excellence in Golf Course Management Award, sponsored by ASTMA Silver Partner Bayer, is adjudged from the various state association award winners.

With a resumption of eagerly awaited state association events and a number of national activities occurring over the months ahead, I encourage everyone to make an effort to attend. From a national association perspective we will continue to actively work towards supporting and strengthening the industry. 🌱



Blacktown International Sports Park's Matthew Cairns (centre) collected the inaugural ASTMA Excellence in Sportsfields and Grounds Management Award, sponsored by Toro, in 2021. 2022 award nominations are now open



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t RQ GOLF

*"Looking pristine for the start of 2022 season."
(After hosting the Australian PGA Championship in mid-January, normal member service resumes at a picturesque Royal Queensland GC)*

in ANDREW HODGSON

"This weekend marks the start of the NSWRL representative season... here at Wyong Rugby League Club. Couldn't be happier with how the field has been able to be prepared for these games and am looking forward to a year of exciting rugby league." (Head groundsman Andrew Hodgson has the ground dialled in nicely ahead of competition matches returning for the first time since July 2021)



f 13TH BEACH GOLF LINKS
"The reason we sound the alarm for lightning! A direct hit to the fairway on the 14th hole of the Beach Course last Thursday." (No explanation needed – and just a week out from the 2022 Vic Open!)

in GREEN OPTIONS

"Well done to our curators Liam and Joel and the whole team at Kardinia Park for getting the drop-in wicket and the stadium looking picture perfect for tonight's BBL game at GMHBA Stadium between Melbourne Renegades and Brisbane Heat." (Usually the home of AFL side Geelong, GMHBA Stadium looked resplendent in cricket mode as it prepared to host its first game of the BBL11 season in January.)

t KARDINIA PARK

"Game day – AFLW Pride Round." (Geelong's GMHBA Stadium shows its true colours during the AFLW's Pride Round in late January)



t CAMERON HALL

"Christmas Eve and one last spray going down on the Kew Golf Club fairways – Primo Maxx and Iron Plus to keep growth rates under control this holiday period." (An idyllic morning captured by Kew superintendent Cameron Hall)



in TRANSPORT FOR NSW

"Work on Stage 1 Parramatta Light Rail continues, with Australia's longest stretch of green track currently being laid along the line! Green track involves planting grass or groundcovers between and beside light rail tracks. Zoysiagrass variety 'Nara' was selected."

In the corresponding edition of ATM last year, head curator Toby Lumsden wrote about how he and his team at Dubai Sports City pitched in to rescue the 2020 Indian Premier League season which had to be moved last minute due to COVID. Little did he know that 12 months on they'd be called upon to repeat that feat, but this time with the added pressure and challenge of hosting the ICC Men's T20 World Cup immediately after.

In Australian Turfgrass Management Journal Volume 23.1 (Jan-Feb 2021) I wrote that 2020 was without doubt the most unique year of my time here at Dubai Sports City where I reside as head curator of the ICC Academy (ICCA) and Dubai International Stadium. A year on, and after the events that transpired here between last September and November, I can safely say that 2021 well and truly trumped 2020.

After the highs of hosting the 2020 Indian Premier League (IPL), which had been moved to the United Arab Emirates (UAE) due to the COVID situation in India, the conclusion of our cricket season came at end in May 2021. At that time there was little indication that in just a few months' time we would be hosting not just one but two of the world's premier T20 cricket events – the second half of a postponed IPL competition and the ICC Men's T20 World Cup.

As it had done in 2020, COVID was spreading like wildfire throughout India in the middle of 2021 and with the country set to play host to both events, concerns were being raised by the management of both competitions as to whether they could be held there safely. Having only just managed

Dubai International Stadium hosted a total of 26 Indian Premier League and ICC Men's T20 World Cup matches in 56 days after both tournaments were shifted from India due to COVID.







Dubai Sports City head curator Toby Lumsden celebrates Australia's T20 World Cup win with victorious captain Aaron Finch. Australia defeated New Zealand by eight wickets in the final

to catch our collective breath after a hectic season, we were soon to get confirmation that both events would be moved to the UAE. This was based on the fact that we had safely completed the previous IPL, all 52 matches, in a safe bubble.

At that stage the IPL still had 31 matches to complete in the UAE, while the World Cup required the country to host 45 matches across four venues. With the IPL confirming their requirements, Dubai International Stadium was going to host 13 IPL matches, including the final on 15 October, with the World Cup then to start just two days later on 17 October.

Usually, the ICC have an exclusivity period of one month before any ICC tournaments, but due to the rapidly evolving situation this was not possible. That meant we would have a crossover of training, with IPL teams still in training and all the World Cup teams also in

camp prior to the tournament starting. During the crossover, the Emirates Cricket Board also conducted a tournament at our ICCA oval with four teams participating. Needless to say it was a very busy time for us.

PLANNING THE KEY

With such short notice of these events coming to the UAE, planning was critical to make sure that renovations were carried out and adequate growth was accomplished in time for the start of the IPL in mid-September. The previous year we had hosted 26 IPL matches, but we were also coming off nearly six months of no cricket due to COVID. This time we would only have four months' rest and renovation to occur just prior to our summer heat. Recovery was slow, but one good result was that we finished the cricket season with about 85 per cent grass coverage. Trying to get good grass growth and

recovery is difficult with soil temperatures over 40 degrees.

Our regular end-of-season renovation was carried out, scarifying four ways, topdressing with 6m³ of clay and the required nutrients to alleviate any deficiencies. Summertime would still allow for enough growth and recovery and give us the opportunity for a couple of light dethatchings with some light dustings to aid in producing a tight even sward of Princes 77 bermudagrass.

While our first IPL game in the stadium was going to be 19 September, our ICCA ovals and practice pitches would be utilised from 19 August for IPL training camps, with six IPL teams to be based in Dubai. The ICCA would be set up with four hubs, each team having three pitches to train on and an outfield. To do this, our centre wicket block would be divided into 12, 2m-wide pitches to rotate through which would allow us to keep two match pitches for any practice matches that arose. With over 200 training sessions pencilled in for both tournaments, it was vital that we had plans in place and scheduled in a good rotation plan on all pitches, especially on the ICCA ovals.

With COVID protocols and bubbles to contend with for three months, it was going to be another challenging time for all our team. With a ground staff team of just 13, to cover two academy ovals, practice pitches and the stadium, we were all going to have to work between 12-17 hours per day, seven days a week. Having done this just 12 months prior for the IPL, I knew the challenges we would face, not just physically but mentally also.

I was aware of trying to rest when we could, given the time frames and commitments we would all be working towards. The last thing I wanted, as happened the previous year, was any COVID-positive cases within our team or anybody getting sick or worn out due to the demands we were under. This edition of the IPL would also see the return of crowds. Albeit at only 70 per cent capacity, it did produce another set of risks and issues within and around the stadium that we had to deal with.

FULL FIXTURE

In total we were to host 13 IPL matches in 27 days, including the final, and then there would be a seven-day break until our first game of the World Cup. For that tournament we would be hosting 13 games in 23 days, including a semi-final and the final on 14 November.

Pattern cutting Dubai International Stadium prior to IPL set up



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Three of the practice pitches in preparation on the ICC Academy Oval 1. With over 70 days of continuous cricket and over 200 training sessions across both tournaments, rotation of the practice pitches was critical due to the immense workload and wear

Preparations started in mid-August where a final light verticut and dusting was completed. This ensured the Princess 77 bermudagrass was tight and even. From then onwards it was all about rolling and consolidating the base. Initially the grass height was 12mm, but we were conservative with grass height and density knowing the World Cup was our major tournament and we needed to peak for this, even after hosting 13 IPL games.

While the stadium has seven TV broadcast pitches, authorities would only allow me to use five of them which meant some added pressure on those pitches across 26 games. Sometimes it is a bit frustrating when we are trying to deliver the best pitches for both

tournaments, but the concern is more about the setup of the ground and venue and how it looks on TV, as opposed to playing on a better pitch. With those concerns, I deliberately went into the IPL with a bit more grass and was more conservative with the amount of rolling, just to ensure that by the time the World Cup came around we still had enough grass on all the pitches.

The IPL kicked off on 19 September with air temperatures still above 40, soil temperatures pushing 40 degrees and water temperature over 35 degrees, all placing the turf under extreme pressure. A gentle approach was required early in the season, controlling the amount of rolling we did and

getting the timing right. We don't roll during the heat of the day and try to keep the barrel of the roller covered or out of the sun. The heat of the barrel can do just as much damage to the turf as the rolling itself. Cross rolling was completed in various directions to keep the surface flat and get some early consolidation into the base prior to the heavy workload they were about to receive.

Given that we were only going to use the five middle pitches, the remaining four pitches in the centre block would be used for bowl throughs on each game day. These would be measured into 2m-wide pitches, to enable us to utilise them better and rotate them and meant we could have six bowl-through pitches instead of four.

With a good grass coverage on all pitches, I was confident in providing good surfaces for both the IPL and the World Cup. I wanted to ensure the pitches weren't worn out and tired and that the final of the World Cup was played on a pitch that wasn't slow and low. Keeping moisture up and leaving the grass just that little bit thicker and longer was the plan to get through the early stages of the IPL. I was prepared for and willing to take criticism in the early stages of the IPL if the pitches were a bit green and assisted the fast bowlers. I figured that was a better scenario than being criticised come the end of the World Cup for having low, slow, turning pitches. It's indeed a fine balance.

PITCH PREP

Initial pitch preparation would see us roll a pitch for about eight hours over 5-7 days to consider it ready. Obviously when we went to play on that pitch again, rolling was reduced as the base was already hard enough and we just needed to work the surface.

Our stadium pitches are constructed from Pakistan clay (about 65 per cent clay) so we use a sand-filled pedestrian Mentay roller (1.4 tonnes) for international cricket, while for domestic we use a water ballast Mentay roller (1.1 tonnes). All the cross-rolling was completed about 10 days prior to the tournament starting and from that point onwards it was all length rolling.

During the pitch preparation stage, we kept a careful eye on moisture levels and took regular Clegg readings to ensure that we were where we needed to be. We did not want to over roll and stress the pitches too early.

Pitch preparations ahead of the first of 13 IPL games on 19 September. Lumsden deliberately left more grass on the pitches for the IPL matches so they would last through until the World Cup



Cutting heights for the pitches would vary from 7mm to 4mm depending on the thickness of the grass. The outfield was cut at 9mm but raised to 10mm after the IPL leg as the outfield would be oversown prior to the World Cup (more on this below).

Given the climate, our rolling and watering was adjusted throughout both tournaments as temperatures reduced from the low 40s to high 20s over the three months (September to November). Normally no rain is expected during this period, but as per all international matches covers are used the night prior to the match. Match officials also do an inspection of the venue, including the pitch and outfield, and get all the relevant information regarding boundary sizes, weights of the rollers and equipment we have on site.

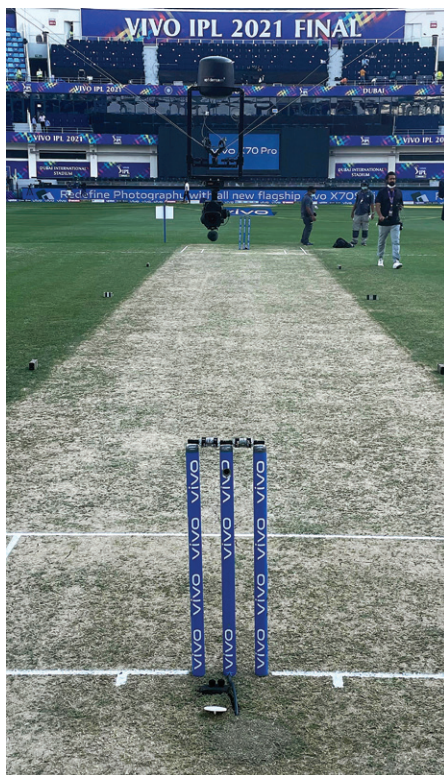
With pitch preparations rolling along smoothly, consideration also needed to be given to how we would manage match day staff rosters and working alongside the many different bubbles. With games starting at 2pm and 6pm and limits being applied to staff working hours (12 hours maximum), with only three groundstaff present and a couple of support staff I knew the challenges we would face in having to work long hours for 60-70 days straight. During the two events we were being COVID tested every 3-5 days and thankfully no positive cases were detected.

GAME DAY

Match days for us were relatively straight forward with the same process adopted for each match. The outfield was sprayed with a dew control chemical and then left to dry for an hour. This assisted with drying the outfield not only in the morning, but more importantly reduced the severity of the dew affecting the game at night.

Once the chemical had dried on the leaf, we then cut the outfield at the desired height. It is normally just a single cut during these long tournaments, as the outfield is under pressure and Primo is also applied. Once the single cut is completed, the outfield is rolled. By the end of the tournament the outfield is very stressed and requires a deep aeration.

Completing these tasks early then allowed for all the other match activities to take place. Pitch advertising mats (between 5-7) were pegged into the ground, while all the boundary rope advertising was put out. All of this was removed every night to allow us to carry out



The pitch used for the IPL final

our jobs in the morning and also to protect the grass and stop it from yellowing off and dying.

While the outfield jobs were completed, attention was then on the match pitch and also the next couple of pitches that were required. More rolling was completed and Clegg hammer readings helped us to adjust our rolling if required (we aim for between 220-240 gravities for our international matches). Match pitch markings (lines) were freshened up, as cutting and rolling in the morning reduces the brightness of the lines.

A lot of rolling was completed in the morning before temperatures got too hot for

both machinery, the grass and staff. During this time of the year we try and have most of our work completed by around noon for a 6pm game. Usually we then place a hessian over the match pitch to help hold the moisture in it as temperatures can push 40.

This also allowed for the many camera crews to then come in and do what they needed to do on the ground, while keeping out of their bubble. Stump cam, spider cam, stump mics, Hawk Eye, 360 degree camera calibrations, logo painting and pitch reports are all completed while we are off the ground. We would then come back in at about 3.30pm, remove the hessian, give the pitch a final roll, place the fielding disks, set up the bowl-through pitches, install the fielding nets, rope off the centre wicket block and once again clear the ground so the players could start their training. We would then meet the umpires and officials and give them any final instructions regarding the pitch and outfield and make sure they were happy with the set up.

Players warmed up for about 90 minutes and once the toss was completed our final job was to clear the ground of all equipment (fielding nets, ropes etc) 15 minutes before play and make sure the pitch and outfield was ready to go. Anticipation then set in with playing of the national anthems and one was always excited to see the first ball bowled and be satisfied that the match had started.

Once matches were underway, we were always at the ready to be called out for any issues that arose (fingers crossed normally none). As we were working in bubbles and the games were only 20 overs, there was no requirement to sweep and remark the pitch at the drinks break (10 over mark). At the



After the IPL had finished and before the World Cup started, the stadium outfield was oversown with Sunrye ryegrass



The outfield of Dubai International Stadium was sprayed with a dew suppressant prior to every game

change of innings, we were required to sweep, re-mark the pitch and give it the required roll as instructed by the batting team captain.

As per ICC rules, the pitch may be rolled for seven minutes (no longer, but may be shorter if requested by the captain) between innings. During the change of innings, the umpires may also indicate whether the outfield is starting to form any dew and if it is then we have to be ready to rope it off. As mentioned, we sprayed the outfield every game day to limit the dew affecting the game and there was only one IPL game where we did have a dew problem which required roping the outfield. All World Cup games did not have a dew problem that would affect the result of the game, although all teams would decide to bowl first when winning the toss.

Following completion of each match, work on that pitch and the next match pitch would resume. Normally the night game (6pm) would finish about 9pm, then we would start our work again. This would include filling up foot holes, cleaning, sweeping down the pitch and further watering of most pitches. Depending on the match schedule, and if we were using that same pitch for two games in a row, a hessian might be laid down overnight just to help hold the moisture in the pitch a bit longer so it would be ready for a nice moist roll the following morning.

The hardest component about doing a two-month intensive schedule was managing the moisture in all the pitches. While we had a match pitch playing, we also had two bowl-through pitches required and another two pitches both in different stages of preparation. Most nights we would finish up about 10.30pm.

Our non-match days were busy with pitch preparation and work on the outfield. This was our chance to complete further rolling on the next pitches and get some more moisture back into the old pitches. Marking up the pitch, measuring out the fielding circle and any minor repairs to the outfield were all required duties on those days. Any chance of an early finish was non-existent as we would normally have a pitch inspection in the late afternoon with the umpires and match referee. This would occur around 5-ish, then we would have to cover the pitch after that.



Lumsden pictured with T20 World Cup Player of the Tournament David Warner



Morning preparations ahead of the T20 World Cup final between Australia and New Zealand

This was basically the same process we would go through for the two months of both events. In the seven-day break in between events, we oversowed the outfield with Sunrye ryegrass to get an even sward and colour. The stadium has a large roof and we struggle with shade at the southern end, thus making it very difficult for the bermudagrass to grow. Compounding matters, the player changing rooms are at the southern end and all traffic is concentrated in the shade. Not surprisingly, the players like to keep in the shade where it is a fair bit cooler.

The ryegrass germinated very well, but struggled to establish given the frequency of cutting and rolling. We struggled through, but were still able to provide a firm, flat and smooth surface. We enhanced the colour of the outfield with some green pigment, as the stress from two months of tournament preparation impacted the grass, so this helped to bring it back to a nice green colour.

PRACTICE WICKETS

While all this work was going on in the stadium for matches, we also had another team of seven going through a similar process at the ICCA ovals. With over 70 days of continuous cricket in the academy, the workload was immense. Having only a two-month rest (summer renovation) on the wicket blocks in the ICCA and then going into UAE training and the requirements for early IPL training, it was challenging to ensure all the practice pitches remained in good condition until the end of the World Cup.

With 12 pitches required every day for training, the rest and rotation schedule was vital to accommodate over 150 training sessions. Pitches were managed on a four-day cycle and rotated. It meant that pitches would only get a 16-day rest until they were used again. This would go on for nearly 10 weeks. Practice pitches did get worn out and tired by the end of the tournaments, so we decided to change the schedule to a three-day cycle for the last couple of weeks, thus ensuring teams were training on better surfaces.

With cooler temperatures (30 degrees) at the tail end of the World Cup, it meant that we could maintain moisture levels a bit better and prevent the pitches from cracking and crumbling apart, especially in the foot holes. One of those practice pitches was a stitched hybrid from SIS and it was interesting to see how it compared with the others and the differences noted. Foot holes were less dug out and would recover quicker.

FITTING FINALE

In what proved to be a fitting end to the World Cup, it was fantastic to watch Australia, led by Aaron Finch, defeat the Black Caps in a gripping final. Losing the toss and being sent in to bat, the Kiwis posted a competitive 4/172 after a brilliant 85 from captain Kane Williamson. However, David Warner (53 off 38) and man-of-the-match Mitchell Marsh (77 not-out) guided Australia home with seven balls to spare to win by eight wickets. To witness the ensuing celebrations was certainly a memory that will stay with me for a long time, as was



Executing and delivering two of the world's biggest T20 cricket competitions inside a two month period took a lot of planning and having a dedicated team

being able to go into the Australian rooms afterwards and take a few snaps with the players and trophy and talk to them about their tournament experience.

Looking back, for us to execute and deliver two of the world's biggest T20 cricket competitions took a lot of planning and having

a dedicated team to put in the hours. I am in awe of what our team delivered, given the small time frames and the extreme heat we all had to work through. Without teams such as ours, cricket does not happen, so I applaud my team for the way they excelled on the big stage. 🙌

Kardinia Park to kick off ICC Men's T20 World Cup 2022

Geelong's Kardinia Park (head curator Liam Kirkman) will have the honour of an opening day double-header to kick off the ICC Men's T20 World Cup 2022 this October after the competition's full fixture was confirmed in late January. 2014 champions Sri Lanka will play the opening match of the competition against Namibia at Kardinia (all grounds for the World Cup are being called by their non-commercial names) on 16 October at 3pm, with a second match between two Group A qualifiers that same evening.

All of the opening week's 12 'First Round' matches (which run from 16-21 October) will be shared between Kardinia Park and Hobart's Bellerive Oval. Both venues will host six games that week – three double-headers each – with the West Indies kicking off Bellerive's allotment of games with a match against Scotland on Monday 17 October, followed by an evening match between two Group B qualifiers.

In the Super 12 section which starts the following week, hosts Australia are in Group 1 with world number one England, New Zealand, Afghanistan, plus the winner of Group A and the runner-up in Group B from the First Round. Group 2 features India, Pakistan, South Africa, Bangladesh, plus the winner of Group B and runner-up in Group A from the First Round.



The MCG will host six Super 12 games and the T20 World Cup final on 13 November

Australia will start its title defence in the opening match of the Super 12 against New Zealand at the Sydney Cricket Ground on Saturday 22 October in a re-match of 2021 final. Two of world cricket's biggest rivals, India and Pakistan, will then face each other the following day (23 October) at the Melbourne Cricket Ground (MCG) for the first time. Australia, after humbling the Poms in the recent Ashes series, will resume their rivalry at the MCG on Friday 28 October.

45 GAMES, FOUR WEEKS

A total of seven grounds will be used across the 45 matches of the competition. Bellerive (head curator Marcus Pamplin), which just hosted an incredible Ashes Series finale ([read more from page 16 – Ed](#)), will host the most matches of the tournament with nine. In addition to its six First Round games, it will also host three Super 12 games across two days on 23 and 24 October.

Perth Stadium will host five games in nine days, its first on 22 October between England and Afghanistan before finishing off with a Sunday double-header on 30 October which will be headlined by the India v South Africa evening clash. The Gabba has been slated to host four games in three days from 30 October to 1 November, including a double-header on the last day which will be headlined by the England v NZ rematch of their epic 2021 semi-final.

Adelaide Oval will come into the reckoning in the latter half of the tournament, kicking off its seven matches on 2 November. Curator and ASTMA Board member Damian Hough and his team will host three double-headers on 2, 4 and 6 November, before entertaining the second semi-final on 10 November. Adelaide will see 10 different teams play Super 12 matches in a festival of cricket, with India to feature on the first night against Bangladesh and Australia to take on local Adelaide Strikers favourite Rashid Khan and Afghanistan on 4 November.

The SCG will host six Super 12 games (including one double-header) as well as the first semi-final on 9 November. The MCG also hosts six Super 12 games (including two double-headers) and will host the night-time final, its seventh game of the tournament, on 13 November starting 7pm.

- Brett Robinson

THE ASHES

History in Hobart

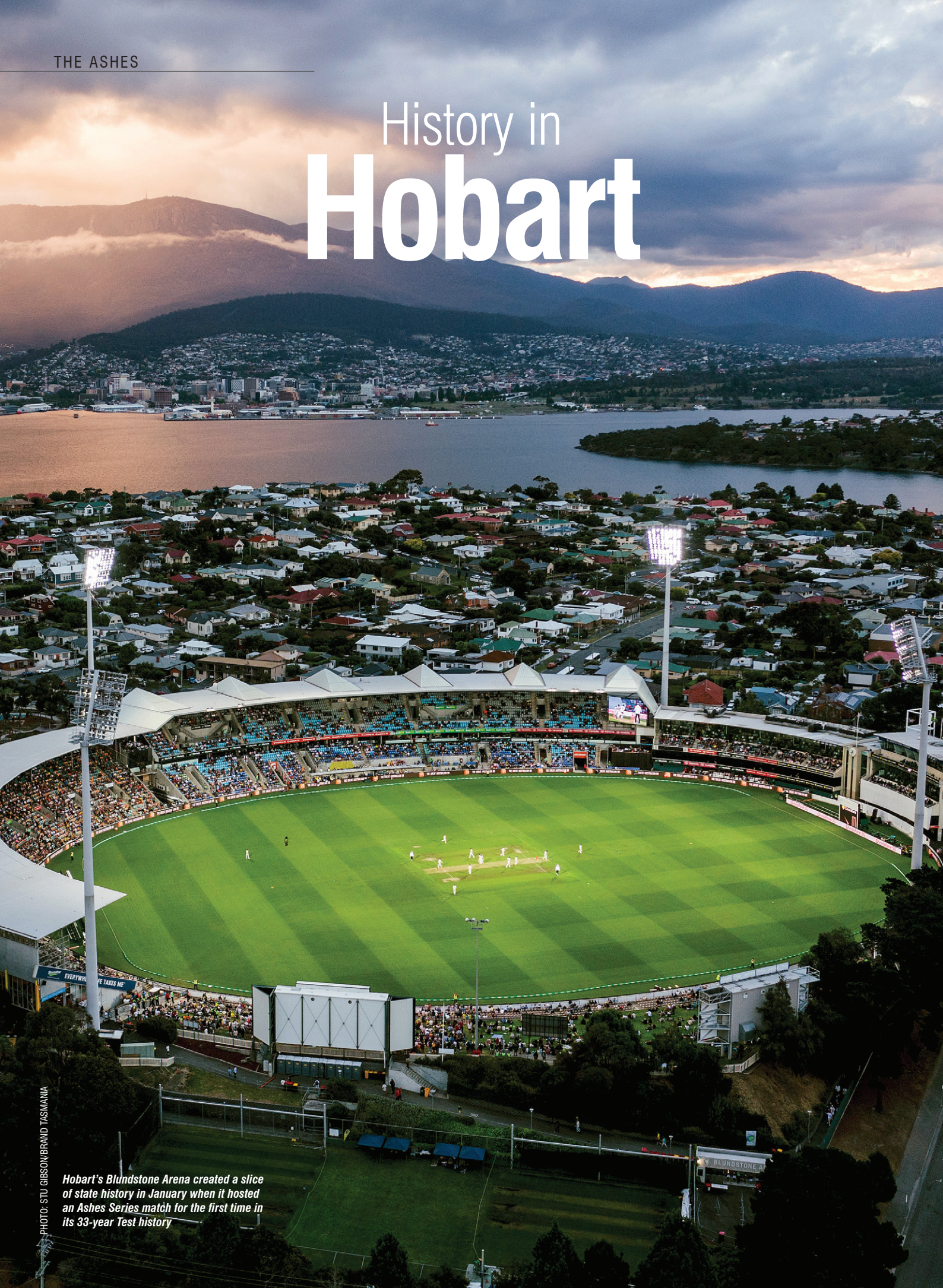


PHOTO: STU GIBSON/BRAND TASMANIA

Hobart's Blundstone Arena created a slice of state history in January when it hosted an Ashes Series match for the first time in its 33-year Test history

Marcus Pamplin's thoughts were turning to the fourth day. With England seemingly cruising shortly after Tea on day three of the fifth Ashes

Test in mid-January, the Blundstone Arena head curator was working over in his mind what needed to be done to the ground the following morning. With his plans sorted, he told three of his crew – apprentices Kelsey Lovell, Justin Galeotti and casual Aza Nichol-Hawkes – to head home as they were rostered on to come in for the early shift the next day.

Chasing 271 for the win, it was finally looking like things were coming together for England after what had been nothing short of a miserable Ashes campaign to that point. 3-0 down in the series, heading into their final innings of the Tour they looked in a strong position to salvage some credibility in Hobart before the long flight home.

As day time turned to night time on day three, openers Rory Burns and Zac Crawley had put on 68 runs, England's best opening partnership of the series, before Burns chopped on a Cameron Green delivery shortly before Tea. First drop Dawid Malan then came to the crease, taking the score along to 82, and with nine wickets still in hand all seemed

Cricket Australia's decision to hand Hobart the fifth Ashes Test could not have been scripted any better, with plenty of drama and theatre as Australia completed an emphatic 4-0 series win over England. ATM editor Brett Robinson catches up with Blundstone Arena head curator Marcus Pamplin to look back at the history-making match.

to be going well. But this was England...

As English quick Mark Wood had done to the Australians in the second innings where he claimed 6/37, Australian all-rounder Green started bowling short of a length. Having collected the scalp of Burns, Green would dismiss Malan in similar fashion. Nine balls later, 2/82 became 3/83 with Green collecting

his third wicket, this time Crawley nicking behind as he attempted to drive at a fullish delivery. The rot had set in.

In what would end up being one of the most dramatic collapses in Test match history, England would go on to lose all their last nine wickets in that night-time session. They were skittled for just 124, losing the match by 146 runs and the series 4-0. Losing 10 wickets for just 56 runs, there were two moments in particular that were symbolic of the shambles that was England's 2021/22 Antipodean campaign.

The first came when English captain Joe Root was clean bowled by a Scott Boland ball that seemingly must have struck something on the pitch. Sneaking under the toe of Root's bat, it ploughed into his off stump and effectively sealed England's fate that evening. Even Boland couldn't hide his disbelief.

The second moment, which provided an exclamation point for the whole tour, saw tailender Ollie Robinson back away from a Pat Cummins full toss on middle and off stump, before throwing his bat helplessly at the ball as it cannoned into the stumps. As the English tabloid newspaper headlines screamed the following day, it was a complete surrender on England's behalf.



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The Blundstone Arena crew (from left) David Burk, 2IC Samantha Butler, Angus Vear, head curator Marcus Pamplin, Justin Galeotti and Kelsey Lovell

PHOTO: CRICKET TASMANIA

Like every other spectator that night in Hobart (and around the world), a bemused Pamplin could not quite believe the manner in which the match had concluded so abruptly in those last 18 overs. Having already planned for the next day, Pamplin quickly found himself ringing up the staff who he had just sent home to tell them it was all over and to come back in to celebrate. It was an extraordinary end to an extraordinary few weeks for Pamplin and his team and one that will forever be etched in their memory banks.

THE ASHES COMES TO HOBART

January's Test was Pamplin's sixth of his tenure at Blundstone Arena and not surprisingly the pinnacle of a turf management career that has spanned more than three decades. After 13 years at Kardinia Park in Geelong followed by nearly four years as head curator at Manuka Oval in Canberra, Pamplin took over at Bellerive in May 2008.

His first Test came in January 2010 when Australia played Pakistan in the third Test of that series, with the home side winning by

231 runs. Pamplin recalls that match vividly, in particular Australia's first innings of 519/8 declared. After being dropped for naught on the boundary, Australian captain Ricky Ponting ended up posting a remarkable 209, with Michael Clarke complementing that with a knock of 166. Ponting then hit 89 and Simon Katich a century in Australia's second innings of 219/5 declared, before the Aussie bowlers dismissed the tourists for 206.

That match would be followed by Tests in 2011 (New Zealand), 2012 (Sri Lanka), 2015 (West Indies) and 2016 (South Africa). That latter match, won by the tourists by an innings and 80 runs, was just Australia's second loss in Hobart in 14 Tests (Australia has won on 10 occasions and drawn twice).

After five years' absence from the Test schedule, Blundstone Arena was due to re-enter the spotlight last November when it was announced they would be hosting a one-off Test match between Australia and Afghanistan. However, the dramatic events surrounding the Taliban re-taking control of Afghanistan and their negative stance on

women playing cricket, Cricket Australia postponed the match just three weeks before the first ball was to be bowled.

While disappointing to lose that match, hopes that Hobart would hold a Test weren't off the agenda by any stretch. With an Ashes Series fast approaching, the fifth and final Test had been scheduled for Optus Stadium in Perth, but due to the Western Australian Government's strict border policy, that fixture was increasingly being put in jeopardy.

Sure enough, just before Australia went 1-0 up in the series at The Gabba in Brisbane, Cricket Australia confirmed that Blundstone Arena had won out over heavyweight rivals the MCG and SCG to host the relocated Test. The day-night affair, Hobart's first pink ball Test and the second of the series, would be held from 14-18 January. Pamplin had prepared in hope of such an eventuality and now those plans were about to be put into action.

"We were absolutely rapt to get it," says Pamplin. "The whole place was abuzz and it was certainly all the talk among the staff. It was especially exciting for the apprentices – it's not every day you get to prepare for an Ashes Test. I still vividly remember my first Test being very nervous as you'd expect. But there's nothing quite like preparing for an Ashes Test – the tradition, up against the old enemy – so it's definitely a unique experience."

PACKED FIXTURE

The Ashes Test was the high point of what was a remarkably busy and challenging season for Pamplin and his team. Being the state's premier cricket venue as well as doubling as the home base for Cricket Tasmania's state teams, not to mention local cricket as well, Blundstone Arena's cricket facilities are in use pretty much year round, even in winter. And that's before you even factor in the football season where it is the home ground of Tasmanian State League side Clarence as well as the Tasmanian base for North Melbourne in the AFL.

The main Blundstone Arena wicket block comprises 10 ryegrass decks (variety Premier 3) while the outfield is a blend of Derby Extreme and RPR ryegrass. Blundstone boasts two practice facilities – 25 wickets behind the hill on the eastern side of the ground and another 16 on the western side adjacent to Derwent St. Since 2018, every winter a giant marquee measuring 60m long and 25m wide



PHOTO: JESS OAKENFULL/BRAND TASMANIA

The Ashes Test was the high point of what was a remarkably busy and challenging season for Pamplin and his team



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One week out from the first ball being bowled, Blundstone Arena copped an unseasonal 50mm in just 30 minutes

is erected over the practice pitches next to the hill to enable training to continue through the winter months.

At the time of the Ashes announcement, Pamplin and his team had already experienced a busy spring and start to summer. In September, Cricket Australia confirmed that Tasmania would become a hub for the start of the seventh season of the Women's Big Bash League (WBBL). The first 20 games of the competition featuring all eight teams would be played between Blundstone Arena and Launceston's UTAS Stadium and Invermay Park. Between 14 and 20 October, Blundstone hosted the first nine games of the competition, including four double headers.

In addition to the centre wicket requirements, having eight teams using their

practice facilities threw another logistical spanner into the works as it meant that Pamplin and his team couldn't do their usual renovation on the practice wickets. Combined with a very wet couple of months, the challenges were starting to mount, especially with the rotation and recovery of the practice facilities.

With all nine WBBL matches successfully completed and the Tasmanian hub moving up to Launceston, Pamplin's next focus was on preparing wickets for two Marsh Sheffield Shield matches. Tasmania took on South Australia from 10-13 November and Western Australia from 21-24 November. The former was a rain-impacted draw, while the latter saw the home side chase down 315 across the final two-and-a-half sessions to win by four wickets.



That last Shield encounter was then followed two days later by a Marsh One Day Cup 50-over match between Tasmania and WA.

For the next two weeks the centre wickets continued to be used for women's practice matches as well as the 5 December final of the Tasmanian Premier League Women's 1st Grade (T20) and a sponsor's T10 game on 12 December. Blundstone then went into the BBL11 season, kicking off the first of five games on 14 December. Their next BBL game was on 20 December, a rescheduled game due to WA's hard border, but in between they also hosted Tasmania's opening two matches of the rescheduled Women's National Cricket League (WNCL) 50-over competition. That meant four games in seven days, with further BBL games held on Christmas Eve, 27 December and 1 January.

"The workload was huge and, to be honest, even before we found out that the Ashes Test was coming we were already pretty fatigued," reflects Pamplin. "That's what happens when you are both a training venue and a match venue and have an ever-changing schedule. And it wasn't just out on the centre wicket, but managing all the practice wickets as well. By the time the Test came around all the practice wickets had doubled up.

"We deliberately kept a set of practice wickets fresh and unused just in case we got the Test. With all the BBL practice sessions we had to make sure they were scheduled away from those Test practice wickets so they wouldn't get damaged. Also, with the Derwent St practice wickets, there's only 12 metres in between the two tables, so the bowlers have to start their run ups in the middle of the other pitches which we had to factor in.

"We also had a lot of rain in October and November, so much so that they had to scrub out the first five or six rounds of local cricket. As well as covering the centre wicket, we also had to cover both sets of practice wickets to prevent any damage which hampered our preparations a little. So there were a lot of little things that we had to take into consideration which meant a lot of extra work for the staff."

COVID HITS...

With the 1 January BBL match out of the way, Pamplin was looking forward to getting a good two-week lead-in to dial in the surfaces for the Ashes Series finale. Just a few days later,

Despite a shaky start in the opening session, the Pat Cummins-led Australians cruised to a 4-0 Series win in dramatic fashion

however, and any thoughts of an uninterrupted build-up were soon dashed as Pamplin's preparations were thrown into a tailspin.

Ten days out from the Test, on 4 January, three of Pamplin's crew tested positive for COVID. They were immediately forced into isolation for seven days, while crewmates Lovell and 2IC Samantha Butler (who had only started the role a month before) were also told to isolate as they had been working alongside the trio and were deemed close contacts. By a stroke of good fortune, Pamplin was away from the arena that day as it was his son's 15th birthday, leaving him as the only member of the crew to start getting the practice wickets underway for the Test. Thankfully, Lovell and Butler were deemed safe to return after missing just a day.

Facing the prospect of being three staff down, Pamplin needed reinforcements immediately and after some quick ringing around his numbers were soon bolstered. Former 2IC Oliver Beswick, who departed the arena midway through last year after nine years, returned to lend a hand and ended up staying on until the end of the Test. John Kedey, a qualified groundsman from UTAS Stadium in Launceston, dropped everything



PHOTO: RICK SMITH/CRICKET TASMANIA

In one of Test cricket's greatest collapses, England lost nine wickets in the night-time session on day three

and headed down on 6 January for four days. He was followed on the 11th by UTAS crewmate Chris McKenna who worked through until the second day of the Test. (McKenna was already scheduled to join the team before the COVID situation flared up). Pamplin was also

able to secure casual Aza Nichol-Hawkes who started on 7 January.

"We were so fortunate to have those guys come in and help, and experienced guys too," says Pamplin. "Oli had his own work but was able to put that off and give us a hand and because he knew the run of the joint that experience was good to call upon. It was brilliant that John and Chris could come down too and I'm really grateful to Adam Spargo (UTAS head curator) and Robert Groenewegen for letting them help us out. John had worked with us before so he knew what we do and both he and Chris fitted in really well.

"Even though it was a headache, we were kind of in a good position. We had really worked hard getting all the little extra things – the gardens, general facilities and the nets – in a good place before all this hit. That meant we could just concentrate on the centre wicket, practice wickets and the outfield and the finer aspects of our preparations – fertiliser programs, getting the watering and rolling right. If there was a curveball thrown at us we were kind of ready for it, but we never thought it would be COVID. We thought maybe bad weather, but I guess it's just part of the world we live in these days."

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PHOTO: STU GIBSON/BRAND TASMANIA

January's Test was Pamplin's sixth of his tenure at Blundstone Arena and the pinnacle of a turf management career that has spanned more than three decades

... THEN THE WEATHER

Don't worry, the weather did conspire to add to Pamplin's headaches. With an annual average rainfall of just over 600mm, Hobart is officially Australia's second driest state capital behind Adelaide. Looking at the long-term averages, Hobart normally receives anywhere between 25-50mm for the entire month of January. Not this year, however.

Late on Friday 7 January, a week out from the first ball being bowled, Blundstone copped an unseasonal 50mm in 30 minutes. As the photo on page 20 taken by Pamplin shows, the arena resembled a lake.

"What more could go wrong," laughs Pamplin. "We had already started on the practice wickets and were in the process of watering the wicket for the Test match. We knew there was some bad weather coming, so we put the big cover down on the centre wicket. A month before we had a massive thunderstorm and it washed away a lot of the black soil from the crown of the grass and caused a lot of ruts in the surface. So we put the big cover down and I'm glad we did because it just poured.

"I've never seen it that heavy in Hobart before. The wind was whipping the rain across the oval and it looked like there were waves across the surface. The wind would push the water into the LED screens and it would bounce back, it was that hard. We had a river going down into our sheds, the indoor centre got flooded, as did our storage area under the grandstand. By the end of the day we'd had 72mm. It was just bizarre.

"One of the practice pitches was damaged, but we were able to repair that easily. The ground drained well and the water

disappeared within 30-40 minutes. It did stuff up our watering on the centre wicket a little, but we ended up getting the amount of water that we wanted into the Test pitch."

GREEN TINGE

Two days before the start of the Test, Pamplin breathed a palpable sigh of relief when he welcomed back crew members David Burk, Angus Vear and Justin Galeotti who had been isolating. Speaking to the media through that week, Pamplin alluded to the challenges that his team had been through. That was of little concern to the journalists, however, who were more interested in how the wicket would present.

"It'll have a tinge of green on it, for sure," Pamplin told them. "There'll probably be one or two millimetres of grass left on it, just to keep the shine on the ball so they can get that swing. I expect it to be a good contest. Especially first day, there'll be a bit in it."

With day-night Tests, the pink ball doesn't stay as hard as a red ball would in a normal day-time Test. Worried that it will become a boring contest dominated by the bat, Cricket Australia instructs curators to leave a bit more grass on the pitch to enable the pink ball to keep its shine longer. When the covers were taken off, there was certainly a green tinge to the Hobart wicket and the first session proved to be anything but boring.

Thanks to some poor shot selection and the English bowlers landing some good areas, Australia slumped to 3/12 from 9.5 overs after being put into bat. But as Travis Head (100), Cameron Green (74) and Marnus Labuschagne (44) would demonstrate later in the day, once the early session had been navigated there were runs to be had.

"We only had one real sunny day leading into the Test," recalls Pamplin. "Ryegrass is always going to hold its colour a lot more than couchgrass and you need a lot more direct sunlight to take the colour out of it, which we didn't get. So, yes, there was a definite green tinge to it, but no different to a lot of the wickets we prepare for Sheffield Shield games.

"The night before the game I was pretty nervous – you always are – but this was heightened because it was an Ashes Test. You start playing out scenarios in your head – is there too much grass on it, should I have done this or that. But at the end of the day you just back yourself and what you have always done and it's really up to the players to how well they bat and bowl.

"I saw match referee David Boon on the first day and in his typical low, gruff voice commented, 'Looks like a good cricket wicket Marcus. It looks great, you should be happy with it.' So that gave me a good lift. The English always looked like they were going to bowl. I knew it was going to be tough in that first session, but also that there would be runs once they had got through that. What I didn't expect was it to be all over in three days!"

Despite the earlier than anticipated conclusion and all the long hours in the lead-up, Pamplin was delighted with how the pitch played and how his team rallied around. Who knows when an Ashes Test will likely return to the Apple Isle, but the drama and theatre that Blundstone provided certainly left an indelible mark. For Pamplin though, the most pleasing aspect was watching his team throughout the event and witnessing them being part of sporting history for the state.

"The highlight for me was seeing how well our team worked together and their enthusiasm for it," says Pamplin. "We wouldn't finish our work until 10.30pm each night, but we would all still have a beer afterwards instead of getting out of there. I think the guys and girls enjoyed the whole feel and atmosphere of the Ashes. We were working hard and pulling some long hours, but just because it was an Ashes Test everybody was up and about for it.

"It was terrific for the state and cricket in Tasmania and put a real spotlight on Hobart. We've been asking for an AFL team for years, but we got an Ashes Test instead! It was just fantastic to be involved and for the staff it was reward for many years of hard work. You don't expect something like the Ashes to come along and all the hype that comes with it. It will be something that every staff member here won't forget, that's for sure." 🏏

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A Marvel-lous season

For the second time in the history of the Big Bash League, Melbourne's Marvel Stadium hosted the grand final this past January. As arena manager Troy Jordan writes it was the culmination of one of the most challenging yet rewarding cricket seasons they have experienced at the multi-purpose venue.

Marvel Stadium in Melbourne experienced an unusually early start to the most recent cricket season. While the COVID pandemic has wreaked havoc for sporting codes and venues around the globe, a less congested calendar

of events at the stadium allowed us the rare opportunity to focus on cricket from October.

I have been in my current role as arena manager for seven years and in that time my focus during the cricket season has been on the quality and presentation of the outfield, working in conjunction with the

cricket curator. However, the resignation of our previous curator in the middle of 2021 saw an increase in the scope of my role to include the preparation of Marvel's pitch. My love for the game of cricket was what saw me enter the turf industry in 2003 and I jumped at the chance to play a more direct role this year.



Above: The drop-in process requires 650m² of turf and 50m³ of sand to be excavated and graded to the required level

Left: After initially slated to host just five matches in the BBL11 season, Melbourne's Marvel Stadium ended up hosting 11, including the 28 January final

The drop-in process requires approximately 650m² of turf and 50m³ of sand to be excavated and graded to the required level. This process is conducted on both the centre and practice pitch areas. From there we have an external contractor (No Fuss Event Hire) who lay a touch over 1200 metres of I-Trac flooring early the next morning. This flooring, designed for heavy vehicle movement, is required prior to the arrival of both the 100-tonne crane and the nine semi-trailers transporting the pitches. Each pitch weighs 15 tonnes and due to the immense scale of this process the underneath carpark is also required to be underpinned.

There are four pitches in total, two for the centre and two for the practice areas. Each pitch is transported in two sections, with a total of eight sections installed. Each section is brought in on a truck and carefully lowered into position. This process takes a full day.

Having the luxury of time this season allowed us the opportunity to carry out a small renovation on the pitches after they had been dropped in. In previous years, with much tighter scheduling constraints, pitch renovations were always done prior to drop-in at HG Turf's farm in Alexandra north of Melbourne. That process had its challenges as the pitches would sit above the ground individually. This season, having the pitches in the stadium earlier allowed us to perform a much more thorough scarification, thinning out the thick couch cover and thatch that was present.

Typically, November weather in Melbourne can make for slow growth and recovery on Santa Ana couch. This year was no different with the average temperatures for November

Since the Big Bash League's (BBL) inception in 2011, Marvel Stadium has played host to all 10 seasons, totalling 44 matches. However, Marvel has only hosted finals on two occasions, most notably the 2018/19 season which saw the Melbourne Renegades, who call Marvel home, take out the title after beating cross-town rivals the Melbourne Stars.

As we approached our 11th season, the five-game schedule looked set to begin in much the same way as previous years. However, the ever-changing COVID landscape we now live in saw things play out quite differently which would challenge our crew.

DROPPING IN

Historically, the post-AFL season would see us play host to numerous A-League football games and concerts, however, the pandemic cleared all content from the ground for the months of September through to November. This not only resulted in our ryegrass playing surface having 100 per cent coverage and plant health at its optimum, but it also enabled a much earlier drop-in of our pitches. Previous years have seen as little as six days between a Coldplay concert and our first BBL game, however, this season we were gifted the luxury of a 41-day run-up.

PHOTOS: MARVEL STADIUM



Marvel Stadium has four drop-in wickets – two for the centre and two for the practice areas. Each pitch is transported in two sections by truck and carefully lowered into position. The whole process takes a full day

being close to two degrees below the mean maximum temperatures. In fact, the 18 days following our scarification of the pitches saw only four days reach a maximum above 20°C. This was overcome by regular foliar fertiliser applications and the late November to early December warmth, with grass cover and plant health improving to satisfactory levels ahead of our first match on 7 December.

SEASON START

When we set out our rough plan for the season, our original BBL fixture saw us hosting five Renegades matches from 7 December to 13 January. With close to a week's break between each match, the plan was simple – three matches would be played on one pitch and two on the other, rotating after each match.

The management of the practice pitches, which are located at the southern end of the field, were a slightly tougher proposition. Unlike most cricket venues we do not have a practice net system based outside the stadium, so all training and pre-match warm-ups take place on the field of play. The day before each match both playing teams have a training session, then the next day both teams warm up on both practice wickets. The management of these pitches was problematic due to the tight turnarounds, so they were simply used the entire season with no rotation.

Our first match saw us host the Melbourne Renegades and Adelaide Strikers. Preparation for this pitch was fairly standard. Our long lead-in time and thorough preparation allowed

for frequent deep watering along with cross rolling in many directions. We had a nice marriage of compaction and moisture in the wicket to provide good and consistent bounce. The pitch was cut at 6mm. The match boasted moderate scores, with the Strikers setting a target of 151 which the Renegades chased down on the last ball of the day. We received encouraging reports back that the pitch had good and consistent bounce which led to the batters being confident in playing their shots.

After game one, we hosted the RMIT Graduation Ceremony on 15 December which saw us press pause on cricket for the week. The stadium has hosted this event for 20 years and it requires almost the whole field of play



Across all its 11 BBL games this past season, the Marvel Stadium wickets were lauded for their improved performance and consistent bounce

to be covered with 16,080m² of Supa Trac protective flooring. Supa Trac is designed for patrons only and sits on the surface for about 72 hours, while the large scaffold stage sits over the centre pitches. The event was held only one week prior to our next BBL match.

Post-event bump out, we traditionally have full access to the ground at 7am the next day to complete our remedial works. Due to some COVID-related production issues, protective flooring remained on the ground which delayed our works by 24 hours. Due to the scaffold stage, the pitches had not received any attention in six days and when we were finally able to access them the order of the day was water, and plenty of it. We would normally replace some turf post the RMIT event, however, due to the density and health of the ryegrass plant going into the event no turf replacement was required.

COVID HITS SCHEDULE FOR SIX

Our second match, Renegades vs Scorchers (22 December), was only a few days later and you would not have known just a week earlier the whole ground was covered. This match saw us use the opposite pitch to game one, with the Scorchers setting a target of 206 thanks to some big hitting from Mitch Marsh. Aaron Finch and Nic Maddison did their best to chase it down, but the Renegades ultimately fell short with a very respectable 185.

A few days prior to this game, we started receiving information that due to Western Australia's hard border closures we would likely be hosting more matches than our initial five. Our original fixture had a match down for 29 December, but that soon changed to also include a Boxing Day match and another on 30 December. That meant we were now to host four matches in nine days which resulted in us having to rethink our pitch rotation plan.

Having already had a match played on the 'western' pitch on 22 December, it made sense to prepare the same pitch for the Boxing Day match. It also meant we could start to prepare the 'eastern' pitch for the two matches back-to-back on 29 and 30 December. After working all day on 30 December to be ready for that second game in two days, we received word at 5pm that the match was being cancelled after a number of Melbourne Stars players and officials had either contracted COVID or were close contacts.

In the New Year we hosted five more home and away fixtures, including a double-header on 13 January involving the Thunder and Heat and Renegades and Stars. Each match presented new challenges, none more so than

the inevitable lack of grass cover after hosting nine matches in five weeks across two pitches.

With careful and precise moisture management along with minimal mowing, we sought to maintain maximum grass cover on the pitch. This saw us achieve the same consistent bounce in game nine as in game one. This felt encouraging and was reinforced by the Scorchers ultimately choosing Marvel Stadium as their preferred venue for the finals series as they were locked out of their home state indefinitely.

FITTING FINALE

Perth was the standout side for the year, finishing top of the table, and as they had nominated Marvel as their finals venue it meant that we would host at least two more matches. For both finals we used the eastern pitch, a decision we made due to its superior grass cover. Both pitches still had the same consistent and true bounce, however, they were also starting to provide spin for the likes of Ashton Agar and Nathan Lyon which we did not see earlier in the tournament. This was due to the lack of grass cover along with a couple of hot weeks with small cracking occurring.

This cricket season presented many challenges for us, but one of the hardest to overcome was Marvel Stadium's roof. Be it AFL or cricket, the retractable roof is always a hot topic. While it has allowed us to host matches that would otherwise not go ahead, it also added to the complexities of our pitch preparation.

We have learned from previous years that once the roof is closed, the pitch needs to be match-ready. If the pitch is holding any undesired moisture as the roof is closed, it is very difficult to change the conditions. Careful monitoring of both the Melbourne forecast and the moisture levels in the pitches are of equal importance. We found ourselves with the roof shut for 48 hours prior to two matches and our experience with this allowed us to present a well-prepared pitch on each occasion.

While the stadium's roof comes with these challenges, it ensured the BBL11 final between the Scorchers and Sixers was able to go ahead uninterrupted, despite 36mm of rain on game day. Winning the toss and electing to bowl, the Sixers had the Scorchers in all sorts of strife at 4/25 off six overs. However, a century partnership between captain Ashton Turner and overseas import Laurie Evans saw them post a competitive 6/171. Evans' 76

The Marvel Stadium crew (from left) is made up of Tony Kelly, arena manager Troy Jordan, Matt Andrew, Daniel Scarfe, Riley Brennan and Sam Michie



With no external practice facility, Marvel Stadium's practice pitches are located on the field of play

not-out off 41 balls would see him win man-of-the-match honours. Perth's bowling unit then stepped up and skittled the defending champions for just 92 to claim the franchise's fourth BBL title.

CHALLENGING YET REWARDING

This season saw us host 11 games over our two pitches, the most since BBL8's seven games when the Renegades made the final. The impact of COVID on our scheduling and just the sheer number of games, combined with Melbourne's weather and the roof, provided our most challenging season to date. Despite these factors, we were incredibly happy with the pitches we produced and how they played throughout.

The feedback we received from all those involved in the tournament was extremely positive and nearly every match the commentators were glowing in their review of the pitch and how it performed. Cricket Australia were also very happy. Once Omicron ramped up and they wanted a Melbourne bubble, having the stadium not only as a venue to use but with the outfield and pitch performing well, it meant they could confidently schedule the remaining matches.

As Perth chose Marvel as their preferred venue, we ended up having good dialogue with coach Adam Voges who was fantastic and very positive. While we didn't hear it from the

Bison himself, Voges noted that Mitch Marsh was also very positive in his review of the pitch where he made 80-odd on.

Although it is 10 months away, our preparation now begins for next season. February saw the pitches lifted out and sent back to the HG Turf farm with very little post-season grass cover. With only a couple of months of warm weather before they head back into dormancy in Victoria's winter, our nutrition program will play a huge part in ensuring we can yet again present top-quality pitches for the next BBL season. HG Turf oversees the general maintenance practices of mowing, watering and fertilising during the growing periods. Marvel Stadium staff will generally make one post-season trip to inspect the pitches and as the season approaches we will head up to complete renovations.

Our turf team at Marvel Stadium worked incredibly hard this last year and I could not be prouder of their commitment and effort. Working long hours on hot days that rolled into long nights, our team remained steadfast and diligent in their approach. The Christmas and New Year period was especially unpredictable with extra games added at short notice, which meant staff had to be extremely flexible. A special mention must go to my fellow curator Tony Kelly who played an integral role in assisting me for the duration of the season. Roll on BBL12! 🏏



Brisbane brilliance

It was a big fortnight of golf in Brisbane in mid-January, with two PGA Tour of Australasia tournaments contested back-to-back. ATM editor Brett Robinson looks back on the Australian and Queensland PGA Championships held at Royal Queensland and Nudgee golf clubs.



A COVID-enforced postponement and a change of date later, the 2021 Australian PGA Championship finally teed off at Royal Queensland Golf Club on 13 January 2022, exactly 753 days since the last PGA was held at RACV Royal Pines on the Gold Coast in December 2019





The shift of tournament date from December to January meant Mills had to be extra vigilant with the 328 greens, ensuring organic matter levels were kept under control

Adam Mills cut a quiet and pensive figure as he went about his tournament duties. It was early December 2019 and the Royal Queensland Golf Club superintendent was at The Australian Golf Club in Sydney which was in the midst of hosting the 104th edition of the Emirates Australian Open. Mills was a volunteer for the week and while there first and foremost to assist superintendent Phil Beal and his crew prepare the course, Mills was also on something of a fact-finding mission.

Although it wasn't made official until a few weeks later, Royal Queensland (RQ) had already been chosen as the new venue

of the 2020 Australian PGA Championship, bringing to an end RACV Royal Pines Resort's seven-year tenure as tournament host. To help him gain an insight into the demands of what would be the first major tournament of his superintendent career, Mills joined the 50-strong crew at The Australian that week and watched on intently.

In between raking bunkers and divot bombing, Mills regularly conversed with Beal, his assistant Dave Smith and 3IC Mathew Soles to get a handle on the logistics and many unique challenges that a major Tour event brings with it – the bump in and bump out of tournament infrastructure, managing volunteers and staff rosters, course set up and

the requirements of tournament organisers and preparing and monitoring the playing surfaces each day.

What Mills garnered in those seven days was priceless and he was looking forward to putting some of that insider information into action as he geared RQ up for its long-awaited tournament return. The COVID-19 pandemic, however, put paid to that and Mills was forced to put his plans on ice for the next two years as the global pandemic wrought havoc on the Tour schedule.

Finally, 753 days after the last tournament, the 2021 Australian PGA Championship would finally tee off on 13 January 2022. Initially set to return in December, the PGA of Australia ended up moving the tournament into the New Year due to more COVID uncertainty. It was one of two PGA Tour of Australasia tournaments that Brisbane would hold consecutively in January, with the Queensland PGA held up the road the following week at the recently redeveloped Nudgee Golf Club (see more on page 34).

It proved to be a history-making week at Royal Queensland, with 22-year-old club member and first year touring pro Jed Morgan setting the course alight. The fist-pumping Queenslander secured his first professional win with an historic 11-stroke victory, producing the biggest winning margin the tournament



January's PGA was the first major tournament for superintendent Adam Mills and his crew and first test of the redesigned layout

has ever seen and smashing the previous best of eight shots held by greats Hale Irwin and Greg Norman. His 22-under total (rounds of 65-63-65-69) equalled the lowest score in relation to par in championship history, while his four-round total of 262 was the lowest in championship history by four strokes (RQ played as a par 71 for the week). And to add to the accolades, he became the youngest championship winner in over 60 years.

"After the postponement and change of date from December to January, it was great to finally have the tournament here," reflects Mills. "It was exciting for us and the crew really stepped up in the months beforehand to get the course ready. Because we are a members-only club, a lot of people wouldn't have seen the course before, so it gave us the chance to not only showcase the course but also what we could do as greenkeepers.

"Being our first tournament it was a little challenging. We certainly learned a lot in the months leading up to and the week of the tournament, especially around bump in and set up. We were learning every day on how we can do things better for next time, especially as it was the first time the new layout had held a major tournament."

FIRSTS ALL ROUND

January's PGA was a tournament of firsts in many ways for Mills and Royal Queensland. It was the first time that the club had hosted a major tournament in over two decades, the last coming in 2001 when Robert Allenby successfully defended the PGA crown that he had won there in 2000. The course that



Due to it being the peak of the growing season, the greens were under pretty heavy regulation. For Mills it was all about getting as truer ball roll as possible and making sure the 328 wasn't fat and puffy

greeted the players this past January was also vastly different, with course designer Michael Clayton radically altering the layout in 2007 after the club had to give up a portion of land to accommodate construction of the second Gateway Bridge crossing.

It was also the first time that both men and women would play alongside each other, with the inaugural WPGA Championship running concurrently. Circumstances imposed by the COVID-19 pandemic presented a unique opportunity for organisers to bring the two tournaments together and 24 of Australia's best female golfers teed up alongside the men. Su Oh became the inaugural winner of

the Karrie Webb Cup, with the event set to become a standalone event going forward.

January's event was the first of three PGAs locked in for RQ, with Mills and his team set to back up twice in 2022. As this year's event was being contested, the PGA of Australia announced that the PGA Tour of Australasia and DP World Tour (formerly the European Tour) had extended their alliance through until 2026, with the Australian PGA Championship to be part of the DP World Tour in late 2022. The co-sanctioned event will see its prize pool increased to AUD\$2million – up from AUD\$1million – underlining the event's position as Australasia's richest golf tournament.



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The RQ course that greeted the players for the PGA was vastly different from the last time it hosted the event in 2001, with course designer Michael Clayton radically altering the layout in 2007

Of most significance for Mills, however, January's PGA was his first major tournament in charge since taking over the superintendent reins at RQ five years ago and also for his crew. Eager to impress and to showcase their skills, Mills leant heavily on his experiences at The Australian two years prior and put into place a thorough plan which would ultimately pay dividends.

In the lead-up, Mills was in regular contact with the likes of Beal and Soles (who is now the superintendent at Royal Perth GC) to help him finetune a few of the organisational components. Beal, who departed The Australian last year and now acts as a consultant, even journeyed up to RQ the week before the PGA to provide assistance with the volunteers, as well as some moral support as Mills embarked on his first major outing.

"Phil was just a real steadying influence and I can't thank him enough," explains Mills. "A few weeks before the tournament,

the realisation of what was about to happen really hit me in the face. Luckily I was able to talk through things with Phil given that he had been through it all before and had experienced similar feelings. He really helped to ease my nerves and it put me in a much better place.

"You always get that little bit of anxiety that you may have missed something somewhere when you haven't done something like this before, but looking back I think we had most of the big stuff covered. You just have to adapt and I don't think we missed anything too big. Throughout the whole tournament we stayed calm and any little problems that did arise we solved them without fuss. We didn't really have anything go too awry, maybe just some timing issues which we were always going to get given it was our first tournament.

"It was certainly a good feeling when Jed Morgan sunk the final putt on Sunday. I think we were all a bit weary from the split shifts all week. Because it's Queensland and it's light

early, the first groups were off at 6.15am for the first two rounds, so we were kicking off at 3.30am. We worked through until about 8am and then came back in the afternoon about 4.30pm to divot and tidy up. We made sure things were more relaxed in the afternoons as we didn't want to fatigue the guys.

"The logistics of everything was certainly the most challenging aspect, but also backing yourself that you've got it right. That was one thing that I took away from The Australian – getting as many people and machinery here as you can so that if something does go wrong you've got the people to back you up. We had a few volunteers drop out due to the tournament change of date, but we got through it well."

PEAK PERFORMANCE

Hosting the tournament in January in Queensland certainly had its challenges and the change of date from December meant Mills had to be extra vigilant, in particular with the greens. The back end of December and January is usually the hottest time of the year at RQ and combined with plenty of rain in the back half of 2021, growth rates were through the roof in the tournament lead-up.

Mills admits his surfaces were pretty worn out coming out of last winter, a result of increased member play, so the rain that did come assisted in getting them to bounce back (RQ recorded a well-above average 1600mm for the year with the majority of that in the second half). Due to the size of the property, Mills was also mindful of ensuring that the course's sandy waste areas, bunkers, wetlands and trees were worked on early in the lead-up to enable the crew to concentrate on managing the vast playing surfaces closer to the tournament (RQ boasts 26 hectares of fairways alone).

"I was really happy with all the playing surfaces," says Mills. "We were chasing the rough for a few months with all the rain we had in the back half of the year, so that was a little bit hairy. But the surfaces looked and performed great, especially the greens.

"With all the rain and growth, we were regularly verti-cutting and dusting the greens, constantly testing for organic matter levels and trying to build firmness in them. Due to it being the peak of the growing season they were under pretty heavy regulation. It was all about getting as truer ball roll as possible and making sure the 328 wasn't fat and puffy.



Around 20 volunteers complemented the RQ crew of 20 for the week

Royal Queensland's penultimate par three 17th

"We started consistently walk-mowing the greens in the three months before the tournament and I think that really paid off. It just helped to reduce wear and took a little bit of weight off the greens and reduced compaction levels. We had some really good evenness around the whole golf course.

"The greens were cut at 3mm and we steadily built on them from the weekend leading in when they were rolling in the mid-10s. We had them a little bit over 11 for the first practice round and for the first tournament round they were about 11.5 in the morning and probably quickened up a little bit more by the end of the day.

"Earlier in the week we were double cutting the greens, but we got them to a point where a single cut and roll had them at the desired speed and from there just kept monitoring as the tournament progressed. They were nice and firm throughout the four days and all our hard work to get them rolling as true as possible really paid dividends."

Another key component in ensuring the RQ surfaces were at their peak was the constant monitoring and analytical work that Mills has instituted into course management operations over recent years. Mills uses a variety of tools to help him have the surfaces performing at their best and which complement his nous as a superintendent.

"We've been building up our technical and analytical work for the past few years," explains Mills. "We Pogo the greens, regularly test for organic matter levels, stimp greens and conduct regular disease tests. The Clegg



hammer is something we've also started using over the past six months and it has been a good tool to get some data points to work off.

"I guess having these tools just helps to add to your arsenal. You still operate off the old greenkeeper gut feel, but you have also got the numbers and the data to back you up.

The artistry of greenkeeping is still there, but it's even better when you have that information behind you.

"Because it was moved from December to January, for this tournament we undertook a lot more organic matter testing than normal. We renovated the greens at the start of October,



Despite the tournament date change and COVID forcing some volunteers to pull out late, Mills was delighted with the support he received, especially from local superintendents and clubs

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so we had to carry them for a few more weeks than initially planned. By doing those tests we just wanted to be sure that we weren't getting too much thatch accumulation and could adjust our cultural practices if they were."

PITCHING IN

All the hard work in the lead-up certainly came to fruition the week of the tournament with RQ's 328 couchgrass greens firm, fast and challenging and the Queensland blue couch fairways presenting beautifully. Despite the tournament date change and COVID forcing some volunteers to pull out late, Mills was delighted with the support he received, especially from local superintendents and clubs.

Mills' usual crew of 20 was assisted by around 20 volunteers and he was also effectively able to double his fleet for the week. Fellow superintendents Ben Tilley (Headland GC), Ben Grylewicz (Indooroopilly GC), Craig Clarke (McLeod CGC) and Paul McLean (Sanctuary Cove) loaned machinery, in addition to Toro providing tournament support. Among those to be part of the volunteer corps for the tournament included Clarke and fellow superintendents Peter Fraser (Hervey Bay G&CC), Dion Cope (Redland Bay GC) and Mark Stanley (Redcliffe GC).

As he has done at numerous Queensland-based events, Toro's Ben Marshall, a former superintendent himself, fronted up, as did Bayer's Wayne Rider. Turf equipment

technician Phil Newton also journeyed south from Maroochy River GC. Greenway Turf Solutions kept the crew fed with breakfast each morning, while Mills was also grateful for the assistance of Syngenta.

"The support was fantastic and I couldn't have been happier with the guys who volunteered," says Mills. "All the guys were prepared to give us a hand which was very much appreciated. Everyone wanted to make sure that the tournament went smoothly and it did. We didn't have the usual contingent of volunteers from interstate due to COVID, but hopefully when the tournament returns later in the year things will be different and we can get some more volunteers in and raise the bar even more." ﷲ

New-look Nudgee makes Tour debut

The week following a record-breaking Australian PGA Championship at Royal Queensland, the PGA Tour of Australasia journeyed a few kilometres up the M1 highway to Nudgee Golf Club for the Queensland PGA Championship. Last October it was announced that Nudgee would appear on the Tour schedule for the first time in the club's history as the new home of the Queensland PGA Championship. In following the Australian PGA, it was the first time that southeast Queensland had hosted consecutive Tour events since 2001.

Hosting the tournament was the culmination of a hectic few years at Nudgee for course superintendent Peter Culross, his assistant Scott McComas and their crew. Between 2014 and 2018 the Gateway Upgrade Project consumed eight hectares (seven holes) of one of the club's two 18-hole courses, with architect James Wilcher (Golf by Design) commissioned to come up with two new layouts.

The Queensland PGA Championship was played across the 'Kurrai' course (named in honour of the Aboriginal term in the Turrbal language for 'sunset') which was officially opened the week of the tournament. The second course – known as 'the Bulka' or 'sunrise' course – is still in the grow-in phase and is due for completion in the coming months.

While the Kurrai course presented beautifully for its tournament debut, it belied what was a challenging few days for the Nudgee crew. Wet weather put a dampener



Nudgee Golf Club hosted the Queensland PGA for the first time in January

on the start of the tournament, with 5mm of rain overnight Wednesday and a further 5mm during their opening round preparations. The big hurdle, however, was COVID.

While their counterparts at Royal Queensland had got through the Australian PGA unscathed, the Nudgee crew weren't quite as fortunate. A couple of crew members couldn't work the tournament due to either testing positive for COVID or being deemed a close contact. Among them was assistant McComas who was forced into isolation for the entire tournament after his wife tested positive six days before it was due to start. On day six of his isolation, prior to a planned return to work on 21 January (day two of the tournament), their one-year-old daughter tested positive also. On top of that, another staff member was forced into isolation on the Thursday after testing positive.

Last minute staff reshuffling aside, the Nudgee crew was able to complete a solid lead-in week to get the course dialled in. Come tournament week greens heights dropped to 3.2mm with groomers engaged deeper and double-cutting when needed. Greens were also rolled. Fairways, tees and

approaches were cut three times instead of two and the zoysia bunker edges were given a final trim. Bunkers were also a significant focus, with depth checks undertaken and sand moved to correct levels, along with compacting, wetting down, rolling faces and flat raking prior to hand raking.

Starting the tournament week off the Sunday before, the crew went in from 12pm to 6pm to give the course a good once over. Greens received a dry single cut at 3.2mm, tees and approaches were cut at 7mm and fairways at 11mm. Greens were stimped and monitored for moisture content and handwatered where needed. Bunkers were blown, broomed and flat-raked. Ahead of the opening round greens only needed a single cut and following on from their daily preparations, some staff stayed on to continue with the grow-in and construction on the Bulka course which didn't halt for the tournament.

Culross was grateful for the support of Ben Marshall from Toro who assisted with additional equipment for the week, while former Vintage GC superintendent Steve Harris, who now works with Rain Bird, also helped out with course setup in the mornings and finetuning the new irrigation system.

The new Kurrai course and the weather conditions certainly provided a stern test for the tournament, with its narrower fairways and new greens requiring a more strategic approach.

Gold Coast's Anthony Quayle would end up mastering the course and conditions, navigating an enthralling final round to complete a wire-to-wire two-stroke victory.



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Hot shots

Taking a great golf course photograph is sometimes pretty easy. Golf courses are among the most scenic and beautiful landscapes to be found anywhere and we've all found ourselves stood out on the course looking at a spectacular view that reminds us why we are in this profession.

Sometimes you need to do a more professional job, however. Whether it's taking images for your golf club's website or for social media purposes, here are a few things you can do to make your images really pop.

RIGHT GEAR

I use a Canon 6D, with a 24-105mm lens. It's not top-of-the-range gear and I sometimes hire in specialist kit when I need something extra, but it's sufficient for my requirements. If you're looking to take your photography to the next level, there are plenty of entry level options that will help you take professional looking shots, like the Canon 4000D.

It's a photography cliché that lenses trump camera bodies, but it's a cliché for a reason. If you have to choose, invest in your lenses ahead of your body, and you'll see the difference in image quality. It's also worth experimenting with different types of lenses. A 15mm wide angle lens will give you a vastly different image to a 200mm zoom, and will make you think about where you are positioning yourself to get the best photograph.

WHAT ABOUT MY PHONE?

Smartphones absolutely have a place in photography and perform strongly in well-lit situations or when you can get close to your subject, but that means they are not always the best option at sunrise or sunset.

They are also designed to take pictures that look great on your phone, which is perfect for social media use, but that doesn't always scale up to a bigger screen or if you ever want a decent print. While a big attraction to phone

photography is the ease of use, there are still some helpful customisable settings, so it's worth taking some time to learn how to use your phone camera properly.

COMPOSITION

There are some fundamental rules, like the 'rule of thirds', that are always worth bearing in mind. On the golf course, always try and think about what the main focus of your image is. Occasionally you'll just be trying to document a huge scene, but usually you'll be capturing something in particular.

In that case, try and guide the viewer's eye towards the subject. That might mean shooting from the side of a fairway towards a green, with a path in the foreground winding towards the flag. Or from behind a green, with the pin in focus at the front of the image and the hole disappearing away in the background. Water hazards are great for providing interesting foregrounds, especially if it's a still day and you can capture a reflection.

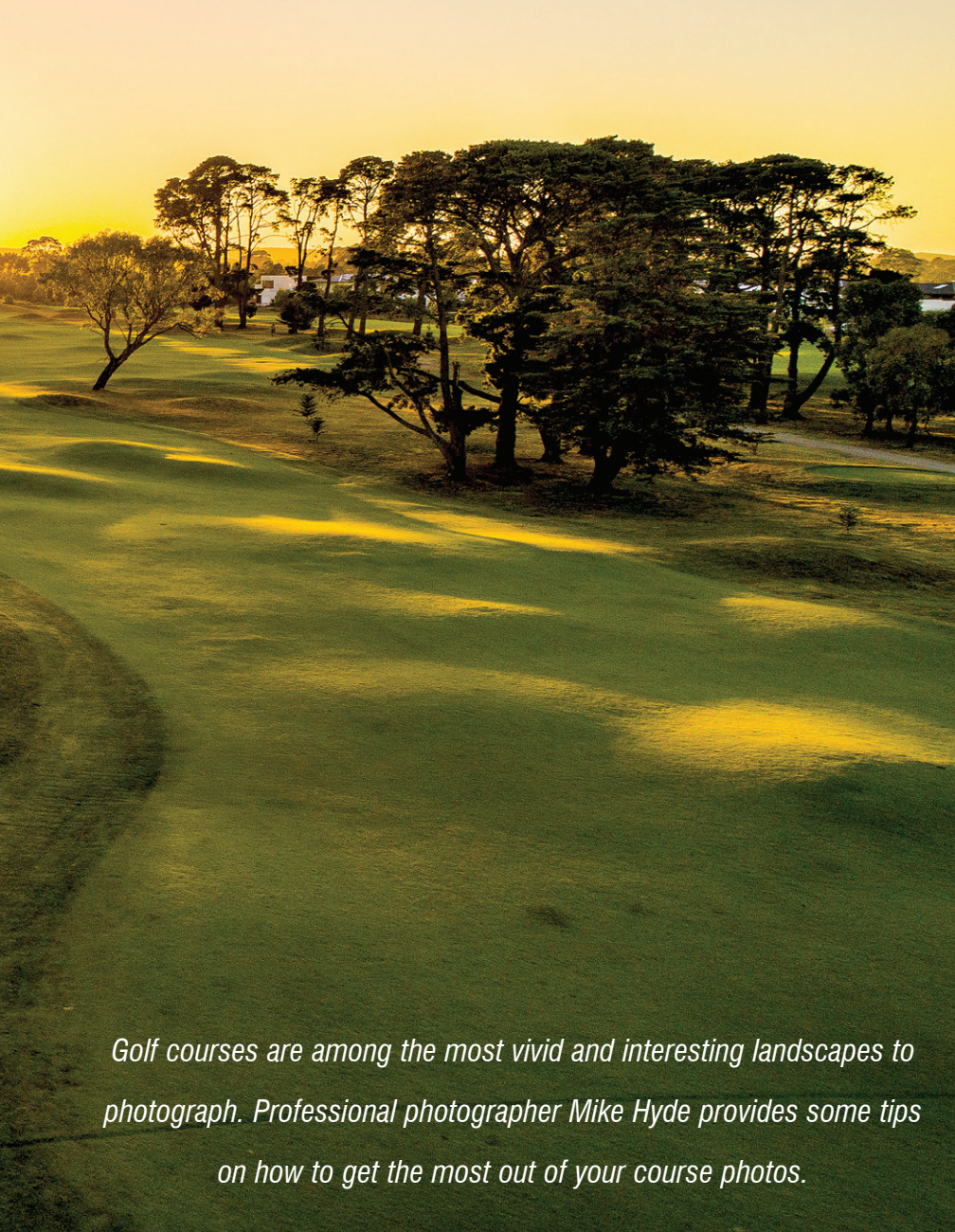


PHOTO: JEFF POWELL – BALLARAT GC

Golf courses are among the most vivid and interesting landscapes to photograph. Professional photographer Mike Hyde provides some tips on how to get the most out of your course photos.

INTERESTING ANGLES

When I'm visiting a new club for a shoot, I'll always seek out the advice of the course manager and their team on interesting places to shoot. I usually get a shot that I wouldn't have done otherwise, so make the most of your local knowledge.

One tactic that seems to catch out people who think they know courses inside out, and which makes your imagery stand out, is to photograph one hole from a position on a different hole. It sounds obvious, but a lot of 'amateur' photography is taken from the middle of the fairway, which often isn't a particularly interesting angle. It also feels instantly familiar to anyone who has played the course. Shoot from an adjacent fairway, the next tee, from one green to another, and you'll find yourself creating images that feel unique.

TIME OF DAY

Greenkeepers have a distinct advantage over everyone else, by typically being on the course

during the best light of the day. Golf courses look completely different in 'golden hour' light – around one hour after sunrise or before sunset – and shooting at this time will really elevate your shots.

It's also amazing how quickly the light changes at that time of the day, and it can sometimes be worth staying in one spot for a little while. A couple of minutes' patience can be the difference between an average picture and a great one.

POST-PROCESSING

While I do my best to capture the scene as accurately as possible 'in-camera', I never submit images to a club that I haven't edited in some way in post-processing software. I use Adobe Lightroom and Photoshop. The former allows me to play with brightness, contrast and colours, so that the image reflects what my eyes were seeing on the ground. I then use Photoshop to edit out any major blemishes or unsightly objects (e.g. signage, bins). Both

Adobe applications are also available for mobile and while it adds to your workflow it will stand your images apart.

WHERE IS THE LIGHT?

Shooting into the sun rarely works out, although sometimes you can get lucky. It usually helps to be shooting with the sun coming across you, to highlight shadows and contours. Taking pictures with the light directly behind you presents another challenge, especially at dawn or dusk, as you'll find your shadow starring in all your pictures!

RISE ABOVE IT

As well as interesting angles, it serves to get a bit of height into your photography. I always have a buggy for getting around the course and find that climbing atop that gives me enough height to make a difference. It's often easy to find higher ground on the 18th at most courses, as you can usually find a spot in the clubhouse that gives you a cool perspective. Around the course you may have to get creative. Sometimes that means just finding a hump or bump on the course. Fairway bunkers often have elevated lips that get you a couple of feet higher.

Of course the ultimate in gaining some elevation is through using a drone. It's not uncommon these days to find course staff who have one and they are certainly worth investing in. Conversely, sometimes it pays to get as low as you can and shoot up. This works really well if you've got big trees in the background for a sense of scale or if you want to highlight the quality of the turf.

SET YOURSELF CHALLENGES

Even if you're just shooting for fun, it's a good idea to set yourself little challenges to keep your creative juices flowing. Try taking photos...

- That don't have a pin in them – the hole is the focal point of golf, so finding something else can be harder than you think.
- In black and white – golf looks a lot different when you don't have colours to sing for you.
- In portrait orientation – courses lend themselves to wide vistas, so finding angles that work top to bottom is great fun.
- At a fixed focal length – say 50mm, so you have to move yourself to find the right composition and not just zoom in or out.

ACKNOWLEDGEMENTS

ATM thanks Karl Hansell and BIGGA for allowing the reprinting of this article. Mike Hyde is from UK-based Carefree Golf Photography. 🏌️

Maxtima® Fungicide

Welcome to the dawn of a new era

Spring and summer 2021/2022 mark an exciting time for course superintendents. The much anticipated follow up to the outstanding BASF fungicide Lexicon® Intrinsic® Brand Fungicide will be arriving, and once again the bar is set high. Maxtima® Fungicide (powered by Revysol® Technology) further underlines the intention of BASF to be a bigger, broader and stronger part of the Australian turf industry, providing genuinely innovative solutions that will make a material difference to turf managers everywhere. Nuturf is the only place you will find it and even better news - more is planned to follow.

The recent registration of Maxtima fungicide is the culmination of many years of development work that has occurred quietly but with purpose across the globe. Prior to local trials occurring here in Australia, an impeccable foundation of knowledge on the product was set as Maxtima progressed through the US university trial programs. Here the product has been evaluated across diverse geographies, turf types, environmental conditions and disease pressures allowing a thorough characterisation of its potential, especially on sites and under conditions that mirror our key markets in Australia.

New active ingredients that arrive in turf often have their genesis in agricultural targets, and the size of those markets and their importance to global chemical manufacturers mean there is a normal order of commercialisation commencing with agriculture, and then progressing to turf. Sometimes however they run in parallel based on strategic priorities of the manufacturer, and fortunately for the Australian turf market this one is a case in point. Turf has received equal priority and we therefore are seeing registrations earlier than we may have otherwise.

This article has been provided to share some insights gained by three key US researchers relevant to Maxtima's future use in Australian turf. An important point to share in offering this development information is when products are provided to the US programs for evaluation their specific identity (name / chemical family / MOA type) is often not initially disclosed. Manufacturers will provide guidance and suggest key diseases of focus but equally allow the products to 'get the works'. This provides a fairly brutal assessment of product potential and allows testing under all conditions with no bias. The feedback and characterisation are then all-encompassing and thorough.

First, from the transition zone:

Dr. Jim Kerns (NC State):

"We have worked with Revysol (Maxtima) – without knowing what it was – since 2013 or 2014. Initially we worked with the products as numbered compounds and the first diseases we tested were dollar spot, brown patch and anthracnose. Our first observations were strong in that the products provided excellent control of these three diseases. We continued to work with these diseases and started expanding into other diseases such as spring dead spot and take-all root rot of ultradwarf bermudagrasses."

"When we finally learned it was a DMI, we were shocked. We had applied this material to creeping bentgrass and ultradwarf bermudagrass greens during periods of the year where other DMIs are usually phytotoxic but we hadn't observed any phyto damage. Honestly, with the flush of new SDHIs, we were happy that a new DMI was being introduced especially one that did not result in phytotoxicity because many supers were moving away from DMIs in general."

"We have a unique system here at NC State where we develop testing protocols specific to what the companies tell us about the product and they vary widely for each disease. In this case we typically made 4 to 6 applications of Maxtima for diseases like dollar spot or anthracnose, but only two to three applications for diseases such as spring dead spot or take-all root rot. We also varied how the products are applied based on the disease."

"For example, we irrigate fungicides in immediately after application when targeting diseases that affect the roots and stems like spring dead spot and take-all root rot. We have found that Maxtima is an excellent fungicide for dollar spot, anthracnose, spring dead spot and take-all root rot. The major observation is we did not see any phytotoxicity associated with Maxtima applications in any scenario we used. We applied the fungicide in fall, winter, spring and during the extreme heat of summer and observed no adverse effects. I think these products will provide an excellent tool to complement the current suite of SDHIs and other products. These products have a broad spectrum of activity and can be inserted into programs easily and offer flexibility as we have not observed phytotoxicity with Maxtima like we have with other DMIs."

First, from the South:

Dr. Bruce Martin (Clemson University):

"I started evaluations on what turned out to be Revysol (Maxtima) fungicide for dollar spot and brown patch in 2014. We also did an initial look at the growth regulation potential on ultradwarf Bermuda grass. Our later evaluations included efficacy for spring dead spot and take all root rot. I thought that we needed a new DMI, especially for soilborne diseases that did not regulate growth of bent, bermudagrass or other turfgrasses, especially for putting greens, so it was a pleasant surprise to find out that's what we had."

"Our trials were conducted on research greens or other turf swards (including zoysia) at the Pee Dee Research and Education Centre. We induced high disease pressure on the plots by inoculation and other methods. We use very accurate sprayers to mimic conditions on golf courses and greens are maintained similarly to golf course conditions. What we found was that the Revysol (Maxtima) fungicide active ingredient is the best DMI I have evaluated for many turf diseases based on effectiveness against a wide range of important diseases and due to the lack of detrimental growth regulation. So, it has low environmental impact and is effective. I think it offers superintendents many new options and flexibility for different diseases. So far these fungicides appear to work very well where DMI resistance has been documented for dollar spot with other products. Maxtima is also excellent for spring dead spot and take-all root rot. Last but not least, the lack of growth regulation means use can be timed best for disease control with no fear of detrimental effects to turf."

And, from the North:

Dr. Rick Latin (Purdue University):

"Dr. Renee Keese of BASF asked me to help look at a new technology (which turned out to be Revysol fungicide) so we included it in my fungicide research trials for several years, beginning in 2014 or 2015.

When I first learned that it is a DMI fungicide I was very interested because the DMI class is very broad spectrum and has efficacy against pathogens that regularly threaten cool-season grasses. The research trials included replicated field plots at a state-of-the-art turf research centre. Our trials were conducted on creeping bentgrass maintained at putting green and fairway height. Fungicides were applied as per protocols supplied by BASF. Some were applied preventatively and others curatively (after appearance of symptoms in plots)."

"The plots are evaluated at regular intervals to assess fungicide efficacy (disease severity) and turf quality. Our research trials were limited to the evaluation of Revysol fungicide activity against dollar spot."

Revysol performed very well in all trials conducted over the years—beginning when it was a numbered compound. Furthermore, we did not observe any of the PGR and phytotoxicity effects associated with current popular DMI fungicides, even when applied repeatedly to bentgrass greens during the heat of the summer. Maxtima offers superintendents a potent third-generation DMI. It is broad spectrum, so it will cover a lot of bases, including dollar spot and anthracnose, without the negative effects of conventional DMIs during stressful summer conditions."

For the Australian experience thus far:

Dr. David Elmouttie:

"The high levels of performance seen in the US has been mirrored in Australian efficacy trials conducted as part of the local registration initiative. Testing conditions covered the full variability along the Eastern Seaboard and in the West. Bent grass, ultradwarf couch, greens, fairways, sports fields, different height of cut regimes, high and low temperatures, soil and foliar applications – over numerous seasons and numerous years."

"Nuturf has worked very closely with BASF throughout the local development phase and is very excited about the addition of Maxtima to the expanding product portfolio of BASF, which this year, will also see the addition of Xzemplar™ Fungicide. Maxtima and Xzemplar, together with Lexicon Intrinsic Brand Fungicide, culminate to form Your Course's New Best Round, a collection of three ground-breaking chemistry combinations for the complete fungicide solution. Maxtima opens up new application opportunities with management strategies able to be expanded compared to the possibilities prior. The Australian situation for bent grass in particular has many challenges between December and February. A time when we may have liked to regularly reach for a DMI but possibly thought twice. Equally we have new diseases emerging and a great focus now being placed on very early spring soil applications as a key prevention strategy – for both bent and couch grass. The characteristics of Maxtima lend itself nicely to helping in these spots and times and there is every suggestion it will become a pillar of management programs in the future."

From dollar spot to anthracnose, spring dead spot to take-all root rot and take-all patch – we are looking at the dawn of a new DMI era.

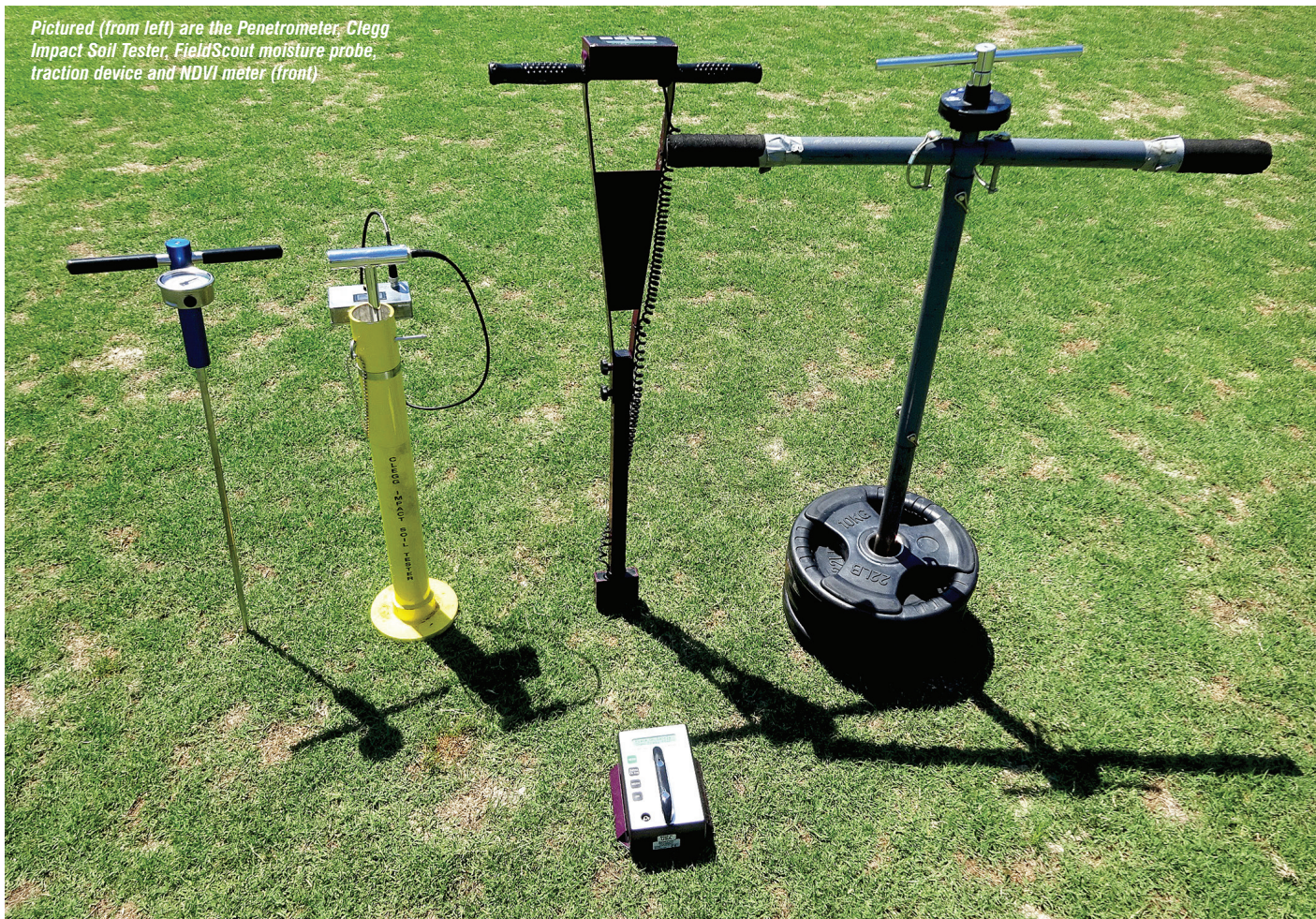
Maxtima was submitted to the APVMA in October 2020 with registration received in December 2021. Launched in the Australian market in January 2022, Maxtima is now available exclusively through Nuturf.



Speak to your local Nuturf Territory Manager or visit nuturf.com.au for more information on Maxtima®.



Pictured (from left) are the Penetrometer, Clegg Impact Soil Tester, FieldScout moisture probe, traction device and NDVI meter (front)



Measuring up

Sports turf managers have an array of assessment and monitoring tools at their disposal nowadays to assist them with the management of their turf surfaces. But as John Neylan writes, the key to any monitoring program is selecting the right tool, knowing what you're measuring and how you then use that information.

In my many years in the turf industry, the tools available for monitoring the performance and safety of all types of playing surfaces has increased considerably. These include penetrometers, the Clegg Impact Soil Tester (often called the Clegg hammer), soil moisture probes/sensors and traction devices. More recently the use of drones and satellite imagery provide another level of monitoring turf surfaces.

The tools are many and it raises two questions – what are the most appropriate tools and why are we using them? From my

perspective, monitoring turf surfaces has four clear purposes:

- Optimising plant health;
- Ensuring player safety;
- Optimising surface performance/playability;
- A decision-making tool.

SPORTS FIELDS AND PLAYER SAFETY

With the AFLW season well underway and an early spate of injuries making the headlines, the causal factors, including the quality of the playing surface, is again debated. Compared to the early 2000s when Andrew

Peart and myself were monitoring the quality of the playing surfaces for the AFL, it is now acknowledged that there are many factors affecting injury and not necessarily the single factor of the playing surface.

The early research of Orchard (2002) increased the awareness of surface characteristics and in particular surface hardness as it related to player health and well-being, especially player fatigue and post-game recovery. There was a strong emphasis placed on surface hardness with the Clegg Impact Soil Tester introduced as a regular monitoring tool.

The monitoring program for AFL venues was developed and adapted by the agronomists at AGCSATech, largely in response to the performance of the surface and questions raised by the users. In addition to surface hardness, traction became a key factor as it related to 'grip' and how this may relate to player injury and in particular anterior cruciate ligament (ACL) injury.

What has challenged the agronomists in evaluating sports fields is when the AFL take preseason games to the regional areas and using fields that are not necessarily prepared to the same standard. While the base factors of hardness and traction are important, it is also about the consistency of the surface.

Inconsistencies in the playing surface can create harder/softer areas or areas that have greater traction may create greater opportunity for injury. Variations within a field could influence the playing surface predictability and require athletes to make abrupt or frequent adjustments that lead to increased ground-derived injury occurrence. In the work of Straw et. al. (2018) they identified a potential relationship between field variations and ground-derived injuries, particularly in transition areas (e.g. between good and poor turf, shaded vs well-lit areas, cricket wickets vs outfields).

At a community field level, the argument is often made that the field "isn't the MCG". While this is a reasonable comment, it doesn't justify highly inconsistent surfaces where there may be loose/sandy areas or excessively hard areas (e.g. natural turf wickets and covered synthetic surfaces). During the Millennium Drought (1996-2010) there were numerous



The TruFirm has proven to be a good tool to monitor greens firmness as it changes across the seasons and in relation to soil moisture and surface preparation



The Clegg Impact Soil Tester is a useful tool to help determine surface variability and whether there are hard or soft areas that could contribute to injury

sports fields closed to AFL football because they were too hard and the Clegg Impact Soil Tester became the main tool for monitoring surface hardness.

There has been some research relating surface characteristics to injury on community fields (Twomey, 2013). The conclusions were not particularly clear, with the outcomes of the research being:

- The majority of injuries occurred within acceptable ranges for hardness and traction.
- Only nine per cent of injuries could be confidently related to the ground.
- Unacceptably hard/soft and higher traction were not significantly associated with injury.

In my experience of undertaking sports fields audits over many years, including AFL venues, the keys to a surface that represents minimal hazards are those that:

- Have at least a 90 per cent turf cover.
- Have no areas where the grass has been eroded and a loose surface is developing.
- Have a surface that is relatively even with no holes or localised depressions.

These are all easily achieved through good visual observations. So, where do the tools come in? The Clegg Impact Soil Tester and the soil moisture meter are useful tools in understanding the variability in the surface and whether there may be excessively hard or soft areas that could contribute to injury. Both tools are portable and numerous readings can be undertaken relatively quickly and therefore provide a good indicator of the data range and the standard deviation. It then provides a means of identifying areas that may require specialised treatments (e.g. vertidrainage excessively hard areas). The use of a drone with an NDVI camera can also provide an excellent 'map' of the turf, highlighting problem areas that warrant further investigation.

SPORTS FIELDS AND SURFACE PERFORMANCE

Over the past decade the number of sports field constructions and renovations has increased with the general aim of being able to cope with the increasing demand for playing surfaces and the increasing number of users. The challenge has been not only to construct better quality sports fields but also to be able to provide the necessary level of maintenance so as to optimise the hours of use.

The research of Neylan and Nickson (2019) concluded that to optimise the hours of use the following conditions are required:

- Constructed as a sand profile, with subsoil drainage and a couch surface.
- Maintenance must increase as hours of use increase.
- Summer is key to setting up the turf for the winter months.
- Good data collection on use including numbers and age of participants.



Green speed taken with a stimp meter is a useful measure in understanding the relationship between surface performance and maintenance practices



TABLE 1: SPORTS FIELD PERFORMANCE GUIDELINES

Parameter	Assessment Tool	Guidelines*
Turf cover and health	NDVI images and visual assessment	In the high wear areas of the ground total turf cover to be >98% start of season, >than 85% mid-season (end May/June). No bare patches >200mm diameter start of season, <10 bare areas >200mm diameter per field mid-season.
Weeds	NDVI images and visual assessment	For A and B class grounds <10% grass weeds, <2% broadleaf weeds. For C class community/club level grounds <20% grass weeds, <5% broadleaf weeds.
Infiltration rate	Infiltrometer	>100mm/hr for A grade grounds; >50mm/hr for B and C class club level grounds; >25mm/hr for general purpose grounds.
Thatch depth	Soil profiler	Less than 40mm.
Soil moisture	Soil moisture probe	Check uniformity of irrigation.
Surface hardness	Clegg Impact Soil Tester	Clegg readings should fall between 50-120 gravities (ideal range 60-80g). Above 150g is considered at high risk.
Surface levelness	String line or straight edge	<100mm variation under a 5m string line. No holes that are greater than 100mm x 100mm and 50mm deep.
Soil compaction	Soil penetrometer	>100mm/500kPa

*Adapted from Establishing Performance Guidelines for Sports Fields in Australia. Draft document prepared by the Sports Turf Institute Nov 2011

With many community sports fields, frequent detailed assessments are not warranted, however, regular visual assessments are definitely valuable. In Table 1 (above) there are several key criteria outlined that can be visually appraised and provides a guide as to how the surface is performing and what future maintenance practices are required. Once a quarter or at the change of seasons is recommended as the minimum for undertaking a visual assessment.

Again, where do the tools come in? The Clegg Impact Soil Tester is an excellent tool to use as a pre-winter sports season assessment of the surface to make sure that it isn't too hard. This provides a benchmark for the field and importantly a preseason indicator as to what aeration and compaction relief is required to provide a compliant surface.

The soil moisture probe is a key tool during the summer to ensure that adequate water is applied and also efficiently. A quick check of soil moisture provides a guide as to any deficiencies in irrigation. It is also the only way to determine whether the amount of water being applied is actually wetting the rootzone.

Having observed soil aeration practices undertaken on community fields, it is often surprising as to how inefficient the process can be. A pre- and post-aeration check of soil compaction using a soil penetrometer will provide a quick confirmation as to how effective it has been.

For high performance community fields drone imagery is another useful tool to assess

the effectiveness of maintenance programs including wear management, fertility and water infiltration and drainage.

GOLF COURSE PERFORMANCE

A question often asked about a golf course is "how long before the greens will need to be replaced?". This question is often asked because other golf courses are rebuilding greens or there are new grasses available and a perception that the greens on other golf courses are better than ours. The reasons for



The soil moisture probe is a key tool to ensure that adequate water is being applied and provides a guide as to any irrigation deficiencies

replacing a green(s) can be due to numerous factors including:

- Poor design;
- Poor soil conditions;
- Inadequate drainage;
- Excessive organic matter accumulation;
- *Poa annua* infestation in bentgrass.

The need to resurface or reconstruct particular greens or even the need to alter the maintenance program must be based around measurable criteria using the available tools. Empirical measurements are important in demonstrating why or why not a green needs to be resurfaced or reconstructed. There are several key criteria, including measurements, that provide the base information for decision making. These include:

Age of greens: Once the greens reach 10 years they are at the critical point where the renovation and *Poa annua* control programs often need to be more intense. This is the first trigger point where factors such as organic matter accumulation, softer surfaces and increasing *Poa annua* can become a greater concern. This is a key time to use the available tools to determine where the greens are at.

Surface firmness: The requirement for producing firm, fast and true greens does become more difficult as greens get older. Surface firmness must be regularly measured and related to the soil moisture content and organic matter build up. A benchmark standard can be set and any green that fails to meet that standard on a regular basis can then be reviewed. **Tool:** The USGA TruFirm is a device originally developed for monitoring the firmness of putting greens during US tournaments. It has proven to be a useful and affordable tool to monitor firmness as it changes across the seasons and in relation to soil moisture and surface preparation.

Green speed: Measuring green speed is often debated as to whether it provides any meaningful measure or just creates an opportunity for comparison with other courses and potential criticism. However, in my opinion it is a useful measure to be used by the maintenance team in understanding the relationship between surface performance and maintenance practices. This information does not have to be shared! **Tool:** As a tool, the stimpmeter is well established and does provide an empirical measure of green speed, particularly where it is related to other measures such as soil moisture, firmness, mowing and rolling.

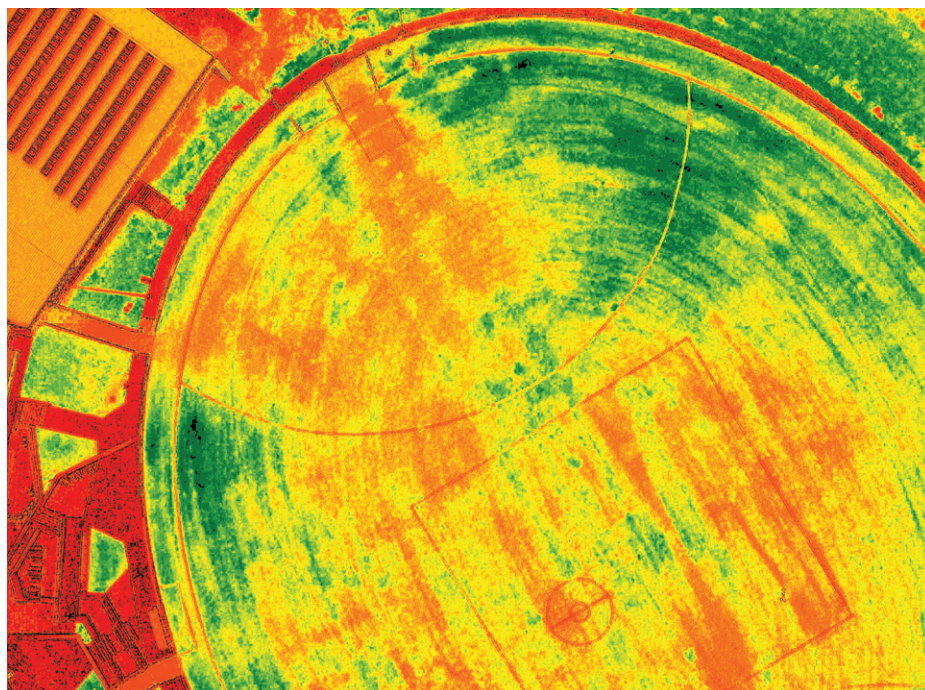
Soil moisture content: The soil moisture content in the upper section of the rootzone has a significant influence on the consistency and playability of the surface, particularly over

The use of a drone equipped an NDVI camera provides an excellent measure of turf stress

the winter months. Soil moisture is strongly related to the accumulation of organic matter and surface firmness. Increasing soil moisture results in softer surfaces, more pitch mark damage and the invasion of *Poa annua*. Soil moisture is easy to measure and correlated against surface performance. **Tools:** There are several useful soil moisture probes including the FieldScout TDR, HydroSense sensor, POGO and the MP406 probe.

Organic matter content: As greens get older, they accumulate more organic matter which is responsible for holding excessive moisture, making greens softer and increasing the incidence of disease. Measuring organic matter content on selected greens provides an empirical measure of change and can be related to other measures for the greens. **Tool:** Soil sampling and testing by loss on ignition.

Clipping volume: Superintendents have always kept an eye on the amount of grass clippings removed each time putting greens are mowed, but there has been a growing trend toward taking more careful measurements of clipping volumes (Waters,



2019). This is because the growth rate of the grass has a big impact on playability and maintenance planning. As an example, Hartweiger (2019) monitored the relationship between clipping volume and green speed.

Tools: A container and time!

GREENS ACTION PLAN

Developing a greens action plan is a proactive approach that creates benchmark criteria for the likes of green speed, firmness and organic matter around which regular assessments can be undertaken. The data collected can then



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TABLE 2: BENCHMARK STANDARDS FOR GREENS

Characteristic	Tool	Benchmark	Action
Age of greens	N/A	>10 years	Resurface if organic matter and <i>Poa annua</i> exceed maximum threshold
Surface firmness	TruFirm or Clegg Impact Soil Tester with a 0.5kg weight	<0.4 inch (TruFirm) >80 gravities (Clegg)	Where readings exceed the benchmark, review organic matter content, soil moisture and sand dusting
Organic matter content	Loss on ignition	0-2cm <5% w/w 2-4cm <4% w/w 4-6cm <3% w/w	Where organic matter content is exceeded, review sand dusting and renovation program
Soil moisture content	Soil moisture probe	<25% v/v 24 hours after rain (7.6cm times)	Where soil moisture is exceeded, review organic matter content and sand dusting program
<i>Poa annua</i> content	Visual	>5%	Review <i>Poa annua</i> control program
		>15% or control programs fail to provide required outcome	Resurface green

be used to modify and monitor maintenance practices and, with the appropriate planning, provide definite indicators as to when it is most appropriate to resurface greens. Typical benchmark standards and actions required for greens maintenance are detailed in Table 2 (above).

DRONES

Drones have become a tool for many turf managers to provide an 'all in one' overview of turf areas whether they be sports fields, golf courses or racetracks. This overview of the turf can often highlight developing problem areas that are not as easily identified at ground level (Macphee, 2017). Normal images can highlight problem areas, however, with the use of multispectral cameras potential turf problems

can be identified before they are apparent to the naked eye.

The use of an NDVI (Normalised Differential Vegetation Index) camera provides an excellent measure of turf stress. The NDVI camera measures light adsorption and reflectance of turf surfaces and is a simple indicator of a photosynthetically active biomass and vegetation health. Actively growing plants show a strong green colour whereas turf that is under stress is reflected by yellow to red (see NDVI image previous page). This allows the early identification of many turf issues such as wear patterns, poor irrigation performance, tree interactions with turf (including competition from roots and shade), weeds and diseases.

The development of drone technology provides the ability to regularly monitor turf

health and to pinpoint areas that require treatment. The use of drones has the potential to reduce the time and costs involved in monitoring and maintaining a turf facility. The images produced over time provide an excellent method of demonstrating to senior staff and committees the issues that are affecting turf condition and surface quality.

It is important to note that while the images provide an excellent visual of the problem areas, they still need to be verified in the field using other tools such as soil moisture probes, light meters and soil penetrometers.

CONCLUSIONS

So, what can we conclude? There are lots of tools, but do we need them all? The key to any monitoring program and selecting the appropriate tool is to ask the following questions:

- What is the issue or problem?
- Is it about regular monitoring or a one-off audit?
- Who is going to review the data and who are we reporting to?
- What is the decision-making process based around the data? That is, what are we going to do once a threshold has been exceeded?
- Who will be responsible for collecting, entering and interpreting the data?
- Do we have the resources to collect and enter the data?

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It's all very well taking measurements, but who will be responsible for collecting, entering and interpreting the data and then acting upon it?



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Ringing the **survival** bell

ATM expert columnist Peter McMaugh AM discusses drought, turfgrass response and the role of rhizomes.

In the latter months of 2021 I received some documentation for review which was supposedly based around examining the drought hardiness of grasses. Its proposed definition included the following: *'The aim of the trial is to ensure the drought tolerance of a target turf variety compared with benchmark varieties. The trial should be designed to subject the plots to increasing water stress for a period of 21 days or until 50 per cent of the turf in a plot has browned off or died, whichever is sooner'.*

My immediate reaction was to say that 21 days without water did not constitute a drought, regardless of species and soil type.

The context of this communication was a normal home garden situation, so perhaps my reaction was too swift. I decided to cogitate on this a bit more.

It seems to me that the major factors affecting drought, apart from the length of time without rain, are:

- Is the grass cool- or warm-season?
- What the soil type is in which the grass is growing?
- How well-established the grass is?
- What season of the year it is?
- What climate zone it is in?

When I look at the differences between warm- and cool-season types, the outstanding

structural feature is how the stomate cells are structured and controlled. The relative number of stomates per square centimetre in the leaf surface is also important. The orientation of the leaves in a grass sward also has an influence on how quickly the sward loses water to the atmosphere.

When we try to evaluate these influences of the grass sward rather than looking at individual plant structures, we quickly arrive at the interface we have with the irrigation demand of grasses to perform to the required quality level, which is different for every level of use, from high performance sport to roadside use.

Left: When water stress causes the senescence of the outer leaves, then the effects of water stress can be attributed to droughting. This is one of many observable plant reactions to water stress such as leaf rolling or folding, or showing other signs of wilting such as colour change

Most of the studies that have been done to evaluate the needs of the irrigation industry have been done on high performance golf course turf rather than down the line where lesser levels of perfection are in demand. Does that need to be taken into account? Yes, it does. But how do you interpret it? The literature here is quite large and there are many differently designed experiments looking at providing much the same data. You would expect to see a much greater uniformity in the literature than you actually find. Why is this?

At the last International Turfgrass Research Conference at Rutgers University in 2017, one of the keynote papers was given by Dr Tim Colmer from the University of Western Australia. He examined just this point and his conclusion was that it was very difficult to compare many of these papers because they didn't start from the same premises. I also have another problem with the methodology used in many of these studies that have used lysimeters as their basic measuring device. Unfortunately lysimeters in general are only useful for studies of rootzones of restricted volume. Let me be quick to say that this is about how grasses perform, not irrigation systems.

With today's technology, which takes advantage of the huge improvements in electrical devices, we can do continuous mapping of moisture content on a soil profile to whatever depth we choose. This reflects the whole soil/root volume relationship and gives us a much better picture of the true water extraction for any grass type.

Water use rates of various grasses are generally given as their relationship to a Pan A class evaporation dish. The local climate of the area will play a very big part in what the Pan A rate will be and when you are looking to design an irrigation system you need the data for that site or for a site very close by. Another very important factor for the designer is the infiltration rate of the natural soil. This in turn can be raised at sites which have been amended with compost, poultry manure, wetting agents and effluent water.

WHAT IS DROUGHT STRESS?

When we look at the plant's reaction to withdrawal of water there are many more factors that need to be taken into account than just water availability. So what does constitute a drought situation? Most turfgrass scientists rely on the level of stress in the plant where the outer leaves start to senesce and lose colour. In the USA they use the word 'firing'



Fine fescues are needle shaped and with drought stress roll in to become more needle shaped. This helps to very quickly shut down water loss

to describe this. Personally I find the term 'firing' irritating and I much prefer the word 'senescence' which scientifically has a specific meaning.

When water stress begins to cause senescence of the outer leaves, then the effects of water stress can be attributed to droughting. This is normally just one of many observable plant reactions to water stress such as leaf rolling or folding or showing other signs of wilting such as colour change. The ultimate drought damage occurs when the plant reaches wilting point. This is the point at which, if the plant does not receive water, it will die.

When plants use their various resources to minimise their water loss, then they are in drought stress and the term used to describe these actions to minimise water loss is called 'drought avoidance'. When the plant has come to wilting point it may or may not recover when it receives water. It can only recover when it still has carbohydrate reserves hidden away in rhizomes or very thick roots. This gives grasses with rhizomes a huge advantage in recovery from the effects of drought.

At a cellular level the plant is dead when the membrane at the cell wall breaks down and cannot be revived because its structure is destroyed. I hope this clarifies what the effects of droughting are and the definition of drought stress is when senescence of plant tissue begins to be visible.

RESPONSE TO WATER STRESS

Let us then return to how cool-season and warm-season grasses respond to water stress. It is generally accepted that among the cool-season grasses the fine red and hard fescues are very hardy grasses and that environmental stresses of any kind, even shade, don't phase them much. Why is this?

The first key comes in the shape of their leaves and the way that they react to water stress. In the fine fescues they are needle shaped and with stress roll in to become more needle shaped. This helps to very quickly shut down water loss. It shuts down photosynthesis also but at this stage that is a minor concern. We are ringing the survival bell.

The tall fescues are a totally different kettle of fish. Their survival depends again on their anatomy because they store a lot of carbohydrate in swollen bases of their tiller. One or two of the many different gene pools of tall fescue also produce rhizomes and these are the ones that come from North Africa and Turkey where the rainfall is both sparse and unreliable.

There is not the slightest doubt in my mind that rhizome production is the key to long-term survival in all grasses. The most notable cool-season type to produce rhizomes is Kentucky blue grass, *Poa pratensis*. Kentucky is not its place of origin, rather it comes from the north of Germany and Poland. The vast flat plains of those areas are cold, cold, cold in winter and freezing damage to plants is way up on other areas of Europe. It is the rhizomes plus its major reproduction system which is apomictic that allow the superior clones to dominate in the survival stakes.

Freezing at sub-zero temperatures down to 30cm in the ground is just another form of droughting. It is another way of producing extreme water stress. One of the most amazing freeze avoidance mechanisms in plants is the ability of some species to produce antifreeze in their plumbing and so have avoidance of drought stress (freezing) in their armoury.

The brilliant biologist Professor German Spangenberg of La Trobe University in Melbourne long ago isolated this gene from a



"There is not the slightest doubt in my mind that rhizome production is the key to long-term survival in all grasses." – Peter McMaugh

species of *Deschampsia* on Macquarie Island. If this had successfully been transmitted, to say bermudagrass, think of what an amazing spread of the ecology of *C. dactylon* that would be possible. Why hasn't it happened? No money and no imagination and perhaps also the greed of universities over IP. Just imagine if the huge areas of the USA where *Poa pratensis* is grown were given over to bermudagrass with water savings of 30 per cent, what would we be doing for climate change?

Let us come back again to the reality of Australia. We have unarguably the driest continent on earth and yet we lag behind countries like Israel on drought research and managing of our precious water resources. Here in Australia we have what I consider the best gene pool of bermudagrass in the world for turfgrass use.

We also have here at the University of Queensland a great scientist/plant breeder in Dr Chris Lambrides whose research group have thoroughly explored the definitive drought research on bermudagrasses that tells a very simple but dominant story – no rhizomes, no long-term drought survival. If this was the only attribute that rhizomes give you then it would be enormously beneficial. But it gives you much more, especially in the areas of production turf in crop turnaround times, but also in making the renovation requirements of bermudas much simpler.

Is that all we need to know about the rhizome story in turf? No. Because how successful they are depends on exactly at what structural level they are produced in the soil profile. In terms of simple long-term drought survival, where they are in the profile does not matter, but if they are to be successful as turfgrasses it matters a great deal where they are positioned.

The majority of rhizomes have to be growing horizontally within the top 50mm for

the best results. At up to 75mm deep they will still play a meaningful role, but below 100mm their active role in turf quality disappears. Obviously the deeper they are in the profile the more protection they have against drying out and overheating, so a well-balanced mix of shallow and deep rhizomes works best of all.

One fact that my observational research has shown out very clearly is that there is a huge difference between the rhizome production of the triploid hybrid bermudagrasses, beloved by US breeders, compared with the *C. dactylon* types from Australia which have comparable fineness and density but much more massive rhizomes.

In the hotter parts of Australia, warm-season grasses have a huge advantage over cool-season grasses. The crop factors in general use in the irrigation industry can be as high as 1.2 for cool-season grass in hot dry conditions, while warm-season grasses can clock in at between 0.6 to 0.8.

When we grow cool-season grasses in sand, they can develop quite extensive root systems to exploit all the water stored deeply down in the profile. However, they will never reach the enormous depth that couchgrass can achieve, with depths of 3m not unusual.

Loam type soils, from sandy through to clay loams, when they are well structured with plenty of organic matter in the profile, often contain the most available water for plants in their profile. They can also carry it to great depths.

When you get into clay soils the water story becomes much more complex. Clays can store a lot of water but they hold it much more tightly. You need very strong roots to penetrate clays. Because you use a lot more energy developing roots in these soils, the root depth will generally be shorter than in other soils.

While clays hold more nutrient and more water, they are very susceptible to compaction

by traffic, especially when wet. What all this means is that you need to be aware of not only the soil texture but also the compaction status of any soil on which you are carrying out experiments with grasses for water use and droughting. Overall sands are going to exhaust their water supply long before clays. Normally clay soil plots will be the last to wilt.

The time grasses take to get established varies greatly and trying to assess their performance long-term can only be done in a long-term experiment. There is no more definitive expression of this than the famous long-term nutrition plots at Rothamstead in the UK. There is a benchmark and it is Rothamstead.

I have been guilty of using short-term experiments that don't last long enough to let the full genetic expression of the grass develop. Two years ago I ran a growth trial for Plant Breeders Rights purposes and I collected a lot of data on rhizome expression of various grasses. I kept a few reference pots and the rhizome expression on a two-year-old pot is much different from a one-year-old. When I want to look truly at long-term rhizome development I will have to track it for at least two years to get the full picture.

The season of the year is again critical in establishing plots. You can't get meaningful results without healthy mature grass in your pots or plots.

You have to be very careful in drawing conclusions from only one data zone which does not reflect the whole environmental consensus. I know this sounds trite and obvious. The US Department of Agriculture-run NTEP trials in the USA are a classic case of people growing grasses in a multitude of climates and then trying to draw statistically relevant comparisons about different grasses in different years. You certainly need data from as many varied zones as you can get, but comparison then becomes a statistical minefield.

Sometimes in these scenarios one grass will stand out as a superior performer in many of the environments. It might become a benchmark variety, as Tifway has become for the USA, but don't claim it is *the* benchmark for the whole world.

So after a long wander through what influences water use rates and what a drought means both in end result and in how you feel as you travel there, I asked 'was 21 days without water a drought event'? You have to say 'yes' if it is a bentgrass green in Alice Springs in mid-summer, but no if it is a backyard in Melbourne in mid-summer. Finally, I questioned why these people wanted to use drought as an evaluation mechanism, when really what we want to know is how grasses perform on limited water supplies. The best answer is to do that and find out. 🌱

MACDONALD

CREEPING BENTGRASS

Macdonald Creeping Bentgrass

- Superior creeping bentgrass for putting surfaces
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Macdonald creeping bentgrass (DLFPS-AP/3018 or AP-18) is a versatile creeping bentgrass for putting surfaces. Named for Charles B. Macdonald who is considered the Father of golf course architecture, a cultivar named for him should demonstrate superior performance, and this one does.

Developed by DLF Pickseed and Rutgers University, Macdonald enables golf courses to be maintained with lower inputs and yet produce a superior product. Macdonald was developed for high resistance to many diseases including Dollar Spot, Anthracnose, Brown Patch and Pink Snow mould.

Planting and Maintenance

Seeding Rate	Oversowing: 500 g/100m ² Establishment: 800 g/100m ²
Germination	5-10 days
Mowing Frequency	3-7 times per week
Nitrogen Required	Low
Endophyte Enhanced	No

Ratings

	Poor	Excellent
Turf Quality	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
Turf Wear Quality	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
Spring Greenup	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
Dollar Spot Resistance	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
Establishment	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	■ ■ ■ ■ ■ ■ ■ ■ ■ ■

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High counts of plant parasitic nematodes, in particular sting nematode, can add to summer pressures on bentgrass greens which are already under heat stress

Heat on out

West

Christmas 2021 was one out of the box over in the West. Consider this run of temperatures in Perth if you will... Christmas Eve 39.7°C, Christmas Day 43.1°C, Boxing Day 43.3°C, 27 December 40.6°C, 28 December 41.5°C and 29 December 39.5°C. That equates to a six-day average of 41.30°C. So much for a relaxing Christmas at home for course superintendents and sports turf managers. A heatwave over Christmas, when public holidays reduce the amount of working days, can be tricky when all hands on deck are needed to keep greens alive.

Roll on the two hottest months of the year based on long-term averages – January and February. From 18 to 23 January Perth saw a record six days straight of temperatures over 40°C, with a six-day average of 41.6°C. As I write this article (*from the pool – Ed*) in early February it is 39°C after a minimum overnight temperature of 26.5°C, with a forecast top tomorrow of 42°C.

It was late November when the first warning of what was to come arrived, with four days of over 32°C and a high of 37.4°C. It wasn't too severe and no true indication as to what was going to be an unwelcome Christmas present. In November there was also a very wet day with over 40mm of rain

Despite a slow start to spring and summer temperature-wise for turf managers in Western Australia, the past few months have more than made up for it writes ATM columnist John Forrest.

helping to top up soil moisture levels. Perth has gone on to have just 3.6mm of rain since 23 November 2021 with no rainfall at all in January and a daily average evaporation rate of 11.2mm.

Being 'water wise' plays an important role ensuring that irrigation systems are meeting specifications and application rates are altered to meet plant and extraction guidelines. Those clubs with new efficient irrigation systems cope better, but those that have aging systems and less staff are struggling.

The global warming impact on Western Australia is projected to see increasing

average annual temperatures. Annual rainfall is predicted to decline in the southwest of the state, while a status quo is likely to prevail in northern and central parts. Hot spells of temperature extremes are likely to increase and that includes maximum and minimum temperatures (*Agric.wa 2021*).

For the golf course industry, if such future predictions of a dryer and warmer climate are correct, it raises the question as to whether managing bentgrass putting surfaces in Perth is going to be sustainable in years to come. It is understandable that golfers want and are used to the texture and fineness that bentgrass greens provide. There are warm-season grasses that produce a tight, even putting surface, but are they a viable alternative?

Paspalum vaginatum has been used in WA on several occasions on golf greens. During the warmer weather it performed well and as long as grooming and dethatching was maintained the putting surface produced was very good. However, as temperatures decreased the grass did not have enough growth to recover from wear or damage. Tifdwarf, along with Santa Ana, have been trialled on golf and bowling greens and the problem of the slowing of growth over the winter stops the likelihood of a club in south WA converting to them.

In Geraldton, 420 kilometres north of Perth, Spalding Park Golf Club presents *Paspalum vaginatum* at a high standard. Table 1 (below) shows an approximate two degree difference in temperatures during the winter months between Perth and Geraldton. If global warming continues as it is predicted, then warm-season greens may be the future for clubs in south WA. I'm sure if there was a breakthrough by plant breeders resulting in a *Paspalum vaginatum*, *Cynodon dactylon* or *Cynodon dactylon* x *Cynodon transvaalensis* with a fine leaf for golf greens and the ability to grow through winter, change would occur.

STRESSED BENT

Pre-Christmas, dry patches started to occur regularly and hand-watering became the norm for many clubs through the south of the state. Wetting agents certainly helped, with many courses injecting these direct into their irrigation systems. On greens they were also applied by boom spray and via hand watering.

Green design under these extreme conditions becomes a critical ingredient as micro-environments can increase pressure on bentgrass greens. Since COVID has arrived in WA, golf participation has increased as a result and so has the compaction on greens, adding to the management complexity.

Micro-environments are interesting across a course and have a huge impact on the growing environment. Hot weather is one of the governing factors for micro-environments and often early dry patches can be a combination of factors of slopes, mounds and compacted areas.

Greens that have bunkers or features on the exit side channel player movement on and off the green instead of spreading the wear and compaction. Other areas that can show the first signs of stress are those with mounds or ridges that the mower scalps slightly and lap cuts.

A slope on a green where water runs off can be the start as can slight repellence in the soil. This scenario combined with hot weather and drying winds leads to the bentgrass going into survival mode. Turf thins and soil temperatures increase in the heat of the day and wet wilt can occur as water is held in the organic layer on the surface of the green.

In 2015, John Neylan presented research at the 30th Australian Turfgrass Conference in the Hunter Valley that showed bentgrass roots decline in soil temperatures above 25°C in the top 15cm (Huang et.al. 1998). Graphs



Greens that do not have natural air flow over them will suffer as moisture remains in the surface during the hottest part of the day. This green has the added issue of shade resulting in scalded turf

shown from a Perth green in January 2015 demonstrated that the majority of daily soil temperatures were above that amount. During January 2022 average maximum temperatures were similar, around 33°C. Minimum average temperatures in 2015 were slightly cooler at 18.2°C compared to 19.10°C in 2022.

PESTS AND DISEASES

Plant parasitic nematodes, in particular sting nematode (*Ibipora lolii*), add to the summer pressure on greens. One sample taken from a Perth course on 20 January 2022 that was suffering from stressed patches of turf had a count of 528 extracted from 200mL of soil!

Many areas that are weakened in the hot weather if sampled come back with pythium present, particularly on the roots, further compounding the problems as the weakened turf cannot recover. A curative fungicide is required.

In Perth the weather during these hot periods is not humid but the micro-environment on a greens surface certainly is. Greens that do not have natural air flow over them appear to suffer as the moisture remains in the surface during the hottest part of the day. If these conditions are to continue then a preventative fungicide program should be considered.

In recent years in Perth yellow patches of bentgrass can often be observed in greens, especially during the hottest month of February. These areas do not appear to be dropping out completely. An article in PACE

Insights back in 2000 highlighted that such an appearance was caused by the presence of cyanobacteria.

It is believed that the black slime that can be seen on the green surface is made up of trichomes which are cyanobacterium *Oscillatoria* (Gelernter & Stowell 2000). During the day these filaments remain low in the profile and are observed as a black slime. During reduced sunlight they can move up and in low cut turf can reach where the mower has cut the turf, exposing an entry point for toxins. The water source can be the carrier of the cyanobacteria and in hot dry weather where evapotranspiration rates are high and irrigation and hand watering is frequent, yellow spots can often be seen.

DISCUSSION

Bentgrass greens under the weather conditions that south WA is experiencing are becoming very difficult to manage. Essentially a grass is being kept alive when it should be dead. Understanding is required from golfers, managers and boards of the conditions and demands that are being placed on their greenkeeping staff in such circumstances. If greens have to be taken out of play to recover, it is a far better action than replacement. Reducing frequency of cut and lifting cutting heights are two actions that are often not well received, but are certainly necessary in a recovery phase.

Looking to the future, warm-season grass golf greens certainly need to be considered. It is a difficult move as a cool winter would certainly put up a road block. Golf course designers also need to work closely with turf managers to create surfaces that are sustainable, while funding or at least low-cost loans for golf courses to improve or replace ageing irrigation is also essential. 🌱

TABLE 1: TEMPERATURE COMPARISON

Month	June	July	August	September
Perth max temp	19.5	18.5	19.1	20.5
Perth min temp	8.6	8.0	8.4	9.6
Geraldton max temp	22.9	20.4	21.2	23.4
Geraldton min temp	10.2	10.2	9.0	9.3



From the day we are born we are communicating in some form or another. I do not think I ever could have appreciated how significant our communication skills are in life, nor how much they can influence our relationships, professional success and happiness.

Our communication defines our leadership style, how others feel when we lead them and determines the level of trust, respect and engagement they feel in being a part of our team. If there is one professional skill I would ask you to reflect on and develop, it is your communication.

Global entrepreneur and leader of the Virgin Group, Sir Richard Branson, believes the ability to communicate well is “the most important skill any leader can possess” and that communication is a skill that you can learn, “like riding a bicycle or typing.” He says, “If you’re willing to work at it, you can rapidly improve the quality of every part of your life.”

Why, how and when we communicate are factors that are closely tied to our mindset and emotional state. We make better decisions and communicate more effectively when we are balanced, show empathy and exercise control.

WHAT IS EMOTIONAL INTELLIGENCE?

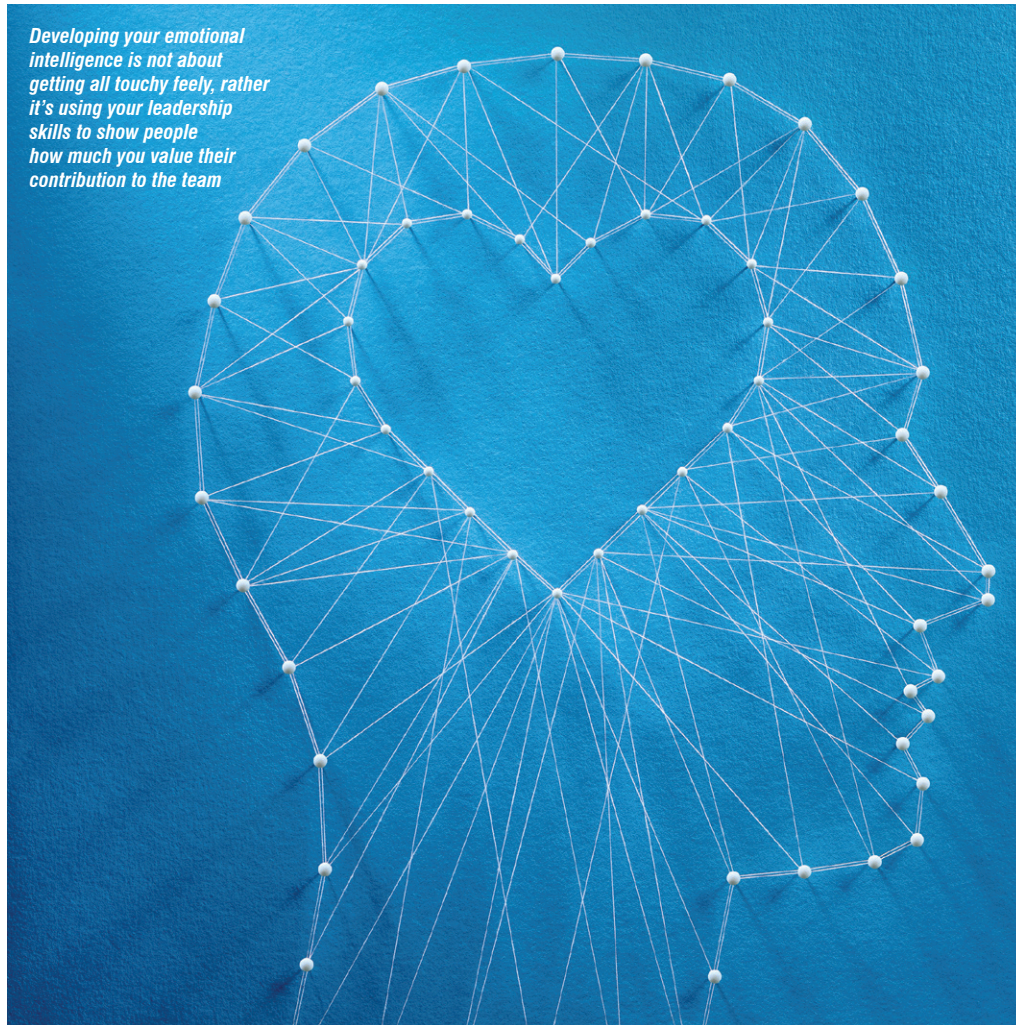
For years, the concept of emotional intelligence, or one’s ‘EQ’ as some like to reference it, and the development of so-called ‘soft skills’ (I really don’t like that term and will not use it again) such as communication, listening, time management and empathy, were considered of little value. They were deemed not worth getting in the way of the development of ‘hard skills’ – the ‘what we are doing’, rather than the ‘how we are doing it’.

For decades, the idea of empathy at work was dismissed, however, leaders are now realising the power of being able to develop and harness the power of exercising these attributes in the right time and place, to best benefit the team, culture and productivity.

Developing these skills is not about getting all touchy feely, nor about having to deal with people’s personal issues at work or providing a shoulder to cry on, but rather using your leadership skills to show people how much you value their contribution to the team. By developing your own emotional intelligence you can remain agile and adjust your leadership style to help people engage, improve and thrive. Remember, the better we are at helping others be the best version of themselves, we achieve the best outcome for them personally, the team and you as a leader. Win-win-win!

Psychologist Daniel Goleman changed the world’s thinking about the connection between

Developing your emotional intelligence is not about getting all touchy feely, rather it's using your leadership skills to show people how much you value their contribution to the team



leadership and intelligence when he presented his ideas on emotional intelligence in his book *Emotional Intelligence: Why it can matter more than IQ*. Goleman says emotional intelligence is “the capacity for recognising our own feelings and those of others, for motivating ourselves and for managing emotions well in ourselves and our relationships.”

Emotional intelligence is composed of four attributes:

- Self-awareness;
- Self-management;
- Social awareness; and
- Relationship management.

Managing your emotions, knowing and understanding your emotions, overcoming stress, increasing your ability to read social cues, understanding what provokes or triggers you emotionally and controlling your reactions are all measures of emotional intelligence.

You know that simple advice to ‘step away from the keyboard’ if you get a rough or poorly worded email, or if someone is critical on social media? This is a measure of your emotional intelligence and control. The temptation is to fire back snidely, with a derogatory reply to make the other person look ridiculous and yourself clever. Let’s do that, right? Maybe not. The controlled response

is to take a moment and consider the bigger picture. Think about the impact it will have on your team and how it will affect your vision for them. Ask yourself what might have prompted someone to confront you in that manner. Do they have a point?

This can be tough to do at the time, but put yourself in their shoes to try to understand their motivations. Did they have access to all the required information? Have they been given false or misleading information that has gotten them to this point? This approach requires control, but the vast majority of the time you will end up with a result (and probably a better-written reply) that benefits the team and reduces the likelihood of conflict, which often grinds everything to a halt and results in neither party ‘winning’.

Don’t get me wrong, sometimes people need and deserve to have things clarified in no uncertain terms! But do not make this your default approach. Instead, proceed with plenty of understanding, knowledge and certainty of your position.

You will often hear me say that 99 per cent of people get up every day looking to contribute, connect and be part of a team. Yes, I admit, I may be overly optimistic. Once or twice in life I have been burned by having this

Enhancing your EQ

Developing your emotional intelligence and improving your communication skills will help you to become a more effective leader writes ATM's management expert Ben Gibson.

approach to people and business, but I would rather continue to reap the benefits from the other thousands of positive experiences than become cynical and have my guard up all the time, which could cause me to miss out on the opportunities those trust-based relationships provide.

EMOTIONAL INTELLIGENCE AND COMMUNICATION

Developing the ability to control your emotions is an effective way of improving your communication skills, dealing with staff, presenting to a board or general manager, or even talking to your partner. Without emotional intelligence we get flustered, are unsure of the message we want to communicate and fail to use effective body language to maximise our impact (the body language we use can have a massive impact on the quality and effectiveness of our message).

Our emotional intelligence dictates our ability to listen, empathise and read the body language of others, allowing us to adjust our communications styles (language, tone, volume etc...) and adapt our message to increase the likelihood of a successful outcome. If we are too emotional to recognise these triggers and opportunities, we are

severely limiting our ability to successfully negotiate, diffuse potential conflict or identify win-win outcomes.

DON'T BE A YELLER!

If you have ever been yelled at or have seen someone else being yelled at in the workplace, was your first thought, "Wow, what an intelligent, confident and respected leader!"? Other than an emergency situation in which yelling can be quite appropriate, I assure you that your initial thought was probably just the opposite. If someone is yelling at work, my first thought is either:

- They have run out of (or do not know any) effective ways to communicate;
- They have lost control;
- They are anxious or threatened; or
- There is something else going on in their personal or professional life.

If someone does yell at work, it may be that they are hoping you will yell back. This is a victory for them. While it can be challenging depending on the situation, the calmer your response, the more powerful it is. This can show the individual:

- You are in no way rattled by their intimidation;
- Despite their flying off the handle, they have not impacted the outcome;
- You control the situation.

While bartending many years ago, I watched a highly emotional chef (they have a tough reputation in a tough industry) scream his lungs out at a 17-year-old girl working as a kitchen hand because she had not cleaned a plate he needed to serve a certain dish. I vividly remember expecting her to burst into tears and flee the kitchen, as most teenagers would be entitled to do. Instead, what she did that night taught me the very approach I am explaining to you now and which stays with me to this day.

In a calm, level voice with no trembling whatsoever, loud enough so that the rest of the team could hear, she replied, "I do not like

to be spoken to like that. You made a mistake earlier in the night that meant we ran out of these plates. Next time, I'll point out your mistake so it does not happen again."

Thus, she explained that:

- She did not like to be spoken to that way;
- As the chef himself incorrectly served a different dish earlier in the night on those plates (against his own strict instructions) they were still out on tables with diners;
- In the future, if the chef wanted his mistakes pointed out to avoid such a situation, she offered to do so.

It hit the entire crew for six as the restaurant had basically been living under this chef's regime and his blow-ups were frequent and very personal. We looked at the teen with a new level of respect, while we lost even more respect for the chef, whose communication with the staff changed from that night onward. He basically pulled his head in.

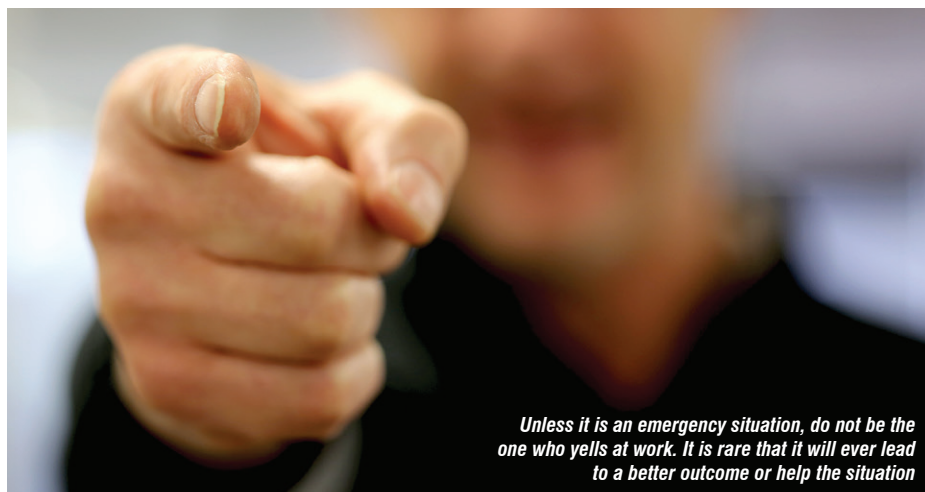
Unless it is an emergency situation, do not be the one who yells at work. It is rare that it will ever lead to a better outcome, help the situation, motivate anyone or improve your leadership (or the perception of it).

DEVELOP YOUR EQ

It can be quite enlightening to understand how your increased awareness of emotional response impacts the way in which you communicate, both verbally and non-verbally. Getting the handle on this better equips you to moderate the way in which you respond in your personal and professional life.

As many emotional reactions happen automatically, you may feel that they cannot be controlled. This is *not true*. Through reading, thinking and practising, you can work out your triggers, plan your responses – and better yet, harness your emotions – to be more effective with your communication. Ultimately, improving your emotional intelligence will allow you to be heard more accurately, to inspire and motivate others and to magnify your overall leadership impact and presence. ﷻ

PHOTO: POGONICI/STOCK-ADOBECOM



Unless it is an emergency situation, do not be the one who yells at work. It is rare that it will ever lead to a better outcome or help the situation



There are many solutions to growing your own fresh produce at a small facility and you will be surprised at what you could grow in a small space



From fairway to table

Could this be the future of how some golf clubs supply their kitchens with food? Do facilities open their doors, creating a community garden or collaborate with local schools to provide a space for an outdoor classroom. Once again, as an industry, we have a tremendous opportunity to promote the greenspaces we manage not only for golf but for the whole community.

In this day and age people are a lot more conscious of where their food comes from and are more aware of reducing waste. At the golf clubs where I have conducted sustainability audits, all the clubhouse chefs have expressed that it would be great to have a food garden onsite. Such a resource would provide customers with fresh produce daily, themed

Onsite gardens are a growing feature of many restaurants and cafes, providing their kitchen with high-quality fresh produce.

As environmental expert Kate Torgersen ponders, why not golf courses as well?

dinner nights, reduce costs and reduce the facility's carbon footprint.

More research and reports are being published on how much energy is used to produce and transport food from the farms

to consumers. When you sit back and have a think, it's pretty staggering to realise how many of the foods we consume daily could easily be grown at home or bought fresh locally. According to the CERES Farm Food Miles Report conducted in 2007, the first of its kind, the average Australian basket of food has travelled over 70,000 kilometres from producer to consumer. But experts say in some cases it's how your food is produced, rather than how far it has travelled, that's more important if you're considering energy use.

It is becoming common practice for many restaurants, cafes and venues to have their own garden onsite, providing their kitchen with fresh seasonal high-quality produce. In Melbourne, a rooftop carpark has been converted into a fully-functioning urban farm – dubbed the 'Skyfarm' – which is due to

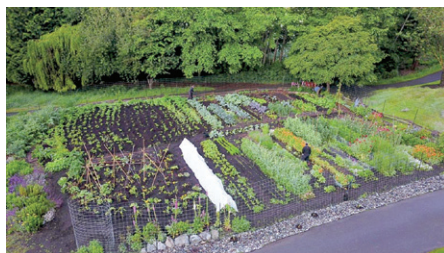


PHOTO: SOHO A STUDIO/ADOBESTOCK.COM

open mid-2022. The urban farm will feature a rooftop orchard, herb gardens, nursery and a sustainable 90-seat licensed café. It shows that if you can be creative enough, you can always find room for a food garden.

Many international golf courses have their own food garden. Cordova Bay Golf Club in British Columbia, Canada started off with just a small pumpkin patch in unused land next to their 15th tee. In the years since the club has expanded the initiative and now boasts three gardens over an area of 10,000 square feet (approx. 930m²) that make up the backbone of the 18-hole facility's 'fairway-to-table' program, generating fresh produce, flowers, honey and much more.

In a 2018 article written in GreenMaster, the official publication of the Canadian Golf Superintendents Association, Cordova



Cordova Bay's bountiful 'Veggie Patch'

Bay superintendent Dean Piller and head horticulturalist Emily Peltier wrote how their gardens have not only become an important source of produce for its restaurant, but a cornerstone of its identity as well.

"The initiative began to turn a small, unused portion of land beside our 15th tee box into a pumpkin patch," they wrote. "This was for general interest and beautification, and for the fall harvest to be used in autumn displays. Little did we know this would result in a major transformation of our horticulture activities and garden themes for decades to come.

"Year after year, the theme of this garden would change. We experimented with stands of barley and millet, and eventually turned the area into a wildflower meadow with poppies, lupines, Shasta daisy, foxglove and fescue. Over time, this meadow became overrun with weeds, which prompted us to return to the original idea of a theme garden that would produce pumpkins and other vegetables for various uses.

"This decision ultimately created the garden we affectionately call the 'Veggie Patch'. The garden has grown to be an important part of our identity, having laid the foundation for our entire horticulture program, which has grown bigger than we could have ever imagined." Google 'Cordova Bay golf garden' to read the full article through the GCSAA's GCM Online.

There is also a golf course on St Kitts Island in the West Indies – Irie Fields – that is known as an 'edible golf course'. The space transformed a sterile 200-acre environment into a productive ecosystem through the planting and production of fruit and vegetables, intelligent water management and sustainable maintenance practices.

GETTING STARTED

Setting up a food garden is very doable – it just takes a little bit of planning and dedication. What follows are answers to some common questions and queries that I have fielded in discussions that may assist in starting to get the ball rolling at your course or club...

We don't have room for a food garden...

There are many solutions to growing your own produce at a small facility and you will be surprised at what you could grow in a small space. There are so many raised garden bed

products on the market and buying a few of these will allow you to start a small veggie garden or even a herb garden.

We don't have the staff... The chef is too busy, we don't have enough staff to maintain the gardens... these are challenges that can be fixed by asking around at your club or facility. You will be surprised at how many green thumbs you will have among the membership and are willing to help.

I have the perfect large area, but where do I start? Planning your garden and preparing the site will be critical in ensuring you have a sizeable producing garden. Some things to consider include;

- What crops do you want?
- How do they grow? Do I need to stake them? Maybe they are prolific growers.
- What side gets the morning sun and what side gets the afternoon sun?
- Do I need to ensure the garden is protected from any local pests?

Once the planning is sorted, good preparation will ensure minimal competition from weeds long-term, while the correct soil amendments and composts will offer your garden all the nutrients it may require. Food scraps from the kitchen could potentially be composted and used back onto the food gardens, providing valuable nutrients while reducing food scraps being taken to landfill.

How do I find out what to grow? There are many guides for planting the right plant and when, or you may also be able to ask your local nursery. The 'About the Garden' website – www.aboutthegarden.com.au – has an excellent guide on planting summer herbs, fruit and vegies by regional temperate zones. Once you have a list of produce you want to grow, you can easily purchase seedlings from local nurseries or, if you wish, you can grow seedlings from any seeds you may be throwing away. Harvesting rainwater from your facility roof may assist in watering your garden through the hotter months.

My budget is already stretched. Are there funding options? Many local councils, state organisations and philanthropy groups offer funding to help create community gardens which may be able to help get such a project off the ground. If you collaborate with local community groups or schools, this will help increase your chances of obtaining funding as the project will benefit the wider community.

There is no better time than now for our industry to implement and promote the good we can provide. And a vegetable garden which can supply the clubhouse kitchen and/or community is one such way that can help facilitate that. 🌱



Both double checks and buddy checks can reduce errors and promote safer and better outcomes in your workplace

Check one, two

As compliance expert Terry Muir writes, instituting a simple double-checking or buddy-checking intervention system at your workplace can catch any problems before they potentially harm people or the environment.

As the new year begins this can be the time when many staff in golf course and turf management facilities around the country step up a level in responsibility. And it's all done in a matter of a few weeks and can include staff taking on additional roles in the workplace or greater high-risk roles.

Add into this equation the current pressures being experienced in many workplaces from COVID-19 with staff being forced to isolate and thus reducing the number of maintenance staff on hand to perform tasks and it is even more important to have good systems in place to ensure that errors are minimised. Now could be the ideal time to roll-out a 'double-checking' or 'buddy-checking' program to reduce the likelihood of an adverse event at your facility.

Golf course maintenance staff perform countless work tasks every day. Some early in the morning, some during the heat of the day and sometimes in locations that are noisy, with limited light and space and even in time of interruptions to their workflow. This environment increases the risk of error. Strategies that have been recommended in other sectors to prevent errors include double-checking and buddy-checking and there is considerable evidence that when double-checking occurs or independent buddy checks are completed, errors are reduced.

We know that staff want to jump in and do their jobs, but it is important to convince them of the need to carefully plan and check. Not taking the time to make sure of what they are doing could cost you time or money, and worse, harm them, others or the environment.

DOUBLE CHECK

A double check is straightforward. Most of us have heard the expression 'measure twice, cut once'. Used in a carpentry or building sense, it means you should double-check your measurements for accuracy before cutting a piece of wood. In a figurative sense, it means plan and prepare in a careful and thorough manner before taking action. In other words, think before you act. To double-check simply means that when accuracy is extremely important you should review something twice to be sure that no mistakes have been made.

BUDDY CHECK

Many of us are familiar with the phrase 'two heads are better than one', meaning that two individuals working together can achieve a better outcome than a single person working

alone. When accuracy is absolutely critical for high-risk or high-alert activities, you may even consider introducing a higher-level checking protocol known as the 'buddy check'. It is a standardised process that involves a check by another worker.

Even NASA conduct buddy checks. On 20 July, 1969, Neil Armstrong and Buzz Aldrin became the first human beings to walk on the moon. The mission's success rested on the work of many scientists and engineers, including those who held the role of buddy-checkers. In fact, NASA employed a whole roomful of mathematicians and engineers to even buddy check the work of the computers!

In short, the buddy check can be defined as a procedure that requires two staff to 'check' before the task is actioned. The buddy check process is well regarded in many other high-risk professions as a means to help prevent errors. For example, when used judiciously in the medical profession, buddy checks have been shown to detect up to 95 per cent of errors.

In practice, two staff acting as buddies, check independently of each other. This is a routine which relies on the presence and literal 'dialogue' of the two staff. The function of the buddy check here is to share responsibility for safe outcomes.

Yes, there can be some constraints to such system. They can be time-consuming and therefore a resource-intensive process. However, it is a function based on the theory that human errors can be minimised and safety and reliability outcomes significantly improved.

Another issue to consider is that a buddy check system can in some instances result in diffusion of responsibility that can lead to a false sense of safety through reliance on it. For example, in other industries, there have been instances where the buddy check system reduced the perceived responsibility of individuals because they trusted in the second checking person (the buddy) to find potential mistakes – an effect called 'social loafing'.

Many high-risk organisations prefer the buddy check over the double check because it reduces the risk of confirmation bias. This could occur if, for example, the same person prepares and checks a chemical sheet or mix instruction as they will likely see only what they expect to see, even if an error is present.

RISK MINIMISATION AND QUALITY CONTROL

With workload issues ever present, double check protocols should be implemented for all work tasks. For high-risk, high-alert activities, the buddy check system wins every time.

Hospitals identify 'high-alert' medications that carry a heightened risk of causing an adverse medical event. For the administering of these medications, a buddy check is mandatory – every time. The nurse giving the medication will confirm with their buddy details such as the patient's name, patient ID number, their date of birth, any allergies, the medication to be given and the amount to be administered.

In the turf space, you may consider identifying 'high-alert' pesticides or other chemicals that require a mandatory buddy check before they are dispensed and applied. This could help prevent the wrong chemicals or rates being applied which could have a disastrous impact on your surfaces.

Both double checks and buddy checks are well-supported by other high-risk sectors and can help to detect and prevent errors. Using double checks properly can not only help prevent errors but also draw attention to processes or systems that need improvement. And establishing two-person, independent buddy checks can reduce errors and promote safer and better outcomes. They both will transfer an added level of risk minimisation and quality control into the club's workplace practices. When implemented, they will catch errors and, at their best, when undertaken correctly, both can literally save you. 🏌️

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PHOTOS: BEN LUCAS/TOCUMWAL G&BC

Tocumwal G&BC, NSW

Superintendent Ben Lucas (CSTM) provides ATM with an inside look at the management of the 36-hole Tocumwal Golf and Bowls Club situated on the mighty Murray River.

Superintendent: Ben Lucas (35).

Nickname: Benny.

Family: Wife Amanda (married 10 years), daughter Kasidy (19), sons Choise (18) and Crue (12).

Social media: Twitter @1BenLucas.

Years as a superintendent: 10.

Association involvement: ASTMA, VGCSA.

Career: Hume Country Club/Featherstone Development (one year); Corowa Golf Club (apprentice/qualified, 3.5 years); Tocumwal Golf Club (assistant superintendent, 3.5 years); Young Golf Club (superintendent,

three years); Tocumwal Golf and Bowls Club (superintendent, seven years).

Qualifications: Certificate 3 Horticulture (Turf Management), Diploma Sports Turf Management, ASTMA CSTM.

Where in Australia is Tocumwal G&BC?

Tocumwal is situated three hours north of Melbourne on the NSW side of the Murray River. It is about 30 minutes downstream of Yarrowonga and an hour upstream of Echuca. Most tourists visit these two towns and Tocumwal is sort of a 'well-kept secret' in

between. The town has a population of around 2600, but housing developments will see this rise to over 3000 soon. Over the school holidays and public holidays, the town's population more than doubles.

How did you get your start in the turf industry?

I used to play a bit of golf as a teenager with mates at various clubs around the Albury/Wodonga area. As a 16-year-old at the Hume Country Club I asked the pro if there were any jobs available and I picked up a few shifts working Sunday mornings opening the pro shop. Once I had finished school, I got into university but wasn't that keen on the idea, so when an apprenticeship became available under superintendent Tim Hicks I jumped at it. 'Hicksy' asked me if I didn't mind getting my hands dirty; I said 'No' and the rest is history. I recall there were more than 100 applicants for the position! Those days are certainly gone and nowadays when looking for staff we struggle to get half a dozen applicants.



The Tocumwal crew (from left) comprises Craig Sweeny, Connor Thornton, Greg Robinson, John Dye, superintendent Ben Lucas, Aaron Coulson and assistant superintendent Mitch Pyle. Absent is groundsman Mick Cooper

Left: Tocumwal Golf and Bowls Club is a 36-hole facility on the Murray River. Pictured is the 10th and 18th holes of the Captains course

Who were some of your early mentors?

In the early days at Hume, while we were still maintaining 18 holes of golf, we were also undertaking the development of a new golf course. The plans were to turn 27 holes into nine with the surrounding land to be subdivided for residential. An additional nine holes was to be constructed once the real estate had sold. The parcel of land that the course was on had been gazetted that 40 per cent must remain as green space, therefore Neil Crafter was enlisted as architect and Darryl Cahill (DC) was site foreman. I basically followed DC around and he taught me everything. As I was fresh to the industry these names didn't mean much to me, but I had a feeling that these experiences didn't happen to every first-year apprentice. It was a very special time and was where my passion for turf management began.

Unfortunately, arguments between owners led to the development's demise and I moved onto Corowa GC under Darren Harvey. This was where I learnt the finer craft of turf management as most of what I was doing previous was construction. He put up with me throughout my apprenticeship and we had a real great crew of guys there. Once I got the position of 2IC at Tocumwal I was able to implement the skills that had been instilled in me while learning the management side of running a course under then superintendent Matt McLeod. I wouldn't be where I am without the influence that all these guys had on me when I was young and I thank them very much.

In 2013 you moved from Tocumwal assistant to superintendent at Young Golf Club. How did you find the move up to a superintendent role? Moving to a small country club as superintendent was the best move I could have done at the time. It forced me to really think for myself and problem solve and really set me up for my future roles. It was a small club with next to no budget and I had to be quite inventive with some things. It was made easier by a supportive committee and some of those people I remain good friends with today. I thrived on the transition into the superintendent role and took a lot of ownership and pride in the way I managed the course for those few years I was there.

In 2015 you returned to Tocumwal but this time as superintendent, replacing Matt McLeod. Why did you come back and how



Lucas and his crew maintain 2.5 hectares of 1020 bentgrass/Poa greens (plus two Pure Distinction and one Mackenzie green) as well as 20ha of Windsor Green couch fairways. Pictured is the Captains 2nd

was the transition back? At the time I hadn't planned on leaving Young and going back to Tocumwal had never crossed my mind until I received a phone call from Matt asking if I would be interested in the role. The idea of moving back home to friends and family played a major role in my decision to apply. While I had runs on the board at Tocumwal, the position certainly wasn't handed to me and after a full application and interview process I was successful in gaining the role. Having previous knowledge of the course, staff and internal structure gave me the confidence and a good 12-month head start had I not worked there previously.

Tocumwal G&BC is a 36-hole facility. Give us a quick overview of the two courses



Gun 3rd year apprentice Connor Thornton trims Tocumwal's Windsor Green fairways

and some of their characteristics. Are they very different to manage? In general, the courses set up and are managed much the same as each other. Apart from a little bit of a clay pocket on the Presidents back nine, the entire complex is situated on a sand parcel which means it can get hungry and thirsty! The major issue when it comes to management is that the original 18 holes was split to create the two courses. Eleven holes form part of the Presidents Course and the other seven are part of the Captains. These greens are obviously older than the newer greens which were built in the early 90s. To the untrained eye you wouldn't know the difference, but one of the difficulties in managing the complex is to have consistency across the 36 holes. Add into the mix that the holes are irrigated with a different water source and it makes for some interesting times.

Managing a 36-hole facility compared to an 18-hole course – what is the most challenging aspect? There are certainly pros and cons to running a 36-hole complex. The biggest advantage is that while there are competitions and tournaments scheduled on one course, we can be prepping the other course without disrupting those players. As for disadvantages, when times are busy we are unable to take care of the one-percenters like you could on 18 holes. With a total staff of only eight it also presents difficulties in completing course improvements and projects which can only be done during the quieter months.

During your time as Tocumwal superintendent, what changes have you made to the way you manage the course? The course was always renowned for its conditioning, so it was critical that this didn't



slip. I try to always maintain the course in tournament condition so that when we do have events we can really put the polish on it. As I was only one of two qualified staff at the course, over the first four years we embarked on a mission to get an apprentice in every year. We did this but due to pay rates they have all moved on to other industries since completion. While it is disappointing to see them move on, I am pleased that I have a pretty good completion rate of 80 per cent with apprentices. We are currently in the first stages of beginning this process again.

Outline any major/significant projects recently completed.

It has certainly been a busy seven years at the helm and during that time we have completed the following projects:

- Amalgamation with the local bowls club and installation of two synthetic rinks;
- Construction of a new Pacific Coast Design 18th hole on the Presidents course;
- Automation of irrigation on the last nine holes of the Presidents course using only in-house staff;
- Reconstruction of the 10th green on the Captains course;

- Implementation of a new garden master plan around the course; and
- Installation of a new Franklin pump station.

Is it an easy/hard facility to manage? Given the sand-based nature of our facility, it is difficult to keep the soil profile wet. To fully irrigate both courses takes two nights (10mm of water through irrigation equates to 5.5ML and 16 hours). Then add in a 40-degree heat wave and it's time to water again! Getting around the entire course and adding site codes to specific areas has been a bit of a game-changer with the Lynx software. With low levels of staff and 39 bent greens to take care of, I tend to give the greens a little more water as we can't afford 2-3 people out on hoses the following day.

The other juggling act throughout the summer on a daily basis is managing the water sources into the dams. Our ground water is terrible and is not suitable for turfgrass use on its own for extended periods. The only way is to shandy it with river water as best I can into the dam. With all pumps running I can transfer 8.5ML/day into my storage dams. The Franklin pump station operates out of a dam system



Above: Amalgamation with the local bowling club saw the recent construction of two new synthetic rinks

Left: One of the many projects recently completed at Tocumwal was construction of a new 18th hole on the Presidents course

that can hold roughly 50ML. The Grundfos pump station operates out of a dam that holds 5-6ML so is therefore in constant need of monitoring and topping up.

How has COVID-19 impacted your operations and the club?

I think everyone in the golf industry was so fortunate that our first COVID experience happened heading into winter. Had it been coming into spring I really don't know how we would have managed. In the early days, while there was still a lot of uncertainty surrounding movements and lockdowns, there were only three staff kept on doing the basics. Keep in mind that golf was still allowed to be played in NSW so there were some expectations of what we were still producing. Initially we streamlined mowing and cut tees, fairways and surrounds with a fairway mower. Once JobKeeper kicked in our staff returned and we were able to resume our usual course maintenance practices.

Overall, how has the club fared through it. As a club that relies a lot on travelling golfers did it hit the bottom line hard?

Yes, we certainly noticed the lack of social play via golf packages. The flipside of this was that most of our members live in Tocumwal and were unable to travel which led to a lot more winter member access to the course. The club was savvy and turned the bistro into a takeaway model and were also fortunate that the border police patrol stayed at our motels and used all their meal vouchers at the club which evened things out a little. Add JobKeeper to the mix and the club posted a record profit for the financial year which has since been utilised to paydown a significant amount of debt and increase capital expenditure.

Tocumwal can experience numerous heavy frosts during the winter months which renders the Windsor Green couchgrass dormant



What was the hardest/most difficult aspect to deal with from a super's perspective?

How did your crew fare? The best way to describe the COVID experience for me was a rollercoaster, not only physically with the ups and downs of working then not working, but the toll that it took on all staff mentally. I am normally not one to suffer mentally, I'm a happy-go-lucky kind of guy, but I would be lying if I said it didn't have some effect on me.

One of the best memories once lockdown ended was a get-together with all our course staff at my mechanic's farm. It was just a great opportunity for everyone to let their hair down after one of the toughest periods of our lives. I am so proud of the way that the boys all stuck together through the experience; I don't think anyone didn't go through a rough patch at some time or another but we all pulled through.

Were there any positives to come out of the COVID experience? One of the positives was being able to get two major renovations in on our greens in 12 months. While they were slow to recover due to the timing heading into winter, the impact it had on them later that spring and early summer was unbelievable. We were able to follow this up by another renovation that December.

What key lessons have you taken out of the whole COVID experience? Don't take things for granted and family comes first. Having always been someone to have work to fall back onto, once it's taken away it's amazing how lost you can become. I guess it also opened my eyes to the toll that it took on a lot of people's mental health. As superintendents in today's climate, it is critically important that we are aware of our staff's health and are there not only as a boss, but a friend or an ear to listen, especially if we want to retain the staff that we have.

Water is obviously a critical issue for any golf course. How is Tocumwal G&BC faring in the water management stakes? Water was a major issue for the club through the drought periods in the early 2000s. I honestly don't know how they did it. The water is now secured and I have access to 232ML of high security river water, anywhere from 150-250ML of ground water and about 100ML of recycled water. Our average water usage for the past 12 years is 475ML all of which is applied from

Tocumwal has always been renowned for its conditioning and since taking the reins seven years ago Lucas hasn't let that focus slip. Pictured is the 4th green complex on the Presidents course



Automation of irrigation on the last nine holes of the Presidents Course

September through to April. In an average rainfall year we have just enough water to get us through, so I would like to see the club secure another 70ML of river water.

How has Mother Nature treated the courses in recent times? This summer has certainly been one out of the bag. I cannot recall a wetter period and consistent heavy downpours in my time in charge. Yes, over the past years we receive one or two heavy downpours, but this year it has been every couple of weeks. I have never seen the growth in the couch like we currently have. We would normally have a heatwave come through that would drought out a bit of the out of play areas, but we haven't had that this year. It has got to the point where I have applied Primo Maxx on the irrigated rough just to catch up! On the flip side, it has meant that the pressures of irrigating the complex are lower and to date I have used only half the water I would normally use by this time.



The one product I couldn't manage my course without is... any pre-emergent herbicide. Luckily it all works for me and saves me countless hours and stress down the track, especially across a 36-hole facility.

Do you use volunteers to assist with the management of the course? Volunteers play a major role in the presentation of the courses. I am fortunate that all our rough areas are mown by volunteers, each one putting in up to 18 hours per week in summer. I also have a small group who take great pride in the main gardens around the club. The difficulty lies in the fact that none of them are getting any younger and it is becoming harder to find willing participants. The club covers the cost of a sandwich and a drink at the end of their shift which keeps morale up in the club after a morning's work.

What have you got in your shed? 2 x Toro 3250 greens mowers (3mm), 2 x Toro 3250 tees mowers (6mm), 2 x Toro Sandpro 3040, 2 x Toro 7000D fairway mowers (10mm), Toro 3575 surrounds mower (10mm), Toro 4700D finishing mower, 2 x Toro 4000D rough mowers, 2 x Toro 6500 tee surrounds mowers, Tru-Turf RB70 roller, Toro MDX sprayer, five utilities, two lightweight tractors, Turfco spreader, Vertidrain 7117, TR 50 scarifier, 2 x 3.5 tonne tipper trucks, 3 tonne excavator and a Bobcat.

Any new piece of equipment is my favourite! We recently added a hoist to our shed which has made my mechanic's life a lot easier. You can get by without it, but after having one I can't imagine life without it. I think the next major purchase will be a large sprayer capable for use on fairways as the MDX tank is a little small. We currently use a 2000L PTO-driven sprayer behind a Massey Ferg. I do love using it as I can get over nine fairways in a mix, but the Massey and tank is a bit clunky to manoeuvre around the course.

Best advice you have received about being a superintendent/greenkeeper... 'All good greenkeepers carry a knife' – Tim Hicks.

What do you think is the most challenging aspect of a superintendent's role today?

In the country it is so hard to recruit qualified people. Pay rates make it difficult to attract good workers from the city and it also pushes out good staff who you have invested time into during an apprenticeship.

What have you worked on personally in recent years to improve your skills as a superintendent?

I was lucky enough to be nominated by the VGCSA and receive a scholarship to attend Ben Gibson's Melbourne Leadership Forum. Not only did it enable me to get away for a couple of days and reflect upon my management style, but I also got to meet a great group of guys. Being a smaller group also meant that most people weren't too shy to get out in front of everyone and be open and honest.



Lucas likes to maintain the course in tournament condition so that when events come along the crew can put the final polish on the playing surfaces. Pictured is the 13th hole on the Captains course

What gives you the most job satisfaction and what has been the most pleasing/rewarding moment during your time at Tocumwal?

I get the most satisfaction out of teaching apprentices and watching them grow throughout their journey as turfies. When you can see a lightbulb moment go off and it finally clicks, it is quite rewarding. Over the Christmas period I had a former apprentice return to help while he was on leave from his new job. We were in a rush to get jobs completed before the public holidays. Mitch (my 2IC) and I were helping the two boys mix up some spray but

they just did it. It was one of those moments where we could just step back as they had it under control. It was a very satisfying moment.

Being a superintendent can be an unforgiving job but one that is ultimately rewarding. What keeps you coming back every day?

At the end of the day, I have now spent over half my life working on golf courses and I couldn't imagine doing anything else. We all have those hell days and rough trots, but the old saying is true – find a job you love and you will never work a day in your life. 🌱

AT A GLANCE – TOCUMWAL GOLF AND BOWLS CLUB, NSW

Course specs: Kevin Hartley design (Pacific Coast Design recently completed Presidents 18th hole). Captains Course par 72, 6272m, Presidents Course par 72, 6046m. 2.5 hectares of 1020 bentgrass/Poa greens (with two Pure Distinction and one Mackenzie green). 20ha Windsor Green couch fairways, 4ha Windsor Green surrounds and 4ha of Windsor Green tees and tees surrounds. Approx. 20ha of irrigated rough.

Members/annual rounds: 650 golf and bowls members/55,000 rounds.

Major tournaments/events: Vic/Tas/NSW Trainee Championships, Vic 2 Person Ambrose Championships, National Lefties Championships, Australian Police Championships.

Annual course budget: \$850K (inc. wages).

Staff structure: Superintendent Ben Lucas, assistant Mitch Pyle, mechanic Greg Robinson, apprentices Connor Thornton (3rd year) and Craig Sweeny (1st year), ground staff John Dye, Mick Cooper and Aaron Coulson.

Climate: Average rainfall over the last 16 years is 445mm. Generally, Tocumwal has hot dry summers (potentially 15-20 days over 40) in combination with high numbers (30-plus) of heavy frosts in winter.

Terrain/soils: Relatively flat low-lying terrain except for back nine holes on the Presidents Course. Soils are Murray River sand.

Water sources/irrigation system: Murray River, shallow groundwater spear point,



recycled water. Irrigation system comprises a Toro Lynx central control, 19 x Toro Network VP satellites, 12 x electric to hydraulic towers. 20 holes hydraulic control (30 years) and 16 holes electric valve-in-head (5-15 years). 4 x 22kW Grundfos pump set and 4 x 30kW Franklin pump set.

Cutting heights/regimes: Greens are mown six times per week during the growing season at 3mm. All couch surfaces are mown twice per week at the following heights – tees 6mm, fairways 10mm, green surrounds 10mm, irrigated rough 40mm and treelines 50mm.

Renovations: Greens get two major renovations. In September we double scarify, ninja tine and dust. In December we do a heavy topdress and tine with 5/8" solids. Each course gets its fairways scarified every second year and we scarify all tees with Scott Bonnar walk-behinds once a year. On a monthly basis we also aim to dust greens,

groom greens (when temps are under 30 degrees) and vertidrain with 8mm solids.

Major disease pressures: Major issues in the greens during the hot summers are anthracnose and curvularia. Dollar spot pops up in late February but is easily controlled. Fairy ring can be an issue on the greens if preventative programmes are not in place. I also find that soil moisture plays a huge part in keeping it at bay. We have huge ongoing issues with spring dead spot on our fairways. Being in NSW our options are quite limited as to how we can treat it economically, especially over 25-plus hectares.

Nutrition management: I have a solid nutrition programme on the greens which treats both soil and foliar fertility. I certainly don't keep the greens lean, but I aim to keep nitrogen levels below 1kg/actual N/yr. This is followed up with treatments for the soil to nullify the effects of a high sodium-based water source from our shallow ground water. If the soil programme gets missed during the summer, there is a noticeable visual effect on the greens that are irrigated with this water source.

With regards to the couchgrass, I apply an upfront complete fertiliser after the last frost generally around late September. From then I feed monthly with liquids and Primo applications until March. I try not to apply excessive rates of nitrogen as I have found that doing so encourages spring dead spot formation.



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MAKING LIGHT WORK WITH RYDER TURF PIGMENT



ASTMA Silver Partner Nuturf has announced the exclusive launch of Ryder turf pigment, a new and unique, multifunctional turf pigment developed by industry partner Syngenta, into the Australian market. Unlike conventional turf pigments, Ryder not only delivers a deep natural green colour, but also works within the plant to provide health benefits for cool- and warm-season turf.

Developed specifically for use in turfgrass management, Ryder uses the latest generation of pigment technology to effectively mimic naturally produced turf pigments and deliver protection against harmful UV radiation and high light intensity.

Ryder absorbs, reflects and transmits excessive and harmful UV light, supporting the plant's naturally produced pigments that reflect, scatter and screen radiation damage. By harnessing nature's own responses, Ryder delivers healthy and natural looking turf for optimum quality on a year-round basis.

"Ryder is the ideal tool to complement your turf management program throughout the year by enhancing turf health in the harsh summer months, improving surface aesthetics and optimising canopy temperature during the cooler months," says Nuturf technical manager Dr Mark Walker.

Available in a 1L pack size, Ryder has a low rate of 0.75L-1.5L per hectare in 250L-500L of water, with 04 XC nozzles recommended.

Ryder can be applied throughout the year with application frequency dependent upon the situation of usage as per the product label. Benefits of Ryder include;

- Enhanced natural colour and aesthetics;
- UV protection through reflection of damaging light component;
- Reduced turf stress and better turf health;
- Increased light absorption/reflectance of damaging light waves;
- Increase surface temperature during cooler periods; and
- Safe tank mix partner.

Ryder turf pigment is exclusive to Nuturf.

For more information on Ryder contact your local Nuturf territory manager or visit www.nuturf.com.au.

LIVING TURF, FOUNTAINLINE LOCK IN PARTNERSHIP

ASTMA Silver Partner Living Turf and FountainLine are now exclusively aligned to deliver the latter's unique product suite to the professional turf market.

Over the last 12 months, Living Turf has supplied FountainLine paint and line markers to sports turf managers across the country. Due to the success of this early venture, it was announced recently that the partnership will develop further in 2022 with Living Turf adopting master distribution. Sports turf managers will now be able to access FountainLine products, service and expertise anywhere in Australia, either from Living Turf's field sales force or through its trained and supported dealer network.

"We are very excited about this partnership and the opportunity to continue working with

FountainLine moving forward," says Living Turf managing director Rob Cooper. "Our clients all recognise the pedigree of FountainLine products and I believe our national sales force is well placed to advocate for their use, from local playing fields right through to major stadiums and everything in between."

To learn more about Living Turf, FountainLine or to obtain product information and pricing, contact 1300 556 116.

A HANDY TOOL



The portable Handy Pump is ideal for dewatering bunkers, trenches and ponds

All States Concrete is now selling the Handy Pump which provides a range of solutions for dewatering bunkers, playing fields, culverts, trenches, construction sites, ponds, grave applications and much more. Powered by a Honda 4-stroke 35cc engine, the portable pump provides hassle-free operation and comes with discharge hose and strainer to protect foreign particles entering the head.

There is no need for electricity supply or separate pump units. Operators simply start the engine and using the throttle start pumping as much as required. It can pump down the ground less than 25mm. For larger pumping applications 6m shaft pumps are also available. The Handy Pump is sold and backed by All States Concrete Equipment who also offer a wide range of portable products such as compaction equipment and accessories. **For more information visit www.ascequipment.com.au**

INDUSTRY APPOINTMENTS



HANRAHAN REJOINS HG TURF GROUP

ASTMA Trade Partner HG Turf Group has appointed

Josh Hanrahan (pictured) as

Queensland state manager. Hanrahan began his turf management career in Toowoomba on golf courses in 1997 before turning his focus towards cricket and AFL stadiums in PNG and Adelaide. In the 25-plus years since he has gained experience in the design, construction and maintenance of elite and community sports fields.

In 2016 Hanrahan joined HG Turf Group as arena manager for Singapore's National Stadium. In 2018 he returned to Australia as a project manager for HG Turf Group, overseeing projects in Australia, China, Israel

and New Zealand, as well as being an integral part of the team for the pitch overlay works for the 2018 Commonwealth Games. In 2021 he joined Fortini Turf in Townsville where he was employed prior to returning to HG Turf Group at the start of this year.

"I am excited to return," says Hanrahan.

"I look forward to offering turf solutions to the market, whether it be for the fast approaching FIFA Women's World Cup, or any number of community sports fields and open parklands that require a solution for their overused natural grass."

"We are all excited to have Josh back in the team," adds HG Turf Group managing director Hamish Sutherland. "With over 25 years' of sport turf experience, Josh is an expert when it comes to ready-to-play turf

and hybrid grass. He will play a pivotal role in making ready-to-play turf and hybrid grass understood and available in the Queensland market."

MERRELL TAKES ON DESERT GROUP GM ROLE

ASTMA international member and Certified Sports Turf Manager **Brett Merrell** has stepped into the general manager role at Desert Group's Golf and Turfcare Division.

Merrell, who is well known in the industry through his previous roles in Oman, will lead Desert Group's GCC expansion plans and beyond. For the past four years Merrell has been general manager and director of agronomy at Ras Al Hamra Golf Club in Oman.

ASTMA CERTIFICATION PROGRAM

The ASTMA congratulates the following sports turf managers who have achieved certification and can proudly use the **'Certified Sports Turf Manager' (CSTM)** designation after their names...

Tim Allen The National Golf, Belgium	Ryan Fury Killara GC, NSW	James Newell Magenta Shores G&CC, NSW
Dean Bailey Rosanna GC, Vic	Jake Gibbs Elanora GC, ACT	Kelvin Nicholson Palmer Cooloom Resort, Qld
Shane Baker Mosman Park GC, WA	Danny Hack Wellington Shire, Vic	Matthew Oliver QSAC, Qld
Brett Balloch Anglesea GC, Vic	Cameron Hall Kew GC, Vic	Shaun Page Southern GC, Vic
Ed Barraclough Cardinia Beacons Hills GC, Vic	Gareth Hammond Terrey Hills GC, NSW	Luke Partridge Manly GC, NSW
Mark Bateman Koorringal GC, Vic	Brendan Hansard Kew CC, NSW	Mick Pascoe Noosa GC, Qld
Tim Bayard Evergreen Turf, Vic	Nick Harris Wentworth Club, UK	Ben Payne Peninsula-Kingswood CGC, Vic
Duncan Begley Horizons Golf Resort, NSW	Marcus Hartup Vattanac Golf, Cambodia	Michael Pearce RACV Torquay GC, Vic
Nathan Bennett The Royal Adelaide GC, SA	Mitch Hayes Living Turf, Qld	Jeff Powell Ballarat GC, Vic
John Berthon St Georges Basin CC, NSW	Matthew Heeps Evergreen Turf, Vic	Keegan Powell The Sands Torquay, Vic
Paul Bevan GTS, Qld	Luke Helm Meadowbrook GC, Qld	Luke Primus Deakin University, Vic
Shane Bisseker Whitsunday Council, Qld	Tony Hemming Optus Stadium, WA	Scott Prince Evergreen Turf Vic
Andrew Boyle GTS, Vic	Kirsty Herring Mackay Regional Council, Qld	Shaun Pritchard PEGS, Vic
Justin Bradbury Camden GC, NSW	Tim Hoskinson Cairns GC, Qld	Justin Rankin Kooindah Waters GC, NSW
Nathan Bradbury Eastlake GC, NSW	Ian Howell , Bonnie Doon GC, NSW	Peter Rasmussen STRI, Hong Kong
Harry Brennan Dubbo City Council, NSW	Rhys Hunichen Atlas Golf Services Vic	Marc Raymond Heidelberg GC, Vic
Mark Brooks Jupiter Hills GC, USA	Jay Infanti Eastern GC, Vic	Scott Reid Launceston GC, Tas
Brendan Brown The Sands Torquay, Vic	Nick Jeffrey St Joseph's College, Qld	Lachlan Ridgewell Blacktown ISP, NSW
Fraser Brown Lake Karrinyup CC, WA	Mark Jennings Racing Victoria, Vic	Brent Robinson Ballina G&SC, NSW
Ben Bruzgulis Cronulla GC, NSW	Steven Johnson Al Mouj Golf, Oman	Chris Rogers Portsea GC, Vic
Hamish Buckingham C'wealth GC, Vic	Jason Kelly Royal Fremantle GC, WA	Brett Saggus BRG Legend Hill, Vietnam
Chris Burgess Yarrawonga Mulwala GC, Vic	Nick Kinley Hartfield CC, WA	Wesley Saunders Dunblane New GC, UK
Greg Burgess Northern GC, Vic	Dylan Knight Gisborne GC, Vic	Robert Savedra Wesley College, Vic
Jacob Burrridge Victoria GC, Vic	Blaine Knox Palm Meadows GC, Qld	Travis Scott Riversdale GC, Vic
Jason Bushell Rowes Bay GC, Qld	Lance Knox Busselton GC, WA	Bill Shuck Evergreen Turf, Vic
Aaron Cachia Bayer, NSW	Steve Lalor Townsville GC, Qld	Cameron Smith Bonnie Doon GC, NSW
Brad Carey Riversdale GC, Vic	Kane Latham Elanora CC, NSW	Gary Smith Commercial Albury GC, NSW
Patrick Casey Kalgoorlie GC, WA	Nick Launer Keysborough GC, Vic	Thomas Smith STRI Australia
David Cassidy The Cut, WA	Ben Lavender Newington College, NSW	Mathew Soles Royal Perth GC, WA
Brian Cattell Wagga Wagga CC, NSW	Jason Lavender Beenleigh RSL & GC, Qld	Clinton Southorn Troon International
Peter Cawsey Eastwood GC, Vic	Dean Lenertz St Michael's GC, NSW	John Spraggs Royal Wellington GC, NZ
Paul Chalmers St Aloysius College, NSW	Dean Lewis Thurgoona CC, NSW	Daniel Stack Windaroo Lakes GC, Qld
Brenton Clarke Warrnambool GC, Vic	Josh Leyland Box Hill GC, Vic	Kenji Steele Riverway Stadium, Qld
Dan Cook The Australian GC, NSW	Nathan Lindsay Hamilton Island GC, Qld	Lee Strutt Les Bordes International, France
Lincoln Coombes RACV Royal Pines, Qld	Peter Lonergan CTHGC, NSW	David Sutherland The Ridge GC, NSW
Phillip Cooper GTS, NSW	Ben Lucas Tocumwal GC, NSW	Lee Sutherland St Michael's GC, NSW
Dion Cope Redland Bay GC, Qld	Toby Lumsden ICC Academy, UAE	Shay Tasker Carnarvon GC, NSW
Mick Cornish Cazaly's Stadium, Qld	Bruce Macphree ASTMA, Vic	Aaron Taylor Cronulla GC, NSW
Shaun Cross Byron Bay GC, NSW	Stephen Mallyon Renworx, NSW	Heath Taylor Blacktown ISP, NSW
Joshua Cunningham All Outside, NSW	Dave Mason Brisbane GC, Qld	Nigel Taylor Sports Turf Solutions, Malaysia
Bruce Davies CIT, ACT	Garry McClymont Twin Waters GC, Qld	Shaun Taylor Southern GC, Vic
Kevin Davis St Margaret's-Berwick GS, Vic	Mick McCombe Maleny GC, Qld	David Thomson Bermagui CC, NSW
Luke Diserens Roseville GC, NSW	Tony McFadyean Programmed, WA	Colin Thorsborne Parkwood Village, Qld
Nicholas Douglas Spring Valley GC, Vic	Paul McLean Sanctuary Cove G&CC, Qld	Ben Tilley Headland GC, Qld
Mark Doyle Hume City Council, Vic	Michael McMahon GTS, Qld	Steve Tuckett Holmesglen TAFE, Vic
Cameron Dunn Woollooware GC, NSW	Peter McNamara Brisbane GC, Qld	Lee Veal Mt Derrimut G&CC, Vic
Peter Dunn Federal GC, ACT	Ryan McNamara Rosanna GC, Vic	Michael Vozzo Fertool, Vic
Ben Evans Ryde TAFE, NSW	Keith McPhee Maitland City Council, NSW	Earl Warmington Newcastle GC, NSW
Tim Fankhauser ASTMA, Vic	Brett Merrell Desert Group	Tim Warren Glenelg GC, SA
Timothy Fewster Doncaster BC, Vic	Daniel Metcalfe Beverley Park GC, NSW	Rob Weiiks Hoiana Shores GC, Vietnam
Peter Fitzgerald Belmont GC, NSW	Jack Micans Elanora GC, NSW	Shannon White Baileys Fertilisers, WA
Aaron Fluke NSWGC, NSW	Braydan Millar Rowes Bay GC, Qld	George Widdowson Geelong GC, Vic
Jason Foster Riverway Stadium, Qld	Ben Mills Hawks Nest GC, NSW	Darren Wilson Wembley GC, WA
Jason Foulis HG Turf, Vic	Craig Molloy Cypress Lakes Resort, NSW	Issac Wojewodka Camden GC, NSW
Patrick Fraser Landscape Solutions, NSW	Colin Morrison AIMU P/L, Vic	Tim Wright K&B Adams, Vic
Peter Fraser Hervey Bay G&CC, Qld	Damien Murrell Easts Leisure & GC, NSW	Matthew Young Moonee Valley CC, Vic
Adam Fry Kooyonga GC, SA	John Nelson Grafton District GC, NSW	

For more information on the ASTMA Certification Program visit www.agcsa.com.au

TURF AUSTRALIA



2021 was a year of many challenges for the turf production industry, with the continuation of COVID-19, floods and high demand for turf across the country. Unfortunately, it was another year where we all couldn't come together, with many border restrictions continuing. Once again, we have high hopes for 2022 to bring some calm and a return to what we use to consider the norm!

Recently Turf Australia undertook a Turf Industry Census to understand the needs and sentiments of growers to assist in the planning of a new levy-funded project to replace the National Market Development Project (TU16002). This was an extensive process of both online survey and nine focus groups. The census provided great insights and saw 43 per cent of turf producers involved.

This information will not only guide the next levy-funded project but also provide Turf Australia and the state groups with a clear understanding of what growers want and need. It was a great opportunity to listen to growers about their concerns, challenges and expectations of the levy.

In addition to the Turf Industry Census, other activities for the remainder of the Market Development Project will focus on options

for turf production training certification, a turf specialist register, a position and policy on the impact of synthetic turf and more videos to promote the industry. We are also looking at an environmental product declaration (EPD) that would provide growers with a great marketing tool to certify the benefits of natural turf in respect to carbon sequestration.

Everyone is welcome to access resources on the Turf Australia website (www.turfaustralia.com.au) and we regularly update information that could assist you ensure that natural turf remains the focus in our sporting fields, schools and local communities. In addition, our Facebook page also promotes different material and resources.

Recently, a flyer (*pictured*) was developed to show how natural turf actively fights climate change. We are in an industry that is incredibly beneficial to support a positive climate. Much of the focus is around trees and the benefits they provide, but as you know, you can't play golf or footy on trees, walk the dog or picnic or run around with the kids. Natural turf is a simple solution to keeping our air clean, providing oxygen and cooling our cities.

As we delve into another year of possible disruption, I am optimistic that 2022 will

Natural turf actively fights climate change.

On average...
Each square metre of turf removes **2.5kg of carbon dioxide** from the atmosphere.

Research shows...
The average Aussie city lawn produces enough oxygen to support between **12-18 people**.

Living turf uses the sun to generate plant growth through the process of photosynthesis. Turf uses the sun's energy to convert water, carbon dioxide, and minerals into oxygen and energy rich organic compounds. The oxygen is in the air we breathe and the rich organic compounds are stored in the soil, reducing the carbon in the air and promoting biodiversity.

The living turf on in our lawns, parks and sportsfields not only connects us to nature but it also actively removes harmful carbon dioxide from the earth and replaces it with oxygen, improving air quality for all of us.

CHOOSE NATURAL. CHOOSE LIVING. CHOOSE TURF.



be a year of change and see some new opportunities for the industry, hopefully at least the opportunity to come together again for events and share information, knowledge and continue to learn from each other. Stay safe and have a great 2022.

JENNY ZADRO
MARKET DEVELOPMENT
MANAGER, TURF AUSTRALIA

GCSAWA



Despite a slow start to spring and summer temperature-wise for us in Perth and the south west of WA, Mother Nature definitely made up for it in December and January. Up to the end of January we have had 11 days over 40 degrees. Over the four days of Christmas we had temperatures in the low 40s combined with strong easterly winds which really stretched every club's watering capabilities. In mid-January, it was followed up with six consecutive days over 40 degrees. Luckily the wind stayed away that time and it was a little more manageable. Perth has only had 3mm of rain since late November, with the hottest month historically - February - still to finish.

TAFE started the first week of February for all apprentices with some good numbers beginning their first year studies. It has been encouraging and great to see the number of courses continuing to advertise for apprentices. Country apprentices attend TAFE four times a year for two-week blocks, with most Perth-based apprentices attending one day a week. Some local apprentices still do the block option.



PHOTO: IDRIS EVANS

On 25 March the WA Golf Industry Awards Night will be held at Joondalup Resort. It will be hard to beat last year's attendance of 500 guests, but we estimate well over 400 people will be there on the night to witness the 17 awards up for grabs. The GCSAWA will again be handing out a number of awards to our high achievers.

Unfortunately the Margaret River Conference still remains up in the air at the time of writing. Although we received

the welcome news that WA's hard border restrictions will end in early March, there still remains the issue around hospitality venue density limits. We are currently in contact with the various venues in Margaret River and are hopeful it will be able to proceed. We will keep everyone posted on its happening and hope to see many of you in WA soon.

SHANE BAKER
PRESIDENT, GCSAWA



The new year has certainly brought with it a busy start for many in the sports turf industry here in Tasmania, none more so than **Marcus Pamplin** and his crew at Blundstone Arena who successfully hosted a dramatic fifth and final Ashes Test in mid-January. Marcus was thrown many curveballs leading into the Test including wet weather, scheduling and, of course, COVID rearing its ugly head to make things challenging.

Not having confirmation of the match at the start of the Series would have made things difficult enough, but to make things even worse only 10 days out from the Test Marcus found himself the only person onsite with the entire crew either having COVID or being close contacts and therefore having to isolate. **Chris McKenna** and **John Kedey** from UTAS Stadium put their hands up to head south and help out for a few days leading into and at the start of Test, with both noting what a fantastic



Mowbray Racecourse came up a treat following a major renovation around Christmas ahead of the Launceston Cup in late February

opportunity it was to be part of a history-making event for the state. *(See the full story in ATM's interview with Marcus Pamplin earlier in this edition – Ed).*

The season has certainly been a busy and productive one for Tas Racing's **Ryan Smith** and his team at Mowbray Racecourse in Launceston. A Christmas period renovation provided great benefits to the track, which is in good condition and running fair and even leading into the venue's biggest day, the Launceston Cup on Wednesday 23 February. Good luck to Ryan and his team for the meet.

We would like to inform members, sponsors and associates that we are putting into place the planning for the TSTMA's major conference and AGM, with confirmation of a date and location to follow (May will most likely be the month). These details will be published for all as soon as we can and we hope to see a good contingent turning up for what will be our biggest event of the year.

The beginning of 2022 has seen a particular dry start to the season for most Tasmania, with some welcome rain recently up north and in selected areas of the midlands and down south. I hope everyone is keeping safe and well in what has become a strange time for Tasmanians with borders opening and COVID becoming the new norm for us.

ADAM SPARGO
PRESIDENT, TSTMA

GCSAQ



2022 has kicked off with Queensland continuing to experience consistent rainfall throughout the state. The ongoing heavy rain impacted all Queensland golf courses, so it has been great to see the weather has improved slightly in recent weeks.

Queensland was the proud host to two major golf events in January 2022 – the Australian PGA Championship and the Queensland PGA Championship. The Australian PGA Championship was held at Royal Queensland from 13-16 January with the course presented in excellent condition by superintendent **Adam Mills**, assistant **Michael Todd** and their team. The Queensland PGA was held at Nudgee Golf Club the following week (20-23 January) with superintendent **Peter Culross**, assistant **Scott McComas** and their team presenting an outstanding course for this major event. *(Read more on these events earlier in this edition – Ed).*

Although 2022 will not be the end of COVID, it is great to see that things are returning to normal. The GCSAQ committee is working on a calendar of member events for the year and we are looking forward to seeing many members at these events. Keep an eye on our website www.gcsaq.com.au and our Facebook page for event details.

PAUL MCLEAN
PRESIDENT, GCSAQ

STA VIC



After waiting so long to get together, STA Victoria is delighted to confirm a number of meetings for 2022. Our calendar of events over the last two years has been sorely interrupted due to COVID, but hopefully we are now through the worst and plans created can proceed with confidence.

Our first event of the year is a Seminar/Field Day at Pakenham Racecourse on 5 April. STA Victoria sponsors will provide equipment demonstrations and displays and we will also feature a series of presentations from industry leaders as well as a special guest speaker. This will be an ideal environment for face-to-face networking. The Pakenham Racecourse is a fantastic venue allowing plenty of space for mingling and demonstrating.

We are excited to confirm that our guest speaker will be **Glen Boss**. Glen recently retired as one of Australia's foremost jockeys and is best known for riding Makybe Diva to victory in three consecutive Melbourne Cups (2003, 2004 and 2005). He has also ridden four Cox Plate winners – Makybe Diva (2005), So You Think (2009), Ocean Park (2012) and Sir Dragonet in 2020.

Our Sports Turf Seminar returns to the Melbourne Cricket Ground on 19 July and we look forward to picking up from where we were cut short in 2021. There will be something for everyone at the home of sport in Australia so make sure you book early. In September we

will also be hosting a Pitch Preparation Day (details to be advised). This is a key event for so many and a great opportunity to gain hands-on experience.

STA Victoria looks forward to a busy interactive year ahead and catching up with members and others in the industry after such a long dry spell. If you have any queries, please contact **Jan Fenton** via email vic@staaus.com.au or call 0439 089 005.

STA VICTORIA COMMITTEE

ON THE MOVE...

AARON CACHIA: From territory business development manager, Bayer, NSW to superintendent Toronto CC, NSW.

NIC DOUGLAS: After 3.5 years as assistant superintendent at Spring Valley GC in Melbourne's southeast, Douglas has taken over as course superintendent at Cranbourne GC, Vic which will host the 2022 Australian Amateur Championship.

DAVE MORRISON: After 4.5 years as track manager at Clifford Park racecourse in Toowoomba, Morrison departed at the end of January to take on the role of regional thoroughbreds racing track manager with Racing Queensland. Morrison will assist race tracks in country areas and up north with track preparation and renovations.

QUARTET RECEIVE R&A SCHOLARSHIP BOOST



Darcy Jones is one of four up and coming sports turf managers to be selected in the latest intake for The R&A Scholarship Program

Four up and coming sports turf managers from Victoria and NSW have been named by the Australian Sports Turf Managers Association (ASTMA) as the latest candidates to be inducted into The R&A Scholarship Program. **Darcy Jones** (Victoria Golf Club), **Thomas Jones** (Royal Sydney Golf Club, NSW), **Dan Nichols** (Latrobe City Council, Vic) and **Jordan Wemyss** (Kingston Heath GC, Vic) have all been named as 2021 inductees, joining the six others who were part of the initial intake in 2020.

"I have invested considerably in my career because it is an industry I am passionate about," says Nichols, who works as a team leader for Latrobe City Council in regional Victoria. "I have self-funded the completion of both the Certificate III and Diploma in Sports Turf Management as well as paid for the purchase of all my own literature, equipment, conferences and seminar attendance and association memberships."

"To receive The R&A Scholarship allows me to continue to make this investment in my career by providing me with the means to attend seminars and conferences but also provide me with the opportunity to proceed further past my degree and onto a Masters degree."

First announced in December 2019, the ASTMA partnered with The R&A to pilot an expansion of The R&A Scholarship Program into Australia during 2020. The aim of the scholarship program is to increase awareness of sports turf management as a career and to

ensure that The R&A's sustainability strategy continues to be communicated to all turf professionals. In addition to financial support for the successful candidates, the scholarship offers networking opportunities, the ability to develop further study domestically or abroad and opportunities to volunteer at events such as The Open and on the European Tour.

In March 2020 scholarships were awarded to **Thomas Smith, Mitch Hayes, David Mason, Simon Wilson, Richard Newman** and **Andrew Anderson**. They have now been joined by...

DARCY JONES



Assistant superintendent, Victoria GC

After spending five years at Royal Melbourne Golf Club, during which time he helped with preparations for the 2019 Presidents Cup, last October Jones was appointed assistant superintendent at Victoria Golf Club under Steven Newell. Jones completed his apprenticeship at Bermagui Country Club, finishing in 2015. After completing, he spent a six-month placement at the All England Lawn Tennis and Croquet Club before returning to Australia and gaining a place at Royal Melbourne. Jones is currently nearing completion of his Bachelor of Agricultural Science and Technology degree (Turf major) through Melbourne Polytech.

THOMAS JONES



Assistant superintendent, Royal Sydney GC

The twin brother of Darcy, Thomas is the current assistant superintendent at Royal Sydney Golf Club, a position he has held for the past four years. Prior to his time at Royal Sydney, Jones spent nearly 18 months at Riverside Oaks in both assistant and superintendent

capacities. Earlier in his career he spent time in the US, working the PGA Tour's Quicken Loans National at RTJ Golf Club in 2016, the Bay Hill Invitational in 2014 and the AT&T National at Congressional in 2013. Like his sibling, Jones is currently undertaking the Bachelor of Agricultural Science and Technology degree through Melbourne Polytech.

DAN NICHOLS



Team Leader, Latrobe City Council

Originally from Bedfordshire in the UK, Nichols found himself in regional Victoria playing cricket 10 years ago. As befalls many an 'import', he met a local girl and extended his stay in Australia. Supergardens gave Nichols an opportunity on the grounds crew at Caulfield Racecourse. He began the Cert III of Sports Turf Management at Holmesglen and moved to Camberwell Grammar where he worked on the oval, preparing cricket pitches. Having since completed the Diploma, he has undertaken a Bachelor Degree at Melbourne Polytechnic and is now employed by the Latrobe City Council in Victoria's Gippsland region where he manages a crew of five.

JORDAN WEMYSS



Greenkeeper, Kingston Heath

Wemyss is currently undertaking his Diploma of Sports Turf Management through Holmesglen TAFE. After spending over three-and-a-half years at The Heritage Golf and Country Club, including two years as foreman, in August 2021 Wemyss made the move across to Kingston Heath Golf Club.

ATM congratulates the four new R&A scholars and trusts that being a part of the program will afford them some unique opportunities as their careers progress.

ON THE MOVE...

ANDREW MOON: Departed Dunheved GC, NSW to move to Queensland.

THOMAS SMITH: After 14 years across two stints as superintendent at Waterford Valley Country Club in Melbourne, Smith has departed to take on a role with STRI Australia as a consultant agronomist.

BRAD VAN DAM: After stepping down as head curator for ACT Cricket (Manuka Oval) after 13 years last April, Van Dam has taken on the role of assistant project manager with Cord Civil.

WILL OCKENDEN: From senior greenkeeper Concord GC, NSW to superintendent Goulburn GC, NSW.

RYAN STORES: From assistant superintendent to superintendent Royal Canberra GC, ACT.

MARTYNA SYNAK: From assistant superintendent Oatlands GC, NSW to senior greenkeeper The Australian GC, NSW.

TOM TRISTAM: From superintendent Carramar GC, WA to superintendent Secret Harbour GC, WA.

2022 starts once again being cautiously optimistic with the Omicron variant dominating the media and daily life overall. While the plan had been to meet in person in Melbourne for the first committee meeting of the year, once again we will be convening by Zoom, simply to be practical and safe in the current environment. We do, however, look forward to finally catching up with VGCSA members at our March education meeting due to take place at Kingston Heath and Yarra Yarra golf clubs on 7 March. Let's hope that all plans fall smoothly into place on the day.

Later in March and early April, the VGCSA will present training days covering the specialty areas of irrigation and turf equipment management. Special thanks go to our partner



Peninsula Kingswood CGC will host the 95th VGCSA AGM in May

trade company members Tees and Greens, Rain Bird and Toro for facilitating the sessions.

Further in May, the VGCSA heads down south to the Peninsula Kingswood Country Golf Club where we will be holding our 95th Annual General Meeting. This brings to mind being only five years away from the association's centenary. In preparation, the VGCSA is in the planning stages of appointing a suitable author to document historical milestones and development of the golf turf industry over time.

Despite restrictions last year, VGCSA trials were able to be conducted over the winter period by our resident turfgrass agronomist **John Neylan**. Three sites were sourced for the winter *Poa* trials – these being Sorrento, The Dunes and Kingston Heath. We wish to thank these clubs for taking part. All trial data is currently in the process of analysis with a report due for completion soon.

SHANE GREENHILL
PRESIDENT, VGCSA

TORGENSEN WINS VICTORIAN GOVERNMENT GOLF SCHOLARSHIP

Golf course environmental expert and ASTMA/VGCSA member **Kate Torgersen** has been named as a recipient in the latest round of a Victorian Government golf industry scholarship. Victorian Minister for Community Sport Ros Spence announced in mid-December six recipients as part of the second round of the Golf Scholarship Program, which offers up to \$7500



Scholarship recipient Kate Torgersen

scholarships in golf administration, player and horticulture and design categories.

Torgersen (pictured) runs her own

consultancy business Environmental Golf Solutions and since the start of 2018 has been a regular columnist for the ASTMA's Australian Turfgrass Management Journal, writing about all things to do with improving and championing the environmental management of golf courses and turf facilities. (See page 54 for Kate's latest column – Ed.)

Torgersen says receiving the scholarship was "a great surprise" and will use it to undertake a Diploma in Sustainable Operations, which includes units such as

developing strategic sustainability plans, measuring and reporting carbon footprints and developing business cases for sustainability improvements.

"This program is all about creating more pathways for keen golfers on and off the green," says Minister Spence. "These scholarships can help more people get the best guidance and support needed to further develop and advance their careers in the sport." Among the other recipients were **Jade Shellback** (Royal Melbourne GC), **Jasmine Davis** (Barwon Valley GC), **Vanessa Roberts** (Leongatha GC), **Maddy Caldwell** (Ballarat GC) and **Brady Watt** (PGA of Australia).

Applications for the third round of grants closed on 17 February 2022. For more information about the Golf Scholarship Program and how to apply, visit <https://sport.vic.gov.au> and click on the Grants and Funding section.

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RICHARD KIRKBY FAREWELLS PENNANT HILLS GOLF CLUB

One of Sydney's longest-standing course superintendents **Richard Kirkby** has called it a day. After more than 28 years at the elite Pennant Hills Golf Club in Sydney's north, in early January Kirkby informed the club that he was resigning, with his last day being 11 February 2022. He will take leave until the end of March, during which time he will notch up his 60th birthday.

Kirkby, a life member of the NSW Golf Course Superintendents Association (NSWGCSA), plans to take a break for a few months to do some travelling, before returning to continue running his small lawn care business which he has operated separately for a number of years.

"I wanted to go until the club's centenary in 2023, but while I still love what I do I felt like I needed a change of pace and to refresh," says Kirkby. "I have been here for 28 years, nearly half my life, and the time is right. It has been a good journey and I'm going to miss it."

"I've been known for being able to switch off from work and have always had that good work-life balance, but in the last few years I have found that it has been harder to achieve. That got into my head a bit and when I saw how relaxed **David Warwick** was after he stepped down at Avondale Golf Club last year, I thought there's something in that."

In a letter sent to the members announcing Kirkby's departure, Pennant Hills president Michael Rowan paid tribute to the manner in which he had turned the course around during his tenure: "One of the great strengths of our club is the widely acknowledged condition and exceptional presentation of our golf course. Members talk about it, analyse it and visitors are quick to comment favourably on it..."

"For the past 28 years we have enjoyed the skills and energy that Richard has applied to developing what we have today. We have trusted Richard with the vision, maintenance, operation and management of the course and the outstanding layout and presentation that we enjoy today are a credit to him and to his team. Richard has been an outstanding superintendent and we shall miss him."

Kirkby began his turf management career at Avondale Golf Club where his father was a member and who was a single-figure handicapper into his late 70s. Finishing his apprenticeship there in 1985, Kirkby then completed a short three-month stint as



After 28 years as course superintendent of Pennant Hills Golf Club in Sydney, in February Richard Kirkby hung up the hole-changer for the last time

Pennant Hills 3IC before being appointed assistant superintendent at Concord Golf Club under **John Odell**.

After a year at Concord the world beckoned and Kirkby headed overseas, travelling and surfing through Europe, Scandinavia and North Africa for a year before returning to take on the 3IC role at Royal Sydney Golf Club under Odell who had moved across town. After a year as 3IC, Kirkby was elevated to the assistant superintendent role, spending five years as right-hand man to one of the industry's most accomplished superintendents. In January 1994, at Odell's encouragement, Kirkby applied for the vacant Pennant Hills superintendent role and was successful, a position he has held ever since.

"I think I've changed this place for the better during my time," says Kirkby of his time at Pennant Hills. "When I first started here it was just a parklands course that was tired and rundown, with a lot of *Poa* in the greens and bare areas in the roughs. I remember going back to John Odell after three months and asking if I could come back! He said, 'No, stick with it, you'll turn it around'."

"It took a good three to four years to get it to a level where I was happy and then keep it there. It involved a lot of hard work and that

first 12 months was super stressful. I replaced everybody except one guy in that first year and was working 12-hour days. I think my record was working for 63 days straight."

"Over the years we put in a new irrigation system, built a new maintenance facility, installed a state-of-the-art sewer-mining recycled water plant and rebuilt all the bunkers twice. But I think the big highlight for me has been the level of grooming that we have achieved over the years. Luckily I had some great training from John Odell, so I knew how to groom the course properly. I'm very particular about that and I'm very big on the one percenters and maintaining the course to a high level despite having an ageing fleet of machinery."

For Kirkby, saying goodbye to a club that has been a second home for the best part of half his life has been hard, especially his crew. "That has been one of the most enjoyable aspects of my time here," reflects Kirkby. "I have been lucky to have some great staff here over the years – the likes of **Mark Warwick**, **Paul Gumbleton**, **Spencer Davison**, **Brian Ridge** (who has been here 15 years and is a benchmark for this place) and **Andrew Kinsella** (who was a very good mechanic here for 21 years)."



The tree-lined layout of Pennant Hills Golf Club has developed a reputation during Kirkby's tenure as being one of the best groomed courses in Sydney

"We had a great team of guys there for a long time and we are building again now and starting to get a lot of good quality young guys coming through. My assistant **Liam Ash**, who wasn't even born when I first started here, has been here 11 months and has done a fantastic job to date. He has some great ideas and will probably make a few changes which will be good for the club.

"I've always had that eye for detail and enjoyed managing the staff. I'll certainly miss that and seeing a well-presented golf course for a Wednesday comp and on a Friday afternoon. I have loved developing plans and seeing them come to fruition. Since I was 17, greenkeeping has been my whole life – I don't know anything else. Luckily I've always had great people around me, whether it has been

mentors like John Odell and contemporaries such as **Peter Watts** (Muirfield GC), David Warwick (ex-Avondale), **Michael Bradbery** (ex-Manly GC, now Syngenta), **Mark Parker** (NSWGC) and **David Worrall** (Living Turf)."

At the NSWGCSA AGM held online last November, Kirkby was one of three long-serving members to be awarded life membership of the association. Kirkby joined the likes of **Mark Schroder** (Liverpool GC) and **Mark O'Sullivan** (Roseville GC) in receiving the honour and will be formally recognised at the Elite Sand and Soil Rube Walkerden event to be held at Killara Golf Club in April.

A 31-year member of both the NSWGCSA and AGCSA/ASTMA, Kirkby was a NSWGCSA Board member for nine years, including seven years as the association's education convener and also three years as vice president. In 2015 he was also the recipient of the NSWGCSA Superintendent of the Year Award.

In the week's following Kirkby's announcement, Pennant Hills confirmed that assistant superintendent Liam Ash had been successful in taking over from his former boss, with the club now seeking a replacement assistant. ATM congratulates Richard on a fantastic tenure at Pennant Hills, his service to the industry over many years and wishes him all the best as he transitions into the next phase of his life and career.

NSWGCSA

C OVID-19 continues to play havoc with staffing levels in NSW. Between the close contact rules and COVID itself, staffing numbers have been depleted throughout a difficult summer. Hopefully things will now start improving as we move into 2022.

NSWGCSA held its AGM last November where three of our long-serving and well-respected members were awarded life membership of the association – **Mark Schroder** (Liverpool GC), **Mark O'Sullivan** (Roseville GC) and **Richard Kirkby** (Pennant Hills GC). Life membership is awarded for service to the industry, longevity, involvement and being a good role model. This is a great achievement and well deserved. All three recipients have been leaders in the industry for many years and have also served on the NSWGCSA Board.

The departure of **Nathan Bradbury** (former president), **David Somerville** (former vice president) and Mark Schroder (education portfolio) from the NSWGCSA Board will be missed. Over the years they have made huge

contributions to our organisation. I would like to thank Nathan for guiding the association through some very changing and difficult times. Thank you to David and Mark for the hours of work and dedication you have put into the association with the magazine and education, just to name a few.

The NSWGCSA Board finally had the first opportunity to meet in January and the portfolios below have been assigned. We have a great group of superintendents that are passionate about our industry and I look forward to working with the new Board. The NSW committee comprises:

- **President:** Leon Hennessy (Cromer GC)
- **Vice president:** Peter Donkers (Long Reef GC – advertising)
- **Treasurer:** David Stone (Pymble GC)
- **Committee:** Pat Wilson (Pambula-Merimbula GC – field days), Aaron Cachia (Toronto CC – membership), Ben Mills (Hawks Nest GC – education), Mark



*New NSWGCSA president
Leon Hennessy*

Spraggs (Forster Tuncurry GC – magazine/social media) and Simon Blagg (The Lakes GC – 2IC representative/ magazine/ social media)

The three main events for the year have been finalised with the 2IC Education Day being held at Long Reef GC on 29 March. The Rube Walkerden Golf Day at Killara GC follows on 21 April.

The Ambrose Golf Day/Outdoor Trade Show at Club Catalina will be held on 16 May.

We are all looking forward to the upcoming Rube Walkerden golf event and the ongoing support from our membership. The event will include some presentations as well as annual awards, life membership presentations and service awards. I look forward to seeing you all there.

**LEON HENNESSY
PRESIDENT, NSWGCSA**

TONY JONAS (NORTH SHORE GC, NZ)

Long-time Australian Sports Turf Managers Association member Tony Jonas (CSTM), course superintendent of North Shore Golf Club in New Zealand, died on Monday 24 January after a short illness. He was 59. The Auckland Golf Course Superintendents Association (AGCSA), of which Jonas was president of, announced the news on its Facebook page the following day, paying tribute to a much-loved character who worked on both sides of the Tasman over a three-decade turf management career.

"It is with great sadness and a heavy heart that we must inform you of the passing of our friend, colleague, mentor and AGCSA president Tony Jonas after a short illness," the AGCSA wrote. "As many of you will know, Tony had an infectious character, loved a yarn and had one or two great stories to tell. His passion and enthusiasm for the industry was undoubtedly clear, a true professional at the helm. He saw the best in people, was an excellent mentor and all round great guy."

"In the last five years Tony has been managing the operation at North Shore Golf Club as well as being an active contributor on the AGCSA in his role as president and trade liaison... As a friend, colleague and past staff member, he will be deeply missed."

Jonas began his apprenticeship in 1986 at Liverpool Golf Club in Sydney under ASTMA Distinguished Service Award winner Reg McLaren, who himself passed away late last year, and finished it under current day Liverpool superintendent Mark Schroder. After he completed his apprenticeship Jonas joined the staff at Bardwell Valley GC as an assistant superintendent and two years later got his first gig as superintendent at Marrickville GC. Always passionate, ambitious and keen to broaden his greenkeeping skills, he then jumped at the chance to be construction superintendent at Macarthur Grange CC.

Upon completion of that project he journeyed to New Zealand where he initially served as superintendent at Omokoroa GC in Tauranga. A few years later he landed the head role at Gulf Harbour Country Club just north of Auckland. Gulf Harbour had just been awarded the 2006 NZ Open which at that time was a co-sanctioned European Tour event. Jonas was in his element and did the event proud. Upon leaving Gulf Harbour after three-and-a-half years, Jonas spent the next five years as a street operations manager for the Auckland Council, before the fairways and greens of Australia began calling once more. He spent one-and-a-half years as superintendent at Toowoomba Golf Club before heading back to New Zealand to take on the role of territory sales manager for Turfgrass Specialists.



Tony Jonas plied his trade on both sides of the Tasman, most recently as superintendent of North Shore Golf Club in Auckland

In 2016 Jonas returned to the tools when he was appointed as superintendent of North Shore Golf Club in Auckland where he resided up until his untimely passing. Jonas saw through a number of major projects during his tenure at North Shore, including the rebuild of the 3rd hole and the transition on the Red 9.

"Tony was a larger than life character who transcended all parts of the turf industry in his many years of involvement," says New Zealand Golf Course Superintendents Association (NZGCSA) president Jason Perkins. "Tony will be remembered as a true professional superintendent, a dedicated family man, a gentleman, a leader and a passionate greenkeeper."

KEVIN SHARROCK

In a double blow for the NZ superintendent community, a few days following Jonas' passing the NZGCSA also announced that long-serving Whangarei Golf Club superintendent Kevin Sharrock had died after being diagnosed with a brain tumour shortly

before Christmas. Posting on its Facebook page the NZGCSA noted:

"'Shammy' was a stalwart in the Northland association who worked tirelessly for the betterment of his peers and colleagues at regional level and also served on the national management committee. Anyone that knew Kevin speaks of him as one of life's good buggers. He was always ready to share a beer and a yarn."

GARTH WILLIAMS

The NZGCSA also announced in early December the death of former long-serving Grange Golf Club superintendent Garth Williams after a long battle with illness. "Garth was a passionate greenkeeper who gave countless hours of his time bettering the industry as a whole," the NZGCSA posted on Facebook. "He was responsible for training many apprentices and served on the NZGCSA Board for a number of years. He was also a life member of the Auckland GCSA." 🙏

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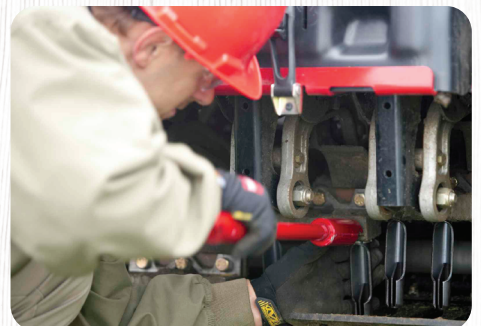
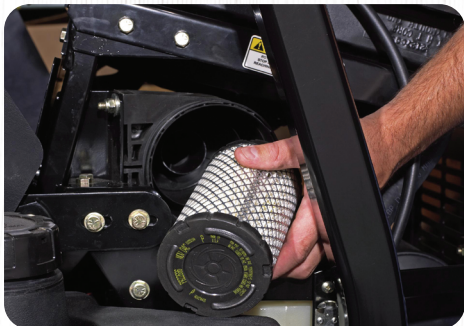
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