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ISSN 1442-2697 www.agcsa.com.au

Turfgrass



VOLUME 12.4 JUL-AUG 2010

MANAGEMENT JOURNAL

Green greens

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2010 AGCSA Award Winners

Les Burdett
David Warwick
Jodie Grainger
Steven Johannessen
Adam Shields

The Lost Farm

Barnboughle's new beauty

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COVER PHOTO: BARBOUGLE LOST FARM

The rugged par 3 15th on the new Barnbougle Lost Farm course which is set to open December 2010. **Photo: Brett Robinson**



COVER STORY: Barnbougle's new beauty – The Lost Farm

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When Barnbougle Dunes opened in 2006 it quickly became recognised as one of Australia's most cherished links layouts. Come December 2010, however, it is set to be rivalled by its sibling – Barnbougle Lost Farm. ATM editor Brett Robinson toured the new course in autumn with course superintendent Phil Hill and got a sneak peak of what is another stunning Coore creation.

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Rectangular stadium Melbourne's new star attraction

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Arup senior civil engineer Jarrod Hill and Melbourne Olympic Parks Trust horticulture manager Adrian Black look at the construction of the \$267.5 million AAMI Park, Melbourne's first purpose-built rectangular pitch stadium which will be home to four of the city's premier sporting teams.



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Situated near Noosa Heads in Queensland, Kabi Golf Course is a purpose-planned organic golf course integrating sustainable food production with recreation and conservation. Over the past nine years Kabi has pioneered the art of organic golf course management and here course superintendent Troy MacLaren provides an insight into his unique management operations.

Conference captivates and cultivates

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The Gold Coast played host to the 26th Australian Turfgrass Conference for 2010 with more than 500 delegates and a further 600 trade exhibition visitors

attending. ATM wraps up the industry's biggest gathering of the year and showcases some of the lasting images from the week.

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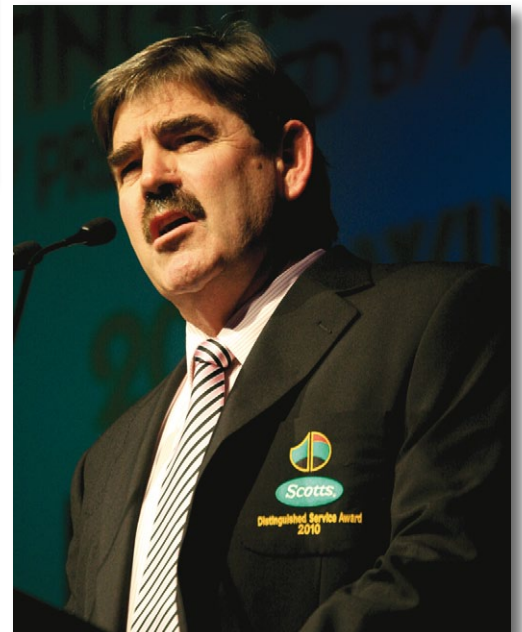
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US eye-Open-er

Did u c the us open? What was up w the greens?' So read a text I received from a former journo colleague back in New Zealand just as the 26th Australian Turfgrass Conference literally teed off at The Glades Golf Club on the Gold Coast. I'm a rubbish texter – two left thumbs – so I wasn't exactly going to explain in depth the intricacies of intensively managed *Poa annua* greens to someone who chases ambulances and fire engines for a living.

However, his SMS did make me think. Given this chap has little no interest in the game, it was interesting that he felt compelled to pass comment. No doubt seeing the images of the Pebble Beach greens challenged his concept of what 'proper' golf greens should look like. Here were playing surfaces that weren't lush, green and receptive. On the contrary, they were motley and discoloured, and thus, by his standards, of poor quality.

While I must admit that I too did a double take when seeing the US Open greens for the first time, on reflection it was great to see something which hopefully challenged not just my mate but the mindset of many club golfers around the country. Despite the aesthetics, the greens still provided a gripping stage on which the tournament was fought out on and Graeme McDowell's triumph will be long remembered.

It wasn't until a week or so after returning from the conference that I came across a very interesting article penned by USGA regional agronomist Pat Gross in a weekly USGA Green Section Record update. Gross was involved with preparations for the Open and in a piece titled 'Beauty in eye of beholder' he made these very poignant points:

"The mutual goal of the USGA and Pebble Beach was to provide firm, smooth and fast putting greens. Cosmetics and appearance were not high on the priority list. The grass on the greens is predominantly *Poa annua*, and like most *Poa annua* greens there are many slightly different biotypes that comprise the turf. When the greens were maintained on the dry and firm side, significant colour differences became more apparent.

"The two techniques most important in preparing the golf course for the championship involved reduced fertilisation and effective irrigation management. The putting greens went through a gradual dry-down process to achieve the desired conditions. They were in good shape and could handle being pushed.

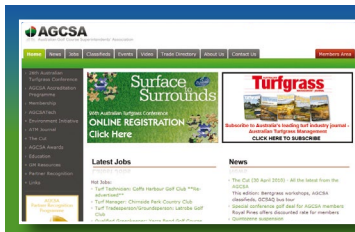
"The US Open is not about cosmetics; it's about providing a challenging and rigorous test to identify the best player. Producing a cosmetically attractive golf course would have been the easy task: a little more water, a touch of fertiliser, and we would have had green, pretty putting greens and soft conditions, but that was not the goal.

"Managing greens to this level requires meticulous preparation for months or years. Keep in mind that this conditioning is conducted for just one week of the year. Golfers should not expect championship conditions on the greens they play on daily. Dry, firm greens require nearly perfect shots to keep the ball on the putting surface. It also demands an extraordinarily talented and large maintenance staff to achieve the conditioning."

Before signing off, I would like to pass on my congratulations to all this year's AGCSA Award winners. 2010 was certainly a year of firsts – first female recipient (Jodie Grainger), first curator to win the Distinguished Service Award (Les Burdett), first dual award winner (David Warwick) and inaugural recipient of the Award for Academic Achievement (Steven Johannessen). In this edition we profile the Class of 2010 as well as look back on the week up on the Gold Coast. Enjoy the read.



Brett Robinson,
Editor



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Since opening in late 2004, Barnbougle Dunes has established itself as one of Australia's most unique links layouts. Come December, however, it is set to have some stiff competition in the form of its big little sister – Barnbougle Lost Farm. In March, AGCSA editor Brett Robinson got a sneak peak of the new Bill Coore masterpiece which is set to put Tasmania on the world golfing map yet again.

The glint in Danny Brown's eye said it all. Standing atop the spectacular elevated tee on the par 3 16th at Barnbougle Dunes on a glorious yet somewhat blustery November afternoon in 2006, the then superintendent of Barnbougle Dunes tapped me on the shoulder and said, "You think this is special, have a look over there! That's real golf country!"

“Richard (Sattler) has provided Bill Coore a blank canvas to do his best work and he has done that. We are now going to complement that by presenting some of the best fescue surfaces you are ever going to see.

Phil Hill, Barnbougle Lost Farm superintendent

'Over there', probably an eight iron across an ocean inlet, give or take a club depending on the wind, was a track of seemingly endless mountainous dunes covered in marram grass and scrub being whipped about by the prevailing zephyrs.

Brown certainly wasn't wrong. It was prime golfing country and he obviously knew a thing or two as three-and-a-half years later I'm recalling our conversation as I thread the XR6 hire car along the C818 en route from Launceston to Bridport. Over the past couple of years that piece of land has been slowly transformed into the highly anticipated second Barnbougle course – the Lost Farm – and as I do my best to negotiate the narrow country roads I try to envisage what this Bill Coore-designed gem must look like.

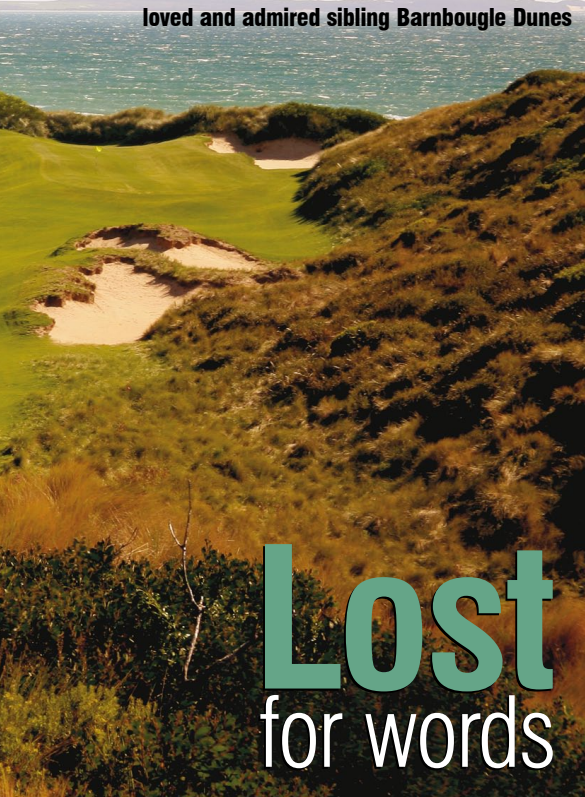
Arriving at Barnbougle Dunes in quick time – give me a Ford any day! – and on first glance not a lot seems to have changed. For a start the mobile phone doesn't work – Optus still hasn't discovered Barnbougle – while the maintenance compound is the same assortment of sheds, containers and portables, although slightly more weather-beaten. On the other side of the dunes the course looks as

magnificent as ever and even though it's just gone 9.30am the breeze is up and a healthy number of golfers are already embarking on their long journey.

There are a few changes however. Standing on the small rostrum overlooking the 18th green, away in the distance and across the abovementioned inlet there is the unmistakable green tinge of fairway and green. There it is – Barnbougle Dunes' new sibling.

But it's down at the maintenance shed where there has been another key change since my last visit. Brown is gone, having moved on to Royal Queensland, and in his place is one of Tasmania's leading superintendents. After a rewarding decade at Launceston Golf Club, in August 2007 Phil Hill, together with wife Paula and George the border collie, made the move from Launceston to Bridport.

Set for a soft opening in October and full opening in the second week of December, Barnboughe Lost Farm has the potential to rival its much loved and admired sibling Barnboughe Dunes



Hill had always been a marked man. Since the early days of Barnboughe Dunes, property owner and developer Richard Sattler had wanted Hill as his man on the ground, a home-grown Tasmanian with an intimate knowledge of the local conditions who was a top bloke to boot. Sattler persisted and finally got his man, but it took a pretty substantial carrot to lure Hill away from Launceston.

"I would have been quite content to come and maintain Barnboughe Dunes, but the prospect of constructing Barnboughe Lost Farm was definitely the big bait," explains Hill as we catch up over a cuppa before heading off to inspect the progress of the new course. "A development of this sort of magnitude rarely presents itself in Tasmania and was something that I couldn't knock back.

"I look back five years ago when I was at Launceston Golf Club, to whom I owe a great deal, and I really do need to pinch myself. To now be working at a world class course like Barnboughe Dunes and having the opportunity to construct and grow-in a course which is touted as being as good as, if not better than, Barnboughe Dunes, is, quite frankly, mind-blowing."

A DIFFERENT EXPERIENCE

Scheduled for a soft opening on 1 October 2010, with a full opening the second week of December, Barnboughe Lost Farm differs from Barnboughe Dunes on a number of levels. The land, albeit similar, boasts more radical style dunes, some rising nearly three storeys high, yet through the middle of the



property is a subtle plateau or basin on which five holes reside. Coore has described the land as very Lahinch-like.

Where coastal wattle and boobialla were removed during the construction of Barnboughe Dunes and subsequent maintenance practices are geared at having just the marram frame the course, on the Lost Farm development the design team of Coore, Dave Axland and principal shaper Keith Rhebb were mindful of removing as little of the remnant vegetation as possible. They wanted the site to remain as natural as possible and have a distinctly different feel to that of Barnboughe Dunes.

As for the playing surfaces, well, to describe them as big is an understatement. Although the holes hadn't been GPS'd when ATM visited, Hill estimates that the course as a whole is about a third as big again as Barnboughe Dunes. Some of the fairways could land an Airbus A380 and the par five 12th is 120m wide at one point. As Hill jokes "if you can't hit that, you shouldn't be out there!"

To give an idea of just how big they are, during the installation of the irrigation system all fairways were hardlined right out to the dunes. A total of 1500 Toro sprinklers were needed to complete the

In August 2007, Phil Hill (right) moved from Launceston Country Club to oversee maintenance operations at Barnboughe Dunes, as well as the construction and grow-in of the new Lost Farm course. Hill is pictured here with property owner Richard Sattler on the par three 4th – Sally's Point

A unique feature of Lost Farm is that the layout features 20 holes. The two additional holes are par threes including the sublime inland-facing 13.5 pictured below





Many of the Lost Farm's holes are on a grand scale. Fairways were hardlined out to the dunes and just to demonstrate how much bigger they are, the Lost Farm has 1500 sprinklers compared to Barnbougle Dunes' 900

Lost Farm set up, compared with a mere 900 at Barnbougle Dunes.

While the fairways are large, some of the greens are narrow, tricky and a lot more subtle than those across the inlet. In saying that, however, the 5th green weighs in at nearly 2000m² so spare a thought for the staff who will have to walk mow it three times a week come opening. The bunkers too are more subtle and number less (86) than Barnbougle Dunes. Instead of manufacturing bunkers, there are a lot more blowout style bunkers on the edge of fairways with a little bit of fescue incorporated into them.

A HOLE LOT OF MEMORIES

Perhaps the biggest difference golfers will note when they eventually turn up will come when they open their card. Instead of 18 holes, the Lost Farm as 20 – yes 20!

In one of those 'you had to be there' moments, legend has it that upon presenting their final design to Sattler, Coore and Mike Keiser had drawn up 20 holes from which to choose the best 18. Rather than

waste his or their time, Sattler put it to them why not build all 20. So in between holes 13 and 14 there is 13.5, a sublime par 3 facing back inland, and should you be all square after 18, the par three 18.5 should help settle any outstanding bets.

The fun begins at Lost Farm's 3rd hole, a 280m short par four. Easily drivable in the right conditions, turn up the wind and it becomes a completely different prospect. Up and over the hill and you come across one of the course's signature holes – the par three 4th, or Sally's Point as it is known. Named in honour of Sattler's wife, the hole resides right on the tip of the Lost Farm property and shortly after the Sattlers had acquired the property Sally had earmarked this corner as site of their future home. Hubby, however, had other ideas and now a green resides where the master bedroom would have been.

The 5th is a classic risk-reward prospect. About 100m in front of the tee is a towering two storey sand dune which leaves you with two options. Take the safe option and you have to shoot left of the dune to a generous fairway. If, however, the wind

The 11th is one of Lost Farm's more inland holes before 12 and 13 take golfers back to the coast





Over winter a lot of work has been undertaken around bunkers to thin out marram to enhance playability

is right and you fancy yourself with the big stick, there is the tantalising, albeit frightening prospect of hitting to the right of the dune, out over the inlet to a landing zone some 240m away. Push it too far right and you'll be contemplating the first option as you reload, but successfully land your tee shot on the downslope and the ball will scoot through leaving a mere lob wedge into the monster green which measures nearly 60 paces from front to back.

According to Hill the design team spent days thinking how they could improve the hole but it ended up being Sattler's intuition which eventually prevailed. Originally the green was unsighted from the tee, but Sattler suggested moving it closer to the inlet in order to tease the golfer. From there it was a

matter of scraping a little bit off the dunes to create a landing zone and voila – risk and reward at its best.

On the back nine, holes 12 and 13 are monsters, but the pick of the trip home is the stretch from 13.5 to 15. Come up the hill from the 13th green and you come across the first of Lost Farm's two 'extra' holes. Running perpendicular to 13 and 14, 13.5 is the highest hole on the course. The undulating green is guarded by a rugged bunker which intrudes into the front centre of the green and should you put your short iron wide or long you'll be taking a third from the tee.

On to 14 and the elevated tee complex provides a dramatic view down a runway-sized fairway and along the coast to Bridport (see main photo page

THE LOST FARM - WHAT'S IN A NAME?

So how did Barnbougles Lost Farm get its name? Well, the farming property on which Barnbougles Dunes and now the new Lost Farm course reside has been known as Barnbougles forever and a day.

Current owner Richard Sattler bought the track of land in 1989 and it is a little known fact that he had an 18-hole course conceptualised on what is now the Lost Farm site. Those plans were eventually shelved and it wasn't until some years later that Barnbougles Dunes was born in 2004. The rest as they say is history.

According to Sattler the Lost Farm derives its name on account of cattle going astray within the property's mountainous dunes. During winter it was a popular area for cattle to congregate due to it being dry on account of the free-draining dune sand.

But now where cattle once roamed, golfers will soon be treated to what is hoped will be yet another world class golfing experience. The new Lost Farm development has generated even more interest in Barnbougles and since starting to take shape website traffic has tripled and the pro shop at Barnbougles Dunes has been inundated with booking requests. In a deliberate ploy, there has been minimal marketing of the new course but as word of mouth has spread, enquires have turned from a trickle into a flood.

"It was a matter of getting Barnbougles Dunes established first before embarking on the Lost Farm," explains Sattler. "I guess we have followed the Bandon Dunes model somewhat in getting the first course established and then going from there. Also, this time around we were very keen to get the Bill Coore – Ben Crenshaw design team and it was more a matter of waiting for them to become available before we could embark on the development."

Looking back down the par four 14th



Although nearly putting Coore in an early grave – Coore deems any form of manmade building on his courses as akin to vandalism – the Lost Farm will feature a spectacular dune-top clubhouse-cum-restaurant and wellbeing centre. The building is perched to the left hand side of the spectacular par three 15th (featured on this edition's cover) and affords a million dollar view down the 18th hole, across the coastline and back towards Bridport. Taking advantage of the grand vistas, the restaurant will have massive bay windows, while those lucky enough to book a spa or massage will also enjoy similar views. Adjacent to this complex are 50 hotel-style units.

So with the second Barnbougles course set to open, what chance then of a third? Well, lack of land isn't an issue. When you stand on the back tee of 13.5 and look east there is yet another incredible track of virgin dune land which would make for prime golfing country. When asked if it's a possibility, Sattler just laughs. "That might be one for the next generation. I'm going to take some time off after this one."



◀ **The delightful par three 6th. Many of the Lost Farm holes were ‘just there’ and required little shaping**

6). This is Hill’s pick of the bunch – a relatively short par four with a tricky narrow green which drops off severely on the left. According to Hill the hole required minimal input and aside from shaping the green, adding the tees and removing a few dozer loads of sand to create the right hand side fairway bunker, nature had done everything else. The par three 15 which follows is hard to beat as well and if the wind is blowing – which for 364 days a year it does – your tee shot will be out over the beach.

“All 20 holes have a unique character and Coore has made use of every available natural feature to ensure the Lost Farm provides a different golfing experience to Barnbougles Dunes,” says Hill. “All 20 will be maintained and open for play and golfers can choose which ones they want to play.

“There is also a practical element to having 20. With a number of holes on the new course near the coastline, they are susceptible to the wind and in extreme conditions some greens can be a couple of inches under sand in a matter of hours. In these instances we can use these extra holes to ensure a full 18 is playable.”

A FEEL FOR FESCUE

While providing another great golfing experience for those punters travelling to Barnbougles, from a turf management perspective the Lost Farm doesn’t provide too many additional challenges than its neighbour. All turf varieties on the Lost Farm are the same as Barnbougles Dunes, with differing mixes of

Chewings, slender and creeping red fescues. The greens contain about 10 per cent bentgrass, which will gradually disappear as the fescue out-competes it over time, while the tees have a slightly higher rate of creeping red to assist with recovery.

“It (fescue) is a beautiful grass,” says Hill. “In its infancy it is a little bugger because it is very slow to germinate and takes a long time to mature and form that good turf structure. But the end result is very rewarding and compared with ryes and other cool-season varieties I’d much rather work with fescue. There’s no better grass that suits the environment here and once it matures it is easy to manage. It is very hardy in terms of traffic and drought, doesn’t like much water and performs best when it’s lean.

“I was very lucky to have spent 12 months on Barnbougles Dunes before we started construction on the Lost Farm, so I was able to get a real feel for the fescues; what they liked, what they didn’t like, how far you could push them and working with wetting agents in a sandy environment. I gathered as much information on management practices as I could from Barnbougles Dunes and have been able to apply them over at the Lost Farm.”

WIND AND WATER

Just as Hill has had to adapt to managing a monostand of fescue for the first time in his turf management career, the new Lost Farm development has also provided Hill with his first true taste of full blown course construction.

During the initial routing and shaping the design team of Bill Coore, Dave Axland and shaper Keith Rhebb were mindful to retain a lot of the site’s remnant vegetation



Just to make sure his introduction was a comprehensive one, the birth of Barnbougles second course wasn't without its problems and the local weather conditions, which Hill knows of only too well, conspired on numerous occasions. Fortunately, these setbacks all came during construction and grow-in and given the magnitude of some of them, they could have spelled disaster had the course been open for play.

The first drama came last winter, which turned out to be one of Tasmania's wettest on record. Nearby Bridport recorded 358.6mm for the three months from June to August 2009, well above historical averages, and with a very shallow water table across the Lost Farm site it didn't take much for the trouble to start.

Four holes – 2, 7, 12 and 13 – all of which were among the first to be constructed, were literally washed away. After waiting in some cases up to 12 weeks for the water table to recede, Hill brought the dozers back in and completely stripped each hole (fortunately three of the four greens weren't damaged). Starting over, all irrigation was raised – in some areas by more than 1.5m – while additional drainage was incorporated. "Trust me, they will never be wet again," assures Hill, who also took the liberty to make subtle changes to some of the bunkers on these holes.

Then came last summer. A week out from Christmas a severe thunderstorm passed through

the area with the irrigation systems at both courses coping lightning strikes. The Lost Farm came off worse with the pump shed taking a direct hit, blowing one of two variable speed pumps and frying the main communication cable.

For two weeks Hill could only irrigate with one pump and just to add to the challenge Mother Nature decided that a hot, windy spell was due, with temperatures between 27 and 30. Areas that had been recently hydroseeded dried out rapidly and the wind had little trouble in stripping back large scabs and scattering them to the far reaches of the course.

To top things off, a few weeks later a king tide saw sea water intrude into the course's only water storage. It was nearly two days before Hill realised he was pumping 6.7dS (about 20,000ppm) of saline irrigation water onto the course (normal levels are 0.2dS or 600ppm) by which stage the juvenile fescue was starting to turn.

"We just didn't click," recalls Hill. "At that stage we were very conscious of monitoring salt levels every week as we were exposing new channels to our main irrigation dam and were worried about the levels rising. Everything was going smoothly and we hadn't monitored them for a few days. It was on a Friday afternoon that I just happened to check the levels and my jaw just hit the floor.

"We were able to use some water from further up on Richard's property and had no option but to shandy that with the remaining dam water.



The Lost Farm's playing surfaces are all fescue with differing mixes of Chewings, slender and creeping red, while the greens contain a small percentage of bentgrass



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◀ The beautiful par 3 15th with the early stages of the new clubhouse-cum-restaurant and wellbeing centre visible on the dune above

Fortunately we didn't lose any turf but the fescue turned yellow pretty quick and didn't recover for quite some time. It was lucky we were down to one pump.

"The one good thing that did come out of it all was that we were able to build up the levy wall. It had always been a bit of an unknown and was another example of something we were able to fix and get right ahead of opening the course."

COMING TOGETHER

After the issues of the past 12 months, thankfully for Hill the recent autumn and current winter have remained drama-free, enabling his team to concentrate on getting the turf surfaces ready for their grand unveiling.

Heading into the cooler months, Hill was looking to harden the fescues off using a high potassium-based fertiliser and then spoon feed sparingly over winter. Greens have been maintained at 9mm with a target of 5mm come opening, the same height as Barnbougale Dunes. Fairways have been at 19mm and will be lowered to 13mm, while tees, surrounds and approaches will eventually be 13mm.

Due to high fertiliser rates used during grow-in, the marram has gone berserk especially around tees and bunkers and much of autumn was spent thinning out problematic areas and identifying and minimising other potential hazards. While removing marram from some areas, Hill and his team have also been planting it out in others, most notably the right hand side of the 1st fairway where strippings were slow to take and a quick fix was required to improve the hole's aesthetics.

Pathways have also been a major focus in recent months and when Coore was last out in mid-March a great deal of time was spent discussing what was initially a sensitive subject. Coore wanted the paths, or 'trails' as he calls them, to be inconspicuous and minimal, however, a compromise had to be reached in order to effectively move golfers around without causing damage to some of the course's more sensitive areas.

"Bill was over the moon when he came out in March," says Hill. "Prior to that his last visit was in December and when he came back in the autumn he had the biggest smile on his face. His last words to me were that he had every confidence that the turf would be ready for opening and that the only thing we had to concentrate on was the pathways and the intensity of the marram around the bunkers."

"Because we were in grow-in mode and we had to fertilise a lot, the marram had become real dense and thick. Aesthetically around the bunkers it looked bloody beautiful, but from a playability point of view it would have been too tough. While the marram isn't in the line of play and more on the sides of the bunkers, if you were to get your ball in there you would be in a world of pain."

"Bill, of course, was dead right and wanted us to thin it out across all bunkers, so we went back in and stripped it back so that the fescue could show itself more. We'll keep the marram obviously, but will manage it so that it is more wispy instead of the thick and unplayable."

SOMETHING SPECIAL

With October fast approaching, there is certainly a sense of expectation among the Lost Farm crew with nearly three years work about to come to fruition. Hill has been running two separate teams throughout the construction of the Lost Farm, with 10 stationed on the new development and eight back maintaining the benchmark standards of the first course. Hill has been wearing a beaten track back and forth between the two and is looking forward to starting a regular maintenance programme once the new course opens.

The anticipation within the golfing circuit is equally as palpable and Hill fondly recalls earlier in the year when golf course photographer Gary Lisbon came down to snap the new course. Lisbon requested that some flags be set up for the purpose of the photos, and when Hill and his crew turned up the following morning they found more than 50 balls on the 5th green. Golfers were loading up and hitting across from Barnbougale Dunes!

As for which course Hill prefers, well, it's no surprise that he remains ever the diplomat: "I love Barnbougale Dunes," says Hill. "It is the benchmark; the Lost Farm isn't there yet. I love the panorama of the Lost Farm, but I like the openness of Barnbougale Dunes. They are different and I really don't prefer one over the other, but when you take people over to the Lost Farm for the first time they are gobsmacked and it does make you realise that this is something special."

"In time I think the Lost Farm will be as highly recognised as Barnbougale Dunes. It is situated on a great parcel of land and Richard (Sattler) has given Bill Coore a blank canvas to do his best work, which he has. We are going to complement that by presenting some of the best fescue surfaces you are ever going to see." 🌱

Lost Farm's 18th



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Rectangular stadium. Melbourne's new star attraction



In May, Melbourne soccer, rugby union and rugby league fans witnessed the opening of the city's first purpose-built rectangular pitch stadium. Some three years in the making, AAMI Park boasts a capacity of 31,000 and will be home ground to four of the city's premier sporting teams. Arup senior civil engineer Jarrod Hill and Melbourne Olympic Parks Trust horticulture manager Adrian Black look at the construction of the \$267.5 million facility, its playing surface and maintenance requirements.

Situated within Melbourne's sports and entertainment precinct, the state-of-the-art AAMI Park is the first purpose-built rectangular pitch stadium in the city. The 31,000-seat stadium boasts an eye-catching lightweight bio-frame roof comprised of 20 interdependent domes which provide 80 per cent coverage for spectators against rain, unobstructed views of the ground and integration with a drainage system designed to collect rainwater for reuse.

Officially opened on 7 May 2010 when the Kangaroos defeated the Kiwis 12-8 in the 2010 ANZAC rugby league test, AAMI Park is the new home to the Melbourne Storm NRL side, Melbourne Victory and Melbourne Heart football (soccer) clubs and the Melbourne Rebels which enter an expanded Super 15 rugby union competition in 2011.

Melbourne-based civil engineering company Arup collaborated closely with Cox Architects and Grocon on the stadium design, providing structural and civil engineering, facade engineering, pedestrian modelling and arena consultancy. Arup worked closely with client Melbourne Olympic Parks Trust (MOPT) and subconsultants Irrigation Design Consultants and AGCSATech during the design and construction process to ensure all requirements were achieved and a world class facility and playing surface was delivered.

THE BRIEF

The brief for the playing surface appeared simple – design a FIFA and International Rugby Board approved flat playing surface that can be used to host football (soccer), rugby league and rugby union. The challenge for the designers was the

frequency of use for sport and entertainment exceeding 50 events per year. This meant that the playing surface had to endure high wear throughout the year with minimal recovery between matches.

Arup identified early in the project that the following key design elements had to be addressed to ensure the pitch could withstand the high intensity of use:

- Sunlight – a minimum of four hours of direct sunlight on every section of the playing surface;
- Ventilation – adequate air flow across the playing surface to assist with breaking the mildew process; and
- Routine maintenance/turf replacement – the proposed profile should be designed so that the playing surface can be readily maintained and allow for a successful turf replacement regime.

There was also an overall requirement to incorporate sustainable design into the stadium. This translated into the following design elements for the playing surface:

- Minimise water requirements for the turf – profile composition to create a perched water table;
- Efficient irrigation design – irrigation layout to maximise coverage and minimise overwatering, including no overspray into the seated areas.

THE PROFILE

The natural turf playing surface is 130m x 76m with a 3m wide perimeter synthetic grass surround. The flat playing surface is based on USGA putting green construction, with a 300mm rootzone sand layer overlying a variable depth drainage gravel blanket. The top 100mm of the rootzone sand layer is amended with peat moss.



The USGA putting green construction methodology relies on the creation of a perched water table at the interface between the rootzone sand layer and the drainage gravel blanket. Once this layer is saturated, any additional water passes through to the gravel drainage blanket below. The system allows for a very well drained surface, while providing a moist environment below the surface which promotes turf growth and health.

The AAMI Park profile is reinforced with StaLok fibres. The fibres were incorporated into the 60mm instant play turf profile to ensure a stable surface despite some sections of turf being laid only two weeks before the opening night. The turf consists of Legend couch which underpins a mix of SR 4600, SR 4220 and All Star 2 fine leaf ryegrasses. The Legend couch was selected because of its low thatch accumulation, high vigour and rapid recovery after wear. It is also conducive to oversowing and supports the ryegrass well.

The selection of ryegrasses were chosen after two years of trial work and feature excellent wear tolerance and recovery from injury, improved summer stress tolerance and active winter growth. A major feature of the new improved varieties is the vivid dark green colour. The perimeter synthetic grass surround sloped away from the playing surface with any runoff collected by a perimeter trench grate system that connected to the trunk drainage network.

DRAINAGE AND IRRIGATION

Due to the flat playing surface, drainage occurs via infiltration through the profile and is collected in the underlying subsurface agricultural drainage network.

Working with AGCSATech, Arup produced a detailed profile construction specification for Grocon.

To enable collection of the infiltrated water through the profile, a ridgeline was formed in the subgrade in the middle of the playing surface along the length of the ground. Infiltrated water runs along the sloped subgrade layer until collected by subsurface agricultural drains spaced at regular intervals. The subsurface agricultural drains are connected to larger collector drains that fall to the perimeter trunk drainage network. The subsurface agricultural drains are configured in a traditional herringbone pattern.

The turf irrigation system for the stadium was designed by Irrigation Design Consultants to achieve five essential criteria:

- Application of 12mm irrigation depth in eight hours of operation;
- Individual time control over every sprinkler;
- Flexible irrigation scheduling to accommodate all pitch uses;
- Remote rootzone moisture monitoring; and
- Highest application uniformity possible.

The rectilinear layout of the playing surface, with seating on all sides, constrained sprinkler set-out geometry to few options. The final design comprises 49 pop-up rotary turf sprinklers covering the full pitch, with an extra five being utilised when moveable seating/stage intrudes onto the turf surface at one end. The final layout is a near-perfect, equilateral triangular geometry, based on 19 metres between sprinklers. All pipework on the pitch is medium density polyethylene with a pressure rating of 12.5MP.

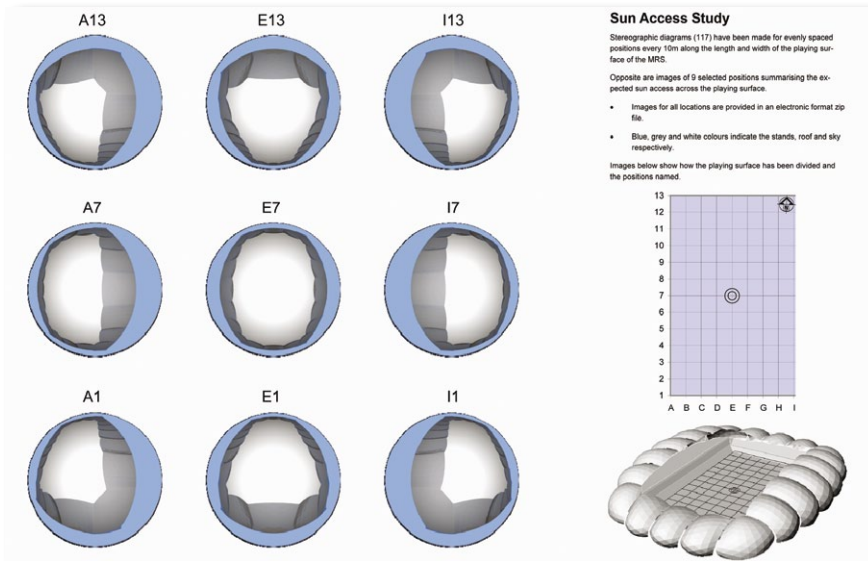
The proposed sprinklers were independently tested to confirm compliance with the high uniformity criteria. The following, theoretical, statistical uniformity criteria confirm the high uniformity achieved:

- Precipitation rate (at 485 kPa): 12.4 mm/hr;
- Christiansen uniformity coefficient (CU): 90 per cent (ideal 100%, min 85%);

Despite dreadful weather, Melbourne Olympic Parks Trust horticulture manager Adrian Black and his team had AAMI Park in superb condition for its official opening in May

In a first for Melbourne, the new AAMI Park rectangular stadium will be home to the Melbourne Storm NRL side, Melbourne Victory and Melbourne Heart A-League soccer clubs and Melbourne Rebels Super 15 franchise.
Picture © John Gollings





◀ **In light of recent shade issues at other stadia, Arup provided MOPT with stereographic images that illustrated annual daily sunlight across the AAMI Park playing surface. As a result, MOPT is considering purchasing two artificial light rigs to aid with surface recovery during winter**

- Distribution uniformity (DU): 87 per cent (ideal 100%, min 75%); and
- Scheduling coefficient (SC): 1.1 (ideal 1.0, max 1.4).

To provide individual timing for every sprinkler, a solenoid valve is installed under each and the system is operated by a computer control system which can apply multiple irrigation schedules, created to suit any pitch use scenario. To assist with scheduling and to economise on water consumption, remote output soil moisture sensors have been installed in the rootzone at several locations.

SUN/SHADE STUDY

In light of recent shade issues at other stadia around the world and the effects this has on turf health, Arup provided MOPT with stereographic images that illustrated the annual daily sunlight across the playing surface during the year (a 10m x 10m grid was created across the whole surface).

These images were reviewed by Dr Andy Newell, head of turfgrass biology at the Sports Turf Research Institute (STRI) in the United Kingdom. Andy identified that in winter, the northern end of the ground may require supplementary light due

Backfilled subsurface agricultural drain prior to subgrade final trim



to prolonged periods of insufficient direct sunlight. As a result, MOPT is considering purchasing two artificial light rigs.

VENTILATION

Scaled model wind tunnel testing, used to verify structural wind loads, was also used to establish the wind/ventilation profile at the playing surface. The specialist consultant advised that the shape of the roof and orientation of the stadium assisted ventilation and that adequate cross-flow air movements would exist to keep the turf in good health.

CONSTRUCTION AMENDMENTS

Given the constrained nature of the site, Grocon identified the arena as a temporary construction platform and lay down area for the roof and internal stadium construction works. This meant that the programming for the arena works were governed by these construction processes.

Should construction of the stadium be affected and subsequently the programming extended, this would greatly affect construction of the playing surface and potentially risk the establishment of the turf. To address this risk, MOPT, in consultation with the design team and Grocon, decided to order pre-established 60mm reinforced turf sod rolls rather than the initially specified washed turf.

The initial design for the arena included a 3m wide light duty perimeter pavement covered by synthetic grass for the use of maintenance vehicles and to assist with roof shading. During construction the pavement thickness was increased so that it could act as a construction access road and staging area for Grocon. Grocon also requested that four tower cranes be located within the corners of the arena for the duration of major construction work elements. Changes to the drainage configuration were made to accommodate these.

CONSTRUCTION PROCESS

Stadium construction began in October 2007. Among all the piles, slabs and footings for the stadium, the construction of the perimeter retaining wall was the first sign of the shaping of the arena. As sections of the arena became available, the subgrade shape was formed.

The formation of the ridgeline in the subgrade and construction of the retaining wall resulted in stormwater being directed to the interface of the subgrade and retaining wall. Due to construction programming, the proposed drainage network had not been installed and temporary drainage measures could not cope with large storm events.

This resulted in prolonged ponding of water at this interface and the subsequent saturation of the subgrade in these areas. Ground improvement works were required to dry the saturated subgrade material and additional drainage was installed along the perimeter.

A temporary arena access point was constructed off Olympic Boulevard in the north-west corner of the arena and all materials for the arena and roof were delivered here. To begin with, delivery and stockpiling of the rootzone sand and drainage gravel material was relatively easy. However, as construction works got closer to the northern end, space became an issue as stadium construction plant and arena works began jostling for position.

Working in line with the construction programme, the southern end of the arena was constructed first. The arena was constructed up to the halfway line of the pitch and from there the north-east quadrant was constructed. This was followed by the north-west quadrant, which included completing the perimeter retaining wall and subsequently closing the arena access road.

The following construction methodology was generally adhered to for each section of the arena as it became available for construction:

- Trenching, laying and backfilling of irrigation main;
- Trimming of subgrade;
- Trenching, laying and backfilling of collector mains (providing off-takes for subsurface agricultural drains);
- Construction of adjacent perimeter concrete slab (including trench grate);
- Trenching, laying and backfilling of subsurface agricultural drains;

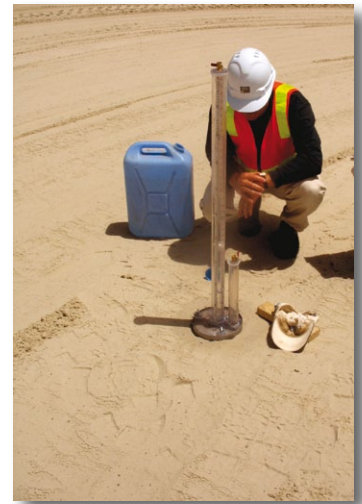
- Installation of goal footings;
- Re-trimming of subgrade;
- Placement of drainage gravel blanket layer;
- Installation of irrigation sprinklers;
- Placement of 200mm layer of rootzone sand;
- Handover;
- Placement of 40mm amended rootzone sand; and
- Laying of 60mm pre-established sod rolls.

At the completion of every placed layer, a 5m x 5m level survey was completed to confirm construction tolerances. No subsequent layer could be placed until the previously placed layer had been signed-off. Infiltration rates were also taken for the completed drainage gravel blanket layer and subsequent rootzone sand layers.

CONSTRUCTION ISSUES

One of the main areas of concern during construction was contamination of the already placed profile layers and installed services due to construction traffic and delivery of profile materials. Due to tight site constraints, the delivery trucks had to stockpile the new material on already placed layers. At times this resulted in excessive rutting of the placed layers which were subsequently removed and replaced.

The drainage lines and irrigation mains were often laid well in advance of the placement of the drainage gravel layer which rendered them susceptible to damage from heavy vehicle traffic.



Infiltration rates were fastidiously taken for the completed drainage gravel blanket layer and subsequent rootzone sand layers

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The natural turf playing surface is 130m x 76m with a 3m wide perimeter synthetic grass surround. The flat playing surface is based on USGA putting green construction

The AAMI Park turf consists of Legend couch which underpins a mixture of SR 4600, SR 4220 and All Star 2 fine leaf ryegrasses. The Legend couch was selected because of its low thatch accumulation, high vigour and rapid recovery after wear



Heavy duty road plates were used to protect these services from construction traffic. Where there was concern that a backfilled service may have been damaged, the service was exposed and inspected.

The decision to have a turf contractor (Evergreen Turf) place the pre-established reinforced sod rolls and remaining amended rootzone sand meant that Grocon and their subcontractors would be required to complete the construction of the profile prior to handing over to the turf contractor. The two parties agreed that this handover process would be undertaken in stages.

OPENING NIGHT

A near capacity crowd of 29,442 attended the opening event at the new stadium with Australia winning the one-off ANZAC Test 12-8. Preparation for the opening night was a challenge due to the fact the field turf was installed in sections from January through to March. The internal sections of turf were completed by March, however, a three-metre perimeter section of turf was not installed until three weeks before the opening night.

MOPT and Evergreen Turf coordinated matching cutting heights and maintenance regimes to ensure the remaining turf, when installed, would look and play the same as the existing turf in the stadium. To add to the difficulties, Grocon needed to run large boom lifts along the east and west sides on the newly laid turf to facilitate the final alignment of the internal field lights and stadium speaker system.

On completion of these works the MOPT horticulture team had a full week to prepare the field. The playing surface performed exceptionally well and players from both sides were able to maintain their footing despite the wet conditions. Endorsement from the Australian and New Zealand players following the match was very satisfying and vindicated the meticulous preparation and planning that went into the opening night.

MAINTENANCE

MOPT's horticulture team collectively possesses a wealth of experience covering all of the skill sets required to manage the diverse forty-hectare precinct. Adrian Black, as horticulture manager, has over 25-years' turf industry experience including 12 years as head curator at Victoria Park, three years as contract manager with Spotless Services and three years as sportsfield specialist with Rain Bird Australia. Adrian has been team manager at MOPT for the past 7.5 years.

He is strongly supported by sportsfield coordinator Justin Lang who recently joined MOPT from Etihad Stadium where he was assistant to Gavin Darby. The remainder of the team is comprised of Brendan Wiegard, David Graham, Cyrus Tabualevu, Phil Thornton, Kevin Haddow, Trent Lamb and apprentice Brad Lowe. Each member of the team brings unique and invaluable experience and worked tirelessly to make certain the opening night was a success.

A feature of the Rocla medium washed sand profile is a very high drainage rate, however, with this comes the leaching of valuable nutrients. MOPT has incorporated bi-monthly soil reports and quarterly root health assessments to enable accurate tracking of the turf profile and monitoring of nematode numbers. Occasional leaf tissue analysis is also carried out to check nutrient levels.

These reports form the basis of MOPT's maintenance programme, which includes the frequent light applications of granular and liquid fertilisers. Due to the fact the pH of the sand was initially low, regular applications of lime are required to raise the pH to neutral. Reports indicated CEC levels were also low, therefore the regular use of organic products is required to increase activity.

MOPT has developed a preventative disease programme that involves the use of contact and systemic fungicides. Regular aeration and topdressing of the field is carried out to maintain high drainage rates and to reduce thatch accumulation. Constant re-seeding is required to maintain healthy ryegrass plant numbers and to prevent the outfield from thinning out during times of high wear. Following every match the field is monitored for divots, and these are topped up with sand and seed. Insect pests are tracked and preventative applications of pesticides are used sparingly.

As previously mentioned, shade has been identified as a potential issue at the northern end of the field, therefore MOPT has been proactive in purchasing growth covers and is looking to purchase two large lighting rigs in the new financial year.

At present the lack of sunlight has not been an issue, although once the scheduled 25 FFA (soccer) matches and a possible seven Super 15 games take their toll, MOPT will be looking to use the supplementary lighting and covers to aid turf recovery and growth. 🌱

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The greenest of greens

Over the past nine years Kabi Golf Course in Queensland has blazed its own trail by being the only course in Australia, if not the world, to be maintained in a wholly organic manner. Superintendent Troy MacLaren provides ATM with an insight into his unique management operations and the facility's ongoing quest to promote the organic industry.



the organic
industry.

Situated some 20 minutes from Noosa Heads near Boreen Point in Queensland, Kabi Golf Course is a purpose-planned organic golf course integrating sustainable food production with recreation and conservation. It was specially designed by proprietor Rena Merchant in collaboration with Graham N Papworth Golf Design and opened for play in 2001.

Kabi's overriding mission objective is to provide an ecological, recreational, social, cultural and educational opportunity to benefit the community. It was created to provide a place for recreation while preserving the environment, with the organic approach to course management making it completely different from almost all other golf courses in the world.

Organics is often a misunderstood topic, but in its simplest form means doing everything the way it was done traditionally. In relation to golf course management it means that no chemicals or synthetic fertilisers are used at Kabi with ground staff handweeding turf surfaces and spraying only things that are made naturally, such as daisy extracts and worm-based fertilisers.

Kabi boasts an 18-hole par 3 course, a full length Orchard nine holes (opened six years ago) as well as a 250m practice range. Fruit trees are grown in the rough areas and we work with endemic grasses on tees, fairways and rough. All greens were constructed to USGA specifications

and we concentrate on promoting a Queensland blue couchgrass/bentgrass mix.

Since its opening, the course has matured well and is constantly improving. The aim into the future is to continue these improvements through ongoing research and development of techniques as well as increasing membership and educating the golfing community that organic management is feasible (**indeed, in 2004 Kabi was named winner of the Sunshine Coast Environment Council's Sustainable Eco-Tourism Award - Ed**).

UNIQUE OPPORTUNITY

I began my turf management career as an apprentice at Kooralbyn Valley Resort under course superintendent Tony Brown. Once qualified I spent a short stint on a Gold Coast hinterland turf farm before being offered a position at Palm Meadows where I was part of a 22-person crew. During my employment at Palm Meadows many changes in course maintenance occurred with an outside contract company taking over operations. This meant that staff numbers were dramatically reduced and I was rehired as supervisor of six full-time staff.

With this huge reduction in staff and expectations of achieving the same standard, I was forced to move on and worked for 12 months under Colin Gibbs at Parkwood International before being offered the job of a lifetime – superintendent of an organic golf course on the Sunshine Coast. I started

work at Kabi in March 2001 and although the course was in its final stages of construction we managed to open the gates to the public in November that year.

I guess the reason I took on the challenge at Kabi was to do something different and if that meant not using synthetic chemicals and concentrating instead on natural solutions I was all for it. Throughout my apprenticeship I was lucky to obtain knowledge from Tony about organic alternatives and the importance of creating a healthy soil to harbour microbes that help the plant to utilise nutrients more efficiently.

Although I enjoyed working at a course that was maintained in a conventional manner, I was never a fan of getting suited up to spray chemicals, especially when there is evidence of negative health effects if exposed. An organic approach made so much more sense to me and my attitude has been that way ever since.

I can unequivocally say that using natural alternatives has helped keep me in the greenkeeping industry. What we have here at Kabi is a unique opportunity to change the mindset of golfer's that play the game with education on how we are different and why we have gone down the organic path. We may have higher thresholds in managing pest and disease problems but our product is definitely of a standard that is acceptable.

Our green fees are kept to a minimum and we try to cater for a wide range of golfer requirements. Over the years we have held various Pro-Ams and



tournaments on an interesting yet challenging golf course. The course offers membership at \$350pa while green fees are \$25 per round (18 holes).

SELF-SUFFICIENCY

Kabi Golf Course integrates some three hectares of fruit, herbs and spices with around 1200 fruit trees on the property. Varieties include four types of mandarins, three types of grapefruits, oranges, lemons, lemonades, limes, custard apples, rosemary, lemongrass and allspice.

Our orchard supplies organic markets in Brisbane and Sydney as well as our own organic restaurant located within the clubhouse and with the

Kabi Golf Course is home to superintendent Troy MacLaren who has been there since its opening. During that time Troy has been involved in the research and development of organic golf course management techniques

Opposite: Opened in 2001, Kabi boasts an 18-hole par 3 course, the full length Orchard nine and a 250m practice range

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Biological inputs are a major part of producing a healthy plant in conjunction with the use of rock dust minerals and seaweed. Notably, disease outbreaks at Kabi are minimal which suggests that inoculating the soil with beneficial biology is helping to keep disease pathogens at bay

Kabi's unique combination of golf course and sustainable organic produce is certified under the Australian National Organic and Bio-dynamic Standard making Kabi the only golf course in Australia, if not the world, that conforms to such standards



largesse of our sister property we run approximately 150 organic cattle some of which are destined for the clubhouse menu.

One of our key goals as a facility is to become wholly self-sufficient in all areas. As a result, kitchen scraps from Kabi's restaurant are processed through the worm farm which in turn produces a soil conditioner for greens, fairways and the orchard. All waste materials from the orchard, cattle and mulch farming together with humus from the composting toilets create further compost for use on the golf course thus reducing inputs from outside sources. Mulch is grown for use in the orchard and as cattle feed in the lean months.

“What we have here at Kabi is a unique opportunity to change the mindset of golfers that play the game with education on how we are different and why we have gone down the organic path.”

Troy MacLaren, Kabi Golf Course superintendent

Total size of the property is 120 hectares with 48ha of forest forming a buffer zone. All of this area is devoted to the conservation of our native flora and fauna. The whole facility is designed to be a Land for Wildlife project providing a home for many animals. Various species including black cockatoos, forest kingfishers, whistling kites, king parrots, kangaroos and wallabies inhabit the golf course. Animals have the right of way on the course at all times. Having the buffer zone also makes sure that the land won't be developed in the future and can continue to be used to provide an organic sanctuary.

As part of the Land for Wildlife project these areas are studied to maintain enduring improvements. Every aspect of environmental change, all effects of intervention and notable flow of wildlife on the course and in the buffer zones are faithfully recorded

and analysed in order to obtain the bigger picture of Kabi's eco family.

As far as water management is concerned, the course design assimilates natural watercourses, nutrient stripping ponds and dams which allow Kabi the privilege of being water self-sufficient. In keeping with water minimisation, composting toilets and timers on all hand washing facilities provide an immediate drop in water consumption.

All liquids from the clubhouse/restaurant are processed through our waste water programme and eventually returned to our buffer zones for nutrient uptake. Stringent monitoring is required. In addition the machinery shed has a dedicated wash down bay that separates oil and diesel, grass clippings and other organic matter. Water from this facility is recycled for further use on machinery, again reducing water consumption.

BEST PRACTICE COURSE MANAGEMENT

Kabi's unique combination of golf course and sustainable organic produce is certified under the Australian National Organic and Bio-dynamic Standard. Certification is by Australian Certified Organic (ACO) and Biological Farmers Association (BFA) making Kabi the only golf course in Australia, if not the world, that conforms to organic management standards.

To achieve and retain the 'bud logo', ACO requires stringent audit trails of all inputs (organic of course), soil and water analysis, organic management reports and integrated pest records. This data is available on any given day with management providing an annual report to ACO and BFA.

As we are certified organic, synthetic pesticides are prohibited and any major outbreaks have to be treated with organic products. There are very few traditional course management products we can use but the market is slowly formulating more environmentally friendly products.

Our resident pest controllers – sacred ibis, magpies, spur-winged plovers, butcher birds, even kookaburras – keep insect pressures at bay with some assistance from greenkeeping staff using biodynamic practices and various organic inputs. Weeds on our greens are controlled by seasonal organic strategies as well as hand weeding.

Biological inputs are a major part of producing a healthy plant in conjunction with the use of rock dust minerals and seaweed. Notably, disease outbreaks at Kabi are minimal which suggests that

inoculating the soil with beneficial biology is helping to keep the pathogens that cause disease at bay. Our pest programme is continually becoming more successful with a big groundbreaker for us recently being the control of the dreaded mole cricket.

The main fertiliser we use is a slow-release 10N-2P-6K which is sourced from a leader in organic products, Robert Jack. His company is called Organica and this particular product would have to be one of the best I have ever used – organic or synthetic – and has given us some amazing results. With a high emphasis on being sustainable, we have an onsite worm farm which provides us with plenty of castings that eventually help start a compost tea brewing process. Applications of this liquid are sprayed as often as we can on greens to improve their health.

One aspect of our course management operations that is similar to a typical golf course is our machinery inventory. In saying that, however, we purchased a new fleet to Toro machinery last year and the aim is to run them using bio-diesel once we find a suitable supplier.

SPREADING THE WORD

So what can fellow superintendents and greenkeepers learn from what we are doing here at Kabi? Well, hopefully the industry can adopt some of our techniques and thus reduce the amount of chemicals that are used on golf courses.



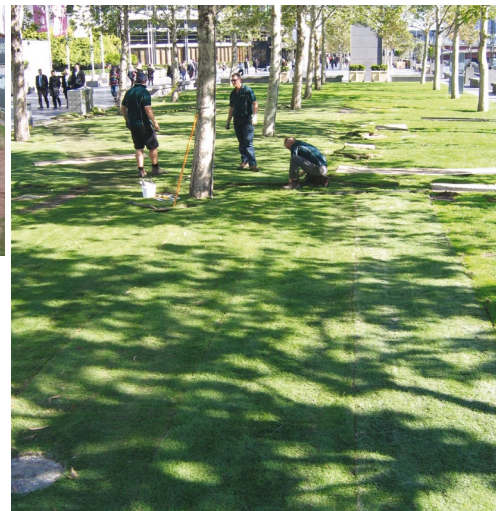
During my time here I have received a number of calls from fellow superintendents wanting to know about the products we use and the processes we implement. Unfortunately for them I am restricted by an intellectual property clause in my contract, but I aim to share as much as I can to support a more natural way of golf course management.

To our knowledge we don't believe there is another certified organic course out there but during a recent visit to the USA we toured some high profile courses wanting to transfer to organic and I receive regular emails with requests on how to start this transition. Within Australia I know that Chris

Last year Kabi purchased a new fleet of Toro machines with the aim of switching them to run on bio-diesel



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To achieve and retain organic certification Kabi keeps stringent records on all inputs, soil and water analysis, organic management reports and integrated pest management records

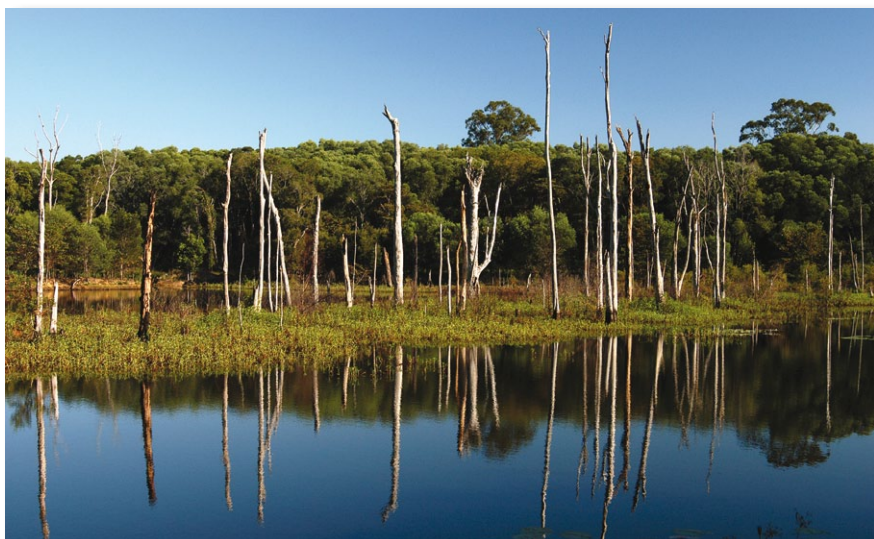
Haselden from Lismore Workers Golf Club is doing some great trials using alternative methods so there is definitely interest out there.

For those contemplating adapting a more organic approach to their management operations, my advice is this:

- Do trials on your turf nursery/farm with some of these organic products that are available on the market and see the results for yourself;
- Think outside the square when addressing problems;
- Communicate with your committees when trialling organic alternatives;
- Ask yourself, do I really need to use all these pre- and post-emergents or rather concentrate on making the soil healthier to prevent any outbreaks from occurring in the first place; and
- A soil food web test is ideal in knowing what ratio of bacteria and fungi you have in your soil.

One of the biggest myths we are trying to dispel at Kabi is that you can maintain a course in this manner and still have it presenting well. We often get the comment from visitors that when they have seen the course online or in a magazine they expect to come here and see a cow paddock. Once they have actually been here and see what we are producing the general consensus is that they'll bring their clubs next time.

The course design assimilates natural watercourses, nutrient stripping ponds and dams which allows Kabi the privilege of being water self sufficient



As the first facility of its type in Australia, and possibly the world, Kabi Golf Course has been involved in research and development since its conception. A commitment to sustainable practices and ecological leisure activities makes research a part of everyday operations and trial work is therefore a major component of my job. We are currently working on a template that will be available to assist superintendents in a more organic approach to golf course maintenance.

As with any trial work, some have been successful while others have failed, but through this research and development I have obtained much information on what is achievable and what's not. One trial we are currently in the process of is eradicating seasonal weeds with a biomass dehydrator as well as using some biodynamic techniques.

There is no question that maintaining a course in this manner takes a considerable amount of determination and commitment, but the end result is more than a reward. In the early days we found it quite hard to source allowable inputs but in the last decade I have found that the industry on a whole is realising the benefits of organic products and through that awareness more quality products are available on the market.

The key ingredient, however, is having a crew devoted to what we are doing with a high emphasis on research and development of strategies that can achieve the desired result. There are no quick fixes when it comes to organic management so awareness and instinct is a major asset we all possess here to reduce any potential problems from occurring.

Including myself there are six full-time staff at Kabi. My assistant Brendan Scrase was the first to complete a full apprenticeship here while another staff member, Skye Davis, is in the final year of hers. All my staff are multi-skilled and committed to achieving the same goal which certainly makes my job a lot easier. 🌱

Editor's Note: For further information on organic management Troy MacLaren can be contacted by email at troy@kabigolf.com.au.



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Kyle Waters was part of a strong contingent of international keynotes to present on the Gold Coast. Waters provided an insight into his operations at the impressive Home Depot Centre in Los Angeles which is home to the LA Galaxy and US national soccer squad



Coast conference captivates and cultivates

For the first time since 1997 the Australian Turfgrass Conference and Trade Exhibition returned to the Gold Coast. ATM looks back at some of the highlights from another thought-provoking and entertaining week in Broadbeach.

2010 AGCSA Distinguished Service Award winner Les Burdett perhaps best summed up the essence of this year's Australian Turfgrass Conference which after 13 years returned to the Gold Coast in June.

Speaking at the Syngenta President's Dinner after accepting the AGCSA's highest honour, the retiring Adelaide Oval manager observed, "It has been a hell of a lot of fun and again this week shows what a magnificent vehicle the annual conference is to learn, educate ourselves, share ideas and experiences with each other and build some absolutely magnificent friendships.

"When it was announced at the start of the conference that I was to receive this award the amount of congratulations and handshakes that were forthcoming just reaffirmed what a great industry we work in and the bloody wonderful people that are involved with it."

With four differing education streams on offer at the 26th Australian Turfgrass Conference and Trade Exhibition, more than 1550 turf industry practitioners descended on the Gold Coast Convention and Exhibition Centre from 21-25 June. Carrying the theme 'From Surface to Surrounds – Aiming for Perfection', the conference attracted 504 fully registered and day delegates from most disciplines across the industry including golf course superintendents, sportsfield curators, council maintenance staff, turf mechanics and golf course general managers from Australia, New Zealand and the Pacific Rim.

Taking advantage of the Gold Coast's many exceptional venues, the conference social events were again well attended. Those playing the Toro

AGCSA Golf Championships were treated to a red carpet arrival at the Hard Rock Café in Surfers Paradise for the Golf Champions function, while a number of delegates braved some of Dreamworld's more extreme thrill rides as part of the Bayer Welcome Reception. On the final night of the conference, 240 converged on Jupiters for the Syngenta President's Dinner which as well as recognising the 2010 AGCSA Award winners (see profiles from page 42) showcased some breathtaking performances from members of the Aerial Angels entertainment troupe.

In a departure from recent conferences, the 9000m² trade exhibition was officially opened with a reception following Tuesday's plenary session. Over two days more than 1150 people, including 650 visitors, took the opportunity to browse the products, machinery, and services showcased by 75 exhibiting companies and 396 trade industry representatives. Trade exhibition visitors had the added incentive of entering the AGCSA's Lucky Prize Draw with Peter Smith (Tewantin Noosa GC), Warren Langlands (Wolston Park GC) and Mark White (Victoria Park GC) each winning an iPod Touch.

"It was a hugely successful event and looking at the feedback from delegates the Gold Coast proved

2010 CONFERENCE PROCEEDINGS

The AGCSA is now selling copies of the conference proceedings from the 26th Australian Turfgrass Conference held on the Gold Coast. AGCSA members can purchase a copy for \$44 and non-members \$55. To order a copy contact AGCSA membership coordinator Lyndel Conway on (03) 9548 8600 or email info@agcsa.com.au.

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"Cost continues to be a discussion point from the feedback, but given the recent economic downturn we were very mindful to make sure this conference was affordable. The early bird rate was actually less than last year's conference and combined with the accommodation discounts arranged and availability of cheap airfares, you could have easily got in under \$1500 for the week. Compared to other similar industry conferences, that price would barely cover the cost of registration alone."

EXPERTS CONVERGE

In 2004 it was Jim Moore, in 2008 it was Tim Moraghan and in 2010 American counterpart Dr Thom Nikolai left a lasting impression with his unique blend of research, insight and humour. The widely published and sought after green speed authority presented three papers while on the Gold Coast and was keen to impress the points that speed doesn't kill, rather ignorance does, and that failing to communicate was a cardinal sin for superintendents. The good doctor was also at pains to point out that the topic of green speed, which in his research had been identified as the most important aspect a golfer wanted to know about a course, provided a superintendent the opportunity to become the authority figure at their club.

Nikolai headed an international contingent that also included Turnberry course superintendent Euan Grant who looked back on a career that has seen him work at The Old Course, St Andrews as well as construct the rugged Machrihanish Dunes. The affable Kyle Waters provided an insight into his multi-sport facility – Home Depot Centre – which is home to the Los Angeles Galaxy, while Mark Perham (Eden Park) and Stephane Charrier (PGG Wrightson) journeyed across the Tasman to talk on RWC preparations and ryegrass breeding.

to be a popular location with more than 85 per cent supporting a return there in 2014," says AGCSA events and education manager Simone Staples. "Numbers were a little down on the Melbourne conference of 2008 but that was due to the impacts of the recent economic downturn as well as having last year's Hobart conference in the same financial year.

"I thought this year's speakers, particularly the internationals, were superb and by bringing the conference back to June we are now able to attract someone of the calibre of Euan Grant from the UK and European industries. All the internationals have rated very highly in our survey, but so too did our local speakers who again demonstrated that they are among the leaders not only here but around the world.

"I have attended many AGCSA conferences and this year's in particular was very interesting and informative. I find hearing about other superintendents' experiences and listening to different perspectives of real benefit. The forum on green speed in relation to meeting golfer expectations was excellent and hearing a US and European perspective was very helpful."

Adam Robertson, superintendent Kew Golf Club, VIC

"Another important component to the annual conference is the opportunity it gives for groups within the industry to conduct meetings and exchange information face-to-face. The conference hosted or facilitated a number of meetings including the National Turf Education Working Group, TGAA national executive, national turf technicians meeting, state superintendent associations, national trade representatives as well as provided an opportunity for the AGCSA to update the industry on its operations through a VIP luncheon.

As well as the popular green speed forum which featured Nikolai, Grant, Richard Forsyth (Royal Melbourne GC), Andrew Langford-Jones (PGA of Australia) and Tim Hicks (Thurgoona CC), forums on water management, disaster recovery and synthetic vs natural turf surfaces were well attended, but by far and away the most attention-grabbing was Wednesday's BF1 (Black Fungus 1) couch disease forum.

CONTINUED ON PAGE 30

Left: Anthony Toogood gets a closer look during the Syngenta disease diagnosis workshop

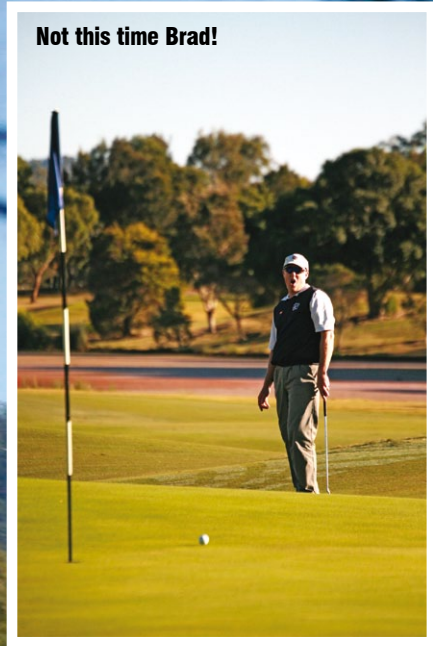


Euan Grant (top) and Dr Thom Nikolai (bottom) were extremely popular presenters and were key members of the end-of-conference forum on green speed

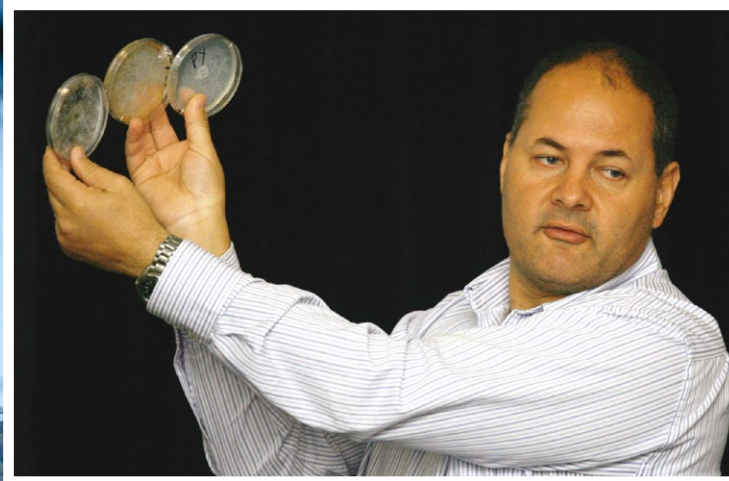


2011 CONFERENCE HEADS TO ADELAIDE

At the conclusion of this year's conference it was announced that the 27th Australian Turfgrass Conference and Trade Exhibition will be held in Adelaide. The City of Churches will host the conference for the second time since 2003 from 13-17 June, 2011.



Not this time Brad!



Syngenta's Dr Henk Smith delves into the world of disease diagnosis



A textbook follow through from Craig Wright



Sun, fun surf and turf

Main photo: The Glades was in sublime condition for the Toro AGCSA Golf Championships with Ben Baumann setting up a brutal test for his fellow superintendents



AGCSA events manager Simone Staples has all the right contacts

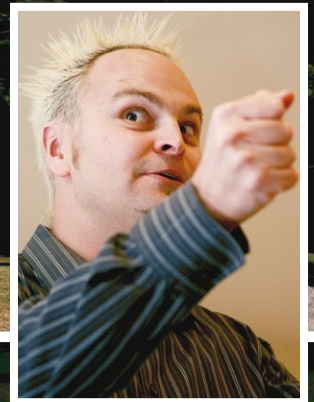
John Lloyd, Rob Savedra and Cameron Hodgkins help Les Burdett celebrate his Distinguished Service Award



Inspecting the bunkers at Sanctuary Cove

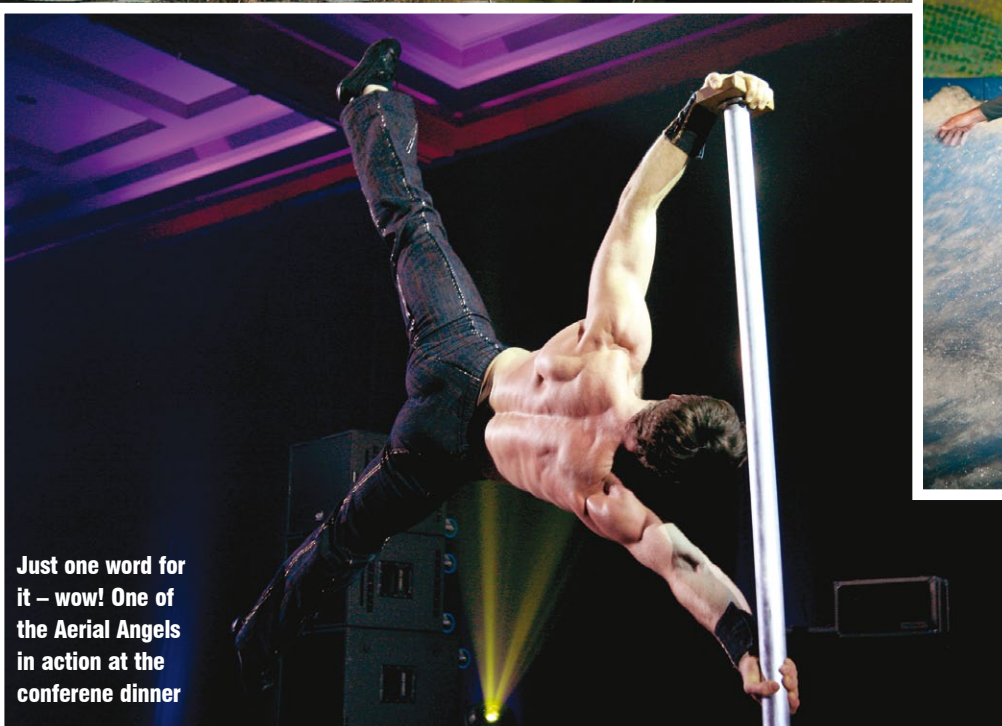


Rain Bird's eye-catching stand



Above: Hangin' ten at the Bayer Welcome Reception at Dreamworld

Just one word for it – wow! One of the Aerial Angels in action at the conferene dinner



Top: Hair-raising Australian Winter Olympic gold medallist Steven Bradbury was guest speaker at the AGCSA Golf Championships



David Scaife along with John Odell, Dr Percy Wong, Jyri Kaapro and Gary Dempsey field questions during the BF1 couch disease forum

CONTINUED FROM PAGE 27

Comprising David Scaife (Bonnie Doon GC), John Odell (Royal Sydney GC), Gary Dempsey (NSW GC), Dr Percy Wong (University of Sydney) and Jyri Kaapro (Bayer), the forum looked at the spread of an as yet untreatable couchgrass disease attacking a number of courses in Sydney. Those in the audience were taken aback especially when shown slides of the severe manifestation of the disease in the fairways and roughs at Bonnie Doon.

The panel discussed likely implications of the disease for the wider industry and how they were seeking funding from Horticulture Australia Limited (HAL) to further assist with their trials. Each club has already investigated a significant amount of money and resources to try and solve the problem and it is hoped some funding will be made available to assist ongoing research being headed up by Dr Wong.

Elsewhere, Royal Melbourne's Richard Forsyth gave an overview of the incredible amount of reconstruction and water management works that are being undertaken ahead of the 2011 President's Cup, while the Syngenta disease diagnosis workshops were fully subscribed and again proved that hands-on practical sessions are popular with delegates. HAL's Lucy Keatinge also attended the conference and addressed delegates in both the golf and sportsfield streams on the organisation's

role and how the industry has and can benefit from the projects it has helped fund.

This year's post-conference turf tour took in the Coombabah Water Treatment Plant as well as Carrara Stadium which is currently being totally reconstructed to accommodate the new Gold Coast AFL franchise. The tour also stopped by the impressive 36-hole Sanctuary Cove Golf and Country Club, where course architect Ross Watson and superintendent Robin Doodson gave delegates a first-hand look at the reconstruction work happening on the Palms Course.

RIDGE TAGS THIRD TITLE

Sawtell Golf Club course superintendent Trevor Ridge joined an elite club after successfully negotiating a brutal set up at The Glades Golf Club to secure the 2010 Toro AGCSA Golf Championships. Back-to-back victor in 2004 and 2005 and runner up in 2002 and 2007, Ridge shot 75 to become the third superintendent after Daryl Sellar and Anthony Toogood to win a third Red Jacket.

Ridge, who will now head to the US to contest the GCSAA Golf Championships in early 2011, finished two shots ahead of Moruya Golf Club's Brent Hull and a further one ahead of Scott Harris (Gold Creek CC). Playing off a four handicap, Ridge had a seesaw front nine (three birdies and three bogeys), the highlight being a birdie on the tough 398m par 4 9th, but with bogeys on 10, 15 and 16 signed three over.

Set up from the black markers, The Glades presented one of the sternest challenges in the tournament's history, with AGCSA president Allan Devlin noting afterwards he would have been proud to call some of the pin placements his own. Even host superintendent Ben Baumann and his assistant Trent Butterfield, both playing off 18 handicaps, found the going tough. Baumann looked to be in the hunt for the stableford title with 18 points on the front nine, but could only manage eight on the back nine. Likewise, Butterfield could only muster 17 points.

Brian Cox from Murwillumbah Golf Club ended up claiming the stableford trophy with a hard-earned 32 points (the lowest winning total was 31 recorded in 2002 and 2007), but only on a countback from

Principal conference sponsor Toro was among 75 companies to showcase their products and services at the two-day trade exhibition





Peter Fleming (Burswood Park GC), Peter Ridgeway (Oxley GC) and Lincoln Coombes (RACV Cape Schanck). Cox, who had three wipes, scored 13 of his points on the final six holes.

The number of NCRs certainly attested to the difficulty, but there were a few brave souls who battled on before eventually signing. Bonnie Doon assistant Tim Allen could manage just four points all day – one on the front nine and three on the back nine – while Tim Bilston (Heidelberg GC) had a tough back nine, recording just two points. Duncan Lamont (109) and Peter Smith (103) notched up Bradmans with the latter carding a 12 on the par four 4th.

Shining above many, however, was the AGCSA Golf Championships' first female contestant – Sara Hagy. The Howlong Golf Club course superintendent, who plays off a three handicap, more than acquitted herself, posting the 18th best stroke score of the day (89) and were it not for a horror final three holes would have finished much higher.

While the scoring proved difficult at The Glades, across at Lakelands Golf Club (host superintendent Phil Soegaard) one particular group had little trouble as they claimed the 2010 Toro AGCSA Scramble. The team of Graham Hart, Matt Roche, Luke Marsh and Shane Biddle scored an astounding 55 1/8 nett to finish four shots clear of the pack. 🏆

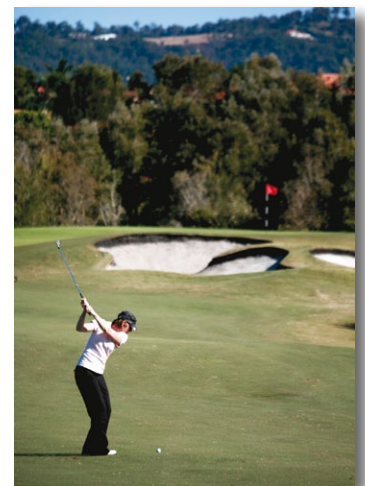
The post conference Turf Tour took in the new Palms Course redevelopment at Sanctuary Cove



Trevor Ridge collected his third AGCSA Golf Championship at The Glades



Delegates strap themselves in for a wild ride on the Cyclone rollercoaster during the Bayer Welcome Reception at Dreamworld



Sara Hagy, the AGCSA Golf Championships' first ever female competitor, loads up for her approach into the par five 7th at The Glades



The Aerial Angels entertainment troupe provided some breathtaking performances at the Syngenta President's Dinner

During February 2010 the greens at NSW Golf Club suffered an unprecedented decline due to a change of aeration practices as a result of last year's Australian Open and extreme weather. Ten greens, including the 15th pictured here, were severely affected with some losing up to 75 per cent turf cover



New horizons for NSW GC

Bentgrass greens at New South Wales Golf Club? Not in this lifetime many would say, but after the events of the past summer the club's once prized *Poa annua* surfaces look set to become a thing of the past. Superintendent Gary Dempsey recounts one of the more challenging periods of his tenure at La Perouse.

I have been at New South Wales Golf Club since 1989 and during that time have witnessed many ups and downs when it comes to managing this unique course. From the fire which razed parts of the course just weeks out from the 1998 Australian PGA through to the dam wall collapse in 2006, La Perouse has certainly kept us on our toes over the years. The past summer proved to be no different.

During February 2010 the greens at NSW Golf Club suffered an unprecedented decline in playing condition. It all happened so quickly. The old *Poa annua* greens were hanging in there until a series of environmental stresses pushed some of them over the edge. So what were these stresses and what did we put in place to rectify the problem?

Well, I guess it all started prior to the 2009 Australian Open last December. With the Open happening in early December we had to hold back on our regular aeration practices during the spring and early summer to ensure we could produce playing surfaces required for the tournament.

During this time we normally verti-drain, quadratine and verti-mow regularly so the old *Poa* greens can be in a position to withstand the rigours of summer. Not maintaining this programme was the catalyst for what was to come.

Most greens survived the stresses of the Australian Open and the Audi World Cup Final (which was held 10 days after the Open) fairly well. Traffic levels on the golf course increased dramatically after these events and towards the end of January this was starting to show with some highly trafficked areas on greens.

The weather had started to get very hot and humid with very warm night time temperatures. It was about this time I started to get a bit concerned about the *Poa*'s ability to withstand these pressures. A couple of weeks later it proved to me it couldn't.

The problem began after a routine application of iron sulphate in February. Following this application we received around 200mm of rain over the following days which caused the thatchy old *Poa* greens to

become waterlogged and therefore anaerobic. This caused the iron sulphate ions to be converted to sulphide ions which in turn led to an accumulation of hydrogen sulphide gas in the sub-surface. The result of this was some very weakened *Poa* plants, and given our greens were 80-90 per cent *Poa*, that translated into some very sick greens.

The following week we believed we started to see signs of recovery and were thinking we might be over the problem; how wrong we were. The following weekend was horrible – rain with hot days, night time temperatures of 28 degrees and 100 per cent humidity. By Monday the greens had started to decline significantly and the grass was literally dying before our eyes.

Samples sent to AGCSATech were analysed by Andrew Peart and he identified the initial problem of anaerobic soil conditions and *Pythium* spp. in the roots and *Pythium* spp. blight in the leaves and crowns on the plants, as well as *Curvularia* spp. in the leaves and crowns. This is what finished off the *Poa*.

We had recently sprayed a preventative fungicide, but given the damage to the root system from the anaerobic soil conditions, the fungicide was unable to work efficiently and the disease attack was so severe that the *Poa* never stood a chance.

All greens were affected in varying degrees. Ten greens – 1, 2, 3, 8, 9, 10, 11, 14, 15 and 18 – were severely affected with probably no more than 25 per cent grass cover remaining, while the greens along the coastline – such as 5, 6 and 13 – were not so badly affected, however, still suffered some damage.

PLAN OF ATTACK

What to do now? This was new to me. I hadn't lost a green in over 20 years. Andrew visited the course and prepared a report for the board. His input at this time was great for both me and the club. He assured us the greens could be resurrected and that it could be achieved in a matter of weeks and not the many months we were all considering.

The board asked us to put a plan together and considering we were scheduled to carry out normal greens renovation in early March it was the most opportune time to do the work. The board also asked Andrew and I to attend a member's information meeting to explain the situation and enlighten them on the rectification process.

The members were obviously devastated at the situation that had arisen and were very keen to find out what it was going to take to get their greens back in shape. At that meeting members insisted that they would rather play on temporary greens than restrict the recovery process and with that we went ahead and created temporaries on nine holes.

Prior to putting the plan together I had undertaken significant research into the multitude of bentgrasses available and which one would be suitable for this particular project. I selected a variety of 'versatile' bent that germinated quickly and had a dense growth habit.

Next step was greens renovation. Greens were double scarified, hollow tined with 5/8" tines, seeded and topdressed with sand. Within four days the seed had germinated and was visible in the core holes. Finally it looked like we were moving forward.

During the renovation process and ensuing recovery time it was very obvious that golfers were staying away in droves. It highlighted the significance of quality greens and the economic impact they have on a club when an event like this happens.

After a couple of weeks we were seeing some significant improvement, the new bentgrass was showing positive signs of covering over and some residual *Poa* seed had begun to germinate. Within six weeks greens had recovered to no less than 97 per cent plus coverage and all were being returned to play.

The one thing not realised by most is that good grass cover did not necessarily translate into great putting surfaces immediately. There is still a lot of old dead thatch that will have to be removed to improve the surfaces to the quality they were prior.

And, of course, heading into the winter and some 361mm of rain in the three week period from mid-May to early June slowed up this process. However, despite being soft they offered up a good surface. Since the rain has stopped we have been able to begin to vert-mow and the greens are firming up and presenting a reasonably good surface.

One thing that was prevalent during this tough period was the rumours that abounded through the trade representative telegraph. Some included the greens were sprayed and killed by my assistants while I was on holidays or that we had sprayed greens with tanks contaminated with Roundup! Another was that I was on stress leave when in fact I was in Melbourne minding my 20-month-old grandson while my daughter gave birth to my granddaughter. Some things just don't change in this industry.

Facts are that we had a very difficult period with a decline in greens condition, an event that can happen to anyone anywhere in this industry. With the support of the members, board of directors, staff and guidance from AGCSATech we were able to set NSW Golf Club back on course.

A THING OF THE PAST

'Bent weed' at New South Wales Golf Club? Well, many months before this event we had been discussing the introduction of a greens (surface) replacement programme at greens committee and board level and had agreed that we would include it in the next instalment of our five-year strategic plan which starts in 2011.

We were well aware that our 20 year old *Poa* greens were fast approaching their use by date but were hoping to nurse them through to when the programme could be initiated. We have now begun to put this programme together and yes there will be 'bent weed' at NSW Golf Club.

We have begun a trial of two selected 'versatile' bents and re-surfaced our northern putting green to evaluate their performance. They were selected rather than the ultra dense Penn A or G series types as we feel they could become too fast in the very windy conditions we experience here.

Our old *Poa* greens have served us well and have survived four Australian PGA's, an Australian Open, an ANZ Championship, an Australian Amateur, two BMW World Cup finals, one Audi World Cup final and a multitude of other events over the past 15 years.

But it is time to renew and while I am an unabashed fan of *Poa* greens it will be good to have some less stressful summers with bent greens in the future. I have no doubt that my once great ally in *Poa* will soon become the enemy when I, like many others with bent greens, will curse it while endeavouring to keep it out from where it once took pride of place. 🙄

A 'versatile' bentgrass was chosen due to its quick germination and dense growth habit. The photo shows the bent germinating five days after seeding



This aerial photo, taken in late 2009, shows the dramatic change in character the Black Saturday bushfires have had on Horsham Golf Club. Once heavily tree-lined, the course now has a significantly linky feel to it. Picture courtesy of Paul Carracher, The Wimmera Mail-Times



Horsham's new-look links landscape

John Neylan revisits Horsham Golf Club to look at the gradual rebuilding process following last February's fires and ponders the concept of KPIs and their relevance to golf course turf management.

It has been 17 months since the Black Saturday bushfires and I was fortunate to recently make a return trip to Horsham Golf Club to catch up with superintendent Tim Warren to inspect the course. As we all know the fires were devastating to the golf course with 90 per cent of the treescape severely damaged and requiring removal. There was some turf damage as well but this was relatively minor when compared to the loss of the clubhouse and the damage to the trees and other non-turf vegetation.

Back in March 2009 the extent of the work required to make the golf course safe was quite overwhelming. However, with the greens staff led expertly by Tim, the club, its committee and members have done an extraordinary job to get the golf course to where it is today. The assistance of greenkeepers from around the country has also been of huge help to Tim and his crew.

The change to the golf course is without question remarkable. What was once a typical woodland course with heavily tree-lined fairways has been transformed into a very open links type layout with only the occasional remnant tree. Of the 10 per cent of trees deemed to have survived the fires about half of these are still in very poor condition.

However, Mother Nature has yet again demonstrated her resilience with the fires stimulating the germination of a multitude of native species. Species of note include;

- Grey mulga (*Acacia brachybotrya*);
- Yellow gum (*Eucalyptus leucoxylon*);
- Slender Cypress pine (*Callitris preissii*);
- Rough bark manna gum (*Eucalyptus viminalis* ssp. *cygnetensis*); and
- Giant hop bush (*Dodonaea viscosa*).

The removal of the course's numerous pine trees in particular has reduced competition and increased light penetration which is allowing these dormant species to flourish. The challenge now is to control the weed species such as *Acacia saligna* and *A. longifolia* and to manage the re-growth so that it fits in with the new course Master Plan.

As a side note, *A. longifolia* grows in partial shade to full sun and will tolerate a wide range of soil types, exposed positions and seasonal dry spells. It is an invader of a wide range of vegetation communities and it now infests an estimated 10,000 ha of indigenous vegetation in south-west Victoria.

During the fires, sections of turf were severely burnt with some bentgrass needing to be replaced. The couchgrass on the fairways has recovered and like the native flora is flourishing with the increased light and reduced competition and is now growing well into the roughs. The bentgrass on the greens is also doing very well, particularly those greens that were previously affected by shade.

At the VGCSA education day at Hidden Valley Golf Club in February, Tim explained how



the organisation's strategy, but if they are going to be of any value there must be a way to accurately define and measure it.

When KPIs are applied to the performance of turf surfaces and in particular a golf course, the biggest sticking point is that many golf clubs do not have a clear vision or strategic plan. For example, a KPI that demands green speeds of a certain speed is doomed to be unachievable and unsustainable unless the organisation clearly understands the structure of the greens (soils, drainage etc.), grass types, weather conditions, microclimates, the available resources for managing the greens and what plans are in place to improve those elements that the organisation can control (e.g. increased renovations, reconstruction).

For any organisation there needs to be a well planned strategy with well defined objectives under each strategy that are specific, measurable, achievable, realistic and time-limited. KPIs are then determined under each objective. KPIs should be acceptable, understood, meaningful and measurable. They should not be defined in such a way that their fulfilment would be hampered by factors seen as uncontrollable by the organisation or individuals responsible.

When we are dealing with living, growing biological systems that are subject to nature and in particular weather conditions, KPIs can be or are often irrelevant. For example, how can firm and fast greens be presented in a week where there has been persistent rain and low evaporation? Unfortunately the perceptions of the golf course are too often based on the day when the course is played with no understanding of what has taken place in the preceding week.

If KPIs are going to be part of managing the golf club, who are the most qualified in setting the objectives and KPIs? Obviously it has to be a team effort between course superintendent, general manager, golf professional, board and the members and there is a lot of work involved.

In 2009 the AGCSA conducted a series of seminars on sustainable golf with Steven Isaac of The R&A. As part of these, Steven discussed the importance of benchmarking and in particular clubs initiating an internal benchmarking process. This is a process of setting targets for a range of activities on the golf course and then evaluating each year's activities against these targets.

AGCSA HR and Best Practice manager Daryl Sellar has taken this a step further and developed the concept of setting course quality objectives (CQOs) rather than calling it benchmarking or setting KPIs. Establishing CQOs requires a similar process to benchmarking and setting KPIs and the key steps as we see them are;

- Developing a documented vision for the course;
- Developing a strategic plan for the golf club and as part of the process defining clear objectives for each area of the club's operation;



The removal of Horsham's numerous pine trees has reduced competition and increased light penetration which is allowing dormant native species to flourish



challenging it has been to deal with such a major catastrophe and that nothing can prepare you for the work involved. There was the immediate aftermath to deal with and from then the ongoing discussions, planning and endless work associated with the recovery. It has been a mentally and physically demanding time for all at the club, but having revisited the course and seeing the excellent condition it is in, it is a real testament to Tim and his small team and their dedicated crew of volunteers.

ARE KPIS RELEVANT?

The boards and committees of Australian golf clubs consist of a mix of people from a wide range of occupations who each bring various skills and life experiences to the club. One concept that big business has brought to golf clubs, and to course management in particular, is that of key performance indicators or KPIs. The question that I have been asked and argued on is how relevant are KPIs to a living entity such as a golf course.

When you search for a definition of KPI, you can be overwhelmed by management speak and there is a lack of a clear definition of what it all means. In itself this is alarming as poorly defined and developed KPIs are likely to create greater uncertainty and discontent.

KPIs have been simply defined as a measure of performance. Such measures are commonly used to help an organisation define and evaluate how successful it is, typically in terms of making progress towards its long-term organisational goals. The KPIs will differ depending on the type of organisation and



The above photo appeared in Vol 11.2 of ATM and shows a scorched area of fairway at Horsham. The photo below, taken about 80-100m back from the first one, shows the dramatic change in aspect seen today



- Undertaking a detailed assessment of the golf course in terms of soils, turf, water, microclimates, resources etc and identifying limitations to achieving the club's vision for the course; and
 - Setting achievable objectives for the golf course consistent with the site strengths and limitations.
- This final step is the most challenging bit and you need to ask the question – what can we measure/benchmark? Some of the criteria/measures that can be used include:
- Turf quality, density, colour;
 - Green speed;
 - Threshold levels (e.g. weeds, insects disease);
 - Thatch depth and organic matter content;
 - Water use and quality;
 - Chemical use; and
 - Soil tests;
 - Weather (this underpins all the objectives).

For the CQOs to work they must be acceptable, understood and meaningful to all the stakeholders and measurable. In many respects the sustainability of the CQOs will not be known until there has been at least 12 months of monitoring. Failure to obtain an agreed CQO (or KPI) may be the result of a multitude of factors and this is where monitoring and good record keeping become invaluable as they can help to explain reasons for variations (both positive and negative) in turf and surface quality.

Irrespective of whether we refer to this process as setting KPIs, CQOs or benchmarking, the big question is who is going to do the work and what resources will they require? Is it going to be a process of collecting data that no one has time to evaluate and report on because the staff are too busy maintaining the golf course?

Our approach is to allocate the task of data collection and collation to a senior groundsperson which is then discussed with the course superintendent and then reported to the greens committee and/or board. From a club resourcing perspective there will need to be an allowance for the reallocation of labour and introduce some administrative support as well. Let it be understood that it will cost the club if it is to be a useful tool.

So back to the original question – are KPIs relevant to the golf course? In the strictest form that they are applied to business I do not think the term is relevant. It almost implies that a series of numbers can be set in concrete and that is the target. While aspects such as HR and environmental management can have set KPIs, turf is a living entity that has the potential to alter throughout a 24 hour period and is subject to factors that cannot be controlled. It is more involved than that and needs to be worked through in a more methodical fashion.

Golf courses are about time and take years (decades) to mature. Similarly, therefore, shouldn't our judgement of their standard be based on the long-term rather than one point in time? The establishment and monitoring of relevant CQOs can ensure there is consistency in decision making regarding the course for years to come.

The concept of setting course quality standards that the club wishes to achieve has great merit in that it can set measurable parameters and removes the subjective standards that golf courses are often judged by. In the next 12 months the AGCSA is hoping to undertake some trial work that will measure these CQOs on a range of golf courses with varying budgets so as to better understand what the most useful data to collect is. 🌱

NORTH ISLAND FINE TURF SEMINAR – MAY 2010

In May I had the pleasure of attending the North Island Fine Turf Seminar in Napier, New Zealand which was organised by the Hawkes Bay Turf Managers Association. It does not matter what event you go to there is always something to be learnt and this event was no different:

Agrecovery (rural recycling programme):

This programme takes triple rinsed HDPE (2) plastic agrichemical containers from one-60 litres/kilograms that are brands and products distributed by the companies that support the programme. Agrecovery has developed mobile shredding equipment for the collection and processing of the agrichemical containers. The containers are shredded on site and compacted into the rear of a mobile shredding truck. All the collected plastic is supplied to Astron Plastics which reprocess the material and manufactures underground electrical cable cover. Because of the reuse aspect there is a high level of compliance.

We viewed a demonstration of the equipment at Cape Kidnappers where course superintendent Steve Marsden has introduced the process for getting rid of empty pesticide containers. Given some of the challenges of getting rid of chemical containers in Australia it was a most innovative approach.

Course superintendents that are now general managers:

There was a very interesting talk given by two superintendents – Steve Hackett and Leo Barber – who have taken on the role of club general manager. Both superintendents were offered the role by their respective clubs due to the challenges of retaining a suitable general manager.

Steve was one of the first in New Zealand to change roles and is now the chief executive of a large rugby club after initially having the dual role of superintendent and general manager. Steve explained the challenges of doing both jobs and why he found it too hard

to do both adequately and eventually opted for the general manager's position.

Leo continues to do the dual role, though the days can be considerably longer. It was interesting to hear from both guys in terms of how they saw it as an opportunity for superintendents that wanted to move on from greenkeeping and take on a new challenge.

New Zealand golf: New Zealand is in a similar position to Australia at the moment with the challenges of the global economic crisis, stagnant member numbers, reduced budgets and too many golf courses.

As is the skill of the golf course superintendent, they are able to find a way of making ends meet and providing high quality playing surfaces. It was interesting to note that superintendents are making their budgets go further by giving greater consideration to what products they actually require and being more strategic in their application.



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There are a range of environmental factors which impact on the development of beneficial microbes within the soil, among them aeration. It is important for turf managers to recognise these factors to assist in promoting a healthy microbial population



Promoting the right microbial environment

Following on from last edition's look at the role of micro and macroorganisms within the soil, AGCSATech agronomist John Geary examines the importance that environmental factors can have in promoting extensive and dynamic soil microbial populations.

In June 2000, noted North Carolina State University lecturer Dr Rich Cooper was a keynote speaker at the AGCSA's Millennium Conference held in Melbourne. During a series of lectures concentrating on the microbiology of turfgrass soils, Dr. Cooper was keen to press home the message - 'Fertilise the soil and let the soil fertilise the plant.' This is no wonder given that a healthy, productive, biologically active soil is estimated to contain as many as 4.65 billion individual microbes in the rootzone of every square centimetre of soil surface (Ford, 2009).

As discussed in the previous instalment of Tech Talk, soil microbes such as bacteria, actinomycetes, fungi, protozoa and algae, together with macroorganisms such as nematodes and earthworms, play an important and vital role in maintaining a healthy rootzone.

Given a healthy soil microbial population is critical in assuring good plant health, it is important to understand that environmental factors such as minor differences in organic matter, moisture, soil temperature, aeration and pH can all greatly affect microbe populations.

MOISTURE

Like all living organisms, micro and macroorganisms need sufficient moisture to thrive. Water is a key component of the protoplasm with the amount of water in soils controlling the movement of food sources (Cooper, 1995-96).

Optimum moisture content for aerobic organisms is considered to be 50-70 per cent of a soil's moisture holding capacity. At soil water contents greater than 85 per cent both fungi and actinomycetes are seldom observed, while actinomycetes seem better able to withstand dry conditions than other microorganisms (Cooper, 1995-96).

With regard to algae, lack of moisture is often a

substantial limiting factor for growth. As outlined in the last edition, reducing surface soil moisture (and minimising light penetration) are essential cultural practices in controlling algal outbreaks.

TEMPERATURE

Soil microbes can be divided into three categories based on their temperature requirements;

- Mesophiles – most active under moderate temperatures;
- Psychrophiles – require low temperature; and
- Thermophiles – require high temperature.

Most bacteria, fungi and actinomycetes are classified as mesophiles and are most active at soil temperatures of 23-35°C, however, thermophile actinomycetes are also common in soil, manure, compost heaps and in heating hay where populations can approach billions per gram of soil (Handreck & Black, 2007). Populations can vary greatly depending on soil temperature and moisture levels with the number of bacteria, fungi and actinomycetes at their highest during the spring/autumn months.

Most undesirable microbes that afflict turf are associated with excessive moisture conditions which cause the soil to be oxygen starved (anaerobic). Thus proper aeration and avoidance of overwatering are often helpful in developing beneficial microbial populations (Cooper 1995-96).

PH

pH is a measure of the hydrogen ion (H⁺) concentration in the soil solution with all microorganisms having a preferred soil pH range in which they survive and grow best. Table 1 outlines the preferred pH range for various beneficial microorganisms. The optimum pH for most bacteria is near neutral and it is recommended to add agricultural limestone to acid soils to greatly increase bacterial populations.

With regard to actinomycetes, they are most abundant at a soil pH of 6.5-8.0. When soil pH falls below 5.0, actinomycetes display very little activity, while in very strong acid soils their populations can be less than one per cent (Cooper 1995-96).

TABLE 1: RANGES OF SOIL PH PREFERRED BY VARIOUS BENEFICIAL SOIL MICROORGANISMS

Micro organisms	pH Range Preferred	Comments
Rhizobium bacteria	Above 5	H ⁺ is toxic to them; inoculation of legume roots requires Ca
Ectomycorrhizal fungi	4 to 6, some to 7	Higher pH inhibits spread to seedlings and seedling infection
Endomycorrhizal fungi	4.5 to 8	Some species still effective at higher pH levels
Decomposers of organic matter	5 to 9	Bacteria and actinomycetes become less numerous as pH declines; fungi, which are slow decomposers, dominate at low pH
Bacteria that convert ammonium to nitrate	Above 6	Ammonium from fertilisers is only slowly converted to nitrate in media below about pH 6
Bacteria that attack fungi	6.5 to 7.5	Some are active at higher or lower pH levels but effectiveness is greatest near neutrality

Source: Handreck & Black, 2007

Fungi are well adapted to a variety of soil conditions, however, they are particularly suited to acid environments. At pH levels below 4 most fungi have the ability to out compete other organisms such as bacteria and actinomycetes which struggle to survive such acidic soils.

Take all patch, otherwise known as *Ophiobolus* patch or *Gaeumannomyces* patch is one fungi greatly affected by soil pH. Lowering soil pH through the use of acidifying fertilisers has proven to be effective in controlling the spread of this disease and it is believed that lowering soil pH retards the growth of the Take all fungus while also favoring competitive antagonistic organisms.

ORGANIC MATTER

The primary role of microorganisms is the decomposition of organic matter, thus a soil rich in carbon containing (organic) materials such as humus, organic matter and or roots favour increased populations of microorganisms (Copper 1995-96).

Heavier textured soils generally contain enough organic matter to support a diverse microbial population, however, on sand-based rootzones it is important to incorporate organics which can be quickly degraded such as a seaweed-based fertiliser or some other source of carbon which can be used as a food source for encouraging microbes.

AERATION

Given that most beneficial microorganisms require adequate oxygen to sustain growth, it is only natural that they are most abundant under well aerated conditions. Thus, it is vital to undertake cultural practices such as regular aerating to promote and encourage healthy soil microbial populations.

The advent of deep aeration equipment has not only helped to promote greater microbial numbers deeper in the rootzone, it has also been instrumental in reducing the incidence of black layer.

NON-TARGET EFFECTS OF PESTICIDES

The non-target effects of broad-spectrum pesticides has been widely studied and it is no surprise that pesticides used to control turf pests are also toxic to non-target organisms. Every fungicide application will also kill beneficial fungi. The same can be said when applying nematicides which are not selective enough to target parasitic nematodes as apposed to beneficial nematodes. Excessive use of the same pesticide or group of pesticides can also lead to pesticide resistance and has also been linked to enhanced microbial degradation.

REFERENCES

For a full list of references for this article contact the AGCSA on (03) 9548 8600. 📞



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Dispelling the myths of ranking lists



Golf Australia magazine releases its Best 50 Courses ratings every two years, the most recent coming in January 2010

Dear editor,
As editor of Golf Australia magazine and overseeing judge of all our ranking lists, I read with great interest the feedback you received on course rankings in your May-June 2010 issue (*The Pulse* pp28-30). It is no secret that few love a list or ranking more than a newspaper or magazine editor. Publish some form of list or ranking and readers will want to see who makes the grade so those issues certainly help circulation.

That said, the number one goal at Golf Australia when we undertake any ranking exercise is to present a fair and credible list. To that end can I please outline the process by which we come up with our ranking lists as it differs greatly from other publications and, I think, certainly makes for a more credible and accurate ranking of courses. I hope this also gives your superintendent readers a bit more information to arm themselves with when dealing with their club committee or management.

JUDGING

Golf Australia publishes two main lists - Australia's 50 Best Courses and Australia's 60 Best Public Access Courses, the former published in January of each even numbered year and the latter in alternate years. The judging period for lists is a two-year rolling period and courses are judged right up until the publication deadline for the January issue in which the ranking will appear.

The Golf Australia panel has 13 judges on board. In January this year, we published our 50 Best Courses ranking and the panel was made

up of media, a handful of golf course 'tragics' who see a lot of layouts over the course of every year, former Tour players and three course designers. Our judging panel does change from one ranking to another simply to meet our top priority - each judge must see/play most or all of the previously ranked Best 50 during the two-year rolling period.

The inclusion of course designers has been criticised over the years but we make a point of ensuring their work is credited in the overall list and their bias is there for everyone to see as we publish every judge's Best 50 list. The reason for their inclusion is a simple one - they see more courses (not just their own work) and know more about what makes a good course than anyone.

In an ideal world where time and money were no object, I would arrange a series of trips where all our judging panel were flown into one location and we would spend a week or two looking at the candidates from that region. This is simply not possible, but there are some who criticise ranking lists that believe this is what should happen.

The reality is that judges visit courses when they can. I always ask our judges to be mindful not to be too harsh on a course's conditioning if they have obviously visited at the wrong time of year simply because that was the only time available to them. The same leniency has always been afforded to courses badly affected by drought, especially when you know, from previous experience, that the course generally has a high level of presentation.

There will always be instances where our judges do not visit every course. At the time of being briefed, I ask all judges not to vote for any course they have not seen. Each judge then submits their top-50 courses and points are allocated (50 points to the number one course and so on). Each time a course is nominated, the total points accrued are divided by the number of judges who voted for the course to come up with an average - all of which is published to remain transparent.

RANKING MYTHS

Advertising influences position: I can only speak for what occurs at Golf Australia magazine in that



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advertising has absolutely no bearing on making the ranking or the position in the ranking. The judges' votes are all published for everyone to see how the subsequent final ranking position was attained.

Course conditioning: I have no doubt course superintendents bear the brunt of club committees determined to find a spot on a ranking list to help encourage new memberships or visiting player numbers. But, as far as our ranking lists are concerned, conditioning and presentation are a secondary factor contributing to the final vote and, as such, rarely influence great swings in where a course is ranked year-in, year-out.

The following is an excerpt from our ranking story in January 2010 - "Each judge was asked to submit their list of 50 courses following the criterion that places greater emphasis on a course's design and less on its conditioning. While a layout's general presentation remains important, we felt it was unfair to place too much weight on this element. Less emphasis on conditioning also addresses the problem of courses being elevated beyond their true rank based on immaculate conditioning courtesy of a huge budget, rather than its overall design and conditioning qualities."

Those, like Australian Golf Digest, who believe conditioning is far more important than design would possibly rank Kingston Heath ahead of Royal Melbourne West, which has a dozen world class holes while Kingston Heath has a handful. That said, when conditioning becomes so bad as to effect the credibility of the design then it does become a greater consideration. Back in the '90s, Hope Island suffered a major fall in the ranking as couch encroachment overtook its then bent greens. This detracted from the mounding and bunkering surrounding the greens and therefore the design was compromised. The changes to the greens in 1999/2000 saw Hope Island rise again.

We never see a judge: Again, I can only speak from a Golf Australia magazine perspective, but I laugh when I hear this. Judges will not always announce or ring ahead and this is something I encourage. Why? I know from personal experience where I have been invited to visit a course to play and, knowing

we have a ranking pending, the course has been 'tournament prepared' to impress. This is fine but is it what our readers will generally experience throughout the year? Probably not.

I see and play about 70-80 courses around Australia a year and 70 per cent of the time the club's general manager or the course superintendent would not be the wiser for me being there. I might have played with a group of mates or teed up in an event at that course and they simply would not know I have seen the layout. This would be no different to many of our judges I suspect.

Established courses cannot compete with new courses: This is simply not true. Fifteen of the top-25 courses ranked in our Best Courses earlier this year were originally built before World War II.

A ranking fall is disastrous: Not so. The difference between a course finishing at No.10 and No.25 in our ranking is just a spread of 10 rankings points. This margin decreases the further down the list you go. For example, Magenta Shores debuted at No.18 in our 2008 Best Courses ranking but fell to No.25 this year. Yes, there have been changes to the maintenance operations there but that wasn't an issue. To have achieved the same rank this year, Magenta needed a measly 1.7 points extra from each voting judge.

Finally, there is no doubt many club managers and committees see rankings as a strong marketing tool, which is perhaps not a view shared by their course superintendent, who is usually asked to pull a rabbit out of the hat, with no more funding or personnel, to improve a course's ranking.

I am often asked, "How can we improve in the rankings?" There is no single answer that fits the need of every course and this is what the powers-that-be at golf clubs across the country need to realise. Band-aid solutions never work but if a club can identify any weakness in its greatest asset, its golf course, and then fix it, that is usually a positive for attracting new members, more visiting golfers and an upward move in its ranking.

BRENDAN JAMES
EDITOR, GOLF AUSTRALIA MAGAZINE

“Each judge was asked to submit their list of 50 courses following the criterion that places greater emphasis on a course's design and less on its conditioning. While a layout's general presentation remains important, we felt it was unfair to place too much weight on this element. Less emphasis on conditioning also addresses the problem of courses being elevated beyond their true rank based on immaculate conditioning courtesy of a huge budget, rather than its overall design and conditioning qualities.”

Excerpt from Golf Australia magazine,
January 2010

superintendents and golf clubs course maintenance practices

Friday 2 July was a momentous day for the Australian turf industry when one of its most respected practitioners Les Burdett served his final day as curator at Adelaide Oval. It was an emotional day for one of the world's premier cricket wicket curators and came the week after he was bestowed the AGCSA's highest honour – the AGCSA Distinguished Service Award – at the 26th Australian Turfgrass Conference. ATM kicks off this edition's review of the 2010 AGCSA Awards with a look back on Burdett's inspiring career.

Pulling stumps on a distinguished career

On many occasions he has called it the “best office in the world”, but at the start of July turf industry icon Les Burdett stepped out of that office for the last time. In standing down as Adelaide Oval manager after 38 years, Burdett bid an emotional farewell to an incredible career which started when as an 18-year-old “young buck” he was taken under the wing of then curator and mentor Arthur Lance.

Forty-one summers later and Burdett ranks among the doyens of the cricketing and turf communities the world over and to send him off in style more than 700 friends and family descended on the hallowed main oval on the evening of 2 July to give him a roast.

Among the guests were a who's who of South Australian and Australian sport including Darren Lehmann, Wayne Phillips, Rod Marsh, Ian Chappell and Mark Ricciuto as well as video appearances by the likes of Ricky Ponting, Adam Gilchrist and former England captain Bob Willis. Together with Burdett they shared and reflected on a kaleidoscope of memorable moments as well as auctioned off items of memorabilia with all proceeds and ticket sales on the night going to Burdett's chosen charity Variety SA.

Since the announcement of his retirement back in early February this year the accolades have flooded into Burdett as he entered the final few months of his tenure. On learning of his retirement, South Australian Cricket Association (SACA) president Ian McLachlan commented, “The SACA, its Board and members owe a great deal to Les for the role he has played in maintaining Adelaide Oval's beauty and excellence and its reputation as the world's most picturesque Test ground.

“During the past 40 years Les has overseen some of the most significant developments at the Oval and his genuine commitment to, and love for this ground is without question. It is fair to say that Les' reputation as a great mate has almost surpassed his reputation as one of the world's finest curators.”



Close friend Lehmann, who shares a car with Burdett in the annual Variety SA Bash, echoed similar sentiments. The former Redbacks captain commented the Adelaide Oval “won't be the same without Les” and that Les had become part of the furniture. “Les has prepared some of the best Test, Shield and ODI wickets for batsmen and players generally, but the thing I loved the most was that they always delivered five days of great entertainment. Les is probably one of the nicest guys you can speak to. Player, administrator or fan, Les is open to all.”

INDUSTRY HONOURS

Over the journey Burdett, who turns 60 next January, has collected many awards. In 2001 he was awarded the Australian Sports Medal in recognition of service to cricket and two years later he received the Australian Centenary Medal for services to cricket and the turf industry. Most recently in 2008, he was awarded the Medal of the Order of Australia for services to the turf management industry, charities and the community.

At the 26th Australian Turfgrass Conference on the Gold Coast Burdett added another to his bulging trophy cabinet in the form of the 2010 AGCSA Distinguished Service Award. In doing so Burdett becomes the first cricket wicket curator to receive the AGCSA's highest honour and joins the likes of inaugural recipient Bill Powell, Peter McMaugh, Doug Robinson and Vince Church.

Burdett was presented with his Distinguished Services Award jacket by Scotts Australia's David Westall at the Syngenta President's Dinner on the final night of the conference, while an impromptu roast by friends John Lloyd and Richard Winter provided plenty of laughs.

“It is very humbling and I am very proud and privileged and quite taken aback,” Burdett told those at the dinner after receiving the Distinguished Service Award. “I have had quite a journey and I must admit when I saw the AGCSA Graduate of the Year finalists lined up before, knowing what's in front of them I thought that if they can have half amount of



fun and friendships that I have had in my time they will be very fortunate people.

"It has been a hell of a lot of fun and again this week shows what a magnificent vehicle the annual Australian Turfgrass Conference is to educate ourselves, share ideas and experiences with each other and build some absolutely magnificent friendships. When it was announced at the start of the conference that I had received this award the amount of congratulations and handshakes that were forthcoming just reaffirmed what a great industry we work in and the bloody wonderful people that are involved with it."

YOUNG BUCK TURNED DOYEN

Burdett joined the staff of the SACA in 1969 – two weeks before man walked on the moon as he proudly points out – as the understudy to then curator Arthur Lance. After learning the ropes from Lance, in 1978 Burdett took over as curator and after a title change in 1981 become oval manager, a position which he held through until this past July.

During more than three decades at the top he has overseen the management of the 15 hectares of turf and buildings at Adelaide Oval and shouldered the responsibility of preparing the international Test wicket. Burdett was one of SACA working party that oversaw the construction of the Sir Donald Bradman Stand in 1989-1990 and the Chappell and Clem Hill Stands in 2003.

One of his most important projects came in 2007 when he oversaw the \$820,000 reconstruction of the Adelaide Oval playing field which involved laser levelling the surface, laying 20,000 square metres of Santa ana turf and the installation of the Oval's first drainage and irrigation system. The project was completed in a remarkably short timeframe and the quality of the playing field seen today is testament to Burdett's expertise and the team he has fostered at the Oval.

In the 12 months leading up to his retirement Burdett has also been actively involved in the planning for the development of the Oval's new 14,000 seat capacity western grandstand which is due for completion ahead of the upcoming 2010-11 Ashes Series.

Burdett's horticultural expertise and advice is without peer and as well as authoring numerous turfgrass conference and cricket wicket seminar papers he has been a consultant for many international and national projects in India, South Africa, Malaysia as well as at home in Australia.

In 2006 he oversaw the preparation of the Kinrara Ground, in Kuala Lumpur for the ICC Tri-Series games where seven one day games were played on the same turf during the course of just 13 games. He was also the International Cricket Council consultant to the Australia vs Rest of the World three one-day games at the Telstra Dome

in Melbourne and the one Test match in Sydney in October 2005.

Closer to home, Les consulted to the South Australian Government during the development of the Santos Athletic Stadium and on numerous occasions has generously donated his time to assist local clubs with the maintenance of much needed turf wickets around metropolitan Adelaide.

Burdett's influence also extends into regional South Australia where he has tirelessly promoted the need to maintain and develop what he calls a 'green oasis' for rural communities as a place where people can come together to enjoy some reprieve from drought and other pressures and where their children can enjoy a bat or a kick with the footy.

Charity work has been close to Burdett's heart for many years and since 2001 he has been involved with Variety SA where he has helped to raise more the \$222,000 to assist children in need. A further \$450 was added to the coffers on the night of the conference dinner when a yellow T-shirt emblazoned with the words 'Les Burdett taught me how to grow grass' was auctioned off as part of the roast.

"No turf surface in the world of sport has more riding on the result of the game than the cricket pitch," says Burdett. "I've always believed that the Adelaide Oval pitch has hosted good cricket because its characteristics provide a great contest between willow and leather. Both fast and slow bowlers can extract results and batsmen can depend on the reliable bounce and carry for a full range of shots.

"During my 40 year journey, I have enjoyed the Oval's elegance

Far left: As part of the end of conference dinner on the Gold Coast, an impromptu roast was held for Burdett which closed with a stirring collection of images looking back at his remarkable career in the turf industry

In collecting the 2010 AGCSA Distinguished Service Award, Burdett becomes the first cricket wicket curator to receive the honour





◀ **The Adelaide Oval pictured a few months out from the 2006-2007 Ashes Series. Following that series Burdett and his team oversaw an \$820,000 redevelopment of the playing surface including the installation of a new drainage and irrigation system. The unmistakable western grandstands shown are currently being replaced by a new 14,000-seat grandstand which will be completed in time for December's Ashes Test**

and charm and have met many wonderful people that others would only ever dream about meeting – this includes athletes, SACA members, the public and my colleagues here at SACA.

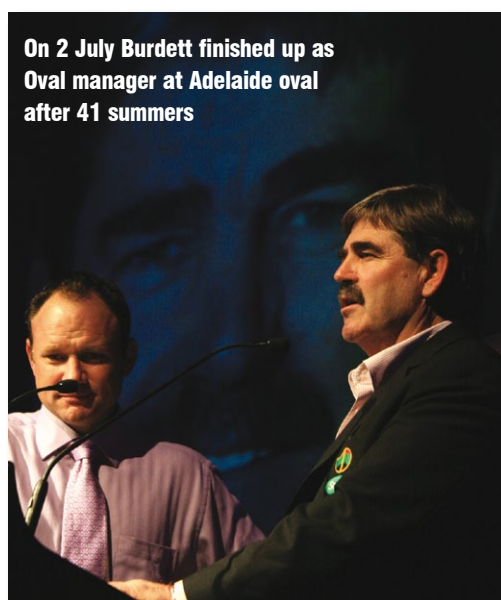
“Special acknowledgment goes to those who work in the grounds department. We are all firstly mates and secondly work colleagues. We work as a team and have always supported each other on and off the field. Adelaide Oval has been good to me and I'd like to think that in my own heart I've been good to it. It has been an honour to be entrusted with its care. I am sad to go but happy with what lies ahead.”

Despite pulling stumps on a remarkable tenure, Burdett will still continue to consult to the SACA when required, but above all he is looking forward to spending some time reacquainting himself with his golf clubs, taking off on more regular fishing trips and spending time with wife Jane and daughters Emma and Zoe who are starting their own careers.

ATM congratulates Les on a fantastic and inspiring career and looks forward to one day reading his memoirs.

Editor's Note: Shortly after announcing his retirement in early February, 891 ABC Adelaide radio hosts Matthew Abraham and David Bevan conducted a candid interview with Burdett on their morning show. An MP3 download of the this interview is available at <http://www.abc.net.au/local/stories/2010/02/08/2813153.htm>.

In the lead up to the 2006/2007 Ashes Series, Australian Turfgrass Management ran an extensive profile on Burdett, looking back on his career as well as recounting some of the many stories from his life at Adelaide Oval. See 'Urning an honest keep', p18-24, Volume 8.5 October-Nov 2005. [↗](#)



On 2 July Burdett finished up as Oval manager at Adelaide oval after 41 summers

HOUGH TAKES ADELAIDE OVAL REINS
 Shortly before the 26th Australian Turfgrass Conference, the South Australian Cricket Association announced that Damian Hough would be taking over as Adelaide Oval turf manager following Burdett's retirement on 2 July.
 Hough has been at the oval for 14 years as turf supervisor and is currently completing an Advanced Diploma of Horticulture (Turf Management). During that time Hough has been responsible for the management and upkeep of all practice facilities for international and state teams as well as overseeing Adelaide Oval's Number 2 ground, Park 25 and the Women's Memorial Playing Fields.



Burdett with his loyal servant Puffer, a 1951 McDonald roller. Don't be surprised if you see it parked on Burdett's front lawn now that he is retired



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Double delight for Avondale

In winning the 2010 AGCSA Excellence in Golf Course Management Award, David Warwick becomes the first superintendent to win two of the AGCSA's premier awards.



JOHN DEERE

Warwick adds the AGCSA Excellence in Golf Course Management Award to the AGCSA Claude Crockford Environmental Award collected in 2004



Avondale Golf Club's David Warwick further added to his credentials as one of the country's leading course superintendents after collecting the 2010 AGCSA Excellence in Golf Course Management Award at the 26th Australian Turfgrass Conference on the Gold Coast.

While fellow 2010 winners Les Burdett, Jodie Grainger and Steve Johannessen created firsts for the awards programme, Warwick and his club can now boast the honour of being the first to receive both the AGCSA Excellence in Golf Course Management Award as well as the AGCSA Claude Crockford Environmental Award which it won back in 2004.

While the environmental award recognised just one aspect of Warwick's management efforts, this year's excellence award is the culmination of more than 14 years dedication at Avondale, which earlier this year saw the club recognised in the Australian Golf Digest's top 100 Australian course rankings.

In his nomination letter to the AGCSA, Avondale Golf Club general manager Symon Scott said he was putting Warwick's name forward for

the award in recognition of him achieving a huge amount during his time, but in particular the recent success in being ranked 75th was

a critical achievement given the current economic climate and extreme competition between clubs for members.

"Established member golf courses cannot be changed overnight," says Scott. "There are a multitude of hurdles – traditions, personalities, resistance to change, availability of financial resources, the quality and topography of land available to be worked and council development and land management regulations to name a few.

"Over the last 14 years David has tackled all of these hurdles in taking Avondale from being a good suburban members' course to being recognised as one of Australia's best, as evidenced in the rankings released earlier this year."

COURSE IMPROVEMENTS

Located on stony ridged bushland on Sydney's north shore, Avondale Golf Club has always provided a beautiful and secluded environment but has proved an agronomic challenge for course superintendents. In 1996 Warwick moved to Avondale from Arundel Hills to take on that challenge with the brief to continually raise the bar in terms of course presentation and to work with course architect Ross Watson on developing and implementing a course masterplan.

Just about every aspect of the course was impacted – tees, fairways, greens and bunkering on all holes. The plan also included the creation of a new hole through a tract of virgin bushland. The Board made the decision to undertake the work over several years to spread the cost and member inconvenience. The change, although gradual, is now complete and according to Scott has been well worth the wait.

The phased implementation presented additional course management issues for Warwick and his team. The biggest issue was trying to keep *Poa annua* out of the newer Penn G2 bentgrass greens when the old greens were heavily



contaminated. To manage this, a complicated ever-changing routine had to be adopted with certain equipment designated for certain greens to avoid cross contamination.

Through a keen interest in turfgrass science, Warwick has ensured there has been a continual improvement in the quality of Avondale's playing surfaces, especially over the last decade. Fairways are pure Santa ana couch thanks to a structured renovation programme and rigorous weed control, while irrigation and drainage improvements have also had a significant impact in fairway turf condition. The G2 greens are close to *Poa* free thanks to an intensive programme of hand weeding and chemical control.

"David applies a great deal of turf science to his management of the surfaces here to supplement his experience and 'gut feel' developed over the years," says Scott. "Before embarking on any new maintenance practice David ensures he understands the science behind it and how it will affect the turf. The course presentation is always of a very high standard with great attention paid to the little details."

WATER MANAGEMENT

One of Warwick's early tasks was to install a new course irrigation system. The longevity of the 'in ground' hardware component is testament to the quality of the installation and the benefit of his forward thinking was illustrated by the decision to lay surplus control wires for possible future use. This proved invaluable over the years as technology has improved and additional irrigation lines have been installed which have been able to be controlled using the spare control wires without the expense and inconvenience of having to lay new ones.

With advances in irrigation control software and the original satellite stations reaching the end of their serviceable life, Avondale embarked on a complete replacement of the control system in conjunction with Toro in 2009. The change to the new computerised control system saw significant improvements in water management and more effective watering practices. The incorporation of a weather station and soil moisture sensors has led to further information being available to use in the watering decision making process.

While availability and management have become hot issues for golf courses in recent years and although fortunate to have a dam, water rationing became an issue for Avondale in 2008. In response, a detailed Water Management Plan was developed in conjunction with AGCSATech.

As part of this initiative, Warwick convinced the Board that the installation of additional irrigation lines in the roughs would make significant water savings. Historically the fairway sprinklers were used to apply water to the roughs which was highly inefficient and only moderately effective. The new dedicated roughs irrigation has delivered a significant water

saving and at the same time improved the condition of the playing surfaces and has been one of the most positive improvements made to the course in the past decade.

INNOVATION

Avondale has significant shade and airflow related microclimate problems due to dense vegetation surrounding many greens and tees. Rather than accept that there was little that could be done to manage the greens that suffered the worst from stagnant, humid conditions, Warwick started a search for world's best practices on managing these issues.

This has resulted in several initiatives being implemented with two in particular deserving special note. Avondale was the first, but is possibly still the only club in Australia, to have imported and installed the Turfair subsurface ventilation system to assist in greens drainage and exchange of oxygenated air through the green profile.

To address the lack of air movement across one particularly stressed green, a commercial Augusta National style fan was imported from the US in 2008. This proved so successful that the club agreed to Warwick's request to install a further three fans, however, a neighbour issue with noise brought the programme to a halt.

Undeterred, Warwick approached a local manufacturer of heat pumps to develop a better fan. Prototypes were built and tested resulting in a cheaper, quieter, less visually intrusive, more energy efficient fan being developed. The new fans were deployed on the course in spring 2009 and the turf on the greens in question has never been healthier through the summer season.

"There are many tangible benefits that David has brought to Avondale, but above all it's his commitment to the club, his 'can do' attitude and his desire to work with the club's directors and staff to make Avondale the best it can be that make him such an asset," says Scott. "David is passionate about Avondale and the welfare of the Australian golf course superintendent industry.

"Communication is one of David's greatest strengths. Whereas some people try to keep information to themselves for protection and to create a sense of mystique about their job, David is keen to share all information and educate anyone who will listen. While it would often be easier to avoid conversations with misinformed members, David always makes himself accessible to explain his maintenance practices and turf science.

"In addition to sharing information with staff, directors and members at Avondale, one of David's greatest attributes is his ability to network with his peers and others within the broader turfgrass industry, both locally and internationally. Not only has this led to the discovery of much useful information in the management of Avondale, but others have benefited from

Far left: Over the last 14 years superintendent David Warwick and his turf management team has tackled a wide range of issues to take Avondale Golf Club from being a good suburban members' course to being recognised as one of Australia's best



During his time Warwick has introduced a number of initiatives to assist in the management of Avondale's playing surfaces. Among these including the installation of the Turfair system and development of greenside fans





The decision by Croydon Golf Club to relocate to the Yering site provided a great opportunity to substantially improve the environmental value of the site and significantly reduce the impact on existing waterways which passed through the property

Grainger

breaks new ground

Yering Meadows environmental officer Jodie Grainger created a slice of AGCSA history on the Gold Coast by winning the AGCSA Claude Crockford Environment Award.

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Because of the minimal natural remnants on the Yering Meadows site due to it being former pastoral land, the development of the golf course has provided a boost to the flora and fauna of the local region

Ever since Rodney Fenton collected the very first in 1996, the coveted AGCSA Claude Crockford Environmental Award has gone to a who's who of superintendents around Australia. Among the list include Sanctuary Cove's Andrew Baker (2001), Avondale's David Warwick (2004), Long Reef's Peter Donkers (2006) and last year Andrew Smith from Yamba Golf Club.

As environmental awareness and management have become a much greater focus for the industry, and combined with the increasingly complex nature of the profession these days, many superintendents are appointing dedicated environmental officers, horticulturalists and revegetation officers to look after these important areas of managing the golf course environment.

It was therefore fitting at the 26th Australian Turfgrass Conference that Jodie Grainger from Yering Meadows in Melbourne should be the first such environmental officer to acquire the AGCSA Claude Crockford Environmental Award, sponsored by Syngenta. Of greater note, however, Grainger became the first female recipient of any AGCSA Award since the first Fellowship Award was handed out back in 1990.

While Grainger created her own slice of history, the award happens to be the second for the club as well. Yering Meadows is the new incarnation of Croydon Golf Club which relocated to a new Ross Watson designed 27-hole course on the outskirts of Melbourne in 2008. Back in 2002, course superintendent Gary Bass, who remains in charge today, won the AGCSA's Excellence in Golf Course Management Award.

"Jodie makes a very deserving recipient of the Claude Crockford Environmental Award not only for the work she has undertaken here at Yering Meadows but for her commitment to this line of work and her previous achievements within our industry," says Bass.

"When we went searching for a suitable person for the position of environmental officer we were recommended to talk to Jodie after her excellent work at Peninsula Country Golf Club and Spring Valley Golf Club. We were very impressed with the completed native vegetation work and the formal gardens at these courses.

"We needed someone to undertake and lead a team to staff in developing and implementing a landscape of 300,000 plants, 8000 walnut trees and all course landscaping including clubhouse for the new Yering Meadows development.

"The ongoing grazing and agricultural practices that had been carried out on the site for decades meant the site had become highly degraded. The decision to relocate the club to the site provided a great opportunity to substantially improve the environmental value of the site and significantly reduce the impact on existing waterways which passed through the property."

ENVIRONMENTAL BEST PRACTICE

The challenging facing Grainger was a considerable one when she joined the Yering Meadows crew



some four years ago. After 80 years at its old site, the Croydon Golf Club had decided to relocate and construct a new course on the 132 hectare property at Yering. The site is environmentally sensitive due to the close proximity of four important water bodies, including the Yarra River.

To use the land for outdoor recreation, an agricultural component had to be incorporated in the club's application and course architect Ross Watson's initial 36-hole course design was amended to 27 holes and a 16ha walnut plantation included. The design of the site included large areas not in play which form the new environment. Because of the minimal natural remnants on the site, due to pastoral use of the land, no native vegetation was actually lost and a substantial amount has been and will continue to be gained as the site matures.

Initial landscape plans had the quantity of trees, shrubs and grasses totalling 300,000. These numbers will be achieved by the end of 2010 as areas are thickened with supplement plantings and also the landscape being used to shape the holes as it matures. The landscape will continue to evolve, self-seeding and being worn to achieve a more natural effect. It is hoped that with maturity an entire new habitat will emerge and encourage a greater range of flora and fauna to populate within the Yarra Valley region.

From the outset of the project (see ATM Vol 11.6 p22 for the full story), the club had a rare opportunity

to implement environmental best practices. The use of wetland species to strip nutrients before entering waterways exiting the property was integral to improve water quality. This practice is evident throughout the entire site, with species such as *Juncus amabilis* to aid in filtering and reducing the residual wetland nutrient level build up.

The installation of a propagation polyhouse has enabled the club to propagate species from seed collected and cuttings. All tubestock and cells were grown on by Candlebark Community Nursery who will in turn then collect from the site to propagate plants for the local community, enabling them to revegetate their sites with plants of local provenance. The club is also working in conjunction with Candlebark to build up numbers of *Caesia calliantha* (Blue Grass Lily) via propagation. This species is particularly rare in Maroondah Shire and existed on the old Croydon Golf Club site.

Another condition imposed by the council in development of the new course was a compulsory acquisition of *Eucalyptus crenulata* (Buxton Gum), which is listed as an endangered species under Commonwealth law and a threatened species under state law. There are only two populations left in the wild – in Buxton and Yering – and total less than 670 trees. 🌱

2010 AGCSA Claude Crockford Environment Award recipient and Jodie Grainger



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Rising stars

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Since 1996 the AGCSA Graduate of the Year Award has stood proud recognising the industry's up and coming turf management apprentices. At the 2010 Gold Coast conference it was complemented by the introduction of a new award – the AGCSA Award for Academic Achievement – which further aims to acknowledge turf's leading students. ATM profiles inaugural recipient Steven Johannessen and 2010 AGCSA Graduate of the Year winner Adam Shields.

Recognising a gap in the annual awards programme, the 26th Australian Turfgrass Conference on the Gold Coast saw the AGCSA present the inaugural PGG Wrightson Seeds sponsored Award for Academic Achievement. The fifth award in the association's industry-leading recognition programme, it was incorporated to honour students who go beyond a traditional apprenticeship and embark on the Diploma of Sports Turf Management.

The award will be bestowed annually to a student who has completed and excelled in their Diploma course and setting a high benchmark for future finalists is inaugural recipient Steven Johannessen, who up until earlier this year was assistant superintendent at Eagle Ridge Golf Course on Victoria's Mornington Peninsula.

Completing his studies at Chisholm TAFE in Rosebud, Johannessen first served his apprenticeship at Moonah Links under then superintendent Leigh Yanner where he gained invaluable experience as part of the crew preparing the Open Course for the 2003 and 2005 Australian Opens. This, along with his classroom efforts, resulted in Johannessen's nomination as Outstanding Apprentice of the Year for the 2005 Chisholm Apprentice Awards.

In 2007 Johannessen moved around the corner to take up the assistant superintendent position at Eagle Ridge Golf Club. Under superintendent Scott Balloch, Johannessen played a major role in the massive reconstruction work undertaken over the summer of 2007/2008 which saw the club shut its doors for four months and convert all fairways to couchgrass. He remained at Eagle Ridge until recently, before relocating to the NSW north coast due to family commitments. On the strength of his success and his growing potential, Johannessen is now working in sports ground maintenance for Richmond Valley Council.

Award for Academic Achievement nominees need to be employed in the Australian turf industry and have completed the Diploma of Sports Turf Management in the year immediately preceding the year in which the award is

presented. The judging panel assesses the following criteria:

- Why the nominee considers on-going education to be important;
- How their organisation benefits from them undertaking additional education;
- What their future ambitions in the turf industry are and why; and
- The calibre of one piece of project work conducted during the nominees studies.

In the case of Johannessen, this last criterion saw him undertake an extensive trial while employed at Eagle Ridge to determine the effectiveness of three herbicides to control kikuyu in couchgrass. Johannessen chose this trial work due to the course's recent fairway conversion programme which saw the previous cool-season/kikuyu mix replaced with Santa ana.

After sprigging all fairways and growing in, a small amount of the kikuyu had survived and began to spread rapidly, so Johannessen thought it a logical step to investigate the most effective way to eradicate it from the course's prized new fairways and incorporate it as part of his studies. The trial took place on the edge of the 15th fairway between November 2008 and late January 2009 with plots sprayed twice with a combination of the three herbicides. As part of his work, Johannessen made regular assessments of the plots and produced a substantial final report for his lecturers.

"The standard of work submitted by Steven was exemplary, as is attested by his consistent results," says Chisholm TAFE senior turf lecturer Bruce Macphee. "Steven had a near flawless attendance record throughout his apprenticeship and Diploma studies and is a conscientious, respected and confident man. He earned the accolades from teaching staff and work colleagues alike and has developed into an accomplished turf practitioner.

"Steven is a thoroughly deserving recipient of this award and on behalf of Chisholm Institute I commend him for the recognition this award attracts and extend best wishes for the future."

As with the AGCSA Graduate of the Year Award, the winner of the AGCSA Award for Academic Achievement receives a substantial education package as a prize. Johannessen will now pack his bags for a trip to New Zealand where, courtesy of sponsors PGG Wrightson Seeds, he will be treated to a five-day tour. During this time he will visit a



PGG Wrightson Seeds

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number of the country's major golf and sporting venues as well as Kimihia Research Centre, home of PGG Wrightson Seeds' plant breeding and turf evaluation programme.

SIGHTS SET ON THE US

While Johannessen will be making a short dash across the Tasman, Casino Golf Club's Adam Shields faces the prospect of a day's travel to the United States after winning the Toro sponsored 2010 AGCSA Graduate of the Year Award. Shields, who earlier this year was honoured with the NSWGCSA Apprentice of the Year Award, will attend the Winter School for Turf Managers at the University of Massachusetts and the GCSAA Golf Show as part of his award prize.

Shields became the fourth national award winner from the state in the past six years and followed in the footsteps of Sean Kinsley (2006) and Wade Williams (2009) in being a mature age apprentice. In doing so he beat home fellow 2010 state finalists Brad Revill (ACT), Kym Tattersall (SA), Ben Hartley (VIC), Shaun Quinsee (WA) and Jesse Zervos (QLD).

Thirty-year-old Shields grew up on his family's cropping farm at Shannonbrook, 10 minutes south of Casino. It was here he developed his passion for farming, gardening and lawn care. Such was this passion that as a teenager he developed a cricket pitch and a nine-hole (one green) par 3 golf course on the farm's house block.

After completing Year 12 in 1996, Shields then spent two years in Scotland and Sydney in the pursuit of a cricketer's career. (As an aside, Shields has represented NSW Country and Australia County and captained the local first grade side for three years). Returning to Casino in 1998 he started working back on the family farm, pulling an eight year stint before deciding on a career change.

In September 2006 an opportunity came up as apprentice greenkeeper at Casino Golf Club and although it meant taking a significant pay cut a determined Shields beat home more than 40 applicants to get the position. Not one to let an opportunity slip, over the past four years Shields has

excelled both on the course and in the classroom and with the AGCSA Graduate of the Year title now to his name, his decision to move into the golf course maintenance industry is paying dividends.

Since starting at the golf club Shields has completed his Certificate III with distinction while undertaking a huge range of duties as part of a three-man maintenance team at Casino Golf Club. Among everyday management operations, Shields has also played an instrumental role in the design and re-construction of the club's putting and chipping greens.

"My goal is to work as hard and efficiently as possible within the industry and to climb the ranks to one day be a superintendent either overseas or in Australia," says Shields.

"I want to be able to use my fanatical attention to detail and passion for my work to produce the best playing surfaces possible. I would also like to be involved in the design and construction of future golf course developments as I have real interest in this aspect of the industry."

As well as being a full-time greenkeeper at Casino Golf Club, Shields also moonlights as curator of Casino's number one cricket pitch and square. This includes watering 3-4 days a week, rolling four times a week, mowing up to twice a week, marking out, fertilising, replanting runners and spraying weeds.

Despite his many turf management duties, Shields still has time to help out on the family farm and living in a new estate he is also regularly sought out by neighbours to help lay turf or give advice on lawncare and landscaping.

"I would like to thank Casino Golf Club firstly for giving me the opportunity to work in the industry and to Brian Piper from TAFE NSW for nominating me for NSWGCSA Apprentice of the Year," says Shields. "I am also in debt to the NSWGCSA and the Board for recognising me as their representative for the national Graduate of the Year Award." 🙏

Opposite: Cameron Henley (left) from sponsors PGG Wrightson Seeds with inaugural AGCSA Award for Academic Achievement recipient Steven Johannessen. The new award aims to recognise students who pursue extra turf management studies by undertaking the Diploma course

2010 AGCSA Graduate of the Year winner Adam Shields (right) with Toro's Richard Walne (left) and 2010 AGCSA Distinguished Service Award winner Les Burdett





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View of the wear damage incurred to the turf plots at Redlands Research Station 4 June 2010. DEEDI is working together with Redland Touch Association on testing and evaluating a series of warm-season turfgrasses under simulated and actual wear conditions on community sporting fields



Turf wearability and recovery of community sportsgrounds

In ATM Volume 12.2 DEEDI senior research scientist Matt Roche outlined a new research project being carried out to help provide community sporting clubs and local councils with additional information in choosing a suitable turfgrass for their sporting facilities. Here he outlines results from the first phase of the trial.

To assist those involved in the development, funding and management of community playing surfaces, including end users, the Queensland Department of Employment, Education, Development and Innovation (DEEDI) is involved in a community sports field study together with the Redlands City Council. The aim of the two-year Horticulture Australia Limited-funded study (Project TU08018) is to document the ongoing effects of turfgrass wear and soil compaction in a simulated environment and under actual playing conditions.

Trial sites were established during Phase One (Year 1) of the project at Redlands Research Station (RRS) and the Redlands Touch Association (RTA)

between 7-12 January 2009 with a total of 10 warm-season turfgrass cultivars are being trialled, which includes three genus (Table 1). This is the first time such a study has been undertaken to compare the two methods of implementing and assessing turf wearability and recovery in Australia.

PHASE ONE RESULTS

Comparison of turfgrass quality and percentage bare ground between the two sites (fields 3 and 4 of the RTA site and RRS) shows a higher level of damage to the turf plots located at RRS. This is likely to be a result of the initial higher level of wear imposed by the DEEDI wear machine (which is based on

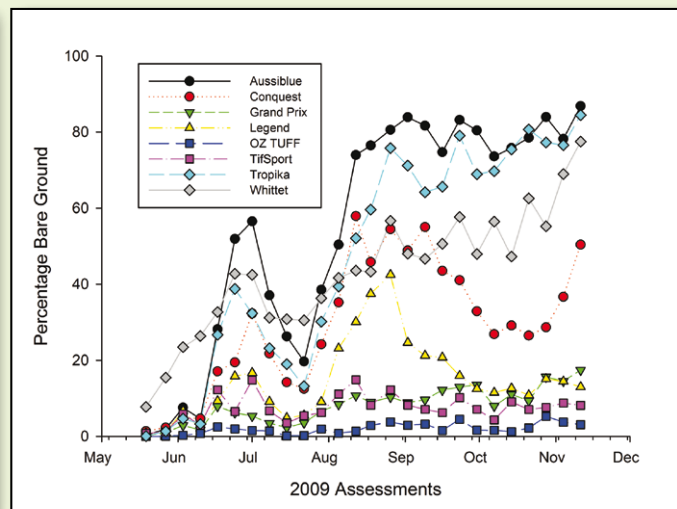
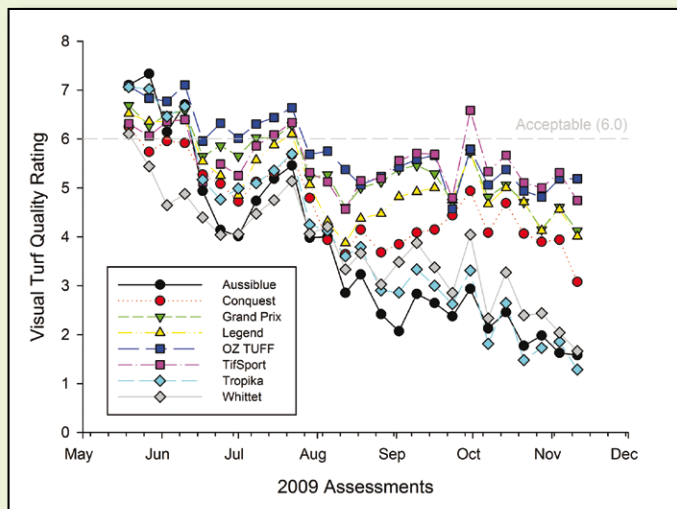
TABLE 1. WARM-SEASON TURFGRASS CULTIVARS BEING TRIALLED IN PHASE ONE AND TWO OF THE COMMUNITY WEAR PROJECT (TU08018)

Scientific name (common name)	Cultivar	RRS	RTA
<i>Cynodon dactylon</i> (green couch)	TifSport	X ^{1,2}	X ²
	Oz-Tuff Green	X ^{1,2}	X
	Wintergreen		X ^{1,2}
	Hatfield		X ^{1,2}
	Conquest	X ^{1,2}	X ^{1,2}
	Legend	X ^{1,2}	X ²
	Grand Prix	X ^{1,2}	X ^{1,2}
<i>Digitaria didactyla</i> (blue couch)	Tropika	X ^{1,2}	
	Aussiblu	X ^{1,2}	
<i>Pennisetum clandestinum</i> (kikuyu)	Whittet	X ^{1,2}	

Key: RRS (Redlands Research Station site); RTA (Redlands Touch Association site); ¹ cultivars trialled in Phase One; ² cultivars trialled in Phase Two; TifSport has been planted on the remainder of the RTA field, surrounding the trial areas.



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the design of the GA-SCW Simulator, Carrow et al., 2001) at 20 passes. It is expected that the lower level of passes – 10 – which will be continued in Phase Two of the study will ameliorate the level of variation of turfgrass quality and percentage bare ground between the two sites.

The RRS site between the period of 19 May and 11 November 2009 shows turfgrass quality of worn treatments – no decompaction (D0), decompaction once per year (D1) and decompaction at six-week intervals (D6) – being less than acceptable (a visual rating of ≤ 6.0) following two to three months implementation of wear (Figure 1). The turf cultivars were largely grouped into two categories:

- Green couch cultivars (better performing);
- Kikuyu and blue couch cultivars (poorer performing).

Turfgrass quality in comparison was much higher at the RTA trial site (fields 3 and 4) where quality ratings were predominantly 6 or greater for five months of the trial period (Figure 3).

Percentage bare ground at the RRS site showed under higher levels of wear that Aussibluue, Tropika,

Whittet and to a lesser extent Conquest did not handle that which was imposed (Figure 2). Legend performed poorly during August, however, recovered strongly to compete against top cultivars OZ TUFF, TifSport and Grand Prix.

Under the recommended guidelines produced by the HAL-funded project Best Use Modelling for Sustainable Australian Sports Field Surface (Project TU06019), ground cover should be greater than 85 per cent (mid-season) or less than 15 per cent bare ground (McAuliffe and Roche, 2009). If the guideline was to be followed, the conditions experienced at RRS would mean that there would be up to 96 per cent (25/26 assessment dates for kikuyu) of the time field closures would be required for the period between 19 May and 11 November 2009. In comparison, two cultivars – OZ TUFF and TifSport – produced less than 2 per cent bare ground.

With the exception of the Legend, percentage bare ground like that of turfgrass quality was on the majority less noticeable at the RTA site (Figure 4). Legend was the worst performer of the six cultivars trialled. Seven times it exceeded having more than

Left: Figure 1. Subjective quality assessments (0 = worst to 9 = best; 6 = acceptable) undertaken of turfgrass cultivars undergoing simulated wear at Redlands Research Station between 19 May and 11 November 2009. Data shown is the mean value for D0, D1 and D6 treatments

Above: Figure 2. Bare ground assessments (0 = full turf cover, 100 = completely bare ground) undertaken of turfgrass cultivars undergoing simulated wear at Redlands Research Station between 19 May and 11 November 2009. Data shown is the mean value for D0, D1 and D6 treatments

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The DEEDI Wear Simulator in operation at Redlands Research Station

15 per cent bare ground with a maximum value of 49.97 per cent. The only other cultivar to exceed the guidelines was that of Conquest with 29.97 per cent bare ground recorded on 10 November 2009.

However, the latter date saw on average, percentage bare ground rise by a staggering 6,511 per cent from 27 October 2009. The damage incurred has been linked to the timing of inclement weather when touch fixtures must not have been cancelled. Such a vast increase in turf damage highlights the importance of having a field closure strategy in place to ward off long-term damage to the playing surface.

SURFACE HARDNESS

As part of a study undertaken by DEEDI researchers for AFL Queensland, Henderson et al. (2007)

reported that a surface hardness (Clegg Impact Value or CIV) value of 7-8 is ideal, ≥ 12 is concerning and ≥ 20 is dangerous while also being the upper limit where 'head injury risks are doubled'. As part of their recommendations to reduce surface hardness, Henderson et al. (2007) reported that regular decompaction work be undertaken and moisture levels be maintained between 15 per cent and 30 per cent depending on the soil type, field usage etc.

There is a moderate to strong correlation ($R^2 = 0.64$ and 0.78) between hardness and moisture levels from the results collected since testing started 26 May 2009. Decompaction treatments – D0, D1, decompaction twice per year (D2) and D6 – have been applied as close to their scheduled dates as possible at both the RRS and RTA sites.

RRS treatments D0 and D1 show increasing surface hardness values above 12 CIV (Figure 5). Only where decompaction is undertaken more frequently (D6) is surface hardness considered acceptable. However, the RRS site is somewhat compromised due to the fact that the DEEDI wear machine is a heavy item which inevitably places considerable weight on the soil profile.

Surface hardness values collected from the RTA site are between 10 and 14 CIV (Figure 6). Once again the D6 treatment of routine decompaction work is the only treatment where surface hardness values are considered acceptable. It will be interesting to monitor the performance of surface hardness at both sites over the next few months.

ONGOING ASSESSMENTS

Phase Two (Year 2) experiments have been set up at both the RRS and RTA sites. Minimal turf installation was undertaken at RRS, with only the kikuyu plots failing to recover from the simulated wear testing undertaken between 13 May and 9 December 2009.

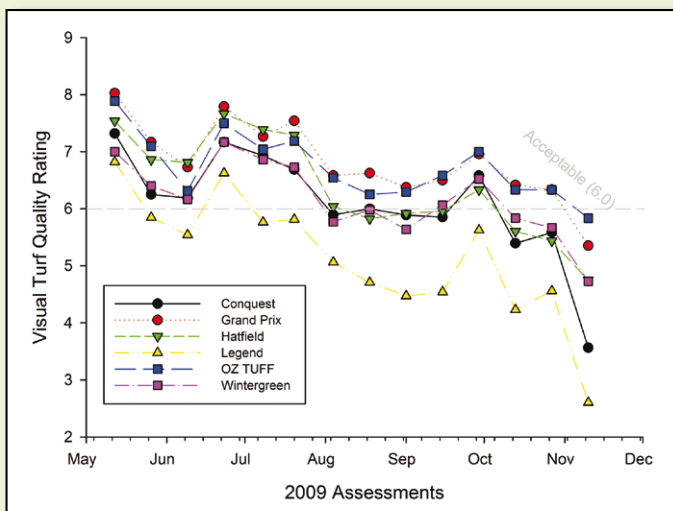


Figure 3. Subjective quality assessments (0 = worst to 9 = best; 6 = acceptable) undertaken of turfgrass cultivars at the Redlands Touch Association between 12 May and 10 November 2009. Data shown is the mean value for D1, D2 and D6 treatments

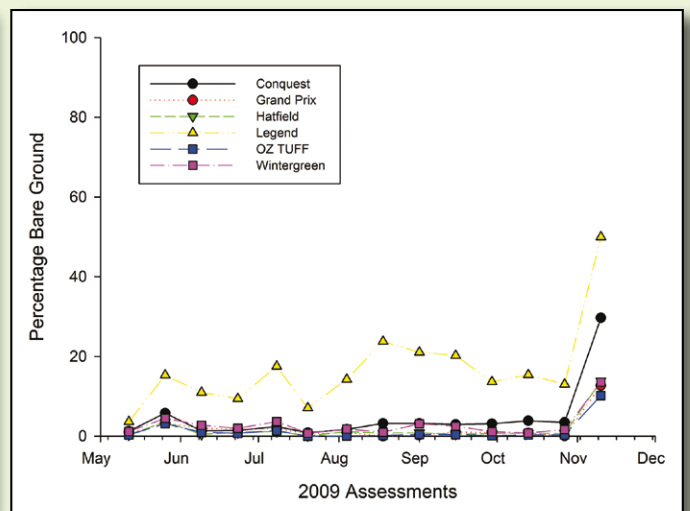
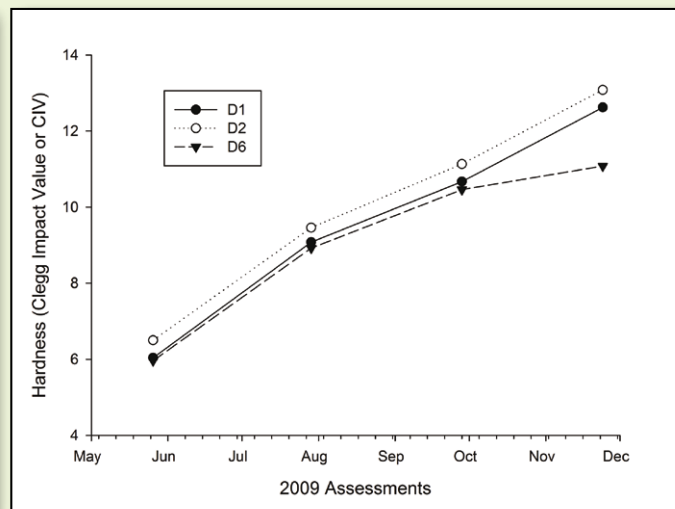
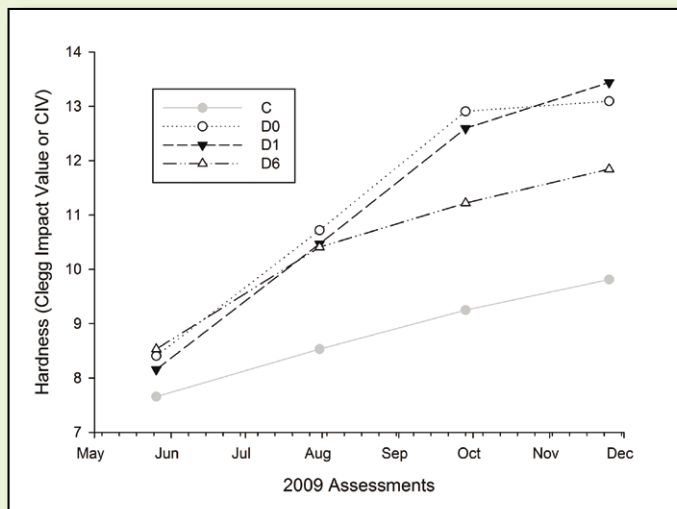


Figure 4. Bare ground assessments (0 = full turf cover, 100 = completely bare ground) undertaken of turfgrass cultivars at the Redlands Touch Association between 12 May and 10 November 2009. Data shown is the mean value for D1, D2 and D6 treatments



Trial plots on fields 5 and 6 of the RTA site (identified as Phase Two) were planted over four days following construction activities (e.g. turf removal, levelling) starting on 30 November 2009. A total of six *Cynodon* spp. were planted (Table 1).

The cultivars were similar to that used during Phase One, with the exception of Legend which was excluded and TifSport which replaced the latter cultivar within the formal experiment. The RTA turf plots located on fields 5 and 6 were fast to establish and stabilise given the warm weather and plentiful rainfall.

The 2010 Redlands Touch Football competition kicked off on 12 February and the fields were immediately introduced into the playing schedule. Testing including subjective quality and wear ratings, hardness, soil moisture, rooting depth and water infiltration started in March 2010 at the RTA and RRS sites.

To date interesting results have been obtained from both trial sites. It would be pertinent to undertake two full years of testing of both Phase One and Phase Two of the trials to obtain sufficient replicated data. Doing so will provide community sporting groups who rely on the performance, including safety, of natural turf surfaces with unequivocal information to assist with their future turf installations.

AUTHOR'S NOTE

The current project (TU08018) is due to end in November 2010 and DEEDI is investigating possible extension opportunities. Touch football groups, councils and turf producers have commented on the importance of the study and have expressed interest to investigate various management techniques.

If you are interested in collaborating as a voluntary contributor in the extended study email Matt.Roche@deedi.qld.gov.au.

REFERENCES

- Carrow, R.N., Duncan, R.R., Worley, J.E., and Shearman, R.C. (2001).** *Turfgrass traffic (soil compaction plus wear) simulator: response of Paspalum vaginatum and Cynodon spp.* *International Turfgrass Society Journal* 9, 253-258.
- Henderson, C., Cooper, L., Bransgrove, L., Finlay, G., Jeffrey, N., Power, N., Raine, S. and Eberhard, J. (2007).** *VGO2030: Best management practices for sustainable and safe playing surface of Australian Football League sports fields. Final Project Report for Horticulture Australia Ltd (HAL).*
- McAuliffe, K. and Roche, M. B. (2009).** *TU06019: Best Use Modelling for Sustainable Australia Sports Field Surfaces. Final Project Report for Horticulture Australia Ltd (HAL).* 🌱

Left: Figure 5. Surface hardness (CIV of 7-8 is ideal, ≥ 12 is concerning) of turf treatments (C, D0, D1 and D6) at Redlands Research Station between 26 May and 25 November 2009. The control (C) treatment is included; however it should not be compared with the decompaction treatments (D0, D1 and D6) because it is not undergoing simulated wear (compaction of the DEEDI wear machine)

Above: Figure 6. Surface hardness (CIV of 7-8 is ideal, ≥ 12 is concerning) of turf treatments (D1, D2 and D6) at the Redlands Touch Association between 26 May and 24 November 2009



THANK YOU

The board and staff of the AGCSA would like to thank everyone who participated in the
26th Australian Turfgrass Conference and Trade Exhibition.

The continued support from the turfgrass industry for this annual event is very much appreciated and has contributed greatly to its ongoing success.

We look forward to seeing everyone in **Adelaide** next year.

Mansfield Golf Club is located about three hours north east of Melbourne in the Victorian Alpine region



Mansfield Golf Club VIC

Located in Victoria's beautiful alpine region, Mansfield Golf Club notched up its centenary in early July. Superintendent Tony Cooksey, who has spent his entire eight-year turf management career at the club, gives ATM an insight into this country gem.

Superintendent: Tony Cooksey.

Nickname: Tuffas.

Age: 32.

Period as a superintendent: Five years.

Association involvement: VGCSA.

Period at current club: Mansfield has been home for my entire turf management career – eight years.

Turf management qualifications: Cert III Horticulture (Turf Management) at Wodonga TAFE.

Tell us a bit about your background in turf management. I have always had a keen interest in outdoor work whether it be gardening or mowing lawns, so it was a natural progression to seek work in horticulture. During my latter years at school I did a lot of work experience at Mansfield Golf Club but they didn't have vacancies for an apprentice so I spent four years working in a local bakery before heading to Melbourne to work for a landscaper. After two-and-a-half-years of city life I returned to Mansfield to start work as a mature age apprentice at Mansfield Golf Club.

Give us an overview of Mansfield Golf Club and some of its unique characteristics. Mansfield Golf Club's 18-hole golf course was formed in two separate stages almost 70 years ago. We

boast a modern clubhouse with bar/gaming/restaurant/pro shop facilities open seven days a week. The lower parts of the golf course are home to significant swamp gums that line the fairways.

Some of the soil types in the lower areas have major soil drainage problems that require careful management,

particularly during irrigation seasons. The rest of the golf course is semi-undulating making walking a healthy choice for golfers. Narrow fairways and small greens are unique to Mansfield and provide an interesting test for even the best golfers. The course has been rated in the top three in country Victoria.

Take us through your turf management operations at Mansfield and how you have fine-tuned them during your time as superintendent? When I

first started, maintenance was carried out on a demand basis – we waited for things to happen before treating the problem. Now we adopt a preventative maintenance regime which in turn reduces the spread of disease and frees up staff to concentrate on other tasks around the course. Our maintenance programmes are structured to meet the seasonal demands of the golf course – the winters are generally cold and wet and the summers hot and dry – and the playing conditions expected of management.

Is it an easy/hard course to manage? The soil profiles of the low-lying areas of the golf course are mostly clay based and our greens are mostly push-up so the course does get wet in the winter. As a result we need to be on the ball with our irrigation programme as the course heads into autumn and winter. As soon as March arrives we stop irrigating our fairways and hand water greens where needed. This allows the course to dry out in anticipation of the wet conditions to follow. Summer, of course, is the exact opposite with extreme temperatures demanding we keep moisture up to the turf on a daily basis. If we lose moisture for any reason for just a single day it is difficult to get it back.

What are some of the major challenges facing Mansfield Golf Club both from a turf management and general club management perspective?

From a turf management point of view, periods of prolonged drought are perhaps our greatest concern and while we made an important decision to invest in a reclaimed water programme five years ago we need to ensure our turf remains in A grade





condition to meet the complexities drought-like conditions bring. From a club perspective, declining membership numbers in recent years is a focus for management as general operational costs are increasing at a fast pace. Membership has also been a number one priority of our membership, marketing and promotions committee with a real emphasis on juniors and new entrants to the club. The club has given a commitment to members to be debt free by 2012. This will provide management with additional revenue to meet increased costs.

As for the future, the club has been successful in renewing and extending its gaming machine entitlements under the Victorian Government's post-2012 gaming arrangements. This is a substantial financial commitment for the club and should accommodate the future population growth anticipated in the Shire over the next 12 years. It will also allow the club to continue to provide outstanding golf and social facilities for its members and guests and also maintain its leadership role in supporting the local community.

Outline any major course improvement works you have recently completed or are in the pipeline?

The club adopted a Course Master Plan developed by Michael Clayton Course Design in 2003. While the plan itself is not a blueprint for the future it has become an important planning tool for our course

and match committee. Since the adoption of the plan we have completely renovated our 9th green, installed 14 new greenside and fairway bunkers, renovated and/or rebuilt eight tees. Our latest project has involved changing our par four 13th hole into a par five by extending the fairway some 152 metres and building a new green on vacant land we had previously used as a dump. We opened this new hole – called the Centenary Hole – as part of our 100th birthday celebrations on 9 July.

All course improvement works have been funded by members through an annual capital works levy of \$50 per member matched on a dollar for dollar basis from surplus revenue. The new works provide the club with an opportunity to raise its profile among other clubs in the north east and meet the expectations of the membership to continually improve playing conditions.

How is Mansfield Golf Club faring in the water management stakes?

Up until 2004 the club relied on town water to irrigate sensitive turf during hot summer periods – water restrictions often forced the club to hand water greens and let fairways and tees almost die. Fortunately management recognised the need for the club to investigate alternative water sources and started developing options in the late 1990's for committee consideration. The club also recognised that potable water was indeed a finite resource (as well as expensive) and should not be wasted.

As a result, planning for reclaimed water use was accelerated and we entered in to a contractual arrangement with Goulburn Valley Water in 2003/2004 to use reclaimed water on the golf course. While the capital investment in reclaimed water was extremely expensive at the time, the decision has virtually drought-proofed the golf course as the authority's reclaimed water storage has a capacity in excess of 250 megalitres.

What are some pros and cons of being a country-based superintendent?

Country people are generally more laid back then their city cousins. While country living is a lifestyle choice it does have



Mansfield Golf Club course superintendent Tony Cooksey

The lower parts of Mansfield Golf Club are home to significant swamp gums that line the fairways



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◀ **Narrow fairways and small greens are unique to Mansfield and provide an interesting test for even the best golfers**

its setbacks as expert assistance is always a couple of hours away and you can't pop down the street to pick up parts on a needs basis. Also you are a long way away from industry colleagues so sharing course issues is by telephone rather than popping over to see them for a face-to-face discussion.

Are expectations of course presentation and conditioning any less than that placed on your metropolitan counterparts? Unfortunately no. We have a lot of members who reside in Melbourne and people who visit from city clubs who quite often ask me why we don't have this or why our course doesn't compare with city courses. My only answer is we have a very conservative course budget and only three full-time course staff (one of whom is a first year apprentice). If we had the staff and budgets of our metropolitan counterparts I am sure we would meet their expectations. Having said that, our members are for the most part very proud of our golf course and the manner in which it is maintained and presented.

OFF THE COURSE - TONY COOKSEY

Family: Just me and my little Jack Russell 'Chips'.

Any claims to fame outside of turf management? I am unofficially the 'Mayor of Mansfield' – a dubious honour and self-bestowed.

Any unusual hobbies/past-times away from turf? My other passion is football. I have played for Mansfield most of my life including a senior flag in 1996. I coached the reserves from 2005 to 2009 and this year I moved down the highway to coach the Bonnie Doon seniors.

Favourite sporting team: Melbourne Demons.

What book are you reading now? Ricky Ponting's 'A Captains Diary'.

Golf handicap: 10

Favourite golfer: Camilo Villegas – exciting to watch.

The best thing about Mansfield (aside from the golf club) is... everyone knows everyone. The town folk are so friendly and always willing to lend a hand when it's needed.

What do you do to get away from it all? Camping, fishing, water skiing and regular no undy-Sundy's with mates at my place.

Do you have to be more resourceful as a country-based superintendent? Country superintendents have to wear every type of hat, from greenkeeper to mechanic to labourer. Sometimes we need to improvise especially when machine parts might take up to three days to get to us. We have used rather unusual but nevertheless effective techniques to keep mowers and other equipment in working order until parts arrive.

How important are the relationships you have with other nearby country course supers/trade reps?

Networking is very important. I rely on information from trade reps all the time. Deano at Simplot, Bill at K&B Adams, Matt at Oasis and Mark at Globe to mention just a few are always willing to help us keep making the golf course better. I have also formed a close working relationship with Andrew Ryan at Mooroopna Golf Club and Bill Daunt at Shepparton Golf Club.

How do you make sure you keep abreast of the latest turf management techniques and methods?

Supers from around the north east are always willing to share knowledge and my club supports my attendance at association meetings, trade days and turf seminars and visits to other golf clubs both in the country and city. Trade representatives are always proactive particularly with new products and they have a wealth of information on most of the problems supers face in turf management. We also rely on industry publications and the Internet.

What are some of the more unusual requests you have had as a superintendent of a country course?

During late autumn and winter earthworms are prevalent on the greens and members (mostly my dad) ask me to pick them up and save them for fishing bait!

We have had to round up cattle and sheep on the course as the property abuts the local council sale yards and recently we had to try and catch a Shetland pony which had wandered on to the golf course. The pony kicked and bucked every time my apprentice went up to it – I stayed back and gave instructions.

Which piece of machinery gets trashed the most and if you had a wish list what would be the next major ticket item that you would like to purchase?

We are fortunate to have a management group that lists golf as the club's core activity despite having gaming and other services. The general committee recognises our small staff numbers make life difficult sometimes, particularly when we have to take leave so they make sure we have up to date equipment. We depreciate all our machinery over a seven-year life span and trade-in equipment when it reaches five years of age. This guarantees a shed full of modern equipment that in turn reduces down time and maintenance costs.

Our Iseki front-end loader tractor gets trashed the most because it is used for such a wide range of jobs. There are a lot of old cypress trees on the course and they are forever losing their limbs so the front-end loader is used to push them up into piles for burning. I would like to replace it with a FEL/backhoe.

Do you have any interesting pieces of machinery, which have been manufactured out of necessity or any old pieces of equipment that you keep alive? The club's first fairway mower (circa 1930) was hand built by a member and donated to the club. It pulled a set of three second-hand gang mowers. Before that grass was kept down by grazing sheep and cattle on the course. Our most cherished item of machinery today is a four-wheel peewee Honda 70 motorbike that we use as a bunker rake. The brackets are welded up and the drag mats are made from old bedknives and four-inch bolts welded into them.

Do you think country superintendents have a better work-life balance than their metro counterparts? Yes I think so. Less travel and traffic and outside influences. I live two minutes from the

club and we are allowed to work our own hours. This is handy during daylight saving in particular as within 25 minutes of knocking off we can be skiing or fishing on the nearby lakes.

What is one product you wouldn't be without? Wetting agent.

Favourite spot on your course? In summer, the fridge in my office after a hot day on the golf course. In winter, our 15th green with the snow-capped Victorian Alps – Mount Buller in particular – as a backdrop. Simply breathtaking.

Most pleasing/rewarding moment during your time at Mansfield? Being named Apprentice of the Year for the north east region and then runner-up in the VGCSA Apprentice of the Year in the same year. Other rewarding moments are when visitors and members make an effort to come up to staff and tell them how magnificent the golf course is. It reminds me that we must be doing something right!

Name three golf courses that you would like most to visit? Augusta National, Royal China and any course in Dubai. 🇦🇪

AT A GLANCE - MANSFIELD GOLF CLUB

Where in the world is Mansfield? About three hours north east of Melbourne in the Victorian Alpine region, with Mt Buller and Mt Sterling forming a spectacular backdrop.

Course specs: 18 holes, 5527 metres.

Greens: Bentgrass – Penneagle and Penncross.

Fairways: Local couch (*Poa* in winter).

Tees: Local couch with fescue and ryegrass.

Cutting heights: Greens (3.4mm), fairways (15mm), tees and surrounds (10mm), first cut of rough (64mm), rough to tree line (89mm).

Members: 578 golfing members, 327 social members.

Annual rounds: Green fee rounds 5200, competition rounds (members) 8750 and non-competition (members) 6100.

Major tournaments/events: Mansfield Pro-Am, two Trainee Pro-Ams and annual October tournament.

Annual course management budget: \$256,000 – includes employment costs, machinery purchase and running costs, energy, rates, repairs and maintenance and depreciation.

Staff structure: Geoff Payne (secretary/manager), Tony Cooksey (superintendent), Kane Blunt (apprentice – final year), Matthew Anderson (apprentice – first year), Todd Eddy (school-based trainee), Neil Clutterbuck (PGA professional).

Climate: Mansfield Golf Club is located in north eastern Victoria with the Victorian Alps - Mounts Buller and Sterling – forming a backdrop. Cool temperate climate. The course has an average rainfall of about 720mm with a largely winter incidence. Winters are cool to very cold with temperatures ranging from 0-12°C. Snow falls regularly on the Alps and surrounding high country and sometimes on the golf course. From April-October we experience severe frosts. In the warmer months the average temperatures range from 10-30°C+ with very high evaporation rates in the summer months.



Mansfield's fleet of John Deere machinery

Water sources: Reclaimed (treated wastewater) 60+ megalitres per annum. Potable water 5+ megalitres (based on average annual usage).

Irrigation system: Pump station rising main from Goulburn Valley Water's treatment works (250ML reclaimed water storage to the golf course). Two 45,000 litre tanks store reclaimed and potable water on site. Potable water is used on some sensitive areas and to purge pipelines. Backflow prevention devices are installed on all mains water tappings. Water is delivered throughout the course via a fully automatic reticulation system. Rain Bird (valve in head) sprinkler system to tees, greens and fairways.

Renovations: Greens are cored with 5/8" tines late October, early November and then mini-tined late March. Tees and fairways are aerated to a depth of 150mm prior to and after summer.

Major disease pressures: Fusarium in winter, dollar spot in summer.



After stints as assistant at Pennant Hills and Cromer, Paul Gumbleton is now superintendent at Monash Country Club

The first six months of new decade have seen a significant amount of movement with the superintendent and assistant superintendent ranks around Australia. ATM looks at some of the major moves within the turf industry as well as the recent retirement of a Queensland stalwart.

The northern beaches of Sydney have seen a changing of the guard over the past year. Following **Scott Harris's** departure after more than two decades at Pymble at the end of last spring, **Robert Neufeld** was duly appointed superintendent in his place, making the move across from The Lakes where he was assistant under **Russell Fletcher**.

As reported in the Around the Trade section of ATM Vol 12.3, **Marshall Howarth** has been snapped up by DINT following his departure from Monash Country Club after more than 20 years at the club. His position was quickly filled by **Paul Gumbleton** who moves into his first superintendent posting after stints as assistant at Pennant Hills Golf Club and most recently Cromer Golf Club.

Scott Hinwood at Bayview was the next long-serving Sydney-based superintendent to move on. The father of two had notched up 11 years at Bayview and has decided to take some time out to spend with the family before assessing his next career move. Hinwood's departure has opened the door for **David Stone** who makes the move across from Ashlar Golf Club.

After overseeing extensive works to remedy water issues at Neanger Park Golf Club near Bendigo, **Brett Hawkey** is settling into the Melbourne city lifestyle after being appointed assistant superintendent at Sanctuary Lakes. Brett will work under the auspices of **Peter Jans** who oversees operations at both Sanctuary Lakes and the 36-hole Sandhurst development. The vacant Neanger Park post has been snapped up by former Horton Park Golf Club (QLD) assistant **Brendan Brown** who returns back to his home state.

After five years under contract maintenance, Liverpool Golf Club in south west Sydney made the decision earlier this year to go back to an in-house maintenance set up. To oversee this transition the club has appointed **Mark Schroder** who makes the move down from Woodburn-Evans Head Golf Club on the NSW north coast.

Liverpool is familiar territory for Schroder who worked there between 1990 and 1997, including the last five of those years as superintendent. Liverpool received more than 35 applicants for the position with Schroder beating home a shortlisted field of nine. He started his new posting on 1 June.

Following **David Sanguinetti's** retirement after some 42 years at Trinity Grammar at the end of 2009, incumbent TGAA VIC president **Nathan Tovey** has been appointed the new grounds manager for the Melbourne-based private school. Tovey's vacated position at Mount Scopus Memorial College has been filled by **Matt Dowlan** who has come across from the City of Glen Eira to manage the school's three campus grounds in Burwood, South Caulfield and St Kilda.

Simon Newey has replaced **Gannon Betis** at Red Cliffs Golf Club near Mildura. Newey, who started his new post in mid-April, makes the switch after eight years as superintendent at Wentworth Golf Club (SA). Not only will Newey look after Red Cliffs' 18-hole course, he will also maintain the club's turf farm business.

Neil Jones has replaced **Damian Adams** as superintendent at Mosman Park Golf Club in Perth.

Shaun Bilston has jumped back across the SA-VIC border to take over at Kingston Links Golf Course in south east Melbourne. Bilston, who was assistant superintendent under **Richard James** at The Grange Golf Club in Adelaide, takes over from **Toby Drummond** who is now assistant under Gary Bass at Yering Meadows (formerly Croydon Golf Club).



Recently retired Eric Martin

MARTIN FAREWELLS INDUSTRY AFTER FOUR DECADES

Long-time Queensland stalwart Eric Martin has decided to call it a day after 46 years in the industry. Martin, who has been working at Lakelands Golf Club for the past five years under superintendent Phil Soegaard, retired in June and can reflect on a turf management career which started way back in 1964 at Ryde Bowling Club.

Martin scored his first superintendent posting at Helensvale Golf Club on the Gold Coast in 1976 and remained there until 1986 before switching across to the assistant superintendent role at Palm Meadows. There for just two years, Martin headed back to Helensvale and remained as superintendent there until 2005. His two stints saw him serve more than 27 years in total at Helensvale. Between 1984 and

1986 Martin was also secretary of the GCSAQ and helped to organise the 1986 national conference held on the Gold Coast.

"Eric has devoted his entire career to the turf industry, puts in 100 per cent while at work and has helped train and develop many turfgrass managers through his career, including founding superintendent here at Lakelands – Steve Marsden," says Soegaard. "We have been very fortunate to have Eric working as a leading greenkeeper over the past five years and he has assisted and contributed to our operation. Even in his retirement Eric will still be involved and will help us out with renovations where he can. All the golf course maintenance team wish him a very happy retirement."

JOHN DEERE LAUNCHES HYBRID FAIRWAY MOWERS

Following the launch of the golf and turf industry's first hybrid greens mower in 2005, and in response to customer demand, John Deere has introduced the same technology on its new 7500e and 8500e E-Cut hybrid fairway mowers.

Based on the same platform as the PrecisionCut line of fairway mowers launched in 2009, the E-Cut mowers also feature John Deere's QA5 (Quick Adjust 5in) cutting units. These 127mm (5 in) diameter units provide a choice of 46 or 56 cm (18 or 22 in) cutting widths.

The 48V electrical system that drives all five cutting units eliminates hydraulic leak points from the reel drive circuit. It removes the potential for such leaks to cause damage to fairways and other fine turf areas. John Deere claims the system can also reduce fuel consumption by up to 30 per cent.

The mowers' 27.6 and 32.0kW (37 and 43hp) turbocharged diesel engines drive an alternator which provides consistent power to drive the cutting units via electric reel motors, even when the mowers are equipped with fairway tender conditioners, groomers or power brushes.

The electrical reel system allows the cutting units to be powered independently of the traction speed, unlike hydraulic reel circuits. It means the operator is able to reduce engine rpm without slowing reel rpm or mowing speed, thus reducing sound levels while maintaining cut quality and productivity.



John Deere's new 7500 E-Cut hybrid fairway mower

In addition, back-lapping can still be carried out using variable control of the reel speed and direction. The mowers also feature a patented rear-attachment point for the cutting unit yoke, which tows the units from the rear for a more consistent cutting height, which is adjustable from 6-72mm.

John Deere's GRIP all-wheel drive traction system is optionally available on both models. A servo-controlled hydrostatic drive delivers increased flow to the system for more power and better traction in either two-wheel or all-wheel drive.

For more information on the E-Cut hybrid fairway mowers, visit www.JohnDeere.com.au or FREECALL 1800 800 981 AU or 0800 303 100 NZ to contact your local John Deere dealer.

ANSELL'S HANDY CATALOGUE

Protective glove manufacturer Ansell has released a new Protection Solutions Guide based on feedback from customers' experiences, needs and preferences. The guide is designed to simplify the glove selection process by coupling vital information with comparison charts and application images.

Gloves, sleeves and protective clothes are grouped into three categories which are colour-coded for easy reference. These are mechanical protection (protection against cuts, abrasions, snags, punctures and hand fatigue), chemical and liquid protection (protection against harmful chemicals, liquids and mechanical hazards) and product protection (hand and product protection against contamination).

Once the customer has determined which type of protection they require, the catalogue provides guidance as to which protection segment and duty level may be appropriate for their application. Also featured is a chemical permeation chart that specifies gloves' performance (according to EN 374) against 100 commonly used industrial chemicals.

A copy of Ansell's Protection Solutions Guide catalogue can be downloaded at www.ansell.com.au/solutionsguide.



Paul Lierse

LIERSE JOINS TURFCARE SOLUTIONS

The Glades Golf Club general manager and former course superintendent Paul Lierse is switching to a position in the trade. Lierse (pictured) has accepted a posting with Gold Coast-based turf supplies company Turfcare Solutions, a distributor of the Floratine range of foliar and soil products, and will begin his new role on 1 August.

Lierse has nearly 30 years experience in the turf industry and began his career at the Diamond Creek Bowling Club in Melbourne's north in 1981. After a stint as assistant superintendent at Sanctuary Cove in the late 1980s, Lierse headed to Asia where he held down various roles in project management, golf design, construction and maintenance roles. In 2004 he replaced Brad Burgess as superintendent at The Glades and in 2008 was promoted to GM.

Most recently, The Glades successfully hosted the 2010 Toro AGCSA Golf Championships as part of the annual Australian Turfgrass Conference.

Growing Media for Ornamental Plants and Turf (4th Edition)

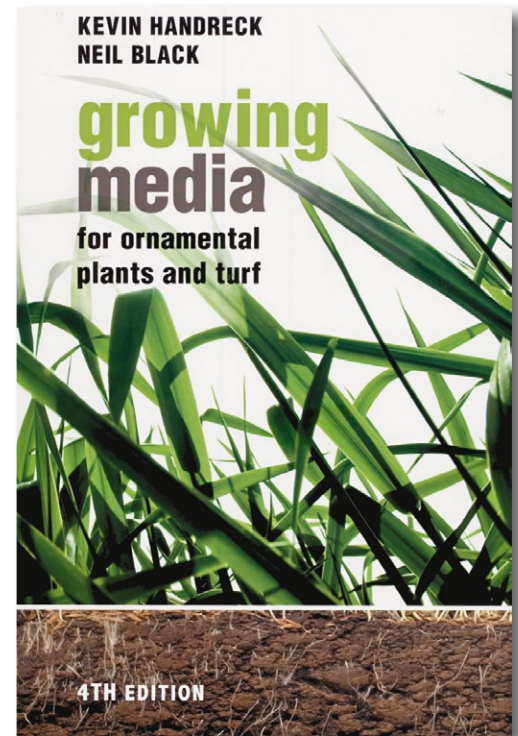
By Kevin Handreck and Neil Black
UNSW Press, 2010

If there is one book which has established itself as a seminal text for the Australian turf and horticulture industries over the past quarter century, it is without question Kevin Handreck and Neil Black's *Growing Media for Ornamental Plants and Turf*. Since the first edition was published way back in 1984 it has been an authoritative publication which has been used by superintendents, nursery workers and budding turf and hort apprentices alike.

After three reprints of the first edition in 1996, 1989 and 1991, revised editions were released in 1994 and 2002. Earlier this year Handreck and Black released the fourth edition which has again been substantially revised and updated. As well as covering all the basics presented in previous editions, this new version includes the latest on horticultural production systems, fertiliser practices, roof gardens and dealing with water shortages.

Over 540 pages and more than 30 chapters, Handreck and Black cover in depth a large range of subjects from the basics of soil chemistry, organic matter, soil structure and pore space, composting, fertiliser practices and nutrients, soil-borne diseases through to salinity and irrigation.

Their words are accompanied by more 800 illustrations, tables and graphs, although it must be said some of the photos contained in this revised edition could have done with an update. Some were no doubt part of the 1984 edition and more effort could have been made with making the book more visually appealing.



Aesthetics aside, it's the content which is of more importance and as the authors note, while the basics of our understanding of the growing media used has remained intact since the first edition, much has changed in the detail of practice. To that end the fourth edition contains:

- Expanded information about minimising and eliminating surface and groundwater pollution;
- Advances in water management; and
- Summary of some of the important recent research from Horticulture Australia Ltd that addresses questions of efficiencies.

The AGCSA currently has a number of copies of *Growing Media for Ornamental Plants and Turf* which can be shipped immediately. AGCSA members can pick up a copy for just \$65 (non-member price \$79.95) 📦

AGCSA BOOKSHOP

The AGCSA has access to a huge variety of turf management books and can offer members substantial discounts off the retail price of many titles. A full list of books currently available through the AGCSA Bookshop can be viewed through the AGCSA website <http://www.agcsa.com.au/products/books>. The website also contains reviews which have appeared in ATM over the years.

Please note that the prices contained within the list are subject to change due to exchange rates. If you want to order a book call the Lyndel Conway on (03) 9548 8600 or email info@agcsa.com.au to confirm exact price and shipping costs.

ALSO CURRENTLY AVAILABLE THROUGH THE AGCSA BOOKSHOP....



The Superintendents Guide to Putting Green Speed by Thomas A. Nikolai (2005)

AGCSA member price: \$99
Non-member price: \$125



Managing Healthy Sports Fields by Paul Sachs (2006)

AGCSA member price: \$99
Non-member price: \$115



Bunkers, Pits and Other Hazards: A Guide to the Design, Maintenance and Preservation of Golf's Essential Elements by Forrest Richardson and Mark Fine (2006)

AGCSA member price: \$132
Non-member price: \$165



Turfgrass and Landscape Irrigation Water Quality: Assessment and Management by R Duncan, R. Carrow and M. Huck (2009)

AGCSA member price: \$165
Non-member price: \$195



Turfgrass Management for Golf Courses (2nd Edition) by James Beard (2002)

AGCSA member price: \$216
Non-member price: \$263



Compendium of Turfgrass Diseases (Third Edition) by Richard Smiley, Peter Dernoeden and Bruce Clarke (2005)

AGCSA member price: \$98
Non-member price: \$110



Keepers of the Green: A History of Golf Course Management by Bob Labbanne and Gordon Witteveen (2002)

AGCSA member price: \$75
Non-member price: \$93



The Mathematics of Turfgrass Maintenance by Nick Christians and Michael Agnew (2008)

AGCSA member price: \$95
Non-member price: \$114



ON SALE
Noxious Weeds of Australia by W. Parsons and E. Cuthbertson (2001)

AGCSA member price: \$140
Non-member price: \$170

The weather has been of concern for all in Perth with little rain from November through to April making it officially our driest summer on record. The May rains have come but we are still well below the average. Let's hope we get some rain through the winter sprinkler ban period (1 June-30 August) as we rely heavily on winter rains to replenish the aquifers. Remember we can still water in pesticides which gives us a bit of flexibility.

Cottesloe Golf Club superintendent Simon Bourne has been recovering well and his spirits are high due to the support from industry, his family and friends. A big thank you must go to the NSWGCSA and SAGCSA for their donations and fundraising efforts with over \$10,000 from all state associations presented to Simon on the 22 May Quiz Night, as well as all those companies and golf courses that donated raffle/auction items on the night. The GCSAWA donated \$5000 to Simon personally on the night with another estimated \$110,000 raised from sales of tables, raffles and auctions.

The \$120,000 raised will help Simon set up his family in a new home when he is discharged from rehabilitation in early June. His house has too many obstacles and steps so a rental is required until he builds a new home better suited to his disability. Cottesloe Golf Club should be congratulated for maintaining Simon's employment, purchasing a

modified vehicle for the road and building him a new office/lunch room as well.

The GCSAWA Annual General Meeting will be held on Tuesday 10 August at The Wembley Golf Complex with an inspection of the new \$8 million driving range and practice areas. There are no major committee changes expected – Simon Bourne will be staying on the committee – although Brad Sofield may jump off.

The first ever WA Golf Industry Awards held back in March were a major success and feedback suggests that numbers will swell to over 600 next year so another venue may be required. Feedback from the golf clubs was amazing with comments like 'how can our club nominate for an award' which has prompted us to produce a strict selection criterion for next year. The selection panel may include committee members from the GCSAWA, WA PGA and GMs association.

The cohesion between all three associations has strengthened considerably since the joint awards night with the GMs suggesting more shared seminars. They have even enquired about being a part of our biennial conference in the future.

DARREN WILSON
PRESIDENT, GCSAWA



The 2010-11 SAGCSA committee (from left) Barry Bryant, Andrew Blacker, new president Sam Sherriff, Richard James and Stuart Gillespie

SAGCSA

On 3 June the SAGCSA hosted its Annual General Meeting at Riverside Golf Club with around 30 members attending. The day saw some changes at committee level with some new faces stepping on. The new-look committee for the coming year is as follows:

President: Sam Sherriff (Mt Barker-Hahndorf GC)

Vice president: Stuart Gillespie (Riverside GC)

Secretary/Treasurer: Richard James (The Grange GC)

Committee: Andrew Blacker (Adelaide Shores) and Barry Bryant (Mt Osmond GC)

On behalf of the SAGCSA I would like to thank Andrew Blacker on the marvellous job he has done as president for the past two three years. Andrew is a great asset to have on committee and I am glad he has decided to stay on in a reduced role. I will be endeavouring to keep everyone as well informed as what Andrew did.

After a decade on the committee, Mal Grundy from Murray Bridge has decided to step down. In recent times Mal has done a great job preparing meetings and organising guest speakers. I am sure we will still see a lot of Mal in the future. He is a great character to have at meetings and is always involved in the discussion. Well done Mal.

After the formalities, John Cooper and John Neylan spoke on the evolution of the South Australian turf industry. I think everyone enjoyed the old photos and it was amazing how things change over time not only in turf products and maintenance procedures but also body shapes! The older generation had a great time reflecting while the younger generation got to know the two Johns a lot better.

A special mention must go to John Cooper who has played a big part in improving the professionalism of the South Australian turf industry and while John has now moved interstate everyone was very appreciative of his career. I would also like to thank everyone who took part in the silent auction and raffle to raise money for WA superintendent Simon Bourne – we managed to raise over \$1000. Well done everyone and thanks to Toro and Globe Australia for their involvement.

With the annual conference now behind us, I hope to get the ball rolling with regards to upcoming SAGCSA meetings and venues.

SAM SHERRIFF
PRESIDENT, SAGCSA

The last couple of months have been busy from a NZGCSA perspective with both the North and South Island Fine Turf Seminars held. These events are hosted by a local region in the off years between the combined turf conference, with Queenstown and Napier being superb venues for this year's events.

Both attracted over 120 delegates along with a tremendous turnout from our trade sector which was very pleasing to see. The organisation and planning of these events by the respective committees over the previous 18 months is a credit to all involved.

The content provided by local speakers, complimented by the involvement and commitment from high quality Australian superintendents, AGCSA staff and others made for interesting programmes, great discussions, along with some entertaining social events. To Martin Greenwood, Glenn Stewart and their 'support' crew in Queenstown, Richard Forsyth, John Neylan and Terry Muir in Napier, on behalf of all our members and the associations that hosted you I trust you had an enjoyable time and thank you for taking the time to share your experiences and knowledge with us all.

The 72nd NZGCSA AGM was held during the North Island seminar and saw three new board members elected - Ryan Irwin (Queenstown GC), Brendan Allen (Royal Auckland GC) and Steve Marsden (Cape Kidnappers). Grant Bunting (Wanaka GC) and Ian Carruthers (Corryong GC) were re-elected to join incumbent board member Greg Swafford (Mount Maunganui GC). I was once

again elected president and am looking forward to the upcoming year working with a full board.

The North Island seminar gave us the opportunity to acknowledge our members who have hosted national events over the previous years with the re-introduction of our Host Recognition Awards.

The NZGCSA Distinguished Service Award, proudly supported by Prebble Seeds, was awarded to a stalwart of our industry, Ces Morrell. Ces is a real identity and an inspiration to all and this award could not have gone to a more deserving recipient. It was a pleasure to be present on the evening to see not only the surprise from Ces himself but the respect of his peers in the room following the announcement, a true legend of our industry.

Having been fortunate to have attended the recent Gold Coast conference along with a contingent of Kiwis, I would like to thank you for the hospitality shown us along with the friendly banter that seems to come with being neighbours. It was a wonderful professional event that was really enjoyable. The normal North v South rivalry that exists between us Kiwis was to the fore throughout the week in most things we took part in.

The NZGCSA Board has undertaken a major recruitment drive along with some minor restructuring of our awards for the upcoming year and will continue to strive to provide more for our members, but like all we are reliant on feedback and input from all stakeholders.

PETER BOYD
PRESIDENT, NZGCSA



NZGCSA Distinguished Service Award winner Ces Morrell (left) with Bruce Lowe from Prebble Seeds

May was a very busy month for the NSWGCSA with three events held. First we ventured to The Lakes Golf Club for the annual Rube Walkerden Golf Championship. Congratulations to host superintendent Russell Fletcher and his crew for the fantastic remodelling of the golf course – we wish them all the best in preparation for this year's Australian Open. Special guests included former Olympic swimmer Craig Stevens, along with Barrie Wright from Cancer Council NSW who accepted the NSWGCSA's \$5000 donation.

During the presentation dinner, the NSWGCSA was able to raise \$4000 for injured WA superintendent Simon Bourne. The NSWGCSA kicked off with a \$1500 donation which was matched by Dad & Dave's Turf. A collection tin was also distributed during the evening and combined we were able to get a great total. Congratulations to all in our state for their generosity.

Our 2IC Education Day was held at Globe Australia's Condell Park premises. Paul Jackson (Barmac) spoke on turfgrass nutrition and soil test

results while Dr Henk Smith (Syngenta) spoke on understanding and controlling turfgrass diseases. An open forum entitled 'Stepping up' comprised of Mark Parker (Concord GC), Martyn Black (Castle Hill CC) and myself and gave assistants the chance to ask questions about the move up to superintendent and what challenges to expect.

At the end of May the NSWGCSA Annual Ambrose event was held at the challenging Newcastle Golf Club. I must thank all 92 players for making the journey and being a part of the day and sticking it out in very miserable conditions.

I must thank all our great sponsors who contributed to these field days – Dad & Dave's Turf, Paton Fertilisers, Maxwell & Kemp, Bayer, Globe Australia, Scotts Australia, Flemming Golf, Syngenta, Lindeman Wines & Vermont Sands. Our next meeting will be the AGM at North Ryde Golf Club on 30 August.

CRAIG WRIGHT
PRESIDENT, NSWGCSA

For those who attended the 26th Australian Turfgrass Conference on the Gold Coast we hope you enjoyed the experience, learnt something new and met some new colleagues. It was a bit hard stepping off the plane back home to a chilly 9°C.

The last TGCSA meeting was held at Barnbougle Dunes in late May with the two-day seminar format a great success. The meeting was organised by Tony Smith (Launceston GC) and Dan Gilligan (Tasmania GC) who did a great job in making sure everything ran smoothly.

The day started with a presentation by Patrick Madden (Syngenta) who spoke about the latest fungicides on the market and the advantages of using them against some of the older more commonly used ones. Patrick also gave some very useful information on spray jets. The next speaker was Brodie Coulson from Toro/Pellows Saws and Mowers. Brodie covered the fairway mower range from Toro and then took us outside to demonstrate first-hand all the features of the machines.

All budding golfers were then ready to tackle the back nine of Barnbougle Dunes with the prestigious Reg Roberts Trophy up for grabs. The wind was fairly benign by local standards so the scores were pretty good with winner Ricky Barr (Longford GC) posting 19 points. Runner up was Phil Hill (local knowledge coming to the fore) while Shane Knott (Mowbray GC) was third. The trade prize went to Patrick Madden with 16 points.

Just by chance, there was a group of superintendents from NSW staying that night and one of them just happened to be one Martin Black. So later in the evening after a few drinks we managed to get him singing. He is maturing well

and looks a picture wearing his Rabbitohs shoes and still has the voice. Well done Blackie!

Wednesday started with Paul Woloszyn from Toro Irrigation giving a very interesting presentation on the installation of the irrigation system at the new Lost Farm course. That was followed by host superintendent Phil Hill and owner Richard Sattler who discussed the construction of Lost Farm.

Phil then took the group on a tour of the new course, which is scheduled for a light opening in October. The views from the clubhouse, day spa and accommodation are breathtaking. Phil has the grow-in all under control with the fescue looking very healthy and ready to play on. **(See this edition's cover story for a comprehensive inside peak at the new Lost Farm development – Ed)**. We all agreed that it looks as tough to play as Barnbougle although it looks like the fairways are fairly generous and very undulating. To aid with wear, the par 3 tees have been made a lot larger. The greens and bunkers look fairly menacing.

It was a great couple of days and thanks go to sponsors Toro, Pellows Saw & Mowers, Simplot, Coretaz and to Richard and Phil for allowing us to host the event at their venue.

The TGCSA has been invited to be a part of a Tasmanian golf industry dinner at the Launceston Country Club on 30 October. We have several presentations to make at this evening which will provide a great opportunity to highlight to the golfing fraternity the work of our association and its members. We would like as many members to support this evening as possible. Partners are welcome and more details will be sent out shortly.

The TGCSA will hold its 2010 Annual General Meeting at Aurora Stadium on 1 September. The day will include a presentation on the new course rating system for golf courses. Bryan Dunn, grounds manager of Aurora Stadium, will also give a presentation on what is involved in setting the ground up for an AFL game.

This will be my last year as president and I will be standing down from the TGCSA at this meeting. I have enjoyed my three years as president and all the challenges along the way. I have also made a lot of friends. I would like to thank all the committee that have given up their time to help run the association. I would personally like to thank secretary Dan Gilligan who has made my role a lot easier.

I wish the TGCSA all the best and hope that the younger committee members put their hand up and continue to make our association better for the future. For a little bit of input it is very rewarding what you get back.

TGAA VIC

It is pretty quite on the TGAA Victoria front. We are all gearing up for a very busy next couple of months. The committee is working on the upcoming seminars that we hope to see you all attend. Also, we will have had a great chance to catch up at the Australian Turfgrass Conference.

It will be very nice to take a little well earned rest as next spring is fast approaching us. With some good winter rains to replenish our water reserves, we should be looking forward to a fantastic spring/summer.

The TGAA Victoria has a couple of dates coming up that need to be put into your calendars:

- Cricket Wicket Seminar – MCG (21 July)
- TGAA Summer Seminar – AAMI Park (24 Nov)
- TGAA 21st birthday celebrations – Trinity Grammar School (19 November)

We will also be holding our Annual General Meeting at the Cricket Wicket Seminar, so please come along early. The seminar proceedings will start immediately after the AGM. Looking forward to seeing you at a seminar soon.

NATHAN TOVEY
PRESIDENT, TGAA VIC

STEVE LEWIS
PRESIDENT, TGCSA

The VGCSA AGM was held at Metropolitan Golf Club in late May and I take this opportunity to thank all members for allowing me to continue on as president.

The weather was a bit overcast but 72 members hit off to contest the Toro Cup, Powell Trophy or the Presidents Shield. Credit goes to host superintendent Glenn Stuart on the condition of the golf course especially the quality and speed of the greens. Congratulations to Adam Lamb on winning both the Powell Trophy and the Toro Cup and to Matthew Steven for winning Presidents Shield.

After golf we moved into the clubhouse where David Schwarz was our guest speaker for the evening. After dinner the AGM was conducted and the newly elected committee comprises:

- President:** Brett Chivers (Keysborough GC)
- Vice-president:** Steve Hewitt (Thirteenth Beach)
- Secretary:** Jeremy Cutajar (Ringwood GC)
- Treasurer:** Nathan Bennett (The Sands, Torquay)
- Committee:** Matt McLeod (Tocumwal GC), Mark Jennings (Box Hill GC), Dave Mason (Riversdale GC); Barry Proctor (Cranbourne GC).

It would be remiss of me not to thank outgoing committee members Trevor Uren and Colin Morrison. Throughout his six years on the committee Trevor has held various roles, most recently website manager, and along with Michael Freeman was the driving force behind the OHS DVD that is now being distributed throughout Australia. It is a credit to Trevor the commitment he gave to the association even when his spare time was diminishing.

Colin has served on committee for three years and during the last two years was heavily involved in coordinating our education meetings. I extend my thanks to not only Trevor and Colin but also to the entire committee for all the work they have done in the past year.

GCSAQ

It is quite a busy period coming up on the association front with several educational opportunities available as well as some golfing time. The Globe roving seminar series is just about to take off (2-5 August) so if you haven't already booked then contact your Globe rep as soon as possible to reserve a place. These seminars present the perfect opportunity to provide some education for your staff as well.

Oxley Golf Club will host our annual superintendents/managers day on Tuesday 17 August with the main theme of the day golf course master planning. A panel of golf course architects will give their take on the topic followed by an open forum. Most golf clubs now have strategic and business plans and the like but it is surprising how

With the abovementioned stepping down the new committee members are Dave Mason and Barry Proctor. I look forward to the new faces on the committee which will give a fresh look and approach to the running of the association.

The VGCSA Apprentice of the Year award was also announced with Ben Hartley from Thirteenth Beach narrowly beating Kane Blunt (Mansfield GC), Jacob Riordan (RACV Cape Schanck) and Matthew Oliver (Sandhurst GC). Congratulations to all these finalists who have demonstrated exceptional ability in both the workplace and in their studies.

Following the apprentice award we moved onto handing out awards for members who have been with the association for over 20 years. The list of names is a who's who of the industry and congratulations go to the following members: Jeff Keast, Mark Gahan, Rick Pullman, Jim Porter, Paul Jones, Jim Waring, Michael Riordan, Rob Cornell, Michael Picken and Lance Holly. A big thank you to Toro which always supports our AGM. Without their backing such events would not be possible.

In June we held the inaugural Assistant Superintendents meeting at Kingston Links with over 50 attending. This meeting involved a panel of superintendents, general manager and trade representatives discussing what is needed to take the next step in an assistant's career. Upcoming dates include our 23 August education meeting at Eastwood Golf Club (superintendent Michael Vozzo).

Finally, following on from another successful conference on the Gold Coast, I must congratulate the AGCSA staff and the board for hosting the event.

**BRETT CHIVERS
PRESIDENT, VGCSA**

few have a master plan for their golf course which in 95 per cent of cases is their core business. There will also be golf available on the day.

This year's Turf Research Golf Day is to be held at Peregian Springs Golf Club on the Sunshine Coast. Host superintendent Warren Green is keen to show off his golf course and the association hopes to see a full field for the event. As previous winners of the event it will be interesting how Warren shapes up on his home track. This day will be held on Monday 15 November and as usual the format presents the perfect opportunity to invite some management from your club to join in.

**PETER LONERGAN,
PRESIDENT, GCSAQ**



Eastwood Golf Club hosts the next VGCSA meeting on 23 August

TGAA ACT

It has been pretty quiet in the ACT in recent months. We are busy gearing up for the one-day seminar at the Hellenic Club on Wednesday 28 July. Theme for the day is irrigation efficiency and synthetics with talks on pump selection, filtration, subsurface irrigation, injection systems and a natural turf vs synthetic turf forum.

The association will also be running a wetland and irrigation workshop on the Tuesday before the seminar. Bookings are essential as there are limited places available. For more information contact Bruce Davies on (02) 6207 4623, email bruce.davies@cit.act.edu.au or Keith McIntyre on (02) 6231 4721, email horteng@bigpond.com. Visit www.tgaa.asn.au for more details and registration forms.

**BROCK WESTON
TGAA ACT COMMITTEE**

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LOWARA



One of two LOWARA Dual SV92 Hydrovar controlled irrigation pump sets installed at the Virginia Golf Club in Brisbane by Australian Irrigation Services. Barry Lemke (pictured right) the Club Superintendent said " he is very pleased with the trouble free operation and considers the efficiency and simplicity of the Hydrovar system far superior to the manual pump system it replaced ". Australian Irrigation Services Dean Smith (pictured left) said " he had now installed several LOWARA Hydrovar systems at Golf Courses in Brisbane with very pleasing results". The second LOWARA Dual SV92 Hydrovar controlled irrigation pump set will be put into service later this year.

What is The Hydrovar?

The Hydrovar has gained a reputation as THE pump mounted microprocessor pumping system controller. But it does much more than just change motor speed.

It actually manages the performance of the pump to match a wide range of system conditions and requirements.

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How The Hydrovar reduces energy consumption

Most applications involve the pump operating either along its full speed performance curve or the pumps performance is throttled or regulated by a valve. The Hydrovar eliminates these operating methods by regulating pump speed and hence output to match the system demand. This saves wasted energy traditionally lost in these conventional pump systems. Energy savings of up to 70% can be realized. (figure 1)

How The Hydrovar reduces maintenance cost

The Hydrovar software is designed specifically for centrifugal pump operation, control and protection. The Hydrovar can thus be setup to protect the pump from operating under various unfavourable conditions eg. cavitation, operating against closed head, low NPSHa or operation past a pumps maximum flow rate. The Hydrovar will automatically shut down and alarm if adverse conditions occur.

The Hydrovar provides the Golf Course Superintendent with the flexibility of watering as required with substantial savings on installation, power usage and maintenance. For details about the experience of some of Australia and New Zealands most prestigious Golf Clubs who have installed Hydrovar pumping systems, contact the Lowara distributors nearest you.

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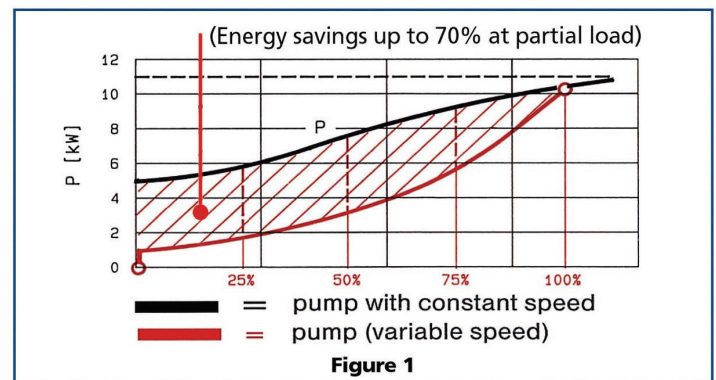
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